



# **Final Environmental Assessment and Section 4(f) Evaluation**

**State Route (SR) 303L, SR30 to I-10**

**STP-303-A(ASO)S**

**303 MA 100 H6870 01L**

November 2018



**FEDERAL HIGHWAY ADMINISTRATION**

**FINDING OF NO SIGNIFICANT IMPACT**

FOR

State Route 303L  
SR 30 to Interstate 10

STP-030-A(ASO)S

303 MA 100 H6870 01L

The Federal Highway Administration has determined that this project will not have any significant impact on the human or natural environment. This finding of no significant impact is based on the attached environmental assessment, which has been independently evaluated by the Federal Highway Administration and determined to adequately discuss the environmental issues and impacts of the proposed project. The environmental assessment provides sufficient evidence and analysis for the Federal Highway Administration to determine that an environmental impact statement is not required. The Federal Highway Administration takes full responsibility for the accuracy, scope, and content of the attached environmental assessment.

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*ks*

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Division Administrator

*11/6/18*

Date



# Table of Contents

<b>MITIGATION MEASURES</b> .....	<b>XIII</b>
<b>1 INTRODUCTION</b> .....	<b>1</b>
1.1 Explanation of an Environmental Assessment .....	1
1.2 Project Location .....	1
1.3 Project Background and Overview .....	4
<b>2 PURPOSE AND NEED</b> .....	<b>9</b>
2.1 Introduction .....	9
2.2 Need for the Transportation Facility .....	9
2.2.1 Need Based on Socioeconomic Conditions .....	9
2.2.2 Need Based on Traffic Operations .....	15
2.2.3 Need Summary .....	17
2.3 Purpose of the Transportation Facility .....	17
2.3.1 Consistency with Regulations, Land Use Plans, and Other Plans .....	18
<b>3 ALTERNATIVES</b> .....	<b>21</b>
3.1 Corridor History .....	21
3.2 Process .....	21
3.3 Alternative Selection Report, March 2008 .....	21
3.3.1 Build Alternatives .....	21
3.3.2 Study Area.....	22
3.3.3 Alternatives Considered but Eliminated from Further Study in the ASR ....	22
3.4 Location and Design Concept Report (L/DCR) Alternatives Development.....	25
3.4.1 Alternatives Considered for Further Study in the L/DCR.....	27
3.4.2 Segment 1 .....	27
3.4.3 Segment 2 .....	29
3.5 Alternatives Comparison and Selected Alternative .....	36
3.6 No-Build Alternative .....	37
3.7 General Project Schedule.....	37
<b>4 AFFECTED ENVIRONMENT, ENVIRONMENTAL CONSEQUENCES, AND MITIGATION</b> .....	<b>39</b>
4.1 Transportation Network .....	39
4.1.1 Existing Conditions.....	39
4.1.2 Environmental Impacts .....	41
4.2 Land Ownership, Jurisdiction, and Land Use .....	41
4.2.1 Existing Conditions.....	41
4.2.2 Environmental Impacts .....	42
4.2.3 Mitigation.....	42
4.2.4 Conclusion.....	43
4.3 Social and Economic Considerations .....	43
4.3.1 Existing Conditions.....	43

4.3.2	Environmental Impacts .....	46
4.3.3	Mitigation.....	48
4.3.4	Conclusion.....	48
4.4	Title VI and Environmental Justice.....	49
4.4.1	Existing Conditions .....	50
4.4.2	Environmental Consequences .....	55
4.4.3	Conclusion.....	55
4.5	Cultural Resources .....	56
4.5.1	Background .....	56
4.5.2	Existing Conditions .....	57
4.5.3	Environmental Impacts .....	59
4.5.4	Mitigation.....	61
4.5.5	Conclusion.....	61
4.6	Section 4(f) Resources .....	62
4.6.1	Background .....	62
4.6.2	Existing Conditions .....	63
4.6.3	Environmental Consequences .....	64
4.6.4	Mitigation.....	68
4.6.5	Conclusions .....	68
4.7	Air Quality Analysis .....	73
4.7.1	Regulatory Context .....	73
4.7.2	Existing Conditions .....	76
4.7.3	Environmental Consequences .....	79
4.7.4	Mitigation.....	94
4.7.5	Conclusion.....	94
4.8	Noise Analysis .....	94
4.8.1	Existing Conditions .....	96
4.8.2	Noise Level Modeling Methodology .....	97
4.8.3	Environmental Impacts .....	97
4.8.4	Mitigation Analysis.....	116
4.8.5	Construction Noise and Vibration.....	129
4.8.6	Coordination with Local Officials .....	130
4.8.7	Conclusion/Statement of Likelihood .....	130
4.8.8	Mitigation.....	133
4.9	Utilities and Railroads .....	133
4.9.1	Existing Conditions .....	133
4.9.2	Environmental Impacts .....	136
4.9.3	Mitigation.....	137
4.9.4	Conclusion.....	137
4.10	Visual Resources .....	138
4.10.1	Background .....	138
4.10.2	Existing Conditions .....	139

4.10.3	Environmental Impacts .....	141
4.10.4	Mitigation.....	142
4.10.5	Conclusion.....	142
4.11	Drainage and Floodplain Considerations.....	144
4.11.1	Background .....	144
4.11.2	Existing Conditions.....	144
4.11.3	Environmental Impacts .....	147
4.11.4	Mitigation.....	147
4.11.5	Conclusion.....	147
4.12	Sections 404 and 401 of the Clean Water Act and Arizona Pollutant Discharge Elimination System .....	148
4.12.1	Existing Conditions.....	149
4.12.2	Environmental Impacts .....	149
4.12.3	Mitigation.....	150
4.12.4	Conclusion.....	150
4.13	Biological Resources .....	150
4.13.1	Background .....	150
4.13.2	Existing Conditions.....	151
4.13.3	Environmental Impacts .....	156
4.13.4	Mitigation.....	157
4.13.5	Conclusion.....	158
4.14	Prime and Unique Farmlands .....	158
4.14.1	Existing Conditions.....	160
4.14.2	Environmental Impacts .....	160
4.14.3	Mitigation.....	160
4.14.4	Conclusion.....	160
4.15	Hazardous Materials .....	162
4.15.1	Background .....	162
4.15.2	Existing Conditions.....	162
4.15.3	Environmental Impacts .....	163
4.15.4	Mitigation.....	166
4.16	Material Sources and Waste Materials.....	167
4.17	Secondary Impacts.....	167
4.17.1	Existing Conditions.....	167
4.17.2	Environmental Impacts .....	168
4.18	Cumulative Impacts .....	170
4.18.1	Background .....	170
4.18.2	Study Area Existing Conditions and Context.....	170
4.18.3	Environmental Impacts .....	171
4.18.4	Conclusion.....	172
<b>5</b>	<b>PUBLIC INVOLVEMENT/PROJECT COORDINATION .....</b>	<b>177</b>
5.1	Scoping.....	177

5.1.1	Agency Scoping Meeting.....	177
5.1.2	Public Scoping Meeting.....	178
5.2	Information Meetings .....	178
5.2.1	City of Goodyear Briefing.....	178
5.2.2	Public Information Meetings .....	179
5.3	Draft EA Review, Hearing, and Comment Period .....	182
5.3.1	Public Comment Summary .....	184
5.4	Other Ongoing Activities.....	185
5.4.1	Title VI of the Civil Rights Act of 1964 and the Americans with Disabilities Act (ADA) .....	185
<b>6</b>	<b>BIBLIOGRAPHY .....</b>	<b>187</b>

## Appendices

- Appendix A – Alternatives Evaluation Matrix
- Appendix B – Programmatic Agreement
- Appendix C – Air Quality Technical Report
- Appendix D – Noise Analysis Technical Report
- Appendix E – Biological Review and Update
- Appendix F – Natural Resources Conservation Service CPA-106 Form
- Appendix G – Public Involvement Summary

## List of Figures

Figure 1.	Project Location .....	2
Figure 2.	Initial Corridor Development Study Area .....	3
Figure 3.	Study Area Public Land Survey Townships, Ranges, and Sections .....	5
Figure 4.	Regional Freeway System under Proposition 300 .....	6
Figure 5.	Where People Working in Goodyear Live.....	10
Figure 6.	Where People Living in Goodyear Work.....	11
Figure 7.	Population Densities .....	13
Figure 8.	Employment Densities .....	14
Figure 9.	City of Goodyear Land Use and Transportation Map .....	19
Figure 10.	Initial Alternatives within Original Study Area.....	23
Figure 11.	River Crossings .....	26
Figure 12.	Revised Study Area (2013).....	28
Figure 13.	Cotton Gin Avoidance Alternatives.....	30
Figure 14.	Revised Study Area with Alternatives 2CN and 2CS .....	33
Figure 15.	Revised Study Area with Alternatives 3N and 3S .....	34
Figure 16.	Revised Study Area with Alternatives 5N and 5S .....	35
Figure 17.	Existing Local Roadway Network .....	40
Figure 18.	Community Facilities.....	45
Figure 19.	2010 Census Tracts and Block Groups.....	51
Figure 20.	NMSATs Emission Trends – 2010-2050 for Vehicles Operating on Roadways.....	77



Figure 21. EPA's Nine-Step Process .....	84
Figure 22. Roadway Network Used to Calculate Total MSAT Emissions .....	90
Figure 23. Existing Utilities within the Study Area (Map A).....	134
Figure 24. Existing Utilities within the Study Area (Map B).....	135
Figure 25. Segment 1 Residential Area.....	139
Figure 26. Segment 1 Commercial Development.....	140
Figure 27. Segment 1 / Segment 2 Transition area .....	140
Figure 28. Existing view looking south from the Buckeye Canal Upper Zanjero House.....	143
Figure 29. Simulated view of Selected Alternative 2CS from the Upper Zanjero House .....	143
Figure 30. FEMA Flood Hazard Zones .....	146
Figure 31. Prime and Unique Farmlands in the Study Area.....	161
Figure 32. Hazardous Material Sites (2016 database).....	164
Figure 33. ADWR-Registered Well Locations.....	165

## List of Tables

Table 1. Study Area Population & Employment Comparisons with the MAG Region, 2017-2050 .....	12
Table 2. Existing ADT in the Study Area.....	15
Table 3. Existing and Projected ADT and Volume/Capacity (V/C) Ratio through 2040.....	16
Table 4. Initial Alternatives – Segment 2 .....	24
Table 5. L/DCR Alternatives Comparison Matrix .....	37
Table 6. Environmental Justice Analysis Data Sources .....	50
Table 7. Disabled Population (2011-2015 American Community Survey 5-Year Estimates) .....	52
Table 8. Low-Income Population (2011-2015 American Community Survey 5-Year Estimate) ...	52
Table 9. Elderly and Minority Populations (2010 U.S. Census).....	53
Table 10. Female Head of Household Population (2010 U.S. Census) .....	54
Table 11. Properties Eligible or Potentially Eligible for NR Listing under A, C, and/or D .....	58
Table 12. Cultural Resources Directly Affected by the Selected Alternative .....	60
Table 13. Impacts to Section 4(f) Resources –SR 30 Aligned to the North.....	69
Table 14. Impacts to Section 4(f) Resources – SR 30 Aligned to the South.....	71
Table 15. National Ambient Air Quality Standards.....	75
Table 16. Ambient Air Quality Monitor Data.....	78
Table 17. Project Area Attainment Status .....	79
Table 18. Predicted Worst-Case One-Hour CO Concentrations (ppm) .....	83
Table 19. Predicted Worst-Case Eight-Hour CO Concentrations (ppm).....	83
Table 22. MOVES RunSpec Options .....	91
Table 23. MOVES County Data Manager Inputs.....	91
Table 24. 2040 Predicted MSAT Emission Burdens (metric tons/year).....	92
Table 25. Regional VMT Forecast .....	93
Table 26. Predicted GHG Emission Burdens (metric tons/year).....	94
Table 27. FHWA Noise Abatement Criteria* .....	95
Table 28. Summary of Noise Level Monitoring.....	96
Table 29. Modeled Noise Level Results, Van Buren Street to Yuma Road - West .....	99

Table 30. Modeled Noise Level Results, Van Buren Street to Yuma Road - East .....	101
Table 31. Modeled Noise Level Results, Yuma Road to Lower Buckeye Road - West .....	102
Table 32. Modeled Noise Level Results, Yuma Road to Lower Buckeye Road - East .....	104
Table 33. Modeled Noise Level Results, Lower Buckeye Road to Broadway Road - West .....	105
Table 34. Modeled Noise Level Results, Lower Buckeye Road to Broadway Road - East .....	107
Table 35. Modeled Noise Level Results, Broadway Road to North of SR30 - West .....	109
Table 36. Modeled Noise Level Results, Broadway Road to North of SR30 - East .....	111
Table 37. Modeled Noise Level Results, South of SR30 - West .....	113
Table 38. Modeled Noise Level Results, South of SR30 - East .....	115
Table 39. Noise Mitigation, Van Buren Street to Yuma Road - West .....	117
Table 40. Noise Barrier Summary, Van Buren Street to Yuma Road - West .....	119
Table 41. Noise Mitigation, Yuma Road to Lower Buckeye Road - West .....	120
Table 42. Noise Barrier Summary, Yuma Road to Lower Buckeye - West.....	123
Table 43. Noise Mitigation, Yuma Road to Lower Buckeye Road- East.....	124
Table 44. Noise Barrier Summary, Yuma Road to Lower Buckeye - East .....	126
Table 45. Noise Mitigation, Lower Buckeye Road to Broadway Road - West .....	127
Table 46. Noise Barrier Summary, Lower Buckeye to Broadway Road - West.....	128
Table 47. Construction Equipment Noise <sup>1</sup> .....	129
Table 48. Recommended Noise Barrier Summary, Alternative 2CS.....	130
Table 49. Recommended Noise Barrier Summary, Alternative 3S .....	131
Table 50. Recommended Noise Barrier Summary, Alternative 5S .....	132
Table 51. Proposed Noise Barriers.....	141
Table 52. USFWS Listed Species in Maricopa County and Evaluation of Effects (2013 BR) .....	154
Table 53. Common Invasive Plant Species in Maricopa County, Arizona.....	156
Table 54. Listed Hazardous Materials Facilities .....	163
Table 55. Secondary and Cumulative Impacts Classification.....	167
Table 56. Cumulative Impacts Summary .....	173
Table 55. Publication of Newspaper Advertisements, Fall 2006 .....	179
Table 56. Publication of Newspaper Advertisements, Fall 2007 .....	180
Table 57. Publication of Newspaper Advertisements, Fall 2017 .....	181
Table 58. Publication of Newspaper Advertisements, Spring 2018 .....	183
Table 59. Comments on the Draft EA by Participation Method .....	184

# List of Acronyms and Abbreviations

µg/m <sup>3</sup>	micrograms per cubic meter
AADT	annual average daily traffic
ACS	American Community Survey
ADEQ	Arizona Department of Environmental Quality
ADOT	Arizona Department of Transportation
ADT	average daily traffic
ADWR	Arizona Department of Water Resources
AGFD	Arizona Game and Fish Department
APE	Area of Potential Effects
APS	Arizona Public Service
ASLD	Arizona State Land Department
ASM	Arizona State Museum
ASR	Alternative Selection Report
AZPDES	Arizona Pollutant Discharge Elimination System
ASTM	American Society for Testing and Materials International
BG	block group
BLM	Bureau of Land Management
BID	Buckeye Irrigation District
BMP	Best Management Practices
BR	Benefited Receptors
CAA	Clean Air Act
CCA	Candidate Conservation Agreement
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CGP	Construction General Permit
CO	Carbon Monoxide
CO <sub>2e</sub>	Carbon Dioxide Equivalent
Corps	US Army Corps of Engineers
CPBR	Cost per Benefited Receptor
CT	census tract
CWA	Clean Water Act
dBA	decibels (A-weighted)
DPK	date of public knowledge
E	Endangered
EA	Environmental Assessment
EB	Eastbound

EJ	Environmental Justice
EO	Executive Order
EPA	Environmental Protection Agency
ESA	Endangered Species Act
FCDMC	Flood Control District of Maricopa County
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Map
FPPA	Farmland Protection Policy Act
ft.	feet
FMS	Freeway Management System
FR	First Row
FY	fiscal year
GHG	greenhouse gas
GIS	Geographic Information System
GRIC	Gila River Indian Community
HABS	Historic American Building Survey
HOH	Head of Household
HOV	High Occupancy Vehicle
IBA	Important Bird Area
ICOs	issues, concerns, and opportunities
JD	jurisdictional delineation
KMEP	Kinder Morgan Energy Partners
kV	kiloVolt
L <sub>Aeq1h</sub>	1-hour equivalent sound level
LUST	Leaking Underground Storage Tank
L/DCR	Location/Design Concept Report
L <sub>eq</sub>	equivalent continuous sound level
LOS	level of service
MAG	Maricopa Association of Governments
MC	Maricopa County
MCAQD	Maricopa County Air Quality Department
MCDOT	Maricopa County Department of Transportation
mph	miles per hour
MSAT	Mobile Source Air Toxics
N	North
NAAQS	National Ambient Air Quality Standards
NAC	Noise Abatement Criteria

NAR	Noise Abatement Requirements
NB	Northbound
NBR	Number of Benefited Receptors
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NTS	Not to Scale
NW	Northwest
O <sub>3</sub>	Ozone
PA	Programmatic Agreement
Pb	Lead
PCH	Proposed Critical Habitat
PE	Proposed Endangered
Phase I	Phase I Environmental Site Assessment
PM <sub>2.5</sub>	particulate matter that measures 2.5 microns in diameter or less
PM <sub>10</sub>	particulate matter that measures 10 microns in diameter or less
POAQC	Project of Air Quality Concern
ppm	parts per million
PYT	Pasqua Yaqui Tribe
R	Range
RCRA	Resource Conservation and Recovery Act
RID	Roosevelt Irrigation District
ROW	right-of-way
RTP	Regional Transportation Plan
RTPFP	Regional Transportation Plan Freeway Program
S	Section
S	South
SARA	Superfund Amendment and Reauthorization Act
SB	Southbound
San Carlos	San Carlos Apache Tribe
SHPO	State Historic Preservation Office
SLM	Sound Level Meter
SO <sub>2</sub>	Sulfur dioxide
SR	State Route
SRP	Salt River Project
SRP-MIC	Salt River Pima – Maricopa Indian Community

SWATS	South West Area Transportation Plan
SWPPP	Storm Water Pollution Prevention Plan
T	Threatened
T	Township
TCM	Transportation control measures
TCP	Traditional cultural property
TI	Traffic Interchange
TIP	Transportation Improvement Plan
Title VI	Title VI of the Civil Rights Act of 1964
TNM	Traffic Noise Model
TON	Tohono O’odham Nation
UPRR	Union Pacific Railroad
US	United States
USC	United States Code
USDA	United States Department of Agriculture
USFS	United States Forest Service
USFWS	United States Fish and Wildlife Service
UST	underground storage tank
v/c	Volume/Capacity
VIA	Visual Impact Assessment
VMT	vehicle miles travelled
Waters	Waters of the United States
WB	Westbound
Western	Western Area Power Administration
YAN	Yavapai Apache Nation

# Mitigation Measures

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Mitigation measures have been defined to avoid or minimize the environmental impacts of the Selected Alternative. These mitigation measures are not subject to change without prior written approval from the Federal Highway Administration.

## Design Responsibilities

- A right-of-way acquisition program will be implemented in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (Public Law 91-646), the Uniform Relocation Act Amendments of 1987 (Public Law 100-17), and Title VI of the Civil Rights Act of 1964. Private property owners will be compensated at fair market value for land acquired for project right-of-way. Landowners required to move to a new home may be eligible for relocation benefits. These payments may include a housing supplement, moving costs, reestablishment costs, incidental expenses, and closing costs. Renters may also be eligible for relocation benefits (Page 42, Page 48, Page 55).
- Prior to Final Design of the SR303L-SR30 Traffic Interchange, the Engineer will arrange with the ADOT Environmental Planning Historic Preservation Team for boundary testing and possible data recovery to be performed per the stipulations set forth in the June 2013 Programmatic Agreement developed for this project (Page 61 and Page 68).
- Noise Abatement eligibility for the benefited properties will be readdressed in relation to the Date of Public Knowledge and Public Involvement process, and evaluated at the Final Design stage based on the selected Alternative, as the Preliminary Design Concept is subject to change (Page 133).
- During final design, the project manager will contact the Arizona Department of Transportation Environmental Planning noise coordinator (602.712.6161 or 602.712.7767) to arrange for qualified personnel to review and update the noise analysis (Page 133).
- Where avoidance of utilities is not possible or feasible during final design, the utilities will be encased or relocated. Utility work related to the freeway will need to be closely coordinated with the utility owners, particularly when severe outages will be required. Power outages related to power line relocations should generally be scheduled between November and February. Any outages for the Arizona Public Service pipeline serving the Palo Verde Nuclear Generating Station will be coordinated with Arizona Public Service and may need to occur during the April or October “dry-ups” (Page 137).
- Should a utility relocation be required, the Arizona Department of Transportation will coordinate with the utility owner to determine the need for new right-of-way of the same size as the previous right-of-way for that utility (Page 137).
- The use of earth colors for lighting standards, overpasses, abutments, retaining and screening walls, and noise barriers will be evaluated by the Arizona Department of Transportation. The colors and finishes should be sensitive to the context of the rural surroundings and mountain views (Page 142).

### Design Responsibilities (continued)

- The Arizona Department of Transportation will evaluate the use of aesthetic treatments and patterning on noise barriers, screen walls, piers, concrete barriers, retaining walls, and highly visible headwalls (Page 142).
- Retention basins and associated landscape treatments will blend into the surrounding landscape to the extent possible (Page 142).
- Where the freeway will encroach on the Gila River, the design team will evaluate bridge options that will reduce impacts on the 100-year floodplain (Page 147).
- Where the freeway will cross flood control features such as SR303L Outfall Channel, the design team will evaluate bridge options to reduce impacts on such features (Page 147).
- The design team will coordinate with the City of Goodyear and the Flood Control District of Maricopa County to identify and reduce potential impacts to any levees and will consider mitigation measures for any floodplains that will be affected by the freeway (Page 147).
- The Maricopa County Floodplain Manager at (602.506.1501) will be provided an opportunity to review and comment on the design plans (Page 147).
- All disturbed soils that will not be landscaped or otherwise permanently stabilized by construction will be seeded using species native to the project vicinity (Page 157).

### Roadside Development Responsibilities

- Protected native plants within the project limits will be impacted by this project; therefore, the Department Roadside Development Section will determine if Arizona Department of Agriculture notification is needed. If notification is needed, the Department Roadside Development Section will send the notification at least 60 calendar days prior to the start of construction (Page 157).
- The Arizona Department of Transportation Roadside Development Section will during final design provide special provisions for the control of noxious and invasive plant species during construction that may require treatment and control within the project limits (Page 157).

### District Responsibilities

- Access to adjacent businesses and residences will be maintained throughout construction (Page 48).
- If previously unidentified cultural resources are encountered during activity related to the construction of the project, the contractor should stop work immediately at that location notify the Engineer and should take all reasonable steps to secure the preservation of those resources. The Engineer will contact the Arizona Department of Transportation Environmental Planning Group, Historic Preservation Team, (602.712.8636 or 602.712.7767) immediately, and make arrangements for proper treatment of those resources (Page 61).
- The Engineer will review and approve the contractor's Stormwater Pollution Prevention Plan, Notice of Intent, and Notice of Termination prior to submission to the Arizona Department of Environmental Quality (Page 150).



### District Responsibilities (continued)

- If active bird nests are identified within the project limits, construction activities will avoid disturbing any active nest. Avoidance areas, if necessary, will be marked in the field with temporary fencing or t-posts with flagging by an ADOT-approved biologist. The Engineer will confer with the approved biologist to determine the appropriate avoidance strategies until the nestlings have fledged from the nest and the nest is no longer active (Page 157).
- If any active bird nests cannot be avoided by vegetation clearing or construction activities, the Engineer will contact the Environmental Planning Group Biologist (602.712.7134 or 602.712.6819) to evaluate the situation (Page 157).

### Contractor Responsibilities

- Access to adjacent businesses and residences shall be maintained throughout construction (Page 48).
- If previously unidentified cultural resources are encountered during activity related to the construction of the project, the contractor shall stop work immediately at that location notify the Engineer and shall take all reasonable steps to secure the preservation of those resources. The Engineer will contact the Arizona Department of Transportation Environmental Planning Group, Historic Preservation Team, (602.712.8636 or 602.712.7767) immediately, and make arrangements for proper treatment of those resources (Page 61).
- The contractor shall comply with all local air quality and dust control rules, regulations, permits, and ordinances which apply to any work performed pursuant to the contract (Page 94).
- The contractor shall comply with all local sound control and noise rules, regulations, permits, and ordinances which apply to any work pursuant to the contract (Page 133).
- During the construction phase, utility work related to the freeway shall continue to be closely coordinated with utility owners, particularly when severe outages will be required (Page 137).
- The contractor shall develop a Stormwater Pollution Prevention Plan, Notice of Intent, and Notice of Termination, and submit it to the Engineer for approval (Page 150).
- The contractor, upon approval from the Engineer, shall submit the Stormwater Pollution Prevention Plan, Notice of Intent, and Notice of Termination to the Arizona Department of Environmental Quality (Page 150).
- This project is located within a designated municipal separate storm sewer system. Therefore, the contractor shall send a copy of the Notice of Intent and Notice of Termination to the City of Goodyear (Page 150).
- All disturbed soils that will not be landscaped or otherwise permanently stabilized by construction shall be seeded using species native to the project vicinity (Page 157).

### Contractor Responsibilities (continued)

- The contractor shall develop a Noxious and Invasive Plant Species Treatment and Control Plan in accordance with the requirements in the contract documents. Plants to be controlled shall include those listed in the State and Federal Noxious Weed and the State Invasive Species list in accordance with State and Federal Laws and Executive Orders. The plan and associated treatments shall include all areas within the project right of way and easements as shown on the project plans. The treatment and control plan shall be submitted to the Engineer for the Arizona Department of Transportation Construction Professional Landscape Architect to review and approve prior to implementation by the contractor (Page 157).
- The contractor shall employ a biologist to complete a preconstruction survey for burrowing owls 96 hours prior to construction in all suitable habitat that will be disturbed. The biologist shall possess a burrowing owl survey protocol training certificate issued by the Arizona Game and Fish Department. Upon completion of the survey, the contractor shall contact the Arizona Department of Transportation Environmental Planning Biologist (602.712.6819 or 602.712.7767) to provide survey results (Page 157).
- If any burrowing owls were located during preconstruction surveys or construction, the contractor shall employ a biologist holding a permit from the US Fish and Wildlife Service to relocate all burrowing owls from the project area, as appropriate (Page 158).
- If burrowing owls or active burrows were identified during the preconstruction surveys or during construction, no construction activities shall take place within 100 feet of any active burrow until the owls are relocated (Page 158).
- Prior to the start of ground-disturbing activities, the contractor shall arrange for and perform the control of noxious and invasive species in the project area (Page 158).
- If clearing, grubbing, or tree/limb removal will occur between March 1 and August 31, the contractor shall employ a qualified biologist to conduct a migratory bird nest search of all vegetation within the 10 (ten) days prior to removal. Vegetation may be removed if it has been surveyed and no active bird nests are present. If active nests cannot be avoided, the contractor shall notify the Engineer to evaluate the situation. During the non-breeding season (September 1 – February 28), vegetation removal is not subject to this restriction (Page 158).
- To prevent invasive species seeds from leaving the site, the contractor shall inspect all construction equipment and remove all attached plant/vegetation and soil/mud debris prior to leaving the construction site (Page 158).
- To prevent the introduction of invasive species seeds, the contractor shall inspect all earthmoving and hauling equipment at the equipment storage facility and the equipment shall be washed prior to entering the construction site (Page 158).
- The contractor shall employ a biologist to complete a preconstruction survey for invasive plant species immediately prior to ground-disturbance activities. Upon completion of the survey, the contractor shall contact the Arizona Department of Transportation Environmental Planning Biologist (602.712.7134 or 602.712.7767) to provide survey results (Page 158).

### Contractor Responsibilities (continued)

- If suspected hazardous materials are encountered during construction, work shall cease at that location and the Engineer shall be notified. The Engineer will contact the Arizona Department of Transportation Environmental Planning Group hazardous materials coordinator (602.920.3882 or 602.712.7767) immediately, and make arrangements for assessment, treatment and disposal of those materials (Page 166).
- The contractor shall ensure that appropriate Occupational Safety & Health Administration recommendations are followed for levels of personal protective equipment (i.e. dust masks and protective eyewear to minimize contact with airborne dust) to be used by all persons entering or working in the project area (Page 166).

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# 1 Introduction

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## 1.1 Explanation of an Environmental Assessment

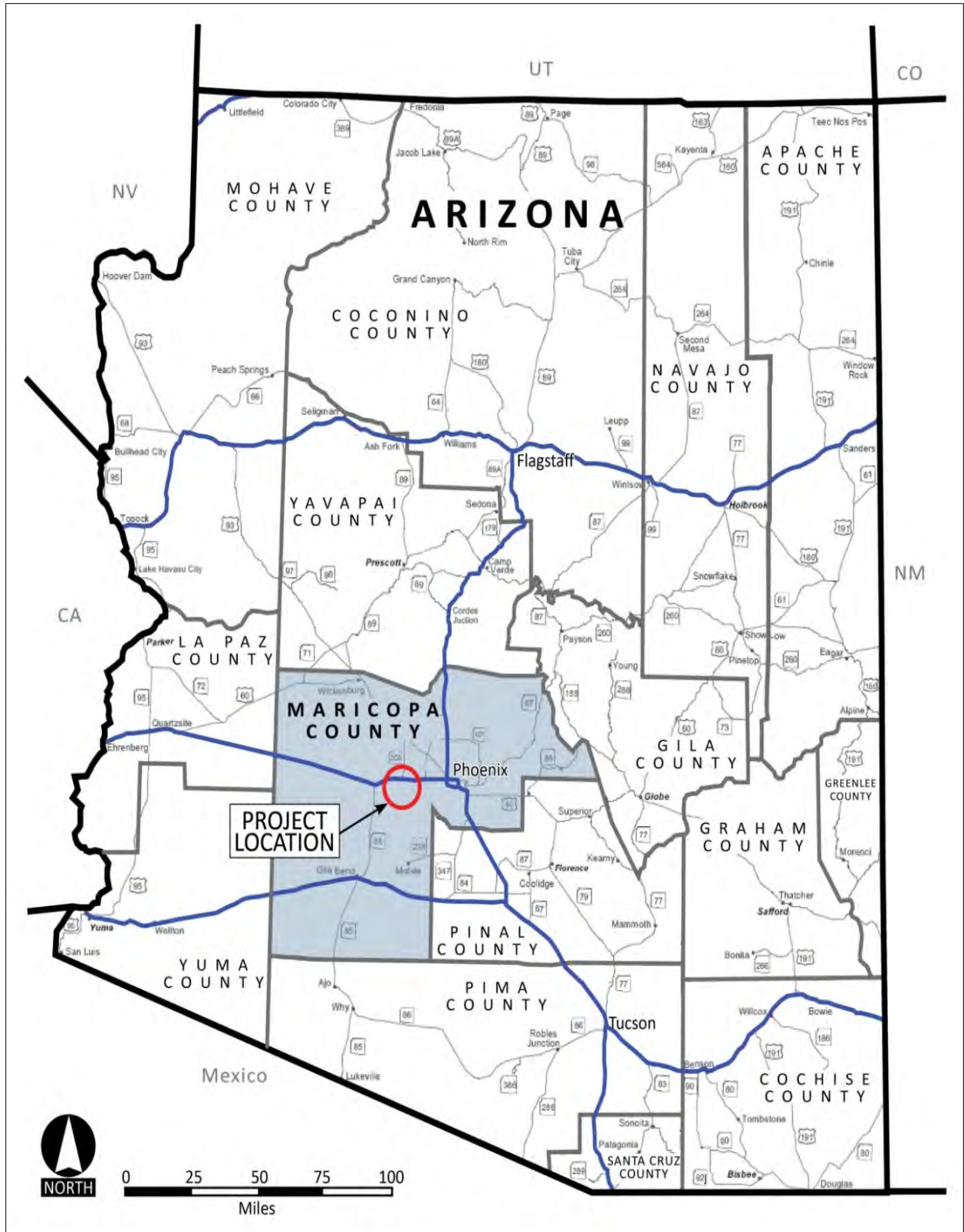
This Draft Environmental Assessment (EA) for State Route 303 Loop (SR303L), SR30 to I-10 was prepared in accordance with the National Environmental Policy Act of 1969 (NEPA) with the Federal Highway Administration (FHWA) acting as the lead federal agency. The Arizona Department of Transportation (ADOT) participated with FHWA as the sponsoring agency in the planning, preparation, and review of all technical and environmental documents. For the preparation of the EA, the Maricopa Association of Governments, Arizona Game and Fish Department, Arizona State Land Department, Bureau of Land Management, Western Area Power Administration, State Historic Preservation Office, Flood Control District of Maricopa County, Maricopa County Department of Transportation, City of Goodyear, and Town of Buckeye accepted FHWA's invitation to be participating agencies.

Per Council on Environmental Quality (CEQ) regulations (40 Code of Federal Regulations [CFR] Section 1508.9), the basic function of an EA is to describe a) the need for a proposed action, b) alternatives for implementing or constructing a proposed action, and c) the environmental impacts of a proposed action and alternatives. The EA also provides a listing of agencies and persons consulted. This document serves as a tool for FHWA and ADOT in identifying potentially significant impacts to social, economic, and environmental resources, and measures that can mitigate these impacts.

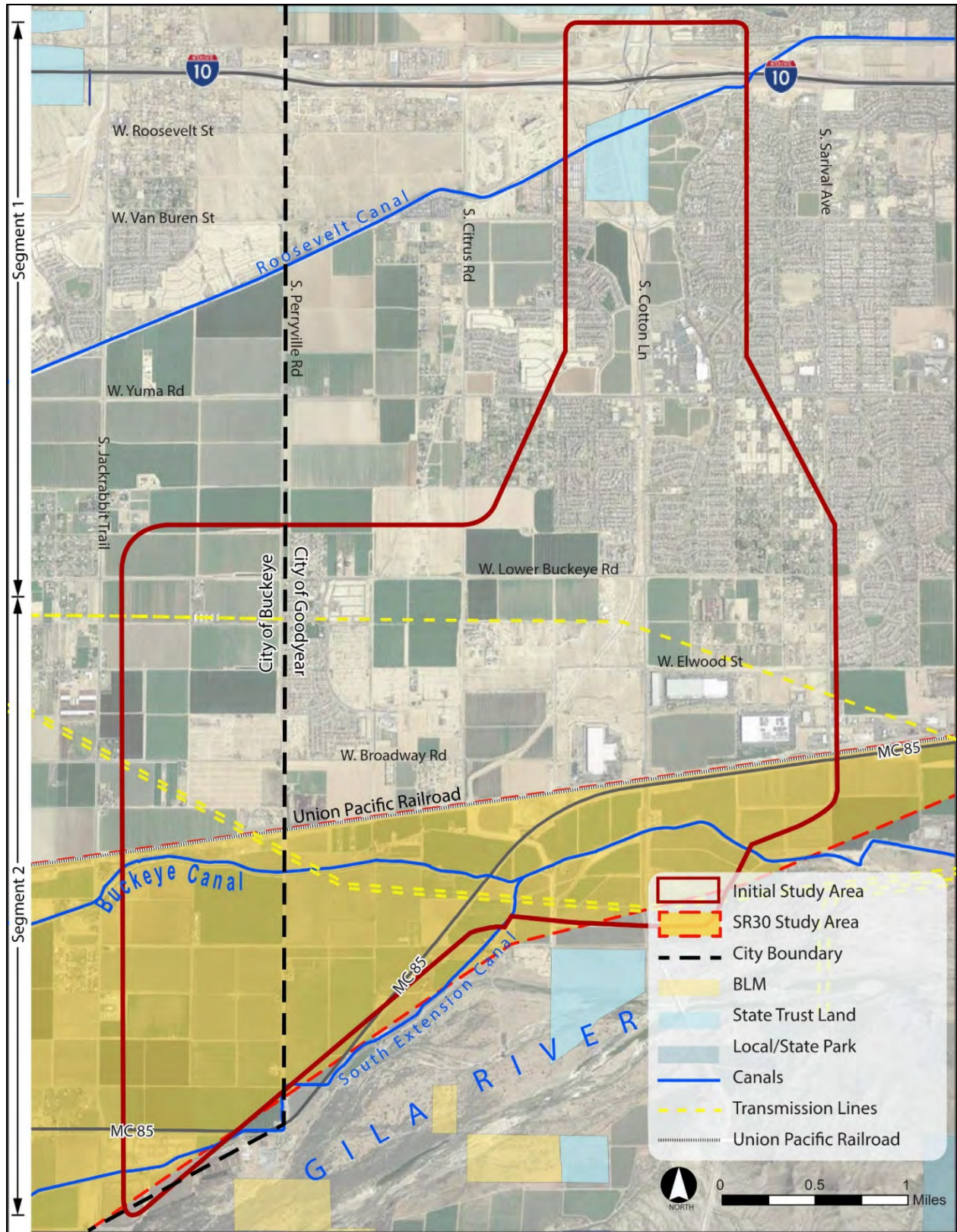
## 1.2 Project Location

The Study Area is located south of Interstate 10 (I-10), 18 miles west of downtown Phoenix in central Maricopa County, Arizona (Figure 1). The initial corridor development Study Area is defined by I-10 on the north and the Gila River on the south. The northern portion of the Study Area is bounded by 165<sup>th</sup> Avenue on the east, and 176<sup>th</sup> Avenue on the west down to Yuma Road, where the western boundary extends to the intersection of Lower Buckeye Road and Curtis Road, and the eastern boundary extends to Sarival Avenue. The eastern boundary continues south along Sarival Avenue to the Gila River. The western boundary extends to Perryville Road then continues south to the Gila River. The southern portion of the Study Area begins at Lower Buckeye Road, where the study limits expand to Sarival Avenue on the east, Jackrabbit Trail on the west, and the Gila River to the South. Beginning at Yuma Road, the eastern boundary of the northern portion of the Study Area expands diagonally southeast to Sarival Avenue, and the west boundary expands diagonally southwest to Curtis Road and Lower Buckeye Road.

The Study Area lies within the planning limits of the City of Goodyear, City of Buckeye and unincorporated Maricopa County (Figure 2). The Study Area occupies portions of Sections 1, 2, 11-14, 21-28 and 33-36 in Township (T) 1 North, Range (R) 2 West; and Sections (S) 4 and 5 in T1 South, R2 West, on the Perryville (1982), Arizona, U.S. Geological Survey 7.5-minute Topographic Quadrangle Series.



**Figure 1. Project Location**



**Figure 2. Initial Corridor Development Study Area**

The Study Area consists predominantly of large parcels of farmland and several residential subdivisions, a shopping complex, and an industrial park (Figure 3). Public Land Survey Section 1, adjacent to I-10, is mostly residential, and section 2, also adjacent to I-10, is mostly undeveloped land. Sections 11-14, south of sections 1 and 2, are mostly residential subdivisions and a shopping complex, with a few farmland parcels. Sections 22-24 are mostly farmland and undeveloped parcels with some residential parcels and several goods distribution facilities. In the lower portion of the Study Area, sections 25-27 are predominantly farmland and sections 34-36 are comprised chiefly of the Gila River floodway. Cotton Lane, which is the main Northbound (NB)/Southbound (SB) arterial in the Study Area, is paved and has a sidewalk with lighting and landscaping on the east side NB at Maricopa County Route 85 (MC85). Between Elwood Street and Lower Buckeye Road the sidewalk is replaced by a canal for the farmland in that section. The sidewalk resumes at Lower Buckeye Road and ends shortly before Yuma Road. Sidewalks, pedestrian facilities, and trees are limited within the Study Area. The general landscape is suburban and rural.

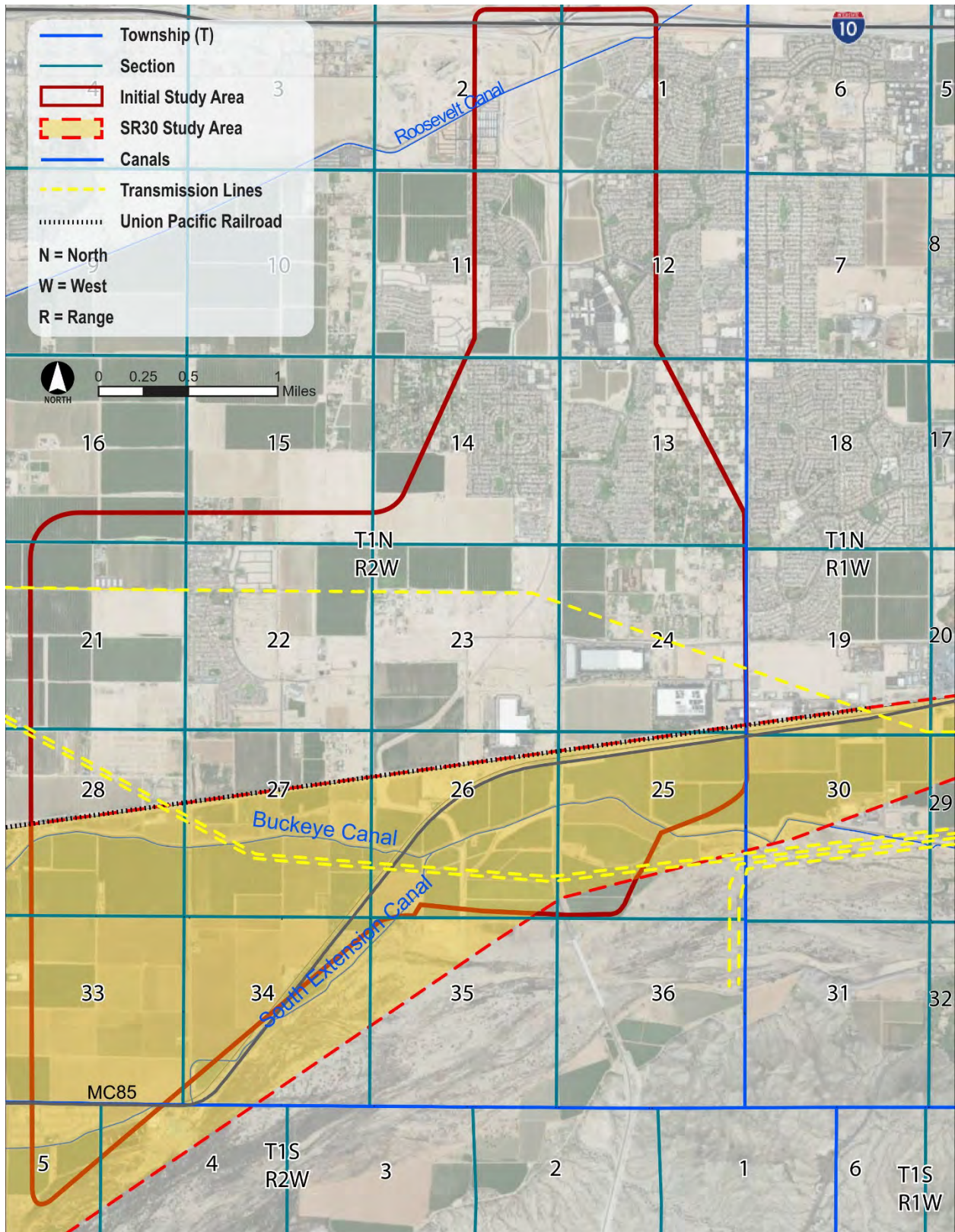
### **1.3 Project Background and Overview**

The concept for SR303L was developed initially in the *West Area Transportation Analysis Final Report* prepared for the Maricopa Association of Governments (MAG) in 1985. This analysis identified a need for a north/south transportation corridor in the southwest valley connecting to I-10. Development in the study corridor requires a transportation network consistent with MAG's Regional Transportation Plan (RTP) and the land use and transportation elements of the City of Goodyear's General Plan. This long-term need called for a freeway that would extend from MC85 north to Interstate 17 (I-17). It was named the Estrella Freeway in 1986. The State Transportation Board re-designated the Estrella Freeway as SR303L in 1987 (Figure 4). In 1994, Maricopa County voters defeated Proposition 400, which would have extended the original Proposition 300 (1986-2005) by 10 years and increased sales tax funding for MAG's Regional Freeway system.

At the Governor's request in 1995, the freeway was removed from the funded program and the MAG long-range plan due to the absence of an identified funding source. ADOT, MAG, and key local transportation agencies continued actively planning and expanding the metropolitan Phoenix freeway system to address regional travel needs in the future. In 2002, the Maricopa County Department of Transportation and the City of Goodyear completed a study on SR303L between MC85 and Indian School Road that included a preliminary location and concept for a system TI between I-10 and SR303L. In 2003, MAG approved a \$15.8 billion RTP. An important part of the RTP is the Regional Transportation Plan Freeway Program (RTPFP), which was adopted by MAG in November 2003. This program includes construction of new freeways, including SR303L, as well as improvements to existing freeways. In 2004, Maricopa County voters approved Proposition 400, which provided the funding necessary to implement the RTP.

SR303L is included in the RTPFP as a 40-mile-long planned new freeway in the western and northwestern portions of the greater Phoenix metropolitan area. It was planned as early as 1986 as part of Proposition 300 (Figure 4). It extends from the future SR30 near MC85 north to I-10, across United States Route 60 (US 60), and connects to I-17 to the northeast. The segment connecting I-10 in the west across US 60





**Figure 3. Study Area Public Land Survey Townships, Ranges, and Sections**

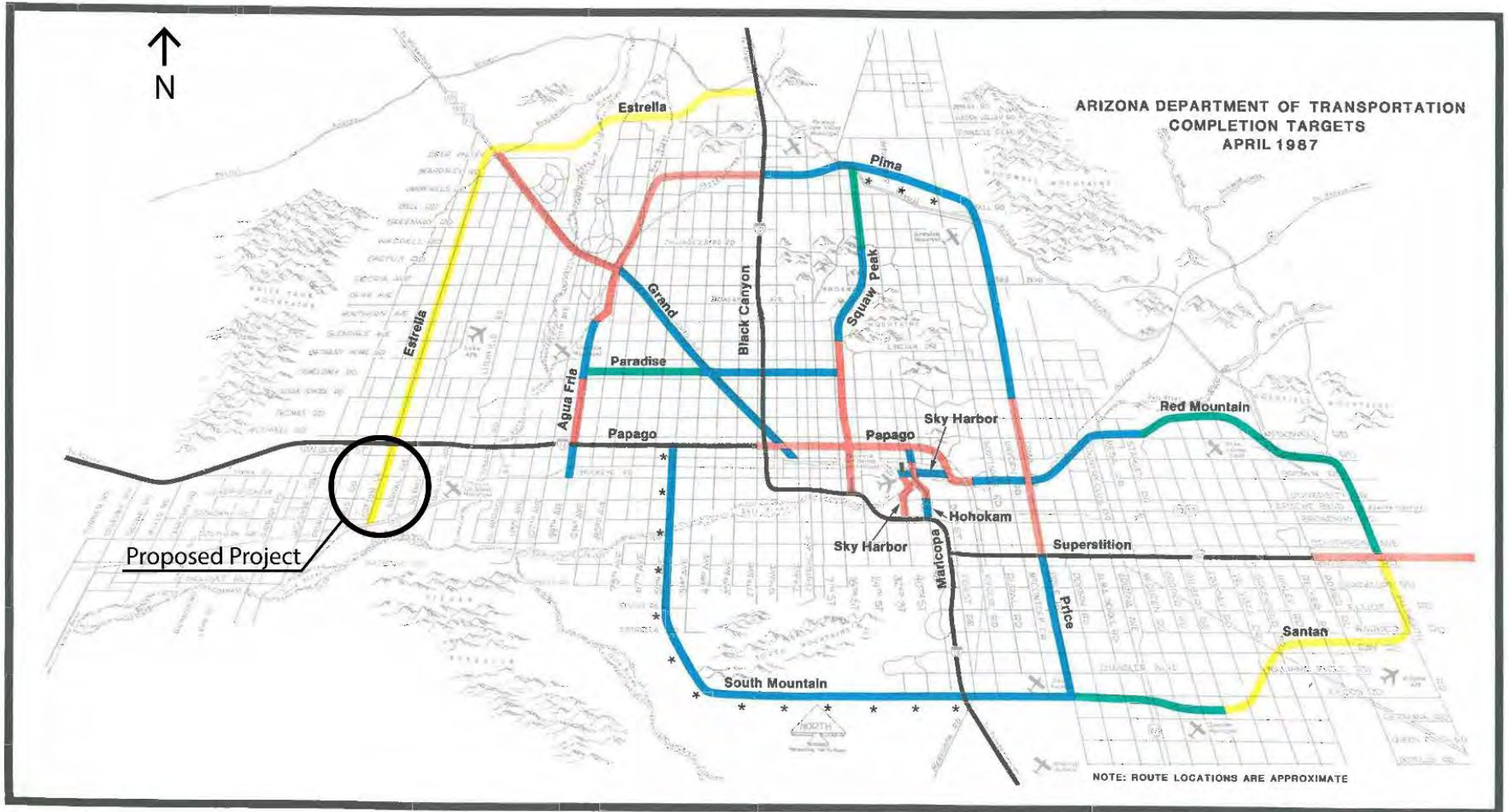


Figure 4. Regional Freeway System under Proposition 300

to I-17 in the northeast is constructed to Van Buren Street, and the remaining portion, south to future SR30, is in the planning and design phase with construction to MC85 programmed and the extension further south awaiting identification of funding.

The extension of SR303L would ultimately involve the construction of a 10-lane divided, access-controlled urban freeway with four general purpose lanes and a HOV lane in each direction between I-10 and the future SR30 freeway near MC85. The new facility would also include a half-diamond interchange at Van Buren Street, a diamond interchange at Yuma Road, and a half-diamond interchange at Elwood Street. Auxiliary lanes would be provided between interchanges, and frontage roads would be provided where the SR303L alignment is located on existing Cotton Lane. The project would ultimately include a freeway-to-freeway system interchange between SR303L and the proposed SR30 freeway. This project defines the SR30 alignment between Perryville Road and Sarival Avenue, including the system interchange with SR303L.

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## 2 Purpose and Need

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### 2.1 Introduction

The transition from agricultural land to residential and commercial development in the cities of Buckeye and Goodyear, Arizona (two of the fastest-growing jurisdictions in the MAG region) has resulted in increased travel demand. This increase in demand necessitates a new facility in the western Phoenix metropolitan area to facilitate regional connectivity. Recommendations for improvements to the Study Area have been identified in various transportation studies and long-range plans, including extension of the SR303L corridor southward.

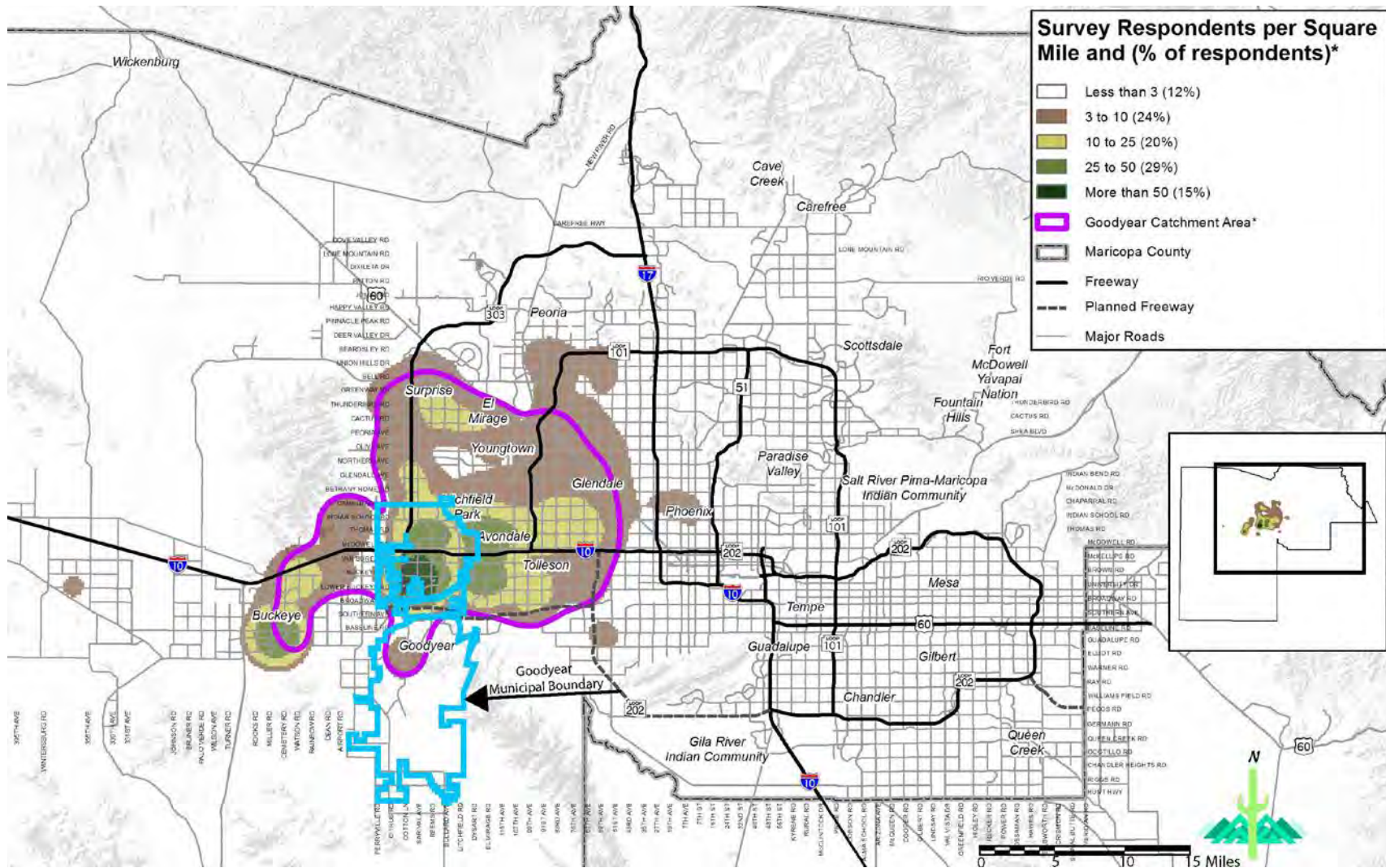
### 2.2 Need for the Transportation Facility

#### 2.2.1 Need Based on Socioeconomic Conditions

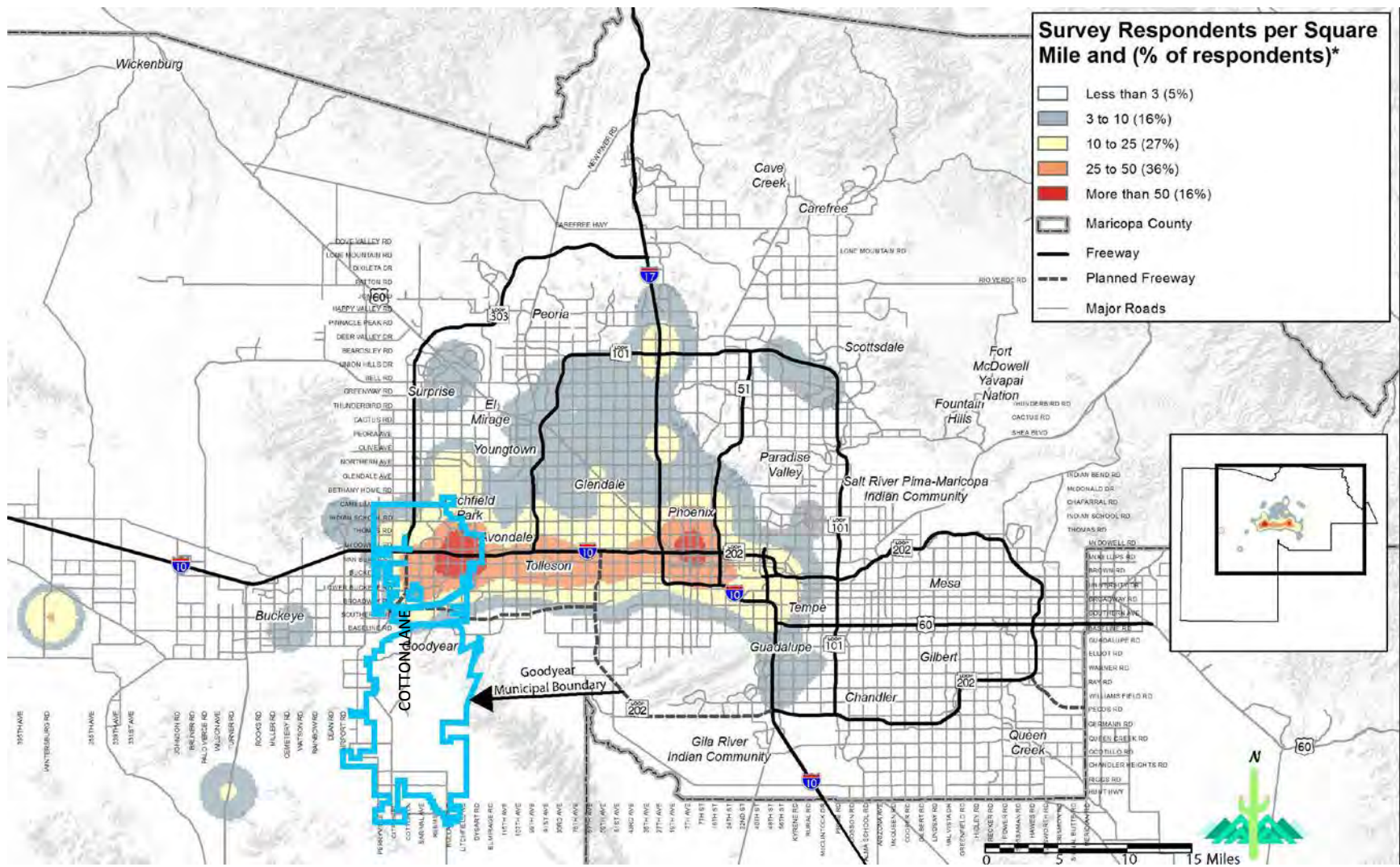
Future travel demand in this region was identified in MAG's RTP. Currently, Cotton Lane south of I-10 serves as a major arterial providing limited regional connectivity within the City of Goodyear. It accommodates traffic generated by new development in the West Valley extending south of MC85 and across the Gila River. Nine percent of employees working in the West Valley area reside outside of Maricopa County, with many of that group commuting from Tucson (*The West Valley Workforce and Labor Market Study, Creating New Avenues for Success*, 2008). Further analysis indicates that the percentage of people living in one city and working in another is increasing, which affects commuting patterns and traffic volumes. Figure 5 and Figure 6 show the commuting patterns of West Valley residents, with the City of Goodyear outlined in blue. Figure 5 illustrates the commuting patterns of persons living within the MAG region and working in Goodyear. Most persons employed in Goodyear also reside in Goodyear or adjacent communities.

Figure 6 illustrates the commuting patterns of persons residing in Goodyear and working in other municipalities, predominantly along I-10 from Avondale, through downtown Phoenix, and east to SR 51. Both figures illustrate that commuters heading to Goodyear from the West Valley utilize I-10, existing SR303L, Cotton Lane, and SR101L, whereas commuters leaving Goodyear are utilizing Cotton Lane, I-10, and east-west arterials.

Projections to 2016 based on the 2000 and 2010 U.S. Census indicate the communities in the western portion of the Phoenix metropolitan area (Avondale, Buckeye, El Mirage, Glendale, Goodyear, Litchfield Park, Peoria, Surprise, Tolleson, and Youngtown combined) have collectively added 300,000 residents since 2000, creating a 66 percent population increase. Per the 2010 Census, the western Phoenix metropolitan area cities of Goodyear and Buckeye had a jurisdictional population of 116,151 which was a 342 percent increase since 2000. Based on the land use plans of these cities, which assume major new transportation facilities, residential build-out is projected to occur by 2050. The *MAG 2016 Socioeconomic Projections* report forecasts the combined populations of these cities to be approximately 781,200 in 2050, or 365 percent higher than in 2010. (<http://geo.azmag.gov/maps/projections/2016>). Within the Study Area, the 2017 estimated population is 47,609. By 2040 this number is projected to grow 226 percent to



Source: MAG Trip Reduction Survey  
**Figure 5. Where People Working in Goodyear Live**



Source: MAG Trip Reduction Survey  
**Figure 6. Where People Living in Goodyear Work**

154,989 persons; and by 2050 the population is estimated to grow 314 percent to an estimated 196,957 persons. Substantial growth in employment is also projected for the Study Area. Since 2012, new businesses have moved into the industrial area near the Cotton Lane/MC85 intersection. Within the Study Area, the 2017 estimated employment is 16,427, which is projected to grow to 38,196 by 2040 and to 64,760 by 2050 (Table 1).

**Table 1. Study Area Population & Employment Comparisons with the MAG Region, 2017-2050**

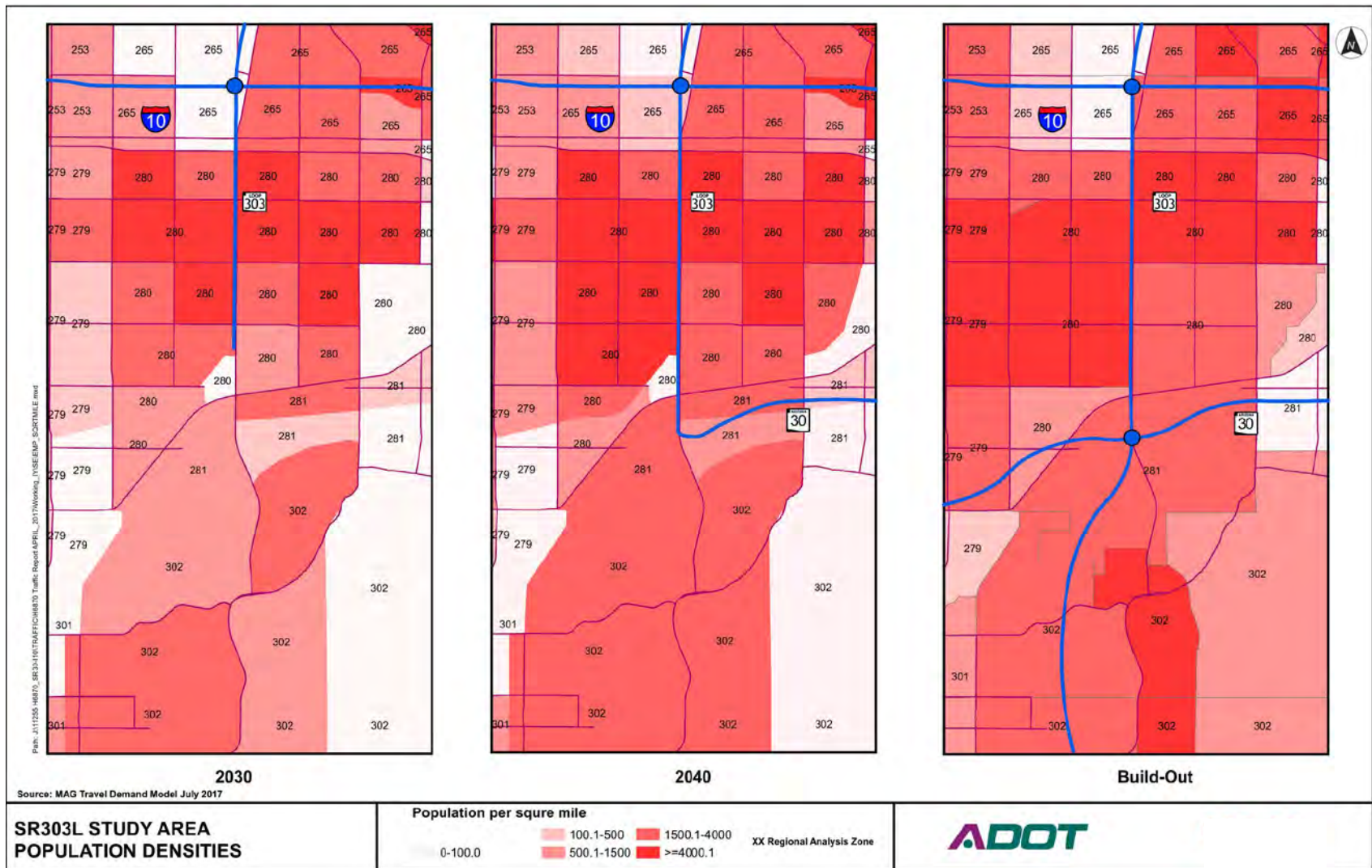
	Population		Employment		Housing Units	
	Study Area	MAG Region	Study Area	MAG Region	Study Area	MAG Region
<b>2017</b>	47,609	5,014,903	16,427	1,829,734	18,895	1,915,580
<b>2040</b>	154,989	7,346,154	38,196	2,646,923	58,253	2,714,869
<b>% change from 2017</b>	226%	46.5%	133%	44.7%	208%	41.7%
<b>Build-Out 2050</b>	196,957	9,554,192	64,760	4,551,516	76,669	3,844,297
<b>% change from 2017</b>	314%	90.5%	294%	149%	306%	101%

Source: Maricopa Association of Governments July 2017 (2017, 2023, 2030, 2040), Build-out Projections from Hidden Valley Framework Study

Exponential growth in the Phoenix metropolitan area has occurred over the past decades, and funding to develop the regional transportation network follows growth patterns. Per MAG, over 50 percent of the projected increase in population, employment, and housing from 2017 to 2050 is expected to occur in the southern and southwestern portions of the metropolitan area—including Goodyear—as commuting patterns continue and transportation facilities are added. Furthermore, the residential growth would concentrate new commercial and community development closer to arterial intersections within the Study Area, compounding local arterial traffic volumes. While employment growth in the project Study Area is projected to be nearly double that for the MAG region as a whole, Study Area population and housing will increase at nearly triple the regional rate, creating demand not only during commuting periods but also for mobility and accessibility within the Study Area.

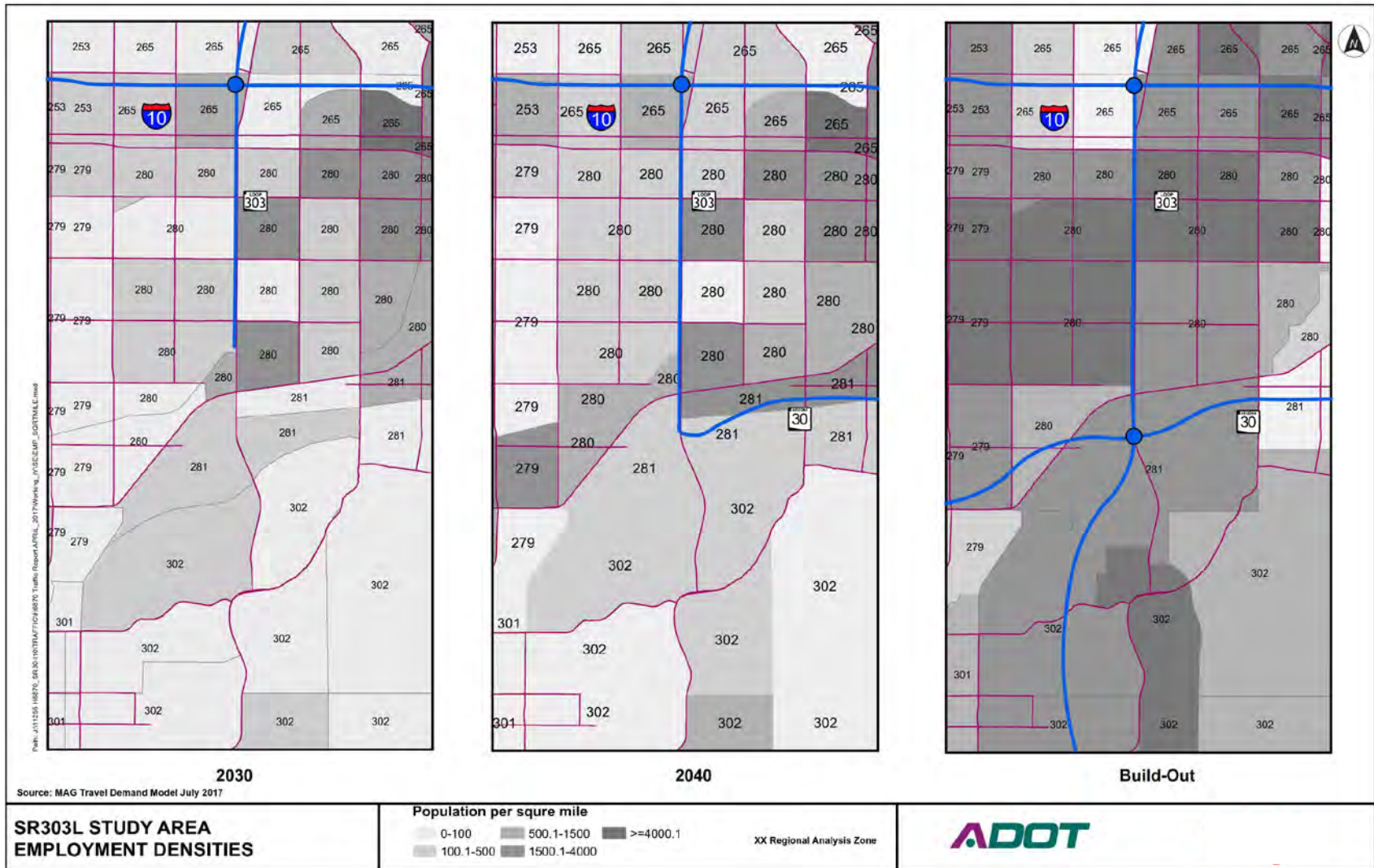
Figure 7 and Figure 8 on the following pages illustrate population and employment densities projected with anticipated transportation facilities in mind. Both figures show projected changes in population and employment densities in the Study Area for 2030, 2040, and the 2050 build-out year, illustrating the continuing growth of development, population, and employment. These increases in social and economic activity will generate travel demand that cannot be adequately accommodated on the existing roadway network.





**Figure 7. Population Densities**

\*MAG data projections assume the development of SR303L and SR30



**Figure 8. Employment Densities**

\*MAG data projections assume the development of SR303L and SR30

### 2.2.2 Need Based on Traffic Operations

To provide an objective and thorough evaluation, traffic operations within the Study Area were evaluated using recent counts and projections. The analysis identified poor future performance of the existing transportation infrastructure suggesting the need for improvements to the system to mitigate congestion.

The performance of the corridor segments under existing conditions was analyzed using the most recent Average Daily Traffic (ADT) data available. The ADT volumes of the main arterials in the Study Area under existing conditions are identified in Table 2. The traffic analysis began in 2008 and was augmented with 2013 and 2015 traffic data. (Ongoing construction of the I-10/SR303L TI Phase II in 2016 rendered data from that year invalid as not representing typical traffic conditions.) The segments with the highest ADT include Cotton Lane from Van Buren Street to Yuma Road, Van Buren Street from Cotton Lane to Sarival Avenue, and MC85 from Cotton Lane to Sarival Avenue.

**Table 2. Existing ADT in the Study Area**

Roadway	From	To	Year	Average Daily Traffic (ADT)
<b>Cotton Lane</b>	I-10	Van Buren Street	2015	6,350
<b>Cotton Lane</b>	Van Buren Street	Yuma Road	2015	8,800
<b>Cotton Lane</b>	Yuma Road	Lower Buckeye Road	2008	3,505
<b>Cotton Lane</b>	Lower Buckeye Road	MC85	2008	3,418
<b>Cotton Lane</b>	MC85	Estrella Parkway	2015	3,160
<b>Van Buren Street</b>	Perryville Road	Cotton Lane	2015	3,750
<b>Van Buren Street</b>	Cotton Lane	Sarival Avenue	2015	11,440
<b>Yuma Road</b>	Perryville Road	Cotton Lane	2013	5,340
<b>Yuma Road</b>	Cotton Lane	Sarival Avenue	2008	5,958
<b>Lower Buckeye Road</b>	Perryville Road	Cotton Lane	2008	1,232
<b>Lower Buckeye Road</b>	Cotton Lane	Sarival Avenue	2013	1,130
<b>MC85*</b>	Perryville Road	Cotton Lane	2015	6,763
<b>MC85*</b>	Cotton Lane	Sarival Road	2015	9,413

Source: City of Goodyear Transportation Master Plan. Dated 3/17/2015

\*Maricopa County Department of Transportation Traffic Counts, 2015

For the 2040 projections analysis, planning-level volume-to-capacity (v/c) ratios were calculated by dividing the projected (2040) traffic volumes by the vehicular capacity of each roadway. The v/c ratio of a roadway indicates its expected operating performance. A v/c ratio above 0.90 indicates that the roadway is expected to operate near or at failure where vehicles drive below the posted speed limit and mobility is little to none.

The analysis for 2040 conditions (Table 3) is calculated with the assumption that main arterials in the corridor would be widened to six lanes to mitigate congestion in the absence of new transportation facilities. Adding travel lanes to an existing roadway has become a standard strategy for mitigating congestion along a corridor; however, at some point, merely widening without implementing access control may not be desirable. This is illustrated in Table 3, where 2040 ADT volumes in the Cotton Lane corridor are projected to exceed the future six-lane arterial capacity of approximately 50,000 vehicles per day. This indicates increased traffic congestion (LOS F) and associated delays for the traveling public. The no-build Cotton Lane Corridor within the study area is projected to have a total AM peak hour delay of 232 hours, and a PM peak hour delay of 329 hours. The SR303L frontage road system, to replace Cotton Lane access, is projected to reduce this delay to 134 and 230 for AM and PM peak hours, respectively. Furthermore, the 2040 ADT projections, even with widening of MC85 and Cotton Lane, indicate that traffic volumes would only improve along MC85.

**Table 3. Existing and Projected ADT and Volume/Capacity (V/C) Ratio through 2040**

Roadway	From	To	Existing			2040 ADT without SR303L			2040 ADT without SR303L & SR30		
			# of Lanes	ADT	V/C Ratio	# of Lanes	2040 ADT without SR303L	V/C Ratio	# of Lanes	2040 ADT without SR303L & SR30	V/C Ratio
<b>Cotton Lane</b>	Van Buren Street	Yuma Road	2	8,800	0.69	6	64,220	1.28	6	72,510	1.45
<b>MC85</b>	Cotton Lane	Sarival Avenue	2	9,413	0.74	6	31,790	0.64	6	51,830	1.04

ADT: Average Daily Traffic

An enhanced transportation facility is needed for the projected traffic volumes, to accommodate future local and regional growth of the Southwest Valley and existing transportation/land use plans while meeting MAG’s RTP objectives and ADOT’s long-range goals of maintaining efficient connectivity along state routes. MAG’s current regional plan provides four general purpose lanes and one HOV lane in each direction, and auxiliary lanes (where needed) between interchanges. This extension of existing SR303L south to SR30 is a relatively short four miles between two system-to-system interchanges. Due to this short distance, and the traffic sorting associated with the system ramps entering and leaving, route continuity of four general purpose lanes and one HOV lane in each direction will be maintained to provide lane balance. In addition to the freeway facility, one-way frontage roads are needed to maintain access points to businesses,

neighborhoods, and other properties located on the existing Cotton Lane corridor within the Study Area. A new transportation facility along Cotton Lane would improve the movement and circulation of people, goods, and services through Goodyear and the western portion of the Phoenix metropolitan area by:

- Improving capacity to accommodate future traffic demand and increased development expected in the next two decades within and around the Study Area.
- Expanding regional connectivity and improving freeway linkages in the MAG freeway system; i.e., to I-10, existing SR303L, future SR30, and the freeway network beyond.

Long-range/build-out transportation studies; such as the I-10 Hassayampa Valley Framework Study (2008), and the I-8 and I-10 Hidden Valley Transportation Framework Study (2009) have defined the transportation network for the region. Both studies acknowledged the southern extension of SR303L as an integral component of MAG's RTPFP.

### **2.2.3 Need Summary**

The extension of SR303L is needed to help address travel demand projected to 2040 and beyond, which the existing arterial street network will not be able to accommodate. Without a higher capacity facility, traffic congestion in the Cotton Lane corridor will continue to worsen. The need for improved transportation corridors is driven not only by increased volumes of localized traffic resulting from population and employment growth, but also from increasing regional traffic beyond the immediate Study Area, based on associated commuting patterns, and from limited connectivity in the existing network. A new transportation corridor in the Study Area would form an integral connection within the regional transportation system, providing an alternate south-to-north route to I-10 through the growing communities in the western Phoenix metropolitan area. For residents of the area, a new transportation corridor would enhance access to regional employment centers to the north along the existing SR303L corridor and, via I-10, east to central Phoenix, and would facilitate regional mobility. Direct connection to the future SR30 would afford access to the SR202L South Mountain Freeway currently under construction, and would facilitate travel to and from the east Valley and I-10 southeast of Phoenix.

## **2.3 Purpose of the Transportation Facility**

One of the requirements of a new transportation facility within the Study Area would be compatibility with the land use plans, policies, and growth objectives of the municipalities in and around the Study Area. The purpose of the SR303L extension is to:

- Improve capacity to accommodate future traffic demand. Development in the Cotton Lane corridor is anticipated to increase substantially in the next two decades. This growth would generate higher traffic volumes than currently exist in the Study Area or than could be accommodated on Cotton Lane even were it widened to a six-lane arterial roadway.
- Expand regional connectivity and improve freeway linkages in the MAG freeway system: In addition to its connection to I-10, SR303L would connect to the planned SR30. SR30 would serve to relieve current and future congestion on I-10 by providing a parallel east-west connection between the Cotton Lane corridor and the future SR 202L to the east.

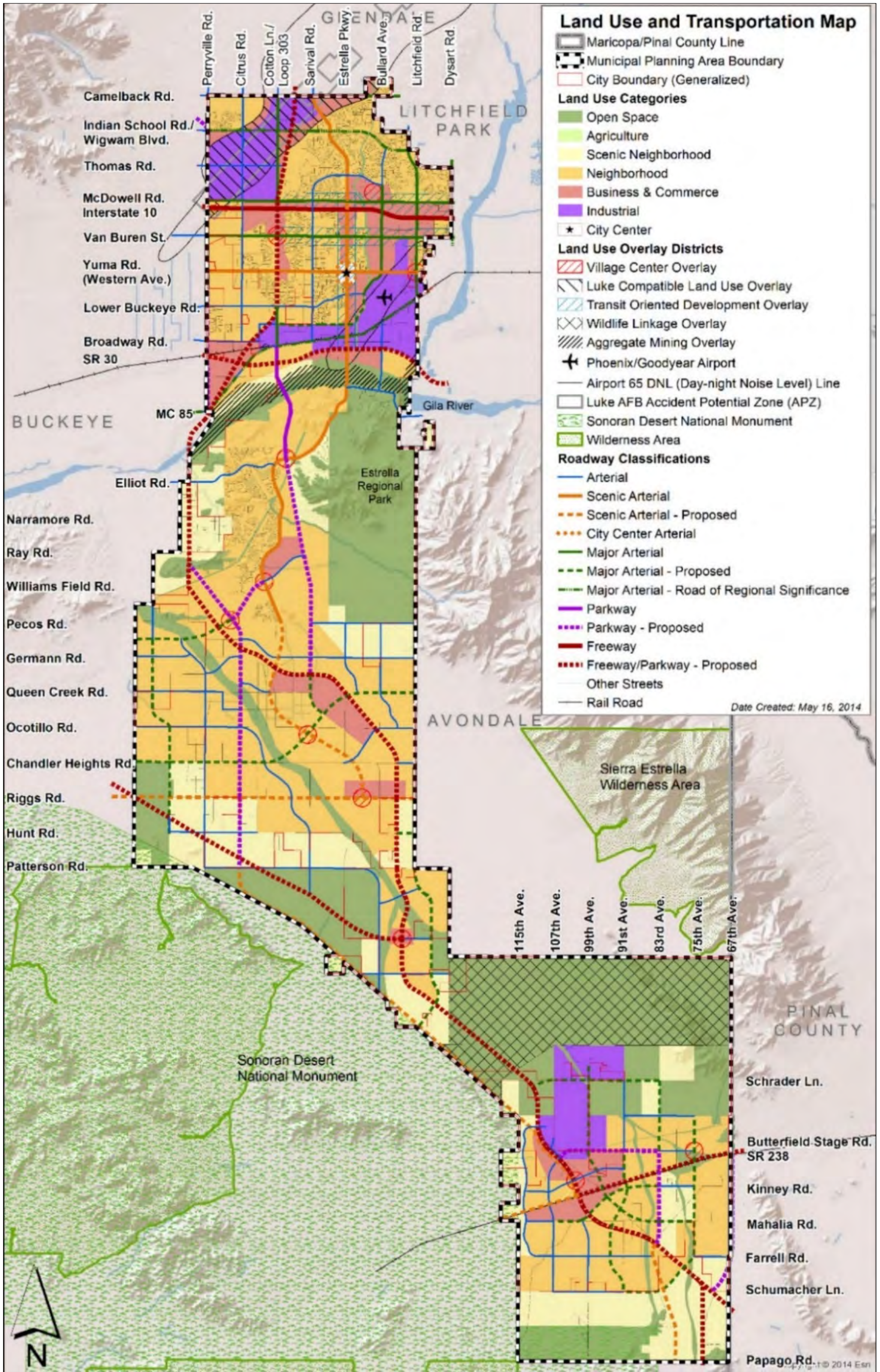
Long range/build-out transportation studies; such as the I-8 and I-10 Hidden Valley Transportation Framework Study (2009) and the I-10 Hassayampa Valley Framework Study

(2008) have defined the transportation network for the region. Both studies acknowledged the SR303L project as an integral component of MAG's RTPFP.

### **2.3.1 Consistency with Regulations, Land Use Plans, and Other Plans**

The Study Area encompasses land under the jurisdiction of the City of Goodyear, Arizona State Land Department (ASLD), and the Flood Control District of Maricopa County (FCDMC). The MAG RTPFP from as early as 1987 (Figure 4), and the City of Goodyear General Plan (Figure 9), have also identified the need for a new transportation facility in the Study Area, and it would generally be consistent with the vision, goals, and development envisioned in the following plans:

- 2017: MAG Draft 2040 Regional Transportation Plan
- 2016: Imagine Buckeye General Plan 2040
- 2016: Maricopa County 2030 Comprehensive Plan
- 2015: FCDMC 2015 Comprehensive Floodplain Management Plan and Program
- 2014: City of Goodyear 2025 General Plan
- 2014: City of Goodyear Transportation Master Plan
- 2011: What Moves You Arizona, Long-Range Transportation Plan | 2010-2035
- 2009: Interstates 8 and 10 Hidden Valley Transportation Framework Study
- 2007: Hassayampa Framework Study
- 2007: City of Goodyear General Plan Progress Report Amendment
- 2006: Maricopa County White Tank/Grande Ave Area Plan
- 2002: Loop 303 Corridor/White Tanks Area Drainage Master Plan Update



Source: City of Goodyear General Plan (2025)

Figure 9. City of Goodyear Land Use and Transportation Map

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## 3 Alternatives

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### 3.1 Corridor History

Feasible alignment alternatives for the SR303L freeway extension were identified and evaluated to accommodate future land use and projected traffic volumes for the 2040 design year. SR303L was initially identified in the MAG Long-Range RTPFP in 1985, running between former SR85 (now MC85) and I-17. Following passage of Proposition 300, the location of SR303L was established between SR85 and I-10 in 1988 along the Cotton Lane alignment. Based on 2030 traffic demand forecasted in the 2003 South West Area Transportation Study (SWATS), the I-10 Reliever (SR30) running between SR202L and current SR85, and the SR303L Extension running from I-10 to Riggs Road were added to the RTP to be funded under Proposition 400. Following passage of Proposition 400, studies were initiated for SR303L between I-10 and SR30, and for SR30 between SR202L and SR85. The alternative development process for SR303L, beginning in 2006, involved a systematic approach to develop viable alignment concepts through an interdisciplinary team dialogue that included FHWA, ADOT technical staff, and stakeholders.

### 3.2 Process

The SR303L study process involved two phases of development. Phase 1, an Alternative Selection Report (ASR) including an Environmental Overview (EO), identified an array of potential corridors for further analysis. Phase 2, a Location and Design Concept Report (L/CDR) associated with the Environmental Assessment (EA) refined and evaluated the selected alternatives and recommend a Build Alternative with an implementation plan.

Phase 1 is complete, and included agency and public scoping, environmental studies, and conceptual alternatives development, evaluation, and recommendations. The March 2008 ASR and associated EO documented the development process and recommendations of the Phase 1 alternatives to be carried forward. The ASR is available on the ADOT project website.

### 3.3 Alternative Selection Report, March 2008

#### 3.3.1 Build Alternatives

The SR303L is planned to be a fully access-controlled, grade-separated, multi-lane freeway. The ultimate facility would provide four general purpose lanes and one HOV lane in each direction, and auxiliary lanes (where needed) between interchanges. Cotton Lane would be reconfigured as frontage roads between Van Buren Street and Lower Buckeye Road. South of Lower Buckeye Road, the southbound frontage road would transition to the existing Cotton Lane and northbound Cotton Lane would transition to the frontage road. Initial funding under the RTP would provide for a six-lane urban freeway with auxiliary lanes between interchanges, as part of an interim improvement. The SR303L extension south of SR30 was assumed to be along a Rainbow Valley corridor, although funding for its construction has not been included in the RTP.

### 3.3.2 Study Area

The original Study Area for the ASR and initial alternative corridors are shown on Figure 10. For evaluation purposes, the corridors were divided into two Segments; Segment 1, I-10 to Lower Buckeye Road; and Segment 2, Lower Buckeye Road to SR30. Subsequently, the extension of SR303L from north of I-10 to Van Buren Street, along with system interchange ramps to and from the south, were constructed in a SR303L/I-10 TI Phase II project that opened to traffic in October 2017. The remainder of Segment 1 has only one build alternative, which runs down the existing Cotton Lane corridor. The consideration of other alternatives in this area would have major impacts to existing residential and commercial developments, including displacements, as well as being incompatible with adopted long-term local and regional planning. At Lower Buckeye Road, six separate SR303L corridor alternatives continued either south, southwest, or southeast to tie into a planned system TI with the future SR30. The corridor alternatives are shown as broad swaths that would contain the entire freeway footprint, including frontage roads, service interchanges, a FCDMC drainage channel, and the proposed SR303L/SR30 system interchange. The corridors were identified on the basis of avoidance of existing and planned development, and compatibility with land use and utility corridors. Initial evaluations were based on out-of-direction travel, parallel freeway length, overall freeway length, and land use impacts. The six corridors identified for Segment 2 are described in Table 4.

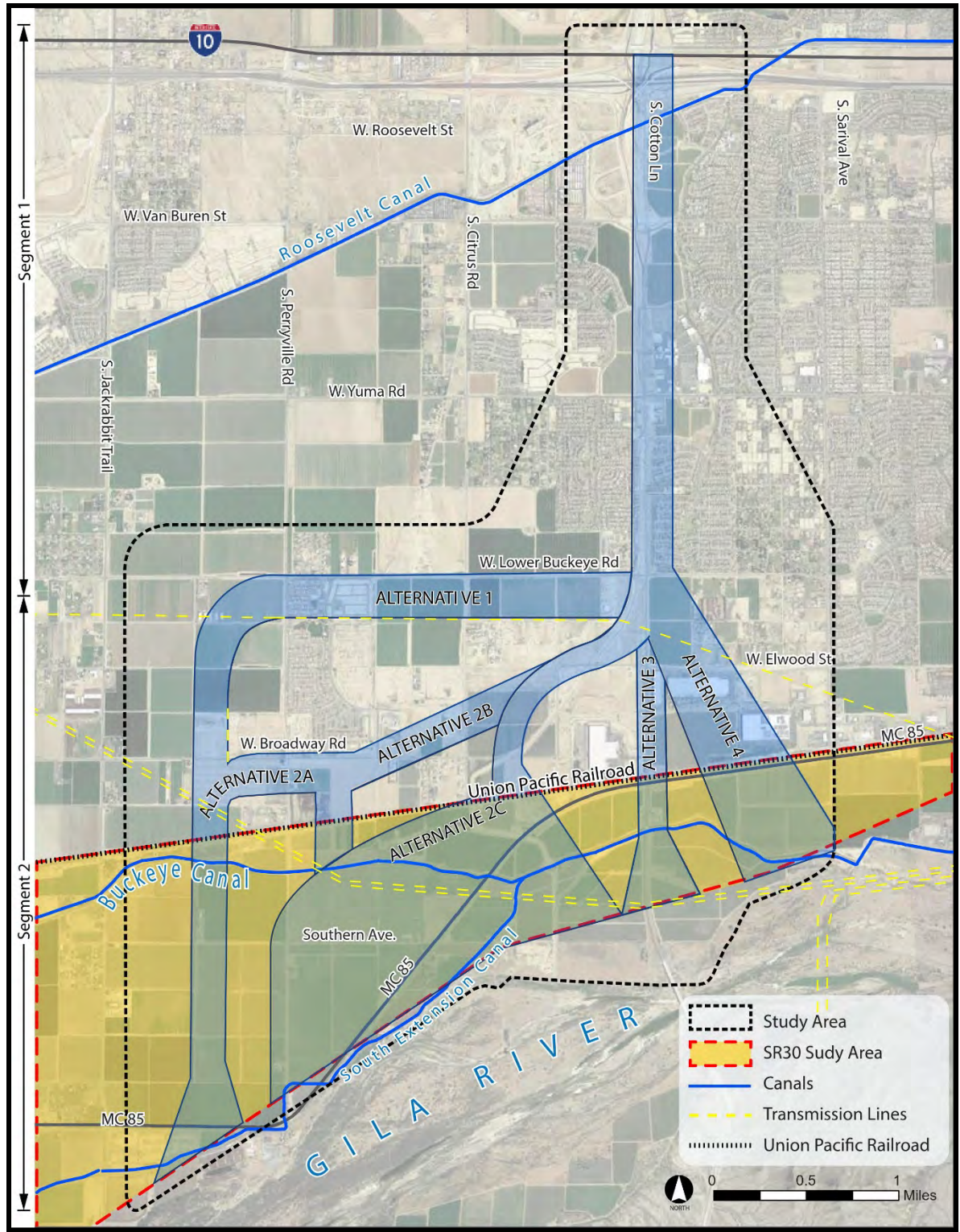
### 3.3.3 Alternatives Considered but Eliminated from Further Study in the ASR

After preliminary evaluation of the six corridors, Corridors 1, 2A, and 2B were removed from further consideration, and an additional hybrid Alternative 5 was added following the initial analyses to eliminate the effects of out-of-direction travel associated with Alternative 2C. This alternative uses the Alternative 2C SR303L alignment, with system ramps for South to East and West to North added within the Alternative 3 corridor.

Segment 2 - Alternatives 1, 2A, and 2B were removed from further consideration for the following reasons:

- All three alternatives would result in lengthy out-of-direction travel for the south-to-east and west-to-south movements between SR303L to SR30.
- Each of these alternatives would create a two- to three-mile parallel facility between SR30 and I-10, which would reduce the intended purpose of SR30 to serve as a reliever route for I-10 traffic.
- The greater roadway length of each of these alternatives would have higher costs compared to the other shorter alternatives.
- Alternative 1 would substantially impact a planned large residential development throughout its Cotton Lane-to-Perryville Road segment.
- None of these alternatives would be consistent with the Goodyear General Plan.

An Evaluation Matrix for Alternatives 2C, 3, 4, and 5 was developed. Alternatives 3 and 4 were eliminated. Alternatives 2C and 5 were recommended to be carried forward in the L/DCR.



**Figure 10. Initial Alternatives within Original Study Area**

**Table 4. Initial Alternatives – Segment 2**

Alternative	Description	Develop in More Detail
Segment 2: Lower Buckeye Road to SR30		
<b>1</b>	Proceeds west from Cotton Lane between Lower Buckeye Road and an APS transmission line, then turns south at 191 <sup>st</sup> Avenue to SR30	No
<b>2A</b>	Proceeds west-southwest from Cotton Lane at Lower Buckeye Road to Broadway Road, then parallels the south side of Broadway Road west to 191 <sup>st</sup> Avenue, where it would turn south to SR30	No
<b>2B</b>	Proceeds west-southwest from Cotton Lane at Lower Buckeye Road to Broadway Road, then turns south to follow 183 <sup>rd</sup> Avenue to SR30	No
<b>2C</b>	Proceeds southwest from Cotton Lane at Lower Buckeye Road to midway between 175 <sup>th</sup> Avenue and Citrus Road, where it turns south and continues to SR30	Yes
<b>3</b>	Proceeds south on Cotton Lane from Lower Buckeye Road to SR30	Yes
<b>4</b>	Proceeds southeast from Cotton Lane at Lower Buckeye Road to SR30	No
<b>5*</b> <b>(added later)</b>	Provides a dual facility by combining Alternatives 2C and 3, with south-to-east and west-to-north freeway movements occurring in the Alternative 3 corridor	Yes

APS: Arizona Public Service

\*Alternative 5 was added to eliminate out-of-direction travel associated with Alternative 2C

Alternative 3 was not carried forward into detailed study for the following reasons:

- The location of the TI at SR30 under this alternative would not provide route continuity with a potential future extension of SR303L from SR30 to MAG’s proposed Hassayampa Freeway south of the Gila River, as proposed in the RTPFP.
- Poor connectivity between HOV lanes north and south of SR30 would result because of the split traffic interchanges.
- Alternative 3 would not be consistent with the Goodyear General Plan relative to ongoing and future development plans east of Cotton Lane.

Alternative 4 was not carried forward into detailed study for the following reasons:

- The location of the TI at SR30 under this alternative would not provide route continuity with a potential future extension of SR303L from SR30 to MAG's proposed Hassayampa Freeway south of the Gila River, as proposed in the RTPFP.
- Poor connectivity between HOV lanes north and south of SR30 would result because of the split traffic interchanges.
- Recently constructed industrial development would be displaced, thus increasing overall project costs.
- Alternative 4 would not be consistent with the Goodyear General Plan relative to ongoing and future development plans east of Cotton Lane.

Alternative 2C was carried forward for the following reasons:

- Utilizes the reserved right-of-way corridor.
- Reduces impacts to commercial and residential development plans.
- The Stack system TI provides SR303L continuity to the south.
- Supported by local planning and governmental agencies.

Alternative 5 was carried forward for the following reasons:

- Utilizes the reserved right-of-way corridor.
- Allows for the south half of a TI at Elwood Street.
- Reduces impacts to commercial and residential development plans.
- Eliminates out-of-direction travel.
- The Stack system TI provides SR303L continuity to the south.
- Supported by local planning and governmental agencies.

### **3.4 Location and Design Concept Report (L/DCR) Alternatives Development**

Following completion of the ASR, a more detailed engineering concept was developed for Alternatives 2C and 5. While coordinating the development of the SR303/SR30 system interchange, concerns were raised relative to the siting of the SR303L southern extension crossing of the Gila River due to environmental restrictions limiting crossing locations. A separate river crossing analysis was performed showing two possible corridors across the river (Figure 11). One crossing, identified as the Rainbow Valley crossing, was consistent with Alternatives 2C and 5. The other location was along the Cotton Lane corridor, which would require utilization of the previously discarded ASR Alternative 3 corridor. To ensure that the alternative selected north of SR30 did not preclude the southern extension of SR303, a feasibility analysis was performed utilizing the two potential Gila River crossing corridors. The results indicated that either corridor was viable. To ensure proper vetting of alternative corridors, Alternative 3 was added to the L/DCR analysis.

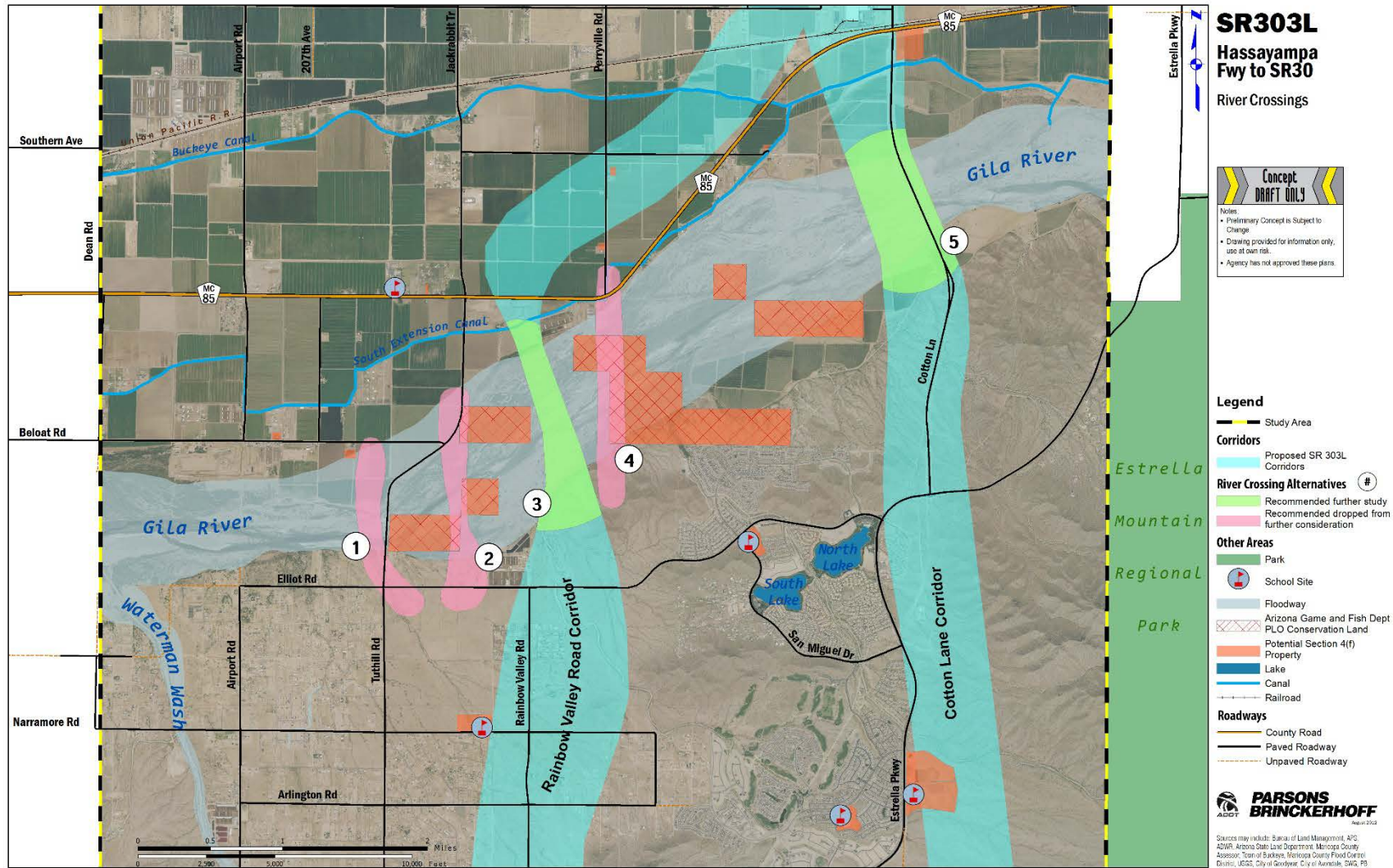


Figure 11. River Crossings

### **3.4.1 Alternatives Considered for Further Study in the L/DCR**

In the spring of 2013, the Study Area was refined to focus on the alternatives retained for further study (Figure 12). Starting at Van Buren Street and proceeding south to MC85, the original Study Area was reduced from 1.0 mile wide to an 850-foot-wide corridor centered on Cotton Lane. Below Lower Buckeye Road, the western boundary of the Study Area runs diagonally to Broadway Road. Below MC85, the Study Area boundaries are the proposed SR30 freeway to the south, Sarival Avenue to the east, and Perryville Road to the west.

As with the ASR, the corridor was divided into two segments: Segment 1, Van Buren Street to Lower Buckeye Road, and Segment 2, Lower Buckeye Road to SR30. The evaluation of the Build Alternatives begins where the southern portion of the existing I-10/SR303L TI transitions into existing Cotton Lane 1,200 feet south of Van Buren Street, extending to and including the SR30 interchange and SR30 between Sarival Avenue and Perryville Road. The SR303L alignment at Van Buren Street is common to all Build Alternatives in the Study Area, as is the alignment of SR30 at Sarival Avenue and Perryville Road.

### **3.4.2 Segment 1**

All alternatives share the same alignment from Van Buren Street to Lower Buckeye Road. The selected alternative in Segment 1 would replace the existing Cotton Lane roadway and require the construction of one-way frontage roads on each side of the freeway for the entire length of the segment to provide for local access. It would provide four travel lanes and an HOV lane in each direction, with auxiliary lanes between the service interchanges at Van Buren Street and Yuma Road. Van Buren Street, Yuma Road, and Lower Buckeye Road would remain at grade, with SR303L passing over them. This segment includes a half diamond TI to the south at Van Buren Street and a full diamond TI at Yuma Road. A utility corridor is provided along the west side of the southbound frontage road adjacent to the Loop 303 drainage channel. The Cotton Lane corridor was recommended for Segment 1 for the following reasons:

- It would provide route continuity in the SR303L corridor between I-10 and southerly extensions of SR303L, as outlined in MAG's RTPFP.
- ADOT and MAG have endorsed this configuration in previous studies.
- The City of Goodyear has expressed its support.
- Future development plans in the area have accounted for the freeway corridor in this location.
- Most of the Segment 1 alignment falls within reserved right-of-way (ROW) potentially reducing costs and impacts.
- In the areas where additional ROW is needed, only five displacements or relocations would be.

#### ***3.4.2.1 Avondale Cotton Gin 4(f) avoidance alternatives***

The former Avondale Cotton Gin property, located on the southeast corner of Cotton Lane and Yuma Road, was initially recommended as eligible for listing on the National Register of Historic Places (NRHP), thereby protected under Section 4(f) of the Department of Transportation Act of 1966 (See Section 4.6). This historic resource included 3 existing structures.

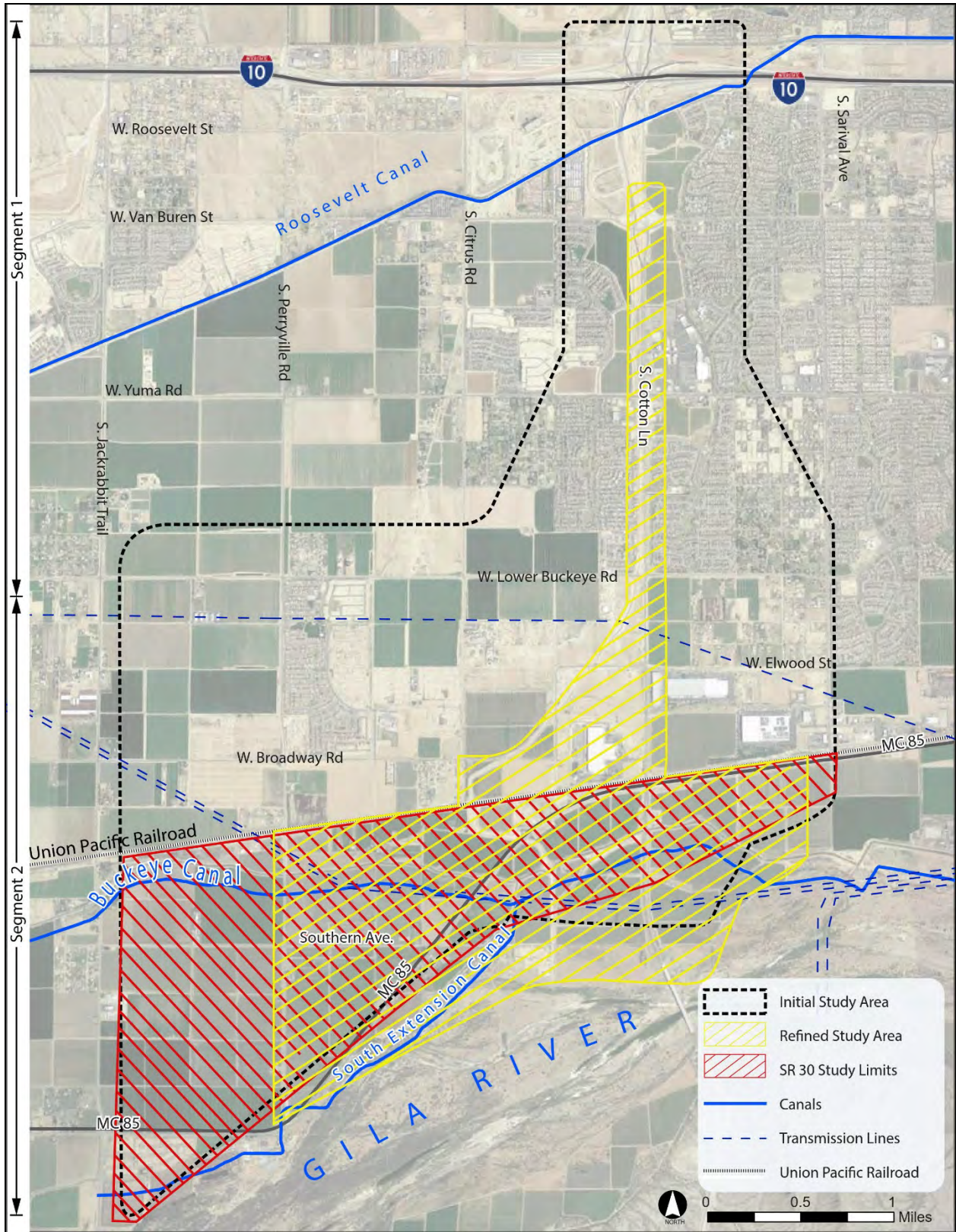


Figure 12. Revised Study Area (2013)



Four avoidance alignment alternatives were developed and impacts were evaluated (Figure 13). The avoidance alignments affected the alignment of SR303L between Van Buren Street and Lower Buckeye Road. Avoidance alternative A shifted SR303L to the west. Avoidance alternative B shifted SR303L to the east. Avoidance alternative C shifted SR303L to the west enough to avoid impacts to the Section 4(f) structures, but still resulted in a use of the Section 4(f) property. Avoidance alternative D stacked the northbound and southbound SR303L roadways on top of one another, reducing the roadway typical section to 3 general purpose lanes in each direction and eliminating the HOV lane and frontage roads in the area. In addition, Yuma Road was provided with only a half diamond interchange to the north in this avoidance alternative.

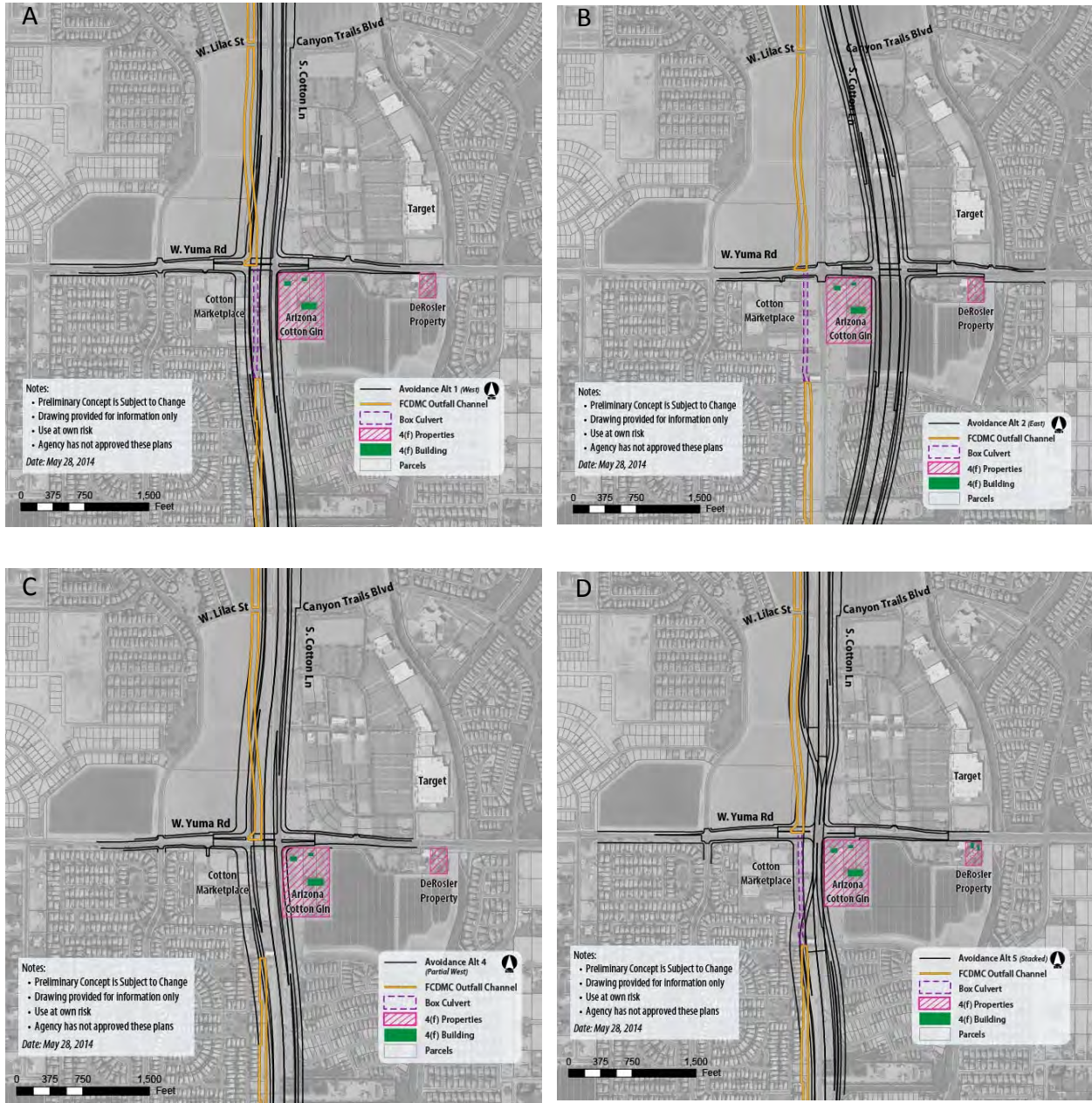
In the course of documenting the former Cotton Gin structures to Historic American Building Survey (HABS) standards, it was discovered that the property had lost enough of its integrity that it could no longer convey its significance and was, therefore, ultimately determined not to be eligible for inclusion in the National Register. Subsequent consultation with the State Historic Preservation Office (SHPO) (Petty [FHWA] to Jacobs [SHPO] May 17, 2016) resulted in the utilization of the original alignment for Segment 1 of the SR303L along Cotton Lane, with frontage roads on each side (See Section 4.6).

### **3.4.3 Segment 2**

Segment 2 of the SR303L extension begins at Lower Buckeye Road and continues southward, connecting with the future SR30. For purposes of this study, the section of SR30 between Sarival Road and Perryville Road containing the SR303L/SR30 interchange is included. The conceptual SR30 alignment was developed to avoid potential impacts to cultural and historic resources protected under Section 4(f), and is consistent across all alternatives. All Segment 2 alternatives include a half diamond connection to the north at Elwood Street and frontage road connections to Cotton Lane, a full diamond TI at Cotton Lane and future SR30, a full directional interchange between SR303L and SR30 that would accommodate a direct HOV connection, and grade separations of MC85, Southern Avenue, and UPRR. All alternatives utilize the FCDMC drainage channel for drainage outfall; this could also serve as a utility corridor along the west side of SR303L between Lower Buckeye Road and Broadway Road.

#### **3.4.3.1 Alternative 2C**

Alternative 2C diverges to the west from the Cotton Lane alignment at Lower Buckeye Road, crossing over Elwood Street about 0.25 mile west of Cotton Lane and extending southwest through the reserved ROW from the El Cidro development, crossing UPRR on a skew and intersecting SR30 on a skew just north of Southern Avenue and west of MC85, resulting in a 5-level stack interchange. The skew of the freeways' mainlines results in long directional ramps and bridge structures, plus more ramp grade separation structures. Alignment Alternative 2C would use as much of the El Cidro development reserved ROW as is feasible, while maintaining acceptable roadway geometrics. This alignment widens to provide for future HOV connections and maintains SR303L continuity should a potential southerly extension across the Gila River occur in the Rainbow Valley corridor. Due to the HOV connectivity and the 75- to 100-foot parallel drainage channel, the SR30 east-to-north HOV alternative exceeds the El Cidro reserved ROW on the east side. This area has not yet been platted, and is zoned for industrial development, so the anticipated impacts are lessened.



**Figure 13. Cotton Gin Avoidance Alternatives**

Alternative 2C is consistent with MAG Regional Planning: Hassayampa Valley and Hidden Valley Transportation Framework Studies and the Goodyear General Plan. It utilizes right of way preserved by Goodyear. It allows unfettered west side development access to Cotton Lane between Elwood St. and UPRR, but limits access to the area in the NW (northwest) quadrant of the SR303L/SR30 TI. The stack interchange results in long directional ramps and bridge structures, plus more ramp grade separation structures. Constructability and maintenance of traffic are good due to the new alignment and ramp spread of the skewed SR303L/SR30 TI. The alignment requires power line tower adjustments in two locations.

### **3.4.3.2 Alternative 3**

Alternative 3 continues south along the Cotton Lane alignment, with frontage roads extending south past Elwood Street. The alignment crosses between the Huhtumaki plant (manufacturers of plastic food and drink containers) and Cotton Lane, extending south over the UPRR and MC85, and intersecting SR30 3,000 feet south of MC85 just east of Cotton Lane. The SR30-Cotton Lane TI is embedded within the SR303L/SR30 5-level stack TI. Because of the perpendicular crossing of the freeway mainlines, a more compact system TI results, requiring fewer ramp grade separation structures and shorter directional ramps. The southern extension of SR303L under this alternative would utilize a Cotton Lane corridor south of the Gila River. Alignment Alternative 3 would require the frontage roads on Cotton Lane to continue south of Elwood Street/Dunlap Road.

Alternative 3 is not consistent with MAG Regional Planning Hassayampa Valley and Hidden Valley Transportation Framework Studies or the Goodyear General Plan. It does not utilize the ROW corridor preserved by Goodyear through the El Cidro development, would require ROW from the Huhtumaki property, and would restrict access to locations on Cotton Lane. However, Alternative 3 would occupy less acreage than the other alternatives due to the shorter distance from Lower Buckeye Road to SR30 along Cotton Lane. The perpendicular crossing of the freeway mainlines would provide a more compact directional interchange, with fewer ramp grade separation structures; however, this same tight configuration would require more difficult phased construction. The Alternative 3 alignment would also require major power line tower height adjustments.

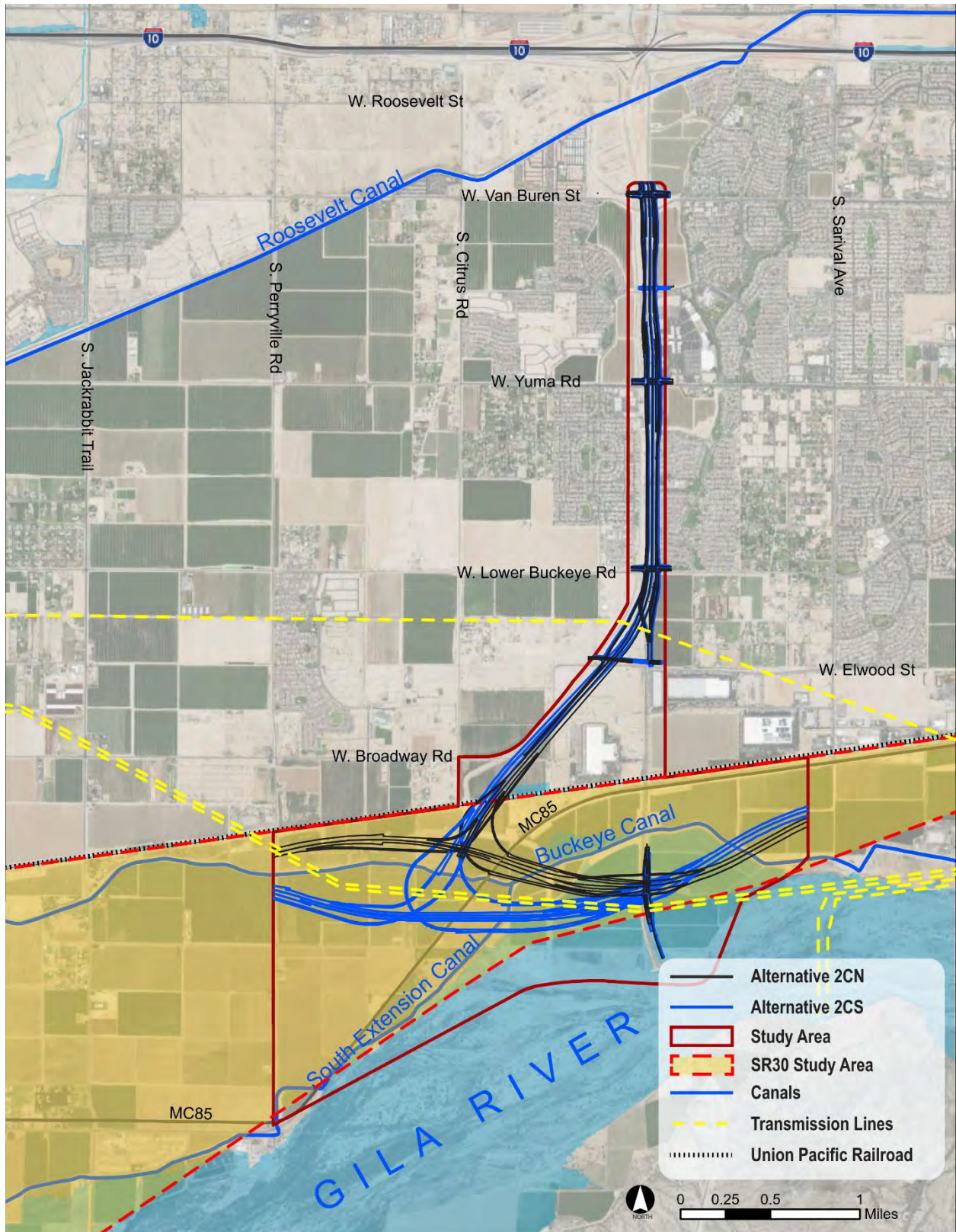
### **3.4.3.3 Alternative 5**

Alternative 5 is a hybrid of the Alternative 2C and 3 alignments. This alternative leaves SR303L along the 2C alignment, while locating the south-to-east and west-to-north ramps of the SR303L/SR30 stack TI in the Alternative 3 alignment. The resulting system TI is split, with two (2) directional ramps south-to-east and west-to-north along Cotton Lane, and the remaining movements occurring within the Alternative 2C five-level stack interchange. The southern extension of SR303L under Alternative 5 would be consistent with a Rainbow Valley corridor alignment.

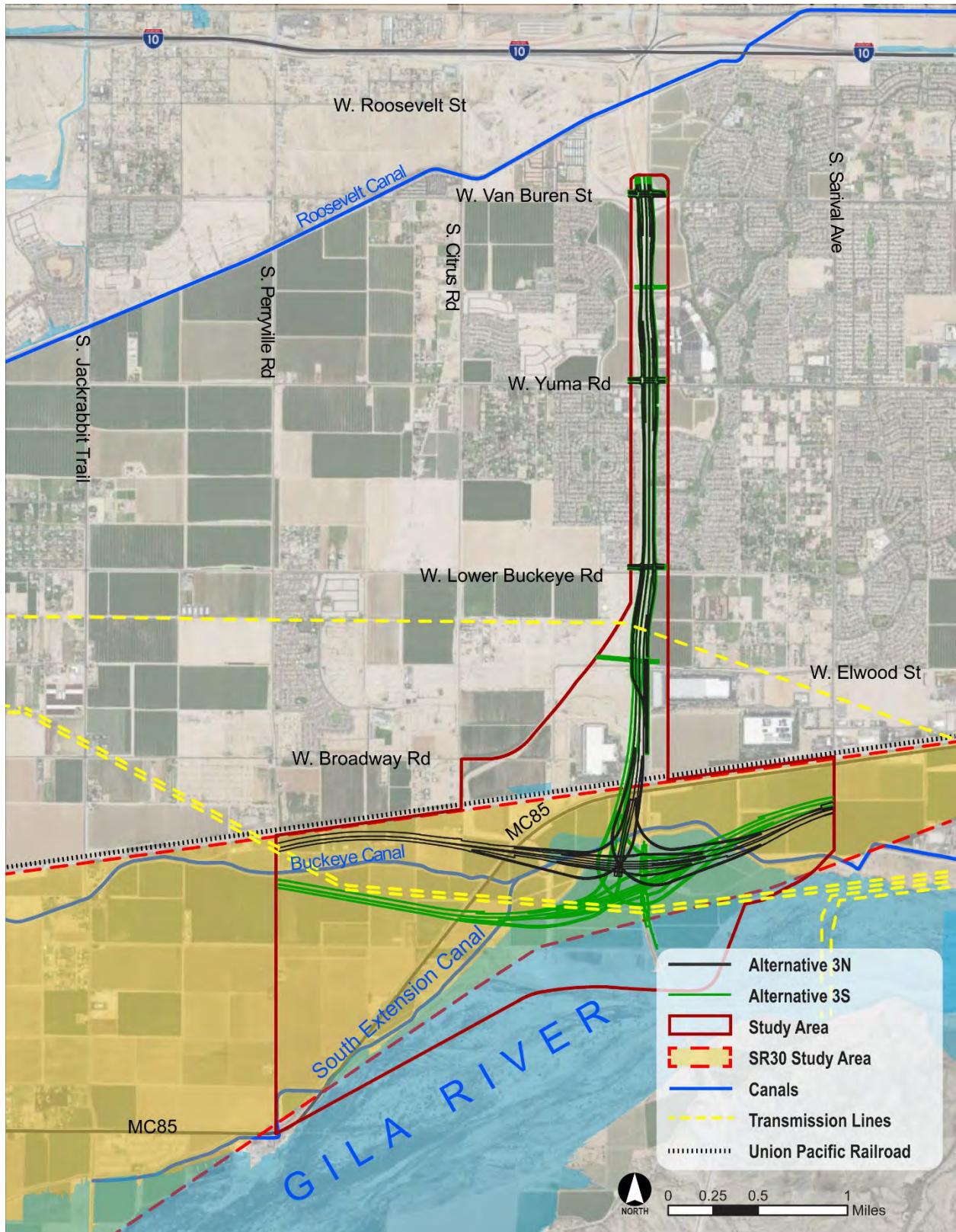
Splitting the interchanges eliminates out-of-direction travel and provides shorter, earlier direct connection of SR303 with SR30. Due to the HOV connectivity and the 75- to 100-foot parallel drainage channel, this alternative may exceed the El Cidro reserved ROW on the east side. This area is part of a triangular section of land that would be created between the SR303L mainline and the south-to-east and west-to-north interchange ramps.

The Alternative 5 alignment of SR303L is consistent with MAG Regional Planning Hassayampa Valley and Hidden Valley Transportation Framework Studies; however, it is only partially consistent with the City of Goodyear General Plan. It utilizes ROW preserved by Goodyear, but would also require ROW from the Huhtumaki property. It restricts access between the Huhtumaki property and Cotton Lane, limits access to the area in the NW quadrant of the 5-level SR303L/SR30 stack interchange. The skew of the freeways' mainlines results in long directional ramps and bridge structures, and adds ramp crossing grade separation structures. Alternative 5 would add a south half-diamond TI at Elwood Street. Phased implementation, maintenance of traffic, and constructability under Alternative 5 would be easier than with Alternative 3, as SR303L on new alignment and the 5-level stack TI would be spread out due to the skewed crossing of proposed SR30. A freeway-to-freeway connection of SR303L and SR30 east of Cotton Lane is possible without constructing SR303L south of Lower Buckeye Road, allowing for an initial low-implementation cost, high-speed connection without dumping regional traffic onto Cotton Lane. Alternative 5 would require long directional ramps due to the skew of the crossing and spacing between Cotton Lane and SR303L, and the added length of the south-to-east and west-to-north directional ramps. The Alternative 5 alignment requires lower-level power line tower adjustments in two locations.

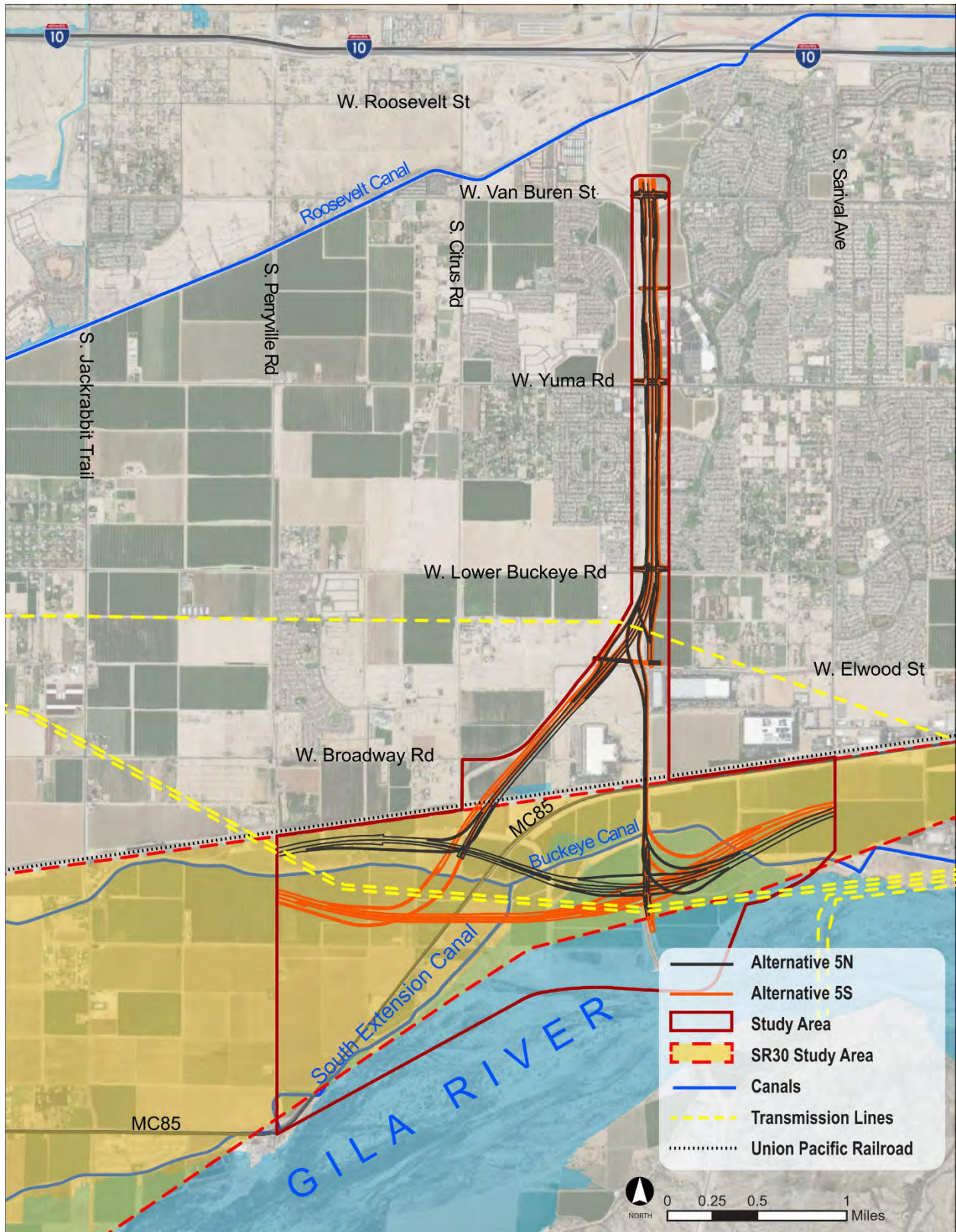
Following multiple meetings in 2017, one being a field review with FHWA and SHPO relative to avoidance of potential Section 4(f) resources; and others held with utility representatives from the Buckeye Water Conservation and Drainage District, Arizona Public Service (APS), and Salt River Project (SRP) relative to cost and shutdown restrictions required for adjustments to their facilities; an additional SR30 concept alignment was developed. In general, the SR30 alignment as originally conceived would run north of the power lines, while the revised SR30 alignment runs south of the power lines. Due to the potential cost and implementation impacts associated with relocating these major utility facilities, as well as potential use of Section 4(f) resources, Alternatives 2C, 3, and 5 were each analyzed with a SR30 North (N) and SR30 South (S) variation. With the exception of the power lines and the Section 4(f) impacts, the relative comparison among Alternatives 2C, 3, and 5 as described above still applies with the shift of SR30 to the south. Illustrations of each alternative, showing both the north and south concept alignment for SR30, follow in Figure 14, Figure 15, and Figure 16. SR303L Segment 1 (Van Buren Street to Lower Buckeye Road) is the same for each, but is included on the alternative figures.



**Figure 14. Revised Study Area with Alternatives 2CN and 2CS**



**Figure 15. Revised Study Area with Alternatives 3N and 3S**



**Figure 16. Revised Study Area with Alternatives 5N and 5S**

### 3.5 Alternatives Comparison and Selected Alternative

The project purpose and need set forth the basis for the evaluation process. The alternatives were developed to meet the project purpose and need, satisfy design criteria and guidelines, and minimizing environmental impacts, while accounting for agency and public input.

Engineering factors that were considered in scoring the criteria for the alternatives study process include:

- Route Length
- Roadway Geometrics
- System Interchange Configuration and Number of Levels
- Drainage Implementation
- Number of Structures Required
- Number of Service Interchanges and Their Locations
- Out-of-Direction Travel
- HOV Connections
- Connectivity to Local Street Network
- Constructability
- Construction Cost
- Right-of-Way
- Potential Business and Residential Displacements
- Utility Crossings and Conflicts

Environmental factors that were considered in scoring the criteria for the alternatives study process include:

- Land Use Impacts
- Consistency with Local Land Use Plan
- Threatened, Endangered, or Sensitive Species
- Community Cohesion
- Visual Impacts
- Archaeological Resources
- Built Environment (Historic Buildings and Structures)
- Prime and Unique Farmland
- Water Quality
- Noise Impacts
- Hazardous Materials

A matrix comparing major differentiating criteria of the six alternatives developed in the L/DCR was presented to the study team (Table 5), scoring potential severity of impacts or favorability with 1 being a low impact or more favorable and 5 being a high impact or less favorable based on preliminary engineering and environmental assessment. Alternative 2C South (2CS) emerged as the Preferred Alternative in the L/DCR as it is consistent with local and regional planning, maintains local access along Cotton Lane south of Elwood Street, utilizes preserved right-of-way, avoids adverse environmental impacts, minimizes impacts to 4(f) resources, and minimizes conflicts with the Buckeye Canal system and APS Palo Verde water line.



**Table 5. L/DCR Alternatives Comparison Matrix**

Criteria	2CN	2CS	3N	3S	5N	5S
<b>Air Quality/Noise Impacts</b>	3	3	3	3	4	4
<b>Visual Impacts</b>	4	3	5	5	4	4
<b>Archaeological Resource Impacts</b>	3	1	5	3	5	1
<b>Section 4(f) Impacts</b>	3	1	5	5	5	3
<b>Local Access</b>	2	2	4	4	4	4
<b>Traffic Operations</b>	3	3	3	3	2	2
<b>Construction Cost*</b>	3	3	4	3	4	4
<b>Right of Way</b>	3	4	3	2	3	4
<b>Utilities – Canal/APS reclaimed water line</b>	4	2	4	3	4	2
<b>Utilities - Power Lines</b>	3	4	3	5	3	4
<b>Public Input</b>	3	3	3	3	3	3
<b>Planning Consistency</b>	1	1	5	5	2	2
<b>TOTALS</b>	<b>35</b>	<b>30</b>	<b>47</b>	<b>44</b>	<b>43</b>	<b>37</b>

1 = Low Impact or More Favorable, 5 = High Impact or Less Favorable

\* Major utility costs are addressed under the Utilities criterion

Source: Location and Design Concept Report, State Route (SR) 303L, SR30 to I-10, Arizona Department of Transportation, 2018.

### 3.6 No-Build Alternative

The No-Build Alternative is included as a baseline for comparison with the Selected Alternative throughout the NEPA process. The No-Build Alternative would not result in the design or construction of any portion of SR303L south of Van Buren Street. The SR303L freeway would end immediately south of Van Buren Street at Lilac Street / Canyon Trails Boulevard, with traffic continuing on Cotton Lane from this point south. Construction of the section of SR303L identified and funded in the RTP would not occur under this alternative, thereby not providing a freeway connection between I-10 and the future SR30. No major improvements would be made by ADOT in the Cotton Lane corridor beyond this point. However, maintenance of the existing roadway by the City of Goodyear would continue, and future widening of Cotton Lane could be funded by either Goodyear or the Maricopa County Department of Transportation (MCDOT).

Under the No-Build Alternative, traffic flow would continue to deteriorate on local arterial streets south of I-10 due to increasing traffic volumes. This congestion would intensify in future years, generated by ongoing land development and urbanization in the area south of I-10.

### 3.7 General Project Schedule

Based on MAG’s January 2018 RTPFP, the following elements of the SR303L extension and future SR30 are planned:

- FY 2019: Final design of SR303L from MC85 to Van Buren Street
- FY 2019: ROW acquisition for SR303L from MC85 to Van Buren Street
- FY 2020: Construction of SR303L from MC85 to Van Buren Street
- FY 2020: Design of SR30 from SR202L to SR303L – Phase I (Interim)
- FY 2024: ROW acquisition for SR30 from SR202L to SR303L – Phase I (Interim)
- FY 2026: Construction of SR30 from SR202L to SR303L – Phase I (Interim)

Construction of the westward extension of SR30 from SR303L to SR85 is included in the current MAG 2040 RTP; however, the RTP does not include construction of SR303L south of SR30.

## 4 Affected Environment, Environmental Consequences, and Mitigation

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This section of the Draft EA describes the Study Area environment, the environmental impacts associated with the No-Build and Selected Alternative, and potential mitigation measures, where appropriate. The following issues were eliminated from further study because these resources do not occur within the project area:

- Wilderness areas,
- Sole source aquifers,
- Wild and scenic rivers,
- Section 6(f) resources, and
- National natural landmarks.

### 4.1 Transportation Network

#### 4.1.1 Existing Conditions

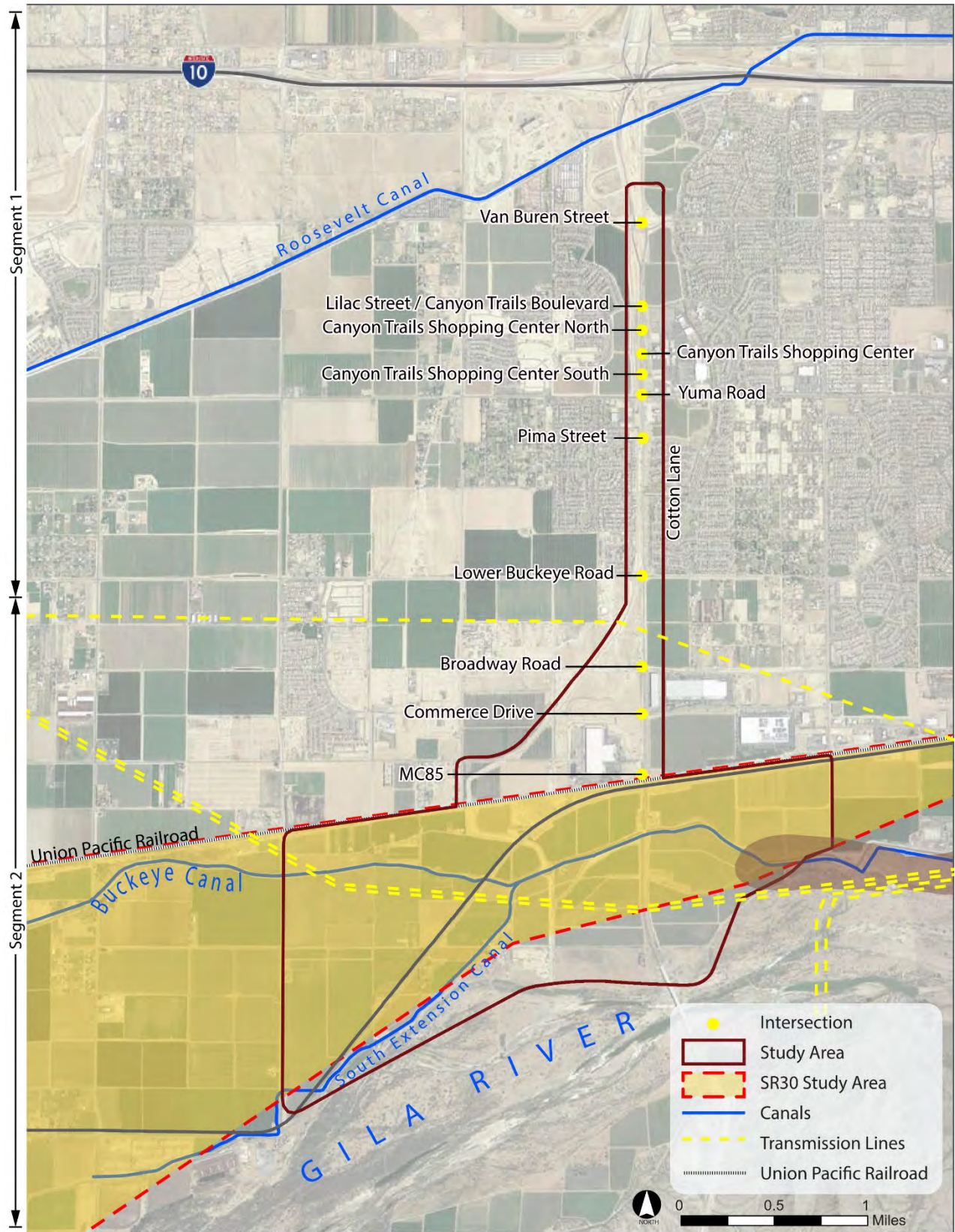
SR303L does not currently exist south of I-10, but the voter-approved Proposition 400 indicated the freeway would be aligned along existing Cotton Lane (Figure 17). Cotton Lane is currently a four-lane arterial street from I-10 to Yuma Road, where it transitions into a two-lane roadway that continues to MC85. The existing local roadway network is a traditional one-mile arterial grid system. Currently, the arterial streets are generally two-lane roadways. Intersections within the study limits are controlled by traffic signals and stop signs. The following intersections on Cotton Lane are controlled by traffic signals:

- Van Buren Street\* - existing 6-lane roadway, ultimate configuration at Cotton Lane
- Lilac Street/Canyon Trails Boulevard – existing 2-lane roadway with continuous left turn lane, ultimate configuration
- Canyon Trails Shopping Center - commercial center entrance roadway
- Yuma Road\* - where development has occurred the existing improvements accommodate two lanes/for unimproved frontages one lane is provided
- West Lower Buckeye Road - where development has occurred the existing improvements accommodate two lanes/for unimproved frontages one lane is provided
- Commerce Drive – existing 2-lane roadway for developed areas the improvements accommodate 1 lane and a continuous left turn lane
- MC85\* - 2-lane roadway/intersection with Cotton Lane has been improved for ultimate 6-lane roadways for MC85 and Cotton Lane

The intersections listed below are controlled by stop signs:

- Pima Street – existing 2-lane roadway with continuous left turn lane, ultimate configuration

\*Major Collectors



**Figure 17. Existing Local Roadway Network**

- Elwood Street – existing 2-lane roadway for developed areas the improvements accommodate 1 lane and a continuous left turn lane

The Union Pacific Railroad (UPRR) and the Gila River also cross through the Study Area.

Source: Field Review

## **4.1.2 Environmental Impacts**

### **4.1.2.1 Selected Alternative**

The transportation network in the study area would be enhanced by the Selected Alternative. Arterial and collector roadways approaching the facility would be improved to their ultimate lane configurations based upon the City of Goodyear’s Roadway Functional Classification Plan and MAG’s 2040 Travel Demand Model. Existing access points along Cotton Lane would be maintained with one-way frontage roads paralleling the SR303L freeway throughout the area where the SR303L is located on the existing Cotton Lane. Private and some collector roadway access points would change to right-in and right-out conditions. Crossings at the interchanges at Van Buren Street, Yuma Road, and Elwood Street as well as the overpasses at Lilac Street/Canyon Trails Boulevard and Lower Buckeye Road provide the movements that are displaced with the right-in/right-out condition.

### **4.1.2.2 No-Build Alternative**

The No-Build Alternative analysis included the proposed widening of arterials to their ultimate configuration based upon the City of Goodyear’s Roadway Functional Classification Plan and MAG’s 2040 Travel Demand Model. Cotton Lane was analyzed as a 6-lane arterial for the No-Build Alternative. In the No-Build configuration, Cotton Lane congestion reaches a Level of Service F with or without SR30 in place to the south. MC85 congestion reaches a Level of Service F only with SR30 in place.

### **4.1.2.3 Mitigation**

The Selected Alternative would address the need for more robust transportation infrastructure in the Study Area. No mitigation measures would be necessary.

### **4.1.2.4 Conclusion**

The extension of SR303L has been planned since the early 2000s and is included in the Maricopa County Comprehensive Plan, the MAG RTPFP, and the Goodyear General Plan. Maricopa County and the City of Goodyear have planned for the SR303L alignment by preserving anticipated ROW needs for the SR303L and keep monitoring the effects of adjacent development plans to each side. This SR303L transportation improvement corridor is consistent with local and regional transportation plans and will enhance the roadway network.

## **4.2 Land Ownership, Jurisdiction, and Land Use**

### **4.2.1 Existing Conditions**

#### **4.2.1.1 Land Ownership and Jurisdiction**

Land ownership within the Study Area is mostly private. Most of the land is incorporated as part of the City of Goodyear and, with the remainder being part of unincorporated Maricopa County.

Two parcels are public land held in trust by the Arizona State Land Department. Both are located immediately west of Cotton Lane, one between the Roosevelt Canal and Van Buren Street (site of the former Phoenix Trotting Park), and the other at the southern end of the Study Area at the Gila River Bridge.

Within the Study Area, City of Goodyear lands are transitioning from agricultural use to residential and commercial uses. The Goodyear Land Use and Transportation Plan 2025 (Figure 9 on Page 19) indicates future development would result in the long-term replacement of agricultural land use with business and commercial uses in the southwest quadrant of the SR303L/I-10 interchange area, commercial and industrial uses along the UPRR, and neighborhood business and commercial uses throughout the SR303L corridor. The Cotton Lane/Yuma Road intersection has developed into a regional retail center over the past 10 years, and plans have been submitted for two major mixed-use developments along the east side of Cotton Lane from I-10 to Yuma Road. In addition, plans have been submitted for the 320-acre El Cidro Ranch residential development south of Lower Buckeye Road and west of Cotton Lane.

## **4.2.2 Environmental Impacts**

### ***4.2.2.1 Selected Alternative***

The existing and future land uses adjacent to the SR303L corridor are considered compatible with enhanced transportation infrastructure (i.e. interchanges, HOV lanes, and frontages roads). The Selected Alternative would not have an adverse impact on existing planned land uses as it is consistent with the City of Goodyear General Plan.

Land ownership would be impacted to a small degree. Two full residential parcels and the Moose Lodge parcel would be converted to transportation use in Segment 1. The impact on land use south of Lower Buckeye Road (Segment 2) would likewise be minor as the land to be converted to transportation use would be restricted primarily to agricultural lands, undeveloped land owned by the City of Goodyear, and two residential properties for SR303L. The total amount of ROW required for the Selected Alternative is 928 acres, including undeveloped land owned by the City of Goodyear.

### ***4.2.2.2 No-Build Alternative***

The No-Build Alternative included the proposed widening of arterials to 6-lane roadways. It would have no effect on land ownership, jurisdiction, or land use. The only land acquired for transportation use would be for the widening of arterials, not for a new freeway.

## **4.2.3 Mitigation**

### **Design Responsibility**

- A right-of-way acquisition program will be implemented in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (Public Law 91-646), the Uniform Relocation Act Amendments of 1987 (Public Law 100-17), and Title VI of the Civil Rights Act of 1964. Private property owners will be compensated at fair market value for land acquired for project right-of-way. Landowners required to move to a new home may be eligible for relocation benefits. These payments may include a housing supplement, moving

costs, reestablishment costs, incidental expenses, and closing costs. Renters may also be eligible for relocation benefits.

#### **4.2.4 Conclusion**

The extension of SR303L has been planned since the early 2000s and is included in the Maricopa County Comprehensive Plan, the Maricopa RTP, and the Goodyear General Plan. Maricopa County and the City of Goodyear have planned for the SR303L alignment by preserving anticipated ROW needs for the SR303L and keeping development to each side. This transportation corridor is consistent with the City and County land use plans.

### **4.3 Social and Economic Considerations**

This section discusses social and economic aspects of the Study Area, including population and employment, Title VI of the Civil Rights Act of 1964 (Title VI) and environmental justice populations, community facilities and characteristics, and existing businesses. It also discusses potential impacts of the freeway, including residential and business displacements and impacts on community facilities, community cohesion, and tax revenues.

#### **4.3.1 Existing Conditions**

##### **4.3.1.1 Recreation**

A variety of recreational resources are located either within or proximate to the Study Area. Both Goodyear and Buckeye have identified the MC85 corridor as a primary recreational opportunity for bicycling and trail networks. Goodyear has proposed multi-use trails and trails in washes that align with arterial corridors, such as Lower Buckeye Road, along canals, and within the Gila River. A number of bike lanes have been established in the Study Area (Figure 18), primarily within the roadway prism of the adjacent collector streets.

The Maricopa County Parks and Recreation Department developed the Maricopa Trail, which connects the major parks throughout Maricopa County via a continuous network of pathways and trails. This trail system is located adjacent to the eastern border of the Study Area and provides access to Estrella Mountain Regional Park to the southeast. There are no public parks or recreational facilities in the Study Area.

A recreational corridor is proposed in the project vicinity as part of the El Rio Watercourse Master Plan. The El Rio vision extends 17 miles along the Gila River and includes trails for biking, hiking, and bird watching, plus wildlife habitat enhancements, that run from the confluence of the Agua Fria River to SR85. The project began as a restoration effort to return the Gila River to its natural state and improve flood control. With the efforts of the FCDMC and the cities of Avondale, Goodyear, and Buckeye, the Master Plan's vision is to develop a recreational corridor that fosters development in West Valley communities.

##### **4.3.1.2 Schools**

No schools are located within the SR303L Study Area boundaries. Several schools are located nearby, however (Figure 18). Copper Trail Elementary School is 0.5 mile south of Van Buren Street and 0.33 mile east of Cotton Lane on Canyon Trails Boulevard. Discovery Creemos Academy is a K-8 charter school on Lower Buckeye Road, 1.25 miles east of Cotton Lane. Desert Edge High

School, on Yuma Road, is 1.5 miles east of Cotton Lane, and Desert Star Elementary School is 1.75 mile east of Cotton Lane on 157<sup>th</sup> Avenue. The Las Brisas Academy is 0.5 mile west of Citrus Road on 183<sup>rd</sup> Avenue at Las Brisas Drive.

#### ***4.3.1.3 Emergency and Community Services – Police, Fire, Ambulance, Library, and Post Office***

There are no emergency or community service facilities located within the SR303L Study Area (Figure 18). The nearest facilities are outside the SR303 Study Area and include:

- Goodyear Fire Station 184: 16161 Yuma Road, 1 mile east
- Goodyear Fire Station 182: 10701 South 175<sup>th</sup> Drive, 2 miles south
- Goodyear Fire Station 181: 175 North 145<sup>th</sup> Avenue at Van Buren Street, 3.5 miles east
- Goodyear Police Station: 2 miles south on Estrella Parkway
- Goodyear Police Station: 3 miles east on Litchfield Road
- Abrazo West Valley Hospital: 3.5 miles northeast on McDowell Road
- Avondale City Library: Western Avenue, 4 miles east of the Study Area between 5<sup>th</sup> and 6<sup>th</sup> Streets
- Avondale/Goodyear Post Office: Estrella Parkway, 2 miles east near Yuma Road

#### ***4.3.1.4 Neighborhood Continuity***

Between Van Buren Street and Lower Buckeye Road (Study Area Segment 1), master planned residential subdivisions line both sides of Cotton Lane. These communities are set back from Cotton Lane with landscaped parcels and retention/drainage areas creating a buffer between residential development and the planned SR303L alignment. In addition to the street network, bike lanes, multi-use paths, canals, and other linear features within the Study Area facilitate non-vehicular access within and between subdivisions.

The southern portion of the Study Area (Segment 2) is primarily agricultural, and currently has no large-scale residential development. A few single-family residences are scattered within the agricultural parcels.

#### ***4.3.1.5 Economic Conditions***

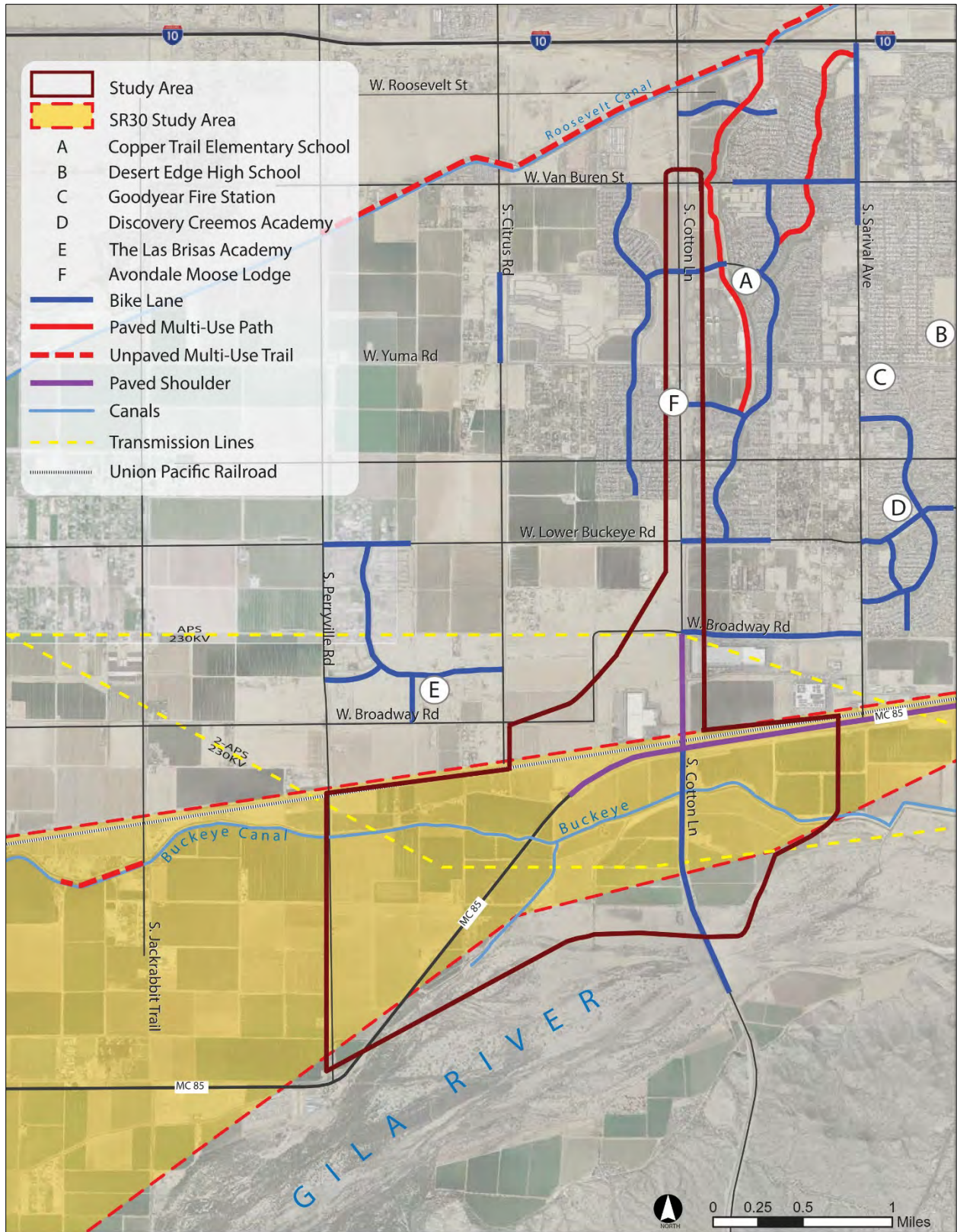
The northern portion of the Study Area has continued to be developed as residential subdivisions, which provide a tax base for the city based on property values.

Economic activity in the remainder of the Study Area is centered on agricultural, industrial, and commercial enterprises. Existing and planned retail development at the northeast and southwest corners of Yuma Road and Cotton Lane is a source of sales tax revenue and some employment for the residents of Goodyear. Further south along the Cotton Lane corridor, warehouse and distribution facilities for Kysar Panel Systems, Amazon, and Macy's have been constructed amid the agricultural land, providing further employment opportunities. Farming in the Study Area has decreased over time, with the ongoing conversion of agricultural lands into residential development and commercial and industrial uses.

#### ***4.3.1.6 Social Services***

No public or private social services (hospitals, churches, local or commuter bus or public transportation service) are located within the Study Area. Two park-and-ride lots are located west and east of the northern Study Area limits. The Buckeye Park-and-Ride is located north of I-10 on the southwest corner of Jackrabbit Trail and Palm Lane, from which West Valley Express





Source: City of Goodyear and MAG Bikeways

**Figure 18. Community Facilities**

Bus Route 563 operates two express buses to and from downtown Phoenix and the Capitol district each weekday, stopping at the Avondale Park-and-Ride. The second park-and-ride lot is in Goodyear, between I-10 and Cornerstone Boulevard west of Dysart Road. West Valley Express Bus Route 562 operates four express buses to and from downtown Phoenix and the Capitol district each weekday. Both express services began in January 2013.

## **4.3.2 Environmental Impacts**

### **4.3.2.1 Selected Alternative**

#### **4.3.2.1.1 Recreation**

The private community bike paths in the Study Area do not coincide with the alignment of the Selected Alternative. Bike lanes cross Cotton Lane on Lilac Street/Canyon Trails Boulevard, Yuma Road, and Lower Buckeye Road (Figure 18). These roads, including their bike lanes, would be bridged by the Selected Alternative and would not be impacted by the SR303L project.

#### **4.3.2.1.2 Schools**

Access to schools located on one side of the Selected Alternative by residents who live on the opposite side would continue, as the existing crossings of Cotton Lane would be maintained. Where the Selected Alternative involves construction of frontage roads along the Cotton Lane alignment, intersections at existing crossings (Lilac Street/Canyon Trails Boulevard, Yuma Road, and Lower Buckeye Road) would be reconstructed with sidewalks and signals.

#### **4.3.2.1.3 Emergency and Community Services**

Emergency and public community services (police, fire, ambulance, library, and post office) would not be directly impacted by the Selected Alternative. During construction, temporary changes to response routes may be required within the project vicinity. Existing crossings of Cotton Lane would be maintained, and access to adjacent businesses and residences would continue throughout construction.

The existing Avondale Moose Lodge at 1572 South Cotton Lane in Goodyear is within the new ROW to be acquired for the Selected Alternative (Figure 18). The Cotton Lane frontage of this 3-acre parcel would be displaced by the southbound frontage road. While the existing building would have to be demolished, this organization would be able to rebuild further back on the property and continue to operate in that location.

#### **4.3.2.1.4 Neighborhood Continuity**

As an arterial, existing Cotton Lane has very few driveways or access points onto private property. Residential developments back up to Cotton Lane with concrete block walls physically isolating the neighborhoods from traffic and circulation on Cotton Lane. Existing road crossings of Cotton Lane would remain in place with the Selected Alternative. While the freeway would be for the most part elevated, it would be a visual presence in the relatively level Study Area landscape. However, no new barriers to access for any existing neighborhoods or communities would be created in association with the Selected Alternative. Minor changes in accessibility may take place along the new freeway facility, altering local travel patterns. Existing left turns onto or from Cotton Lane at driveways of Canyon Trails Towne Center would be closed, and vehicle access in those locations would be limited to right in/right out. However, the Build Alternative would not

impede the movement of people, goods, or services within the Study Area. Access to adjacent businesses and residences would be maintained throughout construction.

Within Segment 1, the Selected Alternative would displace two single-family residences to accommodate the northbound frontage road, and require part of one single-family residential lot on the east side of the SR303L. Although there are very few homes Segment 2, and much of the Selected Alternative would be constructed on undeveloped City of Goodyear-owned land, two additional residences in Segment 2 would be acquired. The Selected Alternative would not have direct impacts to neighborhood continuity in Study Area Segment 2 as the land is primarily in agricultural use and community activity or access across large uninterrupted tracts of agricultural land is limited.

Construction activities would have a short-term impact on residents in the Study Area. Local residents would temporarily experience increased noise, vibration, dust, and traffic restrictions during construction. The SR303L freeway would provide long-term benefits for residents, businesses, and visitors in the Study Area, including increased transportation mobility and efficiency, decreased travel times, and improved exposure of the traveling public to area retail and service providers. Implementation of the Selected Alternative would benefit the community by improving access in the area and accommodating future travel demand.

#### 4.3.2.1.5 Economic Conditions

During construction of the Selected Alternative, access to retail and commercial businesses would be maintained, but might be temporarily restricted. Existing crossings of Cotton Lane would be maintained. The effect on surrounding property values from opening a major freeway in the area is highly variable. Some property increases in value because of enhanced accessibility, while other property could decrease in value because of the undesirable effects associated with being near a major transportation facility, such as exposure to increased traffic and associated noise.

A freeway construction project can generate revenues for a local community through the hiring of local workers, rental of equipment, and purchase of materials, as well as local spending by the workers on goods and services. This contribution varies, depending on the nature and amount of services and businesses located within the project area.

#### 4.3.2.1.6 Social Services

No churches, hospitals, local or commuter buses or public transportation services are located within the Study Area boundaries; therefore, none of these institutions would be directly impacted by the Selected Alternative. Access to facilities located on one side of the Selected Alternative by residents who live on the opposite side would continue at the existing crossings of Cotton Lane. Where the Selected Alternative involves construction of frontage roads along the Cotton Lane alignment, intersections at the crossings (Lilac Street/Canyon Trails Boulevard, Yuma Road, and Lower Buckeye Road) would be constructed with sidewalks and signals.

### 4.3.2.2 No-Build Alternative

#### 4.3.2.2.1 Recreation

Recreational resources would not be impacted by the No-Build Alternative.

#### 4.3.2.2.2 Schools

Schools would not be impacted by the No-Build Alternative.

#### 4.3.2.2.3 Emergency and Community Services

These services would not be directly impacted by the No-Build Alternative. Response times for police, fire, and ambulance services could be affected by increased congestion under the No-Build Alternative.

#### 4.3.2.2.4 Neighborhood Continuity

Neighborhood continuity would not be impacted by the No-Build Alternative. There would be no property acquisitions or residential or business displacements.

#### 4.3.2.2.5 Economic Conditions

The No-Build Alternative would not contribute the additional jobs and tax revenues to the local economy that could occur with the construction of a freeway in the Study Area, or the economic development that a freeway operating in the area could help facilitate.

The No-Build Alternative would result in increased traffic congestion in the Cotton Lane corridor as vehicle volumes rise in conjunction with continued growth and development. This could impede travel to and from destinations and make it difficult to attract new residential development and attract or retain businesses in and around the Study Area.

#### 4.3.2.2.6 Social Services

Social Services such as police, fire, ambulance, library, and post office would not be directly impacted by the No-Build Alternative.

### 4.3.3 Mitigation

#### Design Responsibility

- A right-of-way acquisition program will be implemented in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (Public Law 91-646), the Uniform Relocation Act Amendments of 1987 (Public Law 100-17), and Title VI of the Civil Rights Act of 1964. Private property owners will be compensated at fair market value for land acquired for project right-of-way. Landowners required to move to a new home may be eligible for relocation benefits. These payments may include a housing supplement, moving costs, reestablishment costs, incidental expenses, and closing costs. Renters may also be eligible for relocation benefits.

#### District Responsibility

- Access to adjacent businesses and residences will be maintained throughout construction.

#### Contractor Responsibility

- Access to adjacent businesses and residences shall be maintained throughout construction.

### 4.3.4 Conclusion

The general alignment for SR303L in the west valley is included in plans for the city of Goodyear, Maricopa County, MAG, and ADOT dating back to 2003. Services, residential, and commercial

development have been located in such a manner as to accommodate the Selected Alternative for the future SR303L alignment. Established setbacks and retention areas would serve as buffers to minimize the impacts of the extended SR303L to existing development.

Private property would be acquired to accommodate the new highway. The Selected Alternative would displace a minor number of residences and result in the removal of farmland from production.

The effect a major freeway would have on property values is highly variable. Some owners experience increases in values because of enhanced accessibility while other experience decreased values because of the undesirable effects associated with being near a major transportation corridor. Major freeway construction projects can generate revenues for a community through the hiring of local workers, equipment rental, materials purchased, and local spending.

The implementation of the Selected Alternative would have mixed social and economic benefits and costs. The Selected Alternative would not divide or cut off any existing communities or neighborhoods, but it would limit the locations where the facility could be crossed to the existing designated pedestrian and vehicular crossings. In Segment 1, where the most development exists, the Selected Alternative would result in the displacement of two homes. Likewise, in Segment 2, the Selected Alternative would displace two homes.

The freeway would accelerate the conversion of agricultural lands to residential and commercial development, and the change in the character of the project area from a rural community to a more suburban community. The increase in commercial and industrial development would likely enhance employment opportunities for the southwest Valley. Access to businesses and residences would be maintained, but could be temporarily impacted during construction.

#### **4.4 Title VI and Environmental Justice**

Title VI of the Civil Rights Act of 1964 (Title VI) and related statutes mandate that individuals not be excluded from participation in, denied the benefit of, or subjected to discrimination under any program or activity receiving federal financial assistance based on race, color, or national origin.

Executive Order (EO) 12898, Federal Actions to Address Environmental Justice (EJ) in Minority Populations and Low-Income Populations, directs that federal programs, policies, and activities not have disproportionately high and adverse human health and environmental effects on minority and low-income populations. The rights of women, the elderly, and the disabled are protected under related statutes. According to the U.S. Department of Justice, "...the core tenet of environmental justice—that development and urban renewal benefitting a community as a whole not be unjustifiably purchased through the disproportionate allocation of its adverse environmental and health burdens on the community's minority—flows directly from the underlying principle of Title VI itself" (USDOJ)

To complete a Title VI/EJ evaluation, a population of comparison must be established. This is done by analyzing the population characteristics of a larger region surrounding the Study Area (e.g., the city and county in which the Study Area is located). For this analysis, the populations of Maricopa County and the City of Goodyear were compared with the population in the Study Area.

In addition to the decennial census, the U.S. Census Bureau conducts the American Community Survey (ACS), and produces 5-year estimates for small geographic areas to provide more up-to-date information. Table 6 below shows the various sources of demographic data used for this EJ Analysis.

**Table 6. Environmental Justice Analysis Data Sources**

Information	Source
Disabled	2011-2015 ACS Estimate
Low-income (persons living below the poverty level)	2011-2015 ACS Estimate
Racial and ethnic minorities	Census 2010
Elderly (persons 65 and older)	Census 2010
Female head-of-household (with children younger than 18 and no husband present)	Census 2010

#### 4.4.1 Existing Conditions

A comparison of disabled, low-income, elderly, female head-of-household, and minority population percentages by census tract between the Study Area and the surrounding municipalities and counties is shown in tables on the following pages.

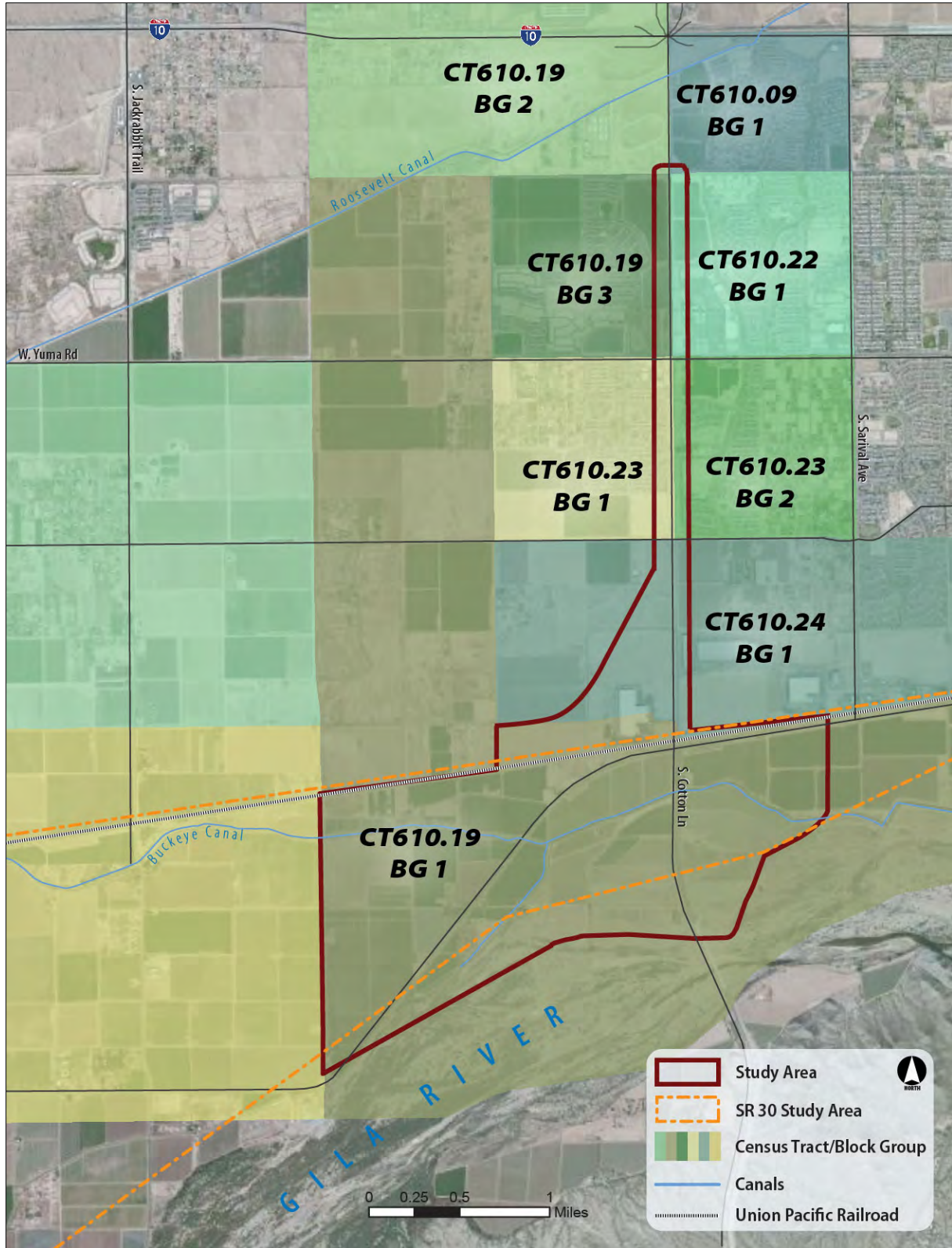
The Study Area encompasses parts of five 2010 Census tracts (CT) (Figure 19). In the CTs, eight block groups (BG) were identified to further refine the demographic profile of the Study Area, and gain a more accurate view, where available, of existing populations.

Information on existing conditions was gathered from the 2010 Census and the 2011-2015 ACS, as shown in Table 6. Most of the BGs that the Study Area occupies constitute land outside the boundaries of the Study Area itself. Based on examination of recent aerial photography of the Study Area, only a very small number of residences (i.e., 10-20) are located within the Study Area boundaries.

##### 4.4.1.1 Disabled

Beginning in 2010, the decennial census discontinued collecting data regarding disabled persons. This information is instead collected through the ACS. Disabled persons counted include only civilian, non-institutionalized persons age 5 and over with sensory, physical, mental, self-care, employment-related, and/or going outside of the home disabilities. ACS estimates disability counts from samples taken at the CT level, and does not report these data at the BG level.

The estimated percentages of disabled population within the Study Area CTs vary from slightly lower to slightly higher than those for the City of Goodyear, but lower than those for Maricopa County (Table 7). Taken collectively, the proportion of disabled individuals estimated in the project area CTs does not exceed that estimated for the city or county.



Source: US Census Bureau TIGER database

**Figure 19. 2010 Census Tracts and Block Groups**

**Table 7. Disabled Population (2011-2015 American Community Survey 5-Year Estimates)**

Place	Total Population	Disabled Population	
		# Disabled <sup>1</sup>	% Disabled
Maricopa County	3,988,822	417,695	10.5%
City of Goodyear	69,832	5,221	7.6%
Study Area Census Tracts	<b>37,625</b>	<b>2,508</b>	<b>6.7%</b>
Census Tract 610.09	9,480	711	7.5%
Census Tract 610.19	3,637	332	9.1%
Census Tract 610.22	11,365	804	7.1%
Census Tract 610.23	10,887	449	4.1%
Census Tract 610.24	2,256	212	9.4%

<sup>1</sup>Disabilities include: sensory (severe vision or hearing impairment); physical (limited basic physical activity); mental (difficulty learning, remembering, or concentrating); self-care (difficulty dressing, bathing, or getting around inside the home); go-outside (difficulty going outside the home alone to shop or visit a doctor's office); difficulty working at a job or business).

Source: 2011-2015 American Community Survey 5-year Estimates: Table S1810 Disability Characteristics

#### 4.4.1.2 Low-Income

The US Census Bureau uses a set of income thresholds that vary by family size and composition to determine poverty level. In 2010, the poverty guideline was \$23,050 for a family of four.

Table 8 shows that the percentage of low-income persons living within the Study Area BGs is lower overall than the percentage for Maricopa County and for the City of Goodyear. Although CT 610.24 BG1 has a low-income population percentage higher than that of the City of Goodyear, that portion of that BG within the Study Area contains no residences; therefore, no low-income individuals within the BG would be displaced or permanently affected by the project.

**Table 8. Low-Income Population (2011-2015 American Community Survey 5-Year Estimate)**

Place	Total Population	Low-Income Population		
		# Low-Income <sup>1</sup>	% Low-Income	
Maricopa County	3,965,553	673,527	16.98%	
City of Goodyear	68,711	6,029	8.77%	
Study Area Block Groups	<b>17,400</b>	<b>1,053</b>	<b>6.05%</b>	
Census Tract 610.09	3,488	52	1.49%	
Census Tract 610.19	Block Group 1	741	62	8.37%
	Block Group 2	1,003	81	8.08%
	Block Group 3	1,893	41	2.17%
Census Tract 610.22	3,852	304	7.89%	
Census Tract 610.23	Block Group 1	2,574	115	4.47%
	Block Group 2	1,764	73	4.14%
Census Tract 610.24	2,085	325	15.59%	

<sup>1</sup>Income in the past 12 months below poverty level

Source: 2011-2015 American Community Survey 5-Year Estimates: Table B17021 Poverty Status of Individuals in the Past 12 Months by Living Arrangement (Universe: Population for whom poverty status is determined)



#### 4.4.1.3 Elderly and Minorities

Table 9 summarizes data gathered from the 2010 Census on elderly and minority populations. Elderly populations consist of people who are age 65 and older. While elderly residents are present in all BGs, the percentage of this population in the overall Study Area is less than the elderly populations in Maricopa County and the City of Goodyear.

**Table 9. Elderly and Minority Populations (2010 U.S. Census)**

Place		Total Population	Elderly		Race		Ethnicity	
			# Elderly <sup>1</sup>	% Elderly	# Minority <sup>2</sup>	% Minority	# Latino or Hispanic <sup>3</sup>	% Latino or Hispanic
Maricopa County		3,817,117	462,641	12.1%	1,030,336	27.0%	1,128,741	29.6%
City of Goodyear		65,275	7,065	10.8%	18,352	28.1%	18,136	27.8%
Study Area Block Groups		<b>15,794</b>	<b>857</b>	<b>5.4%</b>	<b>4,923</b>	<b>31.2%</b>	<b>5,708</b>	<b>36.1%</b>
Census Tract 610.09	<i>Block Group 1</i>	3,169	154	4.9%	1,057	33.4%	1,111	35.1%
Census Tract 610.19	<i>Block Group 1</i>	628	68	10.8%	182	29.0%	299	47.6%
	<i>Block Group 2</i>	626	87	13.9%	183	29.2%	264	42.2%
	<i>Block Group 3</i>	1,907	67	3.5%	595	31.2%	646	33.9%
Census Tract 610.22	<i>Block Group 1</i>	2,910	145	5.0%	851	29.2%	1,025	35.2%
Census Tract 610.23	<i>Block Group 1</i>	2,667	144	5.4%	811	30.4%	871	32.7%
	<i>Block Group 2</i>	1,710	103	6.0%	455	26.6%	619	36.2%
Census Tract 610.24	<i>Block Group 1</i>	2,177	89	4.1%	789	36.2%	873	40.1%
<p><sup>1</sup> Elderly accounts for those residents age 65 and older</p> <p><sup>2</sup> Percentage of residents who identify themselves as any race other than White: Black or African American, American Indian and Alaska Native, Asian, Native Hawaiian and Other Pacific Islander, Some other Race, and Two or More Races</p> <p><sup>3</sup> In addition to race, residents are asked to categorize themselves by membership in one of two ethnicities: Hispanic or Latino and Not Hispanic or Latino</p> <p>Source: 2010 U.S. Census: Summary File 1: Tables P1 Total Population; P12 Sex by Age; P3 Race; and P4 Hispanic or Latino Origin</p>								

Minorities include persons identifying as African American, American Indian, Alaskan Native, Asian, Pacific Islander, Some other Race, Two or More Races, or being of Hispanic or Latino origin of any race. The 2010 Census data indicate the percentage of minority populations in the eight Study Area BGs to be slightly higher than those of Maricopa County and the City of Goodyear. Although CT 610.19 BG3 and CT 610.09 BG 1 have minority population percentages equal to or higher than that of the City of Goodyear, the portions of those BGs within the Study Area contain no residences; therefore, no minority individuals within the BGs would be displaced or permanently affected by the project.

The Latino or Hispanic population in the Study Area is moderately higher than those present in Maricopa County and Goodyear, with the highest population percentage occurring in CT 610.19 BG 1 (47.6 percent). The majority of the land in this sparsely-populated BG is located outside of the Study Area limits (Table 9).

#### 4.4.1.4 Female Head of Household

Female head-of-household populations consist of households with children under 18 years of age headed by an unmarried female. Compared to the percentages for Maricopa County and Goodyear, the Study Area BGs have a slightly higher occurrence of female heads-of-household (**Error! Not a valid bookmark self-reference.**). Although BG 1 of CTs 610.09, 610.22, 610.23, and 610.24 have female head-of-household percentages higher than that of Maricopa County and the City of Goodyear, the portions of those BGs within the Study Area contain no residences; therefore, no female heads-of-household within the BGs would be displaced or permanently affected by the project.

**Table 10. Female Head of Household Population (2010 U.S. Census)**

Place		Total Households	Female Head of Household	
			# Female HOH <sup>1</sup>	% Female HOH
Maricopa County		1,411,583	102,915	7.3%
City of Goodyear		21,491	1,370	6.4%
Study Area Block Groups		4,951	419	8.5%
Census Tract 610.09	<i>Block Group 1</i>	1,040	119	11.4%
Census Tract 610.19	<i>Block Group 1</i>	200	12	6.0%
	<i>Block Group 2</i>	220	9	4.1%
	<i>Block Group 3</i>	578	35	6.1%
Census Tract 610.22	<i>Block Group 1</i>	906	74	8.2%
Census Tract 610.23	<i>Block Group 1</i>	823	69	8.4%
	<i>Block Group 2</i>	561	35	6.2%
Census Tract 610.24	<i>Block Group 1</i>	623	66	10.6%

HOH: Head of Household

<sup>1</sup>Households headed by a female with unmarried children under 18 years of age and no husband present

Source: 2010 U.S. Census: Summary File 1: Table P19 Household Size by Household Type by Presence of Own Children

## 4.4.2 Environmental Consequences

### 4.4.2.1 Selected Alternative

Depending on their proximity to the project, construction of the Selected Alternative could affect a small number of disabled, low-income, elderly, minority, and female head-of-household populations. During construction, Study Area residents would experience temporary delays and slower speeds; however, access to businesses would be maintained at all times. Traffic delays and slower speeds would be experienced equally by all motorists in the Study Area; therefore, all population segments, including disabled, low-income, elderly, minority, and female head-of-household populations, would be affected to the same degree by construction of the Selected Alternative. As such, these temporary impacts would not fall disproportionately on disabled, low-income, elderly, minority, and female head-of-household populations.

ROW acquisition associated with the Selected Alternative would potentially involve the displacement of four single-family residences in the Study Area. Race, ethnicity, age, householder, and income information of individuals is not publicly available; therefore, whether these four residential displacements affect protected populations is not known.

Invitations to a public meeting held on December 6, 2017 were mailed to all residences within the Study Area, including those potentially displaced. Citizens at this meeting could view aerial maps of the alternatives, and were provided with information about the project and about ADOT's property acquisition process. Representatives from ADOT's Right of Way Group were available at the meeting to answer questions and provide written information.

### 4.4.2.2 No-Build Alternative

The No-Build Alternative would not have a disproportionately high and adverse impact on disabled, low-income, elderly, minority, or female head-of-household populations.

### 4.4.2.3 Mitigation

ADOT has published and continues to publish communications and announcements pertaining to this project in both English and Spanish, and would continue to do so throughout the design and construction phases of the project.

### Design Responsibility

- A right-of-way acquisition program will be implemented in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (Public Law 91-646), the Uniform Relocation Act Amendments of 1987 (Public Law 100-17), and Title VI of the Civil Rights Act of 1964. Private property owners will be compensated at fair market value for land acquired for project right-of-way. Landowners required to move to a new home may be eligible for relocation benefits. These payments may include a housing supplement, moving costs, reestablishment costs, incidental expenses, and closing costs. Renters may also be eligible for relocation benefits.

## 4.4.3 Conclusion

The Block Groups in the Study Area have a higher percentage of minority population and female heads-of-household than the City of Goodyear and Maricopa County; however, much of the Selected alignment alternative falls within undeveloped City of Goodyear property and across agricultural land, and would potentially require only four residential displacements. The Selected

Alternative would not cause disproportionately high and adverse effects on any minority or low-income populations in accordance with the provisions of Executive Order 12898. No further EJ analysis is required.

Title VI prohibits discrimination by recipients of Federal financial assistance on the basis of race, color, and national origin, including the denial of meaningful access for limited English proficient (LEP) persons. Oral translation of the Draft EA, in part or in full, is available at no cost during the 30-day Draft EA review period. For assistance, please contact Gabriella Kemp at 480.215.7178 or email [GKemp@azdot.gov](mailto:GKemp@azdot.gov).

## 4.5 Cultural Resources

### 4.5.1 Background

Section 106 of the National Historic Preservation Act (NHPA) and NEPA require federal agencies to take into account the effects of their undertakings on historic properties and afford the State Historic Preservation Office (SHPO) and other interested parties opportunity to comment on such undertakings. To comply with these laws, an assessment of cultural resources was completed for all six Alternatives (2CN, 3N, and 5N, and 2CS, 3S, and 5S) examined in the Location and Design Concept Report (L/DCR) associated with this EA.

Historic properties include prehistoric and historic districts, sites, buildings, structures, and objects included in, or eligible for inclusion in, the National Register of Historic Places (NRHP). Historic properties may be eligible for inclusion in the NRHP if they possess integrity of location, design, setting, materials, workmanship, feeling, and association, and meet at least one of the following criteria:

- Criterion A: Be associated with events that have made a significant contribution to the broad patterns of our history
- Criterion B: Be associated with the lives of persons significant in our past
- Criterion C: Embody the distinctive characteristics of a type, period, or method of construction or that represents the work of a master, or that possesses high artistic values, or that represents a significant distinguishable entity whose components may lack individual distinction
- Criterion D: Have yielded, or may be likely to yield, information important in prehistory or history (36 CFR Part 60.4).

Federal agencies are required to determine the effects that a subject undertaking may have on historic properties within the Area of Potential Effects (APE), and to consult with the SHPO and other parties regarding those findings. Effects include physical disturbance to, or destruction of, the characteristics that qualify a historic property for NRHP listing and impacts to a historic property as the result of visual, auditory, or atmospheric intrusions.

There are three possible effect determinations:

- “No historic properties affected,” which applies in cases where either there are no historic properties within the APE, or if historic properties are present, the undertaking would

have no effect on them; that is, none of the characteristics that qualify the property for inclusion in the National Register would be altered (36 CFR Part 800.4[d][1]).

- “No adverse effect,” which applies when an undertaking would alter, either directly or indirectly, the characteristics that qualify the property for National Register listing, but only to a minor degree, or in a manner that is consistent with the Secretary of the Interior’s Standards for the Treatment of Historic Properties (36 CFR Part 68) and applicable guidelines. This effect determination is made most commonly when historic properties, such as buildings and structures, are being subject to restoration, rehabilitation, stabilization, hazardous materials remediation, and provision of access for individuals with disabilities (36 CFR Part 800.5[3][b]).
- “Adverse effect,” which applies when an undertaking would alter, either directly or indirectly, the characteristics that qualify the property for inclusion in the National Register in a manner that would diminish the property’s integrity of location, design, setting, materials, workmanship, feeling, or association, and is *not* consistent with the Secretary of the Interior’s Standards for Treatment of Historic Properties (36 CFR Part 800.5 [1]).

#### 4.5.2 Existing Conditions

The APE for the Study Area has been thoroughly inventoried for cultural resources. The inventory includes all cultural resources that are 40 years of age or older within the six alternative footprints (including a 0.25-mile buffer). The 40-year cutoff was adopted to be consistent with the methodology used in concurrent analyses for the SR30 study; 40 rather than 50 years was used because implementation of both projects is not anticipated to occur for a number of years.

Cultural resources inventories that cover Alternatives 2CN, 3N, and 5N, and Alternatives 2CS, 3S, and 5S are reported (or summarized) in the following documents:

- A Class III Cultural Resources Survey of Proposed Corridors for the State Route (SR) 801 Freeway, SR303L to SR 202L, Maricopa County, Arizona (Touchin and others 2007)
- Cotton Lane Corridor: Eligibility Assessment of Selected Properties (Dorigo and Ruter 2009)
- A Cultural Resource Overview and Survey for the SR303 Loop, SR 801/MC85 to I-10, Maricopa County, Arizona (Huebchen and others 2009)
- State Route 30 (East) Study: Evaluation of Historic Buildings and Districts, Maricopa County, Arizona (Solliday 2012)
- Addendum to A Cultural Resource Overview and Survey for the SR303 Loop, SR 801/MC85 to I-10 [currently I-10 to SR30], Maricopa County, Arizona (Sorrell 2013)
- Effect Assessment in Support of the Proposed Extension of the State Route 303 Loop South of Interstate 10 (Avann and Bruder 2013)
- Architectural Assessment for SR303L, MC85 to Van Buren Street, Maricopa County, Arizona (Avann et al. 2018)
- Second Addendum to a Cultural Resource Overview and Survey for SR 303 Loop, MC85 to Van Buren Street, Maricopa County, Arizona (O’Mack et al. 2018)
- **Third Addendum to a Cultural Resource Overview and Survey for SR 303 Loop, MC85 to Van Buren Street, Maricopa County, Arizona (Harte et al. 2018)**

The 2007 Touchin and 2012 Solliday inventories were conducted in conjunction with studies for the proposed SR30 (originally SR 801). Some of the properties from these studies are located in areas common to both the SR303L and SR30 studies. The others were performed for actions considered in the alternatives analysis leading up to this EA. FHWA consulted on the adequacy of these reports as follows: Touchin and others 2007 (Petty [FHWA] to Jacobs [SHPO] June 25, 2012); Dorigo and Ruter 2009 and Huebchen and others 2009 (Hollis [FHWA] to Jacobs [SHPO] April 13, 2009); Solliday 2012 (Petty [FHWA] to Jacobs [SHPO] November 13, 2012); Sorrell 2013 and Avann and Bruder 2013 (Petty [FHWA] to Jacobs [SHPO] August 13, 2013); Avann et al. 2018 and O’Mack et al. 2018 (Petty [FHWA] to Jacobs [SHPO] March 28, 2018).

**4.5.2.1 Historic and Archaeological Resources within the APE**

Subsequent to multi-agency field review meetings relative to avoidance of potential historic resources and utility relocations and adjustments, an additional SR30 concept alignment was developed for the SR303L study in 2017. In general, the SR30 alignment as originally conceived ran north of the APS and SRP power transmission lines, while the revised SR30 alignment runs south of the power lines. As a result of this realigned SR30 concept, Alternatives 2C, 3, and 5 each had a SR30 North (N) and SR30 South (S) variation (Figure 14, Figure 15, and Figure 16). The L/DCR undertook a comparison of these six Build alternatives and concluded that Alternative 2CS would be the Selected Alternative evaluated in detail in this EA (Appendix A).

In total, seven cultural resources, unevaluated or eligible for listing on the NRHP under Criterion D, have been reported within the APE of the Selected Alternative. These include four prehistoric sites, a prehistoric canal, a historic canal lateral, and a historic highway. In addition, three historic resources eligible for NRHP listing under Criterion A or Criteria A and C, are located with the Selected Alternative APE. These consist of two canals and a railroad. See Table 11.

**Table 11. Properties Eligible or Potentially Eligible for National Register Listing under Criteria A, A and C, and/or D within the APE**

	Designation/Name	Description	Eligibility
1	AZ T:11:24 (ASM) / Alkali Ruin	Prehistoric Habitation	Determined Eligible under Criterion D
2	AZ T:11:106 (ASM) / Morocco Ruin	Prehistoric Habitation / Historic Stage Coach Station	Determined Eligible under Criterion D
3	AZ T:11:182 (ASM)	Prehistoric Artifact Scatter	Determined Eligible under Criterion D
4	M-3 / Ruins Site	Prehistoric Trash Mounds	Not Evaluated
5	Canal Liberty Irrigation System	Prehistoric Irrigation System	Not Evaluated
6	AZ T:10:82 (ASM) / Lateral of Buckeye Canal	Historic Canal Lateral	Determined Eligible under Criterion D
7	AZ FF:9:17 (ASM) / Old US 80	Historic Highway	Considered Eligible under Criterion D as a Component of the Historic State Highway System (Segments in Project

Designation/Name		Description	Eligibility
			Vicinity Considered Contributing)
8	AZ T:10:84 (ASM) / Wellton-Phoenix-Eloy Branch, Southern Pacific Railroad*	Historic Railroad	Determined Eligible under Criterion A (Segments in Project Vicinity Considered Contributing)
9	AZ T10:82 (ASM) / Buckeye Canal	Historic Irrigation Canal	Determined Eligible under Criteria A and C (Also Criterion D) (Segments in Project Vicinity Considered Contributing)
10	AZ T:11:178 (ASM) / South Extension Canal	Historic Irrigation Canal	Determined Eligible under Criteria A and C (Segments in Project Vicinity Considered Contributing)

\* Now Union Pacific Railroad

#### 4.5.2.2 Traditional Cultural Properties

A traditional cultural property (TCP) is a property that is eligible for inclusion in the NRHP because of its association with cultural practices or beliefs of a living Native American community that are rooted in that community’s history and are important in maintaining the continuing cultural identity of the community. TCPs are often NRHP-eligible under Criterion A; however, other criteria may apply in regard to their eligibility as TCPs.

A preliminary technical report was prepared to provide recommendations in regard to the potential presence of TCPs in the Study Area and the potential for adverse effect due to construction of the project. Eleven sites were reviewed in regard to TCP status and eligibility for the NRHP. Of the eleven sites, only one site, the Alkali Ruin administrative boundary (AZ T:11:24 [ASM]), is recommended NRHP-eligible as a TCP under Criterion D:

- Its significance as the “head village” for the Canal Liberty irrigation system
- The diversity and density of features, including a cremation area
- Features potentially used in ancestral religious activities still honored today by affiliated Tribes, including the O’odham and Pee Posh community

In general, the area is identified as a traditional cultural landscape pertaining to the O’odham and Pee Posh tribes.

### 4.5.3 Environmental Impacts

#### 4.5.3.1 Selected Alternative

The cultural and historic resources identified within the APE of the Selected Alternative through background research and field survey are listed in Table 11.

On March 29, 2018 FHWA and ADOT initiated consultation with the Arizona State Historic Preservation Office (SHPO), the Arizona State Land Department (ASLD), the Arizona State Museum (ASM), the City of Goodyear (City), Maricopa County, the Ak-Chin Indian Community

(ACIC), the Gila River Indian Community (GRIC), the Hopi Tribe (Hopi), the Pascua Yaqui Tribe, the Salt River Pima-Maricopa Indian Community (lead for the Four Southern Tribes), the San Carlos Apache Tribe, the Tohono O’odham Nation (TON), and the Yavapai-Apache Nation on the adequacy of a survey report and an architectural assessment report as well as on an effects assessment for the project. Concurrences were received from SHPO, ASLD, ASM, the City, and Hopi. ACIC responded that they defer to GRIC, and the TON concurred only with the adequacy of the Survey report and the effects assessment, not on the adequacy of the built environment report.

#### 4.5.3.1.1 Adverse Effects

The properties on which the Selected Alternative would have adverse effects are listed in Table 12.

The Buckeye Canal, its lateral, and the South Extension Canal would be bridged over where the Selected Alternative crosses them. This would not appreciably alter the canals’ integrity of design, and because only a small portion of these long irrigation features would be bridged and because the canals run through a variety of settings, this change would not adversely affect the eligibility of the properties.

**Table 12. Cultural Resources Directly Affected by the Selected Alternative**

Resource Name	Resource Type	Eligibility
AZ T:11:106 (ASM)	Habitation site	Determined eligible under Criterion D
AZ T:11:182 (ASM)	Prehistoric artifact scatter	Determined eligible under Criterion D
Canal Liberty	Prehistoric canal system	Requires testing
M-3	Prehistoric trash mounds	Requires testing

The Wellton-Phoenix Railroad would be spanned by a bridge and while this would constitute a visual intrusion, it would be to a relatively small section of the 210-mile-long property and would not adversely affect its eligibility.

Because US 80 / MC85 would be spanned by the Selected Alternative, the property would not be adversely affected.

Finally, the Selected Alternative intrudes into the buffered site boundary of AZ T:11:24(ASM), a prehistoric habitation site that was previously determined to be a Traditional Cultural Property and determined NRHP eligible under Criterion D; however, preservation in place was determined not to be warranted (Petty [FHWA] to Jacobs [SHPO] May 9, 2017, SHPO concurrence May 12, 2017).

#### 4.5.3.1.2 Indirect Impacts

No historic properties would be subjected to indirect effects by the Selected Alternative.

#### 4.5.3.1.3 Unaffected Properties

The DeRosier Property, an historic grocery store, residence, and bar previously determined NRHP eligible under Criterion A, is located on the south side of Yuma Road east of Cotton Lane. While the Selected Alternative is planned to have an on/off ramp at Yuma Road, the visual and auditory



impacts to the property would be minimal, because the road contrasts only weakly with the existing road setting, and they would not rise to the level of an adverse effect.

A single-family residence located at 5601 South Jackrabbit Trail, while newly identified in the Study Area as an historic property, is outside of the APE for the Selected Alternative for this project and would not be affected by it.

#### ***4.5.3.2 No-Build Alternative***

The No-Build Alternative would have no effect on archaeological and cultural resources in the Study Area.

#### **4.5.4 Mitigation**

FHWA has developed and, if the Build Alternative is selected for construction, would implement a Programmatic Agreement (PA), which includes stipulations for continued consideration of cultural resources (Appendix B). As called for in the PA, specific measures for treatment of NRHP eligible properties and for evaluation and treatment if appropriate, of unevaluated cultural resources that may be subject to either direct or indirect “adverse effect” would be detailed in a treatment plan or plans developed and implemented by ADOT on behalf of FHWA. Archaeological sites would be subject to testing, and where appropriate, full-scale data recovery.

##### Design Responsibility

- Prior to Final Design of the SR303L-SR30 Traffic Interchange, the Engineer will arrange with the ADOT Environmental Planning Historic Preservation Team for boundary testing and possible data recovery to be performed per the stipulations set forth in the June 2013 Programmatic Agreement developed for this project.

##### District Responsibility

- If previously unidentified cultural resources are encountered during activity related to the construction of the project, the contractor shall stop work immediately at that location notify the Engineer and shall take all reasonable steps to secure the preservation of those resources. The Engineer will contact the Arizona Department of Transportation Environmental Planning Group, Historic Preservation Team, (602.712.8636 or 602.712.7767) immediately, and make arrangements for proper treatment of those resources.

##### Contractor Responsibility

- If previously unidentified cultural resources are encountered during activity related to the construction of the project, the contractor shall stop work immediately at that location notify the Engineer and shall take all reasonable steps to secure the preservation of those resources. The Engineer will contact the Arizona Department of Transportation Environmental Planning Group, Historic Preservation Team, (602.712.8636 or 602.712.7767) immediately, and make arrangements for proper treatment of those resources.

#### **4.5.5 Conclusion**

##### ***4.5.5.1 Selected Alternative***

Construction of the Selected Alternative would result in an “adverse effect” on two Criterion D properties and two unevaluated resources, the M-3 site and Canal Liberty irrigation system. Additionally, boundary testing and data recovery would be necessary for site AZ T:11:24(ASM),

because the Selected Alternative would intrude into the buffered site boundary. Continued land development could affect cultural resources in the Study Area as well.

#### 4.5.5.2 No-Build Alternative

The No-Build Alternative would have no direct effect associated with freeway construction on cultural resources, but they could be indirectly affected by continued growth in the region regardless.

## 4.6 Section 4(f) Resources

### 4.6.1 Background

Section 4(f) of the US Department of Transportation Act of 1966, as amended, states that FHWA "...may approve a transportation program or project...requiring the use of publicly owned land of a public park, recreation area, or wildlife and waterfowl refuge of national, State or local significance, or land of a historic site of national, State, or local significance (as determined by the federal, state or local officials having jurisdiction over the park, area, refuge, or site) only if:

- 1) There is no prudent or feasible alternative to using that land; and
- 2) The program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from the use (49 CFR Part 303[c]).
- 3) The use would not affect the features, activities, or attributes which qualify the property for Section 4(f) consideration, and the Federal Highway Administration has made a determination that the Section 4(f) use is *de minimis* (see below).

A "use" of a Section 4(f) resource, as defined in 23 CFR Part 774 occurs when:

- 1) Land is permanently incorporated into a transportation facility;
- 2) There is a temporary occupancy of land that is adverse in terms of the statute's preservationist purposes. A temporary occupancy of a Section 4(f) property may be necessary to provide staging or access areas. Temporary occupancy is not a Section 4(f) use if all of the following conditions exist:
  - a) The land use is of short duration (defined as less than the time needed for the construction of the project)
  - b) There is no change in ownership of the land
  - c) The scope of the work must be minor
  - d) There are no temporary or permanent adverse changes to the activities, features, or attributes of the property
  - e) The land must be fully restored to a condition at least as good as prior to the project
  - f) There must be documented agreement from the official(s) with jurisdiction over the property with the above conditions
- 3) There is a constructive use of the land. A constructive use of a Section 4(f) resource (23 CFR 774.15) occurs when the transportation project does not incorporate land from the Section 4(f) resource, but the project's proximity impacts are so severe that the protected

activities, features, or attributes that qualify a resource for protection under Section 4(f) are substantially impaired. For example, a constructive use can occur when:

- a) the projected noise level increase attributable to the project substantially interferes with the use and enjoyment of a noise-sensitive facility of a resource protected by Section 4(f);
- b) the proximity of the proposed project substantially impairs aesthetic features or attributes of a resource protected by Section 4(f), where such features or attributes are considered important contributing elements to the value of the resource. An example of such an effect would be the location of a proposed transportation facility in such proximity that it obstructs or eliminates the primary views of an architecturally significant historical building, or substantially detracts from the setting of a park or historic site which derives its value in substantial part because of its setting; and/or,
- c) the project results in a restriction on access, which substantially diminishes the utility of a significant publicly owned park, recreation area, or historic site.

Use of a Section 4(f) property that is generally minor in nature may be determined to be *de minimis*. A *de minimis* impact is one that, after taking into account avoidance, minimization, mitigation, and enhancement measures, results in no adverse effect to the activities, features, or attributes that qualify a park, recreation area, or refuge for protection under Section 4(f). For historic properties, a *de minimis* impact is one that results in a determination of "no adverse effect" or "no historic properties affected" under Section 106 of the National Historic Preservation Act (NHPA). A *de minimis* impact determination requires agency coordination with the officials having jurisdiction over the Section 4(f) resource and opportunities for public involvement. A *de minimis* impact determination may not be made when the proposed action constitutes a constructive use.

#### **4.6.2 Existing Conditions**

No publicly owned parks, recreation areas, wildlife and waterfowl refuges, or historic sites of national significance are located within the Study Area. The former Avondale Cotton Gin property, located on the southeast corner of Cotton Lane and Yuma Road, was initially recommended as eligible for listing on the National Register of Historic Places (NRHP), thereby protected under Section 4(f). However, in the course of documenting the former Cotton Gin structures to Historic American Building Survey (HABS) standards, it was discovered that the property had lost enough of its integrity that it could no longer convey its significance and was, therefore, ultimately determined not to be eligible for inclusion in the National Register (Petty [FHWA] to Jacobs [SHPO] May 17, 2016).

Five locally significant historic sites (two historic canals, a historic railroad, and two historic properties) are located within the Study Area. They include:

- Buckeye Canal, determined NRHP eligible under Criteria A and C
- South Extension Canal, determined NRHP eligible under Criteria A and C
- Wellton-Phoenix-Eloy Branch of the Southern Pacific (now Union Pacific) Railroad, determined NRHP eligible under Criterion A
- Buckeye Canal Farmstead Historic District, determined eligible for NRHP under Criterion A

- Buckeye Canal Upper Zanjero House, determined eligible for NRHP under Criterion A

Partly for the purpose of avoiding potential historic properties, each of the three SR303L alternatives that emerged from the Alternatives Selection Report (ASR) were developed with a second SR30 alignment concept. In general, SR30 as originally conceived would run north of the electrical transmission towers in the Study Area, while the second SR30 alignment runs south of the power lines. The following section evaluates impacts to potential Section 4(f) resources under six Build Alternatives in addition to the No Build Alternative.

### **4.6.3 Environmental Consequences**

#### **4.6.3.1 Build Alternatives**

As part of the process of determining a Preferred Alternative, evaluation of impacts to Section 4(f) resources was performed for all six potential Build alternatives under consideration in the Design Concept Report.

Resources afforded protection under Section 4(f) within the Study Area are located near all of the Build Alternatives. The following section describes the impacts to Section 4(f) resources within the project footprint. At the end of the section, Table 13 and Table 14 list and describe each resource, the potential impact to the resource that would result from implementation of Build Alternatives 2C, 3, and 5 with SR30 aligned to the north and to the south respectively, and measures to minimize harm to the resources, if needed.

#### **4.6.3.2 SR30 Northern Alignment Option**

##### **4.6.3.2.1 Buckeye Canal**

The Buckeye Canal runs east-west at grade, perpendicular to the north-south SR303L alignment. With the future SR30 aligned to the north or south, Alternatives 2CN, 3N, and 5N would each cross over the Buckeye Canal at various points.

Segments of the Buckeye Canal would be crossed by elevated spans for the mainline and ramps of the Build Alternatives to clear the canal and allow vehicle travel on the maintenance road beside it. These crossing structures would be constructed outside of the canal ROW, and would not diminish the Buckeye Canal's capacity to convey its association with the early agricultural development of the Buckeye Valley. The alterations would also not diminish the canal's integrity of design in the sense of function. With Alternative 2CN, 3N, and 5N, the visual impacts to the canal would be minimal, and would not rise to the level of an adverse effect.

##### **4.6.3.2.2 South Extension Canal**

The South Extension Canal runs parallel to MC85 on a northeast-southwest alignment at grade. Alternative 2CN would cross the South Extension Canal in one location where the canal would be spanned by an elevated overpass. Bridging over a segment of the canal would not diminish the South Extension Canal's capacity to convey its association with the early agricultural development of the Buckeye Valley or alter the canal's integrity of design in the sense of function. Alternative 2CN would result in a visual change to a small segment of this 7.8-mile-long irrigation feature. These crossing structures would be constructed outside of the canal ROW. Constructing an overpass over the canal would not adversely impact the integrity of this resource as a whole.

The South Extension Canal would not be spanned by Alternative 3 North, but it would run immediately south of the freeway. Construction of this alternative would result in a visual intrusion to a relatively small portion of the irrigation feature but would not constitute a direct impact to this linear Section 4(f) resource.

With Alternative 5N, a small section of the South Extension Canal would be spanned by an elevated overpass constructed outside of the canal ROW. This would constitute only a minor visual intrusion to this resource and would not negatively affect the integrity of the South Extension Canal as a whole.

#### 4.6.3.2.3 Wellton-Phoenix-Eloy Branch of the Union Pacific Railroad

Alternatives 2CN and 3N would span the Wellton-Phoenix-Eloy Branch of the Southern Pacific (now Union Pacific) Railroad with a 35-foot-tall overpass. Alternative 5N would span the railroad in two locations with 35-foot-tall overpasses. These crossing structures would be constructed outside of the railroad ROW and would not physically affect the railroad or constitute a visual intrusion to this 210-mile-long linear resource, which extends through a variety of visual settings.

The Wellton-Phoenix-Eloy Branch Railroad would be subjected to proximity impacts under Alternatives 2CN, 3N, or 5N. However, the creation of overpasses would not substantially alter the integrity of the resource as a whole. The railway would continue to serve the same east-west connection, and no change in access or operations would occur.

#### 4.6.3.2.4 Buckeye Canal Farmstead Historic District

The Buckeye Canal Farmstead Historic District is located at the northeast corner of Cotton Lane and the Buckeye Canal, approximately 650 feet south of MC85. It is located adjacent to Cotton Lane, a modern four-lane road with a dividing median west of the property. Its viewshed includes a large, modern industrial complex, but its setting retains considerable rural, agricultural feeling. This property is NRHP eligible under Criterion A and is therefore afforded protection under Section 4(f). The freeway and ramps of Alternative 2CN would be located 1,500 feet south and approximately 1.0 mile west of the Buckeye Canal Farmstead Historic District, and would not directly affect this Section 4(f) resource. FHWA made a determination of “no adverse effect” upon this resource for Alternative 2CN (Petty [FHWA] to Jacobs [SHPO] August 13, 2013). No visual intrusions to the farmstead would occur with Alternative 2CN because the existing Cotton Lane infrastructure is already present in the foreground viewshed. No auditory intrusions to the farmstead would occur with Alternative 2CN because the distance of the alignment from the resource would be more than double, reducing traffic noise by at least 3 dBA from that of Alternatives 3N and 5N, which modeled at 67 and 66 dBA, respectively. A noise level of 63 or 64 dBA is beneath the impact threshold and would not rise to the level of an indirect adverse effect.

The location of SR303L Alternative 3N would be immediately adjacent to the Buckeye Canal Farmstead Historic District and the property’s rural setting would be substantially diminished due to the visual intrusion caused by the elevated freeway. The replacement of Cotton Lane with a 10-lane freeway adjacent to the Buckeye Canal Farmstead Historic District would create an alteration to the property’s visual setting sufficient to constitute an indirect adverse impact to this Section 4(f) resource. Alternative 3N would have indirect adverse effects to the Buckeye Canal Farmstead Historic District under Section 106 of the NHPA as a result of both visual and auditory intrusions (modeled at 67 decibels).

For Alternative 5N, while the footprint of the alternative is located immediately adjacent to the property, the freeway mainline would run approximately 1.0 mile to the west, with only on and off ramps located adjacent to the property. The on/off ramps would be elevated to bridge existing MC-85 to the south. Auditory intrusions would be at 66 decibels and would rise to the level of an indirect adverse effect; however, visual intrusions would not because it is not appreciably different from the existing adjacent infrastructure.

#### 4.6.3.2.5 Buckeye Canal Upper Zanjero House

The Buckeye Canal Upper Zanjero House (Zanjero House) is located on the south side of the Buckeye Canal, approximately 2,000 feet west of Cotton Lane. It is recommended eligible for NRHP listing under Criterion A for its association with the development and operation of the Buckeye Canal, which began in the early 1900s. Thus, this property is considered a Section 4(f) resource. It also is a surviving example of a rare property type in the area in which the zanjero, or chief canal operator, lived.

The northern boundary of Alternatives 2CN, 3N, and 5N run along the southern property boundary of the Buckeye Canal Upper Zanjero House, yet the auditory intrusions on the property from these three alternatives would not reach the level of an indirect effect: modeling puts the decibel levels at 63, 61, and 65 respectively. Three aspects of integrity, location, association, and setting, are especially important in considering whether this particular property retains enough integrity to convey its significance. While construction of a multilane freeway immediately south of the property would not alter the building's integrity of location or association, the visual effect of the new facility would rise to the level of an adverse effect for all three alternatives.

Alternative 3N would result in a direct impact to the Zanjero House because the traffic ramps of the SR303L/SR30 system interchange would be constructed over and through this Section 4(f) resource. The alignment of Alternatives 2CN and 5N would avoid direct impacts to the property.

#### 4.6.3.3 SR30 Southern Alignment Options

##### 4.6.3.3.1 Buckeye Canal

Segments of the Buckeye Canal would be crossed by elevated spans for the 2CS, 3S, and 5S Build Alternatives to clear the property. These changes would not diminish the Buckeye Canal's capacity to convey its association with the early agricultural development of the Buckeye Valley. The alterations would also not alter the canal's integrity of design in the sense of function. With Alternative 2CS, two sections of the 23-mile-long irrigation feature would be crossed by elevated spans. Alternative 3S would also place two segments of the canal beneath elevated spans, and two canal segments would be bridged with Alternative 5S. These crossing structures would be constructed outside of the canal ROW.

##### 4.6.3.3.2 South Extension Canal

The South Extension Canal runs parallel to MC85 on a northeast-southwest alignment at grade. The Build Alternatives would span the South Extension Canal by an elevated overpass in one location. Bridging over a segment of the canal would not diminish the South Extension Canal's capacity to convey its association with the early agricultural development of the Buckeye Valley or alter the canal's integrity of design in the sense of function. With Alternative 2CS, one segment of the 7.8-mile-long irrigation feature would be crossed by an elevated span. Alternative 3S would

place three segments of the canal beneath elevated spans, whereas three canal segments would be bridged with Alternative 5S. These crossing structures would be constructed outside of the canal ROW.

#### 4.6.3.3.3 Wellton-Phoenix-Eloy Branch of the Union Pacific Railroad

Alternatives 2CS and 3S would span the Wellton-Phoenix-Eloy Branch of the Southern Pacific (now Union Pacific) Railroad with a 35-foot-tall overpass. Alternative 5S would span the railroad in two locations with 35-foot-tall overpasses. These crossing structures would be constructed outside of the railroad ROW and would not physically impact the railroad or constitute a visual intrusion to this 210-mile-long linear resource, which extends through a variety of visual settings.

The Wellton-Phoenix-Eloy Branch Railroad would be subjected to proximity impacts under Alternatives 2CS, 3S, or 5S. However, the addition of this visual element would not substantially alter the integrity of the resource as a whole. The railway would continue to serve the same east-west connection, and no change in access or operations would occur.

#### 4.6.3.3.4 Buckeye Canal Farmstead Historic District

The Buckeye Canal Farmstead Historic District is located at the northeast corner of Cotton Lane and the Buckeye Canal, approximately 650 feet south of MC85. It is located adjacent to Cotton Lane, a modern four-lane road with a dividing median west of the property, and with a viewshed that includes a large, modern industrial complex, but also retains considerable rural, agricultural feeling. This property is NRHP eligible under Criterion A and is, therefore, afforded protection under Section 4(f). FHWA made a determination of “no adverse effect” upon this resource for Alternative 2CS, and a determination of “adverse effect” for Alternatives 3S and 5S under Section 106 of the NHPA (Yedlin for Petty [FHWA] to Jacobs [SHPO] March 28, 2018).

Alternative 2CS would be located 1,500 feet to the south and approximately one mile west of the Buckeye Canal Farmstead Historic District and would not directly affect this Section 4(f) resource.

The location of SR303L Alternative 3S would be immediately adjacent to the Buckeye Canal Farmstead Historic District and the property’s rural setting would be substantially diminished due to the visual intrusion caused by the elevated freeway. The replacement of Cotton Lane with a 10-lane freeway adjacent to the Buckeye Canal Farmstead Historic District would create an alteration to the property’s visual setting sufficient to constitute an indirect adverse impact to this Section 4(f) resource. Alternative 3S would have indirect adverse effects to the Buckeye Canal Farmstead Historic District as a result of both visual and auditory intrusions (modeled at 67 decibels) under Section 106 of the NHPA.

For Alternative 5S, while the footprint of the alternative is located immediately adjacent to the property, the freeway mainline would run approximately 1.0 mile to the west, with only on and off ramps located adjacent to the property. The on/off ramps would be elevated to bridge existing MC-85 to the south. Auditory intrusions would be at 66 decibels and would rise to the level of an indirect adverse effect; however, visual intrusions would not because it is not appreciably different from the existing adjacent infrastructure.

#### 4.6.3.3.5 Buckeye Canal Upper Zanjero House

Alternatives 2CS and 5S would avoid direct and indirect effects to the Buckeye Canal Upper Zanjero House. Alternative 3S would have elevated on-and off-ramps closer to the property,

altering its rural setting and resulting in an indirect adverse effect. The auditory intrusions for Alternatives 2CS, 3S, and 5S would be only moderate at 63, 57, and 58, respectively.

#### **4.6.4 Mitigation**

##### Design Responsibility

- Prior to Final Design of the SR303L-SR30 Traffic Interchange, the Engineer will arrange with the ADOT Environmental Planning Historic Preservation Team for boundary testing and possible data recovery to be performed per the stipulations set forth in the June 2013 Programmatic Agreement developed for this project.

#### **4.6.5 Conclusions**

Impacts to the Buckeye Canal Farmstead Historic District would be unavoidable for build Alternatives 3 and 5 with SR30 aligned to the north, and impacts to the Buckeye Canal Upper Zanjero House would be unavoidable for all three of the build alternatives under consideration with SR30 aligned to the north. Efforts were undertaken to identify avoidance alternatives for those resources; not all avoidance alternatives were prudent or feasible. Some avoidance alternatives developed to avoid impacts to the Zanjero House would result in impacts to the Buckeye Canal Farmstead Historic District and create new resource impacts and significant costs associated with the additional relocations of 4 sets of electrical transmission towers and 2,000 feet of existing power lines and associated infrastructure, or encasing an additional 3,000 feet of the Buckeye Canal/APS reclaimed water line. Therefore, indirect impacts to Section 4(f) properties would result with all three Build Alternatives with SR30 aligned to the north.

Aligning SR30 to the south changed the impact potential to the Buckeye Canal Upper Zanjero House from Alternative 3S from direct to indirect, while increasing the required power line adjustments from eight sets of transmission towers to ten, but reducing the extent of APS reclaimed water line encasement, resulting in a net reduction of \$10 million to \$35 million in utility adjustment costs. The Selected Alternative 2CS would not adversely affect any Section 4(f) resources, while indirect impacts to the Buckeye Canal Farmstead Historic District would still result from implementation of Alternative 3S and Alternative 5S.



**Table 13. Impacts to Section 4(f) Resources –SR 30 Aligned to the North**

Resource	Proximity	Avoidance	Type of Impact		Measure to Minimize Harm	Conclusion
			Direct	Indirect		
<b>Buckeye Canal</b>	Would cross under Alternative 2CN	No	None	None	None	No adverse effect
	Would cross under Alternative 3N	No	None	None	None	No adverse effect
	Would cross under Alternative 5N	No	None	None	None	No adverse effect
<b>South Extension Canal</b>	Would cross under Alternative 2CN	No	None	None	None	No adverse effect
	Would cross under Alternative 3N	No	None	None	None	No adverse effect
	Would cross under Alternative 5N	No	None	None	None	No adverse effect
<b>Welton-Phoenix-Eloy Branch Southern Pacific Railroad</b>	Would cross under Alternative 2CN	No	None	None	None	No adverse effect
	Would cross under Alternative 3N	No	None	None	None	No adverse effect
	Would cross under Alternative 5N	No	None	None	None	No adverse effect
<b>Buckeye Canal Farmstead Historic District</b>	0.7 mile from Alternative 2CN	No	None	None	None	No adverse effect
	Adjacent to Alternative 3N	Yes	None	Alternative 3S would alter the setting	Use of vegetation buffers to screen views of the freeway	Realignment west to avoid direct impacts would not adversely affect additional parcels, disrupt established communities, or create new social impacts.
	Adjacent to Alternative 5N	Yes	None	Alternative 5S would alter the setting	Use of vegetation buffers to screen views of the freeway	Realignment west to avoid direct impacts would not adversely affect additional parcels, disrupt established communities, or create new social impacts.

Resource	Proximity	Avoidance	Type of Impact		Measure to Minimize Harm	Conclusion
			Direct	Indirect		
<b>Buckeye Canal Upper Zanjero House</b>	Adjacent to WB SR30-to-NB SR303L ramp of Alternative 2CN	Yes	No	Yes	Shift alignment to avoid impacts to the Section 4(f) resource	Realignment south to avoid the Zanjero House would introduce vertical and/or horizontal conflicts with the power transmission lines to the south.
	Intersected by SB SR303L-to-WB SR30 ramp of Alternative 3N	Not feasible or prudent	Yes	Yes	Shift alignment to avoid impacts to the Section 4(f) resource	Realignment south to avoid the Zanjero House would either result in direct impacts to the Buckeye Canal Farmstead Historic District and the Buckeye Canal/APS reclaimed water line, or introduce vertical and/or horizontal conflicts with the power transmission lines to the south. Realignment north would increase impacts to Buckeye Canal/APS reclaimed water line by 4,000 feet.
	North of and adjacent to SR30 in Alternative 5N	Not feasible or prudent	No	Yes	Shift alignment to avoid impacts to the Section 4(f) resource	Realignment to avoid the Zanjero House would result in direct impacts to the Buckeye Canal Farmstead Historic District and the Buckeye Canal, or introduce vertical and/or horizontal conflicts with the power transmission lines to the south.

**Table 14. Impacts to Section 4(f) Resources – SR 30 Aligned to the South**

Resource	Proximity	Avoidance	Type of Impact		Measure to Minimize Harm	Conclusion
			Direct	Indirect		
<b>Buckeye Canal</b>	Would cross under Alternative 2CS	No	None	None	None	No adverse effect
	Would cross under Alternative 3S	No	None	None	None	No adverse effect
	Would cross under Alternative 5S	No	None	None	None	No adverse effect
<b>South Extension Canal</b>	Would cross under Alternative 2CS	No	None	None	None	No adverse effect
	Would cross under Alternative 3S	No	None	None	None	No adverse effect
	Would cross under Alternative 5S	No	None	None	None	No adverse effect
<b>Welton-Phoenix-Eloy Branch Southern Pacific Railroad</b>	Would cross under Alternative 2CS	No	None	None	None	No adverse effect
	Would cross under Alternative 3S	No	None	None	None	No adverse effect
	Would cross under Alternative 5S	No	None	None	None	No adverse effect

Resource	Proximity	Avoidance	Type of Impact		Measure to Minimize Harm	Conclusion
			Direct	Indirect		
<b>Buckeye Canal Farmstead Historic District</b>	0.7 mile from Alternative 2CS	No	None	None	None	No adverse effect
	Directly adjacent to Alternative 3S	Yes	None	Alternative 3S would alter the setting	Use of vegetation buffers to screen views of the freeway	Realignment west to avoid direct impacts would not adversely affect additional parcels, disrupt established communities, or create new social impacts.
	Directly adjacent to Alternative 5S	Yes	None	Alternative 5S would alter the setting	Use of vegetation buffers to screen views of the freeway	Realignment west to avoid direct impacts would not adversely affect additional parcels, disrupt established communities, or create new social impacts.
<b>Buckeye Canal Upper Zanjero House</b>	Alternative 2CS: Approximately 875 feet from WB SR30 to SR303L ramp	Yes	None	None	None	No adverse effect
	Alternative 3S: Approximately 875 feet from 5-level stack traffic interchange	Yes	None	Alternative 3S would alter the setting	Use of vegetation buffers to screen views of the freeway	Indirect adverse effect
	Alternative 5S: Approximately 1,000 feet from WB SR30 mainline	Yes	None	None	None	No adverse effect

## 4.7 Air Quality Analysis

The air quality analysis was performed based on data presented in the Draft SR303L, SR30 to I-10 Traffic Report (WSP, 2018). The Traffic Report was originally prepared in September 2017. An addendum was published in January 2018 to incorporate the most recent Maricopa Association of Governments (MAG) October 2017 Conformity Model output. Traffic was modeled for three different SR303L freeway study alignments: Alternative 2CS, Alternative 3S, and Alternative 5S.

The Air Quality Analysis was initiated prior to the selection of the Selected Alternative in order to coordinate it with the development of the Draft EA. ADOT and FHWA agreed to analyze air quality impacts of the alternative that had the highest impact on the traffic network based on the Traffic Report findings, in order to model a “worst-case” scenario. Alternative 5S was determined to have the highest impact on air quality because it resulted in the highest daily traffic volumes and worst intersection Level of Service (LOS). The technical analyses presented in the Air Quality Technical Report were based on data from Alternative 5S, and it is assumed that potential impacts from other build alternatives, including the Selected Alternative, would not exceed any air pollutant emissions or concentrations presented. The Air Quality Analysis Technical Report for this EA is included as Appendix C.

### 4.7.1 Regulatory Context

#### 4.7.1.1 Clean Air Act Amendments of 1990

The Clean Air Act Amendments of 1990 (CAAA) direct the U.S. Environmental Protection Agency (EPA) to implement environmental policies and regulations that would ensure acceptable levels of air quality. Under the CAAA, a project cannot:

- Cause or contribute to any new violation of any National Ambient Air Quality Standards (NAAQS) in any area;
- Increase the frequency or severity of any existing violation of any NAAQS in any area; or
- Delay timely attainment of any NAAQS or any required interim emission reductions or other milestones in any area.

##### 4.7.1.1.1 National Ambient Air Quality Standards

As required by the CAA, NAAQS have been established for six major air pollutants. These pollutants are: carbon monoxide, nitrogen dioxide, ozone, particulate matter (PM10 and PM2.5), sulfur dioxide, and lead. These standards are summarized in Table 15. The “primary” standards have been established to protect the public health. The “secondary” standards are intended to protect the nation's welfare and account for air pollutant effects on soil, water, visibility, materials, vegetation and other aspects of the general welfare.

##### 4.7.1.1.2 Transportation Conformity Rule

Under the Clean Air Act Amendments of 1990, the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA), the Transportation Equity Act for the 21st Century (TEA-21), and Moving Ahead for Progress in the 21st Century Act (MAP-21), proposed transportation projects must be derived from a long-range transportation plan (LRP) or regional transportation plan (RTP) that conforms with the state air quality plans as outlined in the state implementation plan (SIP). The SIP sets forth the state's strategies for achieving air quality standards. EPA's Transportation

Conformity Rule requires conformity determinations from proposed transportation plans, programs, and projects before they are approved, accepted, funded, or adopted. Federal activities may not cause or contribute to new violations of air quality standards, exacerbate existing violations, or interfere with timely attainment or required interim emissions reductions towards attainment.

The conformity rule also establishes the process by which the FHWA, the Federal Transit Administration (FTA), and local metropolitan planning organizations (MPOs) determine conformance of transportation plans and transportation improvement programs (TIPs) and federally-funded highway and transit projects. As part of this process, local MPOs are required under regulations promulgated in the CAA of 1990 to undertake conformity determinations on metropolitan transportation plans (MTPs) and TIPs before they are adopted, approved, or accepted. TIPs are a subset of staged, multi-year, inter modal programs of transportation projects covering metropolitan planning areas that are consistent with MTPs. The TIPs include a list of roadway and transit projects selected as priorities for funding by cities, county road commissions, and transit agencies. Federal projects to be completed in the near term must be included in the regional conformity analysis completed by the MPO; such projects are also usually included in the region's TIP, and therefore conform with the SIP.

#### 4.7.1.1.3 Interagency Consultation

Proposed transportation projects normally go through interagency consultation in order to determine the need for and, if applicable, models and methodologies for project-level air quality analyses.

ADOT has developed standard questionnaires for project level PM quantitative hot-spot analyses and project-level CO hot-spot analyses. These questionnaires outline the assumptions and sources of data to be used when quantitative analyses are required.

On June 27, 2017, ADOT provided a copy of the PM hot-spot questionnaire and the associated planning assumptions, for a 30-day consultation period, to the following consulting parties: EPA, FHWA, MAG, Arizona Department of Environmental Quality (ADEQ), and the Maricopa County Air Quality Department, as the local air agency in Maricopa County. There were several comments on the document(s), and ADOT provided a response to these comments along with an updated planning assumptions document. In these updated planning documents, ADOT noted that this project will proceed as a project that requires a quantitative PM<sub>10</sub> hot-spot analysis under 40CFR 93.123(b). Furthermore, ADOT stated that they would conduct the hot-spot modeling in accordance with the traffic modeling data used in the September 22, 2017 traffic study along with other planning assumptions, as noted in Table 2 of the PM hot-spot questionnaire, which is included in Appendix C.

On March 1, 2018, ADOT provided a copy of the CO hot-spot questionnaire and the associated planning assumptions to the following consulting parties, for a 10-day consultation period: EPA, FHWA, MAG, ADEQ and the Maricopa County Air Quality Department, as the local air agency in Maricopa County. There were no comments on the methodology and assumptions, including the two intersections recommended for quantitative analysis. ADOT also provided updated traffic data sources and assumptions that were used for the PM<sub>10</sub> modeling, in order to be consistent with the latest approved MAG Regional Conformity Model.

**Table 15. National Ambient Air Quality Standards**

Pollutant		Primary/ Secondary	Averaging Time	Level	Form
<b>Carbon Monoxide</b>		primary	8-hour	9ppm	Not to be exceeded more than once per year
			1-hour	35 ppm	
<b>Lead</b>		primary and secondary	Rolling 3-month average	0.15 µg/m <sup>3</sup> <sup>(1)</sup>	Not to be exceeded
<b>Nitrogen Dioxide</b>		primary	1-hour	100 ppb	98th percentile, averaged over 3 years
		primary and secondary	Annual	53 ppb <sup>(2)</sup>	Annual Mean
<b>Ozone</b>		primary and secondary	8-hour	0.070 ppm <sup>(3)</sup>	Annual fourth-highest daily maximum 8-hr concentration, averaged over 3 years
<b>Particle Pollution</b>	PM <sub>2.5</sub>	primary	Annual	12 µg/m <sup>3</sup>	annual mean, averaged over 3 years
		secondary	Annual	15 µg/m <sup>3</sup>	annual mean, averaged over 3 years
		primary and secondary	24-hour	35 µg/m <sup>3</sup>	98th percentile, averaged over 3 years
	PM <sub>10</sub>	primary and secondary	24-hour	150 µg/m <sup>3</sup>	Not to be exceeded more than once per year on average over 3 years
<b>Sulfur Dioxide</b>		primary	1-hour	75 ppb <sup>(4)</sup>	99th percentile of 1-hour daily maximum concentrations, averaged over 3 years
		secondary	3-hour	0.5 ppm	Not to be exceeded more than once per year

Source: EPA, <https://www.epa.gov/criteria-air-pollutants/naaqs-table>

(1) In areas designated nonattainment for the Pb standards prior to the promulgation of the current (2008) standards, and for which implementation plans to attain or maintain the current (2008) standards have not been submitted and approved, the previous standards (1.5 µg/m<sup>3</sup> as a calendar quarter average) also remain in effect.

(2) The level of the annual NO<sub>2</sub> standard is 0.053 ppm. It is shown here in terms of ppb for the purposes of clearer comparison to the 1-hour standard level.

(3) Final rule signed October 1, 2015, and effective December 28, 2015. The previous (2008) O<sub>3</sub> standards additionally remain in effect in some areas. Revocation of the previous (2008) O<sub>3</sub> standards and transitioning to the current (2015) standards will be addressed in the implementation rule for the current standards.

(4) The previous SO<sub>2</sub> standards (0.14 ppm 24-hour and 0.03 ppm annual) will additionally remain in effect in certain areas: (1) any area for which it is not yet 1 year since the effective date of designation under the current (2010) standards, and (2) any area for which an implementation plan providing for attainment of the current (2010) standard has not been submitted and approved and which is designated nonattainment under the previous SO<sub>2</sub> standards or is not meeting the requirements of a SIP call under the previous SO<sub>2</sub> standards (40 CFR 50.4(3)). A SIP call is an EPA action requiring a state to resubmit all or part of its State Implementation Plan to demonstrate attainment of the required NAAQS.

Documentation of interagency correspondence, including the completed questionnaires that provide methodologies for the PM<sub>10</sub> and CO analyses, can be found in Appendix C.

#### 4.7.1.2 Mobile Source Air Toxics

In addition to the criteria pollutants for which there are NAAQS, the EPA also regulates air toxics. Toxic air pollutants are those pollutants known or suspected to cause cancer or other serious

health effects. Most air toxics originate from human made sources, including on road mobile sources, non-road mobile sources (e.g., airplanes), area sources (e.g., dry cleaners), and stationary sources (e.g., factories or refineries).

Controlling air toxic emissions became a national priority with the passage of the Clean Air Act Amendments (CAAA) of 1990, whereby Congress mandated that EPA regulate 188 air toxics, also known as hazardous air pollutants. EPA has assessed this expansive list in their latest rule on the Control of Hazardous Air Pollutants from Mobile Sources (Federal Register, Vol. 72, No. 37, page 8430, February 26, 2007) and identified a group of 93 compounds emitted from mobile sources that are listed in their Integrated Risk Information System (IRIS) (<http://www.epa.gov/iris/>). In addition, EPA identified nine compounds with significant contributions from mobile sources that are among the national and regional-scale cancer risk drivers or contributors and non-cancer hazard contributors from the 2011 National Air Toxics Assessment (NATA) (<https://www.epa.gov/national-air-toxics-assessment>). These are 1,3-butadiene, acetaldehyde, acrolein, benzene, diesel particulate matter (diesel PM), ethylbenzene, formaldehyde, naphthalene, and polycyclic organic matter. While FHWA considers these the priority mobile source air toxics, the list is subject to change and may be adjusted in consideration of future EPA rules.

The 2007 EPA rule mentioned above requires controls that will dramatically decrease MSAT emissions through cleaner fuels and cleaner engines. Using EPA's MOVES2014a model, as shown in Figure 20, FHWA estimates that even if VMT increases by 45 percent from 2010 to 2050 as forecast, a combined reduction of 91 percent in the total annual emissions for the priority MSAT is projected for the same time period.

## **4.7.2 Existing Conditions**

### **4.7.2.1 Ambient Air Quality Data**

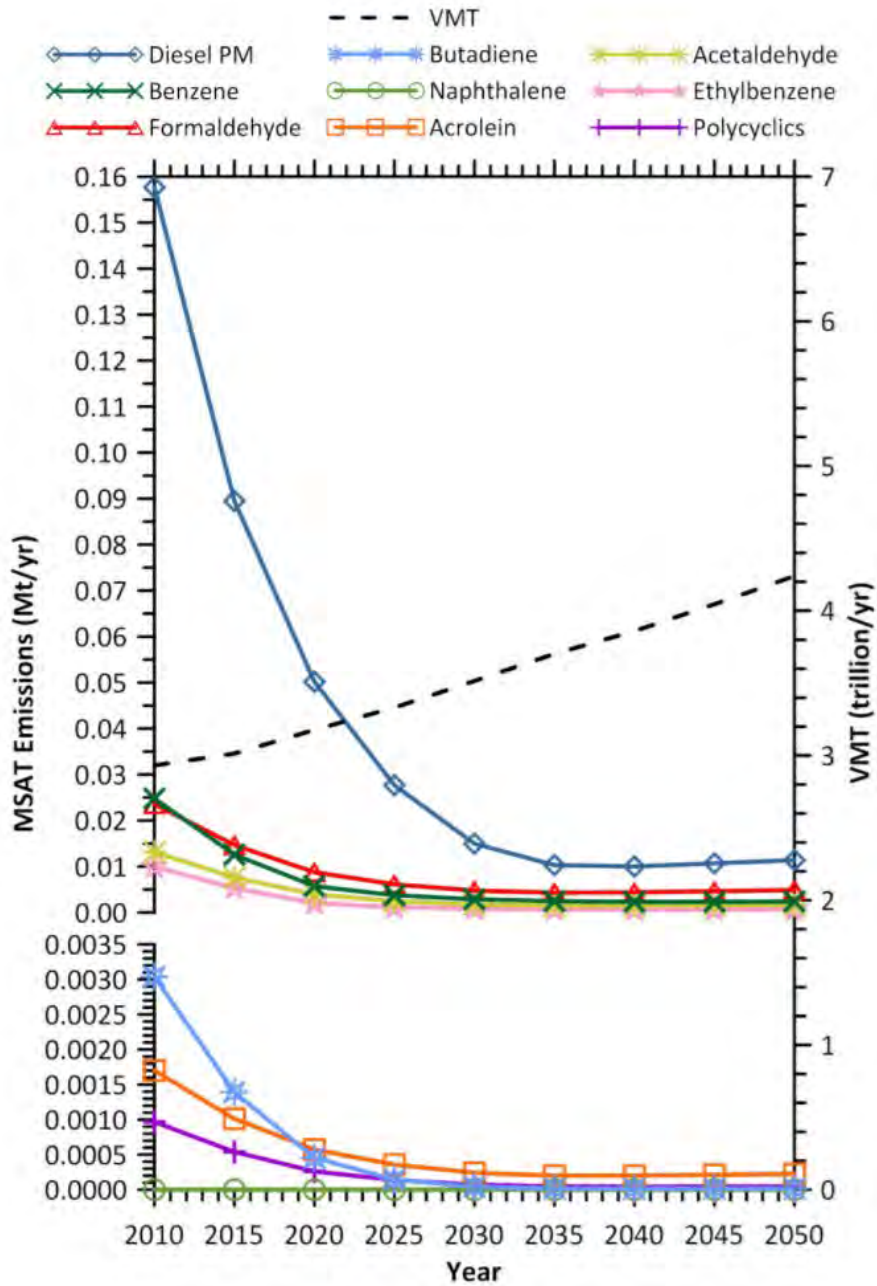
#### **4.7.2.1.1 Local Meteorology**

The project is located in the Phoenix metropolitan area in the south-central portion of the state. Phoenix is located in the Salt River Valley, which is surrounded by low mountain ranges. A large portion of Arizona is classified as semiarid, and long periods of time often occur with little or no precipitation. The average annual precipitation in Phoenix is 7.53 inches. The air is generally dry and clear, with low relative humidity and a high percentage of sunshine. Phoenix has a hot desert climate with long, extremely hot summers and short, mild to warm winters. Temperatures of 90 degrees Fahrenheit are reached an average of 168 days per year, and it is common to see temperatures over 100 degrees Fahrenheit. (WRCC)

#### **4.7.2.1.2 Local Monitored Air Quality**

In cooperation with the EPA and other governmental agencies, The Maricopa County Air Quality Division operates air quality monitoring sites and a mobile air monitoring program to measure criteria pollutants. Table 16 presents the last three years of available monitored at the closest monitoring stations to the project area.





Note: Trends for specific locations may be different, depending on locally derived information representing vehicle-miles travelled, vehicle speeds, vehicle mix, fuels, emission control programs, meteorology, and other factors

Source: EPA MOVES2014a model runs conducted in September 2016 by FHWA.

**Figure 20. National Mobile Source Air Toxics Emission Trends – 2010-2050 for Vehicles Operating on Roadways**

**Table 16. Ambient Air Quality Monitor Data**

Pollutant		Monitor Location	Monitor Value	2014	2015	2016	2017
Carbon Monoxide (CO) [ppm]	1-Hour	16825 N Dysart Surprise, AZ	Maximum	1.2	1.2	0.9	n/a*
			2nd Maximum	1.0	1.1	0.8	
			# of Exceedances	0	0	0	
	8-Hour	16825 N Dysart Surprise, AZ	Maximum	0.6	0.7	0.5	
			2nd Maximum	0.6	0.7	0.5	
			# of Exceedances	0	0	0	
Particulate Matter [ $\mu\text{g}/\text{m}^3$ ]	PM <sub>10</sub>	16825 N Dysart Surprise, AZ	Maximum 24-Hour	163	99	173	108
			Second Maximum	138	71	126	125
			# of Exceedances	1	0	1	1
	PM <sub>2.5</sub>	6000 W Olive Ave Glendale, AZ	24-Hour 98th Percentile	19	19	18	17
			Mean Annual	7.7	7.0	6.7	6.7
Ozone (O <sub>3</sub> ) [ppm]	8-Hour	16825 N Dysart Surprise, AZ	First Highest	0.075	0.069	0.069	0.087
			Second Highest	0.074	0.068	0.067	0.081
			Third Highest	0.072	0.067	0.064	0.077
			Fourth Highest	0.070	0.067	0.063	0.076
			# of Days Standard Exceeded	3	0	0	15
Nitrogen Dioxide (NO <sub>2</sub> ) [ppb]		26453 W MC85 Buckeye, AZ	1-Hour Maximum	102	44	34	39
			1-Hour Second Maximum	76	39	33	38
			98th Percentile	37	34	29	34
			Annual Mean	8.65	7.14	6.9	7.71
Sulfur Dioxide (SO <sub>2</sub> ) [ppb]		1645 E Roosevelt St Phoenix, AZ	1-Hour Maximum	11	9.0	8.0	9.0
			24-Hour Maximum	3.3	3.4	3.0	4.3
			# of Days Standard Exceeded	0	0	0	0

$\mu\text{g}/\text{m}^3$ =micrograms per cubic meter

ppb = parts per billion

\* CO not reported for Dysart monitor in 2017.

Sources: USEPA AirData, <https://www.epa.gov/outdoor-air-quality-data>

#### 4.7.2.2 Attainment Status

Section 107 of the 1977 Clean Air Act Amendment requires that the EPA publish a list of all geographic areas in compliance with the NAAQS, plus those not attaining the NAAQS. Areas not in NAAQS compliance are deemed non-attainment areas. Areas that have insufficient data to make a determination are deemed unclassified, and are treated as being attainment areas until proven otherwise. Maintenance areas are areas that were previously designated as nonattainment for a particular pollutant, but have since demonstrated compliance with the NAAQS for that pollutant. An area’s designation is based on the data collected by the state monitoring network on a pollutant-by-pollutant basis.

The SR303L is located in Maricopa County, Arizona. Table 17 shows the attainment status for Maricopa County. As shown in the table, the EPA has classified portions of Maricopa County as a nonattainment area for PM10 and ozone, and a maintenance area for CO. Therefore, a project-level transportation conformity analysis is required for CO and PM10. The regional transportation conformity determination is addressed in the TIP and RTP.

The MPO for the Study Area, Maricopa Association of Governments (MAG), adopted the latest Regional Transportation Plan (RTP) in September 2017, and the latest amendment to the 2018-

2022 FY Transportation Improvement Program (TIP) was approved in March 2018. The SR303L project is included in the RTP as project ID 45422 and in 45939. The SR303L project is included in the regional conformity analysis; therefore, the project’s associated emissions would not have an adverse effect on the ability of the MAG study area to obtain their applicable air quality goals. As such, no additional regional conformity analyses are required.

**Table 17. Project Area Attainment Status**

Pollutant	Designation	Current Standard (Year Established)	Area	Regional Transportation Conformity Required?	Project Level Transportation Conformity Required?
<b>Ozone (O<sub>3</sub>)</b>	Nonattainment	8-Hr: 70 ppb (2015)	Portions of Maricopa County and Pinal County	Yes	No
<b>Fine Particulate Matter (PM<sub>2.5</sub>) 24-Hr</b>	Attainment	35 µ/m <sup>3</sup> (2012)	Maricopa County	No	No
<b>Fine Particulate Matter (PM<sub>2.5</sub>) Annual</b>	Attainment	12 µ/m <sup>3</sup> (2012)	Maricopa County	No	No
<b>Coarse Particulate Matter (PM<sub>10</sub>) 24-Hr</b>	Nonattainment	150 µ/m <sup>3</sup> (2012)	Portions of Maricopa County and Pinal County	Yes	Yes
<b>Carbon Monoxide (CO)</b>	Attainment/Maintenance	1-Hr: 35 ppm 8-Hr: 9 ppm (1971)	Portions of Maricopa County	Yes	Yes
<b>Sulfur Dioxide (SO<sub>2</sub>)</b>	Attainment	1-Hr: 75 ppb (2010)	Maricopa County	No	No

Source: USEPA, 2018 <https://www.epa.gov/green-book>

### 4.7.3 Environmental Consequences

This section describes the methods, impact criteria, and results of air quality analyses of the project. The analyses use guidelines and procedures provided in applicable air quality analysis protocols from EPA and FHWA. At the time the air quality analysis was initiated, a Preferred Alternative had not yet been selected. For the purposes of analyzing air quality impacts of this project, Alternative 5S was selected as a worst case because it had the highest volumes of the build alternatives. All analyses in this section were based on Build Alternative 5S. It is expected that the Selected Alternative would result in emissions and pollutant concentrations lower than the results described in this section.

#### 4.7.3.1 Hot-Spot Carbon Monoxide (CO) Analysis

Microscale CO air quality modeling was performed using EPA guidance and interagency consultation, as described below and in Appendix C.

##### 4.7.3.1.1 Methodology

To determine the project’s impact on local CO levels, a detailed hotspot analysis was conducted at two signalized intersections within the Study Area: MC85 and Cotton Lane, and Cotton

Lane/SR303L NB frontage road and Elwood Street. These two locations were chosen from a screening evaluation based upon overall level of service and volumes. The locations chosen underwent detailed microscale modeling using emission factors developed using EPA's MOVES2014a emission factor program and dispersion modeling using EPA's CAL3QHC program.

Mobile source models are the basic analytical tools used to estimate CO concentrations expected under given traffic, roadway geometry, and meteorological conditions. The mathematical expressions and formulations that comprise the various models attempt to describe an extremely complex physical phenomenon as closely as possible. The dispersion modeling program used in this project for estimating pollutant concentrations near roadway intersections is the CAL3QHC (Version 2.0) dispersion model developed by EPA and first released in 1992.

CAL3QHC is a Gaussian model recommended in EPA's Guidelines for Modeling Carbon Monoxide from Roadway Intersections (EPA 1992). Gaussian models assume that the dispersion of pollutants downwind of a pollution source follow a normal distribution from the center of the pollution source.

Different emission rates occur when vehicles are stopped (i.e., idling), accelerating, decelerating, and moving at different average speeds. CAL3QHC simplifies these different emission rates into two components:

- Emissions when vehicles are stopped (i.e., idling) during the red phase of a signalized intersection
- Emissions when vehicles are in motion during the green phase of a signalized intersection

The CAL3QHC (Version 2.0) air quality dispersion model has undergone extensive testing by EPA and has been found to provide reliable estimates of inert (i.e., nonreactive) pollutant concentrations resulting from motor vehicle emissions. A complete description of the model is provided in the User's Guide to CAL3QHC (Version 2.0): A Modeling Methodology for Predicting Pollutant Concentrations near Roadway Intersections (Revised) (EPA 1995b).

The transport and concentration of pollutants emitted from motor vehicles are influenced by three principal meteorological factors: wind direction, wind speed, and the atmosphere's profile. The values for these parameters were chosen to maximize pollutant concentrations at each prediction site. That is, to establish a conservative, reasonable worst-case scenario. The values used for these parameters are:

- **Wind Direction.** Maximum CO concentrations normally are found when the wind is assumed to blow parallel to a roadway adjacent to the receptor location. At complex intersections, it is difficult to predict which wind angle will result in maximum concentrations. Therefore, the approximate wind angle that would result in maximum pollutant concentrations at each receptor location was used in the analysis. All wind angles from 0 to 360 degrees (in 5-degree increments) were considered.
- **Wind Speed.** The CO concentrations are greatest at low wind speeds. A conservative wind speed of one meter per second (2.2 miles per hour) was used to predict CO concentrations during peak traffic periods.

- **Profile of the Atmosphere.** A "mixing" height (the height in the atmosphere to which pollutants rise) of 1,000 meters, and neutral atmospheric stability (stability class D) conditions were used in estimating microscale CO concentrations.

One-hour average ambient CO concentrations were calculated to estimate the effect during peak-hour traffic conditions, and CO concentrations were estimated at a receptor height of 6 feet. The CO levels estimated by the model are the maximum concentrations which could be expected to occur at each air quality receptor site analyzed, given the assumed simultaneous occurrence of a number of worst-case conditions: peak-hour traffic conditions, conservative vehicular operating conditions, low wind speed, low atmospheric temperature, neutral atmospheric conditions, and maximizing wind direction.

### ***MOVES 2014a Emissions Model***

EPA's Motor Vehicle Emissions Simulator (MOVES) model version MOVES2014a was used to estimate CO emissions from the roadway segments included in the CO modeling analysis. MOVES2014a is the EPA's state-of-the-art tool for estimating emissions from highway vehicles. The model is based on analyses of millions of emission test results and considerable advances in the Agency's understanding of vehicle emissions. Compared to previous tools, MOVES2014a incorporates the latest emissions data, more sophisticated calculation algorithms, increased user flexibility, new software design, and substantial new capabilities.

MOVES2014a was used to estimate CO emissions from the roadway segments included in the CO modeling analysis. MOVES input files were provided by the Maricopa Association of Governments (MAG) consistent with their regional emissions analysis. MAG data were used to represent regional fuel specifications, fleet age distribution, and meteorology. Link-by-link traffic data were used to develop project-specific input files for each modeled link with that link's average speed and vehicle mix for each scenario analyzed: 2017, 2040 No Build, 2040 Build Alternative 5S.

### ***Predicted Levels***

Carbon monoxide concentrations for Existing Conditions, the future No Build Alternative, and the future Build Alternative 5S were predicted. Future carbon monoxide concentrations were predicted for the project's design year, which is 2040. At each receptor site, maximum one-hour carbon monoxide concentrations were calculated. The one-hour CO levels were predicted for the AM and PM peak periods. The 8-hour CO levels were predicted by applying a persistence factor of 0.7 to the 1-hour concentrations, as recommended in the EPA guidance (EPA 1992).

### ***Background Levels***

Background levels for the study area were obtained from EPA monitored data. The background level is the component of the total concentration that is not accounted for through the microscale modeling analysis. Background concentrations must be added to modeling results to obtain total pollutant concentrations at receptor locations. The data from the CO monitor located at the Dysart site were approved during the interagency consultation process. Monitor site details, including a figure showing the distance to the monitor, are included in the materials in Appendix C. Based on these data, the one-hour background of 1.2 ppm and the eight-hour background of 0.7 ppm were used for the existing and future year analyses.

### ***Comparison to NAAQS***

The results from the analysis for the existing, future No Build and Build Alternative 5S were compared to the NAAQS, and to one another, to determine the impacts of the project and if the project is in conformance with the guidelines set forth in the New Clean Air Act Amendments of 1990.

#### 4.7.3.1.2 Screening Evaluation

An intersection screening analysis based on changes in level of service (LOS) and overall intersection volumes between the No Build and Build Alternative 5S scenarios was performed, as described in EPA guidance (EPA 1992).

Sites fail the screening evaluation if (1) LOS, which is the assessment of a road's operating conditions on a scale of A through F, with free-flow being rated LOS A and congested conditions rated as F, decreases below D in one of the build scenarios compared to the no-build scenario, or (2) if the delay and/or volume increase from the no-build scenario to build scenarios along with a LOS below D. The LOS describes the quality of traffic operating conditions, ranging from A to F, and it is measured as the duration of delay that a driver experiences at a given intersection. LOS A represents free-flow movement of traffic and minimal delays to motorists. LOS F generally indicates severely congested conditions with excessive delays to motorists. Intermediate grades of B, C, D, and E reflect incremental increases in congestion.

Out of the 26 intersections analyzed, two intersections failed the screening criteria and were chosen for detailed analysis. The intersection at MC85 and Cotton Lane has the highest total volume and LOS D in the PM peak period under 2040 build conditions. The signal at Cotton Lane/SR303L NB frontage road and Elwood Street does not exist in the no build analysis, and it has LOS D in the AM peak period under 2040 build conditions.

The CO Hot Spot Questionnaire and Consultation form included in Appendix C has additional details about the model setup and options that were used in this analysis. Information on the modeling files is included in Appendix C.

#### 4.7.3.1.3 Analysis

Maximum one-hour CO levels were predicted for the existing year (2017) and design year (2040) at the locations selected for analysis. Maximum one-hour CO concentrations are shown in Table 18, and maximum eight-hour CO concentrations are shown in Table 19. The CO levels estimated by the model are the maximum concentrations that could be expected to occur at each air quality receptor site analyzed. This assumes simultaneous occurrence of a number of worst-case conditions: peak hour traffic conditions, conservative vehicular operating conditions, low wind speed, low atmospheric temperature, neutral atmospheric conditions, and maximizing wind direction.

**Table 18. Predicted Worst-Case One-Hour CO Concentrations (ppm)**

Intersection	2017		2040			
	Existing		No Build		Build	
	AM	PM	AM	PM	AM	PM
<b>MC85 &amp; Cotton Lane</b>	1.7	1.8	1.3	1.4	1.3	1.3
<b>Cotton Lane/SR303L NB Frontage Road &amp; Elwood Street</b>	NA	NA	NA	NA	1.4	1.4

Concentrations = modeled results + 1-hour CO background.  
 1-hour CO background = 1.2 ppm; 1-hour CO standard = 35 ppm.  
 NA = Intersection does not exist in this scenario.  
 AM = morning; PM = evening; ppm = parts per million.

**Table 19. Predicted Worst-Case Eight-Hour CO Concentrations (ppm)**

Intersection	2017		2040			
	Existing		No Build		Build	
	AM	PM	AM	PM	AM	PM
<b>MC85 &amp; Cotton Lane</b>	1.1	1.1	0.8	0.8	0.8	0.8
<b>Cotton Lane/SR303L NB Frontage Road &amp; Elwood Street</b>	NA	NA	NA	NA	0.8	0.8

Concentrations = (modeled results x persistence factor [0.7]) + 8-hour CO background.  
 8-hour CO background = 0.7 ppm; 8-hour CO standard = 9 ppm.  
 NA = Intersection does not exist in this scenario.  
 AM = morning; PM = evening; ppm = parts per million.

Based on the values presented in Table 18 and Table 19, Build Alternative 5S is not predicted to cause an increase in CO concentrations as compared to the No Build scenario for any of the analysis years.

**4.7.3.2 Hot-Spot PM<sub>10</sub> Analysis**

The study area is currently classified as a PM<sub>10</sub> nonattainment area. As such, it had to be determined if the project is one of air quality concern as detailed in EPA’s Transportation Conformity Guidance for Quantitative Hot-Spot Analysis in PM<sub>2.5</sub> and PM<sub>10</sub> Nonattainment and Maintenance Areas (USEPA 2015).

**4.7.3.2.1 Determine Need**

The project study area is located in Maricopa County, Arizona, which is currently classified as a nonattainment area for the PM<sub>10</sub> 24-hour standard. The SR 303L project was presented to the MAG consultation partners, which classified the project as one of air quality concern. As such, a microscale 24-hour PM<sub>10</sub> hotspot analysis was conducted, following EPA’s nine-step process, as shown in Figure 21.

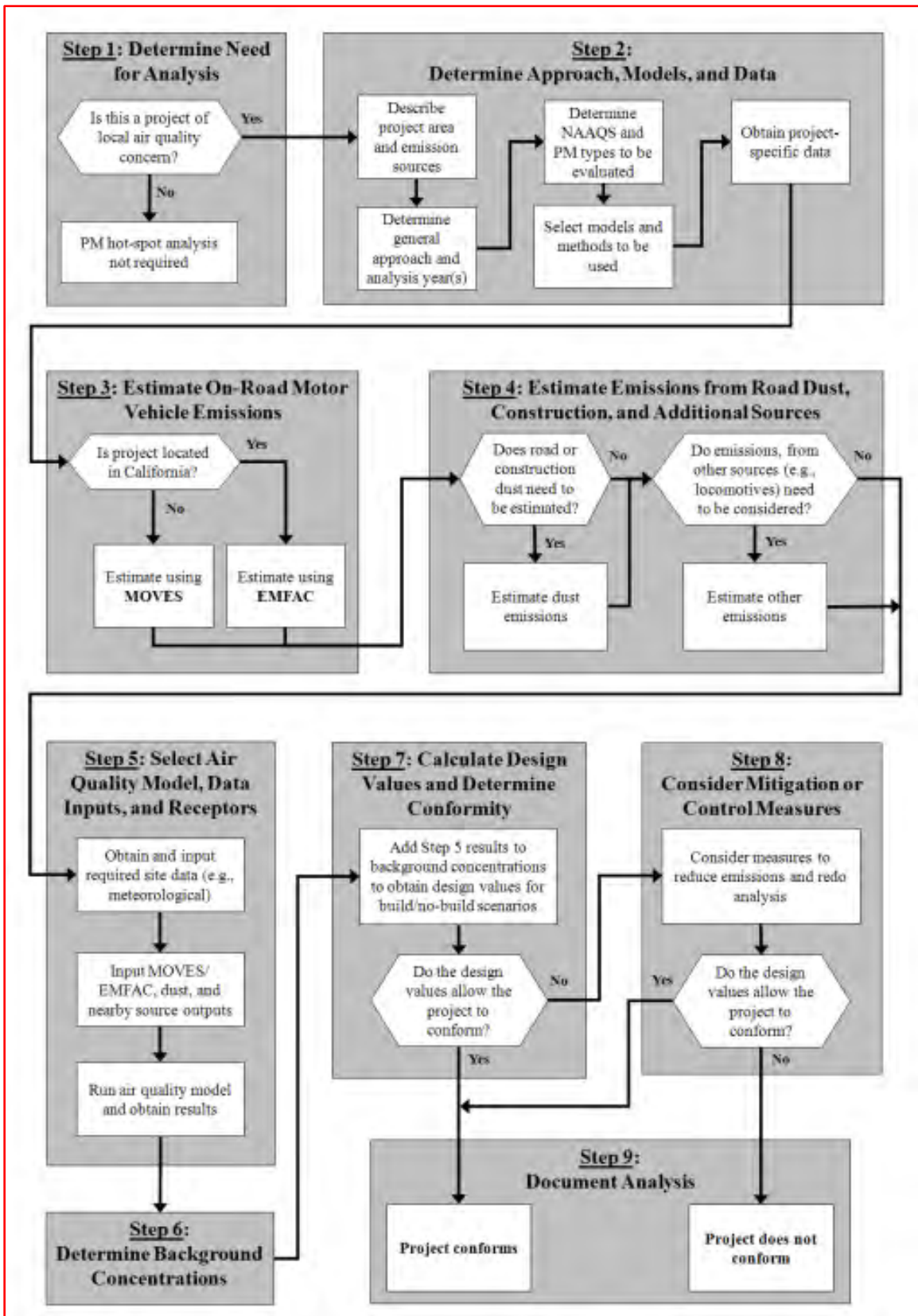


Figure 21. EPA's Nine-Step Process



a. PM Emissions

The PM hot-spot analysis included only directly emitted PM<sub>10</sub> emissions. Per Section 2.5.1 of EPA's Transportation Conformity Guidance for Quantitative Hot-Spot Analysis in PM<sub>2.5</sub> and PM<sub>10</sub> Nonattainment and Maintenance Areas, PM<sub>10</sub> precursors were not required to be considered in PM hot-spot analyses, since precursors take time at the regional level to form into secondary PM. Exhaust, brake wear, and tire wear emissions from on-road vehicles were included in the project's PM<sub>10</sub> analysis. For the majority of sources in this analysis, only running and crankcase exhaust emissions were calculated, because start exhaust emissions are unlikely to occur on the roadways included in the model domain. Re-entrained road dust was included in the analysis, as it is considered a significant component of PM<sub>10</sub> inventories and is included in MAG conformity modeling. Emissions from construction-related activities were not included because they are considered temporary, as defined in 40 CFR 93.123(c)(5) (i.e., emissions that occur only during the construction phase and last five years or less at any individual site).

b. Model

The analysis was performed using the current version of EPA's Motor Vehicle Emissions Simulator (MOVES) emissions model (MOVES2014a) and the CAL3QHCR dispersion model.

c. Data

MOVES input files were obtained from MAG. Project-specific traffic data, including hourly volume, average vehicle speeds, and facility type, were obtained for each roadway section in the project area. Project-specific traffic data, including hourly vehicle volumes, were obtained for 4 weekday time periods - A.M. peak, midday, P.M. peak, and overnight traffic conditions.

Exhaust emission rate estimates produced by MOVES were added to reentrained road dust emission rates from AP-42, and were then entered into the CAL3QHCR air quality dispersion model (Version 13196). CAL3QHCR estimates localized ambient PM<sub>10</sub> concentrations at receptors in and near the hotspot locations chosen for the study. CAL3QHCR performs all ambient air impact calculations to report the 24-hour average concentration at each receptor.

#### 4.7.3.2.2 Estimate On-Road Vehicle Emissions

On-road vehicle emissions were estimated using MOVES2014a. Age distribution, vehicle mix, climate data, and fuel specifications data were provided by MAG and, therefore, were consistent with the regional conformity analysis. MOVES input relies on link-specific data. Traffic data included link volume, speed, average grade and elevation. Vehicle mix was assumed to be consistent with the MAG regional vehicle mix.

The PM emissions vary by time of day and time of year. Volume and speed data for each link was obtained from the traffic analysts for A.M. peak, midday, P.M. peak, and overnight traffic conditions. For each analysis site, MOVES was run for each of the four time periods (A.M. peak, midday, P.M. peak, and overnight) for four seasons (January, April, July, and October) for a total

of 16 MOVES runs per location. For every link, a set of 16 emission factors in units of grams per mile was developed for the project’s analysis year of 2040.

#### 4.7.3.2.3 Estimate Emissions from Road Dust, Construction, and Additional Sources

Re-entrained road dust must be included in all PM10 hot-spot analyses. Section 13.2.1 of AP-42 provides a method for estimating emissions of re-entrained road dust using local values for precipitation, average vehicle weight, and silt loading with the equation below.

$$E = k (sL)^{0.91} \times (W)^{1.02}$$

Where: E = particulate emission factor (having units matching the units of k),  
 k = particle size multiplier for particle size range and units of interest,  
 sL = road surface silt loading (grams per square meter) (g/m<sup>2</sup>), and  
 W= average weight (tons of the vehicles traveling the road)

The estimated road dust emissions from the 2017 MAG Conformity Analysis for the analysis year 2040 were used for this PM hot-spot analysis, and the values are summarized in Table 19A.

**Table 19A. MAG Road Dust Emission Factors**

Facility Type	k	W (tons)	sL (g/m <sup>2</sup> )	E (g/VMT)
Freeway	1	3.23	0.02	0.091981
High Arterial	1	2.32	0.067	0.197197
Low Arterial	1	2.32	0.23	0.605823

Source: MAG 2017  
 g/m<sup>2</sup> = grams per square meter  
 g/VMT = grams per vehicle mile traveled

Emission factors for road dust were added to the emission factors generated for each link by MOVES for use in the CAL3QHCR dispersion model.

Construction emissions were not included because construction will not occur at any individual location for more than five years. No additional sources of PM10 emissions were included. It is assumed that PM10 concentrations due to any other nearby emissions sources are included in the ambient monitor values used for background concentrations. In addition, this project is not expected to result in changes to emissions from nearby sources.

#### 4.7.3.2.4 Air Quality Model, Data Inputs, and Receptors

##### a. Model

USEPA’s CAL3QHCR air dispersion model was used to estimate concentrations of PM<sub>10</sub> due to project operations. The model uses traffic data, emission factor data, and meteorological data to estimate ground-level concentrations of PM<sub>10</sub> at a series of receptors. For each modeled scenario, the model setup included a series of sources representing the roadway segments in the vicinity of the intersections being modeled.

b. Data Inputs

Link-specific inputs included length, mixing zone width, hourly volume, and emission factors. Traffic data was provided for the design year of the project. For each scenario, CAL3QHCR was run separately for each of the five years of meteorological data. CAL3QHCR does not distinguish between emissions changes due to seasonal differences; therefore, each season was run separately, for a total of 20 model runs per scenario.

The meteorological data was based on the meteorological data utilized in the August 2014 ADOT Air Quality Technical Report, South Mountain Freeway, which was derived from the EPA's Support Center for Regulatory Atmospheric Modeling for the Phoenix Sky Harbor International Airport (surface data) and the Tucson International Airport (upper air data) for the 5-year period from 1987 through 1991. South Mountain meteorological data was used. A surface roughness of 108 cm was used based on land cover, consistent with EPA recommendations for single-family residential use. The urban option was selected based on the land use classification in the project areas.

c. Receptors

Receptors were placed in order to estimate the highest concentrations of PM<sub>10</sub>, to determine any possible violations of the NAAQS. Highest concentrations are expected to occur near the areas with the highest-volume roadways and near areas where vehicles are restarting and/or idling. Receptors were placed three meters from the roadways, at a height of 1.8 meters (see Appendix E of the Final Air Quality Technical Report [Final EA Appendix C]).

#### 4.7.3.2.5 Background Concentrations from Nearby and Other Sources

A background PM<sub>10</sub> concentration value of 125 µg/m<sup>3</sup> was used for the analysis. This value represents the fourth-highest monitored 24-hour PM<sub>10</sub> concentration at the Dysart monitor over the three-year period of 2015 to 2017 (see Appendix E of the Final Air Quality Technical Report [Final EA Appendix C]). The data from the PM<sub>10</sub> monitor located at the Dysart site was approved during the interagency consultation process. Monitor site details, including a figure showing the distance to the monitor, are included in the materials in Appendix A of the Final Air Quality Technical Report (Final EA Appendix C).

The approved background value was added to the CAL3QHCR modeled design values for comparison to the PM<sub>10</sub> NAAQS of 150 µg/m<sup>3</sup>. The background values are conservative, because it is expected that ambient PM concentrations will be lower in future years as a result of State Implementation Plans and the general trend in declining vehicle emissions due to technological advances. Emissions from other nearby sources are assumed to be already included in the ambient monitoring data.

#### 4.7.3.2.6 Calculate Design Values and Determine Conformity

The model results were added to the background concentrations for the Build alternative in order to calculate the design values.

To determine the 24-hour PM<sub>10</sub> design value, the following steps were used, as outlined in the guidance:

1. From the air quality modeling results from the build scenario, identify the sixth highest 24-hour concentration for each receptor. CAL3QHCR results from each quarter were evaluated to determine the overall sixth-highest modeled concentration from the 5-year period.
2. Identify the receptor with the highest sixth-highest 24-hour concentration.
3. Identify the appropriate 24-hour background concentration from the three most recent years of air quality monitoring data. This value is 125  $\mu\text{g}/\text{m}^3$ , as described in Section 5.2.6.
4. For the receptor identified in Step 2, add the sixth-highest 24-hour modeled concentration to the appropriate 24-hour background concentration (from Step 3).
5. Round to the nearest 10  $\mu\text{g}/\text{m}^3$ . The result is the highest 24-hour  $\text{PM}_{10}$  design value in the build scenario.

The modeled concentrations, including background, were compared to the applicable NAAQS (). Since the modeled Build alternative concentrations were below the NAAQS, the No Build alternative did not have to be run in order to compare the differences between the two.

**Table 19B. Predicted 24-Hour  $\text{PM}_{10}$  Concentrations (in  $\mu\text{g}/\text{m}^3$ )**

Location	6 <sup>th</sup> -Highest $\text{PM}_{10}$ Value	Background $\text{PM}_{10}$ Value	Total Concentration	Total Concentration Rounded to the Nearest 10 $\mu\text{g}/\text{m}^3$	$\text{PM}_{10}$ NAAQS
MC 85 & Cotton Lane	11.9	125	136.9	140	150
Cotton Lane / SR303L NB Frontage Road & Elwood Street	9.3	125	134.3	130	150

$\text{Mg}/\text{m}^3$ =micrograms per cubic meter

#### 4.7.3.2.7 Mitigation or Control Measures

The project meets conformity requirements. Therefore, mitigation or control measures to reduce emissions in the project area are not needed to be considered by the project sponsors.

#### 4.7.3.2.8 Document the PM Hot-Spot Analysis

This Air Quality Technical Report documents the PM hotspot results. Due to the large volume of input and output files created for this analysis, they are available electronically upon request, as noted in Air Quality Appendix D of the Final Air Quality Technical Report (Final EA Appendix C).

### 4.7.3.3 MSAT Analysis

#### 4.7.3.3.1 Methodology

On February 3, 2006, the FHWA released Interim Guidance on Air Toxic Analysis in NEPA Documents (FHWA 2006a). This guidance was superseded on October 18, 2016 by FHWA's Updated Interim Guidance Update on Air Toxic Analysis in NEPA Documents (FHWA 2016). The purpose of FHWA's guidance is to advise on when and how to analyze MSATs in the National Environmental Policy Act (NEPA) environmental review process for highways. This guidance is

considered interim since MSAT science is still evolving. As the science progresses, FHWA will update the guidance.

A quantitative analysis provides a basis for identifying and comparing the potential differences among MSAT emissions, if any, from the various alternatives. The FHWA's Interim Guidance groups projects into the following tier categories:

- No analysis for projects without potential for meaningful MSAT effects.
- Qualitative analysis for projects with low potential MSAT effects.
- Quantitative analysis to differentiate alternatives for projects with higher potential MSAT effects.

Based on FHWA's recommended tiering approach, the project falls within the Tier 3 approach (i.e., for projects with a high potential for MSAT effects). In accordance with FHWA's recommendation, EPA's MOVES2014a was used to calculate annual MSAT pollutant burdens for the No Build Alternative and the Build Alternative.

### ***MSAT Study Area***

The MSAT Study Area was refined to focus on the portion of the Study Area substantially impacted by the project. FHWA recommends analyzing all segments associated with the project, plus those segments expecting meaningful changes in emissions because of the project (e.g.,  $\pm$  5% or more).

The affected network was defined based on available project-specific information considering changes in such metrics as:

- $\pm$  5% or more in annual average daily traffic (AADT) on congested highway links
- Links with 50 or more vehicles AADT
- Project specific knowledge and consideration of local circumstances

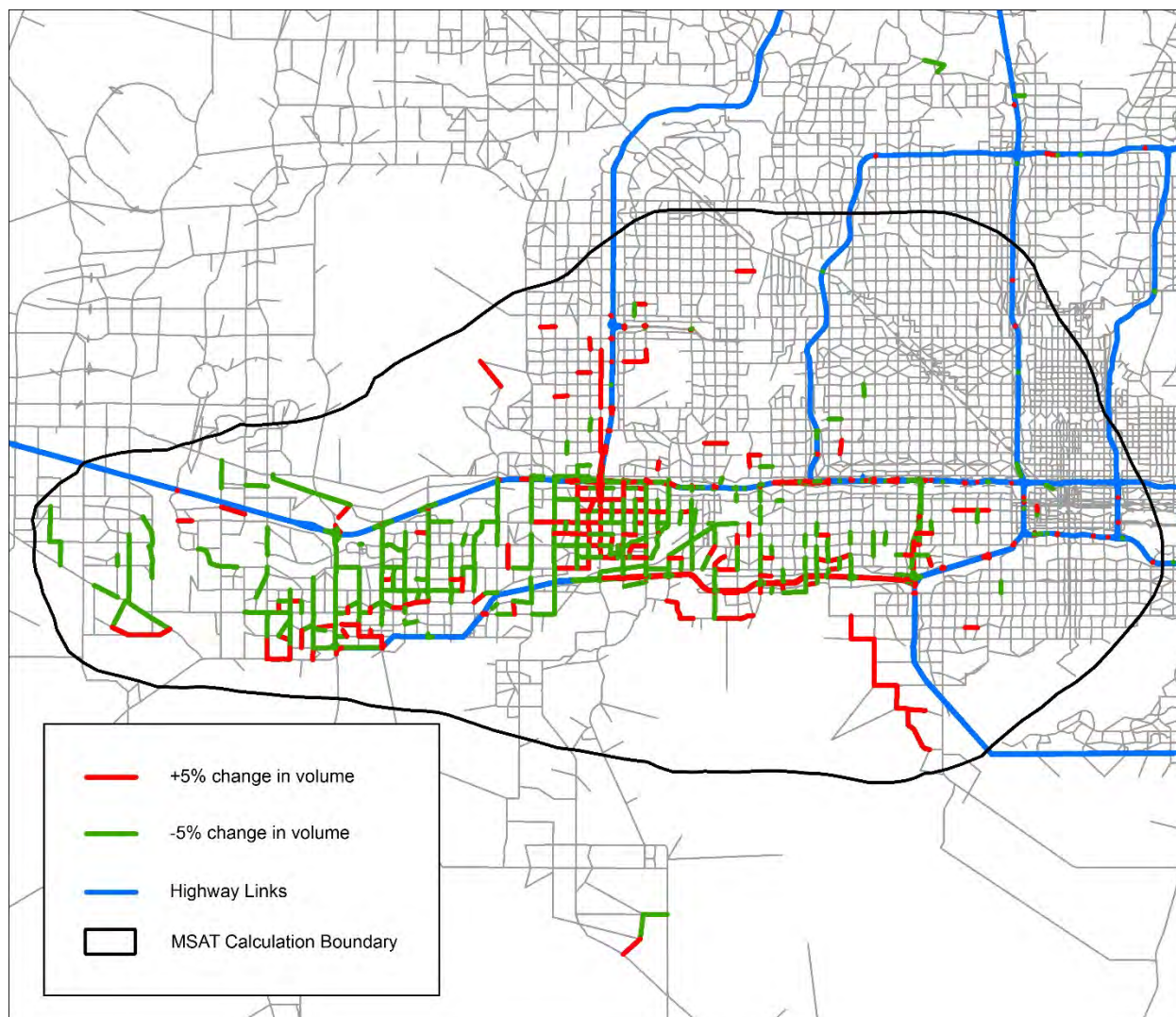
The Study Area was refined by conducting a comparison between the No Build and Build traffic volumes for all links in the regional model. Using the recommendations described above, along with a level of judgment and local knowledge, a roadway network within a defined boundary was developed, as shown in Figure 22. The roadways chosen for inclusion in the analysis were submitted to FHWA and ADOT for approval, as shown in Appendix C.

By conducting this Study Area screening analysis, the affected network was sized to include the project itself, nearby roadways that show meaningful changes in traffic, potential diversion routes, and the roadways in-between that create a continuous network. The same affected network was used to compute the emission burdens under all tested scenarios, including Existing Conditions and the No Build Alternative. This allows for a "like-to-like" comparison of the total VMT and resulting pollutant emission burdens.

### ***MOVES2014a***

EPA's Motor Vehicle Emissions Simulator (MOVES) model version MOVES2014a was used to estimate emissions from the MSAT network. MOVES input files were provided by the Maricopa Association of Governments (MAG), consistent with their regional emissions analysis. MAG data were used to represent regional conditions, and link-by-link traffic data were used to develop

project-specific input files to demonstrate the effects of the project for each scenario analyzed:



**Figure 22. Roadway Network Used to Calculate Total MSAT Emissions**

2017, 2040 no build, and 2040 build. Specific MOVES inputs are described in **Error! Not a valid bookmark self-reference.** and Table 21.

MOVES was used to estimate the total emissions from the MSAT network for each scenario. The VMT and emissions of each MSAT pollutant were presented in a table and compared with the existing and no build scenarios. MSAT burdens were calculated for the following MSAT, as required by FHWA:

- 1,3 Butadiene
- Acetaldehyde
- Acrolein
- Benzene
- Diesel PM

- Ethylbenzene
- Formaldehyde
- Naphthalene
- Polycyclic Organic Matter (POM)

**Table 20. MOVES RunSpec Options**

MOVES Tab	Model Selections
<b>Scale</b>	County scale Inventory calculation type
<b>Time Span</b>	Hourly time aggregation including all months, days, and hours
<b>Geographic Bounds</b>	Maricopa County
<b>Vehicles/Equipment</b>	All on-road vehicle and fuel type combinations
<b>Road Type</b>	All road types were selected, but not all were used for some scenarios
<b>Pollutants and Processes</b>	All MSAT pollutants and their precursors were selected Processes included running exhaust and crankcase running exhaust
<b>Output</b>	Output was produced by fuel type to differentiate diesel PM from PM produced by other fuel types

**Table 21. MOVES County Data Manager Inputs**

County Data Manager Tab	Data Source
<b>Ramp Fraction</b>	MAG
<b>Source Type Population</b>	MAG
<b>Age Distribution</b>	MAG
<b>Fuel</b>	MAG
<b>Meteorology Data</b>	MAG
<b>Vehicle Type VMT</b>	Created from project daily traffic data
<b>Average Speed Distribution</b>	Created from project daily traffic data
<b>Road Type Distribution</b>	Created from project daily traffic data

MAG = Maricopa Association of Governments

MSAT analyses are intended to capture the net change in emissions within an affected environment, defined as the transportation network affected by the project. The affected environment for MSATs may be different than the affected environment defined in the NEPA document for other environmental effects, such as noise or wetlands. Analyzing MSATs only within a geographically-defined “study area” will not capture the emissions effects of changes in traffic on roadways outside of that area, which is particularly important where the project creates an alternative route or diverts traffic from one roadway class to another. At the other extreme,

analyzing a metropolitan area’s entire roadway network will result in emissions estimates for many roadway links not affected by the project, diluting the results of the analysis.

#### 4.7.3.3.2 Analysis

The results of this analysis for the existing conditions (2017) and design year (2040) are shown in Table 22. As previously discussed, the project area includes major capacity-adding projects that are planned to be in operation by the analysis year 2040, under both no build and build conditions. Most notably, projects on Interstate 10 and SR30 will add many new links to the existing roadway network. As such, when directly comparing the pollutant burdens associated with the existing (2018) and analysis year (2040) networks, the additional VMT generated by these new projects and roadway links in 2040 should be considered.

**Table 22. 2040 Predicted MSAT Emission Burdens (metric tons/year)**

Pollutant*	Existing 2018	2040 No-Build Alternative	2040 Build Alternative 5S	% Change from No Build
		Value	Value	
<b>MSAT Study Area Annual VMT</b>	559,834,769	2,480,727,408	2,502,453,950	0.9%
<b>1,3-Butadiene</b>	0.12	0.017	0.017	0.9%
<b>Acetaldehyde</b>	0.50	1.62	1.63	0.9%
<b>Acrolein</b>	0.08	0.23	0.23	0.9%
<b>Benzene</b>	1.57	1.39	1.40	0.7%
<b>Diesel Particulate Matter</b>	5.45	13.66	13.86	1.5%
<b>Ethylbenzene</b>	0.64	0.51	0.51	0.7%
<b>Formaldehyde</b>	1.25	4.96	5.00	0.9%
<b>Naphthalene</b>	0.14	0.39	0.40	0.9%
<b>Polycyclic Organic Matter</b>	0.06	0.07	0.07	0.9%
<b>Total MSATs</b>	9.82	22.84	23.12	1.2%

VMT= Vehicle Miles Traveled

As shown in Table 22, the majority of MSATs will increase under 2040 alternatives (both No-Action and Build Alternative 5S), as the VMT in the study area will increase drastically from 2018 to 2040 conditions. However, when comparing 2040 Build Alternative MSAT burdens to 2040 No-Action, MSATs would slightly increase, by approximately 0.7 percent to 1.5 percent, under Build conditions.

In summary, it is projected that there would be changes in MSAT emissions in the immediate area of the project under the build alternatives, regardless of which one is chosen, relative to the No-Action Alternative, as a result of the VMT changes associated with the project. The MSAT levels could be higher in some locations than others, such as adjacent to the SR303L mainline, but current tools and science are not adequate to quantify them.

As described earlier, the project area includes major capacity-adding projects that are planned to be in operation by the analysis year 2040, under both no build and build conditions. As



summarized in Table 23, the MAG 2040 Regional Transportation Plan predicts an increase of 59% VMT in the region between 2015 and 2040. On a regional basis, EPA’s vehicle and fuel regulations, coupled with fleet turnover, will over time cause substantial reductions that, in almost all cases, will cause region-wide MSAT levels to be substantially lower than today, as demonstrated in Figure 20.

**Table 23. Regional VMT Forecast**

Year	VMT (in millions)	Percent change from 2015
<b>2015</b>	103.8	--
<b>2020</b>	114.9	11%
<b>2030</b>	139.6	34%
<b>2040</b>	165.2	59%

VMT – Vehicle Miles Traveled

Source: MAG 2040 Regional Transportation Plan, Table 7-3

#### 4.7.3.4 Greenhouse Gas Analysis

##### 4.7.3.4.1 Methodology

The greenhouse gas (GHG) analysis was conducted using EPA’s MOVES2014a model to calculate annual GHG pollutant burdens for the existing scenario, the No Build Alternative and the Build Alternative.

Based upon consultation with FHWA, it was agreed upon that the greenhouse gas (GHG) analysis will be based on the MSAT network, which includes only those links that meet specific criteria (50 vehicles or more, +/- 5% AADT) as described in the MSAT analysis section of this Report. EPA’s MOVES2014a model was run consistent with the methodology described in the MSAT analysis section of this Report.

##### 4.7.3.4.2 Analysis

The results of this analysis for the existing conditions and design year (2040) are shown in Table 24. As shown, in the design year of the project (2040), GHG emission burdens would be lower under both No Build and Build conditions, when compared to Existing GHG burdens. Build GHG burdens would be approximately 1.7% higher than No Build burdens in the year 2040.

**Table 24. Predicted GHG Emission Burdens (metric tons/year)**

Pollutant*	Existing 2017	2040 No-Build Alternative	2040 Build Alternative 5S	
		Value	Value	% Change from No Build
<b>MSAT Study Area Annual VMT</b>	559,834,769	2,480,727,408	2,502,453,950	0.9%
<b>CO<sub>2</sub>e</b>	267,496	1,367,614	1,390,189	1.7%

MSAT = Mobile Source Air Toxics

VMT = Vehicle Miles Traveled

CO<sub>2</sub>e = Carbon Dioxide Equivalent

#### 4.7.3.5 Construction

Some short-term deterioration of air quality may be experienced during construction of the project because of the operation of construction equipment and the slower traffic speeds and idling associated with a construction zone. However, this would be a localized condition that would end with the completion of construction.

Fugitive dust generated from construction activities must be controlled in accordance with Maricopa County Rule 310 and the Arizona Department of Transportation’s *Standard Specifications for Road and Bridge Construction*, Section 104.08 (2008 edition), special provisions, as well as other local rules and ordinances.

#### 4.7.4 Mitigation

##### Contractor Responsibility

- The contractor shall comply with all local air quality and dust control rules, regulations, permits, and ordinances which apply to any work performed pursuant to the contract.

#### 4.7.5 Conclusion

According to this analysis, the project is not predicted to cause or exacerbate a violation of the applicable National Ambient Air Quality Standards. It is also predicted to have no measurable effect on MSAT or GHG emissions. Furthermore, since the modeled Build alternative concentrations are below the PM<sub>10</sub> NAAQS, the project does not interfere with PM<sub>10</sub> transportation control measures in the Maricopa Association of Governments (MAG) State Implementation Plan (SIP) for PM<sub>10</sub>.

### 4.8 Noise Analysis

Sound is created when an object vibrates and radiates part of its energy as acoustic pressure or waves through a medium, such as air, water, or a solid object. Sound levels are expressed in units called decibels (dB). Noise is generally defined as the undesired component of sound. Noise levels are also expressed in decibels. Since the human ear does not respond equally to all frequencies or pitches, measured noise levels are adjusted or weighted to correspond to the frequency-response of the human hearing capability and the human perception of loudness. The weighted noise level corresponding to the human ear is designated as A-weighted in decibels, or dBA.

Typical noise levels range from 40 dBA (the daytime level in a quiet living room) to 85 dBA (the approximate level from a sidewalk adjacent to a roadway during rush-hour traffic). A 3-dBA change in noise level may be perceptible to most listeners, whereas a 10-dBA change may be perceived as a doubling of the noise level.

The ADOT Noise Abatement Requirements (NAR) (2017) are based on the noise levels approaching the FHWA Noise Abatement Criteria (NAC) for different land use categories (Table 25). The ADOT NAR defines “approaching” as within 1 dBA of the FHWA NAC for Activity Categories A, B, C, D, and E. There are no noise impact thresholds for Activity Category F or G. The ADOT NAR determines highway traffic noise level impacts and considers mitigation for residential land uses when the predicted noise level is equal to or greater than the noise impact threshold of 66 dBA. ADOT also indicated that noise levels should be rounded to the nearest integer prior to impact determination and in project reports.

**Table 25. FHWA Noise Abatement Criteria\***

Activity Category	dBA Laeq1h**	Description
<b>A</b>	57 dBA (exterior)	<b>Land on which serenity and quiet are of extraordinary significance and serve an important public need, and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.</b>
<b>B***</b>	67 dBA (exterior)	<b>Residential.</b>
<b>C***</b>	67 dBA (exterior)	<b>Active sport area, amphitheatres, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails, and trail crossings.</b>
<b>D</b>	52 dBA (interior)	<b>Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios.</b>
<b>E***</b>	52 dBA (exterior)	<b>Hotels, motels, offices, restaurants/bars, and other developed lands, properties or activities not included in A-D or F.</b>
<b>F</b>	--	<b>Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical), and warehousing.</b>
<b>G</b>	--	<b>Undeveloped lands that are not permitted.</b>

\* Sources: Federal Highway Administration (2011); 23 Code of Federal Regulations § 772.

\*\* The 1-hour equivalent loudness in A-weighted decibels, which is the logarithmic average of noise over a 1-hour period.

\*\*\* Includes undeveloped lands permitted for this activity category.

FHWA guidelines and the ADOT NAR indicate that abatement should be considered if the criteria described above are exceeded. However, the abatement measures must be both reasonable and feasible to be recommended for implementation. According to the ADOT NAR, “feasibility” refers to acoustic and engineering considerations (e.g., noise reduction of 5 dBA, topography of the location; access, drainage, safety, or maintenance requirements).

#### 4.8.1 Existing Conditions

Land adjacent to the project is primarily privately owned or under the jurisdiction of the Arizona State Land Department. The project area is comprised of Category B (residential) and Category C (non-residential including commercial) land uses, as well as several Category E and G (undeveloped) parcels. This noise analysis focuses on representative noise sensitive receptors in the FHWA NAC Categories located throughout the project corridor. There are several newly proposed residential developments that are actively pursuing building permits. The first development, Christopher Todd Communities at Canyon Trails, is located on the southwest corner of Van Buren Road and Cotton Lane. The second development, Crestwood at Canyon Trails, is located approximately one half-mile south of Van Buren Road and adjacent to the west side of Cotton Lane. The third proposed development, El Cidro (various phases), is located between Lower Buckeye Road and West Broadway Road.

Short-term noise level monitoring was conducted within the project limits on October 11, 2017 to describe the existing noise environment. Five measurement locations were chosen to represent noise sensitive receptors in residential communities along the project corridor.

Three 15-minute interval equivalent noise level measurements (Leq) were conducted at each site. Noise level monitoring helps describe the existing noise environment throughout the project area and capture the contribution of traffic noise from surrounding roadways. Measured noise levels may include contributions from other noise sources, including but not limited to, airplanes from nearby Luke Air Force Base, wind, birds, insects, landscaping equipment, etc.

The equipment used for the noise level monitoring was a Larson Davis Model LXT Class 1 integrating sound level meter (SLM). The SLM was calibrated in the field before each measurement using a Larson Davis Model CAL200. Existing noise measurements were collected under meteorologically acceptable conditions when the pavement was dry and winds were calm or light. Additional data collected at each monitoring location included atmospheric conditions such as general wind speed and direction, humidity, dewpoint, barometric pressure, and ambient temperature. Measurements were collected based on the acceptable collection of existing noise level readings per FHWA Report number FHWA-PD-96-046, and “Measurement of Highway Related Noise.”

The measured noise level ranged from 46 dBA to 68 dBA. Appendix D shows the location of the noise level monitoring sites, and Table 26 shows the summary of the noise level measurements. Appendix D also shows the measured noise level data.

**Table 26. Summary of Noise Level Monitoring**

Measurement Location	15-Minute Interval Measured Noise Levels (Leq), dBA		
	Interval 1	Interval 2	Interval 3
Mon 1	53.8	50.6	50.3
Mon 2	57.0	57.5	56.9
Mon 3	<b>68.0</b>	50.2	<b>67.2</b>
Mon 4	45.9	47.0	46.3
Mon 5	50.1	48.4	48.2

Note: **Bolded** values are equal to or greater than ADOT NAR noise impact threshold of 66 dBA

## **4.8.2 Noise Level Modeling Methodology**

The FHWA-approved Traffic Noise Model version 2.5 (TNM 2.5) is the computer noise model used for the prediction of highway and roadway traffic noise levels. The output of the model is dependent upon variables, which include atmospheric conditions, roadway geometries, topographic data, ground types, noise receiver locations, traffic volumes, vehicle speed, and vehicle mix.

### **4.8.2.1 Atmospheric Conditions**

Noise level is affected by temperature and humidity. Temperature gradients cause refraction effects. For example, in the morning, when the ground is still cool from the night before but the upper air is warming due to the sun, noise can bounce between the gradient and the ground, forming regions of higher and lower noise intensity. Noise attenuation is also affected by humidity. Dry air absorbs more acoustical energy than moist air because dry air has a higher density than moist air at a given temperature. For noise modeling purposes, FHWA recommends the default values of 68 degrees Fahrenheit for the temperature and 50 percent humidity.

### **4.8.2.2 Roadway Geometry & Topographic Data and Ground Type**

The Roadway geometries and topographic data for the project were based on design plans in the L/DCR. Hard soil was used to approximate the ground type between the roadway and receptors.

### **4.8.2.3 Receptor and Receiver Locations**

The ADOT NAR defines a “receptor” as a discrete or representative location of a noise sensitive area(s) for any of the land uses listed in Table 25. A “Receiver” is defined as a location used in noise modeling to represent the measured and predicted noise level at a particular point. The noise-sensitive receptors are located in the backyard or common outdoor areas of residential locations.

### **4.8.2.4 Traffic Volumes**

The ADOT NAR provides guidelines on the traffic volumes for use in the noise model, in which a “worst-case” approach should be used. In general, this should reflect Level of Service (LOS) C traffic conditions during the peak hour, with traffic moving at 5 miles per hour (mph) above the posted speed limit. Also, if the future traffic volumes are less than the maximum LOS C volumes, then the future traffic volumes will be utilized. If no other traffic information is available, the peak hourly volume should be 10 percent of the average daily traffic (ADT) volume. For this analysis, the Existing, No-Build, and Build Conditions are based peak-hour volumes. These volumes are shown in the Noise Analysis Technical Report, Appendix D.

### **4.8.2.5 Vehicle Speed**

The current posted speed limit for Cotton Lane is 45 mph. The modeled vehicle speeds are 50 mph for the Existing and No-Build Conditions. For the Build Condition, the freeway mainline modeled vehicle speed is 70 mph, service ramps and directional ramps at 50 mph. The modeled vehicle speeds are 5 mph greater than the posted speed limits.

## **4.8.3 Environmental Impacts**

The SR303L alignment is along Cotton Lane. Currently, Cotton Lane is a four-lane arterial roadway from Van Buren Street to Yuma Road, a two-lane roadway from Yuma Road to MC85, and a four-lane divided roadway from MC85 across the Gila River. The No-Build Condition is based on the

existing configuration of Cotton Lane and improvements to the I-10/SR303L system traffic interchange (TI).

This noise analysis addresses three Build Condition Alternatives. Alternatives 2CS, 3S, and 5S design concepts are similar for the freeway segment north of Lower Buckeye Road. South of Lower Buckeye Road, Alternative 2CS aligns SR303L in a southwestern direction to the proposed SR30 TI; Alternative 3S continues SR303L along Cotton Lane to the proposed SR30 TI; and Alternative 5S is similar to Alternative 2CS with the inclusion of a connection along Cotton Lane. The location of the modeled receivers are shown in the Noise Analysis Technical Report, Appendix D.

#### 4.8.3.1 Van Buren Street to Yuma Road - West

Table 27 shows the No-Build and Build Alternatives modeled noise levels on the west side of Cotton Lane between Van Buren Street and Yuma Road.

**Table 27. Modeled Noise Level Results, Van Buren Street to Yuma Road - West**

Receiver	Modeled Noise Levels, $L_{Aeq1h}$			
	No-Build 2040	Build 2040 Alternative 2CS	Build 2040 Alternative 3S	Build 2040 Alternative 5S
R2_1W-01_NI	60	55	55	55
R2_1W-02_NI	60	59	59	60
R2_1W-03_NI	57	56	56	56
R2_1W-04_NI	54	57	57	58
R2_1W-05_NI	55	58	58	59
R2_1W-06_NI	55	58	58	59
R2_1W-07_NI	56	59	59	60
R2_1W-08_NI	57	61	61	61
R2_1W-09_NI	56	60	61	61
R2_1W-10_NI	55	58	59	59
R2_1W-11_NI	55	59	59	60
R2_1W-12_NI	55	58	59	59
R2_1W-13_NI	56	59	60	60
R2_1W-14_NI	56	58	59	59
R2_1W-15_NI	56	60	60	61
R2_1W-16_NI	54	56	56	57
R2_1W-17_NI	57	59	59	60
R2_1W-18_NI	56	58	59	59
R2_1W-01A_INB	<b>68</b>	<b>66</b>	<b>66</b>	<b>67</b>
R2_1W-01B_INB	<b>66</b>	<b>68</b>	<b>69</b>	<b>69</b>
R1_1W-02A_IB	65	<b>70</b>	<b>70</b>	<b>71</b>
R1_1W-02B_IB	64	<b>71</b>	<b>71</b>	<b>71</b>
R2_1W-03A_IB	62	<b>69</b>	<b>68</b>	<b>69</b>
R2_1W-03B_IB	61	<b>66</b>	<b>66</b>	<b>67</b>
R1_1W-11A_IB	64	<b>70</b>	<b>70</b>	<b>71</b>

Receiver	Modeled Noise Levels, $L_{Aeq1h}$			
	No-Build 2040	Build 2040 Alternative 2CS	Build 2040 Alternative 3S	Build 2040 Alternative 5S
R1_1W-12A_IB	65	<b>70</b>	<b>71</b>	<b>71</b>
R1_1W-13A_IB	65	<b>70</b>	<b>71</b>	<b>71</b>
R1_1W-15A_IB	65	<b>70</b>	<b>71</b>	<b>71</b>
R1_1W-16A_IB	65	<b>70</b>	<b>70</b>	<b>71</b>
R2_1W-17A_INB	64	<b>68</b>	<b>69</b>	<b>69</b>

Note: **Bolded** values are equal to or greater than ADOT NAR noise impact threshold of 66 dBA

A total of 30 receivers were modeled to represent 228 noise-sensitive receptors. The modeled noise levels range from 54 to 68 dBA for the No-Build Condition and from 55 dBA to 71 dBA for the Build Alternatives. The modeled noise levels for the Build Alternatives are equal to or greater than the ADOT NAR noise impact threshold of 66 dBA. Therefore, mitigation evaluation is required for this area. The Noise Analysis Technical Report, Appendix D, shows the locations of the modeled noise receivers from Table 27.



#### 4.8.3.2 Van Buren Street to Yuma Road - East

A total of 10 receivers were modeled to represent 27 receptors east of Cotton Lane between Van Buren Street and Yuma Road. Table 28 shows the results for these receivers.

**Table 28. Modeled Noise Level Results, Van Buren Street to Yuma Road - East**

Receiver	Modeled Noise Levels, $L_{Aeq1h}$			
	No-Build 2040	Build 2040	Build 2040	Build 2040
		Alternative 2CS	Alternative 3S	Alternative 5S
R1_1E-01_NI	57	60	61	61
R1_1E-02_NI	62	60	60	61
R1_1E-03_NI	56	60	60	61
R1_1E-04_NI	58	61	61	62
R1_1E-05_NI	57	61	61	61
R1_1E-06_NI	61	60	60	61
R1_1E-07_NI	56	60	61	61
R1_1E-08_NI	60	60	60	60
R1_1E-09_NI	60	59	59	60
R1_1E-10_NI	54	57	58	58

Note: **Bolded** values are equal to or greater than ADOT NAR noise impact threshold of 66 dBA

The modeled noise levels range from 54 to 62 dBA for the No-Build Condition. For Alternative 2CS, the modeled noise levels range from 57 dBA to 61 dBA. For Alternative 3S, the modeled noise levels range from 58 dBA to 61 dBA. For Alternative 5S, the modeled noise levels range from 58 dBA to 62 dBA. The noise impact threshold of 66 dBA was not exceeded for the Build Alternatives at the modeled noise receivers; therefore, mitigation is not needed for this area. The Noise Analysis Technical Report, Appendix D, shows the locations of the modeled noise receivers from Table 28.

#### 4.8.3.3 Yuma Road to Lower Buckeye Road - West

A total of 31 receivers were modeled to represent 178 receptors for the western section between Yuma Road and Lower Buckeye Road. Table 29 shows the modeled noise level results for these receivers.

**Table 29. Modeled Noise Level Results, Yuma Road to Lower Buckeye Road - West**

Receiver	Modeled Noise Levels, $L_{Aeq1h}$			
	No-Build 2040	Build 2040 Alternative 2CS	Build 2040 Alternative 3S	Build 2040 Alternative 5S
R1_2W-01_NINB	68	61	62	62
R1_2W-02_NINB	63	60	61	61
R1_2W-03_NINB	61	60	61	61
R1_2W-04_NINB	60	62	62	63
R2_2W-05_NINB	59	64	65	65
R2_2W-06_NINB	61	64	65	65
R1_2W-07_INB	62	65	66	66
R1_2W-08_INB	62	65	65	66
R1_2W-09_INB	62	65	66	66
R1_2W-10_IB	64	70	70	71
R1_2W-11_IB	63	70	70	70
R1_2W-12_IB	65	70	70	70
R1_2W-13_IB	67	70	71	71
R1_2W-14_INB	66	73	74	74
R1_2W-15_INB	63	72	72	73
R1_2W-16_INB	65	73	73	74
R1_2W-17_IB	66	70	71	71
R1_2W-18_INB	67	73	73	74
R1_2W-19_INB	70	73	74	74
R1_2W-20_INB	63	72	73	73
R1_2W-21_INB	64	72	73	73
R1_2W-22_IB	64	68	69	69
R2_2W-23_IB	62	66	67	67
R2_2W-24_NIB	59	64	64	64

Receiver	Modeled Noise Levels, $L_{Aeq1h}$			
	No-Build 2040	Build 2040 Alternative 2CS	Build 2040 Alternative 3S	Build 2040 Alternative 5S
R1_2W-25_IB	<b>65</b>	<b>69</b>	<b>70</b>	<b>70</b>
R1_2W-26_INB	<b>67</b>	<b>70</b>	<b>71</b>	<b>71</b>
R1_2W-27_INB	63	<b>70</b>	<b>70</b>	<b>70</b>
R1_2W-28_INB	<b>66</b>	<b>68</b>	<b>69</b>	<b>69</b>
R1_2W-29_IB	<b>67</b>	<b>68</b>	<b>68</b>	<b>68</b>
R1_2W-30_IB	<b>71</b>	<b>66</b>	<b>67</b>	<b>67</b>
R2_2W-31_NIB	<b>66</b>	63	64	64

Note: **Bolded** values are equal to or greater than ADOT NAR noise impact threshold of 66 dBA

The modeled noise levels range from 59 to 71 dBA for the No-Build Condition. For Alternative 2CS, the modeled noise levels range from 60 dBA to 73 dBA. For Alternatives 3S and 5S, the modeled noise levels range from 61 dBA to 74 dBA. The modeled noise levels for the Build Alternatives are equal to or greater than the ADOT NAR noise impact threshold of 66 dBA. Therefore, mitigation evaluation is required for this area. The Noise Analysis Technical Report, Appendix D, shows the locations of the modeled noise receivers from Table 29.

#### 4.8.3.4 Yuma Road to Lower Buckeye Road - East

A total of 15 receivers were modeled to represent 149 receptors for the eastern section between Yuma Road and Lower Buckeye Road. Table 30 shows the modeled noise level results at these receivers.

**Table 30. Modeled Noise Level Results, Yuma Road to Lower Buckeye Road - East**

Receiver	Modeled Noise Levels, $L_{Aeq1h}$			
	No-Build 2040	Build 2040 Alternative 2CS	Build 2040 Alternative 3S	Build 2040 Alternative 5S
R2_2E-01_INB	60	<b>67</b>	<b>68</b>	<b>68</b>
R1_2E-02_INB	61	<b>72</b>	<b>73</b>	<b>73</b>
R1_2E-03_INB	<b>66</b>	<b>67</b>	<b>68</b>	<b>68</b>
R1_2E-04_IB	65	<b>72</b>	<b>73</b>	<b>73</b>
R1_2E-05_INB	<b>67</b>	<b>76</b>	<b>77</b>	<b>77</b>
R2_2E-06_IB	61	<b>66</b>	<b>67</b>	<b>68</b>
R1_2E-07_IB	63	<b>71</b>	<b>72</b>	<b>72</b>
R1_2E-08_INB	63	<b>69</b>	<b>70</b>	<b>71</b>
R1_2E-09_INB	63	<b>68</b>	<b>69</b>	<b>69</b>
R1_2E-10_IB	64	<b>69</b>	<b>70</b>	<b>70</b>
R1_2E-11_INB	<b>67</b>	<b>72</b>	<b>73</b>	<b>73</b>
R1_2E-12_INB	<b>66</b>	<b>70</b>	<b>72</b>	<b>72</b>
R1_2E-13_IB	<b>68</b>	<b>69</b>	<b>70</b>	<b>70</b>
R2_2E-14_IB	<b>68</b>	<b>66</b>	<b>68</b>	<b>67</b>
R2_2E-15_NINB	<b>68</b>	64	65	65

Note: **Bolded** values are equal to or greater than ADOT NAR noise impact threshold of 66 dBA

The modeled noise levels range from 60 to 68 dBA for the No-Build Condition. For Alternative 2CS, the modeled noise levels range from 64 dBA to 72 dBA. For Alternatives 3S and 5S, the modeled noise levels range from 65 dBA to 73 dBA. The modeled noise levels for the Build Alternatives are equal to or greater than the ADOT NAR noise impact threshold of 66 dBA. Therefore, mitigation evaluation is required for this area. The Noise Analysis Technical Report, Appendix D, shows the locations of the modeled noise receivers from Table 30.

#### 4.8.3.5 Lower Buckeye Road to Broadway Road - West

A total of 22 receivers were modeled to represent 74 receptors for the western section between Lower Buckeye Road and Broadway Road. Table 31 shows the modeled noise level results at these receivers.

**Table 31. Modeled Noise Level Results, Lower Buckeye Road to Broadway Road - West**

Receiver	Modeled Noise Levels, $L_{Aeq1h}$			
	No-Build 2040	Build 2040 Alternative 2CS	Build 2040 Alternative 3S	Build 2040 Alternative 5S
R2_3W-01_NINB	65	64	65	65
R2_3W-02_NINB	64	65	<b>66</b>	65
R1_3W-03_IB	64	65	<b>67</b>	<b>66</b>
R1_3W-04_IB	62	65	<b>67</b>	<b>66</b>
R1_3W-05_IB	62	<b>66</b>	<b>67</b>	<b>66</b>
R1_3W-06_IB	61	<b>66</b>	<b>67</b>	<b>66</b>
R1_3W-07_INB	60	<b>66</b>	<b>67</b>	<b>67</b>
R1_3W-08_INB	60	<b>66</b>	<b>67</b>	<b>66</b>
R1_3W-09_NIB	61	<b>66</b>	<b>66</b>	65
R1_3W-10_NI	59	64	64	63
R1_3W-11_NI	60	65	65	64
R1_3W-12_NI	58	65	64	65
R1_3W-13_NI	57	65	64	65
R1_3W-14_NI	57	65	63	65
R1_3W-15_NI	56	65	63	64
R1_3W-16_NI	57	65	62	63
R1_3W-17_NI	57	<b>67</b>	<b>66</b>	62
R1_3W-18_NI	56	<b>67</b>	<b>67</b>	61
R1_3W-19_NI	57	<b>67</b>	<b>66</b>	61
R1_3W-20_NI	56	<b>67</b>	--	61
R1_3W-21_NI	57	<b>66</b>	--	61
R1_3W-22_NI	58	65	--	58

Note: **Bolded** values are equal to or greater than ADOT NAR noise impact threshold of 66 dBA  
 -- Indicates receivers do not apply to this alternative.

The modeled noise levels range from 56 to 65 dBA for the No-Build Condition. For Alternative 2CS, the modeled noise levels range from 64 dBA to 67 dBA. For Alternative 3S, the modeled

noise levels range from 62 dBA to 67 dBA. For Alternative 5S, the modeled noise levels range from 58 dBA to 67 dBA. The modeled noise levels for the Build Alternatives are equal to or greater than the ADOT NAR noise impact threshold of 66 dBA. Therefore, mitigation evaluation is required for this area. The Noise Analysis Technical Report, Appendix D, shows the locations of the modeled noise receivers from Table 31.

#### 4.8.3.6 Lower Buckeye Road to Broadway Road - East

A total of up to 27 receivers were modeled to represent 27 areas of undeveloped (NAC Category G) for the eastern section between Lower Buckeye Road and Broadway Road. Table 32 shows the modeled noise level results at these receivers for future land use planning.

**Table 32. Modeled Noise Level Results, Lower Buckeye Road to Broadway Road - East**

Receiver	Modeled Noise Levels, $L_{Aeq1h}$			
	No-Build 2040	Build 2040 Alternative 2CS	Build 2040 Alternative 3S	Build 2040 Alternative 5S
R2_3E-01_NI	63	62	64	63
R1_3E-02_NI	63	65	<b>68</b>	<b>67</b>
R1_3E-03_NI	62	65	<b>67</b>	<b>66</b>
R1_3E-04_NI	62	65	<b>68</b>	<b>67</b>
R1_3E-05_I	62	<b>66</b>	<b>68</b>	<b>66</b>
R1_3E-06_I	62	<b>66</b>	<b>68</b>	<b>66</b>
R1_3E-07_I	63	<b>67</b>	<b>68</b>	<b>66</b>
R2_3E-08_NI	60	62	65	62
R2_3E-09_NI	61	63	65	63
R1_3E-10_NI	62	65	<b>68</b>	65
R1_3E-11_NI	64	65	<b>69</b>	65
R1_3E-12_NI	64	63	<b>68</b>	63
R1_3E-13_NI	63	62	65	62
R1_3E-14_NI	62	61	<b>67</b>	64
R2_3E-15_NI	62	61	<b>66</b>	62
R1_3E-16_NI	--	64	<b>66</b>	63
R1_3E-17_NI	--	65	<b>66</b>	62
R1_3E-18_NI	--	65	<b>66</b>	61
R1_3E-19_I	--	<b>66</b>	--	60
R1_3E-20_I	--	<b>66</b>	--	60
R1_3E-21_NI	--	65	--	60
R1_3E-22_NI	--	65	--	65
R1_3E-23_I	--	--	--	<b>66</b>
R1_3E-24_I	--	--	--	<b>66</b>
R1_3E-25_NI	--	--	--	65

Receiver	Modeled Noise Levels, $L_{Aeq1h}$			
	No-Build 2040	Build 2040 Alternative 2CS	Build 2040 Alternative 3S	Build 2040 Alternative 5S
<b>R1_3E-26_NI</b>	--	--	--	65
<b>R1_3E-27_NI</b>	--	--	--	65

Note: **Bolded** values are equal to or greater than ADOT NAR noise impact threshold of 66 dBA  
-- Indicates receivers do not apply to this alternative.

The modeled noise levels range from 60 to 64 dBA for the for the No-Build Condition. For Alternative 2CS, the modeled noise levels range from 61 dBA to 67 dBA. For Alternative 3S, the modeled noise levels range from 64 dBA to 69 dBA. For Alternative 5S, the modeled noise levels range from 60 dBA to 67 dBA. The Noise Analysis Technical Report, Appendix D, shows the locations of the modeled noise receivers from Table 32.



#### 4.8.3.7 *Broadway Road to North of SR30 - West*

A total of up to 30 receivers were modeled to represent 30 areas of undeveloped (NAC Category G) for the western section between Broadway Road to North of SR30. Table 33 shows the modeled noise level results at these receivers for future land use planning.

**Table 33. Modeled Noise Level Results, Broadway Road to North of SR30 - West**

Receiver	Modeled Noise Levels, $L_{Aeq1h}$			
	No-Build 2040	Build 2040 Alternative 2CS	Build 2040 Alternative 3S	Build 2040 Alternative 5S
R1_4W-01_NI	--	59	<b>66</b>	55
R1_4W-02_NI	--	60	65	57
R1_4W-03_NI	--	62	63	58
R1_4W-04_NI	--	61	62	59
R1_4W-05_NI	--	60	61	59
R1_4W-06_NI	--	60	60	59
R1_4W-07_NI	--	60	58	60
R1_4W-08_NI	--	60	57	60
R1_4W-09_NI	--	59	58	59
R1_4W-10_NI	--	57	59	60
R1_4W-11_NI	--	57	60	61
R1_4W-12_NI	--	59	61	62
R1_4W-13_NI	--	62	62	63
R1_4W-14_NI	--	63	64	63
R1_4W-15_NI	--	64	65	64
R1_4W-16_NI	--	65	65	64
R1_4W-17_NI	--	<b>66</b>	<b>66</b>	64
R1_4W-18_I	--	<b>67</b>	<b>66</b>	<b>66</b>
R1_4W-19_I	--	<b>68</b>	<b>66</b>	<b>66</b>
R1_4W-20_I	--	<b>68</b>	<b>66</b>	<b>66</b>
R1_4W-21_I	--	<b>68</b>	65	<b>67</b>
R1_4W-22_I	--	<b>68</b>	65	<b>67</b>
R1_4W-23_I	--	--	64	<b>66</b>
R1_4W-24_NI	--	--	64	--
R1_4W-25_NI	--	--	65	--

Receiver	Modeled Noise Levels, $L_{Aeq1h}$			
	No-Build 2040	Build 2040 Alternative 2CS	Build 2040 Alternative 3S	Build 2040 Alternative 5S
R1_4W-26_NI	--	--	65	--
R1_4W-27_I	--	--	<b>66</b>	--
R1_4W-28_I	--	--	<b>66</b>	--
R1_4W-29_NI	--	--	65	--
R1_4W-30_NI	--	--	65	--

Note: **Bolded** values are equal to or greater than ADOT NAR noise impact threshold of 66 dBA  
-- Indicates receivers do not apply to this alternative.

For Alternative 2CS, the modeled noise levels range from 57 dBA to 68 dBA. For Alternative 3S, the modeled noise levels range from 57 dBA to 66 dBA. For Alternative 5S, the modeled noise levels range from 55 dBA to 67 dBA. The Noise Analysis Technical Report, Appendix D, shows the locations of the modeled noise receivers from Table 33.

#### 4.8.3.8 *Broadway Road to North of SR30 –East*

A total of up to 35 receivers were modeled to represent 35 areas of undeveloped (NAC Category G) for the eastern section from Broadway Road to North of SR30. Table 34 shows the modeled noise level results at these receivers for future land use planning.

**Table 34. Modeled Noise Level Results, Broadway Road to North of SR30 - East**

Receiver	Modeled Noise Levels, $L_{Aeq1h}$			
	No-Build 2040	Build 2040 Alternative 2CS	Build 2040 Alternative 3S	Build 2040 Alternative 5S
R1_4E-01_NI	--	65	<b>66</b>	59
R1_4E-02_NI	--	64	64	59
R1_4E-03_NI	--	63	64	59
R1_4E-04_NI	--	62	64	58
R1_4E-05_NI	--	61	65	57
R1_4E-06_NI	--	61	64	58
R1_4E-07_NI	--	61	63	57
R1_4E-08_NI	--	62	64	57
R1_4E-09_NI	--	62	<b>66</b>	56
R1_4E-10_NI	--	63	<b>69</b>	56
R1_4E-11_NI	--	63	<b>69</b>	57
R1_4E-12_NI	--	64	<b>70</b>	58
R1_4E-13_NI	--	65	<b>70</b>	59
R1_4E-14_NI	--	<b>66</b>	--	59
R1_4E-15_NI	--	<b>66</b>	--	60
R1_4E-16_NI	--	<b>66</b>	--	61
R1_4E-17_NI	--	<b>68</b>	--	62
R1_4E-18_NI	--	<b>68</b>	--	62
R1_4E-19_NI	--	<b>69</b>	--	63
R1_4E-20_NI	--	<b>68</b>	--	64
R1_4E-21_NI	--	<b>68</b>	--	64
R1_4E-22_NI	--	<b>68</b>	--	63
R1_4E-23_NI	--	<b>69</b>	--	65
R1_4E-24_NI	--	<b>70</b>	--	65
R1_4E-25_I	--	<b>70</b>	--	<b>66</b>

Receiver	Modeled Noise Levels, $L_{Aeq1h}$			
	No-Build 2040	Build 2040 Alternative 2CS	Build 2040 Alternative 3S	Build 2040 Alternative 5S
R1_4E-26_I	--	<b>70</b>	--	<b>67</b>
R1_4E-27_I	--	--	--	<b>67</b>
R1_4E-28_I	--	--	--	<b>68</b>
R1_4E-29_I	--	--	--	<b>68</b>
R1_4E-30_I	--	--	--	<b>68</b>
R1_4E-31_I	--	--	--	<b>69</b>
R1_4E-32_I		--	--	<b>70</b>
R1_4E-33_I	--	--	--	<b>71</b>
R1_4E-34_I	--	--	--	<b>71</b>
R1_4E-35_I	--	--	--	<b>70</b>

Note: **Bolded** values are equal to or greater than ADOT NAR noise impact threshold of 66 dBA  
 -- Indicates receivers do not apply to this alternative.

For Alternative 2CS, the modeled noise levels range from 61 dBA to 70 dBA. For Alternative 3S, the modeled noise levels range from 63 dBA to 70 dBA. For Alternative 5S, the modeled noise levels range from 56 dBA to 71 dBA. The Noise Analysis Technical Report, Appendix D, shows the locations of the modeled noise receivers from Table 34.

#### 4.8.3.9 South of SR30 - West

A total of up to 31 receivers were modeled to represent 31 areas of undeveloped (NAC Category G) for the western section South of SR30. Table 35 shows the modeled noise level results at these receivers for future land use planning.

**Table 35. Modeled Noise Level Results, South of SR30 - West**

Receiver	Modeled Noise Levels, $L_{Aeq1h}$			
	No-Build 2040	Build 2040 Alternative 2CS	Build 2040 Alternative 3S	Build 2040 Alternative 5S
R1_5W-01_NI	--	68	64	67
R1_5W-02_NI	--	68	65	67
R1_5W-03_NI	--	68	65	67
R1_5W-04_NI	--	66	65	67
R1_5W-05_NI	--	65	65	65
R1_5W-06_NI	--	64	64	64
R1_5W-07_NI	--	62	64	63
R1_5W-08_NI	--	60	64	60
R1_5W-09_NI	--	58	65	57
R1_5W-10_NI	--	59	65	56
R1_5W-11_I	--	56	66	55
R1_5W-12_I	--	55	66	53
R1_5W-13_I	--	54	66	52
R1_5W-14_NI	--	53	65	52
R1_5W-15_NI	--	53	65	51
R1_5W-16_NI	--	52	64	51
R1_5W-17_NI	--	52	63	50
R1_5W-18_NI	--	51	61	50
R1_5W-19_NI	--	--	60	--
R1_5W-20_NI	--	--	59	--
R1_5W-21_NI	--	--	57	--
R1_5W-22_NI	--	--	56	--
R1_5W-23_NI	--	--	55	--
R1_5W-24_NI	--	--	54	--
R1_5W-25_NI	--	--	55	--

Receiver	Modeled Noise Levels, $L_{Aeq1h}$			
	No-Build 2040	Build 2040 Alternative 2CS	Build 2040 Alternative 3S	Build 2040 Alternative 5S
<b>R1_5W-26_NI</b>	--	--	55	--
<b>R1_5W-27_NI</b>	--	--	54	--
<b>R1_5W-28_NI</b>	--	--	52	--
<b>R1_5W-29_NI</b>	--	--	51	--
<b>R1_5W-30_NI</b>	--	--	50	--
<b>R1_5W-31_NI</b>	--	--	49	--

Note: **Bolded** values are equal to or greater than ADOT NAR noise impact threshold of 66 dBA  
-- Indicates receivers do not apply to this alternative.

For Alternative 2CS, the modeled noise levels range from 51 dBA to 68 dBA. For Alternative 3S, the modeled noise levels range from 49 dBA to 66 dBA. For Alternative 5S, the modeled noise levels range from 50 dBA to 67 dBA. The Noise Analysis Technical Report, Appendix D, shows the locations of the modeled noise receivers from Table 35.

#### 4.8.3.10 South of SR30 - East

A total of up to 33 receivers were modeled to represent 33 areas of undeveloped (NAC Category G) for the eastern section South of SR30. Table 36 shows the modeled noise level results at these receivers for future land use planning.

**Table 36. Modeled Noise Level Results, South of SR30 - East**

Receiver	Modeled Noise Levels, $L_{Aeq1h}$			
	No-Build 2040	Build 2040 Alternative 2CS	Build 2040 Alternative 3S	Build 2040 Alternative 5S
R1_5E-01_I	--	70	70	70
R1_5E-02_I	--	70	70	70
R1_5E-03_I	--	70	69	72
R1_5E-04_I	--	69	67	69
R1_5E-05_I	--	68	64	66
R1_5E-06_I	--	67	63	64
R1_5E-07_I	--	67	61	63
R1_5E-08_I	--	67	60	64
R1_5E-09_I	--	67	60	65
R1_5E-10_I	--	67	59	64
R1_5E-11_I	--	66	57	61
R1_5E-12_I	--	66	55	59
R1_5E-13_I	--	66	53	58
R1_5E-14_NI	--	64	52	56
R1_5E-15_NI	--	63	51	55
R1_5E-16_NI	--	62	51	53
R1_5E-17_NI	--	61	--	51
R1_5E-18_NI	--	60	--	50
R1_5E-19_NI	--	60	--	50
R1_5E-20_NI	--	59	--	51
R1_5E-21_NI	--	58	--	53
R1_5E-22_NI	--	57	--	55
R1_5E-23_NI	--	56	--	53
R1_5E-24_NI	--	55	--	51
R1_5E-25_NI	--	53	--	50

Receiver	Modeled Noise Levels, L <sub>Aeq1h</sub>			
	No-Build 2040	Build 2040 Alternative 2CS	Build 2040 Alternative 3S	Build 2040 Alternative 5S
<b>R1_5E-26_NI</b>	--	51	--	48
<b>R1_5E-27_NI</b>	--	50	--	47
<b>R1_5E-28_NI</b>	--	49	--	47
<b>R1_5E-29_NI</b>	--	49	--	47
<b>R1_5E-30_NI</b>	--	49	--	45
<b>R1_5E-31_NI</b>	--	48	--	45
<b>R1_5E-32_NI</b>	--	48	--	44
<b>R1_5E-33_NI</b>	--	47	--	--

Note: **Bolded** values are equal to or greater than ADOT NAR noise impact threshold of 66 dBA

-- Indicates receivers do not apply to this alternative.

For Alternative 2CS, the modeled noise levels range from 47 dBA to 70 dBA. For Alternative 3S, the modeled noise levels range from 51 dBA to 70 dBA. For Alternative 5S, the modeled noise levels range from 44 dBA to 72 dBA. The Noise Analysis Technical Report, Appendix D, shows the locations of the modeled noise receivers from Table 36.

#### 4.8.4 Mitigation Analysis

The ADOT NAR provides guidelines for noise abatement analysis. These guidelines have two components, feasibility and reasonableness. The feasibility components consist of the engineering and acoustic features which address safety, barrier height, topography, drainage, utilities, maintenance requirements, property access and overall project purpose, and encompasses the constructability of the noise abatement. To be acoustically feasible, the noise abatement must achieve at least a 5-dBA reduction at 50 percent of the impacted receptors.

There are three factors that must be met for a noise abatement action to be considered reasonable. The first factor is based on the viewpoints or preferences of the property owners and residents. The viewpoints of the property owners and residents shall be taken into account when determining whether the barrier should be constructed or not. The second is based on the noise reduction design goal; the ADOT NAR states that the noise barrier should be designed to reduce the projected unmitigated noise levels by at least 7 dBA for 50 percent of the benefited receptors closest to the transportation facility. The third factor is based on the cost effectiveness of the noise abatement. The maximum reasonable cost of abatement is \$49,000 per benefited receptor (cost-per-benefited-receptor) with barrier costs calculated at \$35 per square foot, \$85 per square foot if constructed on a structure.

The ADOT NAR defines “*benefited receptor*” as the recipient of an abatement measure that receives a noise reduction of at least 5 dBA. This would allow a receptor that is not impacted to be considered as a “*benefited receptor*” if it receives a noise reduction of at least 5 dBA from the



noise abatement. The “benefited receptor” would be included in the determination of the cost of the noise abatement.

#### 4.8.4.1 Van Buren Street to Yuma Road - West

Mitigation was evaluated for the Build Condition of Alternatives 2CS, 3S, and 5S. Table 37 shows the results of the noise level mitigation analysis for the western area between Van Buren Road and Yuma Road. Aerial photographs indicating the location of the recommended barriers are included in Appendix D.

**Table 37. Noise Mitigation, Van Buren Street to Yuma Road - West**

Receiver	Number of Representative Receptors	Alternative 2CS Modeled Noise Level, $L_{Aeq1h}$		Insertion Loss, dBA	Mitigation
		Build 2040	Mitigated		
R2_1W-01A	3	<b>66</b>	63	3	Barrier W1 is potentially recommended*
R2_1W-01B	17	<b>68</b>	64	4	
R1_1W-02A	36	<b>70</b>	64	6	
R1_1W-02B	39	<b>71</b>	64	7	
R2_1W-03A	17	<b>69</b>	63	6	
R2_1W-03B	4	<b>66</b>	61	5	
R1_1W-11A	6	<b>70</b>	63	7	Barriers W2A & W2B are potentially recommended*
R1_1W-12A	11	<b>70</b>	63	7	
R1_1W-13A	12	<b>70</b>	63	7	
R1_1W-15A	12	<b>70</b>	63	7	
R1_1W-16A	11	<b>70</b>	63	7	
R1_1W-17A	5	<b>68</b>	62	6	
<b>Alternative 3S Modeled Noise Level, <math>L_{Aeq1h}</math></b>					
R2_1W-01A	3	<b>66</b>	63	3	Barrier W1 is potentially recommended*
R2_1W-01B	17	<b>69</b>	65	4	
R1_1W-02A	36	<b>70</b>	64	6	
R1_1W-02B	39	<b>71</b>	64	7	
R2_1W-03A	17	<b>68</b>	64	4	
R2_1W-03B	4	<b>66</b>	62	4	

Note: **Bolded** value is equal to or greater than the noise impact threshold of 66 dBA

\* Recommended if building permits are issued prior to the approval of the final EA

R1_1W-11A	6	<b>70</b>	63	7	Barriers W2A & W2B are potentially recommended*
R1_1W-12A	11	<b>71</b>	64	7	
R1_1W-13A	12	<b>71</b>	64	7	
R1_1W-15A	12	<b>71</b>	64	7	
R1_1W-16A	11	<b>70</b>	64	6	
R1_1W-17A	5	<b>69</b>	63	6	
<b>Alternative 5S Modeled Noise Level, L<sub>Aeq1h</sub></b>					
R2_1W-01A	3	<b>67</b>	63	4	Barrier W1 is potentially recommended*
R2_1W-01B	17	<b>69</b>	65	4	
R1_1W-02A	36	<b>71</b>	64	7	
R1_1W-02B	39	<b>71</b>	64	7	
R2_1W-03A	17	<b>69</b>	64	5	
R2_1W-03B	4	<b>67</b>	62	5	
R1_1W-11A	6	<b>71</b>	64	7	Barriers W2A & W2B are potentially recommended*
R1_1W-12A	11	<b>71</b>	65	6	
R1_1W-13A	12	<b>71</b>	64	7	
R1_1W-15A	12	<b>71</b>	64	7	
R1_1W-16A	11	<b>71</b>	64	7	
R1_1W-17A	5	<b>69</b>	63	6	

Note: **Bolded** value is equal to or greater than the noise impact threshold of 66 dBA

\* Recommended if building permits are issued prior to the approval of the final EA

Table 38 shows the noise barrier summary for barriers W1, W2A, and W2B. For the western area between Yuma Road and Lower Buckeye Road, there are an estimated 173 receptors that are impacted. Barrier W1 is potentially recommended for a new development, *Christopher Todd Communities at Canyon Trails*, if building permits are issued before the approval of the final EA for the project. Barriers W2A & W2B are potentially recommended for new development of *Mattamy Canyon Trails*, *Crestwood at Canyon Trails*, if building permits are issued before the approval of the final EA for the project. Barriers W1, W2A, and W2B are recommended for all three alternatives.

**Table 38. Noise Barrier Summary, Van Buren Street to Yuma Road - West**

Barrier	Height Range, ft.	Length, ft.	Area, ft <sup>2</sup>	Barrier Cost <sup>[1]</sup>	NBR <sup>[2]</sup>	%FR <sup>[3]</sup>	%BR <sup>[4]</sup>	CPBR <sup>[5]</sup>
<b>Alternative 2CS</b>								
W1	12	1,400	16,801	\$678,035	96	53%	83%	\$7,063
W2A	14-16	1,400	21,600	\$756,000	57	92%	100%	\$25,297
W2B	14	1,400	19,598	\$685,930				
<b>Total:</b>				\$2,119,965				
<b>Alternative 3S</b>								
W1	12	1,400	16,801	\$678,035	75	53%	65%	\$9,040
W2A	12-14	1,600	21,600	\$756,000	57	77%	100%	\$24,806
W2B	14	1,400	18,799	\$657,965				
<b>Total:</b>				\$2,092,000				
<b>Alternative 5S</b>								
W1	12-14	1,400	18,401	\$749,035	96	100%	83%	\$7,802
W2A	12-14	1,600	22,000	\$770,000	57	54%	100%	\$24,806
W2B	12-14	1,400	18,398	\$643,930				
<b>Total:</b>				\$2,162,965				
1. Wall cost based on \$35/ft <sup>2</sup> for off-structure barrier and \$85/ft <sup>2</sup> for on-structure barrier W1. 2. NBR - number of benefited receptors; Receptors with 5-7 dBA insertion loss within 500 ft. from the right of way are accounted as benefited receptors. 3. %FR - percentage of First Row Receptors with 7+ dBA noise reduction 4. %BR - percentage of Benefited Receptors with 5+ dBA noise reduction 5. CPBR- cost per benefited receptor								

#### 4.8.4.2 Yuma Road to Lower Buckeye Road - West

Mitigation was evaluated for the Build Condition of Alternatives 2CS, 3S, and 5S. For the western area between Yuma Road and Lower Buckeye Road.

Table 39 shows the results of the noise level mitigation analysis for the western area.

**Table 39. Noise Mitigation, Yuma Road to Lower Buckeye Road - West**

Receiver	Number of Representative Receptors	Alternative 2CS		Insertion Loss, dBA	Mitigation
		Modeled Noise Level, $L_{Aeq1h}$			
		Build 2040	Mitigated		
R1_2W-01	3	61	61	0	Barriers W4A & W4B are recommended
R1_2W-02	2	60	59	1	
R1_2W-03	2	60	59	1	
R1_2W-04	2	62	60	2	
R2_2W-05	3	64	62	2	
R2_2W-06	3	64	61	3	
R1_2W-07	2	65	61	4	
R1_2W-08	5	65	61	4	
R1_2W-09	3	65	62	3	
R1_2W-10	5	<b>70</b>	64	6	
R1_2W-11	10	<b>70</b>	65	5	
R1_2W-12	12	<b>70</b>	65	5	
R1_2W-13	6	<b>70</b>	64	6	
R1_2W-14	9	<b>73</b>	<b>66</b>	7	
R1_2W-15	12	<b>72</b>	65	7	
R1_2W-16	9	<b>73</b>	65	8	
R1_2W-17	5	<b>70</b>	64	6	
R1_2W-18	9	<b>73</b>	65	8	
R1_2W-19	4	<b>73</b>	<b>66</b>	7	
R1_2W-20	7	<b>72</b>	65	7	
R1_2W-21	10	<b>72</b>	65	7	
R1_2W-22	8	<b>68</b>	63	5	
R2_2W-23	2	<b>66</b>	62	4	
R2_2W-24	2	<b>64</b>	60	4	
R1_2W-25	6	<b>69</b>	64	5	

R1_2W-26	7	<b>70</b>	63	7	
R1_2W-27	12	<b>70</b>	62	8	
R1_2W-28	3	<b>68</b>	61	7	
R1_2W-29	9	<b>68</b>	61	7	
R1_2W-30	3	<b>66</b>	62	4	
R2_2W-31	3	63	59	4	
<b>Alternative 3S Modeled Noise Level, L<sub>Aeq1h</sub></b>					
R1_2W-01	3	62	61	1	Barriers W4A & W4B are recommended
R1_2W-02	2	61	60	1	
R1_2W-03	2	61	59	2	
R1_2W-04	2	62	60	2	
R2_2W-05	3	65	62	3	
R2_2W-06	3	65	62	3	
R1_2W-07	2	<b>66</b>	62	4	
R1_2W-08	5	65	62	3	
R1_2W-09	3	<b>66</b>	62	4	
R1_2W-10	5	<b>70</b>	64	6	
R1_2W-11	10	<b>70</b>	64	6	
R1_2W-12	12	<b>70</b>	63	7	
R1_2W-13	6	<b>71</b>	63	8	
R1_2W-14	9	<b>74</b>	65	9	Barriers W4A & W4B are recommended
R1_2W-15	12	<b>72</b>	64	8	
R1_2W-16	9	<b>73</b>	64	9	
R1_2W-17	5	<b>71</b>	63	8	
R1_2W-18	9	<b>73</b>	65	8	
R1_2W-19	4	<b>74</b>	<b>66</b>	8	
R1_2W-20	7	<b>73</b>	65	8	
R1_2W-21	10	<b>73</b>	65	8	
R1_2W-22	8	<b>69</b>	64	5	
R2_2W-23	2	<b>67</b>	63	4	
R2_2W-24	2	64	61	3	
R1_2W-25	6	<b>70</b>	65	5	

R1_2W-26	7	<b>71</b>	64	7	
R1_2W-27	12	<b>70</b>	63	7	
R1_2W-28	3	<b>69</b>	62	7	
R1_2W-29	9	<b>68</b>	63	5	
R1_2W-30	3	<b>67</b>	63	4	
R2_2W-31	3	64	60	4	
<b>Alternative 5S Modeled Noise Level, L<sub>Aeq1h</sub></b>					
R1_2W-01	3	62	61	1	Barriers W4A & W4B are recommended
R1_2W-02	2	61	60	1	
R1_2W-03	2	61	59	2	
R1_2W-04	2	63	61	2	
R2_2W-05	3	65	62	3	
R2_2W-06	3	65	62	3	
R1_2W-07	2	<b>66</b>	62	4	
R1_2W-08	5	<b>66</b>	62	4	
R1_2W-09	3	<b>66</b>	62	4	
R1_2W-10	5	<b>71</b>	64	7	
R1_2W-11	10	<b>70</b>	64	6	
R1_2W-12	12	<b>70</b>	64	6	
R1_2W-13	6	<b>71</b>	64	7	
R1_2W-14	9	<b>74</b>	<b>66</b>	8	
R1_2W-15	12	<b>73</b>	65	8	
R1_2W-16	9	<b>74</b>	65	9	
R1_2W-17	5	<b>71</b>	64	7	
R1_2W-18	9	<b>74</b>	65	9	
R1_2W-19	4	<b>74</b>	66	8	
R1_2W-20	7	<b>73</b>	65	8	
R1_2W-21	10	<b>73</b>	65	8	
R1_2W-22	8	<b>69</b>	62	7	
R2_2W-23	2	<b>67</b>	61	6	
R2_2W-24	2	64	59	5	
R1_2W-25	6	<b>70</b>	63	7	

R1_2W-26	7	<b>71</b>	63	8
R1_2W-27	12	<b>70</b>	62	8
R1_2W-28	3	<b>69</b>	61	8
R1_2W-29	9	<b>68</b>	61	7
R1_2W-30	3	<b>67</b>	62	5
R2_2W-31	3	64	59	5

Note: **Bolded** value is equal to or greater than the noise impact threshold of 66 dBA

Table 40 shows the noise barrier summary for barriers W4A and W4B. For the western area between Yuma Road and Lower Buckeye Road, there are an estimated 178 receptors that are impacted. Barriers W4A & W4B are potentially recommended to provide mitigation to the Cottonwood Community for all three alternatives.

**Table 40. Noise Barrier Summary, Yuma Road to Lower Buckeye - West**

Barrier	Height Range, ft.	Length, ft.	Area, ft <sup>2</sup>	Barrier Cost <sup>[1]</sup>	NBR <sup>[2]</sup>	%FR <sup>[3]</sup>	%BR <sup>[4]</sup>	CPBR <sup>[5]</sup>
<b>Alternative 2CS</b>								
W4A	12-14	4,200	53,199	\$1,861,965	113	55%	99%	\$22,905
W4B	12-14	1,425	18,351	\$726,285				
<b>Total:</b>				\$2,588,250				
<b>Alternative 3S</b>								
W4A	10-16	4,200	56,399	\$1,973,965	72	56%	94%	\$35,566
W4B	10-12	1,425	15,051	\$586,785				
<b>Total:</b>				\$2,560,750				
<b>Alternative 5</b>								
W4A	10-16	4,200	56,799	\$1,987,965	71	71%	94%	\$39,018
W4B	14	1,425	19,951	\$782,285				
<b>Total:</b>				\$2,770,250				
1. Wall cost based on \$35/ft <sup>2</sup> for off-structure barrier and \$85/ft <sup>2</sup> for on-structure barrier W4B. 2. NBR - number of benefited receptors; Receptors with 5-7 dBA insertion loss within 500 ft. from the right of way are accounted as benefited receptors. 3. %FR - percentage of First Row Receptors with 7+ dBA noise reduction 4. %BR - percentage of Benefited Receptors with 5+ dBA noise reduction 5. CPBR- cost per benefited receptor								

#### 4.8.4.3 Yuma Road to Lower Buckeye Road - East

Mitigation was evaluated for the Build Condition of Alternatives 2CS, 3S, and 5S. For the eastern area between Yuma Road and Lower Buckeye Road. Table 41 shows the results of the noise level mitigation analysis for the western area.

**Table 41. Noise Mitigation, Yuma Road to Lower Buckeye Road- East**

Receiver	Number of Representative Receptors	Alternatives 2CS		Insertion Loss, dBA	Mitigation
		Modeled Noise Level, $L_{Aeq1h}$	Mitigated		
R2_2E-01	3	67	63	4	Barriers E1 & E2 are recommended
R1_2E-02	4	72	63	9	
R1_2E-03	15	67	59	8	
R1_2E-04	13	72	65	7	
R1_2E-05	19	76	66	10	
R2_2E-06	6	66	61	5	
R1_2E-07	7	71	64	7	
R1_2E-08	15	69	61	8	
R1_2E-09	21	68	60	8	
R1_2E-10	8	69	63	6	
R1_2E-11	14	72	64	8	
R1_2E-12	14	70	63	7	
R1_2E-13	3	69	62	7	
R2_2E-14	5	66	61	5	
R2_2E-15	2	64	60	4	
<b>Alternative 3S Modeled Noise Level, <math>L_{Aeq1h}</math></b>					
R2_2E-01	3	68	64	4	Barriers E1 & E2 are recommended
R1_2E-02	4	73	63	10	
R1_2E-03	15	68	61	7	
R1_2E-04	13	73	65	8	
R1_2E-05	19	77	66	11	
R2_2E-06	6	67	62	5	
R1_2E-07	7	72	65	7	
R1_2E-08	15	70	63	7	
R1_2E-09	21	69	62	7	



R1_2E-10	8	<b>70</b>	64	6	
R1_2E-11	14	<b>73</b>	65	8	
R1_2E-12	14	<b>72</b>	64	8	
R1_2E-13	3	<b>70</b>	63	7	
R2_2E-14	5	<b>68</b>	62	6	
R2_2E-15	2	65	61	4	
<b>Alternative 5S Modeled Noise Level, L<sub>Aeq1h</sub></b>					
R2_2E-01	3	<b>68</b>	64	4	Barriers E1 & E2 are recommended
R1_2E-02	4	<b>73</b>	64	9	
R1_2E-03	15	<b>68</b>	60	8	
R1_2E-04	13	<b>73</b>	<b>66</b>	7	
R1_2E-05	19	<b>77</b>	<b>67</b>	10	
R2_2E-06	6	<b>68</b>	62	6	
R1_2E-07	7	<b>72</b>	65	7	
R1_2E-08	15	<b>71</b>	63	8	
R1_2E-09	21	<b>69</b>	61	8	
R1_2E-10	8	<b>70</b>	64	6	
R1_2E-11	14	<b>73</b>	65	8	
R1_2E-12	14	<b>72</b>	64	8	
R1_2E-13	3	<b>70</b>	63	7	
R2_2E-14	5	<b>67</b>	62	5	
R2_2E-15	2	65	61	4	
Note: <b>Bolded</b> value is equal to or greater than the noise impact threshold of 66 dBA					

Table 42 shows the noise barrier summary for barriers E1 and E2. For the eastern area between Yuma Road and Lower Buckeye Road, an estimated 149 receptors are impacted. Barriers E1 & E2 are potentially recommended to provide mitigation to Canyon Trails South, Journey Coronado, Sunset, and Sierra Pointe Communities for all three alternatives.

**Table 42. Noise Barrier Summary, Yuma Road to Lower Buckeye - East**

Barrier	Height Range, ft.	Length, ft.	Area, ft <sup>2</sup>	Barrier Cost <sup>[1]</sup>	NBR <sup>[2]</sup>	%FR <sup>[3]</sup>	%BR <sup>[4]</sup>	CPBR <sup>[5]</sup>
<b>Alternative 2CS</b>								
<b>E1</b>	10	400	4,000	\$140,000	56	93%	98%	\$32,571
<b>E2</b>	10-12	4,200	46,400	\$1,684,000				
<b>Total:</b>				\$1,824,000				
<b>Alternative 3S</b>								
<b>E1</b>	10	400	4,000	\$140,000	80	93%	98%	\$24,200
<b>E2</b>	10-14	4,200	49,600	\$1,796,000				
<b>Total:</b>				\$1,936,000				
<b>Alternative 5S</b>								
<b>E1</b>	10	400	4,000	\$140,000	42	93%	98%	\$44,762
<b>E2</b>	10-14	4,200	48,000	\$1,740,000				
<b>Total:</b>				\$1,880,000				

1. Wall cost based on \$35/ft<sup>2</sup> for off-structure barrier and \$85/ft<sup>2</sup> for on-structure barrier E2.
2. NBR - number of benefited receptors; Receptors with 5-7 dBA insertion loss within 500 ft. from the right of way are accounted as benefited receptors.
3. %FR - percentage of First Row Receptors with 7+ dBA noise reduction
4. %BR - percentage of Benefited Receptors with 5+ dBA noise reduction
5. CPBR- cost per benefited receptor

#### 4.8.4.4 Lower Buckeye Road to Broadway Road - West

Mitigation was evaluated for the Build Condition of Alternatives 2CS, 3S, and 5S for the western area between Lower Buckeye Road and Broadway Road. Table 43 shows the results of the noise level mitigation analysis for the western area.

**Table 43. Noise Mitigation, Lower Buckeye Road to Broadway Road - West**

Receiver	Number of Representative Receptors	Alternatives 2CS Modeled Noise Level, $L_{Aeq1h}$		Insertion Loss, dBA	Mitigation
		Build 2040	Mitigated		
R2_3W-01		64	60	4	Barrier W5 is potentially recommended
R2_3W-02	3	65	60	5	
R1_3W-03	3	65	60	5	
R1_3W-04	15	65	59	6	
R1_3W-05	3	66	59	7	
R1_3W-06	8	66	59	7	
R1_3W-07	4	66	60	6	
R1_3W-08	4	66	59	7	
R1_3W-09	2	66	59	7	
<b>Alternative 3S Modeled Noise Level, <math>L_{Aeq1h}</math></b>					
R2_3W-01	3	65	61	4	Barrier W5 is potentially recommended
R2_3W-02	3	66	61	5	
R1_3W-03	3	67	61	6	
R1_3W-04	15	67	60	7	
R1_3W-05	3	67	61	6	
R1_3W-06	8	67	60	7	
R1_3W-07	4	67	60	7	
R1_3W-08	4	67	60	7	
R1_3W-09	2	66	60	6	
<b>Alternative 5S Modeled Noise Level, <math>L_{Aeq1h}</math></b>					
R2_3W-01	3	68	64	4	Barrier W5 is potentially recommended
R2_3W-02	4	73	64	9	
R1_3W-03	15	68	60	8	
R1_3W-04	13	73	66	7	

R1_3W-05	19	<b>77</b>	<b>67</b>	10
R1_3W-06	6	<b>68</b>	62	6
R1_3W-07	7	<b>72</b>	65	7
R1_3W-08	15	<b>71</b>	63	8
R1_3W-09	21	<b>69</b>	61	8

Note: **Bolded** value is equal to or greater than the noise impact threshold of 66 dBA

Table 44 shows the noise barrier summary for barriers W5 & W6. For the western area between Lower Buckeye Road and Broadway Road, an estimated 45 receptors are impacted. Barriers W5 & W6 are potentially recommended for the new development, *El Cidro (Phase 1 Parcel 2)*, if building permits are issued before the approval of the final EA for the project. Barrier W5 is recommended for all three alternatives. Barrier W6 is recommended for Alternative 5S.

**Table 44. Noise Barrier Summary, Lower Buckeye to Broadway Road - West**

Barrier	Height Range, ft.	Length, ft.	Area, ft <sup>2</sup>	Barrier Cost <sup>[1]</sup>	NBR <sup>[2]</sup>	%FR <sup>[3]</sup>	%BR <sup>[4]</sup>	CPBR <sup>[5]</sup>
<b>Alternative 2CS</b>								
<b>W5</b>	12-18	2,550	38,100	\$1,333,500	42	56%	100%	\$31,750
<b>Total:</b>				\$1,333,500				
<b>Alternative 3S</b>								
<b>W5</b>	14-16	2,400	34,399	\$1,203,965	42	63%	100%	\$28,666
<b>Total:</b>				\$1,203,965				
<b>Alternative 5S</b>								
<b>W5</b>	14	2,468	34,551	\$1,209,285	31	50%	100%	\$42,396
<b>W6</b>	10	300	3,000	\$105,000				
<b>Total:</b>				\$1,314,285				

1. Wall cost based on \$35/ft<sup>2</sup>
2. NBR - number of benefited receptors; Receptors with 5-7 dBA insertion loss within 500 ft. from the right of way are accounted as benefited receptors.
3. %FR - percentage of First Row Receptors with 7+ dBA noise reduction
4. %BR - percentage of Benefited Receptors with 5+ dBA noise reduction
5. CPBR- cost per benefited receptor

#### 4.8.5 Construction Noise and Vibration

Construction noise is anticipated for roadway improvement projects and lasts for the duration of the construction. Construction activities are generally of a short-term nature. Depending on the nature of construction operations, the duration of the noise could last from seconds (e.g., a truck passing a customer) to months (e.g., constructing a bridge). Construction noise is also intermittent and depends on the type of operation, location, and function of the equipment and the equipment usage cycle. Table 45 shows the overall predicted maximum noise level ( $L_{max}$ ) of the construction equipment at 50 feet for different phases of roadway construction.

Ground vibration and ground-borne noise can also be a source of annoyance to individuals who live or work close to vibration-generating activities. Pile driving, demolition activity, blasting, and crack-and-seat operations are the primary sources of vibration, while the impact pile driving can be the most significant source of vibration at construction sites. It is recommended to apply methods that may be practical and appropriate in specific situations, to reduce vibration to an acceptable level.

**Table 45. Construction Equipment Noise<sup>1</sup>**

Phase	Equipment	Noise Limit ( $L_{max}$ ) At 50 feet, dBA
<b>Site Clearing</b>	Dozer	85
	Backhoe	80
<b>Grading &amp; Earthwork</b>	Scraper	85
	Grader	85
<b>Foundation</b>	Backhoe	80
	Front Loader	80
<b>Base Preparation</b>	Compressor (air)	80
	Dozer	85

1. Source- FHWA Highway Construction Noise Handbook, page 3; August 2006

ADOT has set forth guidelines for construction noise in the Standard Specifications for Road and Bridge Construction, 2008. Per ADOT specifications 104.08, Prevention of Air and Noise Pollution: Each internal combustion engine used for any purpose on the work or related to the work shall be equipped with a muffler or a type recommended by the manufacturer. No internal combustion engine shall be operated on the work without its muffler being in good working condition.”

#### 4.8.6 Coordination with Local Officials

Throughout the preparation of this noise analysis technical report, the consultant has been in communication with City of Goodyear officials to confirm all potential new developments being planned within the project corridor for inclusion in this analysis.

#### 4.8.7 Conclusion/Statement of Likelihood

The FHWA-approved TNM2.5 was used to evaluate traffic noise for the Existing, No-Build, and Build Conditions. Noise impacts occurred at receptors located on the east and west areas from Yuma Road to SR 30. Table 46, Table 47, and Table 48 show the recommended noise barriers for Alternatives 2CS, 3S, and 5S, respectively. **In addition to these tables, an Addendum to the Noise Report, Appendix D, contains details of additional potential barriers resulting from updated noise analysis of developments that the City of Goodyear officials identified as likely to be planned, designed, and programmed before the Date of Public Knowledge. Noise abatement eligibility for the benefited properties will be readdressed in relation to the Date of Public Knowledge and public involvement process, and evaluated during final design.**

**Table 46. Recommended Noise Barrier Summary, Alternative 2CS**

Barrier Description	Height Range, ft.	Length, ft.	Area, ft <sup>2</sup>	Barrier Cost <sup>[1]</sup>	NBR <sup>[2]</sup>	CPBR <sup>[3]</sup>
Barrier W1 (Sta 1281+57 to 1267+47)	12	1,400	16,801	\$678,035	96	\$7,063
Barrier W2A (Sta 1254+19 to 1240+46)	14-16	1,400	21,600	\$756,000	57	\$25,297
Barrier W2B (Sta 1242+52 to 1228+45)	14	1,400	19,598	\$685,930		
Barrier E1 (Sta 1216+29 to 1212+30)	10	400	4,000	\$140,000	56	\$32,571
Barrier E2 (Sta 1212+87 to 1170+99)	10-12	4,200	46,400	\$1,684,000		
Barrier W4A (Sta 1224+10 to 1182+11)	12-14	4,200	53,199	\$1,861,965	113	\$22,905
Barrier W4B (Sta 1183+88 to 1169+45)	12-14	1,425	18,351	\$726,285		
Barrier W5 (Sta 1171+44 to 1145+30)	12-18	2,550	38,100	\$1,333,500	42	\$31,750
<b>Totals:</b>		16,975	218,049	\$7,865,715	364	\$21,609

1. Wall cost based on \$35/ft<sup>2</sup> for off-structure barrier and \$85/ft<sup>2</sup> for on-structure barrier W1, E2, and W4B.
2. NBR - number of benefited receptors; Receptors with 5-7 dBA insertion loss within 500 ft. from the R/W are accounted as benefited receptors.
3. CPBR- cost per benefited receptor

**Table 47. Recommended Noise Barrier Summary, Alternative 3S**

Barrier Description	Height Range, ft.	Length, ft.	Area, ft <sup>2</sup>	Barrier Cost <sup>[1]</sup>	NBR <sup>[2]</sup>	CPBR <sup>[3]</sup>
Barrier W1 (Sta 1281+57 to 1267+47)	12	1,400	16,801	\$678,035	75	\$9,040
Barrier W2A (Sta 1256+19 to 1240+46)	12-14	1,600	21,600	\$756,000	57	\$24,806
Barrier W2B (Sta 1242+52 to 1228+45)	14-14	1,400	18,799	\$657,965		
Barrier E1 (Sta 1216+29 to 1212+30)	10	400	4,000	\$140,000	80	\$24,200
Barrier E2 (Sta 1212+87 to 1170+99)	10-14	4,200	49,600	\$1,796,000		
Barrier W4A (Sta 1224+10 to 1182+11)	10-16	4,200	56,399	\$1,973,965	72	\$35,566
Barrier W4B (Sta 1183+88 to 1169+45)	10-12	1,425	15,051	\$586,785		
Barrier W5 (Sta 1173+39 to 1149+37)	14-16	2,400	34,399	\$1,203,965	42	\$28,666
<b>Totals:</b>		17,025	216,649	\$7,792,715	326	\$23,904

1. Wall cost based on \$35/ft<sup>2</sup> for off-structure barrier and \$85/ft<sup>2</sup> for on-structure barrier W1, E2, and W4B.
2. NBR - number of benefited receptors; Receptors with 5-7 dBA insertion loss within 500 ft. from the R/W are accounted as benefited receptors.
3. CPBR- cost per benefited receptor

**Table 48. Recommended Noise Barrier Summary, Alternative 5S**

Barrier Description	Height Range, ft.	Length, ft.	Area, ft <sup>2</sup>	Barrier Cost <sup>[1]</sup>	NBR <sup>[2]</sup>	CPBR <sup>[3]</sup>
Barrier W1 (Sta 1281+57 to 1267+47)	12-14	1,400	18,401	\$749,035	96	\$7,802
Barrier W2A (Sta 1256+19 to 1240+46)	12-14	1,600	22,000	\$770,000	57	\$24,806
Barrier W2B (Sta 1242+52 to 1228+45)	12-14	1,400	18,398	\$643,930		
Barrier E1 (Sta 1216+29 to 1212+30)	10	400	4,000	\$140,000	42	\$44,762
Barrier E2 (Sta 1212+87 to 1170+99)	10-14	4,200	48,000	\$1,740,000		
Barrier W4A (Sta 1224+10 to 1182+11)	10-16	4,200	56,799	\$1,987,965	71	\$39,018
Barrier W4B (Sta 1183+88 to 1169+45)	14	1,425	19,951	\$782,285		
Barrier W5 (Sta 1169+45 to 1143+26)	14	2,468	34,551	\$1,209,285	31	\$42,396
Barrier W6 (Sta 1165+28 to 1168+36)	10	300	3,000	\$105,000		
<b>Totals:</b>		17,393	225,100	\$8,127,500	297	\$27,365

1. Wall cost based on \$35/ft<sup>2</sup> for off-structure barrier and \$85/ft<sup>2</sup> for on-structure barrier W1, E2, and W4B.

2. NBR - number of benefited receptors; Receptors with 5-7 dBA insertion loss within 500 ft. from the R/W are accounted as benefited receptors.

3. CPBR- cost per benefited receptor

In conclusion, based on the barriers recommended in the above tables:

- The total noise mitigation cost for Alternative 2CS is \$7,865,715.
- The total noise mitigation cost for Alternative 3S is \$7,792,715.
- The total noise mitigation cost for Alternative 5S is \$8,127,500.



A traffic-noise related public involvement process should be implemented in accordance with ADOT NAR Chapter 6.1, whereby the information on barriers is provided under the standard EA class of action during the NEPA process, and, if required, as described by ADOT's "Instruction on Solicitation of Viewpoints" in the ADOT Noise Abatement Requirements.

#### **4.8.8 Mitigation**

##### Design Responsibilities

- Noise Abatement eligibility for the benefited properties will be readdressed in relation to the Date of Public Knowledge and Public Involvement process, and evaluated at the Final Design stage based on the selected Alternative, as the Preliminary Design Concept is subject to change.
- During final design, the project manager will contact the Arizona Department of Transportation Environmental Planning noise coordinator (602.712.6161 or 602.712.7767) to arrange for qualified personnel to review and update the noise analysis.

##### Contractor Responsibility

- The contractor shall comply with all local sound control and noise rules, regulations, permits, and ordinances which apply to any work pursuant to the contract.

### **4.9 Utilities and Railroads**

#### **4.9.1 Existing Conditions**

Various utilities are located within the SR303L Study Area (). The following inventory lists the utility type, owner and description of facility within the Study Area.

##### **4.9.1.1 Electrical Power**

- Arizona Public Service (APS) – 230 kiloVolt (kV) Transmission, 69kV sub-transmission, 12kV and secondary power services.
- Western Area Power Administration (Western) - 230kV Transmission, Salt River Project (SRP) - 500kV Transmission, and APS – 230kV Transmission

##### **4.9.1.2 Irrigation and Well Facilities**

- Roosevelt Irrigation District (RID) - Wells and irrigation infrastructure
- Buckeye Irrigation District (BID) - Wells and irrigation infrastructure
- Private Irrigation Ownership - Wells and irrigation infrastructure

##### **4.9.1.3 Communications (Fiber Optics and Cable)**

- Sprint Communications - Fiber Optics
- CenturyLink Communications - Fiber Optics and Cable
- American Telegraph & Telephone (AT&T) - Fiber Optics
- Cox Communications - Fiber Optics and Cable TV
- Broadwing Communications - Fiber Optics

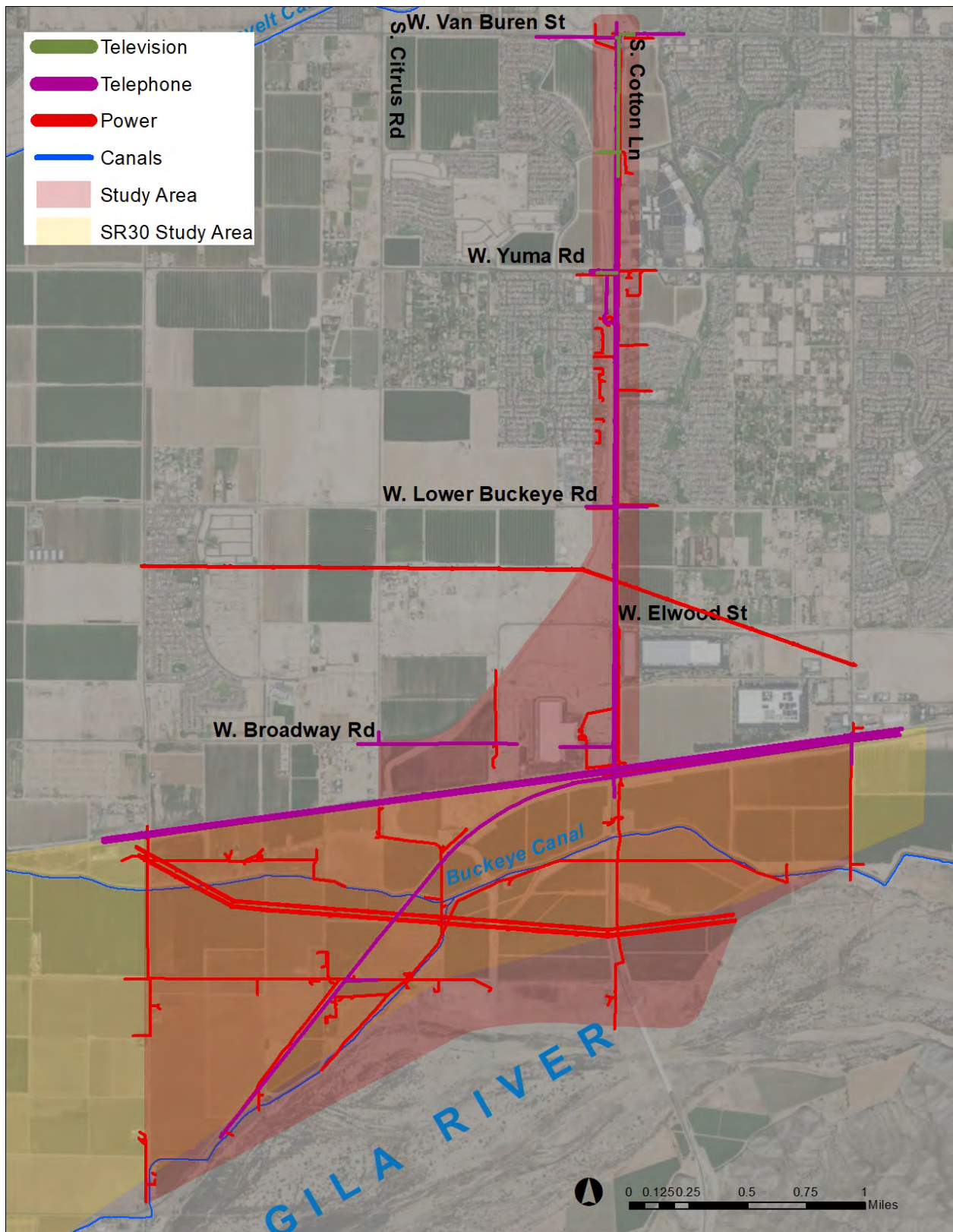
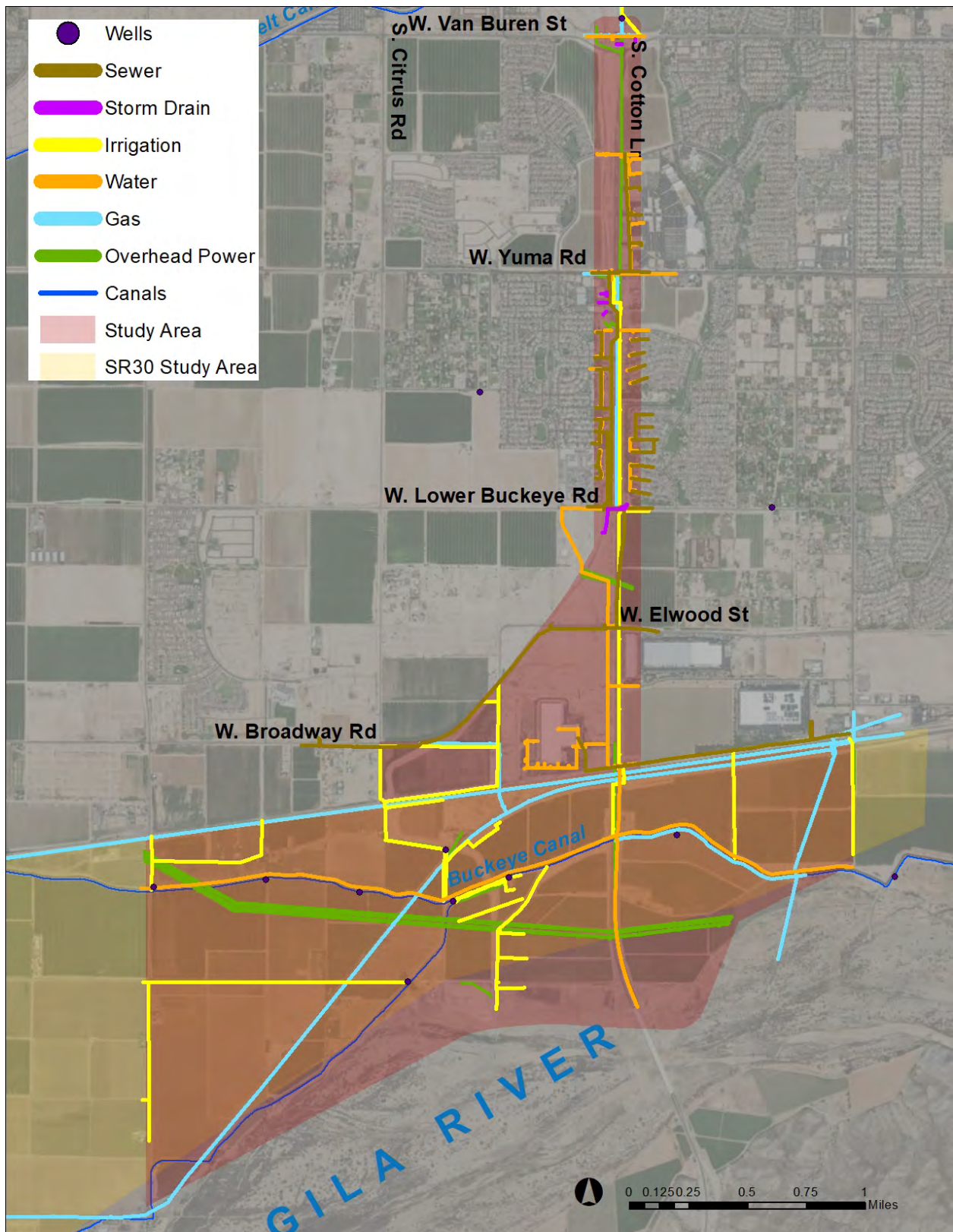


Figure 23. Existing Utilities within the Study Area (Map A)



**Figure 24. Existing Utilities within the Study Area (Map B)**

#### **4.9.1.4 Communications in UPRR Corridor (ROW)**

- Level III - Fiber Optics
- MCI/Verizon
- Wiltel
- Qwest Communications

#### **4.9.1.5 Sewer, Water, and Reclaimed Water**

- City of Goodyear - Sewer, 2 lift stations and water services
- APS – 96-inch reclaimed water line on the north side of the Buckeye Irrigation District (BID) Canal. The line is crucial to the nuclear generating plant at Palo Verde.

#### **4.9.1.6 Railroads**

- Union Pacific Railroad (UPRR)

#### **4.9.1.7 Natural Gas and Petroleum Products**

- Southwest Gas
- Kinder Morgan (Petroleum) 20" Gas line in the UPRR ROW

Many of the utilities in the Study Area can be categorized as minor (those that can be modified or relocated without extensive disruption or cost). In Segment 1 and 2 these include 12kV primary lines, local telecommunications (telephone and cable communications), and municipal sewer and water services. Major utilities located in Segment 1 are an APS 69kV sub-transmission line located on the east side of Cotton Lane from Van Buren to MC85, the FCDMC Loop 303 Outfall channel, and a natural gas line. In Segment 2 (south of Lower Buckeye Road), minor utilities continue south along the Cotton Lane corridor. Major utilities located in Segment 2 include: Two parallel transmission towers, one carrying a Western 230kV line and the other carrying SRP 500kV and APS 230kV, which run east to west across the Study Area, a gas distribution system in the UPRR ROW, the FCDMC outfall channel, the BID, which crosses east to west below MC85, and the South Extension Canal.

### **4.9.2 Environmental Impacts**

#### **4.9.2.1 Selected Alternative**

Avoidance of all major utilities is the preferred strategy. However, the Selected Alternative has potential horizontal and vertical conflicts with existing major utility corridors.

The following major utility corridors would be most likely impacted by the Selected Alternative:

- The APS 69kV overhead line on the east side of Cotton Lane would be relocated to the west side.
- The APS 230kV overhead line south of Lower Buckeye Road may be avoided, depending on the vertical height of the elevated roadway at this location.
- The parallel transmission towers south of MC85 would have some vertical and horizontal conflicts with the elevated ramps
- The Kinder Morgan pipeline would need to be encased where the Selected Alternative would be constructed over it at grade or on structure.

- Portions of the Buckeye Canal and the South Extension Canal would be crossed by elevated spans for the Selected Alternative to clear the property. These changes would not alter the canal's integrity or function.
- The APS 96-inch reclaimed water line would require reinforcing encasement within ADOT ROW.

ADOT would coordinate with the appropriate utility companies and UPRR during design and construction regarding impacts, adjustments, and any service disruptions. The ADOT Utility and Railroad Engineering Section would further investigate utility involvement to coordinate the need for relocation and the accommodation of utilities with the construction.

#### **4.9.2.2 No-Build Alternative**

The No-Build Alternative would not affect existing utilities, the UPRR ROW, and the BID because no freeway would be built.

### **4.9.3 Mitigation**

#### Design Responsibilities

- Where avoidance of utilities is not possible or feasible during final design, the utilities will be encased or relocated. Utility work related to the freeway will need to be closely coordinated with the utility owners, particularly when severe outages will be required. Power outages related to power line relocations should generally be scheduled between November and February. Any outages for the Arizona Public Service pipeline serving the Palo Verde Nuclear Generating Station will be coordinated with Arizona Public Service and may need to occur during the April or October "dry-ups."
- Should a utility relocation be required, the Arizona Department of Transportation will coordinate with the utility owner to determine the need for new right-of-way of the same size as the previous right-of-way for that utility.

#### Contractor Responsibility:

- During the construction phase, utility work related to the freeway shall continue to be closely coordinated with utility owners, particularly when severe outages will be required.

### **4.9.4 Conclusion**

The primary impacts of the Selected Alternative would occur to the APS 230kV overhead lines south of Lower Buckeye Road. Pole relocation and height adjustments are expected to impact two or three poles. The need to relocate this utility line arises from conflicts of the selected SR303L alignment with the power lines' existing vertical alignment. Overhead power line relocations are routine, albeit costly.

In Segment 2, the Selected Alternative would impact ten sets of towers for the SRP/APS/Western parallel power transmission lines in two locations, requiring a 2,500-foot relocation of the existing electrical transmission corridor, and vertical adjustments to clear directional ramps over 100 feet above grade at the SR303L/SR30 TI. The Selected Alternative would span the UPRR ROW and should avoid potential impacts to the Kinder Morgan gas line and fiber optic lines located within the UPRR ROW.

The Selected Alternative would have bridge structures over the FCDMC Loop 303 Outfall channel, the BID Canal, and the South Extension Canal to maintain maintenance and operation capabilities. However, even with bridge crossings over the BID Canal, an estimated 2,000 feet of the APS reclaimed water line would require encasement.

## 4.10 Visual Resources

### 4.10.1 Background

The visual impact assessment (VIA) approach used to prepare this report generally followed the Federal Highway Administration (FHWA) guidelines in *Visual Impact Assessment for Highway Projects* (1981) and the updated *Guidelines for the Visual Impact Assessment of Highway Projects* (2015).

The visual impacts of the Selected Alternative footprint were qualitatively evaluated based on expected changes in visual quality, an assessment of the overall change in visual character, and the projected sensitivity of the most likely Study Area viewers to changes in the visual landscape.

The VIA conducted for this project evaluated changes in the visual character resulting from the Selected Alternative, as compared to the No-Build Alternative. The magnitude of these changes is expressed qualitatively using the following terms.

- **High impact** would occur when the contrast between the proposed alternative and the existing scenic integrity of the surrounding area resulted in a substantial long-term and adverse effect on the landscape/visual character and on a viewshed considered highly susceptible to changes in scenic integrity.
- **Moderate impact** would result from a noticeable, but not substantial, deviation from the existing visual setting in a viewshed susceptible to changes in its ability to visually absorb project elements and to changes in the duration of views that are provided.
- **Low-to-moderate impact** would result from slightly noticeable deviation from the existing visual setting. This deviation would be of low severity in a viewshed susceptible to changes in its ability to visually absorb project elements and to changes in the duration of views that are provided.
- **Low impact** would result from a low-to-negligible, short duration deviation from the existing visual setting in a viewshed that could readily absorb project elements.

The entire Study Area is transitioning from a rural, agricultural character to a more populated, suburban character. This will have a substantial and increasing impact on the Study Area's future visual context regardless of whether the Selected Alternative is built or the No-Build Alternative is selected. In addition to the river floodplains, the Study Area's visual character is influenced by the White Tank Mountains to the north, and Sierra Estrella to the south-southeast.

The approach considered the distribution of landscape features and land use in the Selected Alternative footprint. For this evaluation, the Study Area was divided into two landscape units, north (Segment 1) and south (Segment 2), which are shown in Figure 2 and described in the

following sections. Mitigation measures recommended for minimizing visual impacts of the SR303L freeway have been identified.

#### 4.10.2 Existing Conditions

Segment 1 of the Study Area is characterized by relatively flat terrain with very limited undisturbed natural vegetation. Foreground and middle ground views consist predominantly of residential subdivisions and commercial development with associated parking (Figure 25 and Figure 26). Canals, a railroad, and high-voltage power lines intersect the area along the transition between Segment 1 and Segment 2 (Figure 27), along with paved and unpaved roads in a grid pattern that follows section lines. I-10 is at the north end of Segment 1, a linear east-west feature punctuated by the 5-level stack interchange connecting I-10 with the portion of SR303L that currently intersects the interstate.

Segment 2 of the Study Area is characterized by open spaces and relatively flat terrain with limited undisturbed natural vegetation. Foreground and middle ground views consist predominantly of agricultural fields and undeveloped land, with intermittent commercial and sparse residential development. A series of arterial corridors intersect the area, including three canals, a railroad, high voltage power lines at the north end of the Study Area's southern section, and various paved and unpaved roads. Overall, native vegetation is sparse, with scattered shrubs, forbs, and grasses throughout the area. Background views are dominated by the White Tank Mountains to the north, Saddle Mountain to the west, and the Gila River and Estrella Mountains to the south.



Image data: Google

**Figure 25. Segment 1 Residential Area**



Image data: Google

**Figure 26. Segment 1 Commercial Development**



Image data: Google

**Figure 27. Segment 1 / Segment 2 Transition area**



### 4.10.3 Environmental Impacts

#### 4.10.3.1 Selected Alternative

For the Selected Alternative, the Segment 1 portion of the Study Area would feature SR303L as new construction along the existing Cotton Lane, widening it from a two-lane roadway to a ten-lane divided freeway, resulting in an increase in size and height above grade from the existing Cotton Lane. This change would be notable for the residential communities along Cotton Lane from Van Buren Street to Lower Buckeye Road, where the new freeway would become a dominant feature. There would be less distance between the single-family homes abutting Cotton Lane on the east side and the freeway, compared to the existing space between these residences and Cotton Lane.

The freeway would be visible to motorists and residents for a considerable distance. The addition of noise barriers recommended in Section 4.8.7 would further modify the landscape. Potential noise barriers for the Selected Alternative, their location and proposed height above the roadway, and length, as listed in Table 46, are shown in Table 49 below.

**Table 49. Proposed Noise Barriers**

Barrier Description	Height Range (feet)	Length (feet)
<b>Barrier W1 (Sta 1281+57 to 1267+47)</b>	12	1,400
<b>Barrier W2A (Sta 1254+19 to 1240+46)</b>	14-16	1,400
<b>Barrier W2B (Sta 1242+52 to 1228+45)</b>	14	1,400
<b>Barrier E1 (Sta 1216+29 to 1212+30)</b>	10	400
<b>Barrier E2 (Sta 1212+87 to 1170+99)</b>	10-12	4,200
<b>Barrier W4A (Sta 1224+10 to 1182+11)</b>	12-14	4,200
<b>Barrier W4B (Sta 1183+88 to 1169+45)</b>	12-14	1,425
<b>Barrier W5 (Sta 1171+44 to 1145+30)</b>	12-18	2,550

The visual impacts of the Selected Alternative in Segment 2 would be moderate, as the new roadway segment would be elevated and would bisect an area predominantly made up of undeveloped and agricultural land. The Selected Alternative would traverse agricultural land and cross over the UPRR, MC85, and the Buckeye Canal, connecting to the elevated SR303L/SR30 TI.

The southern portion of the Study Area is primarily agricultural land, but is expected to be displaced by residential development by 2040. Views from the few existing, low-density residences would initially be disrupted by the elevated section of the Selected Alternative. The elevated freeway would initially be highly visible in the relatively level landscape. The elevated freeway and the TIs in Segment 2 would present a substantial intrusion into the currently rural landscape. The freeway would be visible to motorists and residents for a considerable distance, but due to its elevation, may offer favorable background views of the landscape to motorists and occupants of vehicles using SR303L.

As part of the Cultural Resources and Section 4(f) analyses, a visual simulation of the Selected Alternative was prepared based on the existing view south from the rear property line of the Buckeye Canal Upper Zanjero House (Figure 28 and Figure 29). The simulation portrays the Selected Alternative in the context of the existing landscape, which features open agricultural land and a broad, flat horizon. The absence of development in the existing landscape underscores the visual impact of the SR303L freeway in this area.

#### **4.10.3.2 No-Build Alternative**

The Study Area would likely appear quite different by the 2045 design year, even without the project. Extensive residential development is anticipated to displace much of the Study Area's existing farmland, and commercial development would accompany that development near major activity nodes.

Without the freeway, viewers on the Study Area roadway network would not see the raised (in most locations), lines of a modern, major transportation facility within the landscape. What would be seen, instead, would be arterial streets carrying high volumes of traffic. While some of these arterial streets might be widened to reduce congestion, with higher volumes of traffic, the urbanizing landscape would present at-grade, views of cluttered vehicles mixed with more commercial development. Increased dense development would restrict the background views of the surrounding mountains from viewers using the arterial streets.

#### **4.10.4 Mitigation**

ADOT's Roadside Development Section coordinates with local public agencies and stakeholders to discuss methods for integrating the design of the Selected Alternative into the existing landscape while minimizing anticipated visual impacts. Visually successful projects have typically achieved a balance among natural harmony, cultural order, and project coherence. During the freeway design stages and implementation of impact mitigation measures, all three criteria, taken together, would need to be emphasized to avoid negatively affecting the freeway's overall visual quality.

##### Design Responsibilities

- The use of earth colors for lighting standards, overpasses, abutments, retaining and screening walls, and noise barriers will be evaluated by the Arizona Department of Transportation. The colors and finishes should be sensitive to the context of the rural surroundings and mountain views.
- The Arizona Department of Transportation will evaluate the use of aesthetic treatments and patterning on noise barriers, screen walls, piers, concrete barriers, retaining walls, and highly visible headwalls.
- Retention basins and associated landscape treatments will blend into the surrounding landscape to the extent possible.

#### **4.10.5 Conclusion**

The Build Alternative would introduce various degrees of alteration to the existing visual landscape resulting from contrasts in the new infrastructure with the existing forms, lines, colors, and textures. Segment 1 of the Selected Alternative, which would carry traffic above the existing grade of Cotton Lane, would have a moderate impact on adjacent residents due to the proximity



**Figure 28. Existing view looking south from the Buckeye Canal Upper Zanjero House**



**Figure 29. Simulated view of Selected Alternative 2CS looking south from the Buckeye Canal Upper Zanjero House**

of the freeway to residences adjacent to Cotton Lane. The elevated sections of the Selected Alternative in Segment 2 would intrude onto existing views in the area because of the elevated profile of the facility in the relatively level landscape.

The system TI would be highly visible. The potential visual impact from the existing agricultural land and the few residents in the area is anticipated to be high. As the agricultural lands are developed in future years, the elevated sections of the freeway would be a part of the existing viewshed; therefore, the visual impact to new residents moving into the area would be lower.

## **4.11 Drainage and Floodplain Considerations**

### **4.11.1 Background**

This section identifies drainage and floodplain issues to be considered when evaluating impacts from the Selected and No-Build Alternatives. Included in this analysis are applicable drainage patterns such as surface water and groundwater, as well as floodplain issues. Surface water includes water present above the soil surface, such as rivers, streams, lakes, pools, and stormwater runoff. Groundwater is water flowing beneath the soil surface that can be collected by underground wells or other facilities constructed for collecting water or for monitoring.

EO 11988, Floodplain Management, requires that impacts to floodplains be evaluated for all federal actions, and directs agencies to reduce impacts to floodplains, minimize flood risks on human safety and wellbeing, and restore and preserve floodplain values. A floodplain is generally level land subject to periodic flooding from an adjacent body of water. Floodplains are delineated and managed by the Federal Emergency Management Agency (FEMA).

A 100-year flood is a storm having a 1 percent chance of being exceeded in magnitude in any given year. The 100-year floodplain includes areas adjoining a water body that are inundated by water during a 100-year flood. The floodway is the area within the floodplain where the water is likely to be the deepest and fastest; this area should be kept free of obstructions to allow 100-year floodwaters to move downstream without increasing the water surface elevation more than 1 foot.

In the riverine sense, a floodplain is a relatively flat, lowland area that adjoins inland streams and is flood prone when high runoff occurs. However, floodplains are not always associated with inland streams; low-lying inland areas located in natural depressions or bordered by human-made or natural obstructions are oftentimes subject to flooding because of the lack of outfall channels.

Floodplains are a critical part of a river or stream ecosystem. They function as water filters, flood buffers, and nurseries, and are major biological centers where flora and fauna often thrive. Floodplains help wetlands by assisting in the provision of fresh water, diluting salts and nutrients in runoff, and improving habitat diversity for plants and animals.

### **4.11.2 Existing Conditions**

The primary floodway and floodplain features within the Study Area are associated with the Gila River (Figure 30). The northern bank of the Gila River borders the southern boundary of the Study Area.

Stormwater runoff generally collects along Cotton Lane from both sides of the road before discharging into the Gila River. There are no natural drainage ways remaining within the Study Area because the entire area has been under agricultural use. A drainage basin and channel system has been constructed to handle the increased runoff due to development in the area east of Cotton Lane and north of Lower Buckeye Road. The FCDMC has constructed a regional drainage channel, the Loop 303 Outfall Channel, west of the SR303L freeway on the west side of Cotton Lane that extends from I-10 to the Gila River. It consists of a concrete-lined channel, box culverts, storm drain pipe, retaining walls, and landscaping adjacent to Cotton Lane and SR303L.

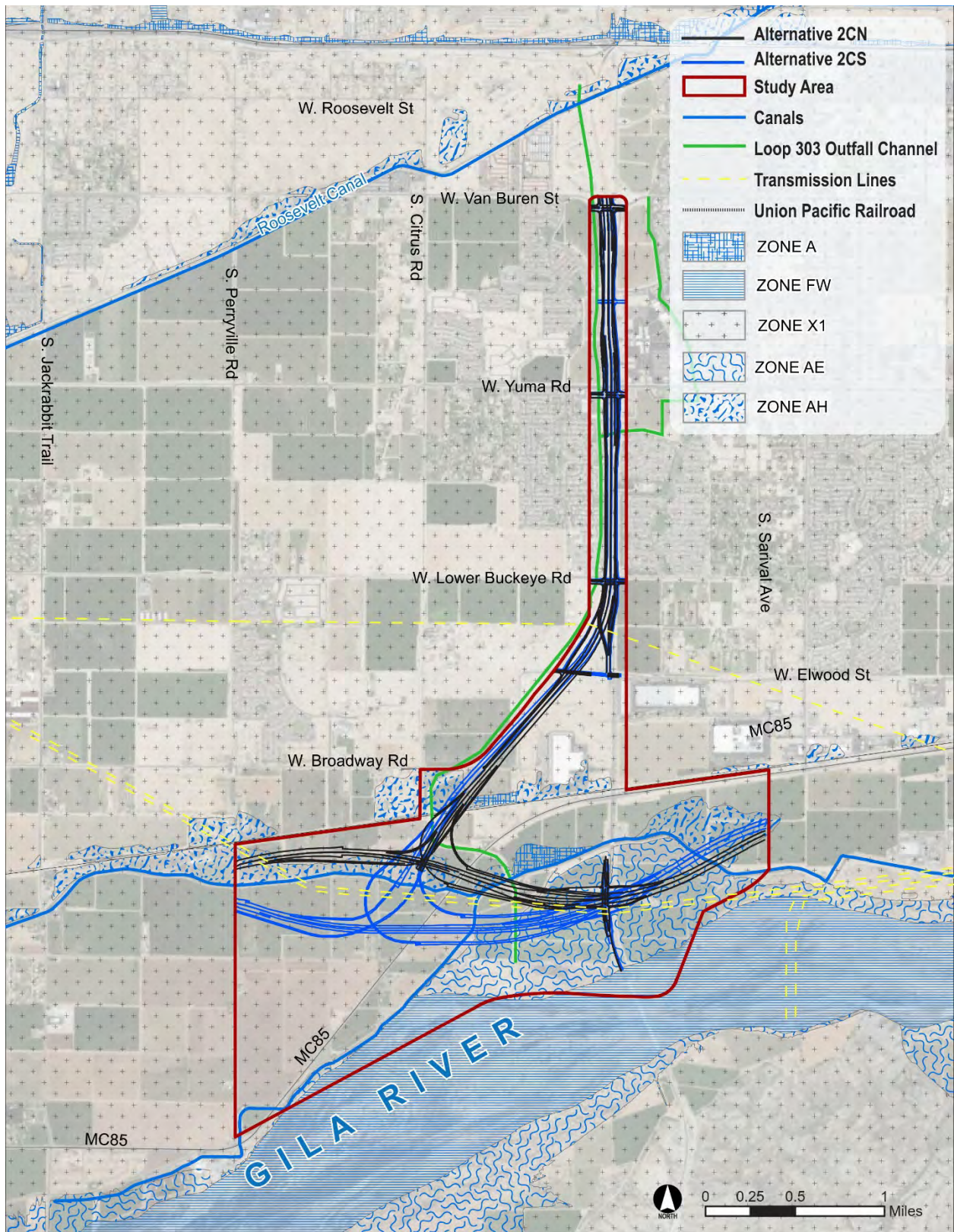
The following FEMA FIRMs cover the Study Area:

- 04013C2140L and
- 04013C2145L.

A review of the FIRM maps identified the flood zones in the Study Area (Figure 30). The Gila River 100-year floodplain is nearly 1.5 miles wide at this location and flooding limits extend to the Buckeye Canal south bank. The Gila River floodplain is the largest in the area and extends beyond its northern bank into adjacent agricultural land. Flood hazard zone designations in the Study Area are A, and AE, AH, FW, and X1 (FEMA 2018).

- Zone A includes areas designated as part of a 100-year floodplain. In these areas, there is a one percent chance of a flood occurring each year that would equal or exceed the last 100-year flood. In this zone, detailed hydraulic analyses have not been performed and therefore no base flood elevations or depths are known.
- Zone FW consists of the Regulatory Floodway, the channel of the river and adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than a designated height. Communities must regulate development in these floodways to ensure that there are no increases in upstream flood elevations.
- Zone X1 is an area of minimal flood hazard and is protected by levee from the 100-year flood.
- Zone AE also includes land subject to inundation by the 100-year flood; however, in these areas analyses have been performed and base flood elevations and depths are known. The predicted areas of inundation in both Zone A and Zone AE are considered high risk areas with regard to flooding and development.
- Zone AH includes areas designated as part of a 100-year floodplain. In these areas, there is a one percent chance of shallow flood occurring each year, usually in the shape of a pond with a depth average of 2 feet. Base flood elevations derived from detailed analysis are shown at selected intervals within this zone. The predicted areas of inundation in Zone AH is considered a high-risk area with regard to flooding and development. (snmapmod.snco.us)

A Letter of Map Revision (LOMR) for the Gila River exists within the project area. LOMR Case Number 08-09-0929P, effective August 10, 2009 (Reference 3), which revised the floodplain, floodway, and base flood elevations of the Gila River in association with the extension of Cotton Lane south across the river.



**Figure 30. FEMA Flood Hazard Zones**

Source: FEMA 2018

### 4.11.3 Environmental Impacts

#### 4.11.3.1 Selected Alternative

This section describes potential impacts on floodplains that would result from construction of the Selected Alternative. This analysis does not include consideration of potential future mitigation through bridges, levees, and other structures. The Selected Alternative 2CS would encroach on the 100-year floodplain of the Gila River. Floodplain impacts would result from placing fill or changing water surface elevations within the floodplain. The acreage impacts on floodplains can only be accurately calculated based on project designs. Given the absence of specific design drawings, only the approximate area of floodplains that would be affected can be defined for the Selected Alternative. These acreage figures demonstrate the estimated extent of flood zones that occur within the limits of the Selected Alternative.

Zone FW (Floodway)	-0-
Zone A: (100-year floodplain; no base flood elevation)	31 acres
Zone AH: (100-year floodplain, high risk to development)	431 acres
Zone X1: (protected by levee; minimal hazard)	1,903 acres

#### 4.11.3.2 No-Build Alternative

The No-Build Alternative would have no impact on the floodplains in and adjacent to the Study Area.

### 4.11.4 Mitigation

This section describes potential mitigation measures as part of the project to avoid, reduce, or otherwise mitigate floodplain impacts associated with the build alternatives. The discussion of these measures in this document does not obligate ADOT to their implementation. ADOT, along with FHWA, may choose to modify, delete, or add measures to mitigate impacts.

#### Design Responsibilities:

- Where the freeway will encroach on the Gila River, the design team will evaluate bridge options that will reduce impacts on the 100-year floodplain.
- Where the freeway will cross flood control features such as SR303 Outfall Channel, the design team will evaluate bridge options to reduce impacts on such features.
- The design team will coordinate with the City of Goodyear and the Flood Control District of Maricopa County to identify and reduce potential impacts to any levees and will consider Mitigation for any floodplains that would be affected by the freeway.
- The Maricopa County Floodplain Manager at (602) 506.1501 will be provided an opportunity to review and comment on the design plans.

### 4.11.5 Conclusion

The Selected Alternative would affect more acreage of the existing 100-year floodplain as compared to the No Build Alternative; however, the Loop 303 Outfall Channel has reduced most of the flood hazard within the Study Area.

The No-Build Alternative would not affect the floodplains. Most of the floodplain in the Study Area has been reduced through implementation of the Loop 303 Outfall Channel.

## **4.12 Sections 404 and 401 of the Clean Water Act and Arizona Pollutant Discharge Elimination System**

The Clean Water Act (CWA) is the primary federal statute governing the discharge of pollutants into jurisdictional Waters of the United States (Waters), which, in Arizona, include perennial and ephemeral watercourses and their tributaries and adjacent wetlands. The principal goal of the CWA is to establish water quality standards to restore and maintain the chemical, physical, and biological integrity of the nation's Waters by preventing point (concentrated output) and nonpoint (widely scattered output) pollution sources (33 U.S.C. §1251 [a]).

Section 401 of the CWA requires any applicant requesting a federal permit or license for activities that may result in discharge into Waters to first obtain a Section 401 certification from the state in which the discharge originates. The Section 401 certification verifies the prospective permits comply with the state's applicable effluent limitation and water quality standards. Federal permits or licenses are not issued until the Section 401 certification is obtained. Within non-tribal lands, ADEQ is responsible for the Section 401 certification. If a project does not meet criteria for conditional certification, such as projects requiring notification to the US Army Corps of Engineers (Corps), or projects occurring within 0.25 miles of unique or impaired waters, an individual Section 401 certification application to the ADEQ is required.

Section 402 of the CWA formed the National Pollutant Discharge Elimination System (NPDES) which regulates pollutant discharges, including stormwater, into Waters. An NPDES permit sets specific discharge limits for point-source pollutants into Waters and outlines specific conditions and requirements for a particular project to reduce impacts to water quality. In 2002, EPA authorized the ADEQ to administer the NPDES program at the State level, the Arizona Pollutant Discharge Elimination System (AZPDES). AZPDES permits require that the project be designed to protect Waters, ensure erosion control best management practices (BMP) are implemented, and compliance with the Construction General Permit (CGP) for construction activities exceeding 1 acre of ground disturbance, which may include the implementation of a Storm Water Pollution Prevention Plan (SWPPP).

Section 404 of the CWA regulates the discharge of dredged or fill material into Waters, and authorizes the Corps to issue permits regulating the discharge. Most dredged and fill materials consist of relatively fine-grained sediments or soil. Moving water can erode and transport these materials, exposing the environment to potential pollutants. The limits of Waters are defined through a preliminary or approved jurisdictional delineation (JD) reviewed and reissued by the Corps. An approved JD requires that all ephemeral drainages display a significant nexus to the downstream traditional navigable water, which would likely be the Gila River for this project.

A traditional navigable water is one that is currently used, or was used in the past, or may be susceptible to use, in interstate or foreign commerce (33 CFR §328.3[a][1]). The most common types of Section 404 permits for transportation projects are 1) Nationwide Permit 14 (Linear Transportation Projects), which authorizes projects with less than 0.50 acre of permanent loss to Waters with no impacts to special aquatic areas such as jurisdictional wetlands, 2) Regional General Permit, for up to 1.0 acre of permanent impact to Waters within ADOT ROW or easement, and 3) individual permits, which are required for projects that affect more than 0.50 acre of Waters or cause impacts to jurisdictional wetlands. Any permit requiring notification to



the Corps may require mitigation to minimize or offset the impacts to Waters with no net loss of functions and values of the water resource. Compensatory mitigation to replace unavoidable loss of wetland, stream, and/or other aquatic resource functions can include aquatic resource restoration, establishment, enhancement, and in certain circumstances, preservation. These may be required to be provided by the permittee, or through a third party; i.e., a mitigation bank or in-lieu fee sponsor.

Waters under the jurisdiction of the Corps within the SR303L Study Area have been interpreted to include natural channels, ephemeral washes, earthen-banked canals, concrete-lined canals, and human-induced wetlands. The following guidance and activities were used to identify potential Waters in the Study Area:

- *Review of NWI Wetland Mapping*
- Definition of Waters of the United States and Navigable Waters 33 CFR §§328 and 329)
- Review of aerial photography
- Review of U.S. Geological Survey 7.5-minute topographic quadrangles for the Study Area

#### **4.12.1 Existing Conditions**

The Gila River is the major natural water body in the Study Area, receiving flows from the Salt River in the vicinity of 115<sup>th</sup> Avenue and the Agua Fria River near Litchfield Road. Flow in the Gila River is intermittent within the Study Area, influenced by storm flows, groundwater withdrawals, effluent discharges, diversions for irrigation, return flows from irrigated areas, and seasonal floodwater releases from upstream dams. Treated discharges have created potential wetlands in the Gila River. Irrigation canals are the other major potential Waters in the Study Area, consisting of the Buckeye Canal and the South Extension Canal.

The Arizona List of Outstanding Waters (Arizona Administrative Code R18-11-112(E)) and the Arizona 2012/2014 Section 303(d) List of Impaired and Non-attaining Waters were reviewed to determine whether any outstanding or impaired waters are present in or within one mile of the Study Area. No outstanding waters are present in the project area. However, the segment of the Gila River approximately 0.35 mile south of the SR303L project area is listed as being effluent dependent (i.e., constituted primarily of treated wastewater).

#### **4.12.2 Environmental Impacts**

##### ***4.12.2.1 Selected Alternative***

The Gila River borders the southern boundary of the Study Area and flows from the southeast and then curves to the southwest. The Gila River floodway does not encroach into the Selected Alternative.

The Selected Alternative would be constructed in phases, with the initial (programmed) phase extending SR303L from Van Buren Street south to Lower Buckeye Road. No Waters would be affected by construction in this segment of the Selected Alternative.

In subsequent phases, the Selected Alternative would cross over the Buckeye Canal and the South Extension Canal on bridge structures. Effects on these potential Waters may include placement of facility structures such as piers or runoff from the freeway. Approximately 720 linear feet of these canals within the Study Area would be located beneath the bridges of the Selected

Alternative. Subsequent to construction, permanent BMP would be used to minimize the effects of stormwater runoff to these canals. BMP include physical controls such as soil stabilization and sediment control, and operational activities such as good housekeeping practices, spill control and response plan, and routine inspection, maintenance, and repair.

A JD would need to be conducted and submitted to the Corps to determine the extent of Waters affected by the Selected Alternative. If Waters are determined to be within the footprint of the Selected Alternative, a Section 404 permit from the Corps and a Section 401 Water Quality Certification from ADEQ would be required under CWA. An AZPDES permit from ADEQ, per Section 402(p) of the CWA and compliance with the CGP, would be required during final design due to ground disturbance greater than one acre.

#### **4.12.2.2 No Build Alternative**

The No-Build Alternative would have no direct impacts to potential Waters and would not require AZPDES permitting. However, continued development in the Study Area may create the need for additional roadway crossings over canals and the Gila River.

#### **4.12.3 Mitigation**

##### District Responsibility:

- The Engineer will review and approve the contractor's Stormwater Pollution Prevention Plan, Notice of Intent, and Notice of Termination prior to submission to the Arizona Department of Environmental Quality.

##### Contractor Responsibilities

- The contractor will develop a Stormwater Pollution Prevention Plan, Notice of Intent, and Notice of Termination, and submit it to the Engineer for approval.
- The contractor, upon approval from the Engineer, shall submit the Stormwater Pollution Prevention Plan, Notice of Intent, and Notice of Termination to the Arizona Department of Environmental Quality.
- This project is located within a designated municipal separate storm sewer system. Therefore, the contractor shall send a copy of the Notice of Intent and Notice of Termination to the City of Goodyear.

#### **4.12.4 Conclusion**

Construction and operation of the Selected Alternative would result in a direct impact to Waters if Waters are found to be within the project area through the process of issuing an Approved JD or Preliminary JD. The No Build Alternative would generally have less impact on Waters because it would not have direct impacts related to the construction of a freeway. However, future development may prompt the construction of new canal crossings for the future road network, which would likely affect Waters.

### **4.13 Biological Resources**

#### **4.13.1 Background**

This section discusses potential impacts that the Selected Alternatives and the No-Build Alternative may have on biological resources in the Study Area. A Biological Review was prepared

for this project to evaluate potential impacts to federally listed threatened, endangered, proposed, and candidate species for Maricopa County, as well as sensitive species and protected native plants (Appendix E). The original report was approved by ADOT Environmental Planning on February 5, 2013. An update memorandum for the Biological Review was prepared in December 2017 and approved on December 13, 2017.

#### **4.13.2 Existing Conditions**

The project area lies between 900 and 996 feet elevation on relatively flat, gently southerly sloping terrain in the Buckeye Valley, southwest of Phoenix. The project vicinity supports primarily agriculture (e.g. cotton), housing developments, and some industrial development. Little natural terrain remains because the project area has been altered by human activities. The UPRR bisects the southern half of the Study Area in the vicinity of MC85.

The westerly flowing, perennial Gila River is directly south of and parallel to the southern study limits. The Roosevelt Canal bisects the project area north of MC85, and the Buckeye Canal and Extension Canal bisect the area south of MC85. No natural wetlands or perennial surface waters occur within the project limits.

Native soils in the northern project area are classified as well-drained, limey soils of the Laveen-Rillito Association, originating from surficial deposits of Holocene to late Pleistocene Age. Native soils in the southern part of the area are classified as well-drained, sandy to clayey soil of the Torrifluvents Association, originating from young alluvium of Holocene to late Pleistocene Age (Hendricks 1985).

##### **4.13.2.1 Vegetation**

The historic natural plant community occurring at the margins of the developed portions of the project area is the saltbush (*Atriplex* spp.)-dominated Lower Colorado River subdivision of Sonoran desertscrub (Turner and Brown 1994). Uncommon native perennial plants include cattle saltbush (*Atriplex polycarpa*), wolfberry (*Lycium* spp.), desert broom (*Baccharis sarothroides*), and goldenbush (*Isocoma* spp.). Common nonnative plants with a patchy distribution include ornamental trees (e.g., eucalyptus and palm), Russian thistle (*Salsola tragus*), tamarisk (*Tamarix ramosissima*), and curly dock (*Rumex crispus*). Scattered paloverde (*Parkinsonia* spp.) and mesquite (*Prosopis* spp.) trees occur infrequently in the Study Area. A patch of mesquite bosque with fire damage transitions to a cottonwood (*Populus fremontii*) riparian woodland near the Gila River on the south side of the Study Area.

##### **4.13.2.2 Invasive Species**

Under EO 13112, dated February 3, 1999, projects that occur on federal lands or are federally funded must, “subject to the availability of appropriations, and within Administration budgetary limits, use relevant programs and authorities to:

- i) prevent the introduction of invasive species;
- ii) detect and respond rapidly to and control populations of such species in a cost effective and environmentally sound manner;
- iii) monitor invasive species populations accurately and reliably; and
- iv) provide for restoration of native species and habitat conditions in ecosystems that have been invaded.”

#### 4.13.2.3 Wildlife

ADOT, AGFD, FHWA, and representatives from other agencies completed a Wildlife Linkages Assessment to address important wildlife movement corridors in Arizona. The Gila River, at the southern end of the project area, falls within Wildlife Linkage 151— Gila/Salt River Corridor Granite Reef Dam–Gillespie Dam, as defined by the Wildlife Linkages Assessment. The wildlife habitat throughout most of the Study Area is of low to moderate quality because of development and active agriculture in the corridor. Aside from native vegetation along the Gila River, wildlife habitat consists of active and fallow agricultural fields and small groupings of nonnative trees and shrubs. Small reptiles, including lizards and snakes, and mammals such as rabbits, coyotes, and rodents are expected to inhabit these areas. The Salt and Lower Gila Rivers Ecosystem Important Bird Area (IBA) runs east and west along the southern portion of the study area; and resident birds include red-tailed hawk (*Buteo jamaicensis*), Gambel's quail (*Lophortyx gambelii*), mourning dove, (*Zenaidura macroura*), and roadrunner (*Geococcyx californianus*) (Turner and Brown 1994).

#### 4.13.2.4 State Sensitive Species

The AGFD On-line Environmental Review Tool was accessed as part of the 2013 Biological Review and produced a list of special status species known to occur in the project vicinity. As part of the environmental review process, a letter describing the project was sent to the AGFD to inform them of the project and to solicit comments. The letter requested any specific concerns, suggestions or recommendations the agency may have related to the project. The AGFD tool included a list of special species known to occur within the 3 miles of the project area; the yellow-billed cuckoo, the Southwestern willow flycatcher, the Yuma clapper rail, the Western burrowing owl, the bald eagle (*Haliaeetus leucocephalus*), the least bittern (*Ixobrychus exilis*); and the California leaf-nosed bat (*Macrotus californicus*).

AGFD, in its response, did not include any species-specific concerns related to the project, but it did identify the desire to continue working with ADOT during the design of the roadway.

The AGFD On-line Environmental Review Tool was accessed again on September 28, 2017 (Appendix E). The list from the 2017 inquiry included the following updates to the approved February 2013 Biological Review document:

- The Mojave Desert tortoise population (*Gopherus agassizii*) is not listed under the Candidate Conservation Agreement (CCA).
- The Sonoran Desert Tortoise population (*Gopherus morafkai*) is listed under the CCA, and as Sensitive under the United States Forest Service (USFS) and the Bureau of Land Management (BLM).
- The bald eagle (*Haliaeetus leucocephalus*) Sonoran Desert population was listed as Sensitive under the USFS and BLM.

According to the U.S. Fish & Wildlife Service (USFWS), the Mojave Desert Tortoise population (*Gopherus agassizii*) is considered threatened. AGFD distribution data place the Mojave Desert tortoise in the area north and west of the Colorado River. USFWS range maps for the Desert Tortoise indicate its presence along the western border of the state, near Yuma, Arizona and Blythe, California. The project is located approximately 135 miles east-northeast of Yuma placing it significantly outside the Mojave Desert tortoise population range.

The USFWS range maps for the Sonoran Desert Tortoise (*Gopherus morafkai*) place it within the project area boundaries. ADOT is a signatory of the CCA listing of the Sonoran Desert Tortoise established June 19, 2015. USFWS announced a 12-month finding on October 6, 2015 [Docket No. FWS-R2-ES-2015-0150; 4500030113] stating that listing the Sonoran Desert Tortoise was not warranted; the species is still considered 'Not Listed'. According to USFWS, suitable habitat for the Sonoran Desert tortoise includes Sonoran Desertscrub and Semidesert Grassland, preferably in rocky slopes and bajadas from 900-4,200 feet elevation. The Sonoran Desert tortoise most often occurs in paloverde-mixed cacti associations, but has been documented in semi-desert grassland, interior chaparral, oak woodland, ponderosa-pine dominated coniferous forests, and thorn-scrub habitats. Incised washes are important features for sheltering in lower elevation habitat. Distribution is generally south and east of the Colorado River, in the central and western parts of Arizona and into northwestern Mexico. Due to high human traffic, the project area does not contain suitable habitat for the Sonoran Desert Tortoise; therefore, impacts are not anticipated.

The approved February 2013 Biological Review reported that the bald eagle (*Haliaeetus leucocephalus*) is known to forage along the Gila River and pass over the project area while in transit between perching sites, foraging areas, or nesting sites. The Biological Review determined that project-related construction may impact bald eagle movement patterns but will not impact any nesting sites.

#### 4.13.2.5 Threatened/Endangered and Sensitive Species

A qualified biologist reviewed the USFWS list of endangered, threatened, proposed, and candidate species, as defined by the Endangered Species Act (ESA), for Maricopa County (USFWS 2013) to determine which listed species may occur in the Study Area. The ESA was enacted to "protect and recover imperiled species and ecosystems upon which they depend"; and species listed under the ESA are either endangered (in danger of extinction) or threatened (likely to become endangered in foreseeable future). Seventeen USFWS sensitive species are listed as being found within three miles of the project area. The AGFD species list provides documented occurrences within two to three miles. Only one species (Sprague's pipit), was found to have suitable or occupied habitat within the project area. According to the Biological Review, the project would have no effect on this species or its habitat. Subsequent to the 2013 Biological Review, the Sprague's pipit was delisted as a Candidate species. Table 50 shows the USFWS species listed within Maricopa and an evaluation of effects (2013 Biological Review).

An updated species list<sup>1</sup> for the project area was obtained from the USFWS on November 16, 2017. The list included seven threatened, endangered, or candidate species that should be evaluated for the project area. The species include the Lesser Long-nosed Bat (*Leptonycteris curasoae yerbabuena*), Sonoran Pronghorn (*Antilocapra americana sonoriensis*), California Least

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<sup>1</sup> "The Fish and Wildlife Service (Service) is providing this list under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.). The list you have generated identifies threatened, endangered, proposed, and candidate species, and designated and proposed critical habitat, that may occur within one or more delineated United States Geological Survey 7.5 minute quadrangles with which your project polygon intersects. Each quadrangle covers, at minimum, 49 square miles. In some cases, a species does not currently occur within a quadrangle but occurs nearby and could be affected by a project."

Tern (*Sterna antillarum browni*), Southwestern Willow Flycatcher (*Empidonax traillii extimus*), Yellow-billed Cuckoo (*Coccyzus americanus*), Yuma Clapper Rail (*Rallus longirostris yumanensis*), and Roundtail Chub (*Gila robusta*), all of which were addressed in the February 2013 submittal. None of the species have the potential to occur in the project area since the area has minimal natural habitat due to human traffic and development. This project would have no effect on the species. The Yellow-billed cuckoo (*Coccyzus americanus*) status was updated on November 3, 2014 from Candidate to Threatened. Proposed critical habitat (PCH) includes approximately 546,335 acres (221,094 hectares) in Arizona, California, Colorado, Idaho, Nevada, New Mexico, Texas, Utah, and Wyoming for the western yellow-billed cuckoo under the ESA. This includes all of Arizona, and the project vicinity falls within the PCH of the Yellow-billed Cuckoo; however, the area is highly developed. The Sprague’s pipit (*Anthus spragueii*) was delisted in 2016 and therefore was not included on the 2017 update species list.

**Table 50. USFWS Listed Species in Maricopa County and Evaluation of Effects (2013 Biological Review)**

Common Name	Scientific Name	Status	Suitable Habitat Present?	Occupied Habitat Present?	Critical Habitat Present?	Species Affected?	Critical/Suitable Habitat Affected?
<b>Endangered and Threatened</b>							
Acuña cactus	<i>Echinomastus erectocentrus var. acunensis</i>	PE	No	No	No	No	No
Arizona cliffrose	<i>Purshia subintegra</i>	E	No	No	No	No	No
California least tern	<i>Sterna antillarum browni</i>	E	No	No	No	No	No
Desert pupfish	<i>Cyprinodon macularius</i>	E	No	No	No	No	No
Gila topminnow	<i>Poeciliopsis occidentalis</i>	E	No	No	No	No	No
Lesser long-nosed bat	<i>Leptonycteris curasoae yerbabuena</i>	E	No	No	No	No	No
Mexican spotted owl	<i>Strix occidentalis lucida</i>	T	No	No	No	No	No
Razorback sucker	<i>Xyrauchen texanus</i>	E	No	No	No	No	No
Sonoran pronghorn	<i>Antilocapra americana sonoriensis</i>	E	No	No	No	No	No

Common Name	Scientific Name	Status	Suitable Habitat Present?	Occupied Habitat Present?	Critical Habitat Present?	Species Affected?	Critical/Suitable Habitat Affected?
Southwestern willow flycatcher	<i>Empidonax traillii extimus</i>	E	No	No	No	No	No
Woundfin	<i>Plagopterus argentissimus</i>	E	No	No	No	No	No
Yuma clapper rail	<i>Rallus longirostris yumanensis</i>	E	No	No	No	No	No
<b>Candidate<sup>1</sup></b>							
Desert tortoise, Sonoran population	<i>Gopherus agassizii</i>	C	No	No	No	No	No
Roundtail chub	<i>Gila robusta</i>	C	No	No	No	No	No
Sprague's pipit <sup>2</sup>	<i>Anthus spragueii</i>	C	Yes	Yes	No	No	Yes
Tucson shovel-nosed snake	<i>Chionactis occipitalis klauberi</i>	C	No	No	No	No	No
Yellow-billed cuckoo	<i>Coccyzus americanus</i>	C	No	No	No	No	No

Source: 2013 Biological Review

C = Candidate, E = Endangered, PE = Proposed Endangered, T = Threatened (USFWS 2012)

<sup>1</sup>Candidate Species are not considered for potential effect

<sup>2</sup>Sprague's pipit (*Anthus spragueii*) was delisted as a Candidate species by the US Fish & Wildlife Service on April 5, 2016

#### 4.13.2.6 Arizona Native Plant Law Species

A qualified biologist conducted a non-systematic survey of the Study Area on September 28, 2006, for the presence of protected native plants. Under the Arizona Native Plant Law, rare plant species and plant species susceptible to over harvesting are protected. The prickly pear (*Opuntia* spp.), and palo verde (*Parkinsonia* spp.) were both found in the Study Area. ADOT did not conduct a native plant survey for the Biological Review update in 2017. The ADOT Biologist stated in May 2018 that past conversion of native desert to agricultural fields in the Study Area, plus recent land development further degrading the natural plant community at the edges of the developed portions, has further marginalized any remaining native plant coverage. For this reason, a field review was not warranted (Navarro to Scolaro, May 23, 2018).

#### 4.13.2.7 Invasive Species

The AGFD On-line Environmental Review Tool included a standard response for treatment and management of invasive species. The project area was surveyed on September 28, 2006, and invasive plant species were observed in the project area. No formal survey was conducted to identify and map the invasive plant species at the time. ADOT Roadside Resources indicated in

June 2018 that no new noxious or invasive weed species had been documented, and that a field survey was not warranted as long as standard mitigation measures were implemented (Cummings to Scolaro, June 6, 2018).

Common invasive plant species that are known to occur in Maricopa County and likely occur in the project area are listed in Table 51.

**Table 51. Common Invasive Plant Species in Maricopa County, Arizona**

Common Name	Scientific Name
African mustard	<i>Brassica tournefortii</i>
Barnyardgrass	<i>Echinochloa crus-galli</i>
Bermudagrass	<i>Cynodon dactylon</i>
Cheatgrass	<i>Bromus tectorum</i>
Common purslane	<i>Portulaca oleracea</i>
Curly dock	<i>Rumex crispus</i>
Dodder	<i>Cuscuta</i> spp.
Field bindweed	<i>Convolvulus arvensis</i>
Giant reed	<i>Arundo donax</i>
Johnsongrass	<i>Sorghum halepense</i>
Lehmann lovegrass	<i>Eragrostis lehmanniana</i>
London rocket	<i>Sisymbrium irio</i>
Mexican paloverde	<i>Parkinsonia aculeata</i>
Nettleleaf goosefoot	<i>Chenopodium murale</i>
Nuttall’s poverty-weed	<i>Monolepis nuttalliana</i>
Puncturevine	<i>Tribulus terrestris</i>
Red brome	<i>Bromus rubens</i>
Redstem stork’s bill	<i>Erodium cicutarium</i> ssp. <i>cutarium</i>
Russian thistle	<i>Salsola tragus</i>
Tamarisk	<i>Tamarix</i> spp.
Tree tobacco	<i>Nicotiana glauca</i>
Wild mustard	<i>Sinapis arvensis</i>
Yellow sweetclover	<i>Melilotus officinalis</i>

The project would incorporate appropriate mitigation measures to prevent the introduction and spread of invasive species.

#### 4.13.3 Environmental Impacts

##### 4.13.3.1 Selected Alternative

The Selected Alternative would have no impact on state sensitive or USFWS threatened/endangered or special species, as there is no suitable or occurring habitat in the project area. Habitat for the Sprague’s pipit is known to occur; however, this species has been delisted as a Candidate species on USFWS’s Threatened and Endangered Species list.

##### 4.13.3.2 No-Build Alternative

The No-Build Alternative would have no effect on vegetation or wildlife biological resources.



#### **4.13.4 Mitigation**

##### Design Responsibility

- All disturbed soils that will not be landscaped or otherwise permanently stabilized by construction will be seeded using species native to the project vicinity.

##### Roadside Development Responsibilities

- Protected native plants within the project limits will be impacted by this project; therefore, the Arizona Department of Transportation Roadside Development Section will determine if Arizona Department of Agriculture notification is needed. If notification is needed, the Arizona Department of Transportation Roadside Development Section will send the notification at least 60 (sixty) calendar days prior to the start of construction.
- The Arizona Department of Transportation Roadside Development Section will during final design provide special provisions for the control of noxious and invasive plant species during construction that may require treatment and control within the project limits.

##### District Responsibilities

- If active bird nests are identified within the project limits, construction activities will avoid disturbing any active nest. Avoidance areas, if necessary, will be marked in the field with temporary fencing or t-posts with flagging by an ADOT-approved biologist. The Engineer will confer with the approved biologist to determine the appropriate avoidance strategies until the nestlings have fledged from the nest and the nest is no longer active.
- If any active bird nests cannot be avoided by vegetation clearing or construction activities, the Engineer will contact the Environmental Planning Group Biologist (602.712.7134 or 602.712.6819) to evaluate the situation.

##### Contractor Responsibilities

- The contractor shall develop a Noxious and Invasive Plant Species Treatment and Control Plan in accordance with the requirements in the contract documents. Plants to be controlled shall include those listed in the State and Federal Noxious Weed and the State Invasive Species list in accordance with State and Federal Laws and Executive Orders. The plan and associated treatments shall include all areas within the project right of way and easements as shown on the project plans. The treatment and control plan shall be submitted to the Engineer for the Arizona Department of Transportation Construction Professional Landscape Architect to review and approve prior to implementation by the contractor.
- The contractor shall employ a biologist to complete a preconstruction survey for burrowing owls 96 hours prior to construction in all suitable habitat that will be disturbed. The biologist shall possess a burrowing owl survey protocol training certificate issued by the Arizona Game and Fish Department. Upon completion of the survey, the contractor shall contact the Arizona Department of Transportation Environmental Planning biologist (602.712.7649 or 602.712.7767) to provide survey results.
- If any burrowing owls are located during preconstruction surveys or construction, the contractor shall employ a biologist holding a permit from the US Fish and Wildlife Service to relocate all burrowing owls from the project area, as appropriate.

- If burrowing owls or active burrows are identified during the preconstruction surveys or during construction, no construction activities shall take place within 100 feet of any active burrow until the owls are relocated.
- All disturbed soils that will not be landscaped or otherwise permanently stabilized by construction shall be seeded using species native to the project vicinity.
- Prior to the start of ground-disturbing activities, the contractor shall arrange for and perform the control of noxious and invasive species in the project area.
- If clearing, grubbing, or tree/limb removal will occur between March 1 and August 31, the contractor shall employ a qualified biologist to conduct a migratory bird nest search of all vegetation within the 10 (ten) days prior to removal. Vegetation may be removed if it has been surveyed and no active bird nests are present. If active nests cannot be avoided, the contractor shall notify the Engineer to evaluate the situation. During the non-breeding season (September 1 – February 28), vegetation removal is not subject to this restriction.
- To prevent invasive species seeds from leaving the site, the contractor shall inspect all construction equipment and remove all attached plant/vegetation and soil/mud debris prior to leaving the construction site
- To prevent the introduction of invasive species seeds, the contractor shall inspect all earthmoving and hauling equipment at the equipment storage facility and the equipment shall be washed prior to entering the construction site.
- The contractor shall employ a biologist to complete a preconstruction survey for invasive plant species immediately prior to ground-disturbance activities. Upon completion of the survey, the contractor shall contact the Arizona Department of Transportation Environmental Planning biologist (602.712.7134 or 602.712.7767) to provide survey results.

#### **4.13.5 Conclusion**

The Selected Alternative would principally affect agricultural and residential land where no suitable habitat for federally listed or state sensitive species is present; therefore, no effects would result from the Selected Alternative on these resources. The Selected Alternative could have an impact on protected native plants in the project area; any impacts would be mitigated by coordination with the Arizona Department of Agriculture. Potential exists with construction of the Selected Alternative to spread and/or introduce invasive species, but mitigation would minimize or eliminate the potential for the expansion of invasive species in the project area.

#### **4.14 Prime and Unique Farmlands**

The Farmland Protection Policy Act (FPPA) (7 CFR Part 658) governs the definition and identification of prime and unique farmland. The FPPA states that “the purpose of the Act is to minimize the extent to which federal programs contribute to the unnecessary and irreversible conversion of farmland to nonagricultural uses.” The FPPA requires identification of proposed Builds that would affect any land classified as prime or unique farmland before federal approval of any activity that would convert farmland into other land uses, including conversion to ROW for highways, such as the SR303L freeway extension. The Natural Resources Conservation Service (NRCS), part of the US Department of Agriculture (USDA), administers the FPPA as it relates to protection of farmland.

Pursuant to the FPPA, *prime farmland* is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses (the land could be crop land, pasture land, range land, forest land, or other land, but not urban, built-up land or water). It has the soil quality, growing season, and moisture supply needed to economically produce sustained high yields of crops when treated and managed, including water management, according to acceptable farming methods. In general, prime farmlands have an adequate and dependable water supply from precipitation or irrigation, a favorable temperature and growing season, acceptable acidity or alkalinity, acceptable salt and sodium content, and few or no rocks. They are permeable to water and air. Prime farmlands are not excessively erodible or saturated with water for a long period of time, and they either do not flood frequently or are protected from flooding.

Pursuant to the FPPA, *unique farmland* is land other than prime farmland that is used for the production of specific high value food and fiber crops. It has the special combination of soil quality, location, growing season, and moisture supply needed to economically produce sustained high quality and/or high yields of a specific crop when treated and managed according to acceptable farming methods (i.e., citrus, tree nuts, olives, cranberries, fruit, and vegetables). Specific characteristics of unique farmland include the following:

1. Used for a specific high-value food or fiber crop
2. Has a moisture supply that is adequate for the specific crop. The supply is from stored moisture, precipitation, or a developed irrigation system
3. Combines favorable factors of soil quality, growing season, temperature, humidity, air drainage, elevation, aspect, or other conditions, such as nearness to market, that favor the growth of a specific food or fiber crop.

In the FPPA regulations (7 CFR §§ 658.2-658.3), a description of land not subject to (not protected by) provisions of the FPPA is provided:

- land that receives a combined score of less than 160 points from the Land Evaluation and Site Assessment criteria
- land identified as an “urbanized area” on the U.S. Census Bureau maps
- land designated as an urban area and shown as a “tint overprint” on United States Geological Survey topographical maps
- areas show as white (not farmland) on USDA Important Farmland Maps
- areas shown as “urban built-up” on the USDA Important Farmland Maps (consistent with the guidance of the Nations Resources Inventory for mapping urban-built-up areas [area 10 acres or larger without structures are not considered urban-built-up and are subject to FPPA]) land used for national defense purpose
- private land where no federal funds or technical assistance are used

To rate the relative impact of projects on farmland, federal agencies must complete portions of the Farmland Conversion Impact Rating form (NRCS-CPA-106). This form should be used for highway corridor projects, and the “Corridor-Assessment Criteria” are the specific criteria to be used for the freeway. A copy of the completed NRCS-CPA-106 form is included in Appendix F. The fact that the City of Goodyear has designated existing agricultural lands as future urbanized areas in its Master Plan does not exempt it from the FPPA.

#### **4.14.1 Existing Conditions**

Existing land use in the Study Area is primarily agricultural and residential. The majority of potential prime farmland within the Study Area is found south of Broadway Road. Major crops within the Study Area include alfalfa, cotton, and grains.

The online NRCS Web Soil Survey tool was used to ascertain the existence of prime and unique farmland soils in the Study Area. The NRCS has designated certain soils in the Study Area as prime and/or unique farmland. These are separated into three categories: farmland of unique importance, prime farmland if irrigated, and prime farmland if irrigated and protected from flooding or not frequently flooded during the growing season.

The areal extent of land in the Study Area currently in active agriculture and with prime or unique farmland soils was tabulated. Farmland located outside the floodplain that is in active agriculture was assumed to be irrigated land that floods only infrequently. Approximately 2,728 acres of prime and/or unique farmland were identified in the Study Area pursuant to the classifications given above (Figure 31).

#### **4.14.2 Environmental Impacts**

##### ***4.14.2.1 Selected Alternative***

NRCS reviewed and completed Parts IV and V of the NRCS-CPA-106 on April 10, 2013 for Build Alternatives, 2CN, 3N, and 5N, which were under consideration at that time (See Appendix F). NRCS assigned Alternative 2CN a score of 124, which is below the threshold of 160 points required for land to be subject to the provisions of the FPPA. NRCS scores decrease as encroaching development displaces agricultural uses and related services and activities in the Study Area.

In June 2018, NRCS reviewed the Selected Alternative 2CS based on the prior analysis and determined that the farmland required for the Selected Alternative would not be subject to the provisions of the FPPA (Yancey to Scolaro, June 8, 2018).

##### ***4.14.2.2 No-Build Alternative***

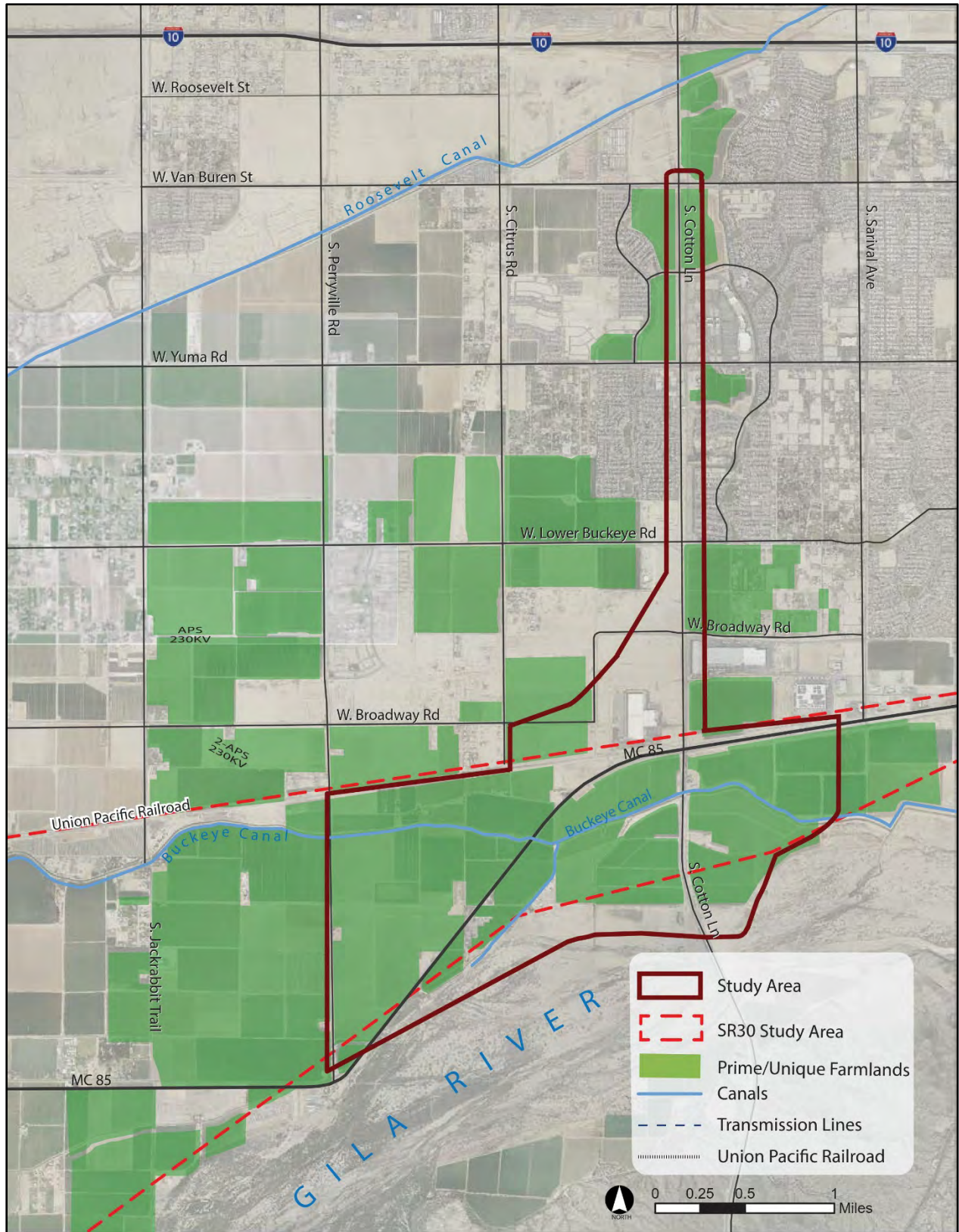
The No-Build Alternative would not require the conversion of Prime and /or Unique Farmlands to transportation use. However, in the absence of the project, the conversion of farmland to nonagricultural uses is projected to continue. Because of continuing growth and development, it is likely that farmland in the Study Area would eventually be lost through conversion to urban land uses.

#### **4.14.3 Mitigation**

No mitigation measures are warranted.

#### **4.14.4 Conclusion**

Alternative 2CN scored below 160, and the score for Alternative 2CS would not likely differ significantly. It is anticipated that by the time freeway construction would begin, much of the remaining Study Area prime and unique farmland would likely have been converted to other uses. The No Build Alternative would not affect Prime and Unique Farmland through conversion of land to a transportation use; however, planned development is expected to convert agricultural land to other uses by the expected buildout of the Study Area in 2030.



**Figure 31. Prime and Unique Farmlands in the Study Area**

## 4.15 Hazardous Materials

### 4.15.1 Background

Hazardous materials and hazardous waste sites pose a threat to any infrastructure project, beginning with ownership liability concerns and ending with construction safety concerns. EPA's 2002 Brownfields Act identified the appropriate steps of all appropriate inquiry for investigating hazardous materials sites, and the ASTM International (formerly, American Society for Testing and Materials) E1527 series standard was written to provide a set of guidelines for the assessment of properties and the qualifications of environmental professionals engaged to perform the analysis. FHWA has adopted a step-wise approach to hazardous materials site analysis that conforms to the ASTM series of standards governing Phase I Environmental Site Assessments (Phase I ESA) and Phase I-type site investigations.

### 4.15.2 Existing Conditions

ADOT conducted a Phase I ESA in 2016 that included a review of the regulatory history of sites within the SR303L Study Area and a site reconnaissance by an environmental professional (a term defined in ASTM 11 E 1527-13). The Phase provided the study team adequate information to compare potential alternatives for fatal flaws or hazardous materials issues that may be large enough to provide a basis of preference for one alternative over another. If the Selected Alternative is selected, initial site assessments (ISA) are performed to assess specific sites of potential concern along the corridor in more detail. The ISA conforms to the ASTM E1527 series of standards and includes site-specific analysis with interviews and historic waste-stream data analysis.

The regulatory database search obtained as part of the Phase I identified specific facilities in the Study Area including two Resource Conservation and Recovery Act (RCRA) sites (Table 52 and Figure 32). The database search also identified more than 150 well sites in the Study Area that are registered with the Arizona Department of Water Resources (ADWR) (Figure 33).

In 1984, approximately 9,516 barrels of unleaded gasoline were released from an underground petroleum pipeline. The pipeline, then owned by Santa Fe Pacific Pipeline and now, as of 1998, owned by Kinder Morgan Energy Partners (KMEP), extends along the south side of the UPRR. Emergency cleanup efforts recovered approximately 1,056 barrels of gasoline, and excavated/removed approximately 400 cubic yards of contaminated soil. In 1989 impacted groundwater was discovered in irrigation well indication that initial cleanup activities did not fully address the resulting soil contamination. In the following four years investigations were conducted and groundwater wells were installed in order to develop a characterization report and a corrective action plan. In 1992, a groundwater monitoring plan was initiated. From 1993-2007, soil vapor extraction occurred at the release area to address soil contamination. From 1999 to 2008, additional remediation actions were conducted to address the groundwater contamination issues.

In March of 2008, KMEP submitted a Final Closure Request Report documenting the soils, vapors and groundwater sampling taken at the site. The report stated that all soils had been remediated to below residential soil remediation levels. The report also noted the data collected by KMEP's groundwater remediation system showed that groundwater had been remediated to the groundwater cleanup levels, in accordance with Consent Order Z-201-99.

**Table 52. Listed Hazardous Materials Facilities**

Facility Name and Location	Estimated Distance/Direction	Database Listing	Regulatory Status	Environmental concern, Yes/No
<b>Amcort Investments Corporation</b>	SE Corner of Cotton Lane/Yuma Road intersection	UST	In use	Yes
<b>Goodyear Well 11 3200 South 173<sup>rd</sup> Avenue</b>	1,000 ft. west of Cotton Lane & south of Lower Buckeye Road	LUST	Closed	No
<b>Kinder Morgan Liberty Site SE of Citrus/Broadway intersection on north side of UPRR</b>	4,000 ft. west of Cotton Lane	RCRA	Gasoline pipeline spill – closed January 12, 2009	No
<b>Huhtumaki Plant 17300 West Broadway Road</b>	900 ft. west of Cotton Lane	RCRA	Small quantity generator - closed	No
		SARA	APS transformers - active	

RCRA: Resource Conservation and Recovery Act

SARA: Superfund Amendments and Reauthorization Act

UST: underground storage tank

LUST: leaking underground storage tank

Source: Phase I Environmental Site Assessment, SR303L, SR30 to I-10 (May 2016)

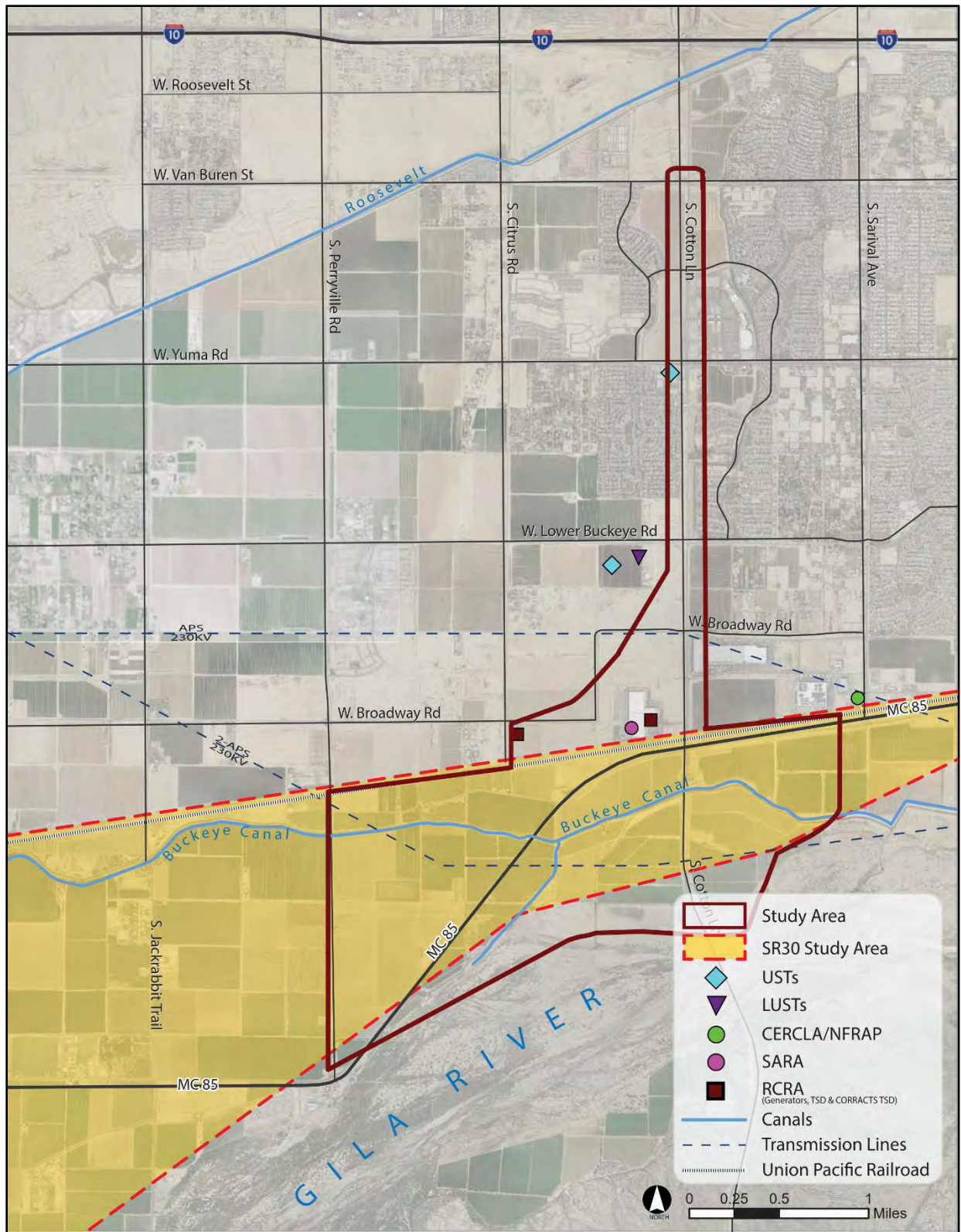
On January 5, 2009, KMEP submitted its “Facility Closure Report” to ADEQ documenting the removal of all remediation equipment and the abandonment of the monitoring, extraction, and vapor collection wells. ADEQ accepted the report as documentation that the KMEP Liberty Release Site had been sufficiently remediated in accordance with the applicable standards and no further action was required.

### 4.15.3 Environmental Impacts

#### 4.15.3.1 Selected Alternative

The northern portion of the Selected Alternative (Segment 1) is located along the alignment of Cotton Lane from Lower Buckeye Road north to Van Buren Street. One of the hazardous materials listed in Table 52, an underground storage tank (UST) located at the southeast corner of the Cotton Lane/Yuma Road intersection, was documented as a Recognized Environmental Concern; however, no address was given for the property and further investigation proved inconclusive. A site-specific Environmental Site Assessment was recommended for this facility if construction of the Selected Alternative required acquisition or ground disturbance at this location.

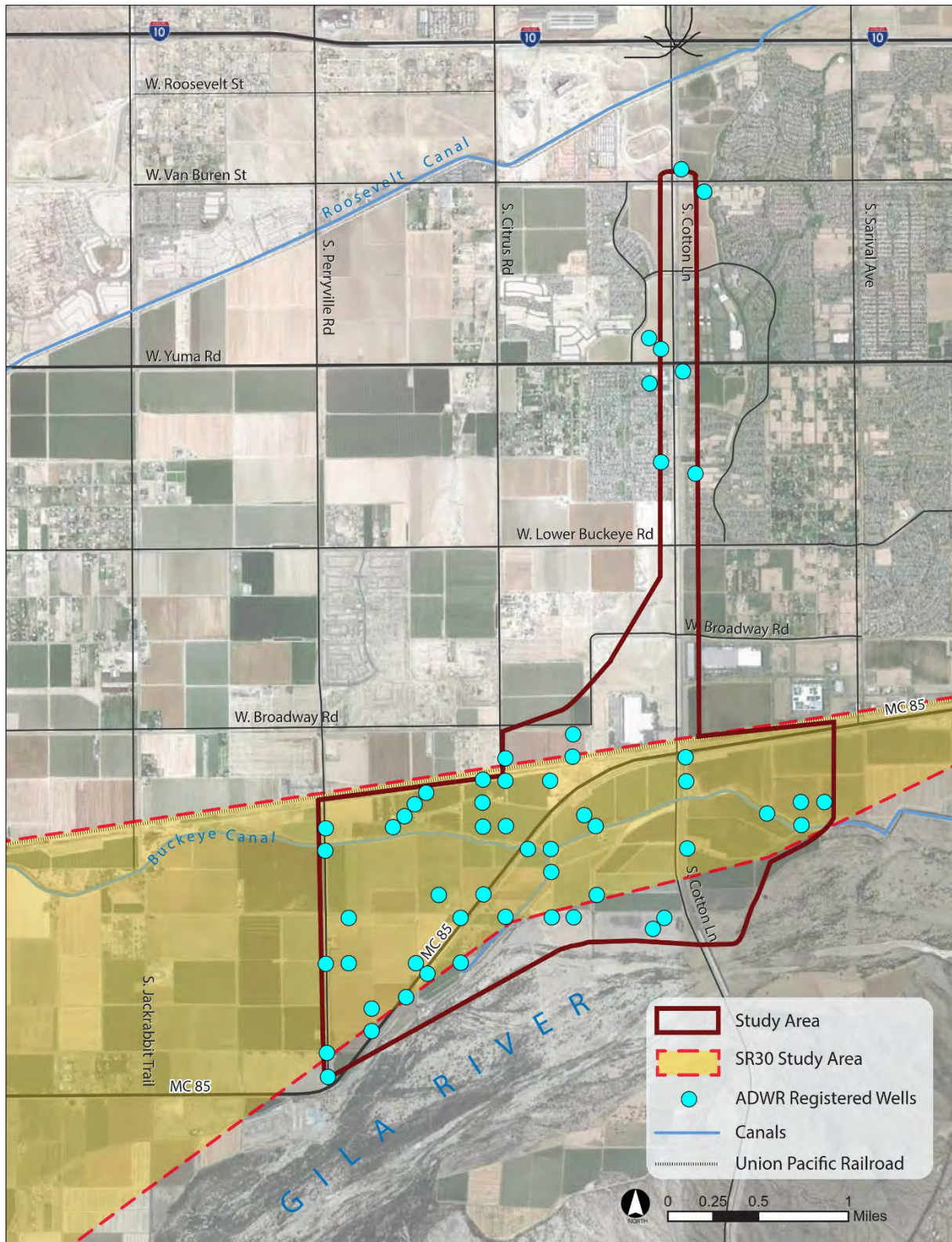
In May 2018, the ADOT Hazardous Materials Coordinator reviewed the 2016 Phase I and made further records inquiries with ADEQ. In consultation with the author of the Phase I, it was determined that there most likely were never any USTs to the east of Cotton Lane south of Yuma Road. The area of the southeast quadrant was for many years, a Cotton Gin, with all of the processing machinery and structures located on the eastern half of the property, and storage of cotton bales on the western half, in the area adjacent to Cotton Lane. ADOT and the Phase I



**Figure 32. Hazardous Material Sites (2016 database)**

Source: Phase I Environmental Site Assessment, SR303L, SR30 to I-10 (2016)





**Figure 33. ADWR-Registered Well Locations**

Source: Arizona Department of Water Resources GIS database

consultant concurred with ADEQ's assessment that the USTs listed for that area previously, should have been mapped at Yuma Road and Estrella Parkway, approximately two miles to the east. As of May 2018, ADEQ's "eMap" project shows the UST at the Estrella Parkway location, and no USTs shown at the intersection of Yuma Road and Cotton Lane (Green to Scolaro, May 24, 2018).

Based on this information, a site-specific Phase I for the southeast quadrant of that intersection is no longer recommended.

The southern portion of the Selected Alternative (Segment 2) is located within active or former agricultural farmland. The two RCRA facilities listed in Table 52 are located outside the footprint of the Selected Alternative and are unlikely to affect implementation of the project.

Soil disturbance in Segment 2 in areas of mostly former or active agricultural lands would occur with the Selected Alternative. It is possible that surface soils may contain residual concentrations of pesticides, herbicides, or both and may pose an environmental concern if levels exceed regulatory thresholds (i.e. for worker health and safety issues).

#### ***4.15.3.2 No-Build Alternative***

Under the No-Build Alternative, this project would not be implemented and there would be no effects to hazardous materials.

#### **4.15.4 Mitigation**

##### Contractor Responsibilities

- If suspected hazardous materials are encountered during construction, work shall cease at that location and the Engineer will be notified. The Engineer will contact the Arizona Department of Transportation Environmental Planning Group hazardous materials coordinator (602.920.3882 or 602.712.7767) immediately, and make arrangements for assessment, treatment and disposal of those materials.
- The contractor shall ensure that appropriate Occupational Safety & Health Administration recommendations are followed for levels of personal protective equipment (i.e. dusk masks and protective eyewear to minimize contact with airborne dust) to be used by all persons entering or working in the project area.

#### **4.14.4 Conclusion**

The Selected Alternative would be located in areas of mostly former or active agricultural land. Constructing the Selected Alternative may pose a concern for worker health and safety issues due to the disturbance of soils which may contain residual concentration of pesticides and/or herbicides. No adverse impacts related to hazardous materials are expected as a result of constructing the Selected Alternative. A new PISA or Phase I Initial Site Assessment would be conducted prior to final environmental clearance.

## 4.16 Material Sources and Waste Materials

Preliminary calculations indicate that construction of the Selected Alternative would require approximately 15,350,000 cubic yards of borrow material. It would be the responsibility of the contractor to identify any needed material sources or waste disposal sites and to provide the environmental documentation regarding the potential use of these sites, as specified in the ADOT *Standard Specifications for Road and Bridge Construction* (ADOT 2008).

The No-Build Alternative would not require the use of borrow material or waste sites. Therefore, the No-build Alternative would have no impact relative to the use of materials sources or waste sites.

## 4.17 Secondary Impacts

Actions that may induce secondary (or indirect) impacts are typically less obvious than those identified with direct impacts. They are more difficult to quantify, additive in nature, or of longer term in occurrence and effect. This section identifies the likely, foreseeable secondary impacts that would result from construction of the SR303L extension south of I-10. Cumulative impacts are addressed in the following section.

FHWA is required to implement NEPA and the CEQ guidelines under 23 CFR Part 771. The FHWA has developed interim guidance on the analysis of indirect and cumulative impacts (FHWA 2003), which supplements the CEQ guidance. Combined, these documents provide the primary basis for analysis. The classification of secondary and cumulative impacts, in accordance with FHWA guidance, is presented in Table 53.

**Table 53. Secondary and Cumulative Impacts Classification**

Impact Category	Impact Classification	Description
<b>Type</b>	Neutral, beneficial, or negative	Compares the final condition of a given resource with its existing condition (assumes that the expected impact occurs; impacts on personal property are considered negative)
<b>Severity</b>	Minor, moderate, or substantial	Considers the relative contribution of the project to a given impact
<b>Duration</b>	Temporary or permanent	Assumes “permanent” unless otherwise specified

### 4.17.1 Existing Conditions

The SR303L, SR30 to I-10 Study Area is four miles in length. The northern portion of the study corridor (Van Buren Street to Lower Buckeye Road) is 400 feet wide, passing through an urbanized low-density area in the City of Goodyear. The southern portion of the study corridor

(from Lower Buckeye Road to proposed SR30) is three miles wide, with an eastern boundary at Sarival Avenue and the western boundary at Perryville Road. This area is primarily rural and agricultural in nature. The northern portion of the Study Area has been designated and preserved as a transportation corridor. A large part of the southern Study Area, south of Lower Buckeye Road, is shown in adopted local and regional plans as a future transportation corridor.

Significant growth in population and employment is projected within the southwest Valley over the next 25 years. This growth is projected to occur in the southern portion of Goodyear. Cotton Lane is one of the arterials in Goodyear that provides a connection to I-10 and the northern portion of the existing SR303L. The transportation facilities and infrastructure that are currently in place within the Study Area will not be able to accommodate the level of projected growth in southern Goodyear.

#### **4.17.2 Environmental Impacts**

Secondary impacts are reasonably foreseeable consequences of the action, but are later in time or farther removed in distance. Secondary impacts “may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems” (40 CFR § 1508.8).

The following potential impacts are qualitatively discussed and are based on reasonably foreseeable future actions in the project area that are attributable to the construction of the Selected Alternative. Secondary impacts on land use, social and economic resources, cultural resources, air quality, and noise are described below; secondary impacts on biological resources, hazardous materials and Title VI/environmental Justice are not included in the following discussion as they were considered negligible.

##### ***4.17.2.1 Selected Alternative:***

###### **4.17.2.1.1 Social and Economic Considerations**

Improved access to the southwest Valley would serve to attract commercial and residential development and subsequently new residents and employees. As a result, revenues for existing businesses may correspondingly increase, and dollars spent could be shifted to existing, planned, and future developments within the Study Area. Therefore, the Selected Alternative would have a minor beneficial secondary impact on social and economic resources.

###### **4.17.2.1.2 Cultural Resources**

Investigations completed within the project area indicate that archaeological sites may be present outside the immediate Study Area. Construction of the Selected Alternative would not increase unauthorized access to cultural resources within the project area. However, any development that occurs as a result of induced changes to land use would likely impact cultural resources. Therefore, the Build Alternative has the potential to result in moderate negative secondary impacts to cultural resources.

#### 4.17.2.1.3 Air Quality

The Selected Alternative would have minor beneficial secondary impacts on air quality because it would improve traffic operations within the corridor compared to the No Build, thereby reducing discharges of air pollutants.

#### 4.17.2.1.4 Noise

The Selected Alternative would result in minor increases in noise levels above threshold limits due to the changes in land use patterns and the subsequent increase in traffic generated from new residential and commercial development along the Cotton Lane corridor. While highway traffic noise could be mitigated through the use of sound walls, additional development may create minor secondary increases in noise levels near sensitive receivers in these areas.

#### 4.17.2.1.5 Prime and Unique Farmlands

Agricultural operations still occur throughout the southern portion of the Study Area. Throughout the Phoenix metropolitan area, farmland is being converted to residential, commercial, and other urban uses. This project would contribute to this trend and in fact would facilitate the conversion of farmland to residential use once access to the area is improved. This would result in minor secondary impacts. Coordination with NRCS regarding the loss of farmland would still need to be completed; however, the value ranking of prime and unique farmlands within the Study Area would likely continue to degrade with development taking place, and these lands would not warrant protection under the FPPA.

#### 4.17.2.1.6 Biological Resources

Build-out of the Study Area is anticipated to occur gradually independent of construction of the Selected Alternative. Agricultural and undeveloped land in the Study Area is anticipated to have already been converted to land uses that will provide minimal habitat for wildlife species. The presence of a major freeway and associated traffic noise near this reach of the Gila River could make this area less attractive as a wildlife movement corridor. These effects, if they were to occur, are not expected to be of consequence; therefore, the extension south of SR303L is not expected to result in secondary impacts on biological resources. No further consideration is given.

#### 4.17.2.1.7 Floodplains

The extension of SR303L may cause changes in land development at select locations adjacent to its alignment. In some instances, such changes may be within the Study Area's designated floodplains. Ultimately, however, incompatible land use or development within floodplains would not be facilitated by implementing the project. Developments in the area must comply with State and local zoning and floodplain ordinances; therefore, no secondary impacts would occur.

#### 4.17.2.1.8 Water Resources

Development in the Study Area is altering surface water features, water supplies, and water quality. This ongoing development, along with the construction and operation of this extension of SR303L, would be subject to local, State, and federal regulations and permit requirements that would help mitigate these issues. No secondary impacts were identified for water resources.

## 4.18 Cumulative Impacts

### 4.18.1 Background

Cumulative impacts on the environment result from the incremental impact (direct and indirect) of the action when added to other past, present, and reasonably foreseeable future actions, regardless of what agency (federal or nonfederal) or person undertakes such other actions. Cumulative effects “can result from individually minor but collectively significant actions taking place over a period of time” (40 CFR § 1508.7). If an action does not directly affect a particular environmental resource, the action would not contribute to a cumulative impact on that resource.

Cumulative impacts include the direct and indirect impacts of a project together with the impacts of all other anticipated past, present, and reasonably foreseeable future actions in the area including those of others. This analysis of cumulative impacts concentrates on current and future actions that could contribute to cumulative impacts on key environmental resources. Past, present, and reasonably foreseeable future actions considered in this analysis are the result of planned and proposed projects developed by the City of Goodyear, Avondale, Buckeye, Maricopa County, FCDMC, and ADOT.

A cumulative impacts analysis requires identification of temporal and geographic boundaries. For the purposes of this EA, the temporal boundary of analysis is 2007 to 2018. The geographic area for the cumulative analysis is the Study Area, the vicinity around it, and the City of Goodyear. All impacts described are considered long term. Short-term effects, such as construction-related impacts, are assumed to not contribute to long-term cumulative impacts.

For this cumulative impacts assessment, past, present, and reasonably foreseeable future projects are considered, both transportation and non-transportation in nature. This EA assumes that the local municipalities and county comprehensive and general plans direct the type of development in the Study Area. This development would likely occur eventually whether or not the SR303L project is implemented.

### 4.18.2 Study Area Existing Conditions and Context

Growth and development along the Study Area corridor have been significant in the past and would be into the future. The population of Goodyear grew 245 percent between the 2000 and 2010 Census and is expected to surge to over 300,000 by 2040. The majority of this growth in Goodyear would be south of Riggs Road and is anticipated to account for 83 percent of the city’s population by 2040 (Goodyear General Plan Annual Report, 2010). The majority of this growth would occur in single-family home residential planned communities. These planned residential developments would rely on SR303L for local and regional mobility and access.

Other transportation/infrastructure-related projects are listed below.

#### Past Actions/Completed Projects

- The Loop 303 Outfall Drainage System was constructed west of Cotton Lane to convey regional stormwater flows and offer flood protection to the Loop 303 freeway.
- SR303L from I-10 south to Van Buren Street was constructed and opened to traffic in 2017. From there, SR303L extends north to an interchange with I-17.

### Ongoing/Present Actions

- Construction of SR202L, the South Mountain Freeway, from I-10 at 59<sup>th</sup> Avenue south and east to the SR202L San Tan Freeway. A Fall 2019 opening is anticipated for this freeway.

### Reasonably Foreseeable Future Actions

- Design and construction of SR30 from SR303L to SR202L through Goodyear, Avondale, and Laveen/Phoenix
- Construction of planned residential and commercial developments in and around the Study Area

## **4.18.3 Environmental Impacts**

### ***4.18.3.1 Selected Alternative***

All resources were examined to determine the potential for the Selected Alternative to contribute to regional trends or environmental conditions (Table 54). Additional explanation of cumulative impacts is provided for the following resources: socioeconomic conditions, cultural resources, air quality, noise, prime and unique farmland, and water resources.

#### **4.18.3.1.1 Socioeconomic Conditions**

The impacts from the Selected Alternative would be related to potential growth and the development in Goodyear, Buckeye, and adjacent communities. As discussed in Section 2.2.1, population and employment growth in the West Valley and south of the Gila River are a driving force behind increases in travel demand and the need for a north/south transportation corridor in the Southwest Valley. The results of this growth are likely to be a larger population, more employment opportunities, and increased tax revenue for Goodyear. Any change from rural to more urban residential land use has the potential to broaden the composition of the area's social and economic characteristics. The Selected Alternative would accommodate continued economic development by providing a more efficient roadway to accommodate local and regional traffic volumes, thereby increasing the potential for new development. The Selected Alternative, when combined with past, present, and future actions, would improve access to and facilitate planned development in currently undeveloped portions of the project vicinity. This would have a moderate positive cumulative impact.

#### **4.18.3.1.2 Cultural Resources**

Induced development impacts on the cultural environment would contribute to cumulative impacts. Additional archaeological sites outside the SR303L footprint would likely be impacted by planned commercial, industrial, and residential development prescribed by the Goodyear General Plan. Similar impacts to historic properties could also occur. These activities would likely result in moderate negative impacts.

#### **4.18.3.1.3 Air Quality**

The conversion of Cotton Lane to a freeway would improve access to an area of the Southwest Valley that has had only surface street accessibility. This would result in emissions that would not otherwise be produced in that area. The localized increase in concentration of pollutants would constitute a minor negative impact on air quality. It is not anticipated that the emissions would

cause or contribute to an exceedance of the NAAQS, which are established by EPA to protect public health and welfare.

#### 4.18.3.1.4 Noise

With increased urban development and construction of planned highway improvements, including the SR303L project, ambient noise levels would increase. These noise levels could be mitigated in accordance with ADOT and FHWA standards, thereby resulting in a minor negative cumulative impact.

#### 4.18.3.1.5 Prime and Unique Farmlands

Extensive agricultural operations currently take place throughout the Study Area. Across the Phoenix metropolitan area, farmland is being converted for urban uses. This project would contribute to the trend and in fact facilitate the conversion of farmland to residential use once access to the area is improved. This would have a minor negative cumulative impact. Coordination with the NRCS was completed regarding potential loss of farmland, and it was determined that prime and unique farmlands within the Study Area do not rank high enough to warrant protection under the FPPA.

#### 4.18.3.1.6 Water Resources (Floodplains)

Cumulative impacts to surface water would occur with an increase in the loss of permeable surface to absorb stormwater flow and the related increase in quantity and decrease in quality of surface runoff from continued development in the area. However, the mitigation measures associated with the project and prior projects would result in a minor, negative cumulative impact to water resources.

#### 4.18.3.2 No-Build Alternative

If the freeway were not implemented, the incremental effects contributed solely by the project would not occur. The No-Build Alternative would have minor cumulative impacts on the area, associated with the potential deterioration of air quality due to congestion, as well as lower sales tax and property tax revenues due to slower economic development. It would not preclude other activities from affecting resources in a similar manner. Most of the cumulative impacts would result from ongoing conversions of land to more intensive, urban development. These effects, such as the permanent loss of agricultural land, would occur without the freeway.

### 4.18.4 Conclusion

The Selected Alternative 2CS would meet the Purpose and Need for the project. While the project would affect a number of environmental resources, implementing the mitigation measures listed in this EA during development, construction, and operation of the project would help to avoid or minimize environmental impacts.



**Table 54. Cumulative Impacts Summary**

Resource	Past Actions	Present Actions	Selected Alternative	Future Actions	Cumulative Impact
<b>Land Use</b>	Construction of highway, utilities, and development has resulted in a transition from a natural, undeveloped area to a more developed suburban and rural setting, dominated by farmland.	Ongoing residential and commercial development in Goodyear would result in a larger suburban, disturbed setting.	Construction of the Selected Alternative would not adversely affect land use. The Selected Alternative would be consistent with current land use – a transportation corridor – in Segment 1, and would be constructed on undeveloped land in Segment 2, requiring the conversion of some farmland, four residential parcels, and a small amount of commercial land to a transportation use.	Ongoing private development and infrastructure improvements would continue the conversion farmland to residential, commercial, and transportation uses.	The project would facilitate development, with cumulative impact on land use, due to improved access.
<b>Socioeconomic Considerations</b>	The construction of roads and utilities has improved transportation access for residents, businesses, and visitors.	Ongoing development is expected to increase as the population grows.	Construction of the Selected Alternative would impact four residential properties and one non-residential facility through ROW acquisition. Existing access across Cotton Lane corridor would be maintained.	Local land development would intensify as the area population grows.	Extensive development in the area, coupled with the highway improvements, would result in positive social and economic impacts.

Resource	Past Actions	Present Actions	Selected Alternative	Future Actions	Cumulative Impact
<b>Cultural Resources</b>	Development and road construction to date may have contributed to the loss of cultural resources within the project area and the region as a whole.	Ongoing development may impact new sites in the project area.	Construction of the Selected Alternative would result in impacts to archaeological sites and possibly historic buildings that have been listed on or are eligible for the NRHP.	Projected development would result in additional disturbance of sites.	Future development, coupled with the project would contribute to the further loss of/disturbance of cultural resources. However, it is difficult to quantify the overall effects due to uncertainty as to the resources that may be discovered throughout the area.
<b>Section 4(f)</b>	Transportation facilities in the region have avoided 4(f) resources	While Section 4(f) protects resources from transportation projects, they are not protected from private development	Design of the Selected Alternative avoids and/or minimizes potential effects to 4(f) resources	While transportation projects will be regulated by Section 4(f), private development will not	Development facilitated by the Selected Alternative could displace public recreational facilities, wildlife refuges, and historic properties
<b>Air Quality</b>	Traffic and congestion have introduced air pollutants to the region	Development is increasing traffic volumes and congestion that will elevate pollutant levels in the region	Capacity increases resulting from the Selected Alternative would relieve congestion; but may encourage additional truck traffic in the project vicinity	Traffic will increase, but improvements in technology will produce less polluting vehicles	Regional air quality will stabilize; local air quality may increase slightly
<b>Noise</b>	Increased traffic volumes and speeds have introduced higher noise levels to existing development	Noise Abatement Requirements mitigate adverse noise impacts of transportation projects	Noise mitigation is recommended for existing development adjacent to the Selected Alternative; part of the project would be constructed within vacant or agricultural land where noise is not regulated	Noise Abatement requirements will continue to guide design and construction of transportation facilities	Incremental increase in ambient noise where dense urban development continues to occur
<b>Utilities</b>	Continuing development necessitates increased	Utility and transportation	Construction of the Selected Alternative would	Continued expansion of utility	Increasing intensification of land use for

Resource	Past Actions	Present Actions	Selected Alternative	Future Actions	Cumulative Impact
	utility infrastructure as well as transportation facilities	infrastructure continue to expand to accommodate growth	result in minor impacts to existing utility infrastructure within the project limits	infrastructure alongside transportation facilities	infrastructure as well as residential and commercial development
<b>Visual Resources</b>	Native Sonoran Desert landscape cleared and converted to agricultural land	Open views associated with level farm fields being gradually changed by residential and commercial development	Under the Selected Alternative the new freeway would be elevated in sections, presenting a moderate interruption to the existing agricultural landscape. Less of an impact within already developed Cotton Lane corridor.	Continued development in the Study Area would lessen the visual impact sensitivity toward future infrastructure projects	Visual quality as well as views within Study Area will continue to change with ongoing development
<b>Floodplain</b>	Development near and within floodplains increase flood levels; construction of flood control facilities mitigates this effect	Continued attention to flood control allows for continued development near and within floodplains	Construction of the Selected Alternative would have a minor impact to the Gila River floodplain; FCDMC flood control channel was built to accommodate SR303L stormwater flows	Continued development within and near floodplains will depend on floodplain management and flood control facilities	Lessening of floodplain area and increased use of flood control facilities
<b>Farmland</b>	Previous commercial and residential development reduced the amount of productive agricultural land in the project area.	Continued development would further reduce the acreage productive prime and unique farmland.	Construction of the Selected Alternative would result in the conversion of 335 acres of farmland to transportation use.	Future development and transportation projects would result in additional conversion of farmland to other uses.	The continued conversion of farmland would change the character of the area. The project would contribute a minor negative, long-term impact to this resource.

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## 5 Public Involvement/Project Coordination

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To ensure that agencies and the public have sufficient opportunity to provide comments and to be involved in the development and evaluation of alternatives, this study has included an extensive public involvement program. This program began in June 2006 with scoping meetings and continued a public information meeting in November 2006, during which input was received via question-and-answer sessions and written comments. A project website was established to provide project information to the public and to receive comments. The public outreach effort was reinitiated in December 2012 when this study was reactivated after being placed on hold in 2009 because of funding changes in MAG's RTPFP. Agency Coordination Correspondence and a Public Involvement Summary are included in Appendix G.

### 5.1 Scoping

The purpose of the scoping process was to provide participants the opportunity to identify potential issues, concerns, and opportunities (ICOs) to be considered in the L/DCR and the Draft EA. This scoping ICO information was obtained from various federal, state, and local agency representatives, business owners, and area residents through public and agency scoping meetings. The following paragraphs summarize the scoping meetings held and the input received.

#### 5.1.1 Agency Scoping Meeting

The agency scoping meeting was conducted on June 27, 2006 in the ADOT Phoenix Maintenance District Office conference room at 2140 West Hilton Avenue, Phoenix, Arizona. The agency scoping meeting was attended by 24 agency representatives from the US Army Corps of Engineers; FHWA; AGFD; ADOT Environmental Planning Group, Communications and Community Partnerships, Valley Project Management, and Utilities; City of Goodyear; Town of Buckeye, Public Works Department; and Valley Metro Transit. Corridor study limits and facility type were presented and input requested on ICOs.

The ICOs identified during this meeting included:

- Separate meetings should be conducted with local jurisdictions (e.g. Goodyear).
- There is too much time between this study and final design.
- Maricopa Department of Transportation and Flood Control District need to be involved in this study.
- Need to determine the ADT for the project area.
- The air quality analysis for this study would need to address MSATs.
- It would be difficult to locate the SR30/SR303L interchange without knowing what happens at the Gila River; i.e. how/where the SR303L may potentially extend to the south.
- The City of Goodyear has prepared a preliminary plat showing the area around the Huhtumaki plant.

- The I-10/Loop 303 TI should provide for the future addition of HOV transition ramps to allow HOV movements between Loop 303 and I-10.

### **5.1.2 Public Scoping Meeting**

The meeting was conducted on June 29, 2006 from 6:00 to 8:00pm at the Desert Edge High School located at 15778 West Yuma Road in Goodyear, Arizona. Seventy-eight people signed the attendance sheets for this meeting. Corridor study limits and facility type were presented and input requested on ICOs. The ICOs identified during this meeting included:

- How will noise be addressed for the project?
- Will SR303L replace Cotton Lane, or will Cotton Lane run parallel to SR303L?
- Describe the interchanges on SR303L.
- Tres Rios should be involved with the project.
- There is a nine-year lag between this study and design/construction.
- Provide for a means to inform property owners when an alternative is selected.
- Transit options should be considered by this study.
- The use of Freeway Management System (FMS) cameras on SR303L should be considered.
- Request that Broadway Road be considered to provide traffic relief.
- Be aware there are Native American artifacts in this area. A person that has lived on a farm here for 60 years uncovered artifacts when clearing his land.
- Provide the results of the air quality and noise studies.
- The intersection at Yuma Road should be depressed. The alignment along Cotton Lane should be positioned as far west of this intersection as possible.
- Cities should notify developers in the area so that growth in the project area is limited.
- Details should be provided on how the preferred alternative is selected.
- Describe the information that developers are required to disclose while the study is in progress.
- Describe the role of municipalities in future zoning.
- ADOT could purchase the Huhtumaki plant [vacant at the time of the meeting] to provide land for an interchange.

## **5.2 Information Meetings**

### **5.2.1 City of Goodyear Briefing**

A joint SR303L and SR30 presentation was given to City of Goodyear staff on November 13, 2006. Alternatives 2C, 3, and 4 were outlined, with Goodyear expressing its preference for Alternative 2C that would follow a corridor through the El Cidro development set aside per an agreement between the City and the developer. A presentation on SR303L was given to City of Goodyear staff on June 11, 2018.

## 5.2.2 Public Information Meetings

### 5.2.2.1 Fall 2006

A public information meeting was held on November 30, 2006 at the Liberty Elementary School, 19818 West Highway 85, Buckeye, Arizona. This meeting was conducted to discuss the seven alternatives under consideration, including the No-Build Alternative, and to obtain public input on these alternatives. Alternatives 2C, 3, and 4 were identified as the alternatives being retained for further study. The format of the meeting included a slide presentation, project information provided by study team members, and a question-and-answer session. There were 146 attendees.

Informational flyers describing the study and proposed improvements were mailed to agency and public stakeholders, and 10,000 door-hangers were distributed to homes and businesses in the Study Area on November 17 and 18, 2006. Meeting advertisements were published in various local and regional newspapers (Table 55).

**Table 55. Publication of Newspaper Advertisements, Fall 2006**

Publication	Date Published
<i>Arizona Republic Community Section Zone 5</i>	November 15 and 22, 2006
<i>La Voz</i>	November 15 and 22, 2006
<i>Prensa Hispana</i>	November 15 and 22, 2006
<i>Southwest Valley Sun</i>	November 15 and 22, 2006
<i>Buckeye Valley News</i>	November 16 and 23, 2006
<i>West Valley View</i>	November 17 and 24, 2006

The following information was provided or requests were made at the meeting and on comment forms received after the meeting.

- Building permits are still being issued in the Study Area.
- Describe the frontage roads associated with SR303L.
- Describe the funding for this freeway.
- Provide details on the ROW acquisition process.
- Consider mass transit as an alternative form of transportation in the proposed 303 corridor.
- Consider linking SR303L to MC85 instead of SR30.
- Consider continuing freeway construction south of the Gila River.
- How will a Rainbow Valley alignment in the south affect this study?
- The duration of the study needs to account for changing development patterns.
- Rubberized asphalt should be used to reduce noise impacts.
- Extra lighting should be installed at exit ramps and intersections.
- Native vegetation should be used as landscaping to conserve water.
- Aesthetic treatments should be applied to bridges, poles, and signs.
- Meeting minutes should be recorded so study team members are accountable for what is presented.

### 5.2.2.2 Fall 2007

A second public information meeting was held on November 15, 2007 at the Liberty Elementary School. The purpose of the meeting, which was attended by 147 people, was to present updated information about the alternatives analysis subsequent to the 2006 public meeting. The format of the meeting included display boards, a slide presentation, project information provided by study team members, and a question-and-answer session.

A comparison of the engineering and environmental issues associated with Corridor Alternatives 2C, 3, 4, and 5 was presented. Based on this information, Alternatives 3 and 4 were removed from further consideration due to roadway design and operation issues and potential environmental impacts that would be greater than those associated with Alternatives 2C and 5. Thus, the study team suggested these alternatives should be advanced to more detailed analysis.

An informational postcard inviting the public to the meeting and describing the alternatives under consideration since the previous meeting was mailed to 5,933 contacts on the project mailing list, including agency and public stakeholders. Meeting advertisements were published in various local and regional newspapers (Table 56).

**Table 56. Publication of Newspaper Advertisements, Fall 2007**

Publication	Date Published
<i>Arizona Republic Community Section Zone 5</i>	October 31 and November 14, 2007
<i>La Voz</i>	October 31 and November 7, 2007
<i>Prensa Hispana</i>	October 31 and November 7, 2007
<i>Buckeye Sun</i>	November 7, 2007
<i>Buckeye Valley News</i>	November 1 and 8, 2007
<i>West Valley View</i>	November 2 and 9, 2007

The following information was provided or requests were made at the meeting and on comment forms received after the meeting.

- Goodyear’s General Plan shows SR303L extending south of SR30 along Rainbow Valley Road.
- How will Goodyear’s commitment to purchase ROW from the El Cidro development influence the SR303L alternatives analysis?
- Rubberized asphalt should be used to reduce noise impacts.
- Noise barriers should be considered where warranted.
- The water table is high in the area south of I-10, so the proposed freeway should either be at-grade or elevated, particularly over the main east-west arterial streets.
- Many attendees expressed negative viewpoints of SR303L in Rainbow Valley.
- Support for Alternative 5 was expressed.
- Provide details on the ROW acquisition process.

### 5.2.2.3 Fall 2017-Winter 2018

A public information meeting was held on Wednesday, December 6, 2017 from 6:00 to 8:00 p.m. at the Copper Trails School, 16875 Canyon Trails Boulevard, Goodyear, Arizona. This meeting was conducted to discuss the alternatives under consideration, including the No-Build Alternative,



and to obtain public input on these alternatives. Two variations each of Alternatives 2C, 3, and 5 were shown, with the difference between the variations being the proposed alignment of future SR30. The format of the meeting included a slide presentation, project information provided by study team members, and a question-and-answer session. A total of 175 people signed in at the meeting.

Informational flyers describing the study and proposed improvements were mailed to agency and public stakeholders, and invitation postcards were mailed to approximately 20,000 property owners, occupants, and businesses in the Study Area on November 22, 2017. Meeting advertisements were published in various local and regional newspapers (Table 57).

**Table 57. Publication of Newspaper Advertisements, Fall 2017**

Publication	Date Published
<b>Arizona Republic Community Section Zone 5 (quarter-page ad)</b>	11/22/2017, 11/24/2017, 11/25/2017 and 11/29/2017, 12/01/2017, and 12/02/2017
<b>West Valley View (half-page ad)</b>	11/22/2017 and 11/29/2017

A total of 33 comments were submitted between the December 6, 2017 meeting date and January 15, 2018. The following information was provided or requests made at the meeting and on comment forms received afterward.

- Support for the No Build Alternative was expressed by two commenters.
- Support for Alternatives 3 was expressed in three comments.
- Support for Alternatives 5 was likewise expressed in three comments.
- Alternative 2C was supported in four comments.
- Eight commenters requested additional project information.
- Six comments expressed concern about noise, air quality, visual, or hazardous materials impacts associated with construction and operation of the build alternatives.
- Four comments had to do with scheduling of ROW acquisition and construction.
- Two individuals commented on the public meeting venue and the presentation.
- One commenter requested additional community forums.

A community forum for the Rainbow Valley community was held on Tuesday, January 30, 2018 from 2:00 to 6:00 p.m. at the Buckeye Valley Fire District Station 326, 19937 West Arlington Road, Buckeye, Arizona. Participation was steady throughout the day. The members of this community are in favor of advancing Alternative 3 and do not support Alternatives 2C or 5. In addition to input and questions on the current study’s alternatives, the community inquired about future studies that would further define the SR303L alignment to the south. The study team explained the planning process and provided the BqAZ and MAG Framework Study websites to better paint the complete Loop 303 picture into the future. A total of 53 individuals signed in at this meeting; 24 comment cards were submitted.

On Wednesday, January 31, 2018 A community forum was held for the Estrella Mountain Ranch community, also from 2:00 to 6:00 p.m. at the Starpointe Residents Club, 17665 West Elliot Road, Goodyear, Arizona. A total of 534 individuals signed in at this meeting, and 131 comment cards were submitted. Community members expressed their support of Alternatives 2C and 5 and their

disapproval of Alternative 3, with some attendees saying they did not want to see any build alternative advanced. Similar to the Rainbow Valley community, members of this group wanted to see more information than what the study team was able to share relating to SR303L proceeding further to the south. The team provided the BqAZ and MAG Framework Study websites to these community members as well.

A one-month public comment period was set for the December 6, 2017 meeting, ending January 5, 2018. This period was extended to February 14, 2018 to allow time for additional comments after the community forums. A total of 218 comments were received by mail, telephone, email, online, and in person via comment cards available at the meetings. A summary and complete listing of input received from these meetings are included in the Public Involvement Summary in Appendix G of the Draft Environmental Assessment.

### **5.3 Draft EA Review, Hearing, and Comment Period**

The Draft Environmental Assessment for the Loop 303 (SR303L) south of Van Buren Street to the proposed State Route 30 (SR30), a new freeway south of Interstate 10, **was made** available for public review and comment beginning on June 12, 2018.

A Public Hearing for review and comment on the findings of the Draft Environmental Assessment **was** held on Wednesday, June 27, 2018 from 3:00 to 7:00 p.m. at the Goodyear Ballpark, 1933 S. Ballpark Way, Goodyear, AZ 85338 located at Estrella Parkway between Lower Buckeye Road and Yuma Road. **The original comment period extended to July 15, 2018.** The public hearing **was** an open house format and **included** an informational video, an interactive visual presentation, and an opportunity to provide oral remarks before a formal study panel (three-minute time limit). Comment forms and court reporters **were** also available to document input for the study record from members of the public. Project team members **were** on site to address questions and concerns.

The Draft Environmental Assessment **was** posted online on the project website [www.azdot.gov/Loop303southofvanburen](http://www.azdot.gov/Loop303southofvanburen), and copies **were** available for review during normal business hours until July 15, 2018 at the following locations:

<b>Goodyear Public Library</b>	<b>Starpointe Residents Club</b>	<b>Buckeye Valley Fire District</b>
14455 W. Van Buren Street C-101 Goodyear, AZ 85338	17665 W. Elliot Road Goodyear, AZ 85338	19937 W. Arlington Road Buckeye, AZ 85326

Comments **could** be submitted any time during the comment period using any of the following methods:

- Mail to: ADOT Community Relations  
Loop 303 Study  
1655 W. Jackson Street, MD 126 F  
Phoenix, AZ 85007
- Telephone: 1.855.712.8530
- Email to: [Loop303@azdot.gov](mailto:Loop303@azdot.gov)

Online via the project website: [www.azdot.gov/Loop303southofvanburen](http://www.azdot.gov/Loop303southofvanburen)

The project web address has been published on all informational materials. Public meeting information and project details have also been provided on the website. As the study proceeds, the project website will continue to be used to provide up-to-date study information.

Meeting advertisements were published in various local and regional newspapers (Table 58).

**Table 58. Publication of Newspaper Advertisements, Spring 2018**

Publication	Date Published
<i>Arizona Republic Community Section Zone 5</i>	6/13/2018, 6/15/2018, 6/16/2018, 6/20/2018, 6/22/2018, and 6/23/2018
<i>West Valley View</i>	6/13/2018 and 6/20/2018
<i>La Voz</i>	6/8/2018 and 6/22/2018

A total of 280 members of the public signed in at the public hearing.

Event information, live coverage, and follow-up media coverage appeared as follows:

- June 18, American Association of State Highway and Transportation Officials, <http://news.transportation.org/Pages/StateDotNewsDetail.aspx?MessageId=59016>
- June 27, Nextdoor, <https://nextdoor.com/events/az/goodyear/public-invited-to-formal-public-hearing-for-proposed-loop-303-south-of-van-buren-street-2213608>
- June 27, Twitter, <https://twitter.com/arizonadot/status/1012087550263980032?lang=en>
- June 27, ABC15 Arizona, <https://www.abc15.com/news/region-west-valley/goodyear/adot-asking-public-to-weigh-in-on-loop-303-extension-in-west-valley>
- June 27, Facebook, <https://www.facebook.com/AZDOT/videos/2029401283798231/>
- June 28, ABC15 Arizona, MSN.com, <https://www.msn.com/en-us/video/w/adot-holds-public-meeting-on-loop-303-expansion/vp-AAzgzdr>
- June 28, ABC15 Arizona, MSN.com, <https://www.msn.com/en-us/video/null/adot-to-hold-open-house-on-loop-303-expansion/vp-AAzgtVM>
- July 6, West Valley View\* [https://www.westvalleyview.com/news/adot-hosts-public-hearing-on-loop-extension/article\\_6f61912c-8075-11e8-a1ec-6b9dc03b97d5.html](https://www.westvalleyview.com/news/adot-hosts-public-hearing-on-loop-extension/article_6f61912c-8075-11e8-a1ec-6b9dc03b97d5.html)

A video was presented at the public hearing providing information on the Draft EA in both English and Spanish. Presentation boards, wall-mounted aerial maps of the Preferred Alternative, design team members' presence, and computer-based visualization provided ample opportunities to explain the project's purpose in the context of local and regional planning; alternatives and design features; potential impacts on the natural, built, and social environment; the relocation

assistance program and right-of-way acquisition process; as well as opportunities for providing oral and written statements to ADOT, meeting the requirements of 23 CFR 771.111(h)(2)(v).

The public hearing comment period was open June 12 through July 15, 2018. During this time, 78 comments were received by mail, email/online, and in person at the public hearing via comment cards or as documented by a court reporter (Table 59).

The Air Quality Report was finalized with the PM10 Hot-Spot analysis added based on updated receptor placement and newer background monitoring data. Interagency consultation extended to August 31, 2018. Upon completion of the interagency review, the revised air quality report was posted on the project website for additional public review and comment until September 25, 2018. Two additional comments were received during this time.

**Table 59. Comments on the Draft EA by Participation Method**

Participation Method	Number of Responses
<i>Mail</i>	3
<i>Email/online</i>	33
<i>Public Hearing: Comment Cards</i>	37
<i>Public Hearing: Court Reporter</i>	5

### 5.3.1 Public Comment Summary

*Public comments received on the Draft Environmental Assessment at the public hearing and throughout the comment period were tabulated by subject of the comment. A quantification of comments by subject is provided in Table 60. (Comments that address more than one subject are included in the counts for each subject addressed.)*

**Table 60. Comments on the Draft EA by Subject**

Comment Category	Number of Comments
<i>General</i>	33
<i>Purpose and Need</i>	1
<i>Alignment</i>	25
<i>Noise</i>	13
<i>Traffic Operations</i>	3
<i>Access</i>	2
<i>Geotechnical</i>	1
<i>Programming</i>	1
<i>Schedule</i>	1
<i>Right-of-Way</i>	3
<i>Design</i>	1
<i>Environmental</i>	1
<i>Air Quality</i>	2

Of the 78 comments received, 16 addressed concerns about environmental resources, namely, traffic noise (13) and air quality (2). The project team reviewed the Public Hearing Report and took these comments into consideration. All of the public comments received were taken into account as part of the decision-making process.

## 5.4 Other Ongoing Activities

As the study proceeds, the project website, [www.azdot.gov/Loop303southofvanburen](http://www.azdot.gov/Loop303southofvanburen), will continue to be used to provide up-to-date study information and to collect additional feedback from the public.

~~The Draft Environmental Assessment for the Loop 303 (SR303L) south of Van Buren Street to the proposed State Route 30 (SR30), a new freeway south of Interstate 10, will be available for public review and comment until July 15, 2018.~~

~~A Public Hearing for review and comment on the findings of the Draft Environmental Assessment will be held on Wednesday, June 27, 2018 from 3:00 to 7:00 p.m. at the Goodyear Ballpark, 1933 S. Ballpark Way, Goodyear, AZ 85338. The ballpark is located at Estrella Parkway between Lower Buckeye Road and Yuma Road. The public hearing will be an open house format and will include an informational video, an interactive visual presentation, and an opportunity to provide oral remarks before a formal study panel (three minute time limit). Comment forms and court reporters will also be available to document input for the study record from members of the public. Project team members will be on-site to address questions and concerns.~~

~~The Draft Environmental Assessment will be posted online on the project website, [www.azdot.gov/Loop303southofvanburen](http://www.azdot.gov/Loop303southofvanburen), and a copy will be available for review during normal business hours until July 15, 2018 at the following locations:~~

~~**Goodyear Public Library**      **Starpointe Residents Club**      **Buckeye Valley Fire District**  
14455 W. Van Buren Street      17665 W. Elliot Road      19937 W. Arlington Road  
C-101      Goodyear, AZ 85338      Buckeye, AZ 85326  
Goodyear, AZ 85338~~

~~Comments can be submitted any time during the comment period using any of the following methods:~~

- ~~• Mail to: ADOT Community Relations  
Loop 303 Study  
1655 W. Jackson Street, MD-126 F  
Phoenix, AZ 85007~~
- ~~• Telephone: 1.855.712.8530~~
- ~~• Email to: [Loop303@azdot.gov](mailto:Loop303@azdot.gov)~~
- ~~• Online via the project website: [www.azdot.gov/Loop303southofvanburen](http://www.azdot.gov/Loop303southofvanburen)~~

### 5.4.1 Title VI of the Civil Rights Act of 1964 and the Americans with Disabilities Act (ADA)

Pursuant to Title VI of the Civil Rights Act of 1964 and the Americans with Disabilities Act (ADA), ADOT does not discriminate on the basis of race, color, national origin, age, sex or disability.

Persons who require a reasonable accommodation based on language or disability should contact Gaby Kemp at 480.215.7178 or at [GKemp@azdot.gov](mailto:GKemp@azdot.gov). Requests should be made as early as possible to ensure the State has an opportunity to address the accommodation.

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## Appendix A – Alternatives Evaluation Matrix

The project purpose and need set forth the basis for the evaluation process. The alternatives were developed to meet the project purpose and need, satisfy design criteria and guidelines, and minimizing environmental impacts, while accounting for agency and public input.

Engineering factors that were considered in scoring the criteria for the alternatives study process include:

- Route Length
- Roadway Geometrics
- System Interchange Configuration and Number of Levels
- Drainage Implementation
- Number of Structures Required
- Number of Service Interchanges and Their Locations
- Out-of-Direction Travel
- HOV Connections
- Connectivity to Local Street Network
- Constructability
- Construction Cost
- Right-of-Way
- Potential Business and Residential Displacements
- Utility Crossings and Conflicts

Environmental factors that were considered in scoring the criteria for the alternatives study process include:

- Land Use Impacts
- Consistency with Local Land Use Plan
- Threatened, Endangered, or Sensitive Species
- Community Cohesion
- Visual Impacts
- Archaeological Resources
- Built Environment (Historic Buildings and Structures)
- Prime and Unique Farmland
- Water Quality
- Noise Impacts
- Hazardous Materials

A matrix comparing major differentiating criteria of the six alternatives developed in the L/DCR was presented to the study team (table below) scoring potential severity of impacts or favorability with 1 being a low impact or more favorable and 5 being a high impact or less

favorable based on preliminary engineering and environmental assessment. Alternative 2C South (2CS) emerged as the Preferred Alternative in the L/DCR as it is consistent with local and regional planning, maintains local access along Cotton Lane south of Elwood Street, minimizes impacts to 4(f) resources and minimizes conflicts with the Buckeye Canal system and APS Palo Verde reclaimed water line. Discussion of how the ratings were developed follow the table below.

Criteria	2CN	2CS	3N	3S	5N	5S
Air Quality/Noise Impacts	3	3	3	3	4	4
Visual Impacts	4	3	5	5	4	4
Archaeological Resource Impacts	3	1	5	3	5	1
Section 4(f) Impacts	3	1	5	5	5	3
Local Access	2	2	4	4	4	4
Traffic Operations	3	3	3	3	2	2
Construction Cost*	3	3	4	3	4	4
Right of Way	3	4	3	2	3	4
Utilities – Canal/APS reclaimed water line	4	2	4	3	4	2
Utilities - Power Lines	3	4	3	5	3	4
Public Input	3	3	3	3	3	3
Planning Consistency	1	1	5	5	2	2
TOTALS	35	30	47	44	43	37

1 = Low Impact or More Favorable, 5 = High Impact or Less Favorable

\* Major utility costs are addressed under the Utilities criterion

Source: Location and Design Concept Report, State Route (SR) 303L, SR30 to I-10, Arizona Department of Transportation, 2018.

### Air Quality/Noise Impacts

Air quality and noise impacts are a function of traffic volumes. Air quality is also affected by congestion. For Alternatives 2C and 3, traffic volumes were very similar while Alternative 5 volumes were over 10% higher. Congestion at intersections was also greater for alternative 5. Based upon the increased traffic volumes and congestion, Alternative 5 scored higher for Air Quality and Noise impacts.

### Visual Impacts

Visual impacts are evaluated based upon the built environment and setting integrity. The area between Van Buren Street and MC85 has experienced rapid growth over the past 15 years. The elevated-to-at-grade SR303L is considered to have greater impacts to residential land uses than to commercial and industrial uses. All three alternatives were scored equally through this segment. South of MC85 the Study Area is mainly agricultural with farmsteads. Section 4(f) resources in this area are adversely affected by the three alternatives that align SR30 farther north, i.e. the Buckeye Canal Farmstead Historic District and the Buckeye Canal Upper Zanjero House. Alternatives 3S and 5S move the SR30 alignment further away from the Upper Zanjero House but are still close to the Buckeye Canal Farmstead. Alternative 3S and 3N places their 5-level stacked interchanges very close to both of these resources increasing its visual impacts. Alternative 2CS is farthest away from these sensitive resources.

## Archaeological Resource Impacts

Detailed archaeological analysis was undertaken for all six Build Alternatives to determine their likelihood to adversely affect archaeological resources. Known archaeological sites were weighted in the scoring based on their eligibility for listing on the National Register of Historic Places, as well as their relative significance; i.e., impacts to a habitation site were ranked higher (more severe) than impacts to an artifact scatter. Alternative 2CS and 5S were determined to have the least impacts to the resources while Alternative 3N and 5N had the most.

## Section 4(f) Impacts

The Build Alternatives' effects on historic resources were ranked, not only physical impacts but other, lasting consequences of building near a protected resource; e.g., visual and audio intrusion on the property.

## Local Access

Maintaining local access and establishing access control is an important factor in the L/DCR analysis. Local access between Van Buren Street to Lower Buckeye Road is the same for Alternatives 2C, 3 and 5. South of Lower Buckeye Road Alternatives 3 and 5 continue parallel to existing Cotton Lane after the frontage roads to and from the north merge back to existing Cotton Lane. This creates an access issue to properties on the west side of Cotton Lane. The ramps and/or freeway would need to remain elevated to provide access crossing via bridge or large box structure. For this reason, Alternative 2C was scored more favorable than Alternatives 3 and 5.

## Traffic Operations

Traffic volumes and operations for Alternatives 2C and 3 were very similar while Alternative 5 volumes were over 10% higher. Based upon Alternative 5's ability to attract higher volumes while maintaining adequate levels of service, Alternative 5 was scored as more favorable than Alternatives 2C and 3.

## Construction Costs

In analyzing construction costs, the relocations/protections of major utilities were not included, instead they were identified as their own criterion. Construction costs include earthwork, paving, drainage features, bridges/structures, signing, marking, signals landscaping, walls and other roadway appurtenances. The differences in construction costs for all alternatives were in a range of 5%. Alternatives 3N, 5N and 5S costs were at the higher range due to a greater overall square footage of bridge structures.

## Right of Way

Differences in right of way costs for all alternatives were in a range of 36%. Alternative 3N was the lowest cost while Alternative 2CS and 5S were the highest. All estimates included the cost for acquiring portions of property owned by the City of Goodyear south of Lower Buckeye Road.

## Canal/APS Reclaimed Water Line

All canal crossings are to be grade separated to allow for maintenance; however, APS requires the reclaimed water line that lies within the canal right of way to be encased when within the proposed freeway right of way. The ratings are based on the length of encasement necessary. Work to encase the pipe is limited to the time when the water line is shut down for other planned, yearly maintenance periods. Generally only 500-feet of encasement can be accomplished in a shutdown. The southern alignment alternatives have approximately 1400 feet of potential impacts, one half to one quarter the potential impact as the northern alternatives.

## SRP/APS/WAPA Power Lines

This criterion evaluates the potential impacts to major transmission lines, 230kV and above. As the impact to the APS 230KV line crossing Cotton Lane between Lower Buckeye Road and Elwood Street is the same for all alternatives it is excluded from the ranking evaluation. The evaluation considers the length of required adjustment, number of poles/towers impacted and need for new powerline easement. The northern alignment alternatives have limited impact to the powerlines except for the crossing near Perryville Road and any southern extension of the SR303 south of SR30. The southern alignment alternatives impact the power lines at SR30 and cotton Lane and SR303/SR30 interchange area. impacting approximately two to four sets of additional poles/towers. Alternative 3S requires more vertical and horizontal adjustments..

## Public Input

Public meetings were held to gather input from the public and other interested parties. Public input and questions for this project have centered around noise walls, elevation of the proposed facility, timing for construction, and which direction the SR303L will go south of Lower Buckeye Road. Residents from the area southwest of Lower Buckeye Road and Cotton Lane preferred Alternative 3 while residents to the south preferred alternative 2C or 5. Agency input was also received from local municipalities, the county, as well as state agencies. Their input and questions included project timing, impacts to utilities and developments, access considerations, and which direction SR303L will go south of Lower Buckeye Road. All agencies have expressed a preference for Alternative 2C.

## Planning Consistency

Several long-range planning efforts have been completed that include the SR303L and SR30. Maricopa Association of Governments (MAG) completed two studies, *Interstate 10 – Hassayampa Valley Roadway Framework Study* and *Interstate 8 and Interstate 10 Hidden Valley Transportation Framework Study*. Also, the City of Goodyear's planning documents identify



corridors for the SR303L and SR30. Alternative 2C is consistent with these studies. Alternative 5 is mostly consistent except for the directional ramps that will connect the north leg of SR303L to the east leg of SR30 which continue down Cotton Lane to the SR30. Alternative 3 is not consistent with local or regional planning.

## Appendix B -- Programmatic Agreement

**PROGRAMMATIC AGREEMENT  
AMONG  
FEDERAL HIGHWAY ADMINISTRATION  
ARIZONA STATE HISTORIC PRESERVATION OFFICE  
ARIZONA DEPARTMENT OF TRANSPORTATION  
ARIZONA STATE LAND DEPARTMENT  
ARIZONA STATE MUSEUM  
CITY OF GOODYEAR  
MARICOPA COUNTY  
AK CHIN INDIAN COMMUNITY  
GILA RIVER INDIAN COMMUNITY  
HOPI TRIBE  
PASCUA YAQUI TRIBE  
SAN CARLOS APACHE TRIBE  
SALT RIVER PIMA-MARICOPA INDIAN COMMUNITY  
TOHONO O'ODHAM NATION  
YAVAPAI-APACHE NATION**

**REGARDING THE TREATMENT OF HISTORIC PROPERTIES ALONG THE  
ESTRELLA FREEWAY, AN EXTENSION OF THE STATE ROUTE 303 LOOP,  
EXTENDING FROM VAN BUREN STREET SOUTH OF INTERSTATE 10,  
SOUTH TO MARICOPA COUNTY ROUTE 85 AND THE FUTURE STATE  
ROUTE 30 IN GOODYEAR, MARICOPA COUNTY, ARIZONA,  
STP-303-A(ASO)  
303 MA 100 H6870 01L**

**WHEREAS**, the Federal Highway Administration (FHWA) and the Arizona Department of Transportation are proposing to extend the existing State Route (SR) 303 Loop (SR 303L) west of Phoenix, to be located between Van Buren Street south of Interstate 10 (I-10) and Maricopa County Route 85 (MC 85) and the future proposed SR 30 in the City of Goodyear (Goodyear) as well as unincorporated portions of Maricopa County, a federally-funded project in Maricopa County, Arizona (hereafter referred to as “the Project”); and

**WHEREAS**, the area of potential effects (APE) for this project is defined as new rights-of-way (ROW) and temporary construction easements (TCEs) along whichever alternative alignment is selected for construction along with the area within ¼-mile of the outer boundary of that alignment where historic properties could be affected by visual, auditory, or atmospheric intrusions; and

**WHEREAS**, construction would occur on privately owned lands to be purchased by ADOT, municipal property owned by Goodyear, and county property to be acquired by ADOT from Maricopa County, and easement to be acquired by ADOT from the Arizona State Land Department (ASLD); and

**WHEREAS**, the proposed Project may have an effect upon historic properties, which are defined as “any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in the National Register of Historic Places (NHPA), including artifacts, records, and material remains related to such a property or resource” (National Historic Preservation act [NHPA] 16 U.S.C. 470w, Title III, Section 301 [5]); and

**WHEREAS**, the proposed Project may have an effect upon as yet unidentified subsurface archaeological resources; and

**WHEREAS**, the proposed Project may have an effect on yet to be assessed historic buildings, structures, or districts; and

**WHEREAS**, the proposed project may have an effect upon as yet unidentified traditional cultural properties (TCPs), which are defined as places that are “eligible for inclusion in the National Register because of [their] association with cultural practices or beliefs of a living community that (a) are rooted in that community’s history, and (b) are important in maintaining the continuing cultural identity of the community” (National Park Service National Register Bulletin 38: *Guidelines for Evaluating and Documenting Traditional Properties*); and

**WHEREAS**, in their role as lead federal agency, FHWA has consulted with the Arizona Historic Preservation Office (SHPO) pursuant to 36 CFR Part 800, regulations implementing Section 106 of the NHPA (16 U.S.C. 470f) as revised in 2004; and

**WHEREAS**, SHPO is authorized to enter into this programmatic agreement (PA) in order to fulfill its role of advising and assisting Federal agencies in carrying out their Section 106 responsibilities under the following federal statutes: Sections 101 and 106 of the NHPA of 1996, as amended, 16 U.S.C. 470f, and pursuant to 36 CFR Part 800, regulations implementing Section 106, at 800.2(c)(1)(i) and 800.6(b); and

**WHEREAS**, SHPO is authorized to advise and assist federal and state agencies in carrying out their historic preservation responsibilities and cooperate with these agencies under A.R.S. 41-511.04(D)(4); and

**WHEREAS**, ADOT and ASLD are required to consider effects on historic properties and human remains or funerary objects pursuant to the Arizona Historic Preservation Act of 1982 as amended through 2000 (ARS 41-861 through 41-865; and

**WHEREAS**, ADOT, acting as agent for FHWA, has participated in consultation and has been invited to be a signatory to this PA; and

**WHEREAS**, FHWA has consulted with the SHPO, ASLD, the Arizona State Museum (ASM), Goodyear, and Maricopa County; and

**WHEREAS**, the Native American groups that may attach religious or cultural importance to affected properties have been consulted [pursuant to 36 CFR 800.2 ©(2)(ii)(A-f)], and the Ak Chin Indian Community, the Hopi Tribe, the Pascua-Yaqui Tribe, the San Carlos Apache Tribe (SCAT), the Salt River Pima-Maricopa Indian Community (SRPMIC), the Tohono O’odham Nation (TON), and the Yavapai-Apache Nation (YAN) have been invited to be concurring parties to this Agreement; and

**WHEREAS**, the Advisory Council on Historic Preservation (ACHP) was invited to be a signatory to this PA but declined participation; and

**WHEREAS**, by their signature all parties agree that the regulations specified in the ADOT document, “ADOT Standard Specifications for Road and Bridge Construction” (Section 104.12, 2000) will account for the cultural resources in potential materials sources used in Project construction; and

**WHEREAS**, an agreement regarding the treatment and disposition of human remains, associated funerary objects, and objects of cultural patrimony will be developed by the Arizona State Museum (ASM) for state, county, municipal, and private land; and

**WHEREAS**, testing and data recovery necessitated by the Project, located on state, county, municipal, and private land must be permitted by the Arizona State Museum pursuant to A.R.S. 41-842; and

**NOW, THEREFORE**, all parties agree that upon FHWA’s decisions to proceed with the Project, FHWA shall ensure that the following stipulations are implemented in order to take into account the effects of the Project on historic properties, and that these stipulations shall govern the Project and all of its parts until this Agreement expires or is terminated.

### **Stipulations**

FHWA will ensure that the following measures are carried out.

#### **1. Construction Plans and Documents Submittal**

Upon receipt by ADOT, notice will be given to the consulting parties that copies of the plans and related documents pertaining to this undertaking including the 30%, 60% and 95% draft construction documents, and the design concept reports are available for inspection; copies will be provided to those consulting parties that request them for review and comment. The consulting parties will have 10 calendar days from receipt of ADOT notice to indicate they wish to receive copies of construction documents and 30 calendar days from receipt of construction documents to review the documents and respond.

## 2. Identification of the APE and Additional Inventory Surveys

ADOT, on behalf of FHWA, and in consultation with all parties to this PA, shall ensure that the APE as defined above is refined as the alternative selection process proceeds and as construction plans are further developed. ADOT, on behalf of FHWA, shall also ensure that previously identified cultural resources are assessed for NRHP eligibility in accordance with 36 CFR 800.4, as appropriate, and that new inventory surveys of the Project APE include identification of all cultural resources and result in determinations of NRHP eligibility in accordance with 36 CFR 800.4. Should any party to this Agreement disagree with FHWA and ADOT regarding eligibility, the SHPO shall be consulted and resolution sought within 30 calendar days. If FHWA and SHPO disagree on eligibility, FHWA shall request a formal determination from the Keeper of the National Register.

## 3. Identification, Evaluation, Documentation, and Mitigation of Impacts to Traditional Cultural Properties

FHWA in consultation with all parties to this PA, shall ensure that consultation with the Native American groups that may attach religious or cultural importance to affected properties will continue in order to identify, evaluate, document, and mitigate possible impacts to TCPs according to National Park Service National Register Bulletin #38: *Guidelines for Evaluating and Documenting Traditional Properties*.

## 4. Geotechnical Investigations

Because geotechnical investigations may effect historic properties within the APE, ADOT on behalf of FHWA, will ensure that historic properties be avoided by geotechnical investigations wherever possible. Geotechnical investigations beyond the boundaries of historic properties may proceed without consultation. In the event that historic properties cannot be avoided, ADOT, in consultation with the consulting parties, shall determine appropriate treatment. Data recovery at geotechnical investigation locations requires a Treatment Plan, as described below, be developed. Monitoring at geotechnical locations within historic properties is to be conducted in accordance with the Project-wide Monitoring and Discovery Plan described below. Geotechnical investigations outside the boundaries of historic properties may proceed prior to the completion of any data recovery required at other locations.

## 5. Development of Treatment Plans

If mitigation measures are required to ensure that historic properties are treated in accordance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties*, a treatment Plan will be developed and submitted by ADOT, on behalf of FHWA, to all parties to this PA for 30 calendar days' review. For treatment of archaeological sites, the Plan will be consistent with the *Secretary of*

*the Interior's Standards and Guidelines for Archaeological Documentation* (48 FR 44734-37). Unless any signatory or concurring party objects to the Plan within 30 calendar days after receipt of the Plan, ADOT, on behalf of FHWA, shall ensure that it is implemented prior to construction.

6. Archaeological Treatment Plans will specify:
  - a) The properties or portions of properties where archaeological testing or data recovery is to be carried out. Also, it will specify any property or portion of a property that would be destroyed or altered without treatment;
  - b) The results of previous research relevant to the property, and the treatment objectives, with an explanation of their relevance and importance;
  - c) The field and laboratory analysis methods to be used (as appropriate), with an explanation of their relevance to the research objectives;
  - d) The methods to be used in analysis, data management, and dissemination of data to the professional community and the public, including a proposed schedule for project tasks, and for the submission of draft and final reports or other documentation (as appropriate) to consulting parties;
  - e) The proposed disposition and curation of recovered materials and records in accordance with ARS 41-844;
  - f) A protocol for the treatment of human remains, in the event that such remains are discovered, describing methods and procedures for the recovery, inventory, treatment, and disposition of human remains, funerary objects, and objects of cultural patrimony. This protocol will reflect concerns and/or conditions identified as a result of consultations among parties to this PA and will be in accordance with the burial agreement developed by ASM for state, county, municipal, and private lands.
  
7. Non-archaeological Treatment Plans will specify:
  - a) The properties or portions of properties for which treatment (for example, photographic and archival documentation) is to be carried out. Also, it will specify any property or portion of a property that would be destroyed or altered without treatment;
  - b) The results of previous research relevant to the property, and the treatment objectives, with an explanation of their relevance and importance;

- c) The field and archival methods (for example, Historic American Buildings Survey [HABS] or Historic American Engineering Record [HAER] documentation) to be used (as appropriate), with an explanation of their relevance to the treatment objectives;
  - d) The methods to be used in analysis, data management, and dissemination of data to the professional community and the public, including a proposed schedule for project tasks and for the submission of draft and final reports or other documentation (as appropriate) to consulting parties;
  - c) The proposed place where documentation will be archived/filed (for example, Library of Congress, Arizona State Library and Archives, State Historic Preservation Office).
8. Development of a Monitoring and Discovery Plan
- ADOT, on behalf of FHWA, will ensure that a Project-wide Monitoring and Discovery Plan is developed. The Plan will specify the procedures for monitoring, evaluating, and treating discoveries of unexpected or newly identified properties during planning or construction of the Project, including consultation with other parties; Unless any signatory or concurring party objects to the Plan within 30 calendar days after receipt of the Plan, ADOT, on behalf of FHWA, shall ensure that it is implemented prior to construction.
9. Review and comment on Treatment Plans and Monitoring and Discovery Plans
- (a) Upon receipt of a draft Plan, ADOT, on behalf of FHWA, will review and subsequently submit such documents concurrently to all consulting parties for review. All consulting parties will have 30 calendar days from receipt to review and provide comments to ADOT. All comments shall be in writing with copies provided to the other consulting parties. Lack of response within this review period will be taken as concurrence with the subject Plan.
  - (b) If revisions to the subject Plan are made all consulting parties will have 20 calendar days from receipt to review the revisions and provide comments to ADOT. Lack of response within this review period will be taken as concurrence with the subject Plan.
  - (c) Once the subject Plan is determined adequate by all parties (with SHPO concurrence), ADOT, on behalf of FHWA, shall issue authorization to proceed with the implementation of the subject Plan plan, subject to obtaining any and all necessary permits.
  - (d) Final versions of the subject Plan will be provided to all consulting parties.

## 10. Review and Comment on Preliminary Report of Findings

- a) Following completion of fieldwork related to archaeological testing, data recovery, or other treatment, the institution, firm, or consultant responsible for the work will prepare and submit a brief (generally no more than 5-10 pages including illustrations) Preliminary Report of Findings.
- b) Following receipt of a draft of the Preliminary Report of Findings, ADOT, on behalf of FHWA, will review and subsequently submit such documents concurrently to all consulting parties for review. All consulting parties will have 30 calendar days from receipt to review and provide comments to ADOT. All comments shall be in writing with copies provided to the other consulting parties. Lack of response within this review period will be taken as concurrence with the Report.
- c) If revisions to the Preliminary Report of Findings are made, all consulting parties have 10 calendar days from receipt to review the revisions and provide comments to ADOT. Lack of response within this review period will be taken as concurrence with the Report.
- d) Once the Preliminary Report of Findings has been accepted as a final document, ADOT, on behalf of FHWA, will notify appropriate Project participants that construction may proceed.
- e) Final versions of the Preliminary Report of Findings will be provided to all consulting parties.

## 11. Review and Comment on Treatment Reports

- a) (a) Following completion of any mitigative treatment, a Report will be prepared incorporating all appropriate data analyses and interpretations. ADOT, on behalf of FHWA, will review and subsequently submit such documents concurrently to all consulting parties for review and comment. All consulting parties will have 30 calendar days from receipt to review and provide comments to ADOT. All comments shall be in writing with copies provided to the other consulting parties. Lack of response within this review period will be taken as concurrence with the Report.
- b) If revisions to the Report are made, all consulting parties will have 20 calendar days from receipt to review the revisions and provide comments to ADOT. Lack of response within this review period will be taken as concurrence with the Report.



## 12. Standards for Survey, Testing, Data Recovery, Monitoring, or Other Treatment

All historic preservation work carried out pursuant to this Agreement shall be carried out by or under the supervision of a person, or persons, meeting at a minimum the *Secretary of the Interior's Professional Qualifications Standards* (48 FR 44738-44739).

## 13. Curation

All materials and records resulting from archaeological testing, data recovery, or monitoring programs conducted within the APE, except as noted below, shall be curated in accordance with standards outlined in ARS 41-844, ARS 41-865, and guidelines generated by ASM. The repository for materials either will be ASM or one in Maricopa County that meets those standards and guidelines. All materials subject to repatriation under ARS 41-844 and ARS 41-865 shall be maintained in accordance with the ASM burial agreement until any specified analyses, as determined following consultation with the appropriate Native American groups and individuals, are complete and the materials are repatriated or submitted to ASM.

## 14. Objection by a Signatory or Concurring Party

Should any signatory or concurring party to this PA object within 30 days to any Plan or Report provided for review or to any aspect of this undertaking related to historic preservation issues, FHWA shall consult with the objecting party to resolve the objection. If the objection cannot be resolved, FHWA shall request further comments of the ACHP with reference only to the subject of the dispute; the FHWA's responsibility to carry out all actions under this PA that are not the subject of the dispute will remain unchanged.

## 15. Discoveries

If previously unknown cultural resources are discovered after construction begins, the person in charge of the construction shall promptly report the discovery to the ADOT Historic Preservation Team or specialist representing FHWA. ADOT, on behalf of FHWA, will follow the provisions outlined in the Monitoring and Discovery Plan. If human or funerary objects are discovered, ADOT shall require construction to immediately cease within the area of the discovery, take steps to secure the discovery, and notify and consult with appropriate Native American groups to determine treatment and disposition measures in accordance with the previously implemented ASM burial agreement. The Director of the ASM (the Director) shall also be informed. In consultation with the Director and ADOT, on behalf of FHWA, the person in charge of construction shall immediately take steps to secure and maintain preservation of the discovery. If the discovery appears to involve human remains as defined in ASM rules implementing ARS

41-844 and 41-865, ASM and ADOT, on behalf of FHWA, shall ensure that the discovery is treated according to the ASM burial agreement.

If human remains are not involved, then the ADOT Historic Preservation Specialist shall evaluate the discovery, and in consultation with FHWA and SHPO, determine if the Monitoring and Discovery Plan previously approved by ASM is appropriate to the nature of the discovery. If appropriate, the Monitoring and Discovery Plan shall be implemented by ADOT, on behalf of FHWA. If the Monitoring and Discovery Plan is not appropriate to the discovery, FHWA shall ensure that an Alternate Plan for the resolution of adverse effect is developed pursuant to 36 CFR 800.6 and circulated to the consulting parties, who will have 48-hours to review and comment upon the Alternate Plan. FHWA shall consider the resulting comments, and shall implement the Alternate Plan once necessary permits have been issued.

#### 16. Amendments

This PA may be amended by the signatories pursuant to 36 CFR 800.6 (c) (7). FHWA shall file any amendments with the ACHP and provide notice to the concurring parties.

#### 17. Termination

Any signatory may terminate the PA by providing 30 day written notification to the other signatories. During this 30-day period, the signatories may consult to seek agreement on amendments or other actions that would avoid termination pursuant to 36 CFR 800.6 (b). If the parties cannot agree on actions to resolve disagreements, FHWA will comply with 36 CFR 800.7(a).

#### 18. In the event that FHWA or ADOT cannot carry out the terms of this PA, FHWA will comply with 36 CFR 800.3 through 800.6.

This PA shall be null and void if its terms are not carried out within twenty-five (25) years from the date of its execution, unless the signatories agree in writing to an extension for carrying out its terms. Execution of this PA by the signatories and its subsequent filing with the ACHP is evidence that the Federal Highway Administration has afforded the Advisory Council on Historic Preservation an opportunity to comment on the Project and its effects on historic properties, and that the Federal Highway Administration has taken into account the effects of the undertaking on historic properties.

**SIGNATORIES**

**FEDERAL HIGHWAY ADMINISTRATION**

By Rei yd

Date 6-6-13

Title Environmental Coordinator

**ARIZONA STATE HISTORIC PRESERVATION OFFICER**

By James Garrison

Date 6/18/13

Title AZSHPO

**INVITED SIGNATORIES**

**ARIZONA DEPARTMENT OF TRANSPORTATION**

By Paul Brown, Manager

Date 6/5/13

Title Environmental Planning Group

**CONCURRING PARTIES**

**ARIZONA STATE LAND DEPARTMENT**

By \_\_\_\_\_

Date \_\_\_\_\_

Title \_\_\_\_\_

**ARIZONA STATE MUSEUM**

By \_\_\_\_\_

Date \_\_\_\_\_

Title \_\_\_\_\_

**CITY OF GOODYEAR**

By \_\_\_\_\_

Date \_\_\_\_\_

Title \_\_\_\_\_

**SIGNATORIES**

FEDERAL HIGHWAY ADMINISTRATION

By Paul Yeh

Date 6-6-13

Title Environmental Coordinator

ARIZONA STATE HISTORIC PRESERVATION OFFICER

By \_\_\_\_\_

Date \_\_\_\_\_

Title \_\_\_\_\_

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ARIZONA DEPARTMENT OF TRANSPORTATION

By Paul C. Brown, Manager

Date 6/5/13

Title Environmental Planning Group

**CONCURRING PARTIES**

ARIZONA STATE LAND DEPARTMENT

By \_\_\_\_\_

Date \_\_\_\_\_

Title \_\_\_\_\_

ARIZONA STATE MUSEUM

By Patricia J. ...

Date 11 July 13

Title Director

CITY OF GOODYEAR

By \_\_\_\_\_

Date \_\_\_\_\_

Title \_\_\_\_\_

MARICOPA COUNTY

By \_\_\_\_\_

Date \_\_\_\_\_

Title \_\_\_\_\_

AK-CHIN INDIAN COMMUNITY

By \_\_\_\_\_

Date \_\_\_\_\_

Title \_\_\_\_\_

GILA RIVER INDIAN COMMUNITY

By \_\_\_\_\_

Date \_\_\_\_\_

Title \_\_\_\_\_

HOPI TRIBE

By \_\_\_\_\_

Date \_\_\_\_\_

Title \_\_\_\_\_

PASCUA YAQUI TRIBE

By \_\_\_\_\_

Date \_\_\_\_\_

Title \_\_\_\_\_

SAN CARLOS APACHE TRIBE

By Terry Rambl

Date 6/28/13

Title Chairman

SALT RIVER PIMA-MARICOPA INDIAN COMMUNITY

By \_\_\_\_\_

Date \_\_\_\_\_

Title \_\_\_\_\_

TOHONO O'ODHAM NATION

By \_\_\_\_\_

Date \_\_\_\_\_

Title \_\_\_\_\_

YAVAPAI-APACHE NATION

By \_\_\_\_\_

Date \_\_\_\_\_

Title \_\_\_\_\_



**Arizona Department of Transportation**

**Environmental Planning**

# **Air Quality Technical Report**

**SR303L, SR30 to I-10**

**Federal Project No. STP-303-A(ASO)S  
ADOT Project No. 303 MA 100 H6870 01L**

**September 4, 2018**

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**Air Quality Technical Report**  
FOR  
SR303L, SR30 to I-10

**Federal Project No. STP-303-A(ASO)S**  
**ADOT Project No. 303 MA 100 H6870 01L**

**Prepared for:**  
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September 4, 2018

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# Table of Contents

---

<b>EXECUTIVE SUMMARY.....</b>	<b>S-1</b>
<b>1.0 INTRODUCTION.....</b>	<b>1-1</b>
<b>2.0 PROJECT DESCRIPTION.....</b>	<b>2-1</b>
<b>3.0 REGULATIONS.....</b>	<b>3-1</b>
<b>3.1 Clean Air Act Amendments of 1990.....</b>	<b>3-1</b>
3.1.1 National Ambient Air Quality Standards.....	3-1
3.1.1.1 Ozone .....	3-3
3.1.1.2 Carbon Monoxide.....	3-3
3.1.1.3 Particulate Matter .....	3-5
3.1.2 Transportation Conformity Rule.....	3-6
3.1.3 Interagency Consultation .....	3-6
<b>3.2 Mobile Source Air Toxics .....</b>	<b>3-7</b>
<b>3.3 Greenhouse Gases.....</b>	<b>3-10</b>
<b>4.0 EXISTING CONDITIONS.....</b>	<b>4-1</b>
<b>4.1 Ambient Air Quality Data .....</b>	<b>4-1</b>
4.1.1 Local Meteorology.....	4-1
4.1.2 Local Monitored Air Quality .....	4-1
<b>4.2 Attainment Status.....</b>	<b>4-2</b>
<b>5.0 ENVIRONMENTAL CONSEQUENCES .....</b>	<b>5-1</b>
<b>5.1 Hot-Spot CO Analysis.....</b>	<b>5-1</b>
5.1.1 Methodology .....	5-1
5.1.2 Screening Evaluation .....	5-3
5.1.3 Analysis .....	5-7
<b>5.2 Hot-Spot PM<sub>10</sub> Analysis.....</b>	<b>5-8</b>
5.2.1 Determine Need .....	5-8
5.2.2 Approach, Models and Data.....	5-8
5.2.3 Estimate On-Road Vehicle Emissions .....	5-10
5.2.4 Estimate Emissions from Road Dust, Construction and Additional Sources .....	5-11
5.2.5 Air Quality Model, Data Inputs and Receptors .....	5-12
5.2.6 Background Concentrations from Nearby and Other Sources .....	5-12
5.2.7 Calculate Design Values and Determine Conformity .....	5-13
5.2.8 Mitigation or Control Measures.....	5-14
5.2.9 Document the PM Hot-Spot Analysis .....	5-14
<b>5.3 MSAT Analysis.....</b>	<b>5-15</b>
5.3.1 Methodology .....	5-15

5.3.2	Analysis .....	5-19
5.3.3	Information that is Unavailable or Incomplete .....	5-20
<b>5.4</b>	<b>Greenhouse Gas Analysis.....</b>	<b>5-23</b>
5.4.1	Methodology .....	5-23
5.4.2	Analysis .....	5-23
<b>6.0</b>	<b>REFERENCES .....</b>	<b>25</b>

## List of Appendices

---

<b>APPENDIX A</b>	<b>INTERAGENCY CONSULTATION DOCUMENTATION</b>
<b>APPENDIX B</b>	<b>MSAT MOVES MODELING FILES</b>
<b>APPENDIX C</b>	<b>CO CAL3QHC AND MOVES MODELING FILES</b>
<b>APPENDIX D</b>	<b>PM<sub>10</sub> CAL3QHCR AND MOVES MODELING FILES PM<sub>10</sub></b>
<b>APPENDIX E</b>	<b>ANALYSIS LOCATION</b>

## List of Tables

---

Table 3-1. National Ambient Air Quality Standards .....	3-2
<a href="#">Table 4-1. Ambient Air Quality Monitor Data .....</a>	<a href="#">4-1</a>
Table 4-2. Project Area Attainment Status .....	4-2
Table 5-1. SR 303 Loop Intersection Screening .....	5-5
Table 5-2. Predicted Worst-Case One-Hour CO Concentrations (ppm).....	5-7
Table 5-3. Predicted Worst-Case Eight-Hour CO Concentrations (ppm).....	5-7
<a href="#">Table 5-4. MAG Road Dust Emission Factors .....</a>	<a href="#">5-11</a>
<a href="#">Table 5-5. Predicted 24-Hour PM<sub>10</sub> Concentrations (µg/m<sup>3</sup>) .....</a>	<a href="#">5-14</a>
Table 5-6. MOVES RunSpec Options.....	5-17
Table 5-7. MOVES County Data Manager Inputs.....	5-18
Table 5-8. 2040 Predicted MSAT Emission Burdens (metric tons/year) .....	5-19
Table 5-9. Regional VMT Forecast.....	5-20
Table 5-10. Predicted GHG Emission Burdens (metric tons/year) .....	5-23

## List of Figures

---

Figure 2-1. Project Location.....	2-2
Figure 2-2. Study Area Limits.....	2-3
Figure 2-3. Build Alternative 5S Alignment.....	2-4
Figure 3-1. Ozone in the Atmosphere.....	3-3
Figure 3-2. Sources of CO in Maricopa County (2014).....	3-4
Figure 3-3. Sources of CO in the United States (2014).....	3-4
Figure 3-4. Relative Particulate Matter Size.....	3-5

Figure 3-5. National MSAT Emission Trends 2010 – 2050 For Vehicles Operating  
on Roadways Using EPA's MOVES2014a Model..... 3-9

Figure 5-1. EPA's Nine-Step Process ..... 5-9

Figure 5-2. Roadway Network Used to Calculate Total MSAT Emissions ..... 5-16

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## Executive Summary

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This Air Quality Technical Report supports the State Route (SR) 303 Loop, SR 30 to I-10 Environmental Assessment. The report evaluates the project's potential air quality impacts within the Study Area. This includes an analysis of whether the project would cause or contribute to a new localized exceedance of carbon monoxide (CO) or particulate matter (PM<sub>10</sub>) ambient air quality standards, or increase the frequency or severity of any existing exceedance; the mobile source air toxic (MSAT) impacts of the project; and the greenhouse gas (GHG) impacts of the project.

According to this analysis, the project is not predicted to cause or exacerbate a violation of the applicable National Ambient Air Quality Standards. It is also predicted to have no measurable effect on MSAT or GHG emissions. Furthermore, since the modeled Build alternative concentrations are below the PM<sub>10</sub> NAAQS, the project does not interfere with PM<sub>10</sub> transportation control measures in the Maricopa Association of Governments (MAG) State Implementation Plan (SIP) for PM<sub>10</sub>.

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## 1.0 Introduction

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This Air Quality Technical Report has been prepared in support of the State Route 303 Loop, SR 30 to I-10 project in the City of Goodyear, Maricopa County, Arizona.

The air quality analysis was performed based on traffic data presented in the *SR303L SR30 Traffic Report* (WSP, 2018). The Traffic Report was originally prepared in September 2017. An addendum was published in January 2018 to incorporate the most recent Maricopa Association of Governments (MAG) October 2017 Conformity Model output.

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## 2.0 Project Description

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The Arizona Department of Transportation (ADOT), in association with the Federal Highway Administration (FHWA), proposes to extend State Route Loop 303 (SR 303L) south of the Van Buren Street/SR 303L Traffic Interchange (TI) to the future State Route 30 (SR30) (Figure 2-1). The extension would complete the 40-mile SR 303L freeway in the western and northwestern portions of the greater Phoenix metropolitan area, linking the future SR 30 to Interstate 17 and providing connections to I-10 and US Route 60. The ADOT 2013 Lifecycle Certification Regional Transportation Plan Freeway Plan (RTPFP) funds the initial construction of three general-purpose (GP) lanes in each direction, transitioning back to Cotton Lane at Elwood. The ultimate facility as defined in the RTPFP includes four general purpose lanes and one high-occupancy vehicle (HOV) lane on SR303L and four GP lanes plus one HOV lane on future SR30, with grade-separated interchanges.

To meet the needs of the area's growing population and increased traffic demand, the SR303L extension is proposed to increase the roadway capacity and reduce projected traffic congestion in the Cotton Lane corridor, improve the traffic level of service, and facilitate the regional movement of people and goods. The proposed project is included in the Maricopa Association of Governments (MAG) 2040 Regional Transportation Plan (RTP). The initial construction of three GP lanes is scheduled in 2019. This construction would occur within the MAG FY 2018 - 2022 Transportation Improvement Program (TIP).

Within the Study Area, the alignment of future SR303L from I-10 to future SR30 would replace the current Cotton Lane; an arterial street intersecting at grade with Van Buren Street, Canyon Trails Boulevard/ Lilac Street, Yuma Road, Lower Buckeye Road, Broadway Road, Elwood Street, and MC85. The proposed SR303L alignment would replace Cotton Lane from Van Buren Street to Elwood Street. The project Study Area limits are shown in Figure 2-2.

To lessen potential utility conflicts and avoid Section 4(f) resources, a variation on the original concept alignment for SR30 was developed and applied to the build alternatives. Originally identified as Alternatives 2C, 3, and 5 "Variation 1" in the Air Quality analysis, the names for the SR303L alternatives with the SR30 south variation were later simplified to Alternatives 2CS, 3S, and 5S.

Traffic was modeled for three different SR303L freeway study alignments: Alternative 2CS, Alternative 3S, and Alternative 5S. Alternative 5S was found to have the highest impact on the traffic network based on the Traffic Report findings. Alternative 5S was also determined to have the highest impact on air quality because it resulted in the highest daily traffic volumes and worst intersection Level of Service (LOS). The technical analyses presented in the Air Quality Technical Report were based on data from Alternative 5S, and it is assumed that potential impacts from other build alternatives would not exceed any air pollutant emissions or concentrations presented. Figure 2-3 shows details of the Alternative 5S alignment.

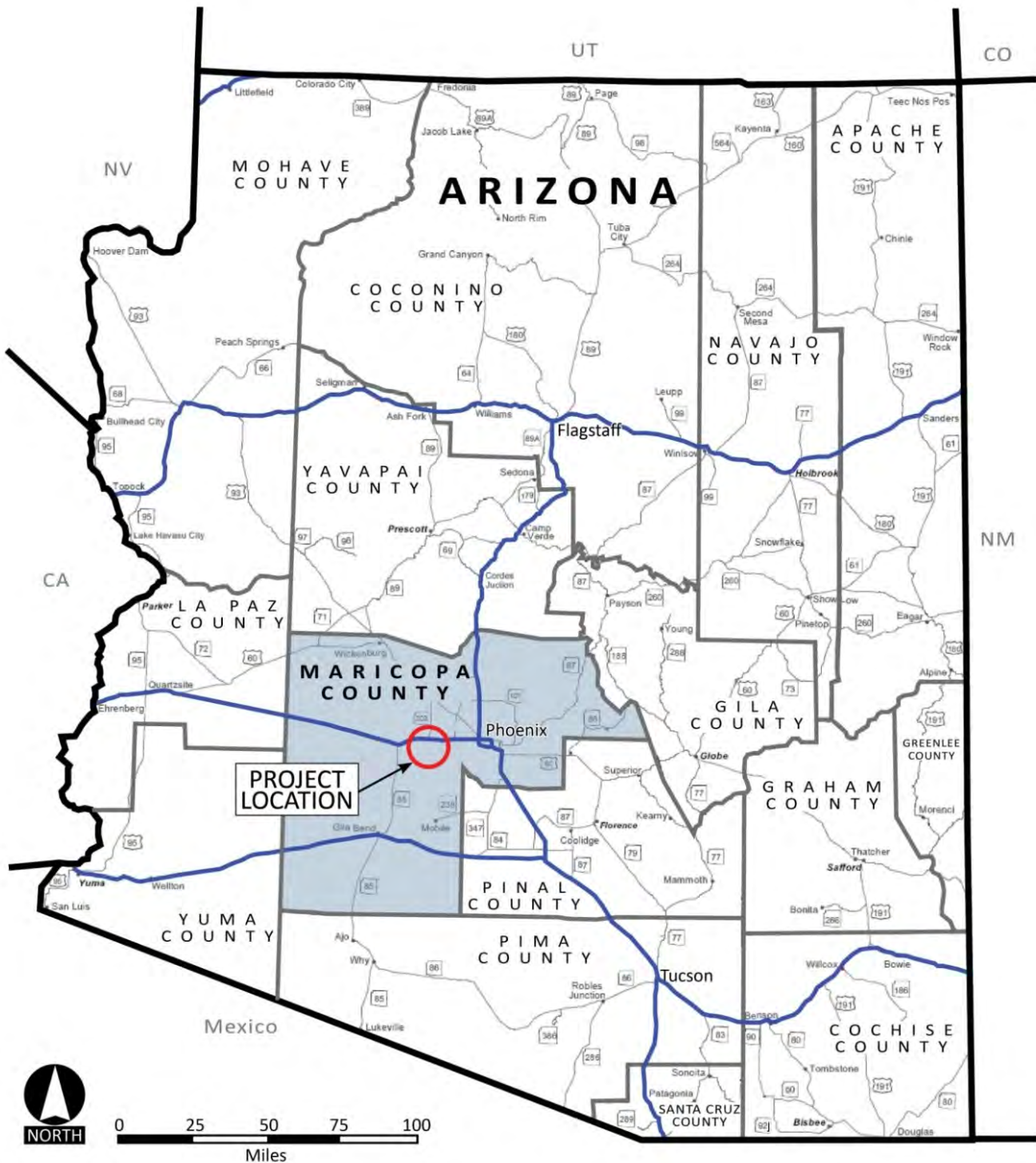


Figure 2-1. Project Location

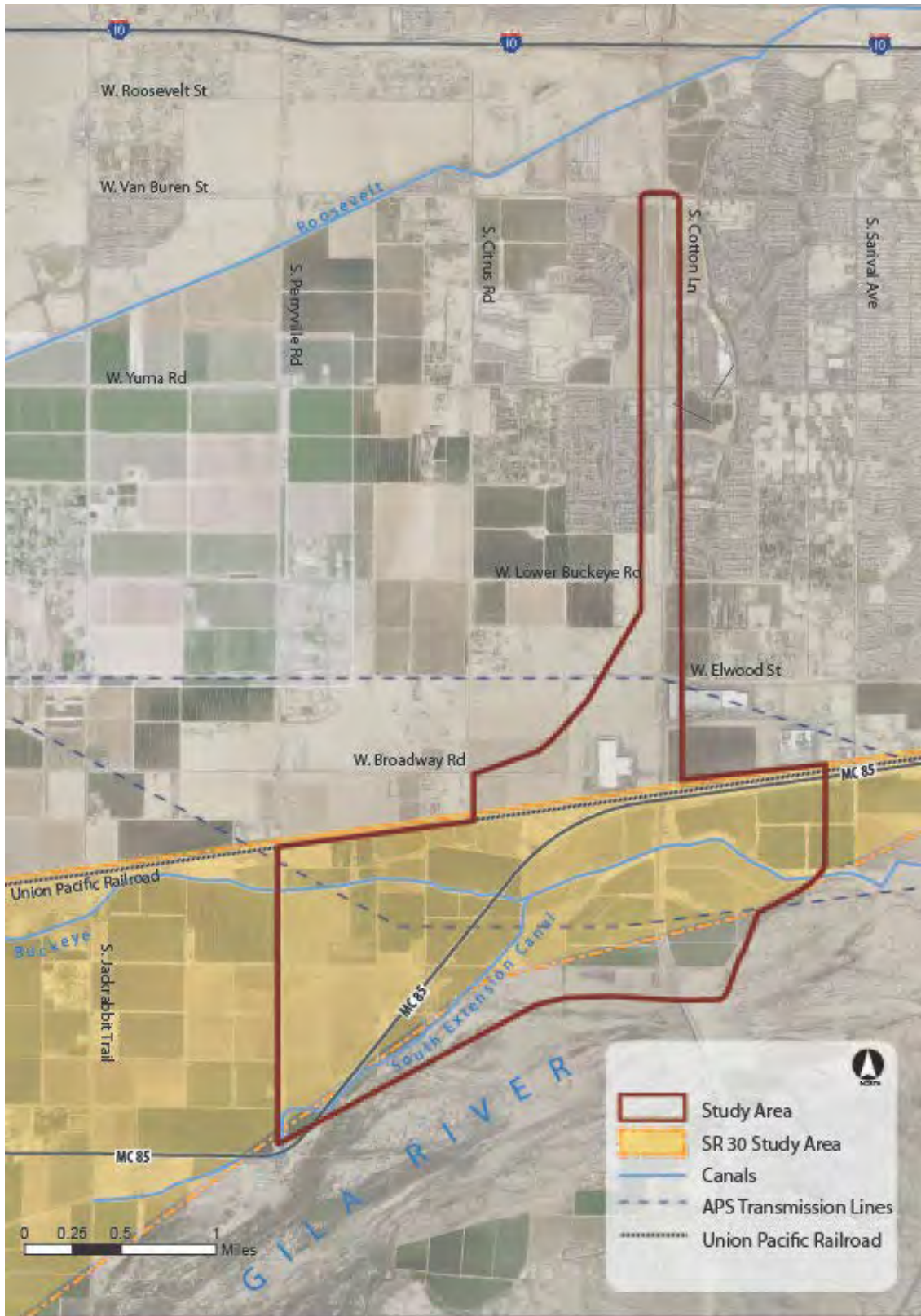
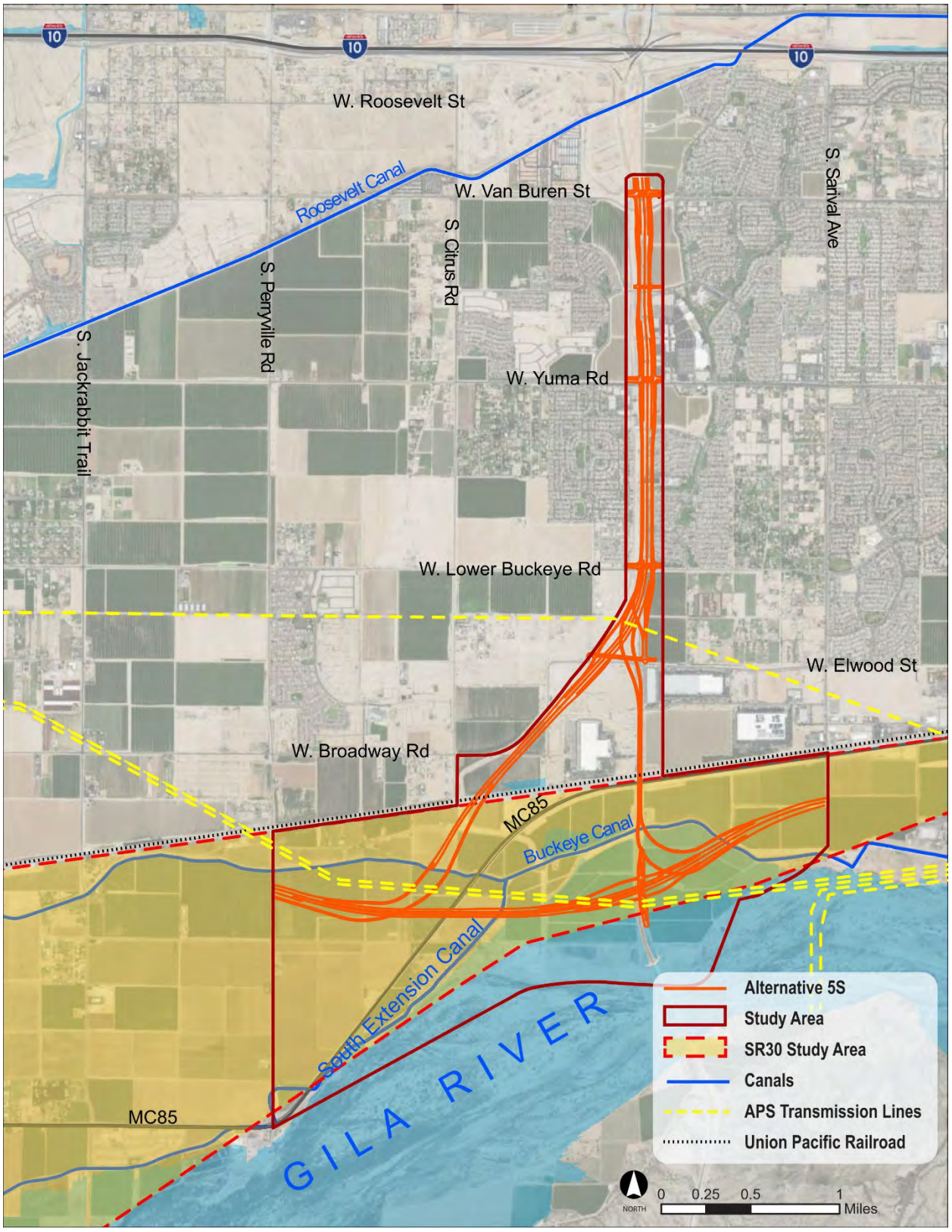


Figure 2-2. Study Area Limits



**Figure 2-3. Build Alternative 5S Alignment**

## 3.0 Regulations

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“Air Pollution” is a general term that refers to one or more chemical substances that degrade the quality of the atmosphere. Individual air pollutants degrade the atmosphere by reducing visibility; they also are responsible for damaging property, reducing the productivity or vigor of crops and natural vegetation, and/or negatively affecting human and animal health. Air quality is a term used to describe the amount of air pollution the public is exposed to.

Air quality in the United States is regulated by the Federal Clean Air Act (CAA) and is administered by the United States Environmental Protection Agency (EPA).

### 3.1 Clean Air Act Amendments of 1990

---

The Clean Air Act Amendments of 1990 (CAAA) direct the EPA to implement environmental policies and regulations that will ensure acceptable levels of air quality. Under the CAAA, a project cannot:

- Cause or contribute to any new violation of any National Ambient Air Quality Standards (NAAQS) in any area;
- Increase the frequency or severity of any existing violation of any NAAQS in any area; or
- Delay timely attainment of any NAAQS or any required interim emission reductions or other milestones in any area.

#### 3.1.1 National Ambient Air Quality Standards

As required by the CAA, NAAQS have been established for six major air pollutants. These pollutants are: carbon monoxide, nitrogen dioxide, ozone, particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>), sulfur dioxide, and lead. These standards are summarized in Table 3-1. “Primary” standards have been established to protect the public health; “secondary” standards are intended to protect the nation's welfare and account for air pollutant effects on soil, water, visibility, materials, vegetation, and other aspects of the general welfare.

Brief descriptions of those criteria pollutants relevant to transportation projects (ozone, carbon monoxide, and particulate matter) are provided in the following sections.

**Table 3-1. National Ambient Air Quality Standards**

Pollutant		Primary/ Secondary	Averaging Time	Level	Form
Carbon Monoxide		primary	8-hour	9ppm	Not to be exceeded more than once per year
			1-hour	35 ppm	
Lead (Pb)		primary and secondary	Rolling 3-month average	0.15 $\mu\text{g}/\text{m}^3$ <sup>(1)</sup>	Not to be exceeded
Nitrogen Dioxide (NO <sub>2</sub> )		primary	1-hour	100 ppb	98th percentile, averaged over 3 years
		primary and secondary	Annual	53 ppb <sup>(2)</sup>	Annual Mean
Ozone (O <sub>3</sub> )		primary and secondary	8-hour	0.070 ppm <sup>(3)</sup>	Annual fourth-highest daily maximum 8-hr concentration, averaged over 3 years
Particle Pollution	PM <sub>2.5</sub>	primary	Annual	12 $\mu\text{g}/\text{m}^3$	Annual mean, averaged over 3 years
		secondary	Annual	15 $\mu\text{g}/\text{m}^3$	Annual mean, averaged over 3 years
		primary and secondary	24-hour	35 $\mu\text{g}/\text{m}^3$	98th percentile, averaged over 3 years
	PM <sub>10</sub>	primary and secondary	24-hour	150 $\mu\text{g}/\text{m}^3$	Not to be exceeded more than once per year on average over 3 years
Sulfur Dioxide (SO <sub>2</sub> )		primary	1-hour	75 ppb <sup>(4)</sup>	99th percentile of 1-hour daily maximum concentrations, averaged over 3 years
		secondary	3-hour	0.5 ppm	Not to be exceeded more than once per year

Source: EPA, <https://www.epa.gov/criteria-air-pollutants/naaqs-table>

(1) In areas designated nonattainment for the Pb standards prior to the promulgation of the current (2008) standards, and for which implementation plans to attain or maintain the current (2008) standards have not been submitted and approved, the previous standards (1.5  $\mu\text{g}/\text{m}^3$  as a calendar quarter average) also remain in effect.

(2) The level of the annual NO<sub>2</sub> standard is 0.053 ppm. It is shown here in terms of ppb for the purposes of clearer comparison to the 1-hour standard level.

(3) Final rule signed October 1, 2015, and effective December 28, 2015. The previous (2008) O<sub>3</sub> standards additionally remain in effect in some areas. Revocation of the previous (2008) O<sub>3</sub> standards and transitioning to the current (2015) standards will be addressed in the implementation rule for the current standards.

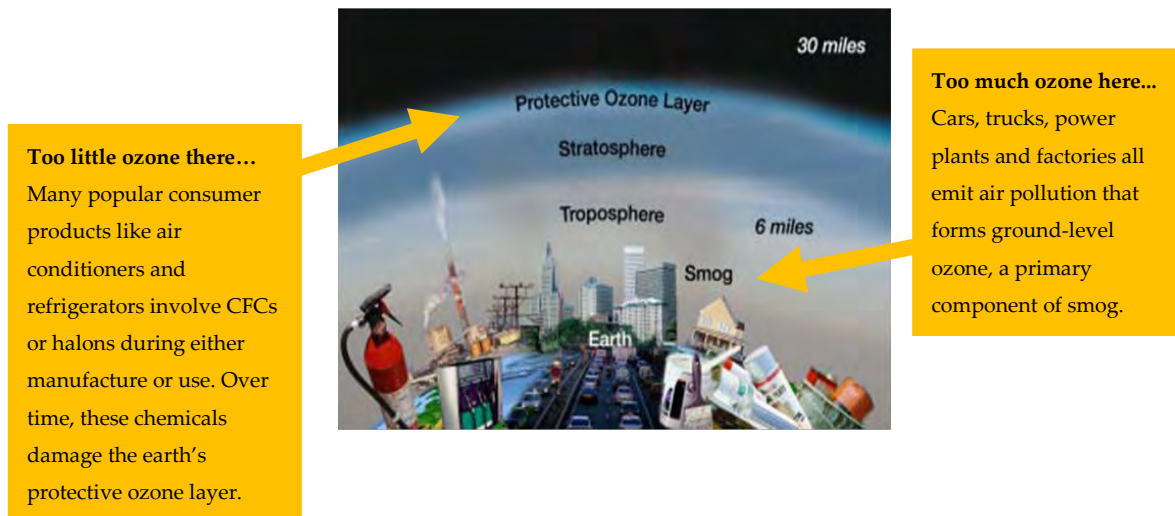
(4) The previous SO<sub>2</sub> standards (0.14 ppm 24-hour and 0.03 ppm annual) will additionally remain in effect in certain areas: 1) any area for which it is not yet 1 year since the effective date of designation under the current (2010) standards, and 2) any area for which an implementation plan providing for attainment of the current (2010) standard has not been submitted and approved and which is designated nonattainment under the previous SO<sub>2</sub> standards or is not meeting the requirements of a SIP call under the previous SO<sub>2</sub> standards (40 CFR 50.4(3)). A SIP call is an EPA action requiring a state to resubmit all or part of its State Implementation Plan to demonstrate attainment of the required NAAQS.

### 3.1.1.1 Ozone

Ozone ( $O_3$ ) is a colorless toxic gas. As shown in Figure 3-1,  $O_3$  is found in both the Earth's upper and lower atmospheric levels. In the upper atmosphere,  $O_3$  is a naturally occurring gas that helps to prevent the sun's harmful ultraviolet rays from reaching the Earth. In the lower layer of the atmosphere,  $O_3$  is human made. Although  $O_3$  is not directly emitted, it forms in the lower atmosphere through a chemical reaction between hydrocarbons (HC), also referred to as Volatile Organic Compounds (VOC), and nitrogen oxides ( $NO_x$ ), which are emitted from industrial sources and from automobiles. HC are compounds comprised primarily of atoms of hydrogen and carbon.

Substantial  $O_3$  formations generally require a stable atmosphere with strong sunlight; thus, high levels of  $O_3$  are generally a concern in the summer.  $O_3$  is the main ingredient of smog.  $O_3$  enters the bloodstream through the respiratory system and interferes with the transfer of oxygen, depriving sensitive tissues in the heart and brain of oxygen.  $O_3$  also damages vegetation by inhibiting its growth. The effects of changes in VOC and  $NO_x$  emissions for the proposed project are examined on a regional and statewide level.

Figure 3-1. Ozone in the Atmosphere

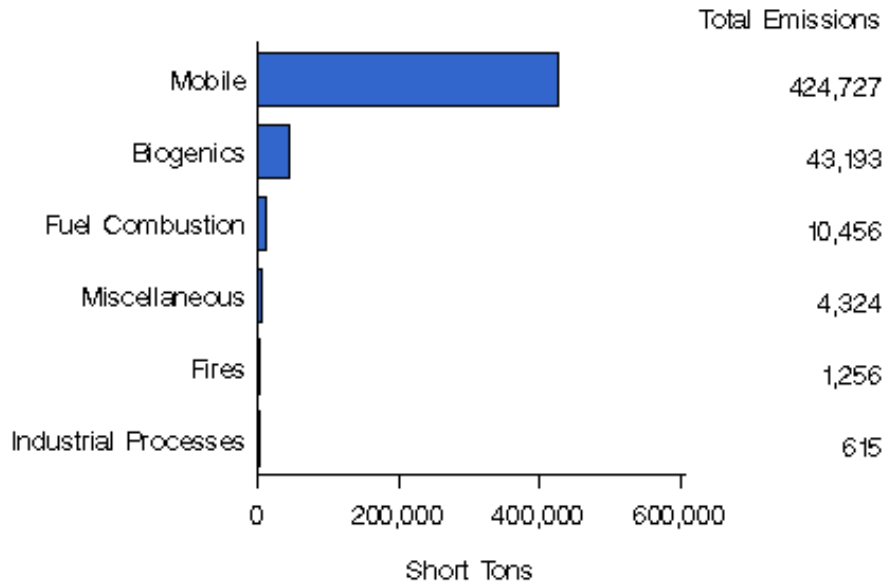


Source: EPA

### 3.1.1.2 Carbon Monoxide

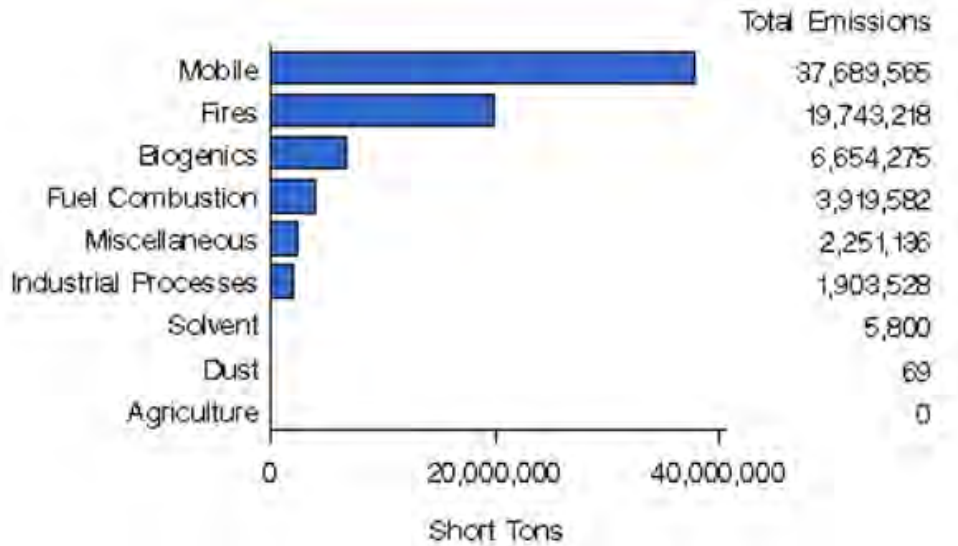
Carbon monoxide (CO) is a colorless gas that interferes with the transfer of oxygen to the brain. CO is emitted almost exclusively from the incomplete combustion of fossil fuels. As shown in Figure 3-2 and Figure 3-3, mobile sources (on-road motor vehicle exhaust) are the primary source of CO in both Maricopa County and in the U.S. In cities, 85 to 95 percent of all CO emissions may come from motor vehicle exhaust. Prolonged exposure to high levels of CO can cause headaches, drowsiness, loss of equilibrium, or heart disease. CO levels are generally highest in the colder months of the year when inversion conditions (where warmer air traps colder air near the ground) are more frequent.

**Figure 3-2. Sources of CO in Maricopa County (2014)**



Source: EPA, <https://www.epa.gov/air-emissions-inventories/air-emissions-sources>

**Figure 3-3. Sources of CO in the United States (2014)**



Source: EPA, <https://www.epa.gov/air-emissions-inventories/air-emissions-sources>



CO concentrations can vary greatly over relatively short distances. Relatively high concentrations of CO are typically found near congested intersections, along heavily used roadways carrying slow-moving traffic, and in areas where atmospheric dispersion is inhibited by urban “street canyon” conditions. Consequently, CO concentrations must be predicted on a microscale basis.

### 3.1.1.3 Particulate Matter

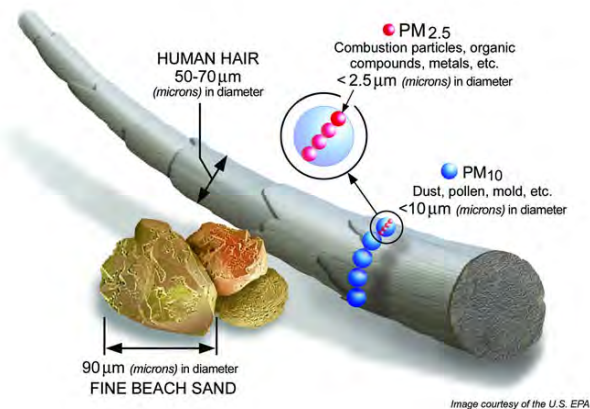
Particulate pollution is composed of solid particles or liquid droplets that are small enough to remain suspended in the air. In general, particulate pollution can include dust, soot, and smoke; these can be irritating but usually are not poisonous. Particulate pollution also can include bits of solid or liquid substances that can be highly toxic. Of particular concern are those particles that are smaller than, or equal to, 10 microns (PM<sub>10</sub>) or 2.5 microns (PM<sub>2.5</sub>) in size.

PM<sub>10</sub> refers to particulate matter less than 10 microns in diameter, about one-seventh the thickness of a human hair (Figure 3-4). Particulate matter pollution consists of very small liquid and solid particles floating in the air, which can include smoke, soot, dust, salts, acids, and metals.

Particulate matter also forms when gases emitted from motor vehicles undergo chemical reactions in the atmosphere.

Major sources of PM<sub>10</sub> include motor vehicles; wood-burning stoves and fireplaces; dust from construction, landfills, and agriculture; wildfires and brush/waste burning; industrial sources; windblown dust from open lands; and atmospheric chemical and photochemical reactions. Suspended particulates produce haze and reduce visibility.

Figure 3-4. Relative Particulate Matter Size



Source: EPA

Data collected through numerous nationwide studies indicate that most of the PM<sub>10</sub> comes from the following:

- Fugitive dust
- Wind erosion
- Agricultural and forestry sources

A small portion of particulate matter is the product of fuel combustion processes. In the case of PM<sub>2.5</sub>, the combustion of fossil fuels accounts for a large portion of this pollutant. The main health effect of airborne particulate matter is on the respiratory system. PM<sub>2.5</sub>

refers to particulates that are 2.5 microns or less in diameter, roughly 1/28th the diameter of a human hair. PM<sub>2.5</sub> results from fuel combustion (from motor vehicles, power generation, and industrial facilities), residential fireplaces, and wood stoves. In addition, PM<sub>2.5</sub> can be formed in the atmosphere from gases such as sulfur dioxide, nitrogen oxides, and volatile organic compounds. Like PM<sub>10</sub>, PM<sub>2.5</sub> can penetrate the human respiratory system's natural defenses and damage the respiratory tract when inhaled. Whereas particles 2.5 to 10 microns in diameter tend to collect in the upper portion of the respiratory system, particles 2.5 microns or less are so tiny that they can penetrate deeper into the lungs and damage lung tissues. The effects of PM<sub>10</sub> and PM<sub>2.5</sub> emissions from the project are examined on a localized, or microscale, basis, a regional basis, and a statewide basis.

### **3.1.2 Transportation Conformity Rule**

Under the Clean Air Act Amendments of 1990, the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA), the Transportation Equity Act for the 21st Century (TEA-21), and Moving Ahead for Progress in the 21st Century Act (MAP-21), proposed transportation projects must be derived from a long-range transportation plan (LRP) or regional transportation plan (RTP) that conforms with the state air quality plans as outlined in the state implementation plan (SIP). The SIP sets forth the state's strategies for achieving air quality standards. EPA's Transportation Conformity Rule requires conformity determinations from proposed transportation plans, programs, and projects before they are approved, accepted, funded, or adopted. Federal activities may not cause or contribute to new violations of air quality standards, exacerbate existing violations, or interfere with timely attainment or required interim emissions reductions towards attainment.

The conformity rule also establishes the process by which FHWA, the Federal Transit Administration (FTA), and local metropolitan planning organizations (MPOs) determine conformance of transportation plans and transportation improvement programs (TIPs) and federally funded highway and transit projects. As part of this process, local MPOs are required under regulations promulgated in the CAA of 1990 to undertake conformity determinations on metropolitan transportation plans (MTPs) and TIPs before they are adopted, approved, or accepted. TIPs are a subset of staged, multi-year, inter-modal programs of transportation projects covering metropolitan planning areas that are consistent with MTPs. The TIPs include a list of roadway and transit projects selected as priorities for funding by cities, county road commissions, and transit agencies. Federal projects to be completed in the near term must be included in the regional conformity analysis completed by the MPO; such projects are also usually included in the region's TIP, and therefore conform with the SIP.

### **3.1.3 Interagency Consultation**

Federal transportation projects are required to use interagency consultation in order to determine the need for project-level air quality analyses and, if applicable, to consult on models and methodologies.

ADOT has developed standard questionnaires for project level PM quantitative hot-spot analyses and project-level CO hot-spot analyses. These questionnaires outline the assumptions and sources of data to be used when quantitative analyses are required.

On June 27, 2017, ADOT provided a copy of the PM hot-spot questionnaire and the associated planning assumptions, for a 30-day consultation period, to the following consulting parties: EPA, FHWA, MAG, Arizona Department of Environmental Quality (ADEQ), and the Maricopa County Air Quality Department, as the local air agency in Maricopa County. Several comments were submitted on the document(s), and ADOT provided a response to these comments along with an updated planning assumptions document. In the updated planning documents, ADOT noted that this project would proceed as a project that requires a quantitative PM<sub>10</sub> hot-spot analysis under 40CFR 93.123(b). Furthermore, ADOT stated that they would conduct the hot-spot modeling in accordance with the traffic modeling data used in the September 22, 2017 traffic study along with other planning assumptions, as noted in Table 2 of the PM hot-spot questionnaire included in Appendix A.

On March 1, 2018, ADOT provided a copy of the CO hot-spot questionnaire and associated planning assumptions to the following consultation parties, for a 10-day consultation period: EPA, FHWA, MAG, ADEQ, and the Maricopa County Air Quality Department, as the local air agency in Maricopa County. There were no comments on the methodology and assumptions, including the two intersections recommended for quantitative analysis. ADOT also provided updated traffic data sources and assumptions that were used for the PM<sub>10</sub> modeling, in order to be consistent with the latest approved MAG Regional Conformity Model.

Documentation of interagency correspondence, including the completed questionnaires that provide methodologies for the PM<sub>10</sub> and CO analyses, can be found in Appendix A.

### 3.2 Mobile Source Air Toxics

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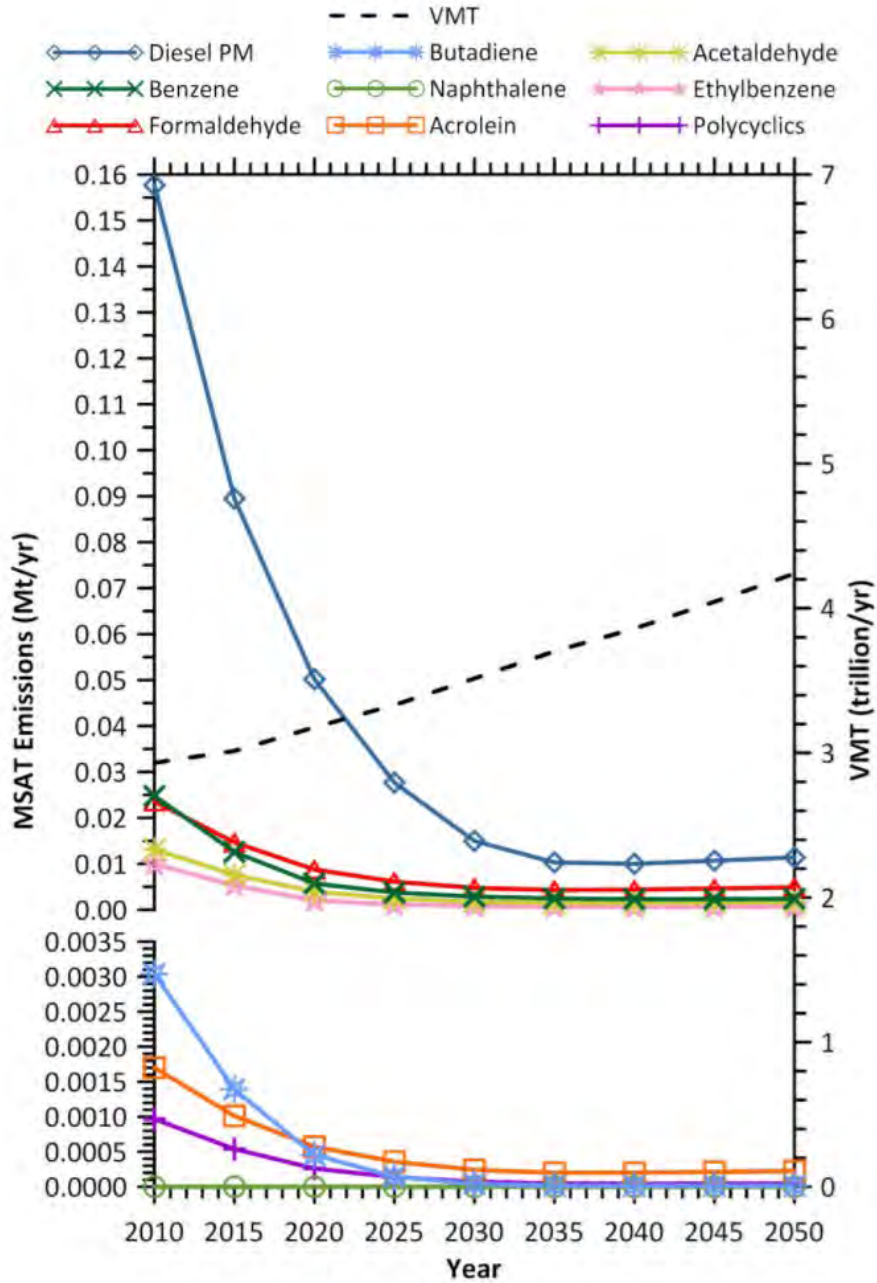
In addition to the criteria pollutants for which there are NAAQS, the EPA also regulates air toxics. Toxic air pollutants are those pollutants known or suspected to cause cancer or other serious health effects. Most air toxics originate from human-made sources, including on-road mobile sources, non-road mobile sources (e.g., airplanes), area sources (e.g., dry cleaners), and stationary sources (e.g., factories or refineries).

Controlling air toxic emissions became a national priority with the passage of the CAAA of 1990, whereby Congress mandated that EPA regulate 188 air toxics, also known as hazardous air pollutants. EPA has assessed this expansive list in their latest rule on the Control of Hazardous Air Pollutants from Mobile Sources (Federal Register, Vol. 72, No. 37, page 8430, February 26, 2007) and identified a group of 93 compounds emitted from mobile sources that are listed in their Integrated Risk Information System (IRIS) (<http://www.epa.gov/iris/>). In addition, EPA identified nine compounds with significant

contributions from mobile sources that are among the national- and regional-scale cancer risk drivers or contributors and non-cancer hazard contributors from the 2011 National Air Toxics Assessment (NATA) (<https://www.epa.gov/national-air-toxics-assessment>). These are 1,3-butadiene, acetaldehyde, acrolein, benzene, diesel particulate matter (diesel PM), ethylbenzene, formaldehyde, naphthalene, and polycyclic organic matter. While FHWA considers these the priority mobile source air toxics, the list is subject to change and may be adjusted in consideration of future EPA rules.

The 2007 EPA rule mentioned above requires controls that will dramatically decrease MSAT emissions through cleaner fuels and cleaner engines. Using EPA's MOVES2014a model, as shown in Figure 3-5, FHWA estimates that even if VMT increases by 45 percent from 2010 to 2050 as forecast, a combined reduction of 91 percent in the total annual emissions for the priority MSAT is projected for the same time period.

Figure 3-5. National MSAT Emission Trends 2010 – 2050 For Vehicles Operating on Roadways Using EPA's MOVES2014a Model



Note: Trends for specific locations may be different, depending on locally derived information representing vehicle-miles travelled, vehicle speeds, vehicle mix, fuels, emission control programs, meteorology, and other factors

Source: EPA MOVES2014a model runs conducted by FHWA in September 2016.

### 3.3 Greenhouse Gases

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Climate change is an important national and global concern. While the earth has gone through many natural changes in climate in its history, there is general agreement that the earth's climate is currently changing at an accelerated rate and will continue to do so for the foreseeable future. Anthropogenic (human-caused) greenhouse gas (GHG) emissions contribute to this rapid change. CO<sub>2</sub> makes up the largest component of these GHG emissions. Other prominent transportation greenhouse gases include methane (CH<sub>4</sub>) and nitrous oxide (N<sub>2</sub>O).

Many GHGs occur naturally. Water vapor is the most abundant GHG and makes up approximately two thirds of the natural greenhouse effect. However, the burning of fossil fuels and other human activities are adding to the concentration of GHGs in the atmosphere. Many GHGs remain in the atmosphere for time periods ranging from decades to centuries. GHGs trap heat in the earth's atmosphere. Because atmospheric concentration of GHGs continues to climb, our planet will continue to experience climate-related phenomena. For example, warmer global temperatures can cause changes in precipitation and sea levels.

To date, no national standards have been established regarding GHGs, nor has EPA established criteria or thresholds for ambient GHG emissions pursuant to its authority to establish motor vehicle emission standards for CO<sub>2</sub> under the CAA. However, a considerable body of scientific literature exists addressing the sources of GHG emissions and their adverse effects on climate, including reports from the Intergovernmental Panel on Climate Change, the US National Academy of Sciences, and EPA and other federal agencies. GHGs differ from other air pollutants evaluated in federal environmental reviews because their impacts are not localized or regional due to the rapid dispersion into the global atmosphere that is characteristic of these gases. The affected environment for CO<sub>2</sub> and other GHG emissions is the entire planet. In addition, from a quantitative perspective, global climate change is the cumulative result of numerous and varied emissions sources (in terms of both absolute numbers and types), each of which makes a relatively small addition to global atmospheric GHG concentrations. In contrast to broad-scale actions such as those involving an entire industry sector or very large geographic areas, it is difficult to isolate and understand the GHG emissions impacts of a particular transportation project. Furthermore, no scientific methodology for attributing specific climatological changes to a particular transportation project's emissions currently exists.

## 4.0 Existing Conditions

### 4.1 Ambient Air Quality Data

#### 4.1.1 Local Meteorology

The project is located in the Phoenix metropolitan area in the south-central portion of the state. Phoenix is located in the Salt River Valley, which is surrounded by low mountain ranges. A large portion of Arizona is classified as semiarid, and long periods of time often occur with little or no precipitation. The average annual precipitation in Phoenix is 7.53 inches. The air is generally dry and clear, with low relative humidity and a high percentage of sunshine. Phoenix has a hot desert climate with long, extremely hot summers and short, mild to warm winters. Temperatures of 90 degrees Fahrenheit are reached an average of 168 days per year, and it is common to see temperatures over 100 degrees Fahrenheit. (WRCC)

#### 4.1.2 Local Monitored Air Quality

In cooperation with EPA and other governmental agencies, The Maricopa County Air Quality Department operates air quality monitoring sites and a mobile air monitoring program to measure criteria pollutants. Table 4-1 presents the last three years of available monitor data gathered at the closest monitoring stations to the project area.

**Table 4-1. Ambient Air Quality Monitor Data**

Pollutant		Monitor Location	Monitor Value	2014	2015	2016	2017
Carbon Monoxide (CO) [ppm]	1-Hour	16825 N Dysart Surprise, AZ	Maximum	1.2	1.2	0.9	n/a*
			2nd Maximum	1.0	1.1	0.8	
			# of Exceedances	0	0	0	
	8-Hour	16825 N Dysart Surprise, AZ	Maximum	0.6	0.7	0.5	
			2nd Maximum	0.6	0.7	0.5	
			# of Exceedances	0	0	0	
Particulate Matter [µg/m <sup>3</sup> ]	PM <sub>10</sub>	16825 N Dysart Surprise, AZ	Maximum 24-Hour	163	99	173	168
			Second Maximum	138	71	126	125
			# of Exceedances	1	0	1	1
	PM <sub>2.5</sub>	6000 W Olive Ave Glendale, AZ	24-Hour 98th Percentile	19	19	18	17
			Mean Annual	7.7	7.0	6.7	6.7
Ozone (O <sub>3</sub> ) [ppm]	8-Hour	16825 N Dysart Surprise, AZ	First Highest	0.075	0.069	0.069	0.087
			Second Highest	0.074	0.068	0.067	0.081
			Third Highest	0.072	0.067	0.064	0.077
			Fourth Highest	0.070	0.067	0.063	0.076
			# of Days Standard Exceeded	3	0	0	15
Nitrogen Dioxide (NO <sub>2</sub> ) [ppb]		26453 W MC85 Buckeye, AZ	1-Hour Maximum	102	44	34	39
			1-Hour Second Maximum	76	39	33	38
			98th Percentile	37	34	29	34
			Annual Mean	8.65	7.14	6.9	7.71
Sulfur Dioxide (SO <sub>2</sub> ) [ppb]		1645 E Roosevelt St Phoenix, AZ	1-Hour Maximum	11	9.0	8.0	9.0
			24-Hour Maximum	3.3	3.4	3.0	4.3
			# of Days Standard Exceeded	0	0	0	0

Sources: EPA AirData, <https://www.epa.gov/outdoor-air-quality-data>

\* CO not reported for Dysart monitor in 2017.

## 4.2 Attainment Status

Section 107 of the 1977 CAAA requires that EPA publish a list of all geographic areas in compliance with the NAAQS, plus those not attaining the NAAQS. Areas not in NAAQS compliance are deemed nonattainment areas. Areas that have insufficient data to make a determination are deemed unclassified, and are treated as attainment areas until proven otherwise. Maintenance areas are areas that were previously designated as nonattainment for a particular pollutant, but have since demonstrated compliance with the NAAQS for that pollutant. An area's designation is based on data collected by the state monitoring network on a pollutant-by-pollutant basis.

The SR303L project is located in Maricopa County, Arizona. Table 4-2 shows the attainment status for Maricopa County. As shown in the table, EPA has classified portions of Maricopa County as a nonattainment area for PM<sub>10</sub> and ozone, and a maintenance area for CO. Therefore, a project-level transportation conformity analysis is required for CO and PM<sub>10</sub>. The regional transportation conformity determination is addressed in the TIP and RTP.

**Table 4-1. Project Area Attainment Status**

Pollutant	Designation	Current Standard (Year Established)	Area	Regional Transportation Conformity Required?	Project Level Transportation Conformity Required?
Ozone (O <sub>3</sub> )	Nonattainment	8-Hr: 70 ppb (2015)	Portions of Maricopa County and Pinal County	Yes	No
Fine Particulate Matter (PM <sub>2.5</sub> ) 24-Hr	Attainment	35 µg/m <sup>3</sup> (2012)	Maricopa County	No	No
Fine Particulate Matter (PM <sub>2.5</sub> ) Annual	Attainment	12 µg/m <sup>3</sup> (2012)	Maricopa County	No	No
Coarse Particulate Matter (PM <sub>10</sub> ) 24-Hr	Nonattainment	150 µg/m <sup>3</sup> (2012)	Portions of Maricopa County and Pinal County	Yes	Yes
Carbon Monoxide (CO)	Attainment/Maintenance	1-Hr: 35 ppm 8-Hr: 9 ppm (1971)	Portions of Maricopa County	Yes	Yes
Sulfur Dioxide (SO <sub>2</sub> )	Attainment	1-Hr: 75 ppb (2010)	Maricopa County	No	No

Source: EPA, 2018 <https://www.epa.gov/green-book>

The MPO for the Study Area, MAG, adopted the latest RTP in September 2017, and the latest amendment to the 2018-2022 FY TIP was approved in March 2018. The SR 303L project is included in the RTP as project ID 45422 and in the TIP as project ID 45939. The SR 303L project is included in the regional conformity analysis; therefore, the project's



associated emissions would not have an adverse effect on the ability of the MAG region to attain their applicable air quality goals. As such, no additional regional conformity analyses are required.

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## 5.0 Environmental Consequences

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This section describes the methods, impact criteria, and results of air quality analyses of the proposed project. The analyses use guidelines and procedures provided in applicable air quality analysis protocols from EPA and FHWA. All analyses were based on Build Alternative 5S. Alternative 5S was selected as a worst case because it had the highest volumes of the build alternatives. It is expected that other build alternatives would result in emissions and pollutant concentrations lower than the results described in this section.

### 5.1 Hot-Spot CO Analysis

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Microscale CO air quality modeling was performed using EPA guidance and interagency consultation, as described below and in Appendix A.

#### 5.1.1 Methodology

To determine the project's impact on local CO levels, a detailed hotspot analysis was conducted at two signalized intersections within the Study Area: MC 85 and Cotton Lane, and Cotton Lane/SR303L NB frontage road and Elwood Street. These two locations were chosen from a screening evaluation based upon overall level of service and volumes. The locations chosen underwent detailed microscale modeling using emission factors developed through the use of EPA's MOVES2014a emission factor program and dispersion modeling using EPA's CAL3QHC program.

Mobile source models are the basic analytical tools used to estimate CO concentrations expected under given traffic, roadway geometry, and meteorological conditions. The mathematical expressions and formulations that comprise the various models attempt to describe an extremely complex physical phenomenon as closely as possible. The dispersion modeling program used in this project for estimating pollutant concentrations near roadway intersections is the CAL3QHC (Version 2.0) dispersion model developed by EPA and first released in 1992.

CAL3QHC is a Gaussian model recommended in the EPA's Guidelines for Modeling Carbon Monoxide from Roadway Intersections (EPA 1992). Gaussian models assume that the dispersion of pollutants downwind of a pollution source follow a normal distribution from the center of the pollution source.

Different emission rates occur when vehicles are stopped (i.e., idling), accelerating, decelerating, and moving at different average speeds. CAL3QHC simplifies these different emission rates into two components:

- Emissions when vehicles are stopped (i.e., idling) during the red phase of a signalized intersection
- Emissions when vehicles are in motion during the green phase of a signalized intersection

The CAL3QHC (Version 2.0) air quality dispersion model has undergone extensive testing by EPA and has been found to provide reliable estimates of inert (i.e., nonreactive) pollutant concentrations resulting from motor vehicle emissions. A complete description of the model is provided in the User's Guide to CAL3QHC (Version 2.0): A Modeling Methodology for Predicting Pollutant Concentrations near Roadway Intersections (Revised) (EPA 1995b).

The transport and concentration of pollutants emitted from motor vehicles are influenced by three principal meteorological factors: wind direction, wind speed, and the atmosphere's profile. The values for these parameters were chosen to maximize pollutant concentrations at each prediction site. That is, to establish a conservative, reasonable worst-case scenario. The values used for these parameters are:

- **Wind Direction.** Maximum CO concentrations normally are found when the wind is assumed to blow parallel to a roadway adjacent to the receptor location. At complex intersections, it is difficult to predict which wind angle will result in maximum concentrations. Therefore, the approximate wind angle that would result in maximum pollutant concentrations at each receptor location was used in the analysis. All wind angles from 0 to 360 degrees (in 5-degree increments) were considered.
- **Wind Speed.** The CO concentrations are greatest at low wind speeds. A conservative wind speed of one meter per second (2.2 miles per hour) was used to predict CO concentrations during peak traffic periods.
- **Profile of the Atmosphere.** A "mixing" height (the height in the atmosphere to which pollutants rise) of 1,000 meters, and neutral atmospheric stability (stability class D) conditions were used in estimating microscale CO concentrations.

One-hour average ambient CO concentrations were calculated to estimate the effect during peak-hour traffic conditions, and CO concentrations were estimated at a receptor height of 6 feet. The CO levels estimated by the model are the maximum concentrations which could be expected to occur at each air quality receptor site analyzed, given the assumed simultaneous occurrence of a number of worst-case conditions: peak-hour traffic conditions, conservative vehicular operating conditions, low wind speed, low atmospheric temperature, neutral atmospheric conditions, and maximizing wind direction.

### **MOVES 2014a Emissions Model**

EPA's Motor Vehicle Emissions Simulator (MOVES) model version MOVES2014a was used to estimate CO emissions from the roadway segments included in the CO modeling analysis. MOVES2014a is the EPA's state-of-the-art tool for estimating emissions from highway vehicles. The model is based on analyses of millions of emission test results and considerable advances in the Agency's understanding of vehicle emissions. Compared to previous tools, MOVES2014a incorporates the latest

emissions data, more sophisticated calculation algorithms, increased user flexibility, new software design, and substantial new capabilities.

MOVES2014a was used to estimate CO emissions from the roadway segments included in the CO modeling analysis. MOVES input files were provided by the Maricopa Association of Governments (MAG) consistent with their regional emissions analysis. MAG data was used to represent regional fuel specifications, fleet age distribution, and meteorology. Link-by-link traffic data was used to develop project-specific input files for each modeled link with that link's average speed and vehicle mix for each scenario analyzed: 2017, 2040 No Build, and 2040 Build Alternative 5S.

### **Predicted Levels**

Carbon monoxide concentrations for Existing Conditions, the future No Build Alternative, and the future Build Alternative 5S were predicted. Future carbon monoxide concentrations were predicted for the project's design year, which is 2040. At each receptor site, maximum one-hour carbon monoxide concentrations were calculated. The one-hour CO levels were predicted for the AM and PM peak periods. The 8-hour CO levels were predicted by applying a persistence factor of 0.7 to the 1-hour concentrations, as recommended in the EPA guidance (EPA 1992).

### **Background Levels**

Background levels for the study area were obtained from EPA-monitored data. The background level is the component of the total concentration that is not accounted for through the microscale modeling analysis. Background concentrations must be added to modeling results to obtain total pollutant concentrations at receptor locations. The data from the CO monitor located at the Dysart site was approved during the interagency consultation process. Monitor site details, including a figure showing the distance to the monitor, are included in the materials in Appendix A. Based on these data, the one-hour background of 1.2 ppm and the eight-hour background of 0.7 ppm were used for the existing and future year analyses.

### **Comparison to NAAQS**

The results from the analysis for the existing, future No Build, and Build Alternative 5S were compared to the NAAQS, and to one another, to determine the impacts of the proposed project and if the project is in conformance with the guidelines set forth in the New Clean Air Act Amendments of 1990.

### **5.1.2 Screening Evaluation**

An intersection screening analysis based on changes in level of service (LOS) and overall intersection volumes between the No Build and Build Alternative 5S scenarios was performed, as described in EPA guidance (EPA 1992). The intersections evaluated in the *SR303L SR30 Traffic Report* (WSP, 2018) are summarized in Table 5-1.

LOS describes the quality of traffic operating conditions, ranging from A to F, and it is measured as the duration of delay that a driver experiences at a given intersection. LOS A represents free-flow movement of traffic and minimal delays to motorists. LOS F generally indicates severely congested conditions with excessive delays to motorists. Intermediate grades of B, C, D, and E reflect incremental increases in congestion. Sites fail the screening evaluation if (1) LOS, which is the assessment of a road's operating conditions on a scale of A through F, with free-flow being rated LOS A and congested conditions rated as F, decreases below D in one of the build scenarios compared to the no-build scenario, or (2) if the delay and/or volume increase from the no-build scenario to build scenarios along with a LOS below D.

Out of the 26 intersections analyzed, two intersections failed the screening criteria and were chosen for detailed analysis. The intersection at MC 85 and Cotton Lane has the highest total volume and LOS D in the PM peak period under 2040 build conditions. The signal at Cotton Lane/SR303L NB frontage road and Elwood Street does not exist in the no build analysis, and it has LOS D in the AM peak period under 2040 build conditions.

The CO Hot Spot Questionnaire and Consultation form included in Appendix A has additional details about the model setup and options that were used in this analysis. Information on the modeling files are included in Appendix C.

**Table 5-1. SR 303 Loop Intersection Screening**

#	Intersection	2040 No Build						2040 Build Alternative 5S					
		AM			PM			AM			PM		
		LOS	Delay	Volume	LOS	Delay	Volume	LOS	Delay	Volume	LOS	Delay	Volume
1	Yuma Rd & SR303L SB Frt Rd							C	33.6	3,215	C	26.2	3,400
2	SR303L NB Frt Rd & Yuma Road							C	22.2	3,378	C	22.2	3,016
3	Yuma Rd & Cotton Lane	D	49.8	4,739	C	32.1	5,094						
4	Lower Buckeye Rd & SR303L SB Frt Rd							B	13.8	1,439	B	11.6	1,581
5	Lower Buckeye Rd & Cotton Lane	C	21.0	3,541	C	30.5	3,628						
6	SR303L NB Frt Rd & Lower Buckeye Rd							B	11.2	1,326	B	13.2	1,241
7	SR303L SB Frt Rd & Elwood St												
8	Cotton Lane/SR3033L NB Frt Rd & Elwood St												
9	MC85 & Cotton Lane	C	27.8	5,691	D	51.8	5,849	C	26.0	5,262	D	47.6	5,511
10	Cotton Lane & SR30 WB Off-Ramp	A	6.2	4,202	C	26.3	5,202	A	6.4	3,725	C	26.5	4,738
11	Cotton Lane & SR30 EB Off-Ramp	C	23.8	5,441	D	39.9	4,751	B	19.8	5,204	C	30.4	4,674
12	Elwood St & Elwood St SB Off-Ramp							B	13.5	2,328	B	13.4	2,891
13	Elwood St & SR303L SB Frt Rd												

#	Intersection	2040 No Build						2040 Build Alternative 5S					
		AM			PM			AM			PM		
		LOS	Delay	Volume	LOS	Delay	Volume	LOS	Delay	Volume	LOS	Delay	Volume
14	Cotton Lane/SR303L NB Frt Rd & Elwood St							D	38.1	4,016	C	24.3	4,196
15	Elwood St & Cotton Lane	C	23.5	3,782	C	24.3	3,973						
16	SR303L NB Off Rp & Elwood St							B	10.4	2,231	A	9.3	2,487
17	Frontage Rd & Lilac St												
18	Cotton Ln & W Durango St	B	12.4	2,956	B	16.4	3,018						
19	SR303L SB Frt Rd & Lilac St							B	14.8	919	B	14.7	1,141
20	Frontage Rd & Lilac St												
21	Lilac St & Cotton Lane	D	48.5	4,382	D	38.7	4,720						
22	SR303L NB Frt Rd & Lilac St							B	14.2	895	B	14.9	1,262
23	Van Buren East & SB Ramp	B	17.2	1,913	B	15.5	2,043						
24	Van Buren West & NB Ramp	B	13.3	1,720	B	22.4	2,260						
25	SR30 North TI & Cotton Lane												
26	SR30 South TI & Cotton Lane												

Source: WSP, 2018

Shaded cells = intersection does not exist in the Alternative



### 5.1.3 Analysis

Maximum one-hour CO levels were predicted for the existing year (2017) and design year (2040) at the locations selected for analysis. Maximum one-hour CO concentrations are shown in Table 5-2 and maximum eight-hour CO concentrations are shown in Table 5-3. The CO levels estimated by the model are the maximum concentrations that could be expected to occur at each air quality receptor site analyzed. This assumes simultaneous occurrence of a number of worst-case conditions: peak hour traffic conditions, conservative vehicular operating conditions, low wind speed, low atmospheric temperature, neutral atmospheric conditions, and maximizing wind direction.

**Table 5-2. Predicted Worst-Case One-Hour CO Concentrations (ppm)**

Intersection	2017		2040			
	Existing		No Build		Build	
	AM	PM	AM	PM	AM	PM
MC85 & Cotton Lane	1.7	1.8	1.3	1.4	1.3	1.3
Cotton Lane/SR303L NB Frt Rd & Elwood St	NA	NA	NA	NA	1.4	1.4

Concentrations = modeled results + 1-hour CO background.  
 1-hour CO background = 1.2 ppm; 1-hour CO standard = 35 ppm.  
 NA = Intersection does not exist in this scenario.  
 Abbreviations: AM = morning; PM = evening; ppm = parts per million.

**Table 5-3. Predicted Worst-Case Eight-Hour CO Concentrations (ppm)**

Intersection	2017		2040			
	Existing		No Build		Build	
	AM	PM	AM	PM	AM	PM
MC85 & Cotton Lane	1.1	1.1	0.8	0.8	0.8	0.8
Cotton Lane/SR303L NB Frt Rd & Elwood St	NA	NA	NA	NA	0.8	0.8

Concentrations = (modeled results x persistence factor [0.7]) + 8-hour CO background.  
 8-hour CO background = 0.7 ppm; 8-hour CO standard = 9 ppm.  
 NA = Intersection does not exist in this scenario.  
 Abbreviations: AM = morning; PM = evening; ppm = parts per million

Based on the values presented in Table 5-2 and Table 5-3, Build Alternative 5S is not predicted to cause an increase in CO concentrations as compared to the No Build scenario. No violations of the NAAQS are predicted for any of the analysis years.

## 5.2 Hot-Spot PM<sub>10</sub> Analysis

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The study area is currently classified as a PM<sub>10</sub> nonattainment area. As such, it had to be determined if the project is one of air quality concern as detailed in EPA's Transportation Conformity Guidance for Quantitative Hot-Spot Analysis in PM<sub>2.5</sub> and PM<sub>10</sub> Nonattainment and Maintenance Areas (USEPA 2015).

### 5.2.1 Determine Need

The project study area is located in Maricopa County, Arizona, which is currently classified as a nonattainment area for the PM<sub>10</sub> 24-hour standard.

The SR 303L project was presented to the MAG consultation partners, which classified the project as one of air quality concern. As such, a microscale 24-hour PM<sub>10</sub> hotspot analysis was conducted, following EPA's nine-step process, as shown in Figure 5-1.

### 5.2.2 Approach, Models and Data

The PM<sub>10</sub> analysis methodology was presented to the interagency consultation partners and finalized in September 2017. In December 2017, MAG updated the regional conformity model, and it was requested that the traffic data used for the PM<sub>10</sub> analysis reflect the October 2017 MAG conformity model for the FY2018-2022 MAG Transportation Improvement Program and 2040 MAG Regional Transportation Plan. Since the new conformity model has new road networks and traffic volumes, ADOT conducted a new screening process for PM<sub>10</sub>. Based on the EPA guidance, and in consultation with FHWA, EPA and other agencies the same two worst-case intersections that were identified as part of the CO analysis were selected for detailed hot-spot modeling for the purpose of demonstrating project conformity. All other model inputs and assumptions are consistent with the September 2017 Project Level PM Quantitative Hot-Spot Analysis – Project of Air Quality Concern Questionnaire, which is included in Appendix A.

#### Analysis Years and Applicable NAAQS

The analysis was performed for Alternative 5S in the year 2040. Alternative 5S was selected to represent peak emissions, given that this scenario includes the greatest traffic volume at an intersection, the greatest number of diesel vehicles, and is likely to generate the most PM<sub>10</sub> emissions in the project area. The intersections at Cotton Lane/SR303L and NB Frontage Rd & Elwood St were modeled because they have higher ADT and truck volumes of the arterials. The selected intersections also have the worst LOS as described in the CO screening analysis in Section 5.1.2. See Appendix E for more information related to the selection of intersection locations. Since the project is located in an area designated as nonattainment for the PM<sub>10</sub> NAAQS, the quantitative PM hot-spot analysis was limited to comparing the project's maximum 24-hour impact to the applicable PM<sub>10</sub> standard of 150 µg/m<sup>3</sup>.

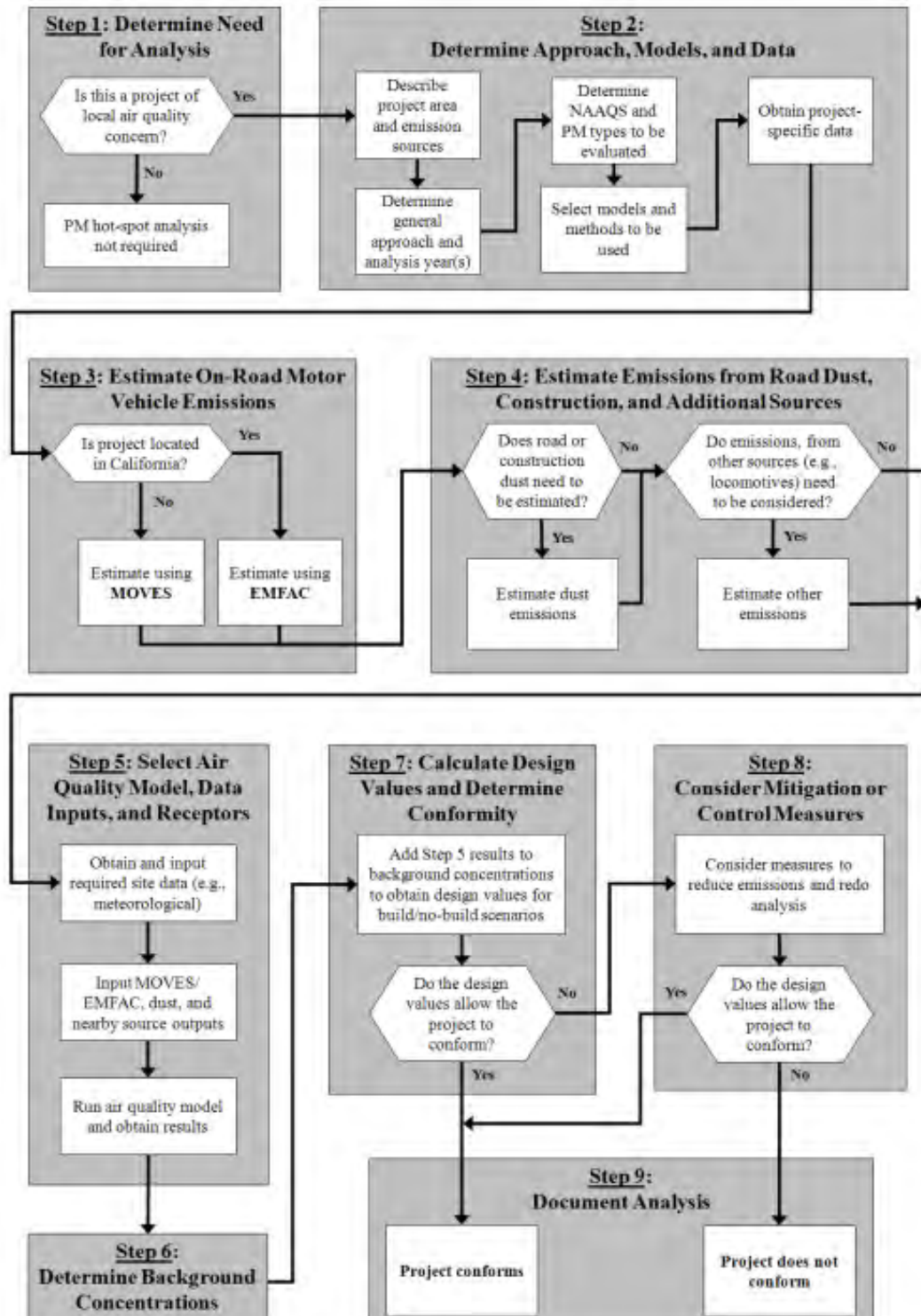


Figure 5-1. EPA's Nine-Step Process

a. PM Emissions

The PM hot-spot analysis included only directly emitted PM<sub>10</sub> emissions. Per Section 2.5.1 of EPA's *Transportation Conformity Guidance for Quantitative Hot-Spot Analysis in PM<sub>2.5</sub> and PM<sub>10</sub> Nonattainment and Maintenance Areas*, PM<sub>10</sub> precursors were not required to be considered in PM hot-spot analyses, since precursors take time at the regional level to form into secondary PM. Exhaust, brake wear, and tire wear emissions from on-road vehicles were included in the project's PM<sub>10</sub> analysis. For the majority of sources in this analysis, only running and crankcase exhaust emissions were calculated, because start exhaust emissions are unlikely to occur on the roadways included in the model domain.

Re-entrained road dust was included in the analysis, as it is considered a significant component of PM<sub>10</sub> inventories and is included in MAG conformity modeling. Emissions from construction-related activities were not included because they are considered temporary, as defined in 40 CFR 93.123(c)(5) (i.e., emissions that occur only during the construction phase and last five years or less at any individual site).

b. Model

The analysis was performed using the current version of EPA's Motor Vehicle Emissions Simulator (MOVES) emissions model (MOVES2014a) and the CAL3QHCR dispersion model.

c. Data

MOVES input files were obtained from MAG. Project-specific traffic data, including hourly volume, average vehicle speeds, and facility type, were obtained for each roadway section in the project area. Project-specific traffic data, including hourly vehicle volumes, were obtained for 4 weekday time periods - A.M. peak, midday, P.M. peak, and overnight traffic conditions.

Exhaust emission rate estimates produced by MOVES were added to re-entrained road dust emission rates from AP-42, and were then entered into the CAL3QHCR air quality dispersion model (Version 13196). CAL3QHCR estimates localized ambient PM<sub>10</sub> concentrations at receptors in and near the hotspot locations chosen for the study. CAL3QHCR performs all ambient air impact calculations to report the 24-hour average concentration at each receptor.

### 5.2.3 Estimate On-Road Vehicle Emissions

On-road vehicle emissions were estimated using MOVES2014a. Age distribution, vehicle mix, climate data, and fuel specifications data were provided by MAG and, therefore, were consistent with the regional conformity analysis. MOVES input relies on link-specific data. Traffic data included link volume, speed, average grade and elevation. Vehicle mix was assumed to be consistent with the MAG regional vehicle mix.

The PM emissions vary by time of day and time of year. Volume and speed data for each link was obtained from the traffic analysts for A.M. peak, midday, P.M. peak, and

overnight traffic conditions. For each analysis site, MOVES was run for each of the four time periods (A.M. peak, midday, P.M. peak, and overnight) for four seasons (January, April, July, and October) for a total of 16 MOVES runs per location. For every link, a set of 16 emission factors in units of grams per mile was developed for the project's analysis year of 2040.

### 5.2.4 Estimate Emissions from Road Dust, Construction and Additional Sources

Re-entrained road dust must be included in all PM<sub>10</sub> hot-spot analyses. Section 13.2.1 of AP-42 provides a method for estimating emissions of re-entrained road dust using local values for precipitation, average vehicle weight, and silt loading with the equation below.

$$E = k ( )^{0.91} \times W )^{1.02}$$

Where: E = particulate emission factor (having units matching the units of k),  
 k = particle size multiplier for particle size range and units of interest,  
 sL = road surface silt loading (grams per square meter) (g/m<sup>2</sup>), and W  
 = average weight (tons of the vehicles traveling the road)

The estimated road dust emissions from the 2017 MAG Conformity Analysis for the analysis year 2040 were used for this PM hot-spot analysis, and the values are summarized in Table 5-4.

**Table 5-4. MAG Road Dust Emission Factors**

Facility Type	k	W (tons)	sL (g/m <sup>2</sup> )	E (g/VMT)
Freeway	1	3.23	0.02	0.091981
High Arterial	1	2.32	0.067	0.197197
Low Arterial	1	2.32	0.23	0.605823

Source: MAG 2017

g/m<sup>2</sup> = grams per square meter  
 g/VMT = grams per vehicle mile  
 traveled

Emission factors for road dust were added to the emission factors generated for each link by MOVES for use in the CAL3QHCR dispersion model.

Construction emissions were not included because construction will not occur at any individual location for more than five years. No additional sources of PM<sub>10</sub> emissions were included. It is assumed that PM<sub>10</sub> concentrations due to any other nearby emissions sources are included in the ambient monitor values used for background concentrations. In addition, this project is not expected to result in changes to emissions from nearby sources.

## 5.2.5 Air Quality Model, Data Inputs and Receptors

### a. Model

USEPA's CAL3QHCR air dispersion model was used to estimate concentrations of PM<sub>10</sub> due to project operations. The model uses traffic data, emission factor data, and meteorological data to estimate ground-level concentrations of PM<sub>10</sub> at a series of receptors. For each modeled scenario, the model setup included a series of sources representing the roadway segments in the vicinity of the intersections being modeled.

### b. Data Inputs

Link-specific inputs included length, mixing zone width, hourly volume, and emission factors. Traffic data was provided for the design year of the project. For each scenario, CAL3QHCR was run separately for each of the five years of meteorological data. CAL3QHCR does not distinguish between emissions changes due to seasonal differences; therefore, each season was run separately, for a total of 20 model runs per scenario.

The meteorological data was based on the meteorological data utilized in the August 2014 *ADOT Air Quality Technical Report, South Mountain Freeway*, which was derived from the EPA's Support Center for Regulatory Atmospheric Modeling for the Phoenix Sky Harbor International Airport (surface data) and the Tucson International Airport (upper air data) for the 5-year period from 1987 through 1991. South Mountain meteorological data was used.

A surface roughness of 108 cm was used based on land cover, consistent with EPA recommendations for single-family residential use. The urban option was selected based on the land use classification in the project areas.

### c. Receptors

Receptors were placed in order to estimate the highest concentrations of PM<sub>10</sub>, to determine any possible violations of the NAAQS. Highest concentrations are expected to occur near the areas with the highest-volume roadways and near areas where vehicles are restarting and/or idling. Receptors were placed three meters from the roadways, at a height of 1.8 meters. See Appendix E for detailed information about receptor placement.

## 5.2.6 Background Concentrations from Nearby and Other Sources

A background PM<sub>10</sub> concentration value of 125 µg/m<sup>3</sup> was used for the analysis. This value represents the 4<sup>th</sup>-highest monitored 24-hour PM<sub>10</sub> concentration at the Dysart monitor over the three-year period of 2015 to 2017 (see Appendix E). The data from the PM<sub>10</sub> monitor located at the Dysart site was approved during the interagency consultation process. Monitor site details, including a figure showing the distance to the monitor, are included in the materials in Appendix A.

The approved background value was added to the CAL3QHCR modeled design values for comparison to the PM<sub>10</sub> NAAQS of 150 µg/m<sup>3</sup>. The background values are conservative, because it is expected that ambient PM concentrations will be lower in future years as a result of State Implementation Plans and the general trend in declining vehicle emissions due to technological advances. It is assumed that emissions from other nearby sources are already included in the ambient monitoring data.

### **5.2.7 Calculate Design Values and Determine Conformity**

The model results were added to the background concentrations for the Build alternative in order to calculate the design values.

To determine the 24-hour PM<sub>10</sub> design value, the following steps were used, as outlined in the guidance:

1. From the air quality modeling results from the build scenario, identify the sixth-highest 24-hour concentration for each receptor. CAL3QHCR results from each quarter were evaluated to determine the overall sixth-highest modeled concentration from the 5-year period.
2. Identify the receptor with the highest sixth-highest 24-hour concentration.
3. Identify the appropriate 24-hour background concentration from the three most recent years of air quality monitoring data. This value is 125 µg/m<sup>3</sup>, as described in Section 5.2.6.
4. For the receptor identified in Step 2, add the sixth-highest 24-hour modeled concentration to the appropriate 24-hour background concentration (from Step 3).
5. Round to the nearest 10 µg/m<sup>3</sup>. The result is the highest 24-hour PM<sub>10</sub> design value in the build scenario.

The modeled concentrations, including background, were compared to the applicable NAAQS (Table 5-5). Since the modeled Build alternative concentrations were below the NAAQS, the No Build alternative did not have to be run in order to compare the differences between the two.

**Table 5-5. Predicted 24-Hour PM<sub>10</sub> Concentrations (µg/m<sup>3</sup>)**

<b>Location</b>	<b>6<sup>th</sup>-Highest PM<sub>10</sub> Value</b>	<b>Background PM<sub>10</sub> Value</b>	<b>Total Concentration</b>	<b>Total Concentration Rounded to the nearest 10 µg/m<sup>3</sup></b>	<b>PM<sub>10</sub> NAAQS</b>
MC85 & Cotton Lane	11.9	125	136.9	140	150
Cotton Lane/SR303L NB Frt Rd & Elwood St	9.3	125	134.3	130	150

µg/m<sup>3</sup> = micrograms per cubic meter

### **5.2.8 Mitigation or Control Measures**

The project meets conformity requirements. Therefore, mitigation or control measures to reduce emissions in the project area are not needed to be considered by the project sponsors.

### **5.2.9 Document the PM Hot-Spot Analysis**

This Air Quality Technical Report documents the PM hotspot results. Due to the large volume of input and output files created for this analysis, they are available electronically upon request, as noted in Appendix D.



## 5.3 MSAT Analysis

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### 5.3.1 Methodology

On February 3, 2006, FHWA released Interim Guidance on Air Toxic Analysis in NEPA Documents (FHWA 2006a). This guidance was superseded on October 18, 2016 by FHWA's Updated Interim Guidance Update on Air Toxic Analysis in NEPA Documents (FHWA 2016). The purpose of FHWA's guidance is to advise on when and how to analyze MSATs in the National Environmental Policy Act (NEPA) environmental review process for highways. This guidance is considered interim since MSAT science is still evolving. As the science progresses, FHWA will update the guidance.

A quantitative analysis provides a basis for identifying and comparing the potential differences among MSAT emissions, if any, from the various alternatives. FHWA's Interim Guidance groups projects into the following tier categories:

- No analysis for projects without potential for meaningful MSAT effects.
- Qualitative analysis for projects with low potential MSAT effects.
- Quantitative analysis to differentiate alternatives for projects with higher potential MSAT effects.

Based on FHWA's recommended tiering approach, the project falls within the Tier 3 approach (i.e., for projects with a high potential for MSAT effects). In accordance with FHWA's recommendation, EPA's MOVES2014a was used to calculate annual MSAT pollutant burdens for the No Build Alternative and the Build Alternative.

#### MSAT Study Area

The MSAT Study Area was refined to focus on the portion of the Study Area substantially impacted by the project. FHWA recommends analyzing all segments associated with the project, plus those segments expecting meaningful changes in emissions because of the project (e.g.,  $\pm 5$  percent or more).

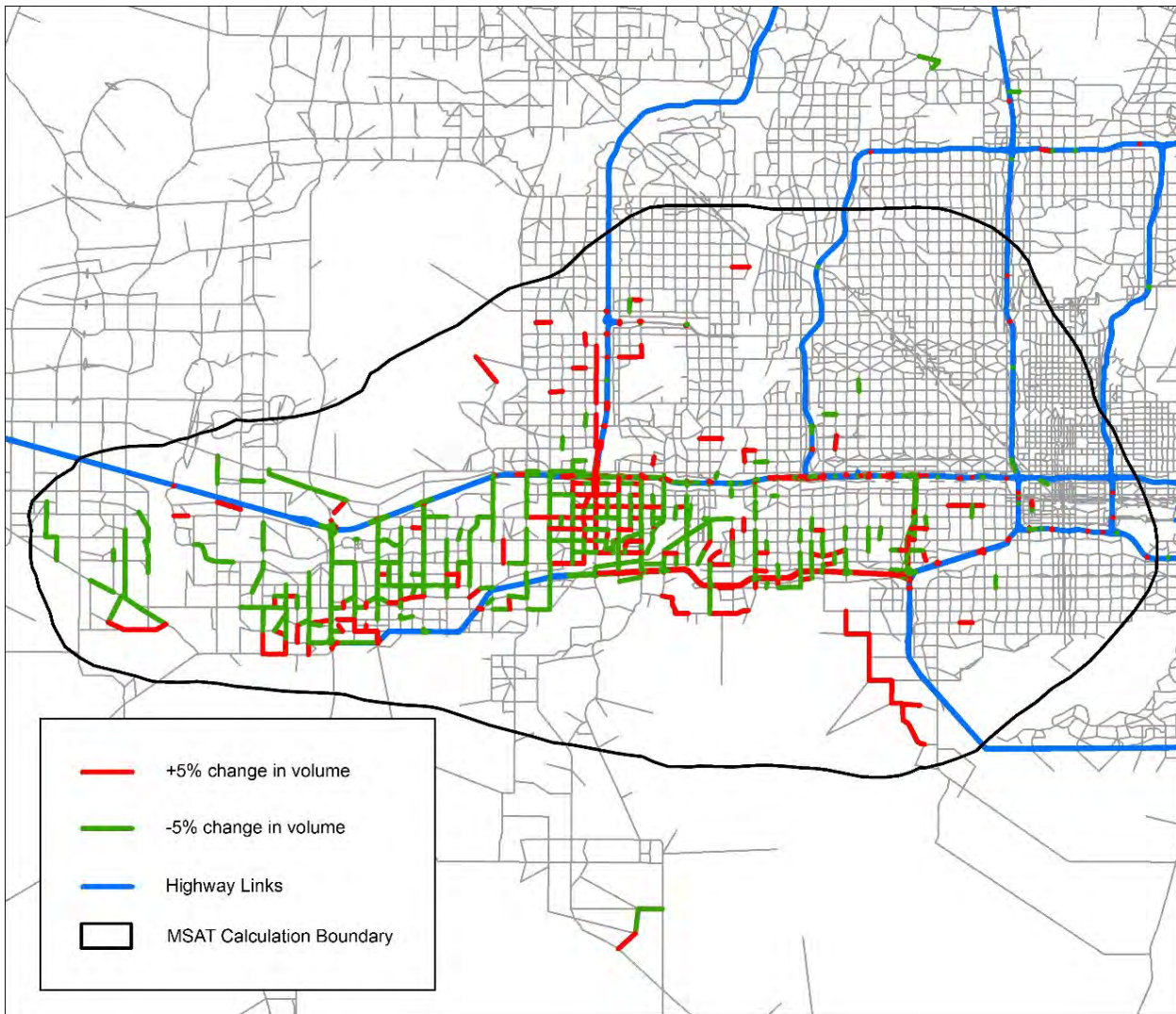
The affected network was defined based on available project-specific information considering changes in such metrics as:

- $\pm 5$  percent or more in annual average daily traffic (AADT) on congested highway links
- Links with 50 or more vehicles AADT
- Project-specific knowledge and consideration of local circumstances

The Study Area was refined by conducting a comparison between the No Build and Build traffic volumes for all links in the regional model. Using the recommendations

described above, along with a level of judgment and local knowledge, a roadway network within a defined boundary as shown in Figure 5-2 was developed. The roadways chosen for inclusion in the analysis were submitted to FHWA and ADOT for approval, as shown in Appendix B.

**Figure 5-2. Roadway Network Used to Calculate Total MSAT Emissions**



By conducting this Study Area screening analysis, the affected network was sized to include the project itself, nearby roadways that show meaningful changes in traffic, potential diversion routes, and the roadways in between that create a continuous network. The same affected network area was used to compute the emission burdens under all tested scenarios, including Existing Conditions and the No Build Alternative. This allows for a “like-to-like” comparison of the total VMT and resulting pollutant emission burdens.

The project area includes major capacity-adding projects that are planned to be in operation by the analysis year 2040, under both no build and build conditions. Most notably, projects on Interstate 10 and SR 30 will add many new links to the existing roadway network. As such, when directly comparing the pollutant burdens associated with the existing (2018) and analysis year (2040) networks, the additional VMT generated by these new projects and roadway links in 2040 should be considered.

### **MOVES2014a**

EPA’s Motor Vehicle Emissions Simulator (MOVES) model version MOVES2014a was used to estimate emissions from the MSAT network. MOVES input files were provided by the Maricopa Association of Governments (MAG), consistent with their regional emissions analysis. MAG data was used to represent regional conditions, and link-by-link traffic data was used to develop project-specific input files to demonstrate the effects of the project for each scenario analyzed: 2017, 2040 no build, and 2040 build. Specific MOVES inputs are described in Table 5-6 and Table 5-7.

**Table 5-6. MOVES RunSpec Options**

<b>MOVES Tab</b>	<b>Model Selections</b>
Scale	County scale Inventory calculation type
Time Span	Hourly time aggregation including all months, days, and hours
Geographic Bounds	Maricopa County
Vehicles/Equipment	All on-road vehicle and fuel type combinations
Road Type	All road types were selected, but not all were used for some scenarios
Pollutants and Processes	All MSAT pollutants and their precursors were selected Processes included running exhaust and crankcase running exhaust
Output	Output was produced by fuel type to differentiate diesel PM from PM produced by other fuel types

**Table 5-7. MOVES County Data Manager Inputs**

<b>County Data Manager Tab</b>	<b>Data Source</b>
Ramp Fraction	MAG
Source Type Population	MAG
Age Distribution	MAG
Fuel	MAG
Meteorology Data	MAG
Vehicle Type VMT	Created from project daily traffic data
Average Speed Distribution	Created from project daily traffic data
Road Type Distribution	Created from project daily traffic data

MOVES was used to estimate the total emissions from the MSAT network for each scenario. The VMT and emissions of each MSAT pollutant were presented in a table and compared with the existing and no build scenarios. MSAT burdens were calculated for the following MSATs, as required by FHWA:

- 1,3 Butadiene
- Acetaldehyde
- Acrolein
- Benzene
- Diesel PM
- Ethylbenzene
- Formaldehyde
- Naphthalene
- Polycyclic Organic Matter (POM)

MSAT analyses are intended to capture the net change in emissions within an affected environment, defined as the transportation network affected by the project. The affected environment for MSATs may be different than the affected environment defined in the NEPA document for other environmental effects, such as noise or wetlands. Analyzing MSATs only within a geographically-defined “study area” will not capture the emissions effects of changes in traffic on roadways outside of that area, which is particularly important where the project creates an alternative route or diverts traffic from one roadway class to another. At the other extreme, analyzing a metropolitan area’s entire roadway network will result in emissions estimates for many roadway links not affected by the project, diluting the results of the analysis.

### 5.3.2 Analysis

The results of this analysis for the existing conditions (2018) and design year (2040) are shown in Table 5-8. As previously discussed, the project area includes major capacity-adding projects that are planned to be in operation by the analysis year 2040, under both no build and build conditions. Most notably, projects on Interstate 10 and SR 30 will add many new links to the existing roadway network. As such, when directly comparing the pollutant burdens associated with the existing (2018) and analysis year (2040) networks, the additional VMT generated by these new projects and roadway links in 2040 should be considered.

**Table 5-8. 2040 Predicted MSAT Emission Burdens (metric tons/year)**

Pollutant*	Existing 2018	2040 No-Build Alternative	2040 Build Alternative 5S	
		Value	Value	% Change from No Build
MSAT Study Area Annual VMT	559,834,769	2,480,727,408	2,502,453,950	0.9%
1,3-Butadiene	0.12	0.017	0.017	0.9%
Acetaldehyde	0.50	1.62	1.63	0.9%
Acrolein	0.08	0.23	0.23	0.9%
Benzene	1.57	1.39	1.40	0.7%
Diesel Particulate Matter	5.45	13.66	13.86	1.5%
Ethylbenzene	0.64	0.51	0.51	0.7%
Formaldehyde	1.25	4.96	5.00	0.9%
Naphthalene	0.14	0.39	0.40	0.9%
Polycyclic Organic Matter	0.06	0.07	0.07	0.9%
Total MSATs	9.82	22.84	23.12	1.2%

As shown in Table 5-6, the majority of MSATs will increase under 2040 alternatives (both No-Build and Build Alternative 5S), as the VMT in the study area will increase drastically from 2018 to 2040 conditions. However, when comparing 2040 Build Alternative MSAT burdens to 2040 No-Build, MSATs would slightly increase, by approximately 0.7% to 1.5%, under Build conditions.

In summary, it is projected that there would be changes in MSAT emissions in the immediate area of the project under the build alternatives, regardless of which one is chosen, relative to the No-Build Alternative, as a result of the VMT changes associated with the project. MSAT levels could be higher in some locations than others, such as adjacent to the SR 303L mainline, but current tools and science are not adequate to quantify them.

As described earlier, the project area includes major capacity-adding projects that are planned to be in operation by the analysis year 2040, under both no build and build conditions. As summarized in Table 5-9, the MAG 2040 Regional Transportation Plan predicts an increase of 59% VMT in the region between 2015 and 2040. On a regional basis, EPA’s vehicle and fuel regulations, coupled with fleet turnover, will over time cause substantial reductions that, in almost all cases, will cause region-wide MSAT levels to be substantially lower than today, as demonstrated in Figure 3-5.

**Table 5-9. Regional VMT Forecast**

Year	VMT (in millions)	% Change from 2015
2015	103.8	--
2020	114.9	11%
2030	139.6	34%
2040	165.2	59%

Source: MAG 2040 Regional Transportation Plan, Table 7-3

This document has provided a quantitative analysis of MSAT emissions relative to the proposed project and has acknowledged that the alternatives could increase exposure to MSAT emissions in certain locations, although the concentrations and duration of exposures are uncertain. However, available technical tools do not enable prediction of project-specific health impacts of the emission changes associated with the alternatives. Because of these limitations, the following discussion is included in accordance with the President’s Council on Environmental Quality (CEQ) regulations (40 CFR, Section 1502.22[b]) regarding incomplete or unavailable information.

**5.3.3 Information That Is Unavailable or Incomplete**

In FHWA’s view, information is incomplete or unavailable to credibly predict the project-specific health impacts due to changes in MSAT emissions associated with a proposed set of highway alternatives. The outcome of such an assessment, adverse or not, would be influenced more by the uncertainty introduced into the process through assumption and speculation rather than any genuine insight into the actual health impacts directly attributable to MSAT exposure associated with a proposed action.

The EPA is responsible for protecting the public health and welfare from any known or anticipated effect of an air pollutant. They are the lead authority for administering the Clean Air Act and its amendments and have specific statutory obligations with respect to hazardous air pollutants and MSAT. The EPA is in the continual process of assessing human health effects, exposures, and risks posed by air pollutants. They maintain the Integrated Risk Information System (IRIS), which is “a compilation of electronic reports on specific substances found in the environment and their potential to cause human health effects”<sup>1</sup>. Each report contains assessments of non-cancerous and cancerous

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<sup>1</sup> EPA, <https://www.epa.gov/iris/>

effects for individual compounds and quantitative estimates of risk levels from lifetime oral and inhalation exposures with uncertainty spanning perhaps an order of magnitude.

Other organizations are also active in the research and analyses of the human health effects of MSAT, including the Health Effects Institute (HEI). A number of HEI studies are summarized in Appendix D of FHWA's Updated Interim Guidance on Mobile Source Air Toxic Analysis in NEPA Documents. Among the adverse health effects linked to MSAT compounds at high exposures are: cancer in humans in occupational settings; cancer in animals; and irritation to the respiratory tract, including the exacerbation of asthma. Less obvious is the adverse human health effects of MSAT compounds at current environmental concentrations<sup>2</sup> or in the future as vehicle emissions substantially decrease.

The methodologies for forecasting health impacts include emissions modeling; dispersion modeling; exposure modeling; and then final determination of health impacts – each step in the process building on the model predictions obtained in the previous step. All are encumbered by technical shortcomings or uncertain science that prevents a more complete differentiation of the MSAT health impacts among a set of project alternatives. These difficulties are magnified for lifetime (i.e., 70-year) assessments, particularly because unsupportable assumptions would have to be made regarding changes in travel patterns and vehicle technology (which affects emissions rates) over that time frame, since such information is unavailable.

It is particularly difficult to reliably forecast 70-year lifetime MSAT concentrations and exposure near roadways; to determine the portion of time that people are actually exposed at a specific location; and to establish the extent attributable to a proposed action, especially given that some of the information needed is unavailable.

There are considerable uncertainties associated with the existing estimates of toxicity of the various MSAT, because of factors such as low-dose extrapolation and translation of occupational exposure data to the general population, a concern expressed by HEI<sup>3</sup>. As a result, there is no national consensus on air dose-response values assumed to protect the public health and welfare for MSAT compounds, and in particular for diesel PM. The EPA states that with respect to diesel engine exhaust, “[t]he absence of adequate data to develop a sufficiently confident dose-response relationship from the epidemiologic studies has prevented the estimation of inhalation carcinogenic risk.”<sup>4</sup>

There is also the lack of a national consensus on an acceptable level of risk. The current context is the process used by the EPA as provided by the Clean Air Act to determine

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<sup>2</sup> HEI Special Report 16, <https://www.healtheffects.org/publication/mobile-source-air-toxics-critical-review-literature-exposure-and-health-effects>

<sup>3</sup> Special Report 16, <https://www.healtheffects.org/publication/mobile-source-air-toxics-critical-review-literature-exposure-and-health-effects>

<sup>4</sup> EPA IRIS database, Diesel Engine Exhaust, Section II.C. [https://cfpub.epa.gov/ncea/iris/iris\\_documents/documents/subst/0642.htm#quainhal](https://cfpub.epa.gov/ncea/iris/iris_documents/documents/subst/0642.htm#quainhal)

whether more stringent controls are required in order to provide an ample margin of safety to protect public health or to prevent an adverse environmental effect for industrial sources subject to the maximum achievable control technology standards, such as benzene emissions from refineries. The decision framework is a two-step process. The first step requires EPA to determine an “acceptable” level of risk due to emissions from a source, which is generally no greater than approximately 100 in a million. Additional factors are considered in the second step, the goal of which is to maximize the number of people with risks less than 1 in a million due to emissions from a source. The results of this statutory two-step process do not guarantee that cancer risks from exposure to air toxics are less than 1 in a million; in some cases, the residual risk determination could result in maximum individual cancer risks that are as high as approximately 100 in a million. In a June 2008 decision, the U.S. Court of Appeals for the District of Columbia Circuit upheld EPA’s approach to addressing risk in its two-step decision framework. Information is incomplete or unavailable to establish that even the largest of highway projects would result in levels of risk greater than deemed acceptable.<sup>5</sup>

Because of the limitations in the methodologies for forecasting health impacts described, any predicted difference in health impacts between alternatives is likely to be much smaller than the uncertainties associated with predicting the impacts. Consequently, the results of such assessments would not be useful to decision makers, who would need to weigh this information against project benefits, such as reducing traffic congestion, accident rates, and fatalities plus improved access for emergency response, that are better suited for quantitative analysis.

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<sup>5</sup> [https://www.cadc.uscourts.gov/internet/opinions.nsf/284E23FFE079CD59852578000050C9DA/\\$file/07-1053-1120274.pdf](https://www.cadc.uscourts.gov/internet/opinions.nsf/284E23FFE079CD59852578000050C9DA/$file/07-1053-1120274.pdf)



## 5.4 Greenhouse Gas Analysis

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### 5.4.1 Methodology

The greenhouse gas (GHG) analysis was conducted using EPA's MOVES2014a model to calculate annual GHG pollutant burdens for the existing scenario, the No Build Alternative, and the Build Alternative.

Based upon consultation with FHWA, it was agreed upon that the greenhouse gas (GHG) analysis would be based on the MSAT network, which includes only those links that meet specific criteria (50 vehicles or more, +/- 5% AADT) as described in the MSAT analysis section of this Report.

EPA's MOVES2014a model was run consistent with the methodology described in the MSAT analysis section of this Report.

### 5.4.2 Analysis

The results of this analysis for the existing conditions and design year (2040) are shown in Table 5-10. As shown, in the design year of the project (2040), GHG emission burdens would be lower under both No Build and Build conditions, when compared to Existing GHG burdens. Build GHG burdens would be approximately 1.7% higher than No Build burdens in the year 2040.

**Table 5-10. Predicted GHG Emission Burdens (metric tons/year)**

Pollutant*	Existing 2017	2040 No-Build Alternative	2040 Build Alternative 5S	
		Value	Value	% Change from No Build
MSAT Study Area Annual VMT	559,834,769	2,480,727,408	2,502,453,950	0.9%
CO <sub>2e</sub>	267,496	1,367,614	1,390,189	1.7%

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# *Appendix A*

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## Interagency Consultation Documentation

## Project Level CO Hot-Spot Analysis Questionnaire

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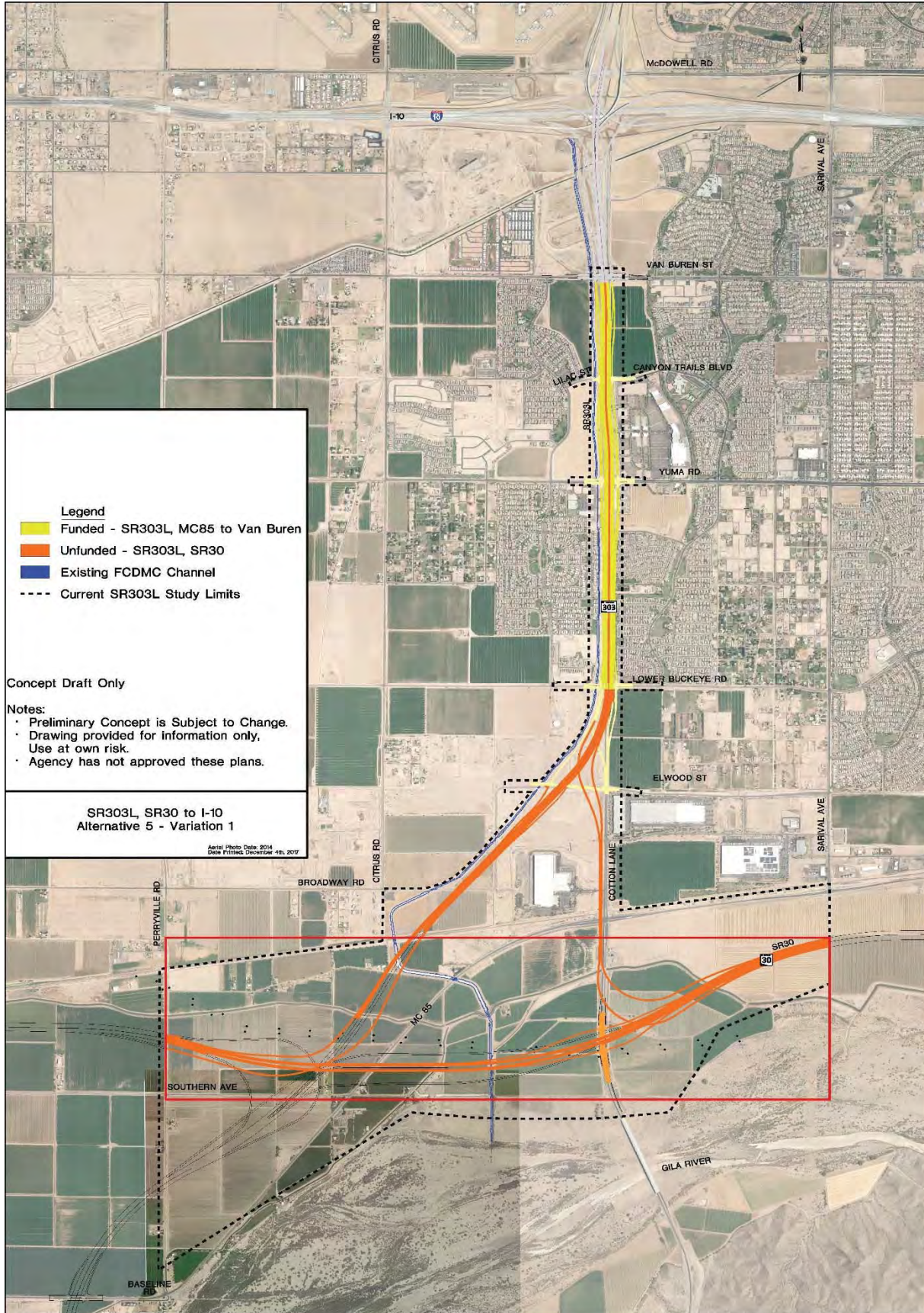
### Project Setting and Description

The Arizona Department of Transportation (ADOT), in association with the Federal Highway Administration (FHWA), proposes to extend State Route Loop 303 (SR 303L) south of the Van Buren Street/SR 303L Traffic Interchange (TI) to the future State Route 30 (SR30) (Figure 1-Project Area Map). The extension will complete the 40-mile SR 303L freeway in the western and northwestern portions of the greater Phoenix metropolitan area, linking SR 30 to Interstate 17 and providing connections to I-10 and US Route 60. The northern terminus of this project (between Van Buren and I-10) has already been found to conform, and construction was completed in October 2017. The ADOT 2013 Lifecycle Certification Regional Transportation Plan Freeway Plan (RTPFP) funds the initial construction of three general-purpose (GP) lanes and no high-occupancy vehicle (HOV) lanes in each direction, transitioning back to Cotton Lane at Elwood. The ultimate facility as defined in the RTPFP includes 4+1 (four general purpose lanes and one HOV lane) on SR303L and 4+1 (Four general purpose lanes and one HOV lane) on SR30 with grade separated interchanges.

To meet the needs of the area's growing population and increased traffic demand, the SR303L extension is proposed to increase the roadway capacity and reduce projected traffic congestion in the Cotton Lane corridor, improve the level-of-service (LOS), and facilitate the regional movement of people and goods. The proposed project is included in the Maricopa Association of Governments (MAG) 2040 Regional Transportation Plan (RTP). The initial construction of three GP lanes is scheduled in 2019. This construction would occur within the MAG FY 2018-2022 Transportation Improvement Program (TIP).

The project is within the Phoenix carbon monoxide (CO) maintenance area. The latest conformity determination for the FY 2018-2022 MAG Transportation Improvement Program and 2040 MAG Regional Transportation Plan for the area was made by the Federal Highway Administration and Federal Transit Administration on September 27, 2017.

**FIGURE 1. PROJECT LOCATION, SR 303L ALTERNATIVE 5**



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## Project Assessment – Part A

The following questionnaire is used to compare the proposed project to a list of project types in 40 CFR 93.123(a) requiring a quantitative analysis of local CO emissions (Hot-spots) in non-attainment or maintenance areas, which include:

- i) Projects in or affecting locations, areas, or categories of sites which are identified in the applicable implementation plan as sites of violation or possible violation;
- ii) Projects affecting intersections that are at Level-of-Service D, E, or F, or those that will change to Level-of-Service D, E, or F because of increased traffic volumes related to the project;
- iii) Any project affecting one or more of the top three intersections in the nonattainment or maintenance area with highest traffic volumes, as identified in the applicable implementation plan; and
- iv) Any project affecting one or more of the top three intersections in the nonattainment or maintenance area with the worst level of service, as identified in the applicable implementation plan.

If the project matches one of the listed project types in 40 CFR 93.123(a)(1) above, it is considered a project of local air quality concern and the hot-spot demonstration must be based on quantitative analysis methods in accordance to 40 CFR 93.116(a) and the consultation requirements of 40 CFR 93.105(c)(1)(i).

### **Projects Affecting CO Sites of Violation or Possible Violation**

Does the project affect locations, areas or categories of sites that are identified in the CO applicable plan or implementation plan submissions, as appropriate, as sites of violation or potential violation?

NO. This project does not affect locations, areas or categories of sites that are identified in the MAG 2013 Carbon Monoxide Maintenance Plan for Maricopa County as sites of violation or potential violation.

### **Projects with Congested Intersections**

Is this a project that affects a congested intersection (LOS D or greater) will change LOS to D or greater because of increased traffic volumes related to the project?

YES. In the project area, two intersections are projected to degrade to LOS D in 2040. MC85 & Cotton Lane is projected to be LOS D in the PM peak hour under no-build/build conditions, and Cotton Lane/SR303L NB Frt Rd & Elwood St is projected to be LOS D in the AM/PM peak hours under build condition (Table 1).



**Table 1. 2040 LOS and Traffic Volumes**

Intersection	2040 No Build WITH SR30						2040 Build Alternative 5					
	AM			PM			AM			PM		
	LOS	Delay	Volume	LOS	Delay	Volume	LOS	Delay	Volume	LOS	Delay	Volume
Yuma Rd & SR303L SB Frt Rd							C	33.6	3,215	C	26.2	3,400
SR303L NB Frt Rd & Yuma Road							C	22.2	3,378	C	22.2	3,016
Yuma Rd & Cotton Lane	D	49.8	4,739	C	32.1	5,094						
Lower Buckeye Rd & SR303L SB Frt Rd							B	13.8	1,439	B	11.6	1,581
Lower Buckeye Rd & Cotton Lane	C	21.0	3,541	C	30.5	3,628						
SR303L NB Frt Rd & Lower Buckeye Rd							B	11.2	1,326	B	13.2	1,241
SR303L SB Frt Rd & Elwood St												
Cotton Lane/SR3033L NB Frt Rd & Elwood St												
MC85 & Cotton Lane	C	27.8	5,691	D	51.8	5,849	C	26.0	5,262	D	47.6	5,511
Cotton Lane & SR30 WB Off-Rp	A	6.2	4,202	C	26.3	5,202	A	6.4	3,725	C	26.5	4,738
Cotton Lane & SR30 EB Off-Rp	C	23.8	5,441	D	39.9	4,751	B	19.8	5,204	C	30.4	4,674
Elwood St & Elwood St SB OffRamp							B	13.5	2,328	B	13.4	2,891
Elwood St & SR303L SB Frt Rd												
Cotton Lane/SR303L NB Frt Rd & Elwood St							D	38.1	4,016	C	24.3	4,196
Elwood St & Cotton Lane	C	23.5	3,782	C	24.3	3,973						
SR303L NB OffRp & Elwood St							B	10.4	2,231	A	9.3	2,487
Frontage Rd & Lilac St												
Cotton Ln & W Durango St	B	12.4	2,956	B	16.4	3,018						
SR303L SB Frt Rd & Lilac St							B	14.8	919	B	14.7	1,141
Frontage Rd & Lilac St												
Lilac St & Cotton Lane	D	48.5	4,382	D	38.7	4,720						
SR303L NB Frt Rd & Lilac St							B	14.2	895	B	14.9	1,262
Van Buren East & SB Ramp	B	17.2	1,913	B	15.5	2,043						
Van Buren West & NB Ramp	B	13.3	1,720	B	22.4	2,260						
SR30 North TI & Cotton Lane												
SR30 South TI & Cotton Lane												

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### **Projects Affecting Intersections with Highest Traffic Volumes**

Does the project affect one or more of the top three intersections in the CO maintenance area with highest traffic volumes identified in the CO applicable implementation plan?

NO. This project does not affect one or more of the top three intersections in the carbon monoxide maintenance area with the highest traffic volumes identified in the MAG 2013 Carbon Monoxide Maintenance Plan for Maricopa County.

### **Projects Affecting Intersections with the Worst Level of Services**

Does the project affect one or more of the top three intersections in the CO maintenance area with the worst level of services identified in the CO applicable implementation plan?

NO. This project does not affect one or more of the top three intersections with the worst LOS in the MAG 2013 Carbon Monoxide Maintenance Plan for Maricopa County.

## **Project Assessment – Part B**

The following questionnaire is used to compare the proposed project to a list of the project types in 40 CFR 93.126 and 40 CFR 93.128 which are exempt from the requirement to determine conformity:

### **Exempt Projects in the CO maintenance Area**

Is this one of the exempt projects listed – Safety, Mass Transit, Air Quality and Others in Table 2 of 40 CFR 93.126 or a traffic signal synchronization project described in 40 CFR 93.128?

NO. This project is not exempt under Table 2 of 40 CFR 93.126 and is not a traffic signal synchronization project as described in 40 CFR 93.128.

## **POAQC Determination**

Decide which type of hot-spot analysis is required for the project by choosing a category below.

**If answered “Yes” to any of the questions in the Project Assessment – Part A and “No” to the question in the Project Assessment – Part B,**

- A quantitative CO hot-spot analysis is required under 40 CFR 93.123(a)(1).
- The applicable air quality models, data bases, and other requirements specified in 40 CFR part 51, Appendix W (Guideline on Air Quality Models) should be completed and circulated through interagency consultation for review and comments for 10 days prior to commencing any modeling activities.
- Check if the project fits the condition of the CO Categorical Hot-Spot Finding.

**If answered “No” to all of the questions in the Project Assessment – Part A and “No” to the question in the Project Assessment – Part B,**

- A qualitative CO hot-spot analysis is required under 40 CFR 93.123(a)(2).

- The demonstrations required by 40 CFR 93.116 Localized CO, PM10, and PM2.5 violations (hot-spots) may be based on either: (i) Quantitative methods that represent reasonable and common professional practice; or (ii) A qualitative consideration of local factors, if this can provide a clear demonstration that the requirements of 40 CFR 93.116 are met.

**Regardless of the questions in the Project Assessment – Part A, if “Yes” to the question in the Project Assessment – Part B,**

- No CO hot-spot analysis is required.

This project requires a quantitative hot-spot analysis for carbon monoxide at the intersections of Cotton Lane & MC85 and Cotton Lane/SR303L NB Frt Rd & Elwood St because these intersections are projected to operate at LOS D by increased traffic volumes related to the project in 2040. Since an interagency consultation is required for the analysis, the consultation document including the methods, model and assumptions is attached.

In the January 24, 2008, Transportation Conformity Rule Amendments, EPA included a provision at 40 CFR 93.123(a)(3) to allow the U.S. DOT, in consultation with EPA, to make categorical hot-spot findings in CO nonattainment and maintenance areas if appropriate modeling showed that a type of highway or transit project would not cause or contribute to a new or worsened air quality violation of the CO NAAQS or delay timely attainment of the NAAQS or required interim milestone(s), as required under 40 CFR 93.116(a).

**Projects Fitting the Condition of the CO Categorical Hot-Spot Finding**

Do the project’s parameters fall within the acceptable range of modeled parameters (Use the table in the appendix, “Table 1: Project Parameters and Acceptable Ranges for CO Categorical Hot-Spot Finding” or enter the project information into FHWA’s web based tool: [https://www.fhwa.dot.gov/environment/air\\_quality/conformity/policy\\_and\\_guidance/cmf\\_2017/tool.cfm](https://www.fhwa.dot.gov/environment/air_quality/conformity/policy_and_guidance/cmf_2017/tool.cfm))?

NO. This project’s parameters do not fall within the acceptable range of modeling parameters for a CO Categorical Hot-spot Finding in Appendix Table 1 below.

## Appendix

Table 1: Project Parameters and Acceptable Ranges for CO Categorical Hot-Spot Finding for Urban Intersection

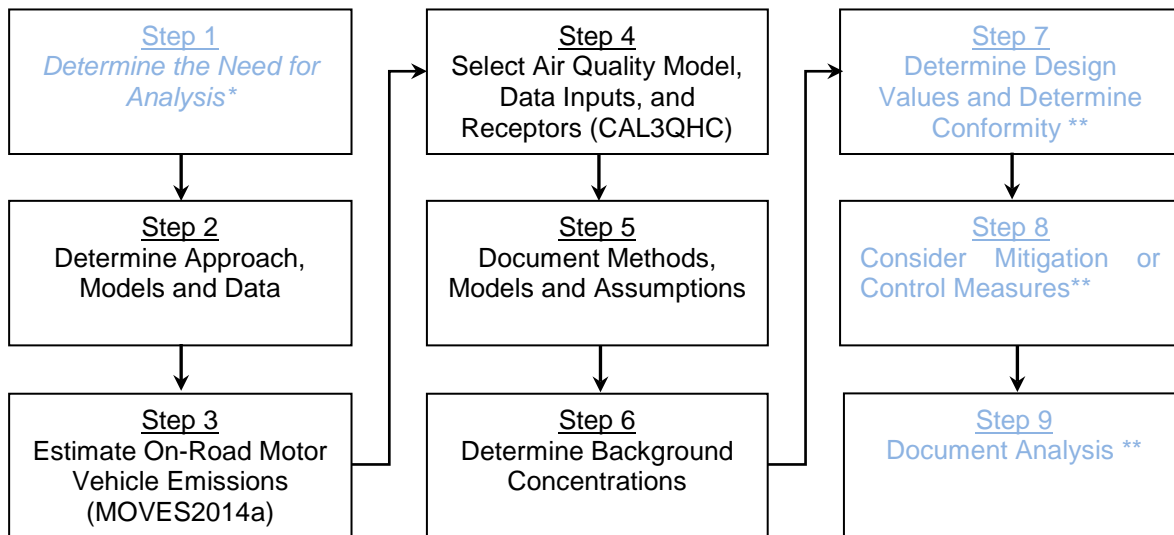
<b>Parameter</b>	<b>Acceptable Range</b>
Analysis year	Greater than or equal to 2017
Angle of cross streets for intersection (degrees)	90
Maximum grade for the intersection (%)	Less than or equal to 2
Maximum grade on cross street for the intersection (%)	0
Number of through lanes	Less than or equal to 4
Number of left turn lanes	Less than or equal to 2
Lane width (ft)	12
Median width (ft)	0
Peak hour average approach speed (mph)	Greater than or equal to 25
Peak hour approach volume (vph)	Less than or equal to 2640
Peak hour Level of Service	A through E
Ambient temperature (°F)	Greater than or equal to -10
Heavy-duty trucks (%)	Greater than or equal to 5
1-hour background CO concentrations (ppm)	Less than or equal to 32.6
8-hour background CO concentrations (ppm)	Less than or equal to 7.3
Persistence factor	Less than or equal to 0.7

## Project Level CO Quantitative Hot-Spot Analysis – Consultation Document

The Arizona Department of Transportation (ADOT) developed the following consultation document for the projects of air quality concern that are funded by Federal Highway Administration (FHWA) and Federal Transit Administration (FTA). The Purpose of this document is to describe the methods, models and assumptions used for a CO quantitative Hot-spot analysis as required in 40 CFR 93.105(c)(1)(i), 93.123, 93.116. The modeling assumptions were provided for review and Interagency consultation concluded on March 15, 2018 with no additional modifications to the modeling assumptions (see Attachment 1). t

### Completing a Carbon Monoxide (CO) Hot-Spot Analysis

The general steps required to complete a quantitative CO hot-spot analysis are outlined below and described in detail in the EPA Office of Transportation and Air Quality guidance document “Using MOVES2014 in Project-Level Carbon Monoxide Analyses” EPA-420-B-15-028, March 2015, and “Guideline for Modeling Carbon Monoxide from Roadway Intersections” EPA-454/R-92-005, November 1992.



\* Described in the previous section (Air Quality Concern Questionnaire).

\*\* These Steps will be described and documented in a final air quality analysis report.

#### Step 2: Determine the Approach, Models, and Data

- Describe the project area (area substantially affected by the project, 58 FR 62212) and emission sources.
- Determine general approach and analysis year(s) – year(s) of peak emissions during the time frame of the transportation plan (69 FR 40056).
- Determine CO National Ambient Air Quality Standards (NAAQS) to be evaluated.
- Select emissions and dispersion models and methods to be used.
- Obtain project-specific data (e.g., fleet mix, peak-hour volumes and average speed).

### **Step 3: Estimate On-Road Motor Vehicle Emissions with MOVES2014a**

- a. Generate RunSpec and enter project-specific data into Project Data Manager
- b. Estimate on-road motor vehicle emissions.

### **Step 4: Select Air Quality Model, Data Inputs, and Receptors for CAL3QHC**

- a. Obtain and input required site data (e.g., meteorological).
- b. Input MOVES outputs (emission factors).
- c. Determine number and location of receptors, roadway links, and signal timing.
- d. Run air quality dispersion model and obtain concentration results.

### **Step 5: Document Methods, Models and Assumptions**

- a. Summarize the methods, models and assumptions based on Step 3 & 4 (see the example in Table 1).
- b. Submit the summary document to ADOT for review.

### **Step 6: Determine Background Concentrations**

- a. Determine background concentrations from nearby and other emission sources excluding the emissions from the project itself.

### **Step 7: Calculate Design Values and Determine Conformity**

- a. Add step 5 results to background concentrations to obtain values for the Build scenario.
- b. Determine if the design values allow the project to conform.

### **Step 8: Consider Mitigation or Control Measures**

- a. Consider measures to reduce emissions and redo the analysis. If mitigation measures are required for project conformity, they must be included in the applicable SIP and be enforceable.
- b. Determine if the design values from allow the project to conform after implementing mitigation or control measures.

### **Step 9: Document Analysis**

- a. Determine if the project conforms or not based on the results of step 7 or step 8.  
*To support the conclusion that a project meets conformity under 40 CFR 93.116 and 93.123, at a minimum the documentation will include:*
  - Description of proposed project, when it is expected to open, and projected travel activity data.
  - Analysis year(s) examined and factors considering in determining year(s) of peak emissions.
  - Emissions modeling data, model used with inputs and results, and how characterization of project links.
  - Model inputs and results for road dust, construction emissions, and emissions from other source if needed.
  - Air Quality modeling data, included model used, inputs and results and receptors.
  - How background concentrations were determined.
  - Any mitigation and control measures implemented, including public involvement or consultation if needed.
  - How interagency and public participation requirements were met.
  - Conclusion that the proposed project meets conformity requirements.
  - Sources of data for modeling.

Methods, Models and Assumptions for CO Hot-Spot Analysis

<b>Table 1. Methods, Models and Assumptions</b>		
<b>Estimate On-Road Motor Vehicle Emissions (Step 3)</b>		
<b>MOVES2014a</b>	<b>Description</b>	<b>Data Source</b>
Scale	<i>On road, Project, Inventory</i>	EPA Using MOVES2014 in Project-Level Carbon Monoxide Analyses, Section 2.3.2
Time Span	<i>Two unique model runs: For future conditions, 2040, January, weekday, AM peak hour, and PM peak hour.</i>	EPA Using MOVES2014 in Project-Level Carbon Monoxide Analyses, Section 2.3.3
Geographic Bounds	<i>Maricopa County</i>	EPA Using MOVES2014 in Project-Level Carbon Monoxide Analyses, Section 2.3.4
Vehicles Equipment	<i>All Fuels and Source Use Types will be selected</i>	EPA Using MOVES2014 in Project-Level Carbon Monoxide Analyses, Section 2.3.5
Road Type	<i>Urban Restricted and Unrestricted access</i>	EPA Using MOVES2014 in Project-Level Carbon Monoxide Analyses, Section 2.3.6
Pollutants and Processes	<i>CO Running Exhaust, CO Crankcase Running Exhaust</i>	EPA Using MOVES2014 in Project-Level Carbon Monoxide Analyses, Section 2.3.7
Output	<i>Database will be created, Grams, Miles, Distance Traveled, Population will be selected. Emissions process will be selected in the Output Emissions Detail. Emission rates for each process can be appropriately summed to calculate aggregate CO emission rates for each link.</i>	EPA Using MOVES2014 in Project-Level Carbon Monoxide Analyses, Section 2.3.10
Project Data Manager	<i>Database will be created and MOVES2014a templates will be created to include local project data and information provided by MAG's I/M programs, Fuel, Age Distribution, Meteorology data which are consistent with the regional models. Links will be based on travel speeds and roadway grades specific to project as provided by the traffic study. Link Source Type will be based on the regional fleet mix for each road type and year. Any missing information will use default MOVES2014a data. After running MOVES, the MOVES CO_CAL3QHC_EF post-processing script is run.</i>	See Table 2 below for details

<b>Select Air Quality Model, Data Inputs, and Receptors (Step 4)</b>		
<b>CAL3QHC</b>	<b>Description</b>	<b>Data Source</b>
Emissions Sources	<i>Emissions Rates in grams/mile, as described in MOVES2014a section. The free flow and queue links defined for modeling with MOVES2014a will be used as input into CAL3QHC.</i>	1992 Guideline for Modeling Carbon Monoxide from Roadway Intersections, EPA-454/R-92-005, November 1992. Section 5.2.3 of Appendix W to 40 CFR Part 51, CO screening analyses of intersection projects should use the CAL3QHC dispersion model.
Receptor Locations	<i>At least 3m from the roadways at a height of 1.8m, nearby occupied lot, vacant lot, sidewalks, and any locations near breathing height (1.8m) to which the general public has continuous access (Figure 1).</i>	1992 Guideline for Modeling Carbon Monoxide from Roadway Intersections, Section 2.2
Traffic and Geometric Design	<i>Lane Configuration, Lane Width, Signalization, Turning Movements, Median Width, Traffic Volume, Level of Service, Grade, % of Heavy-Duty Trucks, and Peak Hour Average Approach Speed.</i>	1992 Guideline for Modeling Carbon Monoxide from Roadway Intersections, Section 4.7.4
Meteorology	<i>The following meteorology options will be used as recommended in the CO Guidelines: a worst-case wind speed of 1 m/s, 5-degree wind direction intervals from 0 to 355 degrees, and a mixing height of 1000 m. Atmospheric stability class D will be used to represent an urban area. Consistent with the PM<sub>10</sub> modeling, a surface roughness of 108 cm will be used, representing a suburban area.</i>	1992 Guideline for Modeling Carbon Monoxide from Roadway Intersections, Section 4.7.1
Persistence Factor	<i>Local persistence factor based on monitoring data. If it is not available, use a default persistence factor of 0.7.</i>	1992 Guideline for Modeling Carbon Monoxide from Roadway Intersections, Section 4.7.2
<b>Determine Background Concentrations (Step 6)</b>		
Background Monitor	<i>Dysart monitor is an urban monitor and has similar land use to the project and isn't impacted by Exceptional Events. This monitor is close to the project, but there is not a significant pattern that shows a strong upwind direction. Three years of monitoring data (2014--2016) show a maximum 1-hour value of 1.2 ppm and a maximum 8-hour value of 0.7 ppm. 1.2 ppm will be added to the maximum modeled hourly concentration for comparison to the NAAQS. 0.7 ppm will be added to the maximum 8-hour modeled concentration (which is the 1-hour concentration multiplied by a persistence factor of 0.7 as described above.) The same background values will be used for all analysis years.</i>	1992 Guideline for Modeling Carbon Monoxide from Roadway Intersections, Section 4.7.3

**Table 2. Project Data Manager Inputs**

<b>Input</b>	<b>Level of Detail/notes</b>	<b>Data Source</b>
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Meteorology	<i>Same for build and no-build scenarios. Data from latest regional CO conformity analysis provided by MAG.</i>	MPO EPA Using MOVES2014 in Project-Level Carbon Monoxide Analyses, Section 2.4.1
Age Distribution	<i>Same for build and no-build scenarios. Data from latest regional CO conformity analysis provided by MAG.</i>	MPO EPA Using MOVES2014 in Project-Level Carbon Monoxide Analyses, Section 2.4.2
Fuel	<i>Same for build and no-build scenarios. Data from latest regional CO conformity analysis provided by MAG.</i>	MPO EPA Using MOVES2014 in Project-Level Carbon Monoxide Analyses, Section 2.4.3
I/M Programs	<i>Same for build and no-build scenarios. Data from latest regional CO conformity analysis provided by MAG.</i>	MPO EPA Using MOVES2014 in Project-Level Carbon Monoxide Analyses, Section 2.4.4
Retrofit Data	<i>Not applicable for this project.</i>	Project specific modeling EPA Using MOVES2014 in Project-Level Carbon Monoxide Analyses, Section 2.4.7
Links	<i>Two selected intersections, MC85 &amp; Cotton Lane and Cotton Lane/SR303L NB Frt Rd &amp; Elwood St will be divided into links and each link's length (in miles), traffic volume (vehicle per hour), average speed (miles per hour) and road grade (percent) will be specified (Figure 1).</i>	Project specific modeling EPA Using MOVES2014 in Project-Level Carbon Monoxide Analyses, Section 2.4.6
Link Source Types	<i>Source type distribution will be represented by the regional fleet for each road type and analysis year, based on data from latest regional CO conformity analysis provided by MAG.</i>	MPO EPA Using MOVES2014 in Project-Level Carbon Monoxide Analyses, Section 2.4.5
Link Drive Schedules, Operating Mode Distribution	<i>Average speed and road type will be used in the Links Importer based on project-specific modeling.</i>	Project specific modeling EPA Using MOVES2014 in Project-Level Carbon Monoxide Analyses, Section 2.4.8, 2.4.9
Off-Network, Hotelling	<i>Not applicable for this project.</i>	EPA Using MOVES2014 in Project-Level Carbon Monoxide Analyses, Section 2.4.9

**Table 3. Construction Emissions (Only if Applicable)**

Construction Emissions	<i>Construction Emissions will be addressed qualitatively because construction is not expected to last longer than 5 years at any individual site. In the context of CO, this is usually excess CO emissions due to traffic delay and/or detours.</i>	40CFR93.123(c)(5) "Each site which is affected by construction-related activities shall be considered separately, using established "Guideline" methods." If applicable, include analysis as an Appendix to the Air Quality Report.
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**Figure 1. Preliminary Link Configuration for CO Hot-Spot Analysis**

MC 85 & Cotton Lane Build Alt 5 – Free Flow Links



MC 85 & Cotton Lane Build Alt 5 – Queue Links



Notes:

- Free flow links extend 1000 feet away from center of signalized intersection
- Graphic representation of free flow links includes 10 foot mixing zone
- Blue links to west indicate elevated roadway sections that are intersection proximity, they do not have any associated idling queues.
- Yellow squares are receptors located 10 feet from the edge of any roadway.

Cotton Lane/SR 303 L NB frt Rd & Elwood St Build Alt 5 – Free Flow Links



Cotton Lane/SR 303 L NB frt Rd & Elwood St Build Alt 5 –Queue Links



**Notes:**

- Free flow links extend 1000 feet away from center of signalized intersection
- Graphic representation of free flow links includes 10 foot mixing zone
- Blue links to west indicate elevated roadway sections that are intersection proximity, they do not have any associated idling queues.
- Yellow squares are receptors located 10 feet from the edge of any roadway.

**Attachment 1. Summary of Interagency Consultation on updated modeling assumptions for CO Hot-Spot Analysis**

**From:** Beverly Chenausky  
**To:** 'Lindy Bauer'; 'Jerry Wamsley'; 'Hether Krause'; 'Transportationconformity@azdeq.gov'  
**Cc:** 'Clifton Meek'; 'Karina O'Conner'; 'Rebecca Yedlin'; Joonwon Joo; 'Dean Giles'; Steven Olmsted; Tricia Brown; Bret Anderson  
**Subject:** RE: UPDATE: Interagency Consultation: Determining Project of Air Quality Concern in MAG Region Air Quality Concern 303 (Estrella) MC 85 to Van Buran Street NH-303-A(ASO)T H6870 SR 303L  
**Date:** Thursday, March 15, 2018 3:54:57 PM  
**Attachments:** image003.png

There were no additional comments or concerns on the information provided, ADOT will provide future notification when the draft analysis is available for review and comment. Additional updates on the project including schedule, can be found on the project website [azdot.gov/SR30](http://azdot.gov/SR30).

Thank You,  
Beverly

**From:** Beverly Chenausky  
**Sent:** Thursday, March 01, 2018 3:37 PM  
**To:** 'Lindy Bauer'; 'Jerry Wamsley'; 'Hether Krause'; 'Transportationconformity@azdeq.gov'  
**Cc:** 'Clifton Meek'; 'Karina O'Conner'; 'Rebecca Yedlin'; Joonwon Joo; 'Dean Giles'; Steven Olmsted; Tricia Brown; Bret Anderson  
**Subject:** UPDATE: Interagency Consultation: Determining Project of Air Quality Concern in MAG Region Air Quality Concern 303 (Estrella) MC 85 to Van Buran Street NH-303-A(ASO)T H6870 SR 303L

Provided is an update on the 303 (Estrella): MC 85 to Van Buran Street.

- A public meeting was held [December 6, 2017](#).
- The PM10 modeling assumptions provided in prior tables for MOVES, CAL3QCHR and AP-42 have not changed, however it was requested that the traffic data used (as highlighted below) for this project be updated to reflect the October 2017 Conformity model for the FY2018-2022 MAG Transportation Improvement Program and 2040 MAG Regional Transportation Plan. The updated traffic still demonstrated that Alt 5 represents the worst case scenario all the other assumptions will remain the same for the analysis. An *unsealed* version of the January 2018 traffic report addendum is attached, this updated data will replace the September 22nd traffic data included in prior consultation.

Speeds	For mixed urban areas mean AMpeak speed on arterials 32mph, for freeway 59mph, Midday 34/66, PM Peak 31/57, and overnight 34/67mph these are values used in the travel demand model. See <b>Table 2b</b>	EPA Hot Spot Guidance Section 4.2.1 Project specific model runs were completed end of July 2017. This data was used to input into the traffic analysis completed in August 2017 as noted in September 22, 2017 Traffic Report
Project Data Manager	Database will be created and MOVES2014a templates will be created to include local project data and information provided by MAG, e.g., I/M programs, Fuel, Age Distribution, Meteorology Data, to be consistent with the regional model. Links and Link Source Type will be specific to project as provided by the traffic study, any missing information will use default MOVES2014a data.	EPA Hot Spot Guidance Sections 4.5, 7.5; March 2016 SR303L, SR30 to I-10 Traffic Report Project specific model runs were completed end of July 2017. This data was used to input into the traffic analysis completed in August 2017 as noted in September 22, 2017 Traffic Report

ADOT consulted prior for PM10 modeling without the information on the required CO hotspots assumptions to allow for inclusion of updated traffic information, attached are the planning assumptions for CO with two different intersection locations from what was consulted on for PM10. As the majority of the assumptions are the same as what was provided prior for PM10 it is requested that the consulted parties provide comments or questions on the methods, models and assumptions for the CO hotspot within **10 business days**, a non-response will be interpreted as concurrence with the planning assumptions as describe in the attached document.

Please let me know if you have any additional questions.

**Beverly T. Chenausky**  
**Air & Noise Program Manager**  
 MD EM02, Room 41  
 1611 W. Jackson St.  
 Phoenix, AZ 85007  
 602.712.6269  
[azdot.gov](http://azdot.gov)



**From:** Beverly Chenausky  
**Sent:** Tuesday, June 27, 2017 1:58 PM  
**To:** 'Lindy Bauer'; 'Jerry Wamsley'; 'Hether Krause'; 'Transportationconformity@azdeq.gov'  
**Cc:** 'Clifton Meek'; 'Karina O'Conner'; 'Rebecca Yedlin'; Joonwon Joo; 'Dean Giles'; Steven Olmsted; Eunice Chan; Tricia Brown  
**Subject:** Interagency Consultation: Determining Project of Air Quality Concern in MAG Region Air Quality Concern 303 (Estrella) MC 85 to Van Buran Street NH-303-A(ASO)T H6870 SR 303L

To Interested Parties:

ADOT is presenting the following local project, **303 (Estrella): MC 85 to Van Buran Street**, for interagency consultation per 40 CFR 93.105 as a project that is a project of Air Quality Concern, thereby requiring a PM10 hot-spot analysis primarily due to the large number of truck traffic in the project area. Attached is the combined Project Level PM Quantitative Hot-Spot Analysis- *Project of Air Quality Concern Questionnaire* demonstrating the need for analysis and the *Consultation Document for Project of Air Quality Concern*. The Purpose of this document is to describe the methods, models and assumptions used for a quantitative hot-spot analysis as required in 40 CFR 93.105(c)(1)(i), 93.123, 93.116 and to document that the analysis follows the EPA *Transportation Conformity Guidance for Quantitative Hot-Spot Analyses in PM2.5 and PM10 Nonattainment and Maintenance Areas*. It is requested that the consulted parties provide comments or questions on the methods, models and assumptions within **30 business days**, a non-response will be interpreted as concurrence with the planning assumptions as describe in the attached document.

Thank you,

**Beverly T. Chenausky**  
**Air & Noise Program Manager**  
 MD EM02, Room 41  
 1611 W. Jackson St.  
 Phoenix, AZ 85007  
 602.712.6269  
[azdot.gov](http://azdot.gov)



**From:** Wamsley, Jerry  
**To:** [Beverly Chenausky](mailto:Beverly.Chenausky)  
**Cc:** [OConnor, Karina](mailto:OConnor.Karina); [LAWRENCE, LAURA](mailto:LAWRENCE.LAURA)  
**Subject:** RE: UPDATE: Interagency Consultation: Determining Project of Air Quality Concern in MAG Region Air Quality Concern 303 (Estrella) MC 85 to Van Buran Street NH-303-A(ASO)T H6870 SR 303L  
**Date:** Tuesday, March 13, 2018 6:40:06 PM  
**Attachments:** [image005.png](#)

Hello Beverly,

Thank you for the opportunity to review the Arizona Department of Transportation's (ADOT) Project of Air Quality Concern (POAQC) Questionnaire for the update concerning new traffic data and the POAQC for carbon monoxide in the SR 303/MC 85/Van Buran Street project, dated March 1, 2018.

We have no comments on the proposed carbon monoxide hotspot analysis and methodology and new traffic data.

Sincerely,  
 Jerry Wamsley

**From:** Beverly Chenausky [mailto:[BChenausky@azdot.gov](mailto:BChenausky@azdot.gov)]  
**Sent:** Thursday, March 1, 2018 2:37 PM  
**To:** 'Lindy Bauer' <[LBauer@azmag.gov](mailto:LBauer@azmag.gov)>; Wamsley, Jerry <[Wamsley.Jerry@epa.gov](mailto:Wamsley.Jerry@epa.gov)>; 'Hether Krause' <[hkrause@mail.maricopa.gov](mailto:hkrause@mail.maricopa.gov)>; 'Transportationconformity@azdeq.gov' <[Transportationconformity@azdeq.gov](mailto:Transportationconformity@azdeq.gov)>  
**Cc:** meek, clifton <[meek.clifton@epa.gov](mailto:meek.clifton@epa.gov)>; OConnor, Karina <[OConnor.Karina@epa.gov](mailto:OConnor.Karina@epa.gov)>; 'Rebecca Yedlin' <[Rebecca.Yedlin@dot.gov](mailto:Rebecca.Yedlin@dot.gov)>; Joonwon Joo <[Joo@azdot.gov](mailto:Joo@azdot.gov)>; 'Dean Giles' <[DGiles@azmag.gov](mailto:DGiles@azmag.gov)>; Steven Olmsted <[SOlmsted@azdot.gov](mailto:SOlmsted@azdot.gov)>; Tricia Brown <[TBrown2@azdot.gov](mailto:TBrown2@azdot.gov)>; Bret Anderson <[BAnderson@azdot.gov](mailto:BAnderson@azdot.gov)>  
**Subject:** UPDATE: Interagency Consultation: Determining Project of Air Quality Concern in MAG Region Air Quality Concern 303 (Estrella) MC 85 to Van Buran Street NH-303-A(ASO)T H6870 SR 303L


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ADOT consulted prior for PM10 modeling without the information on the required CO hotspots assumptions to allow for inclusion of updated traffic information, attached are the planning assumptions for CO with two different intersection locations from what was consulted on for PM10. As the majority of the assumptions are the same as what was provided prior for PM10 it is requested that the consulted parties provide comments or questions on the methods, models and assumptions for the CO hotspot within **10 business days**, a non-response will be interpreted as concurrence with the planning assumptions as describe in the attached document.

Please let me know if you have any additional questions.

**Beverly T. Chenausky**  
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**From:** Beverly Chenausky  
**Sent:** Tuesday, June 27, 2017 1:58 PM  
**To:** Lindy Bauer; Jerry Wamsley; Hether Krause; 'Transportationconformity@azdeq.gov'  
**Cc:** Clifton Meek; Karina O'Conner; Rebecca Yedlin; Joonwon Joo; 'Dean Giles'; Steven Olmsted; Eunice Chan; Tricia Brown  
**Subject:** Interagency Consultation: Determining Project of Air Quality Concern in MAG Region Air Quality Concern 303 (Estrella) MC 85 to Van Buran Street NH-303-A(ASO)T H6870 SR 303L

To Interested Parties:

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Thank you,

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## Project Level PM Quantitative Hot-Spot Analysis - Project of Air Quality Concern Questionnaire

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### **Project Setting and Description**

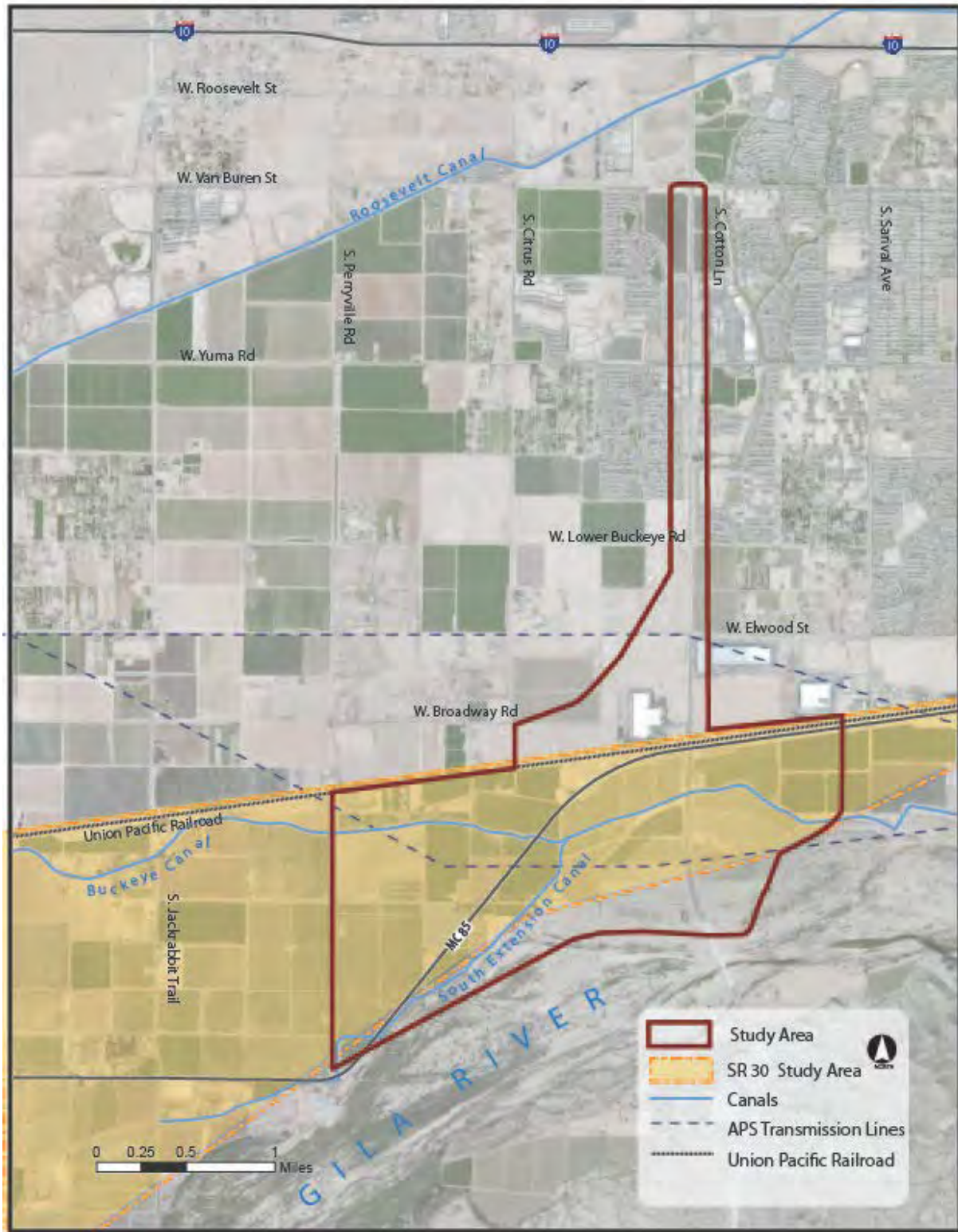
The Arizona Department of Transportation (ADOT), in association with the Federal Highway Administration (FHWA), proposes to extend State Route Loop 303 (SR 303L) south of the Van Buren Street/SR 303L Traffic Interchange (TI) to the future State Route 30 (SR30) (Figure 1-Project Area Map). The extension will complete the 40-mile SR 303L freeway in the western and northwestern portions of the greater Phoenix metropolitan area, linking SR 30 to Interstate 17 and providing connections to I-10 and US Route 60. The northern terminus of this project (between Van Buren and I-10) has already been found to conform, and construction will be completed in August 2017. The ADOT 2013 Lifecycle Certification Regional Transportation Plan Freeway Plan (RTPFP) funds the initial construction of three general-purpose (GP) lanes and no high-occupancy vehicle (HOV) lanes in each direction, transitioning back to Cotton Lane at Elwood. The ultimate facility as defined in the RTPFP includes 4+1 (four general purpose lanes and one HOV lane) on SR303L and 4+1 (Four general purpose lanes and one HOV lane) on SR30 with grade separated interchanges.

To meet the needs of the area's growing population and increased traffic demand, the SR303L extension is proposed to increase the roadway capacity and reduce projected traffic congestion in the Cotton Lane corridor, improve the level of service (LOS), and facilitate the regional movement of people and goods. The proposed project is included in the Maricopa Association of Governments (MAG) 2040 Regional Transportation Plan (RTP). The initial construction of three GP lanes is scheduled for completion in 2019. This construction would occur within the MAG FY 2018-2022 Transportation Improvement Program (TIP). The latest conformity determination for the FY 2018-2022 MAG Transportation Improvement Program and 2040 MAG Regional Transportation Plan was made by the Federal Highway Administration and Federal Transit Administration on July 11, 2017.

The proposed project is located in the Maricopa County (Phoenix) Non-Attainment Area for particulates 10-microns in diameter or less (PM<sub>10</sub>). MAG issued the 2012 Five Percent Plan for the Maricopa County Nonattainment Area, and the Arizona Department of Environmental Quality (ADEQ) submitted it to the US Environmental Protection Agency (EPA) on May 25, 2012. The US EPA approved this State Implementation Plan (SIP) Revision on May 30, 2014.



Figure 1. Project Area Map



## Project Assessment

The following questionnaire is used to compare the proposed project to a list of project types in 40 CFR 93.123(b) requiring a quantitative analysis of local particulate emissions (hot-spots) in non-attainment or maintenance areas, which include:

- i) New highway projects that have a significant number of diesel vehicles, and expanded highway projects that have a significant increase in the number of diesel vehicles;
- ii) Projects affecting intersections that are at Level-of-Service (LOS) D, E, or F with a significant number of diesel vehicles, or those that will change to LOS D, E, or F because of an increase in traffic volumes from a significant number of diesel vehicles related to the project;
- iii) New bus and rail terminals and transfer points that have a significant number of diesel vehicles congregating at a single location;
- iv) Expanded bus and rail terminals and transfer points that significantly increase the number of diesel vehicles congregating at a single location; and
- v) Projects in or affecting locations, areas, or categories of sites which are identified in the PM<sub>10</sub> or PM<sub>2.5</sub> applicable implementation plan or implementation plan submission, as appropriate, as sites of violation or possible violation.

If the project matches one of the listed project types above, it is considered a project of local air quality concern and the hot-spot demonstration must be based on quantitative analysis methods in accordance with 40 CFR 93.116(a) and the consultation requirements of 40 CFR 93.105(c)(1)(i). If the project does not require a PM hot-spot analysis, a qualitative assessment will be developed that demonstrates that the project will not contribute to any new localized violations, increase the frequency or severity of any existing violations, or delay the timely attainment of any National Ambient Air Quality Standards or any required emission reductions or milestones in any nonattainment or maintenance area.

On March 10, 2006, EPA published *PM<sub>2.5</sub> and PM<sub>10</sub> Hot-Spot Analyses in Project-Level Transportation Conformity Determinations for the New PM<sub>2.5</sub> and Existing PM<sub>10</sub> National Ambient Air Quality Standards; Final Rule*, which described the types of projects that would be considered a project of air quality concern and that require a hot-spot analysis (71 FR 12468-12511). Specifically on page 12491, EPA provides the following clarification: “Some examples of *projects of air quality concern* that would be covered by § 93.123(b)(1)(i) and (ii) are: A project on a new highway or expressway that serves a significant volume of diesel truck traffic, such as facilities with greater than 125,000 annual average daily traffic (AADT) and 8% or more of such AADT is diesel truck traffic;” ..” Expansion of an existing highway or other facility that affects a congested intersection (operated at Level-of-Service D, E, or F) that has a significant increase in the number of diesel trucks;” These examples will be used as the baseline for determining if the project is a project of air quality concern.

NOTE: The traffic estimates and POAQC determination in this document are based on MAG’s 2035 transportation plan. Traffic estimates from the 2040 plan will be used in the actual hotspot analysis, **refer to Table 2 Methods, Models and Assumptions.**

## New Highway Capacity

Is this a new highway project that has a significant number of diesel vehicles? *Example: total traffic volumes  $\geq 125,000$  annual average daily traffic (AADT) and truck volumes  $\geq 10,000$  diesel trucks per day (8% of total traffic).*

YES - This is a new highway project that has a significant number of diesel vehicles. Traffic analysis shows that the anticipated 2035 Average Daily Traffic (ADT) on SR303L will be 103,640 vehicles per day (vpd) compared to the current traffic volumes of 8,800 vpd on Cotton Lane. The 2035 study area roadway network includes SR30 freeway with direct connectors to SR303L. The 2035 Build medium and heavy truck traffic volume range on various segments of the SR303L from 13,130 to 16,850 vpd. The expected maximum volume of trucks on the facility is 16,850 vpd or 16.3% of the total traffic volumes. Current medium and heavy truck traffic volumes are not available for comparison. The existing traffic volume for 2015 comes from the City of Goodyear Transportation Master Plan, and the data is presented in Table 1.

**Table 1 Existing and Future Traffic Volumes**

Parameter	2015 Existing Condition*	2025 Build**	2035 No Build**	2035 Build**
ADT Volumes	8,800 vpd	52,650 vpd	46,030 vpd	103,640 vpd
Truck Volume***	n/a	3,060 vpd	7,341 vpd	16,850 vpd
% Diesel trucks	n/a	5.8%	15.9	16.3%

\*Source: City of Goodyear Transportation Master Plan Dated 3/17/2015

\*\* MAG Travel Demand Model Runs, October 2015; verified August 8, 2016

\*\*\*Truck Volumes composition includes Medium (FHWA classes 5-7) and Heavy (FHWA Classes 8-13) Trucks

The data for travel demand forecast (based on population and employment projections in 2035) was provided by MAG. The traffic analysis modeling for the 2025 Build, 2035 Build, and 2035 No Build traffic volumes was generated by the MAG Travel Demand Runs completed in October 2015. The projected traffic volumes for the 2035 Build include the construction of the 2035 phase of the SR30 project. The 2035 No Build traffic volumes assume that neither the 2025 nor 2035 Build phases of the SR303L project are constructed.

The traffic analysis was completed for three different freeway segments. Table 2 presents the comparison of the 2014 ADT, the 2025 and 2035 ADT projections between each alternative. The difference between the three alternatives is minimal. However, the Alternative 5 alignment and ramp configurations carry the highest traffic volumes and therefore would represent the worst case scenario.

**Table 2 SR303L ADT Volume Comparisons**

Segment Name		2014	2025		2035 Alternative 2C		2035 Alternative 3		2035 Alternative 5	
		ADT	ADT	Total Trucks	ADT	Total Trucks	ADT	Total Trucks	ADT	Total Trucks
SR303L	SR303L North of I-10	51,410	96,110	9,090	127,230	12,070	127,900	12,230	128,870	12,260
	SR303L Under I-10		22,400	1,300	42,460	4,620	44,350	4,920	46,000	4,990
	SR303L I-10 to Van Buren St	14,410	45,000	2,870	85,960	15,580	86,330	16,060	91,970	16,360
	SR303L Van Buren St to Yuma Rd	11,420	52,650	3,060	96,790	16,020	97,380	16,500	103,640	16,850
	SR303L under Yuma Rd	-	27,860	1,810	63,010	14,720	63,020	15,280	72,280	15,760
	SR303L Yuma Rd to Elwood St	-	30,910	1,870	67,340	14,900	69,700	15,550	78,790	16,050
	SR303L under Elwood St	-	34,950	1,870	40,020	13,130	44,700	14,000	48,960	15,150
SR303L Ramps	SR303L S to W I-10 E to SR303L N	15,400	24,000	2,540	33,650	3,550	33,690	3,460	33,320	3,520
	SR303L S to E I-10 W to SR303L N	36,010	49,70	5,240	51,020	3,890	49,960	3,760	49,550	3,750
	SR303L N to W I-10 E to SR303L S	-	3,030	200	20,720	9,830	22,110	10,180	22,630	10,230
	SR303L N to E I-10 W to SR303L S		19,570	1,360	22,690	1,120	19,870	940	23,330	1,140
	SR303 S of Van Buren St Ramps	-	7650	190	10,830	440	11,050	470	11,680	490
	SR303L N of Yuma Rd Ramps	-	24,790	1,250	34,690	1,300	34,360	1,230	31,360	1,090
	SR303L S of Yuma Rd Ramps	-	3,060	60	5,230	170	6,680	270	6,510	290
	SR303L N of Elwood St Ramps	-	-	-	27,310	1,780	24,910	1,550	29,830	1,760
	SR303L S of Elwood St Ramps	-	-	-	-	-	-	-	450	20
Frontage Road	SR303L McDowell Rd to Van Buren St Frontage Rd		12,170	400	15,550	450	15,070	430	15,550	460
	SR303L Van Buren St. to Yuma Rd Frontage Rd	-	5,000	90	6,470	110	6,220	110	6,660	110
	SR303L Yuma Rd to Lower Buckeye Rd Frontage Rd	-	5,1--	620	7,850	450	7,830	370	7,340	310
	SR303L Lower Buckeye Rd to Elwood St Frontage Rd	-	5,160	480	5,330	220	1,190	700	6,300	180
SR30	SR30 West to SR303L				29,110	2,970	28,070	3,040	28,830	2,920
	SR303L S to W SR30/SR30 E to SR303LN				10,230	810	6,160	520	10,590	810
	SR303L S to E SR30/SR30 W to SR303LN	-	-	-	29,800	12,300	38,540	13,470	38,810	13,500
Cotton Lane	County Road 85 from 175 <sup>th</sup> Ave. to Cotton Lane	13,030	28,900	2,850	33,370	2,630	33,110	2,460	33,500	2,580
	County Road 85 from Cotton Lane to Sarival Ave.	13,540	24,080	2,040	24,120	1,380	26,030	1,520	24,500	1,400
	Cotton Lane from Elwood St to County Road 85	8,470	34,950	2,020	30,0220	1,800	28,320	1,410	30,140	1,410
	Cotton Lane from County Road 85 to SR30 WB Off-ramp	7,590	28,490	750	38,540	2,220	35,450	1,920	38,360	2,170
	Cotton Lane from Elwood St to County Road 85	-	-	-	51,490	1,760	51,500	1,780	51,480	1,750

Source: MAG Travel Demand Model Runs, October 2015, Maricopa County Department of Transportation (MCDOT) Traffic Counts  
 \*Total Truck Volumes composition includes Medium (FHWA classes 5-7) and Heavy (FHWA Classes 8-13) Trucks

Outside Project Limits

### Expanded Highway Capacity

Is this an expanded highway projects that have a significant increase in the number of diesel vehicles? Example: the build scenario of the expanded highway or expressway causes a significant increase in the number of diesel trucks compared with the no-build scenario.

NO - This project is not for the expansion of an existing highway.

### Projects with Congested Intersections

Is this a project that affects a congested intersection (LOS D or greater) that has a significant number of diesel trucks, OR will change LOS to D or greater because of increase traffic volumes for significant number of diesel trucks related to the project?

NO - This is not a project that affects a congested intersection of LOS D or will change LOS to D or greater which has a significant number of diesel trucks. The intersection operational analysis shows four intersections have a LOS of D in the AM and/or PM and one intersection that has an LOS of E in the PM (Table 3). None of these intersections has a significant number of diesel trucks (Table 4).

**Table 3. 2035 SR303L Freeway Signalized Intersections Operations Analysis**

Intersection	Alternative 2C		Alternative 3		Alternative 5	
	AM LOS	PM LOS	AM LOS	PM LOS	AM LOS	PM LOS
SR303L Southbound Ramps & Yuma Rd	D	D	D	D	D	D
SR303L Northbound Ramps & Yuma Rd	D	D	D	D	D	D
SR303L Southbound Frontage Rd & Lower Buckeye Rd	B	B	B	B	B	B
SR303L Northbound Frontage Rd & Lower Buckeye Rd	C	B	C	B	C	B
SR303L Southbound Frontage Rd & Elwood St	B	A	C	C	-	-
SR303L Southbound Ramps & Elwood St	-	-	-	-	B	C
SR303L Northbound Off Ramp & Elwood St	-	-	-	-	A	A
SR303L Northbound Frontage Rd & Elwood St	D	C	C	C	D	D
Cotton Lane & MC85	D	E	D	E	D	E
SR30 Westbound Ramps & Cotton Lane	C	C	C	C	C	C
SR30 Eastbound Ramps & Cotton Lane	D	D	D	D	D	D

-Intersection does not exist for the respective alternative

Intersections with LOS D or greater

**Table 4. 2035 SR303L Intersection Truck Volumes**

Intersection	Truck Volumes Alternative 2C		Truck Volumes Alternative 3		Truck Volumes Alternative 5	
	AM	PM	AM	PM	AM	PM
SR303L Southbound Frontage Rd & Yuma Rd	78	78	78	78	78	78
SR303L Northbound Frontage Rd & Yuma Rd	80	75	80	80	80	80
SR303L Southbound Frontage Rd & Lower Buckeye Rd	53	59	53	53	53	53
SR303L Northbound Frontage Rd & Lower Buckeye Rd	53	47	53	53	53	53
SR303L Southbound Frontage Rd & Elwood St	105	121	180	221	-	-
SR303L Southbound Ramp & Elwood St	-	-	-	-	146	166
SR303L Northbound Off Ramp & Elwood St	-	-	-	-	79	77
SR303L Northbound Frontage Rd & Elwood St	265	266	195	172	236	223
Cotton Ln & MC 85	354	362	354	362	354	362
SR30 Westbound & Cotton Lane	208	248	208	248	208	248
SR30 Eastbound & Cotton Lane	192	184	192	184	192	184

Data includes Medium plus Heavy Truck volumes approaching the intersection in respective peak hour

Source: MAG Travel Demand Model 2015 Intersections with LOS D or greater

### **New Bus and Rail Terminals**

Does the project involve construction of a new bus or intermodal terminal that accommodates a significant number of diesel vehicles?

NO – These facilities are not included in the project.

### **Expanded Bus and Rail Terminals**

Does the project involve an existing bus or intermodal terminal that has a large vehicle fleet where the number of diesel buses (or trains) increases by 50% or more, as measured by arrivals?

NO – These facilities are not included in the project.

### **Projects Affecting PM Sites of Violation or Possible Violation**

Does the project affect locations, areas or categories of sites that are identified in the PM<sub>10</sub> or PM<sub>2.5</sub> applicable plan or implementation plan submissions, as appropriate, as sites of violation or potential violation?

NO – Two monitoring stations are located in proximity to the project area (Figure 3 of the attached hotspot consultation document). The Buckeye and Dysart monitors, neither monitor were included in the nonattainment plan as a monitor of concern; the Buckeye monitor is just outside of the PM<sub>10</sub> nonattainment area. The Buckeye monitor site is primarily agricultural in nature, and has had four exceptional events impacted by agricultural lands use for the period 2012 -2014. The Dysart monitoring station has had two violations for the period 2012 to 2014; however, the violations were determined to be the result of exceptional events. The EPA has taken no action on any exceptional events in 2013 or 2014.

### **POAQC Determination**

Traffic analysis shows a significant increase in diesel truck traffic volumes with the construction of the new highway. Therefore, ADOT is recommending that this project is a project of air quality concern that will require a PM<sub>10</sub> quantitative analysis. Per 40 CFR § 93.105 (c) (1)(i), ADOT is providing the following documentation describing the models and associated methods and assumptions that will be used in the project's hot-spot analysis.

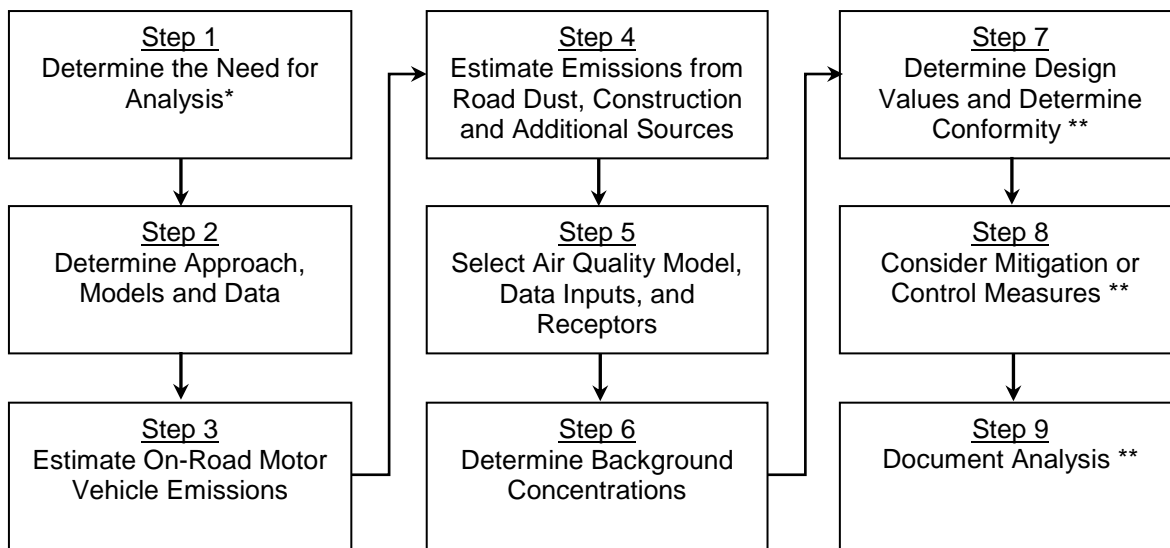
#### **Interagency Consultation Results**

On June 27, 2017 ADOT provided a copy of this questionnaire and the associated planning assumptions to the following consultation parties, the Environmental Protection Agency (EPA), FHWA, MAG, ADEQ and the Maricopa County Air Quality Department as the local air agency in Maricopa County, for a 30-day consultation period. There were a few comments on the document(s) and ADOT provided a response to comments and an updated planning assumptions document, noting that this project will proceed as a project that requires a quantitative PM<sub>10</sub> hot-spot analysis under 40CFR 93.123(b) and ADOT is conducting the hot-spot modeling in accordance with the traffic modeling data used in the September 22, 2017 traffic study and other planning assumptions noted in Table 2 Methods, Models and Assumptions.

## Project Level PM Quantitative Hot-Spot Analysis – Consultation Document for Project of Air Quality Concern

### Completing a Particulate Matter (PM) Hot-Spot Analysis

The general steps required to complete a quantitative PM hot-spot analysis are outlined below and described in detail in the EPA Office of Transportation and Air Quality guidance document “Transportation Conformity Guidance for Quantitative Hot-spot Analyses in PM<sub>2.5</sub> and PM<sub>10</sub> Nonattainment and Maintenance Areas” EPA-420-B-15-084, November 2015. As described earlier, ADOT has determined the need for a hot-spot analysis as the build scenario in 2035 significantly increases the number of trucks. The Project Level PM Quantitative Hot-Spot Analysis -Project of Air Quality Concern Questionnaire, portion of this document is used to complete Step 1 of the hot-spot analysis process.



\* Described in the previous section (Air Quality Concern Questionnaire).

\*\* These Steps will be described and documented in a final air quality analysis report.

**Determine Approach, Models and Data (Step 2)**

If a project requires a hot-spot analysis, the next step in the EPA guidance is to describe the project area substantially affected by the project, identify the general approach in selecting analysis years, and the emissions models and data sources that will be used for the analysis. **Figure 1 (Air Quality Suggested Study Area Limits and Receptor Placement for Air Quality Modeling)** defines the project area affected by the project. ADOT is recommending using the year of 2040 for Alternative 5 to represent peak emissions given that this scenario includes the greatest traffic volume at an intersection as highlighted in Table 1, the greatest number of diesel vehicles, and is likely to generate the most PM<sub>10</sub> emissions in the project area. ADOT will use project specific traffic data provided by PB for SR303L, SR30 to I-10 Traffic Report, updated with 2040 traffic data provided by MAG based on the latest data available from the MAG 2040 RTP. The emissions models selected include MOVES2014a, CAL3QCHR, and AP-42 as described in detail for Steps 3-6 in Table 2 - Methods, Models and Assumptions. For illustrative purposes, Table 1 shows the traffic volumes at various locations based on the current 2035 plan. ADOT will commence modeling using the traffic data used for the MAG Regional Conformity Analysis on the 2040 RTP and 2018-2022 TIP. Modeling will commence upon conclusion of interagency consultation.

**Table 1. 2035 SR303L Intersection Approach Volumes Intersection for Peak Hours**

Intersection	Total Volumes Alternative 2C		Total Volumes Alternative 3		Total Volumes Alternative 5	
	AM	PM	AM	PM	AM	PM
Southbound Frontage Rd & Yuma Rd	3560	3820	3560	3560	3560	3560
Northbound Frontage Rd & Yuma Rd	3440	3200	3440	3440	3440	3440
Southbound Frontage Rd & Lower Buckeye Rd	1610	1740	1610	1610	1610	1610
Northbound Frontage Rd & Lower Buckeye Rd	1580	1450	1580	1580	1580	1580
Southbound Frontage Rd/Off-Ramp & Elwood St	1630	1810	3020	3690	2480	2900
Northbound Frontage Rd & Elwood St	4590	4450	3540	3050	4470	4170
Northbound Off Ramp & Elwood St	-	-	-	-	2050	2160
Cotton Ln & MC 85	5860	6060	5860	6060	5860	6060
SR30 Westbound & Cotton Ln	4140	4450	4140	4450	4140	4450
SR30 Eastbound & Cotton Ln	4970	4370	4970	4370	4970	4370

Source: MAG Travel Demand Model 2015



**Figure 1 Air Quality Suggested Study Area Limits and Receptor Placements for Air Quality Modeling**



**Estimate On-Road Motor Vehicle Emissions (Step 3)**

**Estimate On-Road Motor Vehicle Emissions (Step 3)**

<b>Table 2 Methods, Models and Assumptions</b>		
<b>MOVES2014a</b>	<b>Description</b>	<b>Data Source</b>
Scale	On road, Project Emissions Rate	EPA Hot Spot Guidance Section 4.4.2
Time Span	4 weekday runs for each of the following months January (Quarter 1), April (Quarter 2), July (Quarter 3); October (Quarter 4) for each year. 4 runs for Year 2040 (to represent second phase of the project). Each of these 4 runs will further be split by Morning peak hours, Midday Emissions, Evening Peak and Overnight hours as defined by MAG model. <b>SEE Table 2a.</b>	EPA Hot Spot Guidance Sections 2.8, 4.3.2, 4.4.3
Geographic Bounds	Maricopa County	EPA Hot Spot Guidance Section 4.4.4
Vehicles Equipment	All Fuels and Source Use Types will be selected	EPA Hot Spot Guidance Section 4.4.5
Road Type	Urban Restricted and Urban Unrestricted access	EPA Hot Spot Guidance Section 4.4.6
Pollutants and Processes	Primary Exhaust, Tire wear Break wear for PM10 (and PM2.5 as a prerequisite for model), Organic Carbon, Elemental Carbon, Sulfate Particulate.	EPA Hot Spot Guidance Sections 2.5, 4.4.7
Manage Input Data Set	Input database will be created and modified for Project level using required Regional Inputs from latest Regional Conformity Analysis April 2017.	EPA Hot Spot Guidance Section 4.4.8, See Project Data Manager below
Output	Database will be created, Grams, Joules, Miles, Distance Traveled, Population will be selected. Fuel type, Emissions process, Road Type and Source Use Type will be selected in the Output Emissions Detail. The PM10_Grams_Per_Veh_Mile script can be run on the output database.	EPA Hot Spot Guidance Section 4.4.10, 4.6
Speeds	For mixed urban areas mean AMpeak speed on arterials 32mph, for freeway 59mph, Midday 34/66, PM Peak 31/57, and overnight 34/67mph these are values used in the travel demand model. <b>See Table 2b</b>	EPA Hot Spot Guidance Section 4.2.1
Project Data Manager	Database will be created and MOVES2014a templates will be created to include local project data and information provided by MAG, e.g., I/M programs, Fuel, Age Distribution, Meteorology Data, to be consistent with the regional model. Links and Link Source Type will be specific to project as provided by the traffic study, any missing information will use default MOVES2014a data.	EPA Hot Spot Guidance Sections 4.5, 7.5; March 2016 SR303L, SR30 to I-10 Traffic Report

**Estimate On-Road Motor Vehicle Emissions (Step 3 continues)**

**Table 2. Methods, Models and Assumptions (continued)**

**Estimate Emissions from Road Dust, Construction, and Additional Sources (Step 4)**

AP-42, Fifth Edition, 2011		Data Source
Precipitation	In 2008-2012 MAG used average of 32 days with at least .01 inch of precipitation for Maricopa County.	EPA Hot Spot Guidance Section 6.3 MAG Regional Conformity Analysis for the FY 2018-2022 MAG Transportation Improvement Program and 2040MAG Regional Transportation Plan, page 54.
Average Weight Vehicles	Freeways 3.16 Tons in 2025, 3.19 Tons in 2035, 3.23 Tons in 2040 Arterials 2.32 Tons in 2025, 2.31 Tons in 2035, 2.32 Tons in 2040	EPA Hot Spot Guidance Section 6.3 MAG Regional Conformity Analysis for the FY 2018-2022 MAG Transportation Improvement Program and 2040MAG Regional Transportation Plan, page 54
Silt Loading	Step 4a: Section 13.2.1 Paved Roads from AP 42 will be used, when estimating emissions of re-entrained road dust from paved roads, site-specific silt loading data must be consistent with the data used for the project's county in the regional emissions analysis (40 CFR 93.123(c)(3)).  Silt loading - Freeways .02 g/m <sup>2</sup> , Arterials >10,000 ADT .067g/m <sup>2</sup> , Low traffic roads <10,000 ADT .23g/m <sup>2</sup> .	EPA Hot Spot Guidance Section 6.3 MAG Regional Conformity Analysis for the FY 2018-2022 MAG Transportation Improvement Program and 2040MAG Regional Transportation Plan, page 54
Construction Dust	Step 4b: Construction Dust is temporary and will not be included. There are no other sources (e.g., locomotives) that need to be considered. Emission factors for road and construction dust should be added to the emission factors generated for each link by MOVES2014a	EPA Hot Spot Guidance Section 6.4

### Select Air Quality Model, Data Inputs, and Receptors (Step 5)

Table 2. Methods, Models and Assumptions (continued)		
CAL3QHCR v.13196	Description	Data Source
Emissions Sources	Emissions Rates in grams/mile, all four quarters of analysis years as described in MOVES2014a section. The free flow and queue links defined for modeling with MOVES2014a will be used as input into CAL3QHCR. The link width was defined as the width of the travel lanes plus 3 meters on either side of the roadway to account for the dispersion of the plume generated by the wake of moving vehicles. Source height of 0 m will be used for all the links at grade.	EPA Hot Spot Guidance Section 7.4, Appendix J, Revision to the Guideline on Air Quality Models: Adoption of a Preferred General Purpose Dispersion Model and Other Revisions Final Rule (U.S. EPA 2005)
Background concentration	A value of 0 will be used as recommended in guidance.	EPA Hot Spot Guidance Section 7, Appendix J
Queuing algorithm	While modeling arterial/intersection projects, the PM hot-spot guidance recommends not using the queuing algorithm.	EPA Hot Spot Guidance Section 7, Appendix J
Meteorological Data	The meteorological data will be based on the meteorological data utilized in the August 2014 ADOT Air Quality Technical Report, South Mountain Freeway, which was derived from the EPA's Support Center for Regulatory Atmospheric Modeling for the Phoenix Sky Harbor International Airport (surface data) and the Tucson International Airport (upper air data) for the 5-year period from 1987 through 1991. South Mountain meteorological data will be used.	EPA Hot Spot Guidance Section 7.5, Appendix J, South Mountain Hot-spot analysis
Surface Roughness, Dispersion	Based on land cover surface roughness of 108 cm used Single family residential. The urban option will be selected based on the land use classification in the project areas.	CAL3CQHR User Guide
Output	CAL3QHCR produces concentrations for each quarter; all necessary data will be developed for each quarter.	EPA Hot Spot Guidance Appendix J.6.2
Receptors	Receptors are suggested to be placed at a height of 6 feet above the ground. Around the sources, receptors are placed more closely together (e.g., 30 to 90 feet); and farther from a source, they are spaced more widely (e.g., 150 to 300 feet). Receptor locations are placed in the area most impacted by the project. <b>See Figure 1</b>	EPA Hot Spot Guidance Section 7.6.2, Appendix K and EPA 1992 Guideline for Modeling Carbon Monoxide from Roadway Intersections (1992 EPA Guideline). Placed in appropriate locations in "the area substantially impacted by the project" (in the "project area") (93.123(c)(1)) 40 CFR Part 58: Appendix D, E

**Select Air Quality Model, Data Inputs, and Receptors (Step 5)**

Table 2. Methods, Models and Assumptions (continued)		
Background Monitor	<p>Dysart monitor is an urban monitor and has similar land use to the project and isn't impacted by Exceptional Events. This monitor is close to the project, but there is not a significant pattern that shows a strong upwind direction. Three years of monitoring data (2014--2016) shows the using the 4th highest readings based on total number of sampling days of 1095 days, the 4<sup>th</sup> highest monitor value over these three years is 126. To estimate the sixth-highest concentration, for each receptor, the six highest 24-hour concentrations from each quarter and year of meteorological data will be arrayed together and ranked, then added to the 126 monitor value. The Buckeye monitor was evaluated but not selected as it is heavily influenced by agricultural and not representative of the project area.. <b>See Figures 2-4</b></p>	<p>EPA Hot Spot Guidance Section 8.3                      Data provided by Maricopa County Air Quality Department</p>

**Table 2a MOVES2014a Selections for Time Spans by Scenario**

Scenario	Season/Time	Modeled Month	Representing Months	Modeled Hours Start - End	Representing Hours
	Period				
1	Winter AM peak	Jan	Jan, Feb, Mar	07:00-08:00	6 am - 9 am
2	Winter Midday	Jan	Jan, Feb, Mar	12:00-13:00	9 am - 4 pm
3	Winter PM peak	Jan	Jan, Feb, Mar	17:00-18:00	4 pm - 7 pm
4	Winter Overnight	Jan	Jan, Feb, Mar	00:00-1:00	7 pm - 6 am
5	Spring AM peak	Apr	Apr, May, Jun	07:00-08:00	6 am - 9 am
6	Spring Midday	Apr	Apr, May, Jun	12:00-13:00	9 am - 4 pm
7	Spring PM peak	Apr	Apr, May, Jun	17:00-18:00	4 pm - 7 pm
8	Spring Overnight	Apr	Apr, May, Jun	00:00-1:00	7 pm - 6 am
9	Summer AM peak	Jul	Jul, Aug, Sep	07:00-08:00	6 am - 9 am
10	Summer Midday	Jul	Jul, Aug, Sep	12:00-13:00	9 am - 4 pm
11	Summer PM peak	Jul	Jul, Aug, Sep	17:00-18:00	4 pm - 7 pm
12	Summer Overnight	Jul	Jul, Aug, Sep	00:00-1:00	7 pm - 6 am
13	Fall AM peak	Oct	Oct, Nov, Dec	07:00-08:00	6 am - 9 am
14	Fall midday	Oct	Oct, Nov, Dec	12:00-13:00	9 am - 4 pm
15	Fall PM peak	Oct	Oct, Nov, Dec	17:00-18:00	4 pm - 7 pm
16	Fall Overnight	Oct	Oct, Nov, Dec	00:00-1:00	7 pm - 6 am

**Table 2b MOVES2014a Link Specific Speeds**

Link	Road Type ID	Link Length	Link Avg Speed	Link Description	Notes
1	5	0.0625	0	Queue	Southbound offramp queue
2	5	0.0572	0	Queue	Under bridge queue
3	5	0.0502	0	Queue	Northbound offramp queue
4	5	0.0679	0	Queue	Cross street queue
5	5	10	5	Approach	Frontage Road, Ramps & Cross Street
6	5	10	10	Approach	Frontage Road, Ramps & Cross Street
7	5	10	15	Approach	Frontage Road, Ramps & Cross Street
8	5	10	20	Approach	Frontage Road, Ramps & Cross Street
9	5	10	25	Approach	Frontage Road, Ramps & Cross Street
10	5	10	30	Approach	Frontage Road, Ramps & Cross Street
11	5	10	5	Approach	Frontage Road, Ramps & Cross Street
12	5	10	10	Approach	Frontage Road, Ramps & Cross Street
13	5	10	15	Approach	Frontage Road, Ramps & Cross Street
14	5	10	20	Approach	Frontage Road, Ramps & Cross Street
15	5	10	25	Approach	Frontage Road, Ramps & Cross Street
16	5	10	30	Approach	Frontage Road, Ramps & Cross Street
17	5	10	5	Departure	Frontage Road, Ramps & Cross Street
18	5	10	10	Departure	Frontage Road, Ramps & Cross Street
19	5	10	15	Departure	Frontage Road, Ramps & Cross Street
20	5	10	20	Departure	Frontage Road, Ramps & Cross Street
21	5	10	25	Departure	Frontage Road, Ramps & Cross Street
22	5	10	30	Departure	Frontage Road, Ramps & Cross Street
23	5	10	5	Departure	Frontage Road, Ramps & Cross Street
24	5	10	10	Departure	Frontage Road, Ramps & Cross Street
25	5	10	15	Departure	Frontage Road, Ramps & Cross Street

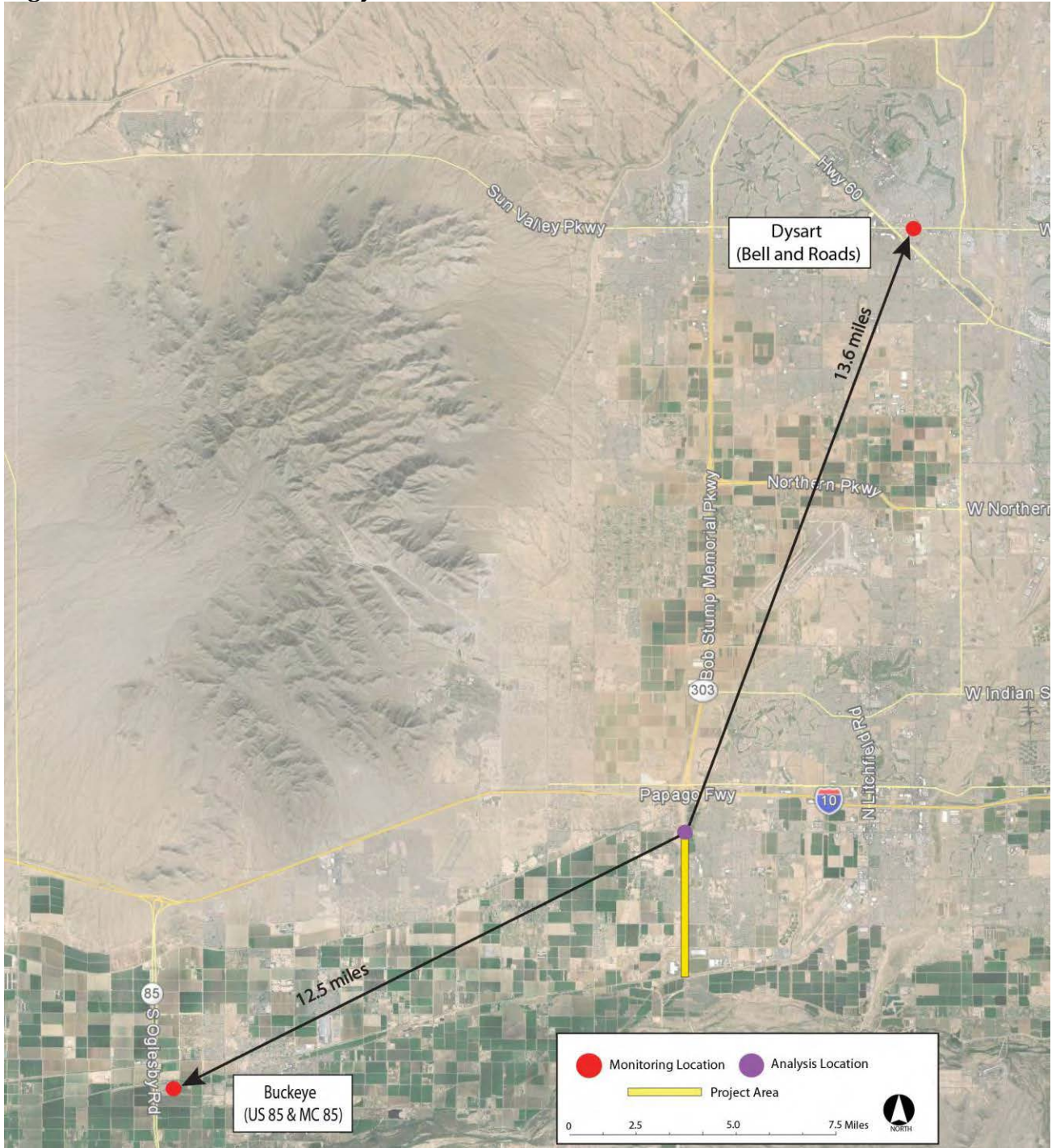
Link	Road Type ID	Link Length	Link Avg Speed	Link Description	Notes
26	5	10	20	Departure	Frontage Road, Ramps & Cross Street
27	5	10	25	Departure	Frontage Road, Ramps & Cross Street
28	5	10	15	Freeflow	Frontage Road, Ramps & Cross Street
29	5	10	20	Freeflow	Frontage Road, Ramps & Cross Street
30	5	10	25	Freeflow	Frontage Road, Ramps & Cross Street
31	5	10	30	Freeflow	Frontage Road, Ramps & Cross Street
32	5	10	35	Freeflow	Frontage Road, Ramps & Cross Street
33	5	10	40	Freeflow	Frontage Road, Ramps & Cross Street
34	5	10	45	Freeflow	Frontage Road, Ramps & Cross Street
35	5	10	50	Freeflow	Frontage Road, Ramps & Cross Street
36	5	10	55	Freeflow	Frontage Road, Ramps & Cross Street
37	4	10	55	Freeflow	Urban Freeway, Restricted
38	4	10	60	Freeflow	Urban Freeway, Restricted
39	4	10	65	Freeflow	Urban Freeway, Restricted
40	4	10	70	Freeflow	Urban Freeway, Restricted
41	4	10	75	Freeflow	Urban Freeway, Restricted
42	4	10	55	Freeflow	Urban Freeway, Restricted
43	4	10	60	Freeflow	Urban Freeway, Restricted
44	4	10	65	Freeflow	Urban Freeway, Restricted
45	4	10	70	Freeflow	Urban Freeway, Restricted
46	4	10	75	Freeflow	Urban Freeway, Restricted
47	4	10	55	Freeflow	Urban Freeway, Restricted
48	4	10	60	Freeflow	Urban Freeway, Restricted
49	4	10	65	Freeflow	Urban Freeway, Restricted
50	4	10	70	Freeflow	Urban Freeway, Restricted
51	4	10	75	Freeflow	Urban Freeway, Restricted
52	4	10	55	Freeflow	Urban Freeway, Restricted



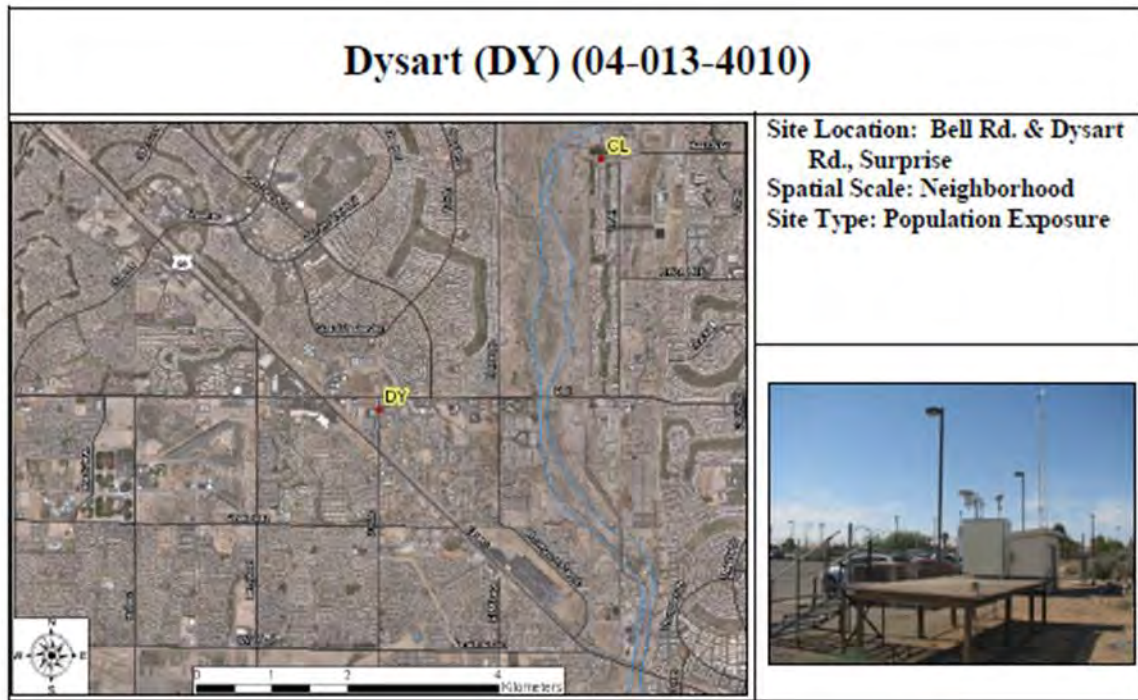
	Road Type ID	Link Length	Link Avg Speed	Link Description	Notes
53	4	10	60	Freeflow	Urban Freeway, Restricted
54	4	10	65	Freeflow	Urban Freeway, Restricted
55	4	10	70	Freeflow	Urban Freeway, Restricted
56	4	10	75	Freeflow	Urban Freeway, Restricted
57	4	10	55	Freeflow	Urban Freeway, Restricted
58	4	10	60	Freeflow	Urban Freeway, Restricted
59	4	10	65	Freeflow	Urban Freeway, Restricted
60	4	10	70	Freeflow	Urban Freeway, Restricted
61	4	10	75	Freeflow	Urban Freeway, Restricted

## Figures

**Figure 2. Monitors in Proximity to SR303 and Van Buren Street Intersection**



**Figure 3. Dysart Monitor Station Information:-Location and Site Description**



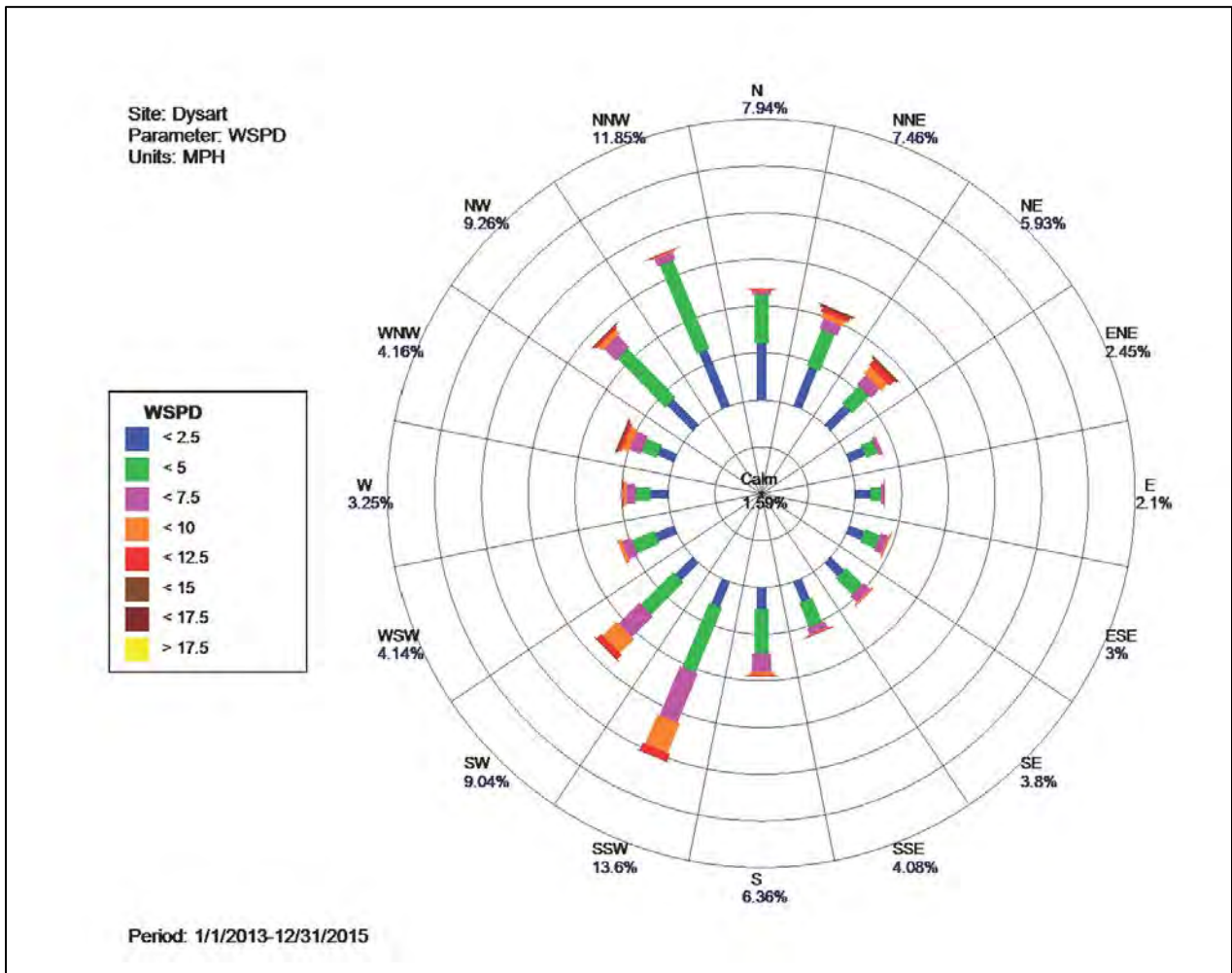
**Site Description:** The Dysart site was established in July 2003. It is located at the Maricopa County Facility Maintenance Yard at the corner of Bell Rd. and Dysart Rd. The site is in a growing population area in the northwest valley. The land use around the site consists of subdivisions of single family homes, commercial, and industrial. The location is approximately one mile west of the Agua Fria riverbed. This SLAMS location monitors for CO seasonally, O<sub>3</sub>, and PM<sub>10</sub>. Meteorological monitors operating at this site include: ambient temperature, barometric pressure, relative humidity, and wind speed/direction.

		2014	2015	2016
<b>CO</b>	Max. 8-hr CO Avg. (ppm)	0.6	0.7	0.5
	Number of 8-hr CO Exceedances	0	0	0
<b>O<sub>3</sub></b>	Max. 8-hr O <sub>3</sub> Avg. (ppm)	0.075	0.069	0.069
	Number of Daily O <sub>3</sub> Exceedances	0	0	0
	3-year 8-hr Avg. O <sub>3</sub> of 4 <sup>th</sup> Highest Value (ppm)	0.072	0.070	0.066
<b>PM<sub>10</sub></b>	Max. 24-hr PM <sub>10</sub> Avg. (µg/m <sup>3</sup> )	163*‡	99	173*‡
	Number of 24-hr PM <sub>10</sub> Exceedances	1	0	1
	Annual PM <sub>10</sub> Avg. (µg/m <sup>3</sup> )	26.7	22.4	28.2

**Note:** The 2016 O<sub>3</sub> data represent the new O<sub>3</sub> NAAQS of 0.070 ppm; the 2014 and 2015 data represent the old O<sub>3</sub> NAAQS of 0.075 ppm.

- \* Indicates an exceedance of the standard
- ‡ Indicates EEs at this site

**Figure 3a. Dysart Monitor Station Information:-Wind Rose Data**



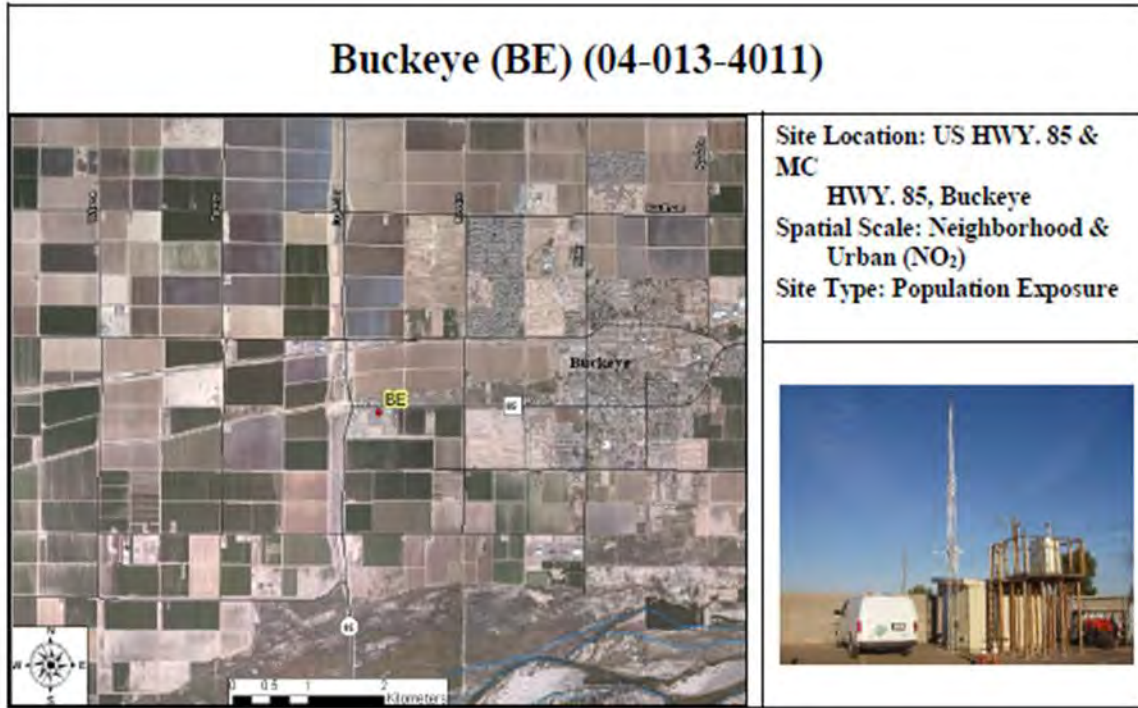
Number of complete monitoring days at Dysart:

2014	2015	2016	Total
365	364	366	1095

4<sup>th</sup> Highest 24-hour readings at Dysart after removing approved EE:

	2014	2015	2016
1	163	99	173
2	138	71	126
3	90	71	115
4	80	68	113

**Figure 4. Buckeye Monitor Station Information:-Location and Site Description**



**Site Description:** The Buckeye site was established on August 1, 2004. The site is located in the Maricopa County Department of Transportation - Southwest Facility. The immediate area is agriculture and encroaching residential development. This SLAMS location monitors for CO seasonally, NO<sub>2</sub>, O<sub>3</sub>, and PM<sub>10</sub>. Meteorological monitors operating at this site include ambient temperature, barometric pressure, relative humidity, and wind speed/direction.

		2014	2015	2016
CO	Max. 8-hr CO Avg. (ppm)	0.6	0.5	0.6
	Number of 8-hr CO Exceedances	0	0	0
NO <sub>2</sub>	Annual NO <sub>2</sub> Avg. (ppb)	8.65	7.14	6.90
	NO <sub>2</sub> 1-hr Avg. 98 <sup>th</sup> Percentile (ppb)	37.0	34.0	29.0
O <sub>3</sub>	Max. 8-hr O <sub>3</sub> Avg. (ppm)	0.068	0.064	0.064
	Number of O <sub>3</sub> Daily Exceedances	0	0	0
	3-year 8-hr Avg. O <sub>3</sub> of 4 <sup>th</sup> Highest Value (ppm)	0.062	0.060	0.059
PM <sub>10</sub>	Max. 24-hr PM <sub>10</sub> Avg. (µg/m <sup>3</sup> )	271*‡	124	153
	Number of 24-hr PM <sub>10</sub> Exceedances	2	0	0
	Annual PM <sub>10</sub> Avg. (µg/m <sup>3</sup> )	43.4	34.4	40.2

Note: The 2016 O<sub>3</sub> data represent the new O<sub>3</sub> NAAQS of 0.070 ppm; the 2014 and 2015 data represent the old O<sub>3</sub> NAAQS of 0.075 ppm.

\* Indicates an exceedance of the standard

‡ Indicates EEs at this site – listed value is the highest official current AQS reading

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Project Name: 303 (Estrella): MC 85 to Van Buran Street  
Federal Project No.: STP-303-A(ASO)T  
ADOT Project No.: 303 MA 100 H6870 01L



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Maricopa County Air Quality Department. 2015. *Final Air Monitoring Network Plan*, Online.  
Available

[http://www.maricopa.gov/aq/divisions/monitoring/docs/pdf/2015\\_Network\\_Plan.pdf](http://www.maricopa.gov/aq/divisions/monitoring/docs/pdf/2015_Network_Plan.pdf)

Pope, Ronald, Ph.D. December 2015. Wind Rose Monitor Data. Maricopa County Air Quality Department.

Stewart, Ceresa, November 29, 2016 email. RE: Dysart Monitor information. Maricopa County Air Quality Department.

Stewart, Ceresa, June 21, 2017 email. RE: Dysart Monitor information. Maricopa County Air Quality Department



**Attachment 1. Summary of Interagency Consultation on updated modeling assumptions for CO Hot-Spot Analysis**

**From:** Beverly Chenausky  
**To:** 'Lindy Bauer'; 'Jerry Wamsley'; 'Hether Krause'; 'Transportationconformity@azdeq.gov'  
**Cc:** 'Clifton Meek'; 'Karina O'Conner'; 'Rebecca Yedlin'; Joonwon Joo; 'Dean Giles'; Steven Olmsted; Tricia Brown; Bret Anderson  
**Subject:** RE: UPDATE: Interagency Consultation: Determining Project of Air Quality Concern in MAG Region Air Quality Concern 303 (Estrella) MC 85 to Van Buran Street NH-303-A(ASO)T H6870 SR 303L  
**Date:** Thursday, March 15, 2018 3:54:57 PM  
**Attachments:** image003.png

There were no additional comments or concerns on the information provided, ADOT will provide future notification when the draft analysis is available for review and comment. Additional updates on the project including schedule, can be found on the project website [azdot.gov/SR30](http://azdot.gov/SR30).

Thank You,  
Beverly

**From:** Beverly Chenausky  
**Sent:** Thursday, March 01, 2018 3:37 PM  
**To:** 'Lindy Bauer'; 'Jerry Wamsley'; 'Hether Krause'; 'Transportationconformity@azdeq.gov'  
**Cc:** 'Clifton Meek'; 'Karina O'Conner'; 'Rebecca Yedlin'; Joonwon Joo; 'Dean Giles'; Steven Olmsted; Tricia Brown; Bret Anderson  
**Subject:** UPDATE: Interagency Consultation: Determining Project of Air Quality Concern in MAG Region Air Quality Concern 303 (Estrella) MC 85 to Van Buran Street NH-303-A(ASO)T H6870 SR 303L

Provided is an update on the 303 (Estrella): MC 85 to Van Buran Street.

- A public meeting was held [December 6, 2017](#).
- The PM10 modeling assumptions provided in prior tables for MOVES, CAL3QCHR and AP-42 have not changed, however it was requested that the traffic data used (as highlighted below) for this project be updated to reflect the October 2017 Conformity model for the FY2018-2022 MAG Transportation Improvement Program and 2040 MAG Regional Transportation Plan. The updated traffic still demonstrated that Alt 5 represents the worst case scenario all the other assumptions will remain the same for the analysis. An *unsealed* version of the January 2018 traffic report addendum is attached, this updated data will replace the September 22nd traffic data included in prior consultation.

Speeds	For mixed urban areas mean AMpeak speed on arterials 32mph, for freeway 59mph, Midday 34/66, PM Peak 31/57, and overnight 34/67mph these are values used in the travel demand model. See <b>Table 2b</b>	EPA Hot Spot Guidance Section 4.2.1 Project specific model runs were completed end of July 2017. This data was used to input into the traffic analysis completed in August 2017 as noted in September 22, 2017 Traffic Report
Project Data Manager	Database will be created and MOVES2014a templates will be created to include local project data and information provided by MAG, e.g., I/M programs, Fuel, Age Distribution, Meteorology Data, to be consistent with the regional model. Links and Link Source Type will be specific to project as provided by the traffic study, any missing information will use default MOVES2014a data.	EPA Hot Spot Guidance Sections 4.5, 7.5; March 2016 SR303L, SR30 to I-10 Traffic Report Project specific model runs were completed end of July 2017. This data was used to input into the traffic analysis completed in August 2017 as noted in September 22, 2017 Traffic Report

ADOT consulted prior for PM10 modeling without the information on the required CO hotspots assumptions to allow for inclusion of updated traffic information, attached are the planning assumptions for CO with two different intersection locations from what was consulted on for PM10. As the majority of the assumptions are the same as what was provided prior for PM10 it is requested that the consulted parties provide comments or questions on the methods, models and assumptions for the CO hotspot within **10 business days**, a non-response will be interpreted as concurrence with the planning assumptions as describe in the attached document.

Please let me know if you have any additional questions.

**Beverly T. Chenausky**  
**Air & Noise Program Manager**

MD EM02, Room 41  
 1611 W. Jackson St.  
 Phoenix, AZ 85007  
 602.712.6269  
 azdot.gov



**From:** Beverly Chenausky  
**Sent:** Tuesday, June 27, 2017 1:58 PM  
**To:** 'Lindy Bauer'; 'Jerry Wamsley'; 'Hether Krause'; 'Transportationconformity@azdeq.gov'  
**Cc:** 'Clifton Meek'; 'Karina O'Conner'; 'Rebecca Yedlin'; Joonwon Joo; 'Dean Giles'; Steven Olmsted; Eunice Chan; Tricia Brown  
**Subject:** Interagency Consultation: Determining Project of Air Quality Concern in MAG Region Air Quality Concern 303 (Estrella) MC 85 to Van Buran Street NH-303-A(ASO)T H6870 SR 303L

To Interested Parties:

ADOT is presenting the following local project, **303 (Estrella): MC 85 to Van Buran Street**, for interagency consultation per 40 CFR 93.105 as a project that is a project of Air Quality Concern, thereby requiring a PM10 hot-spot analysis primarily due to the large number of truck traffic in the project area. Attached is the combined Project Level PM Quantitative Hot-Spot Analysis- *Project of Air Quality Concern Questionnaire* demonstrating the need for analysis and the *Consultation Document for Project of Air Quality Concern*. The Purpose of this document is to describe the methods, models and assumptions used for a quantitative hot-spot analysis as required in 40 CFR 93.105(c)(1)(i), 93.123, 93.116 and to document that the analysis follows the EPA *Transportation Conformity Guidance for Quantitative Hot-Spot Analyses in PM2.5 and PM10 Nonattainment and Maintenance Areas*. It is requested that the consulted parties provide comments or questions on the methods, models and assumptions within **30 business days**, a non-response will be interpreted as concurrence with the planning assumptions as describe in the attached document.

Thank you,

**Beverly T. Chenausky**  
**Air & Noise Program Manager**

MD EM02, Room 41  
 1611 W. Jackson St.  
 Phoenix, AZ 85007  
 602.712.6269  
 azdot.gov



**From:** Wamsley, Jerry  
**To:** [Beverly Chenausky](mailto:Beverly.Chenausky)  
**Cc:** [OConnor, Karina](mailto:OConnor.Karina); [LAWRENCE, LAURA](mailto:LAWRENCE.LAURA)  
**Subject:** RE: UPDATE: Interagency Consultation: Determining Project of Air Quality Concern in MAG Region Air Quality Concern 303 (Estrella) MC 85 to Van Buran Street NH-303-A(ASO)T H6870 SR 303L  
**Date:** Tuesday, March 13, 2018 6:40:06 PM  
**Attachments:** [image005.png](#)

Hello Beverly,

Thank you for the opportunity to review the Arizona Department of Transportation's (ADOT) Project of Air Quality Concern (POAQC) Questionnaire for the update concerning new traffic data and the POAQC for carbon monoxide in the SR 303/MC 85/Van Buran Street project, dated March 1, 2018.

We have no comments on the proposed carbon monoxide hotspot analysis and methodology and new traffic data.

Sincerely,  
 Jerry Wamsley

**From:** Beverly Chenausky [mailto:[BChenausky@azdot.gov](mailto:BChenausky@azdot.gov)]  
**Sent:** Thursday, March 1, 2018 2:37 PM  
**To:** 'Lindy Bauer' <[LBauer@azmag.gov](mailto:LBauer@azmag.gov)>; Wamsley, Jerry <[Wamsley.Jerry@epa.gov](mailto:Wamsley.Jerry@epa.gov)>; 'Hether Krause' <[hkrause@mail.maricopa.gov](mailto:hkrause@mail.maricopa.gov)>; 'Transportationconformity@azdeq.gov' <[Transportationconformity@azdeq.gov](mailto:Transportationconformity@azdeq.gov)>  
**Cc:** meek, clifton <[meek.clifton@epa.gov](mailto:meek.clifton@epa.gov)>; OConnor, Karina <[OConnor.Karina@epa.gov](mailto:OConnor.Karina@epa.gov)>; 'Rebecca Yedlin' <[Rebecca.Yedlin@dot.gov](mailto:Rebecca.Yedlin@dot.gov)>; Joonwon Joo <[Joo@azdot.gov](mailto:Joo@azdot.gov)>; 'Dean Giles' <[DGiles@azmag.gov](mailto:DGiles@azmag.gov)>; Steven Olmsted <[SOlmsted@azdot.gov](mailto:SOlmsted@azdot.gov)>; Tricia Brown <[TBrown2@azdot.gov](mailto:TBrown2@azdot.gov)>; Bret Anderson <[BAnderson@azdot.gov](mailto:BAnderson@azdot.gov)>  
**Subject:** UPDATE: Interagency Consultation: Determining Project of Air Quality Concern in MAG Region Air Quality Concern 303 (Estrella) MC 85 to Van Buran Street NH-303-A(ASO)T H6870 SR 303L


Provided is an update on the 303 (Estrella): MC 85 to Van Buran Street.

- A public meeting was held [December 6, 2017](#).
- The PM10 modeling assumptions provided in prior tables for MOVES, CAL3QCHR and AP-42 have not changed, however it was requested that the traffic data used (as highlighted below) for this project be updated to reflect the October 2017 Conformity model for the FY2018-2022 MAG Transportation Improvement Program and 2040 MAG Regional Transportation Plan. The updated traffic still demonstrated that Alt 5 represents the worst case scenario all the other assumptions will remain the same for the analysis. An *unsealed* version of the January 2018 traffic report addendum is attached, this updated data will replace the September 22nd traffic data included in prior consultation.

Speeds	For mixed urban areas mean AM peak speed on arterials 32mph, for freeway 59mph, Midday 34/66, PM Peak 31/57, and overnight 34/67mph these are values used in the travel demand model. See <b>Table 2b</b>	EPA Hot Spot Guidance Section 4.2.1 Project specific model runs were completed end of July 2017. This data was used to input into the traffic analysis completed in August 2017 as noted in September 22, 2017 Traffic Report.
Project Data Manager	Database will be created and MOVES2014a templates will be created to include local project data and information provided by MAG, e.g. I/M programs, Fuel, Age Distribution, Meteorology Data, to be consistent with the regional model. Links and Link Source Type will be specific to project as provided by the traffic study, any missing information will use default MOVES2014a data.	EPA Hot Spot Guidance Sections 4.5, 7.5; March 2016 SR303L, SR30 to I-10 Traffic Report Project specific model runs were completed end of July 2017. This data was used to input into the traffic analysis completed in August 2017 as noted in September 22, 2017 Traffic Report.

ADOT consulted prior for PM10 modeling without the information on the required CO hotspots assumptions to allow for inclusion of updated traffic information, attached are the planning assumptions for CO with two different intersection locations from what was consulted on for PM10. As the majority of the assumptions are the same as what was provided prior for PM10 it is requested that the consulted parties provide comments or questions on the methods, models and assumptions for the CO hotspot within **10 business days**, a non-response will be interpreted as concurrence with the planning assumptions as describe in the attached document.

Please let me know if you have any additional questions.

**Beverly T. Chenausky**  
**Air & Noise Program Manager**  
 MD EM02, Room 41  
 1611 W. Jackson St.  
 Phoenix, AZ 85007  
 602.712.6269  
[azdot.gov](http://azdot.gov)  


**From:** Beverly Chenausky  
**Sent:** Tuesday, June 27, 2017 1:58 PM  
**To:** Lindy Bauer; Jerry Wamsley; Hether Krause; 'Transportationconformity@azdeq.gov'  
**Cc:** Clifton Meek; Karina O'Conner; Rebecca Yedlin; Joonwon Joo; 'Dean Giles'; Steven Olmsted; Eunice Chan; Tricia Brown  
**Subject:** Interagency Consultation: Determining Project of Air Quality Concern in MAG Region Air Quality Concern 303 (Estrella) MC 85 to Van Buran Street NH-303-A(ASO)T H6870 SR 303L

To Interested Parties:

ADOT is presenting the following local project, **303 (Estrella): MC 85 to Van Buran Street**, for interagency consultation per 40 CFR 93.105 as a project that is a project of Air Quality Concern, thereby requiring a PM10 hot-spot analysis primarily due to the large number of truck traffic in the project area. Attached is the combined Project Level PM Quantitative Hot-Spot Analysis- *Project of Air Quality Concern Questionnaire* demonstrating the need for analysis and the *Consultation Document for Project of Air Quality Concern*. The Purpose of this document is to describe the methods, models and assumptions used for a quantitative hot-spot analysis as required in 40 CFR 93.105(c)(1)(i), 93.123, 93.116 and to document that the analysis follows the EPA *Transportation Conformity Guidance for Quantitative Hot-Spot Analyses in PM2.5 and PM10 Nonattainment and Maintenance Areas*. It is requested that the consulted parties provide comments or questions on the methods, models and assumptions within **30 business days**, a non-response will be interpreted as concurrence with the planning assumptions as describe in the attached document.

Thank you,

Frohning, Rebecca A.

---

From: Beverly Chenausky <BChenausky@azdot.gov>  
Sent: Thursday, March 01, 2018 2:37 PM  
To: 'Lindy Bauer'; 'Jerry Wamsley'; 'Hether Krause'; 'Transportationconformity@azdeq.gov'  
Cc: 'Clifton Meek'; 'Karina O'Conner'; 'Rebecca Yedlin'; Joonwon Joo; 'Dean Giles'; Steven Olmsted; Tricia Brown; Bret Anderson  
Subject: UPDATE: Interagency Consultation: Determining Project of Air Quality Concern in MAG Region Air Quality Concern 303 (Estrella) MC 85 to Van Buran Street NH-303-A(SO)T H6870 SR 303L  
Attachments: SR 303L CO Hotspot Analysis-Questionnaire and Consultation March2018.pdf; 20180122 H687001L SR303L DCR Traffic Report\_Addendum1.pdf

Provided is an update on the 303 (Estrella): MC 85 to Van Buran Street.

- A public meeting was held [December 6, 2017](#).
- The PM10 modeling assumptions provided in prior tables for MOVES, CAL3QCHR and AP-42 have not changed, however it was requested that the traffic data used (as highlighted below) for this project be updated to reflect the October 2017 Conformity model for the FY2018-2022 MAG Transportation Improvement Program and 2040 MAG Regional Transportation Plan. The updated traffic still demonstrated that Alt 5 represents the worst case scenario all the other assumptions will remain the same for the analysis. An *unsealed* version of the January 2018 traffic report addendum is attached, this updated data will replace the September 22nd traffic data included in prior consultation.

Speeds	For mixed urban areas mean AMpeak speed on arterials 32mph, for freeway 59mph, Midday 34/66, PM Peak 31/57, and overnight 34/67mph these are values used in the travel demand model. See <b>Table 2b</b>
Project Data Manager	Database will be created and MOVES2014a templates will be created include local project data and information provided by MAG, e.g., programs, Fuel, Age Distribution, Meteorology Data, to be consistent with the regional model. Links and Link Source Type will be specified project as provided by the traffic study, any missing information will use default MOVES2014a data.

September 29, 2017

ADOT consulted prior for PM10 modeling without the information on the required CO hotspots assumptions to allow for inclusion of updated traffic information, attached are the planning assumptions for CO with two different intersection locations from what was consulted on for PM10. As the majority of the assumptions are the same as what was provided prior for PM10 it is requested that the consulted parties provide comments or questions on the methods, models and assumptions for the CO hotspot within 10 business days, a non-response will be interpreted as concurrence with the planning assumptions as describe in the attached document.

Please let me know if you have any additional questions.

Beverly T. Chenausky  
Air & Noise Program Manager  
MD EM02, Room 41  
1611 W. Jackson St.  
Phoenix, AZ 85007  
602.712.6269

---

**From:** Beverly Chenausky

**Sent:** Tuesday, June 27, 2017 1:58 PM

**To:** Lindy Bauer; Jerry Wamsley; Hether Krause; 'Transportationconformity@azdeq.gov'

**Cc:** Clifton Meek; Karina O'Conner; Rebecca Yedlin; Joonwon Joo; 'Dean Giles'; Steven Olmsted; Eunice Chan; Tricia Brown

**Subject:** Interagency Consultation: Determining Project of Air Quality Concern in MAG Region Air Quality Concern 303 (Estrella) MC 85 to Van Buran Street NH-303-A(ASO)T H6870 SR 303L

To Interested Parties:

ADOT is presenting the following local project, 303 (Estrella): MC 85 to Van Buran Street, for interagency consultation per 40 CFR 93.105 as a project that is a project of Air Quality Concern, thereby requiring a PM10 hot-spot analysis primarily due to the large number of truck traffic in the project area. Attached is the combined Project Level PM Quantitative Hot-Spot Analysis- *Project of Air Quality Concern Questionnaire* demonstrating the need for analysis and the *Consultation Document for Project of Air Quality Concern*. The Purpose of this document is to describe the methods, models and assumptions used for a quantitative hot-spot analysis as required in 40 CFR 93.105(c)(1)(i), 93.123, 93.116 and to document that the analysis follows the EPA *Transportation Conformity Guidance for Quantitative Hot-Spot Analyses in PM2.5 and PM10 Nonattainment and Maintenance Areas*. It is requested that the consulted parties provide comments or questions on the methods, models and assumptions within 30 business days, a non-response will be interpreted as concurrence with the planning assumptions as describe in the attached document.

Thank you,

Beverly T. Chenausky  
Air & Noise Program Manager  
MD EM02, Room 41  
1611 W. Jackson St.  
Phoenix, AZ 85007  
602.712.6269  
azdot.gov

## Beverly Chenausky

---

**From:** Beverly Chenausky  
**Sent:** Friday, September 29, 2017 8:40 AM  
**To:** 'Lindy Bauer'; 'Jerry Wamsley'; 'Hether Krause'; 'Transportationconformity@azdeq.gov'  
**Cc:** 'Clifton Meek'; 'Karina O'Conner'; 'Dean Giles'; ADOTAirNoise  
**Subject:** RE: Interagency Consultation: Determining Project of Air Quality Concern in MAG Region Air Quality Concern 303 (Estrella) MC 85 to Van Buran Street NH-303-A(ASO)T H6870 SR 303L

**Attachments:** H6870 Consultation Document\_Project Level Hot Spot Planning Assumptions\_Conclusion of Consultation.pdf; H6870 POAQC consultation comment form.doc

A few comments were received requesting minor corrections to the document, these corrections were made as noted in the consultation comment form. The revised consultation document is attached for your reference, any remaining issues will be addressed in the draft air quality report that will be provided for public review and comment as part of the Environmental Assessment for the project. The results of interagency consultation have also been summarized in the document.

**Beverly T. Chenausky**  
**Air & Noise Program Manager**

MD EM02, Room 41  
1611 W. Jackson St.  
Phoenix, AZ 85007  
602.712.6269  
azdot.gov



---

**From:** Beverly Chenausky  
**Sent:** Tuesday, June 27, 2017 1:58 PM  
**To:** Lindy Bauer; Jerry Wamsley; Hether Krause; 'Transportationconformity@azdeq.gov'  
**Cc:** Clifton Meek; Karina O'Conner; Rebecca Yedlin; Joonwon Joo; 'Dean Giles'; Steven Olmsted; Eunice Chan; Tricia Brown  
**Subject:** Interagency Consultation: Determining Project of Air Quality Concern in MAG Region Air Quality Concern 303 (Estrella) MC 85 to Van Buran Street NH-303-A(ASO)T H6870 SR 303L

**To Interested Parties:**

ADOT is presenting the following local project, **303 (Estrella): MC 85 to Van Buran Street**, for interagency consultation per 40 CFR 93.105 as a project that is a project of Air Quality Concern, thereby requiring a PM10 hot-spot analysis primarily due to the large number of truck traffic in the project area. Attached is the combined Project Level PM Quantitative Hot-Spot Analysis- *Project of Air Quality Concern Questionnaire* demonstrating the need for analysis and the *Consultation Document for Project of Air Quality Concern*. The Purpose of this document is to describe the methods, models and assumptions used for a quantitative hot-spot analysis as required in 40 CFR 93.105(c)(1)(i), 93.123, 93.116 and to document that the analysis follows the EPA *Transportation Conformity Guidance for Quantitative Hot-Spot Analyses in PM2.5 and PM10 Nonattainment and Maintenance Areas*. It is requested that the consulted parties provide comments or questions on the methods, models and assumptions within **30 business days**, a non-response will be interpreted as concurrence with the planning assumptions as describe in the attached document.

Thank you,

**Interagency Consultation: Determining Project of Air Quality Concern**  
Summary of Comments

No.	Rvr No.	Page No.	Agency/ Section Reviewer	Comment	Initial Response	Final Response	Response Clarification
1			ADEQ	<p><u>Use of the Dysart Monitoring Site for Background Concentrations</u> According to Table 2 of the Consultation Document, ADOT has selected the Dysart monitoring site over the closer Buckeye monitoring site because the Buckeye site is "heavily influenced by agriculture and not representative of the project area." However, the receptor locations south of the project area are in a predominantly agricultural area. If agricultural dust has a significant impact at these southern locations, but not on the northern receptors within the project area itself, then its impact could be represented either (1) by modeling the sources explicitly, or (2) by assigning each receptor its own background concentration on a sliding scale between the Dysart and Buckeye monitors.</p>	D	D	ADOT is modeling the SR 303L mainline. The SR 30/SR 303L TI was selected to represent the worst-case situation for all project area TIs. Population exposure will be along the SR 303 corridors. Buckeye monitor is heavily influenced by dust and exceptional events, and is not representative of background air quality in the project area. Glendale Land Use Plan lists the area as Industrial, Business & Commerce with no agriculture, more consistent with the land use represented by the Dysart monitor.

- A Will Add or Correct
- B Clarify or Evaluate
- C Additional Information Needed
- D No Further Action Required

No.	Rvr No.	Sheet No.	Agency/ Section Reviewer	Comment	Initial Response	Final Response	Response Clarification
2			ADEQ	<p><u>Receptor Grid and Study Area Extents</u>  The extents of the base map image in Figure 1 of the Consultation Document (presenting the suggested study area on page 10) differ from the study area that is delineated in Figure 1 of the Questionnaire (page 2). ADEQ was unsure whether or not this base map extent was meant to suggest new study area limits and, if so, why this suggestion differed from the study area in Figure 1 of the Questionnaire. Moreover, since the receptor grids go right up to the southern and western edges of Figure 1 of the Consultation Document, ADEQ was unsure if the suggested receptor grids continued beyond the extent shown.</p>	A	A	Corrected images will be included in the draft air quality report that will be provided for public review with the Environmental Assessment on the ADOT Project website.

- A Will Add or Correct
- B Clarify or Evaluate
- C Additional Information Needed
- D No Further Action Required



No.	Rvr No.	Sheet No.	Agency/ Section Reviewer	Comment	Initial Response	Final Response	Response Clarification
3			MAG	On Page 1, the second paragraph should be updated to include the latest conformity determination on the FY 2018-2022 MAG Transportation Improvement Program and 2040 Regional Transportation Plan: "To meet the needs of the area's growing population and increased traffic demand, the SR303L extension is proposed to increase the roadway capacity and reduce projected traffic congestion in the Cotton Lane corridor, improve the level of service (LOS), and facilitate the regional movement of people and goods. The proposed project is included in the Maricopa Association of Governments (MAG) 2040 Regional Transportation Plan (RTP). The initial construction of three GP lanes is scheduled for completion in 2019. This construction would occur within the MAG FY 2018-2022 Transportation Improvement Program (TIP). The latest conformity determination for the FY 2018-2022 MAG Transportation Improvement Program and 2040 MAG Regional Transportation Plan was made by the Federal Highway Administration and Federal Transit Administration on July 11, 2017."	A	A	Page 1, revised.
4			MAG	Page 4, Table 1: The percent of diesel trucks for the 2035 No Build is incorrect. It should be corrected from <8 percent to 15.9 percent.	A	A	Corrected Table 1, Page 4.
5			MAG	Page 11, Table 2: "Mean AP peak speed" in the Speed item should be corrected to "Mean AM peak speed."	A	A	Corrected Table 2, Page 11.

- A Will Add or Correct
- B Clarify or Evaluate
- C Additional Information Needed
- D No Further Action Required

**Attachment 2. Summary of Interagency Consultation on updated modeling assumptions for PM<sub>10</sub> Hot-Spot Analysis**

**From:** Beverly Chenausky  
**To:** 'Lindy Bauer'; 'Jerry Wamsley'; 'Johanna Kuspert - AQDX'; 'Transportationconformity@azdeq.gov'  
**Cc:** 'Clifton Meek'; 'Karina O'Conner'; 'Rebecca Yedlin'; Joonwon Joo; 'Dean Giles'; Steven Olmsted; Tricia Brown; Bret Anderson; 'Eunice Chan'; 'TShin@azmag.gov'; 'Ira Domsy - AQDX'; 'Ronald Pope - AQDX'  
**Subject:** RE: PM10 UPDATE: Interagency Consultation: Determining Project of Air Quality Concern in MAG Region Air Quality Concern 303 (Estrella) MC 85 to Van Buran Street NH-303-A(ASO)T H6870 SR 303L  
**Date:** Tuesday, September 4, 2018 9:07:02 AM  
**Attachments:** image001.png

---

As, no additional comments were received requesting any changes to the materials provided interagency consultation is complete for this project. Further environmental action will be posted on the project website in the link provided below.

Thank you.  
Beverly

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**From:** Beverly Chenausky  
**Sent:** Monday, August 13, 2018 2:53 PM  
**To:** 'Lindy Bauer'; 'Jerry Wamsley'; 'Johanna Kuspert - AQDX'; 'Transportationconformity@azdeq.gov'  
**Cc:** 'Clifton Meek'; 'Karina O'Conner'; 'Rebecca Yedlin'; Joonwon Joo; 'Dean Giles'; Steven Olmsted; Tricia Brown; Bret Anderson; 'Eunice Chan'; 'TShin@azmag.gov'; 'Ira Domsy - AQDX'; Ronald Pope - AQDX  
**Subject:** RE: PM10 UPDATE: Interagency Consultation: Determining Project of Air Quality Concern in MAG Region Air Quality Concern 303 (Estrella) MC 85 to Van Buran Street NH-303-A(ASO)T H6870 SR 303L

A request was received to allow for additional time for review of the additional information, please provide all comments by **COB August 30<sup>th</sup>**, 2018.

---

**From:** Beverly Chenausky  
**Sent:** Thursday, August 2, 2018 2:40 PM  
**To:** 'Lindy Bauer'; 'Jerry Wamsley'; 'Johanna Kuspert - AQDX'; 'Transportationconformity@azdeq.gov'  
**Cc:** 'Clifton Meek'; 'Karina O'Conner'; 'Rebecca Yedlin'; Joonwon Joo; 'Dean Giles'; Steven Olmsted; Tricia Brown; Bret Anderson; 'Eunice Chan'  
**Subject:** RE: PM10 UPDATE: Interagency Consultation: Determining Project of Air Quality Concern in MAG Region Air Quality Concern 303 (Estrella) MC 85 to Van Buran Street NH-303-A(ASO)T H6870 SR 303L

Attached is the revised Air Quality Report with the PM10 hot-spot information included, sections in Blue are additions to what was presented during the public review period for the project. Appendix E, explains and updates the revised modeling assumptions to account for updated receptor placement and newer background monitoring data. Please provide comments on the report within **10 business days**, a non-response will be interpreted as concurrence with the updated report as describe in the attached document. Upon completion of this interagency review the revised air quality report will be posted on the project website for additional public review and comment. Again do to size limitations, you will receive a separate ShareFile Notification when the modeling files have been uploaded for review. If you have any issues in downloading the modeling files, please contact [Joonwon Joo](mailto:Joonwon.Joo) or 602.712.7166 for further assistance.

Thank you for your continuous review of the SR303 project.

**Beverly T. Chenausky**  
**Air & Noise Program Manager**

MD EM02, Room 41  
1611 W. Jackson St.  
Phoenix, AZ 85007  
602.712.6269  
azdot.gov



---

**From:** Beverly Chenausky  
**Sent:** Friday, June 29, 2018 10:21 AM  
**To:** 'Lindy Bauer'; 'Jerry Wamsley'; 'Hether Krause'; 'Transportationconformity@azdeq.gov'  
**Cc:** 'Clifton Meek'; 'Karina O'Conner'; 'Rebecca Yedlin'; Joonwon Joo; 'Dean Giles'; Steven Olmsted; Tricia Brown; Bret Anderson; Eunice Chan  
**Subject:** RE: UPDATE: Interagency Consultation: Determining Project of Air Quality Concern in MAG Region Air Quality Concern 303 (Estrella) MC 85 to Van Buran Street NH-303-A(ASO)T H6870 SR 303L

To Interested Parties:

The draft EA and initial DCR are available for review and comment. Please refer to the updated website link provided, the Air Quality and other technical reports can be found under the Documents tab.

<https://www.azdot.gov/planning/transportation-studies/loop-303-from-i-10-to-sr-30/overview>

Please submit any comments in the following ways:

Mail: ADOT Community Relations Loop 303 Study, 1655 W. Jackson Street, MD 126F Phoenix, AZ 85007

Email: [Loop303south@azdot.gov](mailto:Loop303south@azdot.gov)

Phone: 855.712.8530

Please note that the PM10 hot-spot analysis is not currently in the draft report Air Quality Report at this time, as additional time is needed to incorporate project changes that impact receptor placement and modeling locations. ADOT is in the process of updating and summarizing the modeling information, including the use of the latest available background monitor information. This document will be provided shortly.

Thank you,  
Beverly

---

**From:** Beverly Chenausky  
**Sent:** Thursday, March 15, 2018 3:55 PM  
**To:** 'Lindy Bauer'; 'Jerry Wamsley'; 'Hether Krause'; 'Transportationconformity@azdeq.gov'  
**Cc:** 'Clifton Meek'; 'Karina O'Conner'; 'Rebecca Yedlin'; Joonwon Joo; 'Dean Giles'; Steven Olmsted; Tricia Brown; Bret Anderson  
**Subject:** RE: UPDATE: Interagency Consultation: Determining Project of Air Quality Concern in MAG Region Air Quality Concern 303 (Estrella) MC 85 to Van Buran Street NH-303-A(ASO)T H6870 SR 303L

There were no additional comments or concerns on the information provided, ADOT will provide future notification when the draft analysis is available for review and comment. Additional updates on the project including schedule, can be found on the project website [azdot.gov/SR303](http://azdot.gov/SR303).

Thank You,  
Beverly

**From:** Beverly Chenausky  
**Sent:** Thursday, March 01, 2018 3:37 PM  
**To:** 'Lindy Bauer'; 'Jerry Wamsley'; 'Hether Krause'; 'Transportationconformity@azdeq.gov'  
**Cc:** 'Clifton Meek'; 'Karina O'Conner'; 'Rebecca Yedlin'; Joonwon Joo; 'Dean Giles'; Steven Olmsted; Tricia Brown; Bret Anderson  
**Subject:** UPDATE: Interagency Consultation: Determining Project of Air Quality Concern in MAG Region Air Quality Concern 303 (Estrella) MC 85 to Van Buran Street NH-303-A(ASO)T H6870 SR 303L


Provided is an update on the 303 (Estrella): MC 85 to Van Buran Street.

- A public meeting was held [December 6, 2017](#).
- The PM10 modeling assumptions provided in prior tables for MOVES, CAL3QCHR and AP-42 have not changed, however it was requested that the traffic data used (as highlighted below) for this project be updated to reflect the October 2017 Conformity model for the FY2018-2022 MAG Transportation Improvement Program and 2040 MAG Regional Transportation Plan. The updated traffic still demonstrated that Alt 5 represents the worst case scenario all the other assumptions will remain the same for the analysis. An *unsealed* version of the January 2018 traffic report addendum is attached, this updated data will replace the September 22nd traffic data included in prior consultation.

Speeds	For mixed urban areas mean AMpeak speed on arterials 32mph, for freeway 59mph, Midday 34/66, PM Peak 31/57, and overnight 34/67mph these are values used in the travel demand model. See <b>Table 2b</b>	EPA Hot Spot Guidance Section 4.2.1 Project specific model runs were completed end of July 2017. This data was used to input into the traffic analysis completed in August 2017 as noted in September 22, 2017 Traffic Report.
Project Data Manager	Database will be created and MOVES2014a templates will be created to include local project data and information provided by MAG, e.g., I/M programs, Fuel, Age Distribution, Meteorology Data, to be consistent with the regional model. Links and Link Source Type will be specific to project as provided by the traffic study, any missing information will use default MOVES2014a data.	EPA Hot Spot Guidance Sections 4.5, 7.5; March 2016 SR303L, SR30 to I-10 Traffic Report Project specific model runs were completed end of July 2017. This data was used to input into the traffic analysis completed in August 2017 as noted in September 22, 2017 Traffic Report.

ADOT consulted prior for PM10 modeling without the information on the required CO hotspots assumptions to allow for inclusion of updated traffic information, attached are the planning assumptions for CO with two different intersection locations from what was consulted on for PM10. As the majority of the assumptions are the same as what was provided prior for PM10 it is requested that the consulted parties provide comments or questions on the methods, models and assumptions for the CO hotspot within **10 business days**, a non-response will be interpreted as concurrence with the planning assumptions as describe in the attached document.


Please let me know if you have any additional questions.

**Beverly T. Chenausky**  
**Air & Noise Program Manager**  
 MD EM02, Room 41  
 1611 W. Jackson St.  
 Phoenix, AZ 85007  
 602.712.6269  
 azdot.gov  


**From:** Beverly Chenausky  
**Sent:** Tuesday, June 27, 2017 1:58 PM  
**To:** Lindy Bauer; Jerry Wamsley; Hether Krause; 'Transportationconformity@azdeq.gov'  
**Cc:** Clifton Meek; Karina O'Conner; Rebecca Yedlin; Joonwon Joo; 'Dean Giles'; Steven Olmsted; Eunice Chan; Tricia Brown  
**Subject:** Interagency Consultation: Determining Project of Air Quality Concern in MAG Region Air Quality Concern 303 (Estrella) MC 85 to Van Buran Street NH-303-A(ASO)T H6870 SR 303L

To Interested Parties:  
 ADOT is presenting the following local project, **303 (Estrella): MC 85 to Van Buran Street**, for interagency consultation per 40 CFR 93.105 as a project that is a project of Air Quality Concern, thereby requiring a PM10 hot-spot analysis primarily due to the large number of truck traffic in the project area. Attached is the combined Project Level PM Quantitative Hot-Spot Analysis- *Project of Air Quality Concern Questionnaire* demonstrating the need for analysis and the *Consultation Document for Project of Air Quality Concern*. The Purpose of this document is to describe the methods, models and assumptions used for a quantitative hot-spot analysis as required in 40 CFR 93.105(c)(1)(i), 93.123, 93.116 and to document that the analysis follows the EPA *Transportation Conformity Guidance for Quantitative Hot-Spot Analyses in PM2.5 and PM10 Nonattainment and Maintenance Areas*. It is requested that the consulted parties provide comments or questions on the methods, models and assumptions within **30 business days**, a non-response will be interpreted as concurrence with the planning assumptions as describe in the attached document.

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**Beverly T. Chenausky**  
**Air & Noise Program Manager**  
 MD EM02, Room 41  
 1611 W. Jackson St.  
 Phoenix, AZ 85007  
 602.712.6269  
 azdot.gov  


**From:** Wamsley, Jerry  
**To:** [Beverly Chenausky](mailto:BChenausky@azdot.gov)  
**Cc:** [OConnor, Karina](mailto:OConnor.Karina@epa.gov); [meek, clifton](mailto:meek.clifton@epa.gov); [Lee, Anita](mailto:Lee.Anita@epa.gov)  
**Subject:** RE: PM10 UPDATE: Interagency Consultation: Determining Project of Air Quality Concern in MAG Region Air Quality Concern 303 (Estrella) MC 85 to Van Buran Street NH-303-A(ASO)T H6870 SR 303L  
**Date:** Thursday, August 30, 2018 12:31:30 PM  
**Attachments:** [image001.png](#)

---

Hello Beverly,

Thank you for the opportunity to review the Arizona Department of Transportation's (ADOT) Air Quality Report with its additional information concerning the particulate matter (PM) analyses for the Project of Air Quality Concern (POAQC) review of the subject roadway project. Also, thank you for the additional time allowed for our review, through August 30.

We have no comments.


Sincerely,  
Jerry Wamsley

---

**From:** Beverly Chenausky [mailto:[BChenausky@azdot.gov](mailto:BChenausky@azdot.gov)]  
**Sent:** Thursday, August 2, 2018 2:40 PM  
**To:** 'Lindy Bauer' <[LBauer@azmag.gov](mailto:LBauer@azmag.gov)>; Wamsley, Jerry <[Wamsley.Jerry@epa.gov](mailto:Wamsley.Jerry@epa.gov)>; Johanna Kuspert - AQDX <[JKuspert@mail.maricopa.gov](mailto:JKuspert@mail.maricopa.gov)>; 'Transportationconformity@azdeq.gov' <[Transportationconformity@azdeq.gov](mailto:Transportationconformity@azdeq.gov)>  
**Cc:** meek, clifton <[meek.clifton@epa.gov](mailto:meek.clifton@epa.gov)>; OConnor, Karina <[OConnor.Karina@epa.gov](mailto:OConnor.Karina@epa.gov)>; 'Rebecca Yedlin' <[Rebecca.Yedlin@dot.gov](mailto:Rebecca.Yedlin@dot.gov)>; Joonwon Joo <[Joo@azdot.gov](mailto:Joo@azdot.gov)>; 'Dean Giles' <[DGiles@azmag.gov](mailto:DGiles@azmag.gov)>; Steven Olmsted <[SOlmsted@azdot.gov](mailto:SOlmsted@azdot.gov)>; Tricia Brown <[TBrown2@azdot.gov](mailto:TBrown2@azdot.gov)>; Bret Anderson <[BAnderson@azdot.gov](mailto:BAnderson@azdot.gov)>; 'Eunice Chan' <[eunice.chan@dot.gov](mailto:eunice.chan@dot.gov)>  
**Subject:** RE: PM10 UPDATE: Interagency Consultation: Determining Project of Air Quality Concern in MAG Region Air Quality Concern 303 (Estrella) MC 85 to Van Buran Street NH-303-A(ASO)T H6870 SR 303L

Attached is the revised Air Quality Report with the PM10 hot-spot information included, sections in Blue are additions to what was presented during the public review period for the project. Appendix E, explains and updates the revised modeling assumptions to account for updated receptor placement and newer background monitoring data. Please provide comments on the report within **10 business days**, a non-response will be interpreted as concurrence with the updated report as describe in the attached document. Upon completion of this interagency review the revised air quality report will be posted on the project website for additional public review and comment. Again do to size limitations, you will receive a separate ShareFile Notification when the modeling files have been uploaded for review. If you have any issues in downloading the modeling files, please contact [Joonwon Joo](mailto:Joonwon.Joo) or 602.712.7166 for further assistance.

Thank you for your continuous review of the SR303 project.

**Beverly T. Chenausky**  
**Air & Noise Program Manager**  
MD EM02, Room 41  
1611 W. Jackson St.  
Phoenix, AZ 85007  
602.712.6269  
[azdot.gov](mailto:azdot.gov)  


---

**From:** Beverly Chenausky  
**Sent:** Friday, June 29, 2018 10:21 AM  
**To:** 'Lindy Bauer'; 'Jerry Wamsley'; 'Hether Krause'; 'Transportationconformity@azdeq.gov'  
**Cc:** 'Clifton Meek'; 'Karina O'Conner'; 'Rebecca Yedlin'; Joonwon Joo; 'Dean Giles'; Steven Olmsted; Tricia Brown; Bret Anderson; Eunice Chan  
**Subject:** RE: UPDATE: Interagency Consultation: Determining Project of Air Quality Concern in MAG Region Air Quality Concern 303 (Estrella) MC 85 to Van Buran Street NH-303-A(ASO)T H6870 SR 303L

To Interested Parties:

The draft EA and initial DCR are available for review and comment. Please refer to the updated website link provided, the Air Quality and other technical reports can be found under the Documents tab.

<https://www.azdot.gov/planning/transportation-studies/loop-303-from-i-10-to-sr-30/overview>

Please submit any comments in the following ways:

Mail: ADOT Community Relations Loop 303 Study, 1655 W. Jackson Street, MD 126F Phoenix, AZ 85007

Email: [loop303south@azdot.gov](mailto:loop303south@azdot.gov)

Phone: 855.712.8530

Please note that the PM10 hot-spot analysis is not currently in the draft report Air Quality Report at this time, as additional time is needed to incorporate project changes that impact receptor placement and modeling locations. ADOT is in the process of updating and summarizing the modeling information, including the use of the latest available background monitor information. This document will be provided shortly.

Thank you,  
Beverly

---

**From:** Beverly Chenausky  
**Sent:** Thursday, March 15, 2018 3:55 PM  
**To:** 'Lindy Bauer'; 'Jerry Wamsley'; 'Hether Krause'; 'Transportationconformity@azdeq.gov'  
**Cc:** 'Clifton Meek'; 'Karina O'Conner'; 'Rebecca Yedlin'; Joonwon Joo; 'Dean Giles'; Steven Olmsted; Tricia Brown; Bret Anderson  
**Subject:** RE: UPDATE: Interagency Consultation: Determining Project of Air Quality Concern in MAG Region Air Quality Concern 303 (Estrella) MC 85 to Van Buran Street NH-303-A(ASO)T H6870 SR 303L

There were no additional comments or concerns on the information provided, ADOT will provide future notification when the draft analysis is available for review and comment. Additional updates on the project including schedule, can be found on the project website [azdot.gov/SR303](http://azdot.gov/SR303).

**From:** Wamsley, Jerry  
**To:** [Beverly Chenausky](mailto:Beverly.Chenausky@azdot.gov)  
**Cc:** [meek.clifton](mailto:meek.clifton@epa.gov); [OConnor, Karina](mailto:OConnor.Karina@epa.gov); [Lee, Anita](mailto:Lee.Anita@epa.gov)  
**Subject:** RE: PM10 UPDATE: Interagency Consultation: Determining Project of Air Quality Concern in MAG Region Air Quality Concern 303 (Estrella) MC 85 to Van Buran Street NH-303-A(ASO)T H6870 SR 303L  
**Date:** Monday, August 13, 2018 2:41:53 PM  
**Attachments:** [image001.png](#)

---

Hello Beverly,

An extension of the comment period to August 30 is helpful and appreciated.

Thanks,  
Jerry

---

**From:** Beverly Chenausky [mailto:[BChenausky@azdot.gov](mailto:BChenausky@azdot.gov)]  
**Sent:** Monday, August 13, 2018 2:37 PM  
**To:** Wamsley, Jerry <[Wamsley.Jerry@epa.gov](mailto:Wamsley.Jerry@epa.gov)>  
**Subject:** RE: PM10 UPDATE: Interagency Consultation: Determining Project of Air Quality Concern in MAG Region Air Quality Concern 303 (Estrella) MC 85 to Van Buran Street NH-303-A(ASO)T H6870 SR 303L

Jerry would you be good with COB August 30 so we can post the draft for public review on August 31<sup>st</sup>?

---

**From:** Wamsley, Jerry [mailto:[Wamsley.Jerry@epa.gov](mailto:Wamsley.Jerry@epa.gov)]  
**Sent:** Monday, August 13, 2018 2:02 PM  
**To:** Beverly Chenausky  
**Cc:** [meek.clifton](mailto:meek.clifton@epa.gov); [OConnor, Karina](mailto:OConnor.Karina@epa.gov); [Lee, Anita](mailto:Lee.Anita@epa.gov)  
**Subject:** RE: PM10 UPDATE: Interagency Consultation: Determining Project of Air Quality Concern in MAG Region Air Quality Concern 303 (Estrella) MC 85 to Van Buran Street NH-303-A(ASO)T H6870 SR 303L

Hello Beverly,

We would appreciate an extension of the comment period of an additional ten working days, to August 31.

If this ten day extension is somehow problematic, then let's talk directly.

Thank you for your consideration.

Jerry

---

**From:** Beverly Chenausky [mailto:[BChenausky@azdot.gov](mailto:BChenausky@azdot.gov)]  
**Sent:** Thursday, August 2, 2018 2:40 PM  
**To:** 'Lindy Bauer' <[LBauer@azmag.gov](mailto:LBauer@azmag.gov)>; Wamsley, Jerry <[Wamsley.Jerry@epa.gov](mailto:Wamsley.Jerry@epa.gov)>; Johanna Kuspert - AQDX <[JKuspert@mail.maricopa.gov](mailto:JKuspert@mail.maricopa.gov)>; 'Transportationconformity@azdeq.gov' <[Transportationconformity@azdeq.gov](mailto:Transportationconformity@azdeq.gov)>  
**Cc:** [meek.clifton@epa.gov](mailto:meek.clifton@epa.gov); [OConnor, Karina](mailto:OConnor.Karina@epa.gov) <[OConnor.Karina@epa.gov](mailto:OConnor.Karina@epa.gov)>; 'Rebecca Yedlin' <[Rebecca.Yedlin@dot.gov](mailto:Rebecca.Yedlin@dot.gov)>; Joonwon Joo <[Joo@azdot.gov](mailto:Joo@azdot.gov)>; 'Dean Giles' <[DGiles@azmag.gov](mailto:DGiles@azmag.gov)>; Steven Olmsted <[SOlmsted@azdot.gov](mailto:SOlmsted@azdot.gov)>; Tricia Brown <[TBrown2@azdot.gov](mailto:TBrown2@azdot.gov)>; Bret Anderson <[BAnderson@azdot.gov](mailto:BAnderson@azdot.gov)>; 'Eunice Chan' <[eunice.chan@dot.gov](mailto:eunice.chan@dot.gov)>  
**Subject:** RE: PM10 UPDATE: Interagency Consultation: Determining Project of Air Quality Concern in MAG Region Air Quality Concern 303 (Estrella) MC 85 to Van Buran Street NH-303-A(ASO)T H6870 SR 303L

Attached is the revised Air Quality Report with the PM10 hot-spot information included, sections in Blue are additions to what was presented during the public review period for the project. Appendix E, explains and updates the revised modeling assumptions to account for updated receptor placement and newer background monitoring data. Please provide comments on the report within **10 business days**, a non-response will be interpreted as concurrence with the updated report as describe in the attached document. Upon completion of this interagency review the revised air quality report will be posted on the project website for additional public review and comment. Again do to size limitations, you will receive a separate ShareFile Notification when the modeling files have been uploaded for review. If you have any issues in downloading the modeling files, please contact [Joonwon Joo](mailto:Joonwon.Joo) or 602.712.7166 for further assistance.

Thank you for your continuous review of the SR303 project.

**Beverly T. Chenausky**  
**Air & Noise Program Manager**

MD EM02, Room 41  
1611 W. Jackson St.  
Phoenix, AZ 85007  
602.712.6269  
[azdot.gov](mailto:azdot.gov)



---

**From:** Beverly Chenausky  
**Sent:** Friday, June 29, 2018 10:21 AM  
**To:** 'Lindy Bauer'; 'Jerry Wamsley'; 'Hether Krause'; 'Transportationconformity@azdeq.gov'  
**Cc:** 'Clifton Meek'; 'Karina O'Conner'; 'Rebecca Yedlin'; Joonwon Joo; 'Dean Giles'; Steven Olmsted; Tricia Brown; Bret Anderson; Eunice Chan  
**Subject:** RE: UPDATE: Interagency Consultation: Determining Project of Air Quality Concern in MAG Region Air Quality Concern 303 (Estrella) MC 85 to Van Buran Street NH-303-A(ASO)T H6870 SR 303L

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**From:** Transportationconformity  
**To:** [Beverly Chenauskya](mailto:BChenauskya@azdot.gov)  
**Subject:** Comments RE: PM10 UPDATE: Interagency Consultation: Determining Project of Air Quality Concern in MAG Region Air Quality Concern 303 (Estrella) MC 85 to Van Buran Street NH-303-A(ASO)T H6870 SR 303L  
**Date:** Tuesday, August 14, 2018 4:09:39 PM  
**Attachments:** [image002.png](#)

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Beverly,

Thank you for the opportunity to review the Hot Spot Analysis for the ADOT project No. 303 MA 100 H6870 01L.

After reviewing the Technical Report, MOVES run files, and CAL3HQC run files ADEQ finds no technical issues to comment on.

There was one minor error on page 5-11 of the Technical Report where the equation for road dust is missing SL inside the parenthesis.

Catherine Lucke

---

**From:** Beverly Chenauskya [mailto:BChenauskya@azdot.gov]  
**Sent:** Thursday, August 02, 2018 2:40 PM  
**To:** 'Lindy Bauer' <LBauer@azmag.gov>; 'Jerry Wamsley' <Wamsley.Jerry@epa.gov>; Johanna Kuspert - AQDX <JKuspert@mail.maricopa.gov>; Transportationconformity <Transportationconformity@azdeq.gov>  
**Cc:** 'Clifton Meek' <meeck.clifton@epa.gov>; 'Karina O'Conner' <Oconnor.Karina@epa.gov>; 'Rebecca Yedlin' <Rebecca.Yedlin@dot.gov>; Joonwon Joo <Jjoo@azdot.gov>; 'Dean Giles' <DGiles@azmag.gov>; Steven Olmsted <SOLmsted@azdot.gov>; Tricia Brown <TBrown2@azdot.gov>; Bret Anderson <BAnderson@azdot.gov>; 'Eunice Chan' <eunice.chan@dot.gov>  
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**Air & Noise Program Manager**

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---

**From:** Beverly Chenauskya  
**Sent:** Friday, June 29, 2018 10:21 AM  
**To:** 'Lindy Bauer'; 'Jerry Wamsley'; 'Hether Krause'; 'Transportationconformity@azdeq.gov'  
**Cc:** 'Clifton Meek'; 'Karina O'Conner'; 'Rebecca Yedlin'; Joonwon Joo; 'Dean Giles'; Steven Olmsted; Tricia Brown; Bret Anderson; Eunice Chan  
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**Subject:** RE: UPDATE: Interagency Consultation: Determining Project of Air Quality Concern in MAG Region Air Quality Concern 303 (Estrella) MC 85 to Van Buran Street NH-303-A(ASO)T H6870 SR 303L

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Thank You,

Beverly

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 To: 'Lindy Bauer'; 'Jerry Wamsley'; 'Hether Krause'; 'Transportationconformity@azdeq.gov'  
 Cc: 'Clifton Meek'; 'Karina O'Conner'; 'Rebecca Yedlin'; Joonwon Joo; 'Dean Giles'; Steven Olmsted; Tricia Brown; Bret Anderson  
 Subject: UPDATE: Interagency Consultation: Determining Project of Air Quality Concern in MAG Region Air Quality Concern 303 (Estrella) MC 85 to Van Buran Street NH-303-A(ASO)T H6870 SR 303L

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**Beverly T. Chenausky**  
 Air & Noise Program Manager  
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 Phoenix, AZ 85007  
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---

**From:** Beverly Chenausky  
**Sent:** Tuesday, June 27, 2017 1:58 PM  
**To:** 'Lindy Bauer'; Jerry Wamsley; Hether Krause; 'Transportationconformity@azdeq.gov'  
**Cc:** Clifton Meek; Karina O'Conner; Rebecca Yedlin; Joonwon Joo; 'Dean Giles'; Steven Olmsted; Eunice Chan; Tricia Brown  
**Subject:** Interagency Consultation: Determining Project of Air Quality Concern in MAG Region Air Quality Concern 303 (Estrella) MC 85 to Van Buran Street NH-303-A(ASO)T H6870 SR 303L

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Thank you,

**Beverly T. Chenausky**  
 Air & Noise Program Manager  
 MD EM02, Room 41  
 1611 W. Jackson St.  
 Phoenix, AZ 85007  
 602.712.6269  
 azdot.gov





**From:** Ira Domsy (AQD)  
**To:** [Beverly Chenausky](mailto:Beverly.Chenausky@azdot.gov)  
**Subject:** RE: PM10 UPDATE: Interagency Consultation: Determining Project of Air Quality Concern in MAG Region Air Quality Concern 303 (Estrella) MC 85 to Van Buran Street NH-303-A(ASO)T H6870 SR 303L  
**Date:** Monday, August 13, 2018 4:26:19 PM  
**Attachments:** [image008.png](#)  
[image009.png](#)  
[image002.png](#)  
[image003.png](#)  
[image011.png](#)  
[image012.png](#)  
[image013.png](#)

Thanks for the call back. My questions are answered. You should hear from us soon about any comments we may have on the L 303/SR 30/I 10 hotspot conformity analysis.



**New Email: [Ira.Domsy@Maricopa.gov](mailto:Ira.Domsy@Maricopa.gov)**

**Ira Domsy - Planning Consultant**

Maricopa County Air Quality Department  
1001 N. Central Avenue, #125 | Phoenix, AZ 85004  
Located at the Central Ave. & Roosevelt METRO stop

**Desk:** 602.506.6735

**CleanAirMakeMore.com | [Maricopa.gov/1244/Air-Quality](http://Maricopa.gov/1244/Air-Quality)**



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Idling.**

---

**From:** Beverly Chenausky <[BChenausky@azdot.gov](mailto:BChenausky@azdot.gov)>  
**Sent:** Monday, August 13, 2018 2:53 PM  
**To:** 'Lindy Bauer' <[LBauer@azmag.gov](mailto:LBauer@azmag.gov)>; 'Jerry Wamsley' <[Wamsley.Jerry@epa.gov](mailto:Wamsley.Jerry@epa.gov)>; Johanna Kuspert (AQD) <[Johanna.Kuspert@Maricopa.gov](mailto:Johanna.Kuspert@Maricopa.gov)>; 'Transportationconformity@azdeq.gov' <[Transportationconformity@azdeq.gov](mailto:Transportationconformity@azdeq.gov)>  
**Cc:** 'Clifton Meek' <[meeck.clifton@epa.gov](mailto:meeck.clifton@epa.gov)>; 'Karina O'Conner' <[Oconnor.Karina@epa.gov](mailto:Oconnor.Karina@epa.gov)>; 'Rebecca Yedlin' <[Rebecca.Yedlin@dot.gov](mailto:Rebecca.Yedlin@dot.gov)>; Joonwon Joo <[JJoo@azdot.gov](mailto:JJoo@azdot.gov)>; 'Dean Giles' <[DGiles@azmag.gov](mailto:DGiles@azmag.gov)>; Steven Olmsted <[SOLmsted@azdot.gov](mailto:SOLmsted@azdot.gov)>; Tricia Brown <[TBrown2@azdot.gov](mailto:TBrown2@azdot.gov)>; Bret Anderson <[BAnderson@azdot.gov](mailto:BAnderson@azdot.gov)>; 'Eunice Chan' <[eunice.chan@dot.gov](mailto:eunice.chan@dot.gov)>; 'TShin@azmag.gov' <[TShin@azmag.gov](mailto:TShin@azmag.gov)>; Ira Domsy (AQD) <[Ira.Domsy@Maricopa.gov](mailto:Ira.Domsy@Maricopa.gov)>; Ron Pope (AQD) <[Ron.Pope@Maricopa.gov](mailto:Ron.Pope@Maricopa.gov)>  
**Subject:** RE: PM10 UPDATE: Interagency Consultation: Determining Project of Air Quality Concern in MAG Region Air Quality Concern 303 (Estrella) MC 85 to Van Buran Street NH-303-A(ASO)T H6870 SR 303L

A request was received to allow for additional time for review of the additional information, please provide all comments by **COB August 30<sup>th</sup>**, 2018.

---

**From:** Beverly Chenausky  
**Sent:** Thursday, August 2, 2018 2:40 PM  
**To:** 'Lindy Bauer'; 'Jerry Wamsley'; Johanna Kuspert - AQDX; 'Transportationconformity@azdeq.gov'  
**Cc:** 'Clifton Meek'; 'Karina O'Conner'; 'Rebecca Yedlin'; Joonwon Joo; 'Dean Giles'; Steven Olmsted; Tricia Brown; Bret Anderson; 'Eunice Chan'  
**Subject:** RE: PM10 UPDATE: Interagency Consultation: Determining Project of Air Quality Concern in MAG Region Air Quality Concern 303 (Estrella) MC 85 to Van Buran Street NH-303-A(ASO)T H6870 SR 303L

Attached is the revised Air Quality Report with the PM10 hot-spot information included, sections in Blue are additions to what was presented during the public review period for the project. Appendix E, explains and updates the revised modeling assumptions to account for updated receptor placement and newer background monitoring data. Please provide comments on the report within **10 business days**, a non-response will be interpreted as concurrence with the updated report as describe in the attached document. Upon completion of this interagency review the revised air quality report will be posted on the project website for additional public review and comment. Again do to size limitations, you will receive a separate ShareFile Notification when the modeling files have been uploaded for review. If you have any issues in downloading the modeling files, please contact [Joonwon Joo](mailto:Joonwon.Joo) or 602.712.7166 for further assistance.

Thank you for your continuous review of the SR303 project.

**Beverly T. Chenausky**  
**Air & Noise Program Manager**  
MD EM02, Room 41  
1611 W. Jackson St.  
Phoenix, AZ 85007  
602.712.6269  
[azdot.gov](http://azdot.gov)  
The logo for ADOT Environmental Planning features the letters "ADOT" in a large, bold, blue font with a green underline, and the words "Environmental Planning" in a smaller, blue font below it.

---

**From:** Beverly Chenausky  
**Sent:** Friday, June 29, 2018 10:21 AM  
**To:** 'Lindy Bauer'; 'Jerry Wamsley'; 'Hether Krause'; 'Transportationconformity@azdeq.gov'  
**Cc:** 'Clifton Meek'; 'Karina O'Conner'; 'Rebecca Yedlin'; Joonwon Joo; 'Dean Giles'; Steven Olmsted; Tricia Brown; Bret Anderson; Eunice Chan  
**Subject:** RE: UPDATE: Interagency Consultation: Determining Project of Air Quality Concern in MAG Region Air Quality Concern 303 (Estrella) MC 85 to Van Buran Street NH-303-A(ASO)T H6870 SR 303L

To Interested Parties:

The draft EA and initial DCR are available for review and comment. Please refer to the updated website link provided, the Air Quality and other technical reports can be found under the Documents tab.

<https://www.azdot.gov/planning/transportation-studies/loop-303-from-i-10-to-sr-30/overview>

Please submit any comments in the following ways:

Mail: ADOT Community Relations Loop 303 Study, 1655 W. Jackson Street, MD 126F Phoenix, AZ 85007

Email: [Loop303south@azdot.gov](mailto:Loop303south@azdot.gov)

Phone: 855.712.8530

Please note that the PM10 hot-spot analysis is not currently in the draft report Air Quality Report at this time, as additional time is needed to incorporate project changes that impact receptor placement and modeling locations. ADOT is in the process of updating and summarizing the modeling information, including the use of the latest available background monitor information. This document will be provided shortly.

Thank you,

Beverly

**From:** Beverly Chenausky  
**Sent:** Thursday, March 15, 2018 3:55 PM  
**To:** 'Lindy Bauer'; 'Jerry Wamsley'; 'Hether Krause'; 'Transportationconformity@azdeq.gov'  
**Cc:** 'Clifton Meek'; 'Karina O'Conner'; 'Rebecca Yedlin'; Joonwon Joo; 'Dean Giles'; Steven Olmsted; Tricia Brown; Bret Anderson  
**Subject:** RE: UPDATE: Interagency Consultation: Determining Project of Air Quality Concern in MAG Region Air Quality Concern 303 (Estrella) MC 85 to Van Buran Street NH-303-A(ASO)T H6870 SR 303L

There were no additional comments or concerns on the information provided, ADOT will provide future notification when the draft analysis is available for review and comment. Additional updates on the project including schedule, can be found on the project website [azdot.gov/SR303](http://azdot.gov/SR303).

Thank You,  
Beverly

**From:** Beverly Chenausky  
**Sent:** Thursday, March 01, 2018 3:37 PM  
**To:** 'Lindy Bauer'; 'Jerry Wamsley'; 'Hether Krause'; 'Transportationconformity@azdeq.gov'  
**Cc:** 'Clifton Meek'; 'Karina O'Conner'; 'Rebecca Yedlin'; Joonwon Joo; 'Dean Giles'; Steven Olmsted; Tricia Brown; Bret Anderson  
**Subject:** UPDATE: Interagency Consultation: Determining Project of Air Quality Concern in MAG Region Air Quality Concern 303 (Estrella) MC 85 to Van Buran Street NH-303-A(ASO)T H6870 SR 303L

Provided is an update on the 303 (Estrella): MC 85 to Van Buran Street.

- A public meeting was held [December 6, 2017](#).
- The PM10 modeling assumptions provided in prior tables for MOVES, CAL3QCHR and AP-42 have not changed, however it was requested that the traffic data used (as highlighted below) for this project be updated to reflect the October 2017 Conformity model for the FY2018-2022 MAG Transportation Improvement Program and 2040 MAG Regional Transportation Plan. The updated traffic still demonstrated that Alt 5 represents the worst case scenario all the other assumptions will remain the same for the analysis. An *unsealed* version of the January 2018 traffic report addendum is attached, this updated data will replace the September 22nd traffic data included in prior consultation.

Speeds	For mixed urban areas mean AM peak speed on arterials 32mph, for freeway 59mph, Midday 34/66, PM Peak 31/57, and overnight 34/67mph these are values used in the travel demand model. See <b>Table 2b</b>	EPA Hot Spot Guidance Section 4.2.1 Project specific model runs were completed end of July 2017. This data was used to input into the traffic analysis completed in August 2017 as noted in September 22, 2017 Traffic Report
Project Data Manager	Database will be created and MOVES2014a templates will be created to include local project data and information provided by MAG, e.g., I/M programs, Fuel, Age Distribution, Meteorology Data, to be consistent with the regional model. Links and Link Source Type will be specific to project as provided by the traffic study, any missing information will use default MOVES2014a data.	EPA Hot Spot Guidance Sections 4.5, 7.5; March 2016 SR303L, SR30 to I-10 Traffic Report Project specific model runs were completed end of July 2017. This data was used to input into the traffic analysis completed in August 2017 as noted in September 22, 2017 Traffic Report

September 29, 2017

Page 111

ADOT consulted prior for PM10 modeling without the information on the required CO hotspots assumptions to allow for inclusion of updated traffic information, attached are the planning assumptions for CO with two different intersection locations from what was consulted on for PM10. As the majority of the assumptions are the same as what was provided prior for PM10 it is requested that the consulted parties provide comments or questions on the methods, models and assumptions for the CO hotspot within **10 business days**, a non-response will be interpreted as concurrence with the planning assumptions as describe in the attached document.

Please let me know if you have any additional questions.

**Beverly T. Chenausky**  
**Air & Noise Program Manager**  
MD EM02, Room 41  
1611 W. Jackson St.  
Phoenix, AZ 85007  
602.712.6269  
azdot.gov



**From:** Beverly Chenausky  
**Sent:** Tuesday, June 27, 2017 1:58 PM  
**To:** 'Lindy Bauer'; 'Jerry Wamsley'; 'Hether Krause'; 'Transportationconformity@azdeq.gov'  
**Cc:** 'Clifton Meek'; 'Karina O'Conner'; 'Rebecca Yedlin'; Joonwon Joo; 'Dean Giles'; Steven Olmsted; Eunice Chan; Tricia Brown  
**Subject:** Interagency Consultation: Determining Project of Air Quality Concern in MAG Region Air Quality Concern 303 (Estrella) MC 85 to Van Buran Street NH-303-A(ASO)T H6870 SR 303L

To Interested Parties:

ADOT is presenting the following local project, **303 (Estrella): MC 85 to Van Buran Street**, for interagency consultation per 40 CFR 93.105 as a project that is a project of Air Quality Concern, thereby requiring a PM10 hot-spot analysis primarily due to the large number of truck traffic in the project area. Attached is the combined Project Level PM Quantitative Hot-Spot Analysis- *Project of Air Quality Concern Questionnaire* demonstrating the need for analysis and the *Consultation Document for Project of Air Quality Concern*. The Purpose of this document is to describe the methods, models and assumptions used for a quantitative hot-spot analysis as required in 40 CFR 93.105(c)(1)(i), 93.123, 93.116 and to document that the analysis follows the EPA *Transportation Conformity Guidance for Quantitative Hot-Spot Analyses in PM2.5 and PM10 Nonattainment and Maintenance Areas*. It is requested that the consulted parties provide comments or questions on the methods, models and assumptions within **30 business days**, a non-response will be interpreted as concurrence with the planning assumptions as describe in the attached document.

Thank you,

**Beverly T. Chenausky**  
**Air & Noise Program Manager**  
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Phoenix, AZ 85007  
602.712.6269  
azdot.gov

# *Appendix B*

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MSAT & CO<sub>2e</sub> MOVES Modeling Files  
are Available Upon Request and Can  
be Found in the Project Folder  
at:

G: \dot.state.az\AdotFiles\ENV\ENV\Environmental Planning Group Projects  
\Projects\303\H6870 01L, SR303L, SR801 MC85 to I-10\Air Quality\Final AQ  
Modeling Files\MSAT\_MOVES

## Beverly Chenausky

---

**From:** Houk, Jeff (FHWA) <Jeff.Houk@dot.gov>  
**Sent:** Thursday, January 18, 2018 8:38 AM  
**To:** Beverly Chenausky; Yedlin, Rebecca (FHWA)  
**Subject:** RE: 303 (Estrella) MC 85 to Van Buran Street NH-303-A(ASO)T H6870 SR 303L MSAT boundary review

Yes, this looks good. I see that you excluded some outlying links that are quite disconnected from the rest of the affected network—this is also reasonable (those are most likely travel modeling artifacts and not links that are actually affected by the project). The only question I have is whether the connection between 303 and 30 is included—I'm not familiar with the roadway network just by looking at it, but it appears that there is a gap there.

You are correct that there is no guidance on addressing GHGs from FHWA, and we are not working on any. As an agency, we comply with state-level requirements in the four states that have them (NY, MA, WA, and CA) but otherwise address GHGs on a case-by-case basis, considering public comments and potential litigation risk. Generating GHG emissions estimates as part of the MSAT analysis you are already doing seems like a reasonable approach, since it involves virtually no additional work.

---

**From:** bchenausky azdot.gov  
**Sent:** Wednesday, January 17, 2018 11:49 AM  
**To:** Yedlin, Rebecca (FHWA) <[Rebecca.Yedlin@dot.gov](mailto:Rebecca.Yedlin@dot.gov)>; Houk, Jeff (FHWA) <[Jeff.Houk@dot.gov](mailto:Jeff.Houk@dot.gov)>  
**Subject:** 303 (Estrella) MC 85 to Van Buran Street NH-303-A(ASO)T H6870 SR 303L MSAT boundary review

Attached is the recommended boundary for the MSAT analysis for the 303 (Estrella) MC 85 to Van Buran Street NH-303-A(ASO)T H6870 SR 303L project.

### Domain for MSAT and GHG Regional Analysis

We compared the link volumes in the study area to determine which links (with daily volume over 50) show a change in volumes of  $\pm 5\%$ . You can see them visually in the attached figure. The black line around the areas are the links reasonable to include. Only the red and green segments would be included. Can you review this, and let us know if you agree with our recommended domain, or if you would like to include or exclude any highlighted roadway segment in the project area?

I noticed a webinar discussion tomorrow for the I-II Tier I approach for GHG analysis, however given that there hasn't been an official guidance on how to treat GHG from FHWA yet I would like to get some feedback on approach for the L303 EA as well. The current idea is that we would just add GHG pollutants as part of the MSAT evaluation, is that still an appropriate approach?

**Beverly T. Chenausky**  
**Air & Noise Program Manager**  
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Phoenix, AZ 85007  
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azdot.gov



# *Appendix C*

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CO CAL3QHC and MOVES Modeling  
Files are Available Upon Request and  
Can be Found in the Project Folder  
at:

G: \\dot.state.az\AdotFiles\ENV\ENV\Environmental Planning Group Projects\Projects  
\303\H6870 01L, SR303L, SR801 MC85 to I-10\Air Quality\Final AQ Modeling Files  
\CO\_CAL3QHC

G: \\dot.state.az\AdotFiles\ENV\ENV\Environmental Planning Group Projects\Projects  
\303\H6870 01L, SR303L, SR801 MC85 to I-10\Air Quality\Final AQ Modeling Files  
\CO\_MOVES

# *Appendix D*

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PM<sub>10</sub> CAL3QHCR and MOVES  
Modeling Files are Available Upon  
Request and Can be Found in the  
Project Folder at:

G:\dot.state.az\AdotFiles\ENV\ENV\Environmental Planning Group Projects  
\Projects\303\H6870 01L, SR303L, SR801 MC85 to I-10\Air Quality\Final AQ  
Modeling Files\PM10 CAL3 July 2018

G: \dot.state.az\AdotFiles\ENV\ENV\Environmental Planning Group Projects  
\Projects\303\H6870 01L, SR303L, SR801 MC85 to I-10\Air Quality\Final AQ  
Modeling Files\PM10 MOVES July 2018

# *Appendix E*

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## PM10 Analysis Location

## PM<sub>10</sub> Hot-spot Analysis Locations

### Location Selected for PM<sub>10</sub> Conformity Analysis

As discussed in the Section 3.3.2 of EPA’s “Transportation Conformity Guidance for Quantitative Hot-spot Analyses in PM<sub>2.5</sub> and PM<sub>10</sub> Nonattainment and Maintenance Areas” (November 2015), for large projects, it is appropriate to focus the PM hot-spot analysis only on the locations of highest air quality concentrations. If conformity is demonstrated at such locations, then it can be assumed that conformity is met in the entire project area.

In Appendix A. the two Interagency Consultation Documents (Project Level PM Quantitative Hot-Spot Analysis-Project of Air Quality Concern Questionnaire and Consultation Document for Project of Air Quality Concern) used the MAG Travel Demand Model Runs for 2035 generated in October 2015 (verified August 8, 2016) for determining the hot-spot analysis requirements and *suggested* study area limits and receptor placements (Figure 1 in Consultation Document). In the Consultant Document, ADOT addressed that it would commence modeling using the traffic data used for the MAG Regional Conformity Analysis on the 2040 RTP and 2018-2022 TIP” (Pg. 9).

The actual PM and CO hot-spot analyses utilized the 2040 MAG traffic data used for its regional conformity analysis approved on October 12, 2017, in accordance to the planning assumptions found in Table 2 Methods, Models and Assumptions (Pg. 9-14). Compared to the old traffic study, it has new road alignments and intersection locations for the two proposed designs – Alternative 5 and Alternative 2C (Figure E-1 and E-2). It also projects different Level of Service (LOS) for each intersection. The proposed project includes twelve new or modified intersections in the analysis area. Although ADOT indicated that the SR303/30 interchange would be modeled as a worst-case location in the “Summary of Comments” (Appendix A) to close out the interagency consultation, the new traffic study made ADOT conduct a new screening process for choosing appropriate analysis locations.

For the new highway projects, 40 CFR 93.123(b) requires a quantitative PM hot-spot analysis for the projects that have a significant number of diesel vehicles; the projects affecting intersections that are at Level-of-Service (LOS) D, E, or F with a significant number of diesel vehicles, or those that will change to LOS D, E, or F because of an increase in traffic volumes from a significant number of diesel vehicles related to the project. 40 CFR 93.123(c) also requires that hot-spot analyses must include the entire project, and may be performed only after the major design features which will significantly impact concentrations have been identified.

Following the criteria listed above, the project team evaluated potential locations for the hot-spot analysis considering (Table E-1 and E-2):

1. AM/PM Peak hour LOS at the intersection for the design year 2040



## 2. Truck volumes on freeway and arterial links

## 3. Average daily traffic volumes (ADT) on freeway and arterial links

Based on EPA guidance and the selection criteria above, the project team selected the intersection at Cotton Lane/SR303L NB Frt Rd & Elwood St as the hot-spot analysis location for the conformity demonstration. This location is expected to have the worst LOS compared to others. The truck volumes at the intersection would also be higher than at other potential intersection locations.

The project team also selected MC85 & Cotton Lane for an additional location for the analysis. The intersection is expected to have poor LOS and has the highest truck and ADT volumes of the arterial intersections.

While other freeway and freeway interchange locations have higher overall traffic volumes associated with the project when accounting for highway traffic (Table E-2), they likely do not have higher concentrations than the selected two locations as designed in Alt 5 or Alt 2C, because the arterial links at the selected intersections have worse traffic conditions than others. Arterial links have MOVES emissions factors that are 5-20 times higher than free-flow freeway links, even with the higher truck fractions on the freeway links taken into account. Also, the road dust emissions factors are twice as high on arterials compared to freeways. Arterial intersections also have queuing emissions, which do not occur on the freeway links.

As specified in the interagency consultation document, ADOT conducted the analysis with Alt 5 design because it was the preferred alternative when the Air Quality Technical Report was initiated. As noted above, the project layout is different between Alt 5 and Alt 2C, which is the current preferred alternative. Even though Alt 2 will be approved in the FONSI and will need a conformity determination, ADOT believes Alt 5 better represents a worst-case scenario compared to Alt 2 because:

- 1) Alt 5 has higher overall traffic
- 2) At Elwood, the 303 ramp links are closer to the arterial intersection, which would tend to increase concentrations due to the closer proximity of freeway and arterial links, with the higher emissions rates and queuing emissions on the arterials
- 3) Likewise, at MC85, Alt 5 has high-volume freeway ramp links immediately adjacent to the intersection (they are far to the west in the Alt 2C layout)
- 4) While ADOT indicated that the SR303/30 interchange would be modeled as a worst-case location in the "Summary of Comments" document, the two selected locations have comparable traffic volumes, higher arterial emissions rates on most links, and more constrained right of way (which would also lead to higher concentrations, as receptors are located closer to traffic)(see Figure E-3 for the right of way distances at these locations).

Figure E-1. SR303 map in 2040 (Alt 5)

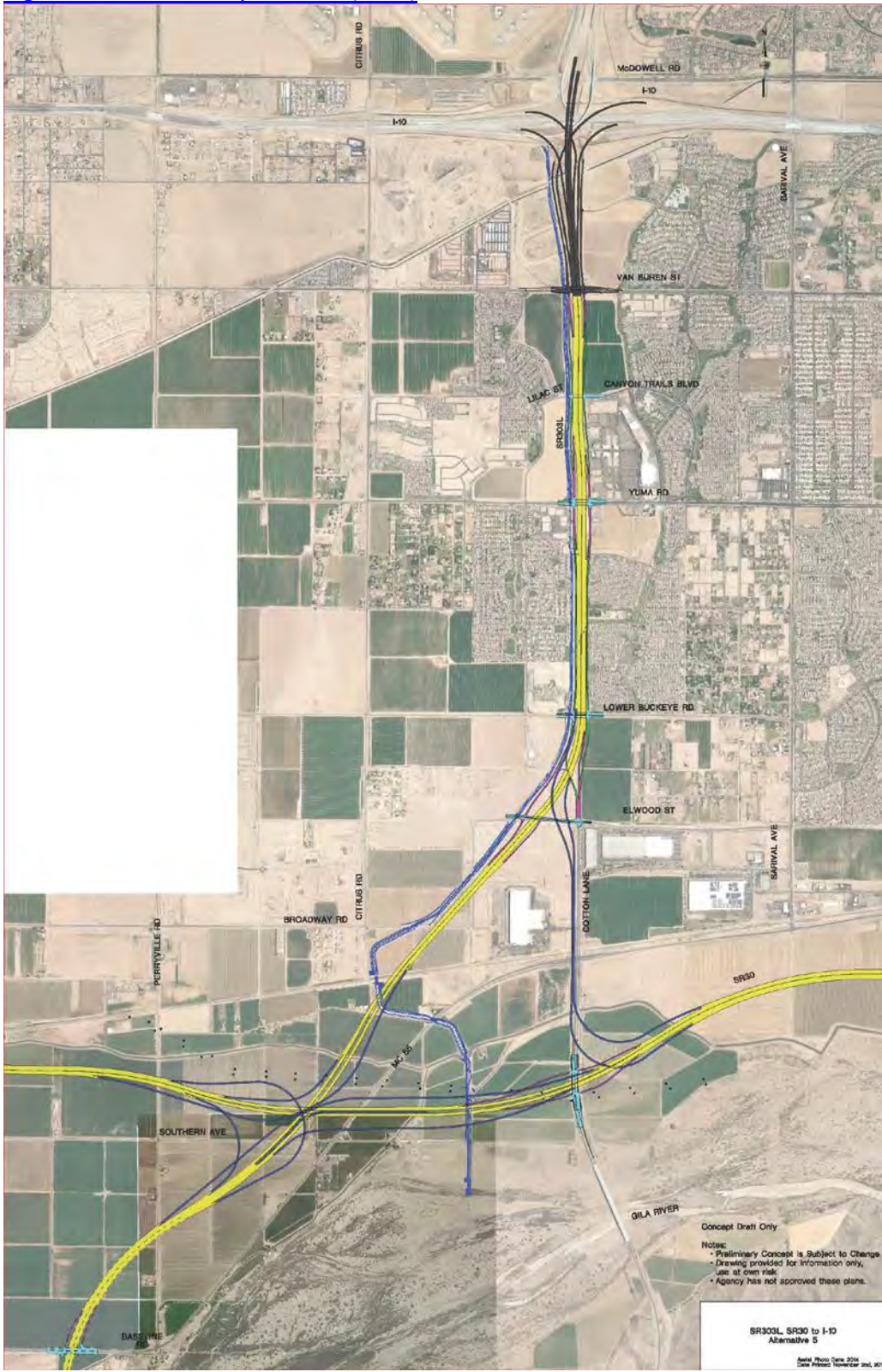


Figure E-2. SR303 map in 2040 (Alt 2C)

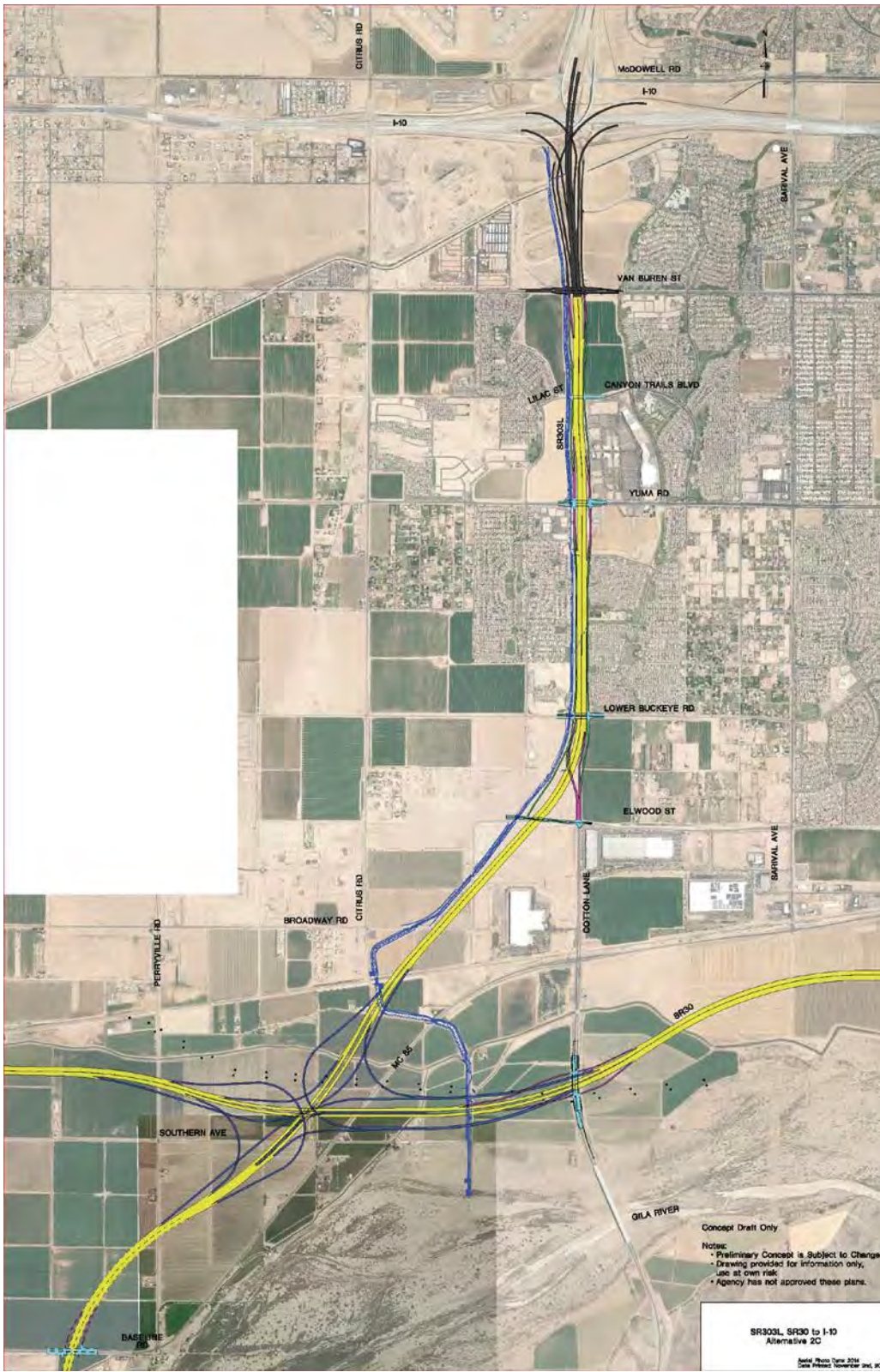


Figure E-3: Right-of-Way locations

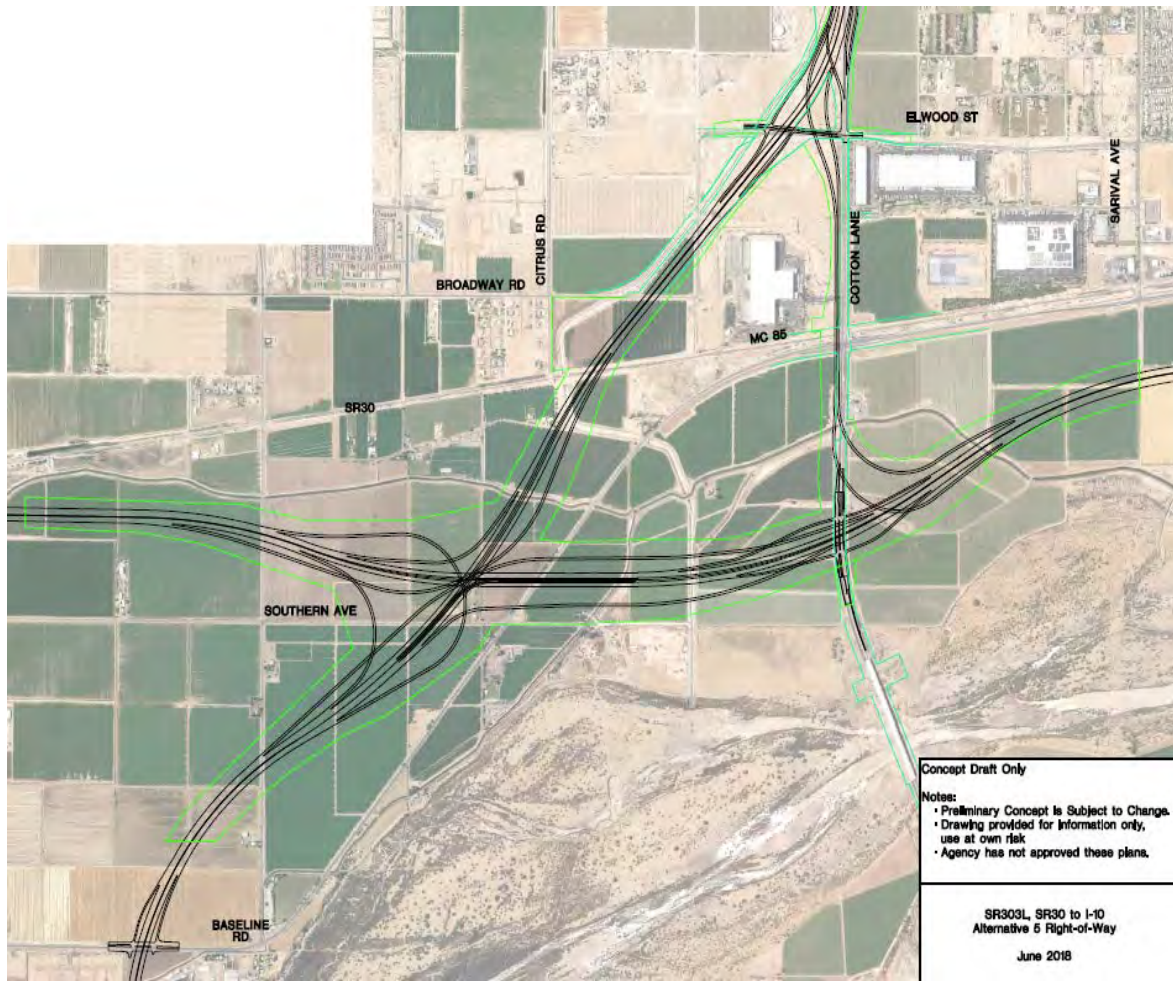


Table E-1. Intersection LOS, ADT, truck volumes and percent (Alt 5)

Intersection	LOS		Truck	ADT	Truck %
	AM	PM			
<a href="#">Yuma Rd &amp; SR303L SB Frt Rd</a>	<a href="#">C</a>	<a href="#">C</a>	<a href="#">761</a>	<a href="#">40,577</a>	<a href="#">1.87%</a>
<a href="#">SR303L NB Frt Rd &amp; Yuma Road</a>	<a href="#">C</a>	<a href="#">C</a>	<a href="#">682</a>	<a href="#">37,736</a>	<a href="#">1.81%</a>
<a href="#">Lower Buckeye Rd &amp; SR303L SB Frt Rd</a>	<a href="#">B</a>	<a href="#">B</a>	<a href="#">376</a>	<a href="#">19,191</a>	<a href="#">1.96%</a>
<a href="#">SR303L NB Frt Rd &amp; Lower Buckeye Rd</a>	<a href="#">B</a>	<a href="#">B</a>	<a href="#">338</a>	<a href="#">16,919</a>	<a href="#">2.00%</a>
<a href="#">MC85 &amp; Cotton Lane</a>	<a href="#">C</a>	<a href="#">D</a>	<a href="#">2,181</a>	<a href="#">68,347</a>	<a href="#">3.19%</a>
<a href="#">Cotton Lane &amp; SR30 WB Off-Rp</a>	<a href="#">A</a>	<a href="#">C</a>	<a href="#">1,367</a>	<a href="#">56,118</a>	<a href="#">2.44%</a>
<a href="#">Cotton Lane &amp; SR30 EB Off-Rp</a>	<a href="#">B</a>	<a href="#">C</a>	<a href="#">1,322</a>	<a href="#">62,622</a>	<a href="#">2.11%</a>
<a href="#">Elwood St &amp; Elwood St SB Off-Rp</a>	<a href="#">B</a>	<a href="#">B</a>	<a href="#">929</a>	<a href="#">33,877</a>	<a href="#">2.74%</a>
<a href="#">Cotton Lane/SR303L NB Frt Rd &amp; Elwood St</a>	<a href="#">D</a>	<a href="#">C</a>	<a href="#">1,580</a>	<a href="#">53,633</a>	<a href="#">2.95%</a>
<a href="#">SR303L NB Off-Rp &amp; Elwood St</a>	<a href="#">B</a>	<a href="#">A</a>	<a href="#">850</a>	<a href="#">30,260</a>	<a href="#">2.81%</a>
<a href="#">SR303L SB Frt Rd &amp; Lilac St</a>	<a href="#">B</a>	<a href="#">B</a>	<a href="#">155</a>	<a href="#">13,024</a>	<a href="#">1.19%</a>
<a href="#">SR303L NB Frt Rd &amp; Lilac St</a>	<a href="#">B</a>	<a href="#">B</a>	<a href="#">168</a>	<a href="#">12,969</a>	<a href="#">1.29%</a>

Table E-2. Truck volumes and percent of highway ADT (Alt 5)

<u>Intersection</u>	<u>Highway</u>		<u>Truck %</u>
	<u>Truck</u>	<u>ADT</u>	
<u>Yuma Rd &amp; SR303L SB Frt Rd</u>	<u>17,433</u>	<u>89,336</u>	<u>19.51%</u>
<u>SR303L NB Frt Rd &amp; Yuma Road</u>	<u>17,433</u>	<u>89,336</u>	<u>19.51%</u>
<u>Lower Buckeye Rd &amp; SR303L SB Frt Rd</u>	<u>17,705</u>	<u>99,372</u>	<u>17.82%</u>
<u>SR303L NB Frt Rd &amp; Lower Buckeye Rd</u>	<u>17,705</u>	<u>99,372</u>	<u>17.82%</u>
<u>MC85 &amp; Cotton Lane</u>	<u>14,910</u>	<u>39,061</u>	<u>38.17%</u>
<u>Cotton Lane &amp; SR30 WB Off-Rp</u>	<u>17,766</u>	<u>76,481</u>	<u>23.23%</u>
<u>Cotton Lane &amp; SR30 EB Off-Rp</u>	<u>17,766</u>	<u>76,481</u>	<u>23.23%</u>
<u>Elwood St &amp; Elwood St SB Off-Rp</u>	<u>16,385</u>	<u>60,125</u>	<u>27.25%</u>
<u>Cotton Lane/SR303L NB Frt Rd &amp; Elwood St</u>	<u>16,385</u>	<u>60,125</u>	<u>27.25%</u>
<u>SR303L NB Off-Rp &amp; Elwood St</u>	<u>16,385</u>	<u>60,125</u>	<u>27.25%</u>
<u>SR303L SB Frt Rd &amp; Lilac St</u>	<u>17,991</u>	<u>116,364</u>	<u>15.46%</u>
<u>SR303L NB Frt Rd &amp; Lilac St</u>	<u>17,991</u>	<u>116,364</u>	<u>15.46%</u>
<u>SR303/30 TI</u>	<u>4,462</u>	<u>63,818</u>	<u>6.99%</u>

## Receptor Locations

As mentioned above, the receptor locations were not clearly located in the Interagency Consultation Document. Figure 1 in the document only showed possible locations around the project area. As the analysis locations were decided, the receptors were located to capture emissions that affect concentrations from highway and arterial traffic at the selected intersections.

The first row of receptors was located on the proposed (or existing) right-of-way (ROW) line or 5 meters from the edge of a traffic lane, whichever is farther, and spaced at 25 meters (82 feet) along the line. The second row is 25 meters from the first row with 25 meter spacing between receptors. Wider spacing (50 meters [164 feet]) is then used for the third, fourth, and fifth row. The farthest receptor from the first row is approximately 175 meters (574 feet) (Figure E-3 and E-4). The number of receptors is 375 for Cotton Lane/SR303L NB Frt Rd & Elwood St intersection and 297 for MC85 & Cotton Lane intersection.

Figure E-3. Receptor locations for Cotton Lane/SR303L NB Frt Rd & Elwood St

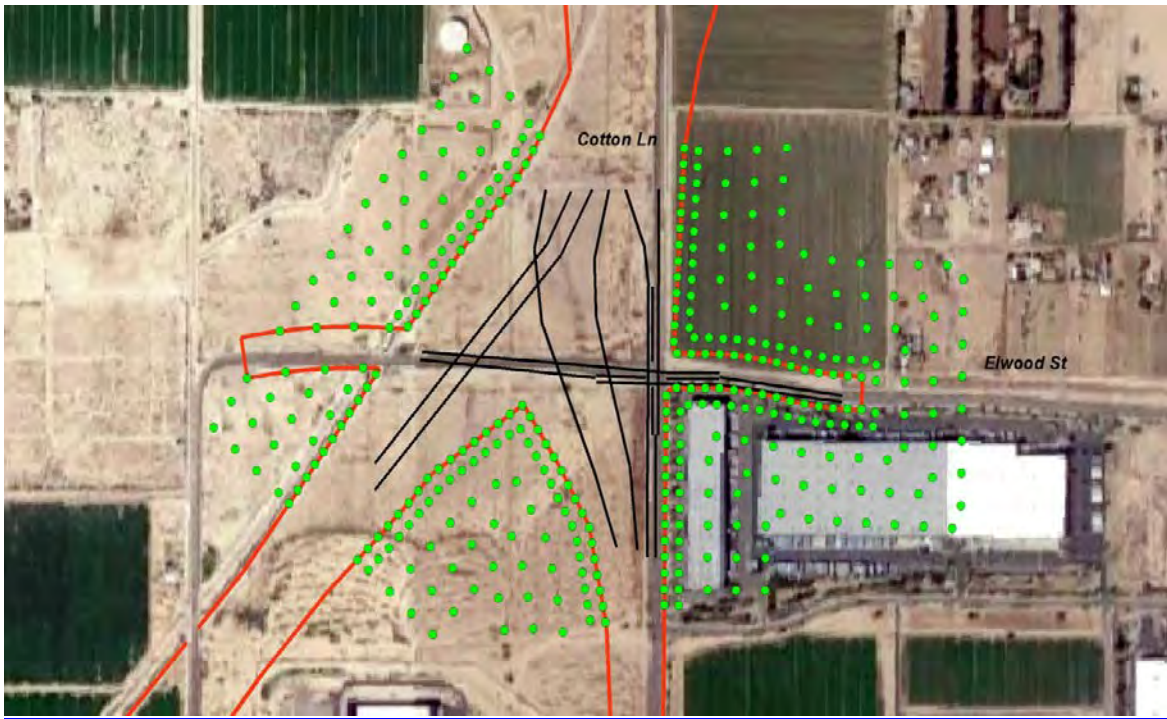


Figure E-4. Receptor locations for MC85 & Cotton Lane



## Background Concentration Data

ADOT uses the updated background monitor data (2015, 2016 & 2017) provided by Maricopa County Air Quality Department.

### 2017 Dysart PM<sub>10</sub> Data for ADOT

#### Data Completeness by Days of Year for PM<sub>10</sub>

<u>Site</u>	<u>Year</u>		
	<u>2015</u>	<u>2016</u>	<u>2017</u>
<u>Dysart</u>	<u>364</u>	<u>366</u>	<u>326</u>

NOTE: Dysart was temporarily shutdown for infrastructure and site upgrades from 1/20/17 – 02/22/17. And, again from 09/25/17 – 10/11/17 for parking lot repair and upgrade.

#### Four Highest PM<sub>10</sub> 24-hour Concentrations (µg/m<sup>3</sup>) by Year with Daily Concentrations Holding EPA Exceptional Event (EE) Concurrence Excluded

<u>Site</u>	<u>Year</u>		
	<u>2015†</u>	<u>2016</u>	<u>2017</u>
	<u>99</u>	<u>173‡</u>	<u>168‡</u>
<u>Dysart</u>	<u>71</u>	<u>126</u>	<u>125</u>
	<u>71</u>	<u>115</u>	<u>120</u>
	<u>68</u>	<u>113</u>	<u>107</u>

† No PM<sub>10</sub> exceedance occurred at a MCAQD in 2015; therefore, no EE package(s) developed were submitted.

‡ Indicates an EE package was submitted

#### Dysart Data Flagged as EE for 2015 - 2017

<u>Date</u>	<u>24-hour Concentration</u>	<u>Qualifier Code</u>
<u>05/17/16</u>	<u>173 µg/m<sup>3</sup></u>	<u>RJ – high winds</u>
<u>10/21/17</u>	<u>168 µg/m<sup>3</sup></u>	<u>RJ – high winds</u>



**Arizona Department of Transportation  
Environmental Planning Group**

**Noise Analysis Technical Report**

**SR 303L, SR 30 to I-10**

**Federal Project No.: STP-303-A(ASO)T  
ADOT Project No.: 303L MA 100 H6870 01L**

Submittal Date  
March 6, 2018

Submittal Number (2)

Remarks:

Noise Abatement eligibility must be readdressed for the properties in relation to the Date of Public Knowledge and Public Involvement process, and evaluated at Final Design stage based on the selected Alternative, as Preliminary Concept is subject to change.

DocuSigned by:  
*Ivan Rasic* 3/8/2018  
D00D4A7BCC34420...



**Noise Analysis Technical Report  
FOR  
SR 303L, SR 30 to I-10**

**Federal Project No.: STP-303-A(ASO)T  
ADOT Project No.: 303L MA 100 H6870 01L**

**Prepared for:**

Arizona Department of Transportation  
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March 6, 2018

**TABLE OF CONTENTS**

1.0 EXECUTIVE SUMMARY..... 1

2.0 PROJECT INFORMATION ..... 2

3.0 NOISE STUDY PROCEDURES..... 7

4.0 FUNDAMENTALS OF TRAFFIC NOISE ..... 7

5.0 NOISE IMPACT CRITERIA..... 9

6.0 NOISE SENSITIVE LAND USES ..... 10

7.0 EXISTING NOISE ENVIRONMENT ..... 10

8.0 NOISE MODELING METHODOLOGY AND TNM 2.5 VARIABLES..... 11

9.0 FUTURE NOISE ENVIRONMENT AND IMPACT DETERMINATION..... 12

10.0 MITIGATION ANALYSIS..... 23

11.0 CONSTRUCTION NOISE ..... 33

12.0 COORDINATION WITH LOCAL OFFICIALS ..... 33

13.0 STATEMENT OF LIKELIHOOD ..... 34

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**LIST OF TABLES**

TABLE 1.	SUMMARY OF NOISE ANALYSIS .....	1
TABLE 2.	FHWA NOISE ABATEMENT CRITERIA .....	9
TABLE 3.	SUMMARY OF NOISE LEVEL MONITORING .....	9
TABLE 4.	MODELED NOISE LEVEL RESULTS Van Buren Street to Yuma Road - West.....	13
TABLE 5.	MODELED NOISE LEVEL RESULTS Van Buren Street to Yuma Road - East.....	14
TABLE 6.	MODELED NOISE LEVEL RESULTS Yuma Road to Lower Buckeye Road - West .....	15
TABLE 7.	MODELED NOISE LEVEL RESULTS Yuma Road to Lower Buckeye Road - East .....	16
TABLE 8.	MODELED NOISE LEVEL RESULTS Lower Buckeye Road to Broadway Road - West .....	17
TABLE 9.	MODELED NOISE LEVEL RESULTS Lower Buckeye Road to Broadway Road - East .....	18
TABLE 10.	MODELED NOISE LEVEL RESULTS Broadway Road to North of SR30 - West.....	19
TABLE 11.	MODELED NOISE LEVEL RESULTS Broadway Road to North of SR30 - East.....	20
TABLE 12.	MODELED NOISE LEVEL RESULTS South of SR30 - West.....	21
TABLE 13.	MODELED NOISE LEVEL RESULTS South of SR30 - East .....	22
TABLE 14.	NOISE MITIGATION Van Buren Road to Yuma Road - West.....	24
TABLE 15.	NOISE BARRIER SUMMARY Van Buren Road to Yuma Road - West.....	25
TABLE 16.	NOISE MITIGATION Yuma Road to Lower Buckeye Road - West .....	26

**LIST OF TABLES (CONTINUED)**

TABLE 17. NOISE BARRIER SUMMARY  
 Yuma Road to Lower Buckeye Road - West ..... 28

TABLE 18. NOISE MITIGATION  
 Yuma Road to Lower Buckeye Road - East ..... 29

TABLE 19. NOISE BARRIER SUMMARY  
 Yuma Road to Lower Buckeye Road - East ..... 30

TABLE 20. NOISE MITIGATION  
 Lower Buckeye Road to Broadway Road - West ..... 31

TABLE 21. NOISE BARRIER SUMMARY  
 Lower Buckeye Road to Broadway Road - West ..... 32

TABLE 22. CONSTRUCTION EQUIPMENT NOISE ..... 33

TABLE 23. RECOMMENDED NOISE BARRIER SUMMARY  
 ALTERNATIVE 2C ..... 34

TABLE 24. RECOMMENDED NOISE BARRIER SUMMARY  
 ALTERNATIVE 3..... 34

TABLE 25. RECOMMENDED NOISE BARRIER SUMMARY  
 ALTERNATIVE 5..... 35

**LIST OF FIGURES**

FIGURE 1. PROJECT LOCATION ..... 3

FIGURE 2. PROJECT LOCATION, SR303L ALTERNATIVE 2C ..... 4

FIGURE 3. PROJECT LOCATION, SR 303L ALTERNATIVE 3 ..... 5

FIGURE 4. PROJECT LOCATION, SR 303L ALTERNATIVE 5 ..... 6

**APPENDICES**

- APPENDIX A – RECEIVER, MONITORING, AND BARRIER LOCATIONS
- APPENDIX B – NOISE MEASUREMENT DATA
- APPENDIX C – TNM 2.5 TRAFFIC VOLUMES

## 1.0 EXECUTIVE SUMMARY

The purpose of this noise analysis technical report is to document the existing and future traffic conditions on SR303L between Interstate 10 (I-10) and the Gila River to the south within City of Goodyear. The project location and limits are shown in Figure 1-1. This Traffic Noise Report supplements the Environmental Assessment (EA) being prepared for this proposed roadway project to build an ultimate ten lane access-controlled freeway from I-10 to future SR30. This project is located in the Arizona Department of Transportation's ADOT Central District within Maricopa County. The Arizona Department of Transportation (ADOT) has updated the Noise Abatement Requirements (NAR) in May 2017. This noise analysis adheres to the May 2017 ADOT NAR and focuses on the Existing, No-Build, and Build Conditions. **Table 1** shows the summary of this noise analysis.

Parameters	Existing 2018	No-Build 2040	Build Alternative		
			2C	3	5
No. of Modeled Receivers	129	123	229	213	243
No. of Representative Receptors	516	671	777	761	790
Range of Noise Levels, dBA	41 to 60	53 to 71	56 to 78	51 to 68	49 to 68
No. of Barriers Needed for Mitigation	N/A	N/A	8	8	9
Cost of Mitigation <sup>[1]</sup>	N/A	N/A	\$7,865,715	\$7,792,715	\$8,127,500
1. Mitigation cost is based on \$35/ft <sup>2</sup> and \$85/ft <sup>2</sup> on-structure barrier					

## 2.0 PROJECT INTRODUCTION

The SR 303L, SR 30 to I-10 project is located in the ADOT Phoenix Construction District within Maricopa County. This project is included in the January 2014 Regional Transportation Plan Freeway Program (RTPFP), which was approved by the voters of Maricopa County through the passage of Proposition 400 in November 2004.

The SR 303L freeway is a major transportation corridor of the Maricopa Association of Governments (MAG) Regional Freeway System. The planned freeway is a forty-mile long new freeway extending from the future SR30 (I-10 Reliever) north to I-10, across US60/Grand Avenue, then to the northeast to connect to Interstate 17 (I-17).

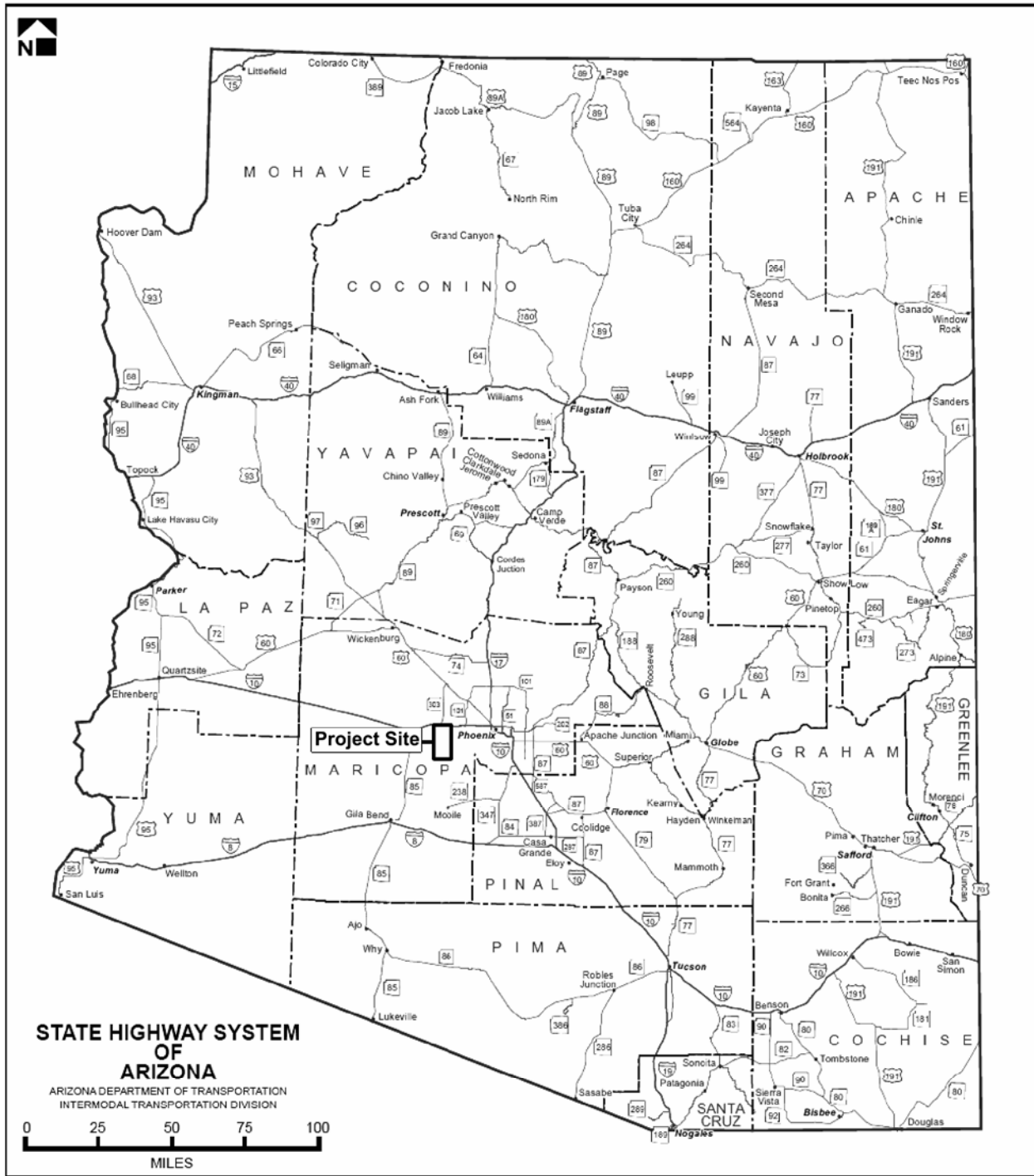
According to the Traffic Report (September 2017) for this project, this proposed freeway is needed to:

- *Accommodate the projected local and regional traffic demand in and through the study area,*
- *Provide a freeway facility that is a vital link between I-10 and future SR 30 to serve through traffic and traffic entering and leaving the greater Phoenix Metropolitan Area,*
- *Provide a regional route to serve the rapidly developing area south of the I-10 freeway that is planned for development as adopted by the City of Goodyear Plan.*
- *Minimize anticipated congestion levels, thereby reducing motorists' travel time and highway user costs.*
- *Conform to approved local and regional development and transportation plans.*

Traffic noise is a major component in freeway planning. The implementation of the SR 303L from SR 30 to I-10 has the potential for noise impacts at noise sensitive receptors located along the project limits. The purpose of this noise analysis technical report is to identify traffic noise impacts and to provide mitigation per the ADOT Noise Abatement Requirements (NAR) for three Build Condition Alternatives (2C, 3, and 5, with SR 30 aligned to the south), as well as the No-Build and Existing Conditions. The Design Year for this project is 2040.

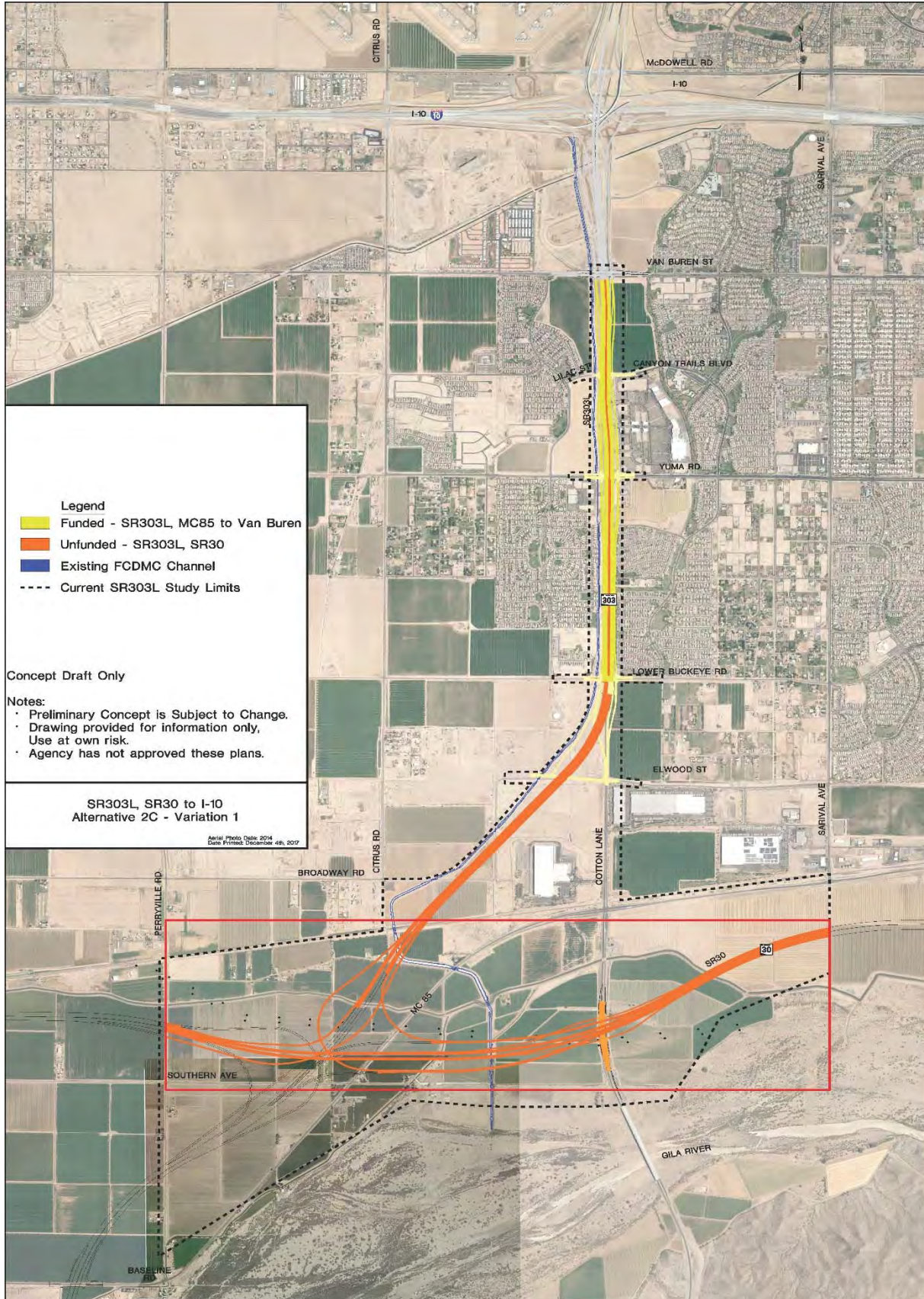
Figure 1 on page 3 shows the project location. Figures 2, 3, and 4 on pages 4, 5, and 6, respectively, show the Build Condition for Alternatives 2C, 3, and 5.

**FIGURE 1. PROJECT LOCATION**



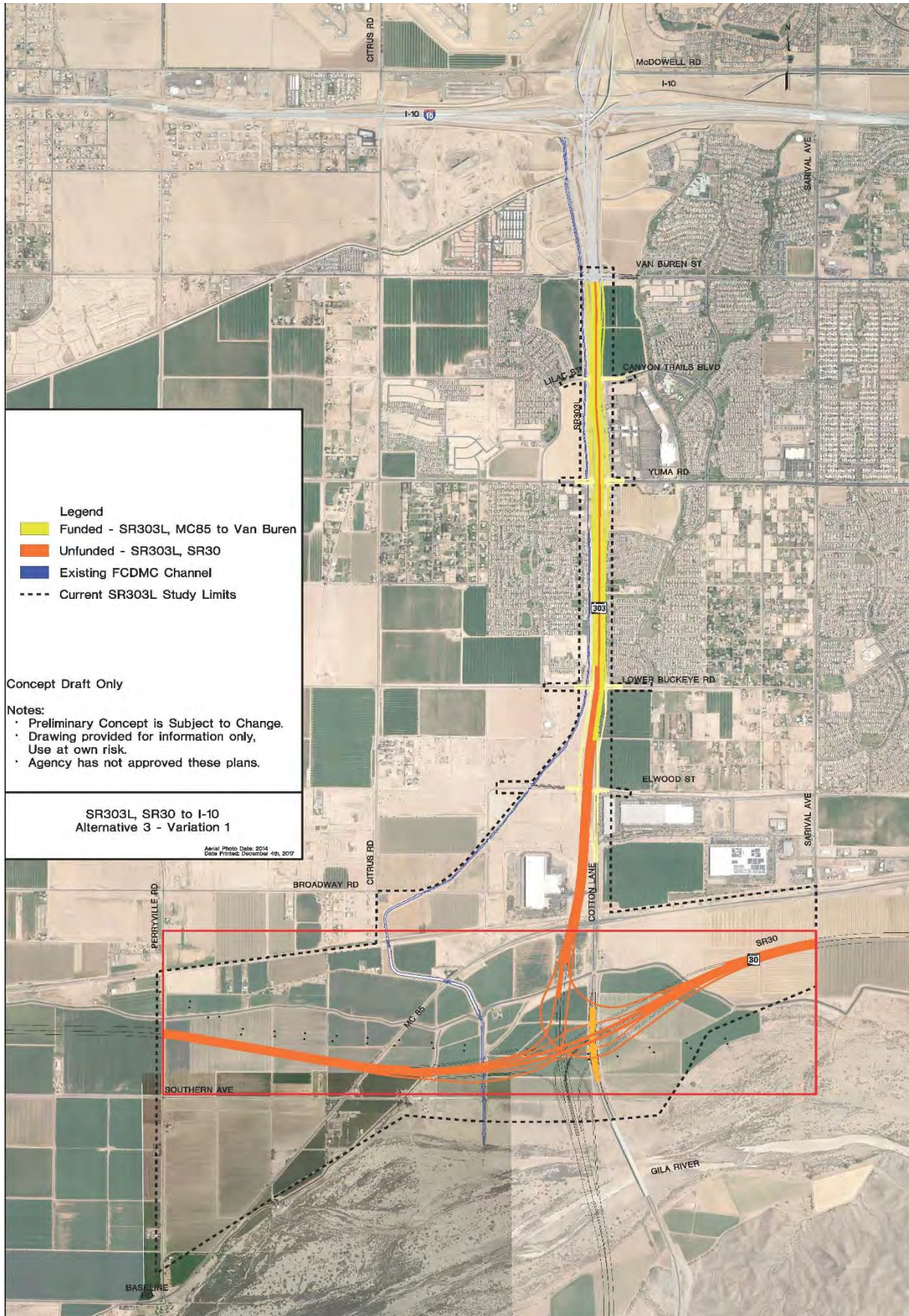
SR 303L, SR 30 to I-10  
 STP-303-A(AS0)T  
 303 MA 100 H6870 01L  
 FIGURE 1

**FIGURE 2. PROJECT LOCATION, SR 303L ALTERNATIVE 2C**

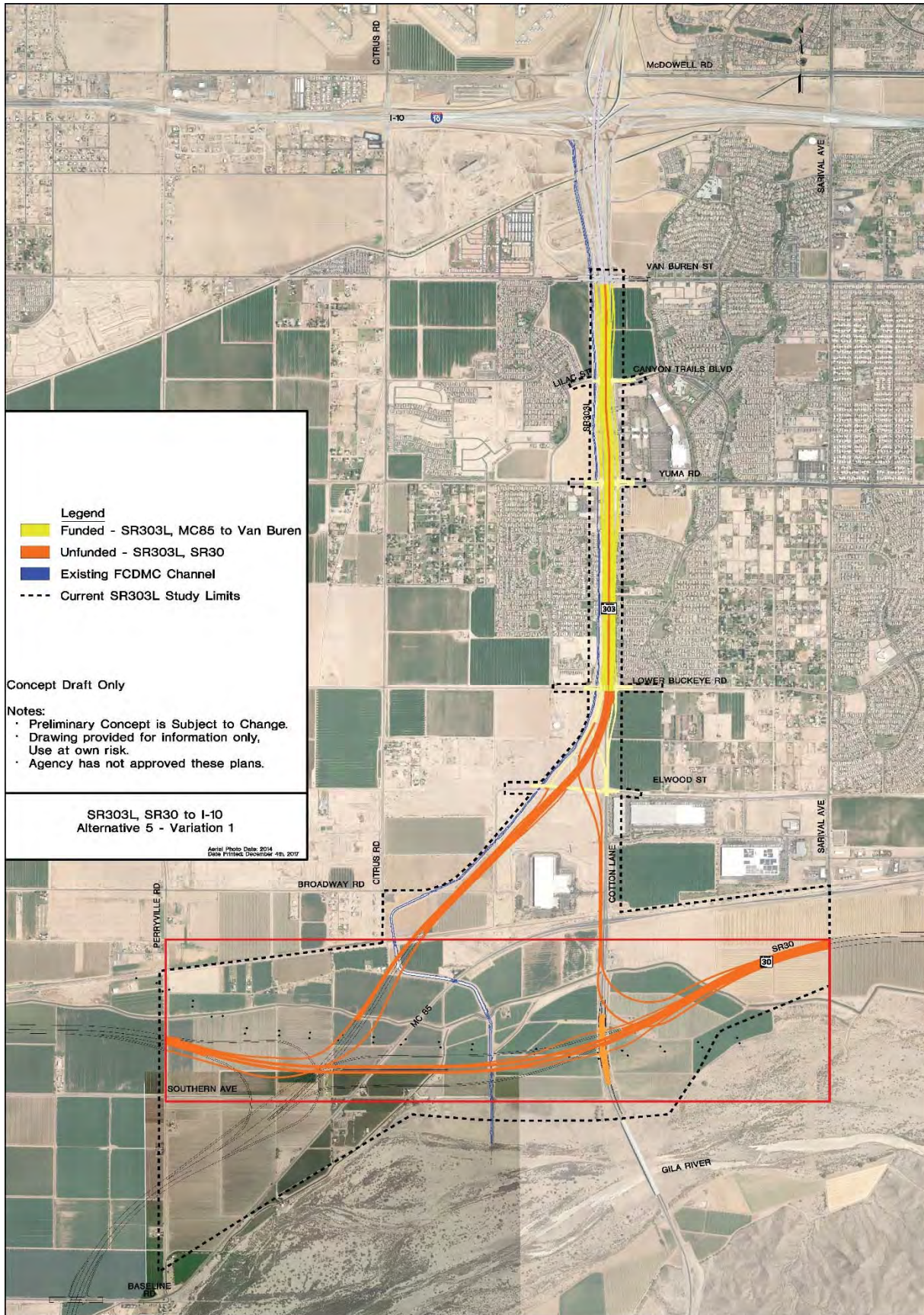




**FIGURE 3. PROJECT LOCATION, SR 303L ALTERNATIVE 3**



**FIGURE 4. PROJECT LOCATION, SR 303L ALTERNATIVE 5**



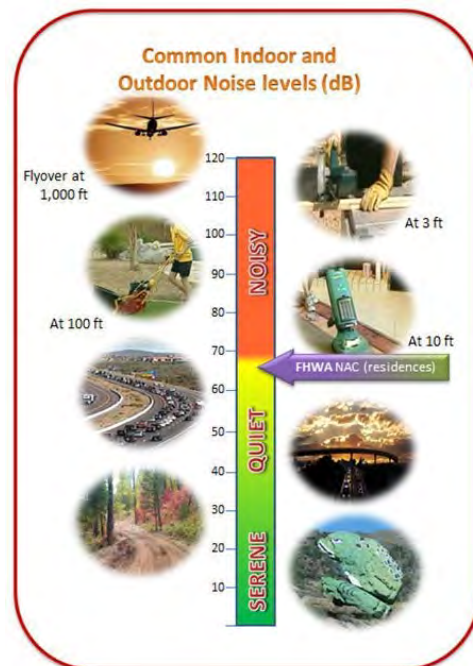
### 3.0 NOISE STUDY PROCEDURES

This noise study procedure, as specified by 23 C.F.R. § 772, follows a six-step process:

1. Identify noise-sensitive land uses,
2. Determine existing noise levels,
3. Predict future (Design Year) noise levels,
4. Determine traffic noise impacts at the noise-sensitive receptors by comparing future (Design Year) noise levels of the Proposed Alternatives with the existing noise levels,
5. Identify any noise impacts resulting from project construction activities, and
6. Provide and evaluate information from local land use planning agencies regarding predicted future (Design Year) noise levels for use in land development decisions.

### 4.0 FUNDAMENTALS OF TRAFFIC NOISE

Sound is the sensation produced by stimulation of the hearing organs produced by continuous and regular vibrations of a longitudinal pressure wave that travels through an elastic medium (air, water, metal, wood) and can be heard when they reach a person's or animal's ear. When sound travels through air, the atmospheric pressure wave variations occur periodically. It travels in air at a speed of approximately 1087 feet per second at sea level and temperature of 32 °F. Noise is usually defined as any “unwanted sound,” and consists of sounds that are perceived as interfering with communication, work, rest, and recreation. It is characterized as a non-harmonious or discordant group of sounds.



#### **Sound Pressure Levels, Decibels, Frequencies and A-Weighted Decibels-dB(A)**

Noise can be measured in Pa (Pascal). A healthy human ear can detect a pressure variation of 20  $\mu$ Pa and it is referred to as threshold of hearing. Logarithmic scale is useful for handling numbers on a wide scale, but for a smaller span, the decibel or (dB) scale is used. Sound pressure level (SPL) is calculated using measured sound level and the hearing threshold of 20  $\mu$ Pa or  $20 \times 10^{-6}$  Pa as the reference level, this level can also be defined as 0 dB. The decibel alone is insufficient to describe how human ear responds to sound pressures at all frequencies. The human ear has peak response in the range of 2,500 to 3,000 Hz and has a somewhat low response at low or even high frequencies. In response to the human ear sensitivity, the A-weighted noise level, referenced in units of dBA, was determined to better resemble people's perception of sound levels. This dBA unit of measurement is used in noise studies and reporting. Changes in sound level under 3 dBA are not noticed by human ear, while the human ear perceives a 10 dBA increase in sound level to be a doubling of sound.

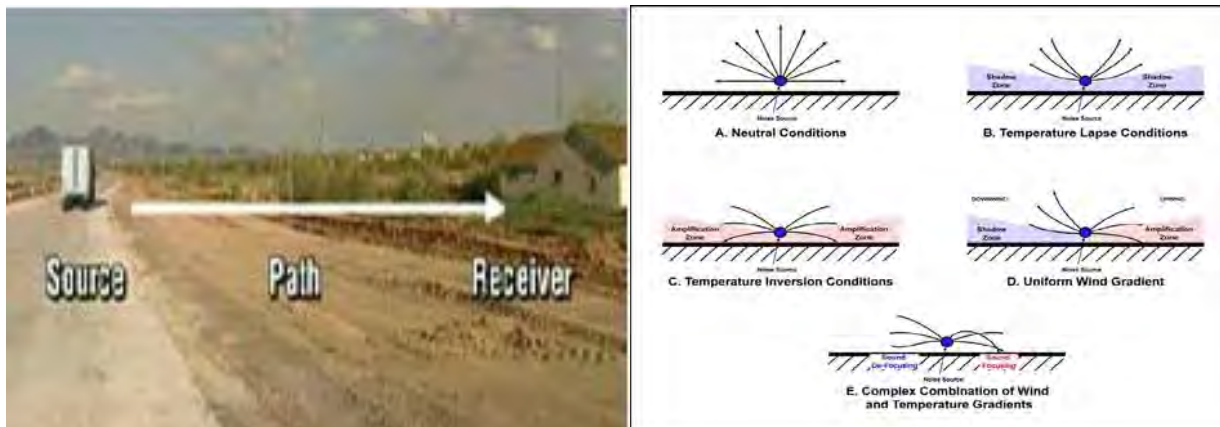
## **Noise Descriptors**

The most commonly used noise descriptor in traffic noise analysis is Equivalent Sound Level ( $L_{eq}$ ).  $L_{eq}$  represents an average of the sound energy occurring over a specified period. In effect,  $L_{eq}$  is the steady-state sound level containing the same acoustical energy as the time-varying sound that actually occurs during the same period. The 1-hour A-weighted equivalent sound level [ $L_{Aeq(h)}$ ] is the energy average of A-weighted sound levels occurring during a one-hour period, and is the basis for noise criteria used by ADOT.

### **What are source, receiver, receptor, and path when talking about traffic noise?**

*Traffic noise* is a combination of the noises produced by vehicle engines, exhaust, and tires. The source of highway traffic comes from vehicles traveling on highways. The noise level at the *Source* depends on pavement type, number of heavy trucks, traffic volumes, and traffic speeds. The predominant noise sources in vehicles at speeds less than 30 mph are engine and exhaust. At speeds greater than 30 mph, tire noise becomes the dominant noise source.

In the illustration below, the Receptor is any location where people are affected by the traffic noise. It can be residence, park, school, playground and any other place where frequent human use occurs. An area between the source and the receptor (*receiver* represents a receptor(s) when modeled in FHWA Traffic Noise Model) is considered a path. Depending on the path surface, propagation of sound may be reduced; such is the case for the soft ground and fresh snow. Doubling the distance between the source and receptor reduces noise by three dBA depending on the ground.



Air changes its density due to variation of humidity and temperature, and wind influences refraction of sound waves. Wind, humidity, and temperature may have a significant impact, but only influences the receptors located a long distance away from source. As residents are usually much closer to the noise source, any atmospheric conditions are insignificant for consideration.

For more information on noise, please visit ADOT Environmental Planning Noise webpage.

## 5.0 NOISE IMPACT CRITERIA

The ADOT NAR provides the guidelines used to assess the potential negative impacts from highway traffic noise levels and determines the need for noise abatement. The noise level impact methodology used for this analysis is based on the current ADOT NAR. The Federal Highway Administration (FHWA) has established Noise Abatement Criteria (NAC) and procedures to be used in the planning and design of highways. A summary of the NAC for various land uses is presented in **Table 2**.

The ADOT NAR is based on the noise levels approaching the FHWA NAC. ADOT defines “approaching” as within 1 dBA of the FHWA NAC for Activity Categories A, B, C, D, and E. There are no noise impact thresholds for Activity Category F or G. The ADOT NAR determines highway traffic noise level impacts and considers mitigation for residential land uses when the predicted noise level is equal to or greater than the noise impact threshold of 66 dBA. ADOT also indicated that noise levels should be rounded to the nearest integer prior to impact determination and in project reports.

<b>TABLE 2 FHWA NOISE ABATEMENT CRITERIA<sup>[1]</sup></b>		
<b>Activity Category</b>	<b>dBA, L<sub>Aeq1h</sub><sup>[2]</sup></b>	<b>Activity Description</b>
A	57 (exterior)	Land on which serenity and quiet are of extraordinary significance and serve an important public need, and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B	67 (exterior)	Residential.
C	67 (exterior)	Active sports areas, amphitheatres, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails, and trail crossings.
D	52 (interior)	Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio structures, recording studios, schools, and television studios.
E	72 (exterior)	Hotels, motels, offices, restaurants/bars, and other developed lands, properties or activities not included in categories A–D or F.
F	---	Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical), and warehousing.
G	---	Undeveloped lands that are not permitted.
1. Sources: Federal Highway Administration (2011); 23 Code of Federal Regulations § 772. 2. The 1-hour equivalent loudness in A-weighted decibels, which is the logarithmic average of noise over a 1-hour period.		

## 6.0 NOISE SENSITIVE LAND USES

The land uses within the project limits include residential, commercial, and agricultural. This noise analysis focuses on representative noise sensitive receptors in the FHWA NAC Categories B, C, D, and E located throughout the project corridor. There are several newly proposed residential developments that are actively pursuing building permits. The first development, *Christopher Todd Communities at Canyon Trails*, is located on the southwest corner of Van Buren Road and Cotton Lane. The second development, *Crestwood at Canyon Trails*, is located approximately one half-mile south of Van Buren Road and adjacent to the west side of Cotton Lane. The third proposed development, *El Cidro* (Phase 1, Parcel 3), is located on the southwest corner of Lower Buckeye Road and Cotton Lane.

## 7.0 EXISTING NOISE ENVIRONMENT

Short-term noise level monitoring was conducted within the project limits on October 11, 2017 to describe the existing noise environment. Five measurement locations were chosen to represent noise sensitive receptors in residential communities along the project corridor.

Three 15-minute interval equivalent noise level measurements ( $L_{eq}$ ) were conducted at each site. Noise level monitoring helps describe the existing noise environment throughout the project area and capture the contribution of traffic noise from surrounding roadways. Measured noise levels may include contributions from other noise sources, including but not limited to, airplanes from nearby Luke Air Force Base, wind, birds, insects, landscaping equipment, etc.

The equipment used for the noise level monitoring was a Larson Davis Model LXT Class 1 integrating sound level meter (SLM). The SLM was calibrated in the field before each measurement using a Larson Davis Model CAL200. Existing noise measurements were collected under meteorologically acceptable conditions when the pavement was dry and winds were calm or light. Additional data collected at each monitoring location included atmospheric conditions such as general wind speed and direction, humidity, dewpoint, barometric pressure, and ambient temperature. Measurements were collected based on the acceptable collection of existing noise level readings per FHWA Report number FHWA-PD-96-046, and "Measurement of Highway Related Noise."

The measured noise level ranged from 46 dBA to 68 dBA. **Appendix A** shows the location of the noise level monitoring sites, and **Table 3** shows the summary of the noise level measurements. **Appendix B** shows the measured noise level data.

Measurement Locations	15-Minute Interval Measured Noise Levels ( $L_{eq}$ ), dBA		
	Interval 1	Interval 2	Interval 3
<b>Mon 1</b>	53.8	50.6	50.3
<b>Mon 2</b>	57.0	57.5	56.9
<b>Mon 3</b>	68.0	50.2	67.2
<b>Mon 4</b>	45.9	47.0	46.3
<b>Mon 5</b>	50.1	48.4	48.2

## 8.0 NOISE MODELING METHODOLOGY AND TNM 2.5 VARIABLES

The FHWA-approved Traffic Noise Model version 2.5 (TNM 2.5) is the computer noise model used for the prediction of highway and roadway traffic noise levels. The output of the model is dependent upon variables, which include atmospheric conditions, roadway geometries, topographic data, ground types, noise receiver locations, traffic volumes, vehicle speed, and vehicle mix.

### **Atmospheric Conditions**

Noise level is affected by temperature and humidity. Temperature gradients cause refraction effects. For example, in the morning, when the ground is still cool from the night before but the upper air is warming due to the sun, noise can bounce between the gradient and the ground, forming regions of higher and lower noise intensity. Noise attenuation is also affected by humidity. Dry air absorbs more acoustical energy than moist air because dry air has a higher density than moist air at a given temperature. For noise modeling purposes, FHWA recommends the default values of 68 degrees Fahrenheit for the temperature and 50 percent humidity.

### **Roadway Geometry & Topographic Data and Ground Type**

The Roadway geometries and topographic data for the project were based on design plans provided by the design engineer (WSP). Hard soil was used to approximate the ground type between the roadway and receptors.

### **Receptor and Receiver Locations**

The ADOT NAR defines a “receptor” as a discrete or representative location of a noise sensitive area(s) for any of the land uses listed in **Table 2** on page 8. A “Receiver” is defined as a location used in noise modeling to represent the measured and predicted noise level at a particular point. The noise-sensitive receptors are located in the backyard or common outdoor areas of residential locations.

### **Traffic Volumes**

The ADOT NAR provides guidelines on the traffic volumes for use in the noise model, in which a “worst-case” approach should be used. In general, this should reflect Level of Service (LOS) C traffic conditions during the peak hour, with traffic moving at 5 miles per hour (mph) above the posted speed limit. Also, if the future traffic volumes are less than the maximum LOS C volumes, then the future traffic volumes will be utilized. If no other traffic information is available, the peak hourly volume should be 10 percent of the annual average daily traffic (AADT) volume. For this analysis, the Existing, No-Build, and Build Conditions are based peak-hour volumes. These volumes are shown in **Appendix C**.

### **Vehicle Speed**

The current posted speed limit for Cotton Lane is 45 mph. The modeled vehicle speeds are 50 mph for the Existing and No-Build Conditions. For the Build Condition, the

freeway mainline modeled vehicle speed is 70 mph, service ramps and directional ramps at 50 mph. The modeled vehicle speeds are 5 mph greater than the posted speed limits.

### **Vehicle Mix**

The percentages of vehicles by type (vehicle mix) is an important input for the noise model, because different vehicle types exhibit different base or reference noise emission levels, such as with trucks that produce higher reference levels than cars, and larger trucks that produce higher reference levels than smaller trucks. Vehicle types are defined as follows:

- Cars (Auto): All vehicles with two axles and four wheels designed primarily for passenger transportation or cargo (light trucks). Generally, the gross vehicle weight is less than 10,000 pounds.
- Medium Trucks: All vehicles having two axles and six wheels designed for the transportation of cargo. Generally, the gross vehicle weight is greater than 10,000 pounds but less than 26,400 pounds.
- Heavy Trucks: All vehicles having three or more axles and designed for the transportation of cargo. Generally, the gross weight is greater than 26,400 pounds.

This noise analysis focuses on automobile, medium truck, and heavy truck usage on the roadways. The vehicle mix used in this analysis is shown in **Appendix C**.

## **9.0 FUTURE NOISE ENVIRONMENT AND IMPACT DETERMINATION**

The proposed SR 303L alignment is along Cotton Lane. Currently, Cotton Lane is a four-lane arterial roadway from Van Buren Street to Yuma Road, a two-lane roadway from Yuma Road to MC85, and a four-lane divided roadway from MC85 across the Gila River. The No-Build Condition is based on the existing configuration of Cotton Lane and improvements to the I-10/SR 303L system traffic interchange (TI).

This noise analysis addresses three Build Condition Alternatives. Alternatives 2C, 3, and 5 design concepts are similar for the freeway segment north of Lower Buckeye Road. South of Lower Buckeye Road, Alternative 2C aligns SR 303L in a southwestern direction to the proposed SR 30 TI; Alternative 3 continues SR 303L along Cotton Lane to the proposed SR 30 TI; and Alternative 5 is similar to Alternative 2C with the inclusion of a connection along Cotton Lane. The Alternatives are shown in Figures 2, 3, and 4 on pages 4, 5, and 6, respectively. The location of the modeled receivers are shown in **Appendix A**.



### Van Buren Street to Yuma Road - West

A total of 30 receivers were modeled to represent 228 noise-sensitive receptors west of Cotton Lane between Van Buren Street and Yuma Road. **Table 4** shows the No-Build and Build Alternative modeled noise levels for the receivers.

<b>TABLE 4 MODELED NOISE LEVEL RESULTS Van Buren Street to Yuma Road - West</b>				
Receiver	Modeled Noise Levels, $L_{Aeq1h}$			
	No-Build 2040	Build 2040 Alternative 2C	Build 2040 Alternative 3	Build 2040 Alternative 5
R2_1W-01_NI	60	55	55	55
R2_1W-02_NI	60	59	59	60
R2_1W-03_NI	57	56	56	56
R2_1W-04_NI	54	57	57	58
R2_1W-05_NI	55	58	58	59
R2_1W-06_NI	55	58	58	59
R2_1W-07_NI	56	59	59	60
R2_1W-08_NI	57	61	61	61
R2_1W-09_NI	56	60	61	61
R2_1W-10_NI	55	58	59	59
R2_1W-11_NI	55	59	59	60
R2_1W-12_NI	55	58	59	59
R2_1W-13_NI	56	59	60	60
R2_1W-14_NI	56	58	59	59
R2_1W-15_NI	56	60	60	61
R2_1W-16_NI	54	56	56	57
R2_1W-17_NI	57	59	59	60
R2_1W-18_NI	56	58	59	59
R2_1W-01A_INB	<b>68</b>	<b>66</b>	<b>66</b>	<b>67</b>
R2_1W-01B_INB	<b>66</b>	<b>68</b>	<b>69</b>	<b>69</b>
R1_1W-02A_IB	65	<b>70</b>	<b>70</b>	<b>71</b>
R1_1W-02B_IB	64	<b>71</b>	<b>71</b>	<b>71</b>
R2_1W-03A_IB	62	<b>69</b>	<b>68</b>	<b>69</b>
R2_1W-03B_IB	61	<b>66</b>	<b>66</b>	<b>67</b>
R1_1W-11A_IB	64	<b>70</b>	<b>70</b>	<b>71</b>
R1_1W-12A_IB	65	<b>70</b>	<b>71</b>	<b>71</b>
R1_1W-13A_IB	65	<b>70</b>	<b>71</b>	<b>71</b>
R1_1W-15A_IB	65	<b>70</b>	<b>71</b>	<b>71</b>
R1_1W-16A_IB	65	<b>70</b>	<b>70</b>	<b>71</b>
R2_1W-17A_INB	64	<b>68</b>	<b>69</b>	<b>69</b>

Note: **Bolded** values are equal to or greater than ADOT NAR noise impact threshold of 66 dBA

The modeled noise levels range from 54 to 68 dBA for the No-Build Condition and from 55 dBA to 71 dBA for the Build Alternatives. The modeled noise levels for the Build Alternatives are equal to or greater than the ADOT NAR noise impact threshold of 66 dBA. Therefore, mitigation evaluation is required for this area. **Appendix A** shows the locations of the modeled noise receivers from **Table 4**.

**Van Buren Street to Yuma Road - East**

A total of 10 receivers were modeled to represent 27 receptors east of Cotton Lane between Van Buren Street and Yuma Road. **Table 5** shows the results for the receivers.

<b>TABLE 5 MODELED NOISE LEVEL RESULTS Van Buren Street to Yuma Road - East</b>				
<b>Receiver</b>	<b>Modeled Noise Levels, <math>L_{Aeq1h}</math></b>			
	<b>No-Build 2040</b>	<b>Build 2040 Alternative 2C</b>	<b>Build 2040 Alternative 3</b>	<b>Build 2040 Alternative 5</b>
R1_1E-01_NI	57	60	61	61
R1_1E-02_NI	62	60	60	61
R1_1E-03_NI	56	60	60	61
R1_1E-04_NI	58	61	61	62
R1_1E-05_NI	57	61	61	61
R1_1E-06_NI	61	60	60	61
R1_1E-07_NI	56	60	61	61
R1_1E-08_NI	60	60	60	60
R1_1E-09_NI	60	59	59	60
R1_1E-10_NI	54	57	58	58

Note: **Bolded** values are equal to or greater than ADOT NAR noise impact threshold of 66 dBA

The modeled noise levels range from 54 to 62 dBA for the No-Build Condition. For Alternative 2C, the modeled noise levels range from 57 dBA to 61 dBA. For Alternative 3, the modeled noise levels range from 58 dBA to 61 dBA. For Alternative 5, the modeled noise levels range from 58 dBA to 62 dBA. The noise impact threshold of 66 dBA was not exceeded for the Build Alternatives at the modeled noise receivers; therefore, mitigation is not needed for this area. **Appendix A** shows the locations of the modeled noise receivers from **Table 5**.

### **Yuma Road to Lower Buckeye Road - West**

A total of 31 receivers were modeled to represent 178 receptors west of Cotton Lane between Yuma Road and Lower Buckeye Road. **Table 6** shows the modeled noise level results for the receivers.

<b>TABLE 6 MODELED NOISE LEVEL RESULTS Yuma Road to Lower Buckeye Road - West</b>				
<b>Receiver</b>	<b>Modeled Noise Levels, <math>L_{Aeq1h}</math></b>			
	<b>No-Build 2040</b>	<b>Build 2040 Alternative 2C</b>	<b>Build 2040 Alternative 3</b>	<b>Build 2040 Alternative 5</b>
R1_2W-01_NINB	<b>68</b>	61	62	62
R1_2W-02_NINB	63	60	61	61
R1_2W-03_NINB	61	60	61	61
R1_2W-04_NINB	60	62	62	63
R2_2W-05_NINB	59	64	<b>65</b>	65
R2_2W-06_NINB	61	64	<b>65</b>	65
R1_2W-07_INB	62	65	<b>66</b>	<b>66</b>
R1_2W-08_INB	62	65	65	<b>66</b>
R1_2W-09_INB	62	65	<b>66</b>	<b>66</b>
R1_2W-10_IB	64	<b>70</b>	<b>70</b>	<b>71</b>
R1_2W-11_IB	63	<b>70</b>	<b>70</b>	<b>70</b>
R1_2W-12_IB	65	<b>70</b>	<b>70</b>	<b>70</b>
R1_2W-13_IB	<b>67</b>	<b>70</b>	<b>71</b>	<b>71</b>
R1_2W-14_INB	<b>66</b>	<b>73</b>	<b>74</b>	<b>74</b>
R1_2W-15_INB	63	<b>72</b>	<b>72</b>	<b>73</b>
R1_2W-16_INB	65	<b>73</b>	<b>73</b>	<b>74</b>
R1_2W-17_IB	<b>66</b>	<b>70</b>	<b>71</b>	<b>71</b>
R1_2W-18_INB	<b>67</b>	<b>73</b>	<b>73</b>	<b>74</b>
R1_2W-19_INB	<b>70</b>	<b>73</b>	<b>74</b>	<b>74</b>
R1_2W-20_INB	63	<b>72</b>	<b>73</b>	<b>73</b>
R1_2W-21_INB	64	<b>72</b>	<b>73</b>	<b>73</b>
R1_2W-22_IB	64	<b>68</b>	<b>69</b>	<b>69</b>
R2_2W-23_IB	62	<b>66</b>	<b>67</b>	<b>67</b>
R2_2W-24_NIB	59	64	64	64
R1_2W-25_IB	65	<b>69</b>	<b>70</b>	<b>70</b>
R1_2W-26_INB	<b>67</b>	<b>70</b>	<b>71</b>	<b>71</b>
R1_2W-27_INB	63	<b>70</b>	<b>70</b>	<b>70</b>
R1_2W-28_INB	<b>66</b>	<b>68</b>	<b>69</b>	<b>69</b>
R1_2W-29_IB	<b>67</b>	<b>68</b>	<b>68</b>	<b>68</b>
R1_2W-30_IB	<b>71</b>	<b>66</b>	<b>67</b>	<b>67</b>
R2_2W-31_NIB	<b>66</b>	63	64	64

Note: **Bolded** values are equal to or greater than ADOT NAR noise impact threshold of 66 dBA

The modeled noise levels range from 59 to 71 dBA for the No-Build Condition. For Alternative 2C, the modeled noise levels range from 60 dBA to 73 dBA. For Alternatives 3 and 5, the modeled noise levels range from 61 dBA to 74 dBA. The modeled noise levels for the Build Alternatives are equal to or greater than the ADOT NAR noise impact threshold of 66 dBA. Therefore, mitigation evaluation is required for this area. **Appendix A** shows the locations of the modeled noise receivers from **Table 6**.

**Yuma Road to Lower Buckeye Road - East**

A total of 15 receivers were modeled to represent 149 receptors east of Cotton Lane between Yuma Road and Lower Buckeye Road. **Table 7** shows the modeled noise level results for the receivers.

<b>TABLE 7 MODELED NOISE LEVEL RESULTS Yuma Road to Lower Buckeye Road - East</b>				
<b>Receiver</b>	<b>Modeled Noise Levels, <math>L_{Aeq1h}</math></b>			
	<b>No-Build 2040</b>	<b>Build 2040 Alternative 2C</b>	<b>Build 2040 Alternative 3</b>	<b>Build 2040 Alternative 5</b>
R2_2E-01_INB	60	<b>67</b>	<b>68</b>	<b>68</b>
R1_2E-02_INB	61	<b>72</b>	<b>73</b>	<b>73</b>
R1_2E-03_INB	<b>66</b>	<b>67</b>	<b>68</b>	<b>68</b>
R1_2E-04_IB	65	<b>72</b>	<b>73</b>	<b>73</b>
R1_2E-05_INB	<b>67</b>	<b>76</b>	<b>77</b>	<b>77</b>
R2_2E-06_IB	61	<b>66</b>	<b>67</b>	<b>68</b>
R1_2E-07_IB	63	<b>71</b>	<b>72</b>	<b>72</b>
R1_2E-08_INB	63	<b>69</b>	<b>70</b>	<b>71</b>
R1_2E-09_INB	63	<b>68</b>	<b>69</b>	<b>69</b>
R1_2E-10_IB	64	<b>69</b>	<b>70</b>	<b>70</b>
R1_2E-11_INB	<b>67</b>	<b>72</b>	<b>73</b>	<b>73</b>
R1_2E-12_INB	<b>66</b>	<b>70</b>	<b>72</b>	<b>72</b>
R1_2E-13_IB	<b>68</b>	<b>69</b>	<b>70</b>	<b>70</b>
R2_2E-14_IB	<b>68</b>	<b>66</b>	<b>68</b>	<b>67</b>
R2_2E-15_NINB	<b>68</b>	64	65	65

Note: **Bolded** values are equal to or greater than ADOT NAR noise impact threshold of 66 dBA

The modeled noise levels range from 60 to 68 dBA for the No-Build Condition. For Alternative 2C, the modeled noise levels range from 64 dBA to 72 dBA. For Alternatives 3 and 5, the modeled noise levels range from 65 dBA to 73 dBA. The modeled noise levels for the Build Alternatives are equal to or greater than the ADOT NAR noise impact threshold of 66 dBA. Therefore, mitigation evaluation is required for this area. **Appendix A** shows the locations of the modeled noise receivers from **Table 7**.

**Lower Buckeye Road to Broadway Road - West**

A total of 22 receivers were modeled to represent 74 receptors west of the future SR303L between Lower Buckeye Road and Broadway Road. **Table 8** shows the modeled noise level results for the receivers.

Receiver	Modeled Noise Levels, $L_{Aeq1h}$			
	No-Build 2040	Build 2040 Alternative 2C	Build 2040 Alternative 3	Build 2040 Alternative 5
R2_3W-01_NINB	65	64	65	65
R2_3W-02_NINB	64	65	<b>66</b>	65
R1_3W-03_IB	64	65	<b>67</b>	<b>66</b>
R1_3W-04_IB	62	65	<b>67</b>	<b>66</b>
R1_3W-05_IB	62	<b>66</b>	<b>67</b>	<b>66</b>
R1_3W-06_IB	61	<b>66</b>	<b>67</b>	<b>66</b>
R1_3W-07_INB	60	<b>66</b>	<b>67</b>	<b>67</b>
R1_3W-08_INB	60	<b>66</b>	<b>67</b>	<b>66</b>
R1_3W-09_NIB	61	<b>66</b>	<b>66</b>	65
R1_3W-10_NI	59	64	64	63
R1_3W-11_NI	60	65	65	64
R1_3W-12_NI	58	65	64	65
R1_3W-13_NI	57	65	64	65
R1_3W-14_NI	57	65	63	65
R1_3W-15_NI	56	65	63	64
R1_3W-16_NI	57	65	62	63
R1_3W-17_NI	57	<b>67</b>	<b>66</b>	62
R1_3W-18_NI	56	<b>67</b>	<b>67</b>	61
R1_3W-19_NI	57	<b>67</b>	<b>66</b>	61
R1_3W-20_NI	56	<b>67</b>	--	61
R1_3W-21_NI	57	<b>66</b>	--	61
R1_3W-22_NI	58	65	--	58

Note: **Bolded** values are equal to or greater than ADOT NAR noise impact threshold of 66 dBA  
 --- Indicates receivers do not apply to this alternative.

The modeled noise levels range from 56 to 65 dBA for the No-Build Condition. For Alternative 2C, the modeled noise levels range from 64 dBA to 67 dBA. For Alternative 3, the modeled noise levels range from 62 dBA to 67 dBA. For Alternative 5, the modeled noise levels range from 58 dBA to 67 dBA. The modeled noise levels for the Build Alternatives are equal to or greater than the ADOT NAR noise impact threshold of 66 dBA. Therefore, mitigation evaluation is required for this area. **Appendix A** shows the locations of the modeled noise receivers from **Table 8**.

**Lower Buckeye Road to Broadway Road - East**

A total of up to 27 receivers were modeled to represent 27 areas of undeveloped land (NAC Category G) east of the future SR303L between Lower Buckeye Road and Broadway Road. **Table 9** shows the modeled noise level results for these receivers.

Receiver	Modeled Noise Levels, $L_{Aeq1h}$			
	No-Build 2040	Build 2040 Alternative 2C	Build 2040 Alternative 3	Build 2040 Alternative 5
R2_3E-01_NI	63	62	64	63
R1_3E-02_NI	63	65	<b>68</b>	<b>67</b>
R1_3E-03_NI	62	65	<b>67</b>	<b>66</b>
R1_3E-04_NI	62	65	<b>68</b>	<b>67</b>
R1_3E-05_I	62	<b>66</b>	<b>68</b>	<b>66</b>
R1_3E-06_I	62	<b>66</b>	<b>68</b>	<b>66</b>
R1_3E-07_I	63	<b>67</b>	<b>68</b>	<b>66</b>
R2_3E-08_NI	60	62	65	62
R2_3E-09_NI	61	63	65	63
R1_3E-10_NI	62	65	<b>68</b>	65
R1_3E-11_NI	64	65	<b>69</b>	65
R1_3E-12_NI	64	63	<b>68</b>	63
R1_3E-13_NI	63	62	65	62
R1_3E-14_NI	62	61	<b>67</b>	64
R2_3E-15_NI	62	61	<b>66</b>	62
R1_3E-16_NI	--	64	<b>66</b>	63
R1_3E-17_NI	--	65	<b>66</b>	62
R1_3E-18_NI	--	65	<b>66</b>	61
R1_3E-19_I	--	<b>66</b>	--	60
R1_3E-20_I	--	<b>66</b>	--	60
R1_3E-21_NI	--	65	--	60
R1_3E-22_NI	--	65	--	65
R1_3E-23_I	--	--	--	<b>66</b>
R1_3E-24_I	--	--	--	<b>66</b>
R1_3E-25_NI	--	--	--	65
R1_3E-26_NI	--	--	--	65
R1_3E-27_NI	--	--	--	65

Note: **Bolded** values are equal to or greater than ADOT NAR noise impact threshold of 66 dBA  
 --- Indicates receivers do not apply to this alternative.

The modeled noise levels range from 60 to 64 dBA for the for the No-Build Condition. For Alternative 2C, the modeled noise levels range from 61 dBA to 67 dBA. For Alternative 3, the modeled noise levels range from 64 dBA to 69 dBA. For Alternative 5, the modeled noise levels range from 60 dBA to 67 dBA. **Appendix A** shows the locations of the modeled noise receivers from **Table 9**.

**Broadway Road to North of SR30 – West**

A total of up to 30 receivers were modeled to represent 30 areas of undeveloped land (NAC Category G) west of the future SR303L between Broadway Road and north of the future SR30. **Table 10** shows the modeled noise level results for these receivers.

Receiver	Modeled Noise Levels, $L_{Aeq1h}$			
	No-Build 2040	Build 2040 Alternative 2C	Build 2040 Alternative 3	Build 2040 Alternative 5
R1_4W-01_NI	--	59	<b>66</b>	55
R1_4W-02_NI	--	60	65	57
R1_4W-03_NI	--	62	63	58
R1_4W-04_NI	--	61	62	59
R1_4W-05_NI	--	60	61	59
R1_4W-06_NI	--	60	60	59
R1_4W-07_NI	--	60	58	60
R1_4W-08_NI	--	60	57	60
R1_4W-09_NI	--	59	58	59
R1_4W-10_NI	--	57	59	60
R1_4W-11_NI	--	57	60	61
R1_4W-12_NI	--	59	61	62
R1_4W-13_NI	--	62	62	63
R1_4W-14_NI	--	63	64	63
R1_4W-15_NI	--	64	65	64
R1_4W-16_NI	--	65	65	64
R1_4W-17_NI	--	<b>66</b>	<b>66</b>	64
R1_4W-18_I	--	<b>67</b>	<b>66</b>	<b>66</b>
R1_4W-19_I	--	<b>68</b>	<b>66</b>	<b>66</b>
R1_4W-20_I	--	<b>68</b>	<b>66</b>	<b>66</b>
R1_4W-21_I	--	<b>68</b>	65	<b>67</b>
R1_4W-22_I	--	<b>68</b>	65	<b>67</b>
R1_4W-23_I	--	--	64	<b>66</b>
R1_4W-24_NI	--	--	64	--
R1_4W-25_NI	--	--	65	--
R1_4W-26_NI	--	--	65	--
R1_4W-27_I	--	--	<b>66</b>	--
R1_4W-28_I	--	--	<b>66</b>	--
R1_4W-29_NI	--	--	65	--
R1_4W-30_NI	--	--	65	--

Note: **Bolded** values are equal to or greater than ADOT NAR noise impact threshold of 66 dBA  
 --- Indicates receivers do not apply to this alternative.

For Alternative 2C, the modeled noise levels range from 57 dBA to 68 dBA. For Alternative 3, the modeled noise levels range from 57 dBA to 66 dBA. For Alternative 5, the modeled noise levels range from 55 dBA to 67 dBA. **Appendix A** shows the locations of the modeled noise receivers from **Table 10**.

**Broadway Road to North of SR30 –East**

A total of up to 35 receivers were modeled to represent 35 areas of undeveloped land (NAC Category G) east of the future SR303L between Broadway Road and north of the future SR30. **Table 11** shows the modeled noise level results for these receivers.

Receiver	Modeled Noise Levels, $L_{Aeq1h}$			
	No-Build 2040	Build 2040 Alternative 2C	Build 2040 Alternative 3	Build 2040 Alternative 5
R1_4E-01_NI	--	65	<b>66</b>	59
R1_4E-02_NI	--	64	64	59
R1_4E-03_NI	--	63	64	59
R1_4E-04_NI	--	62	64	58
R1_4E-05_NI	--	61	65	57
R1_4E-06_NI	--	61	64	58
R1_4E-07_NI	--	61	63	57
R1_4E-08_NI	--	62	64	57
R1_4E-09_NI	--	62	<b>66</b>	56
R1_4E-10_NI	--	63	<b>69</b>	56
R1_4E-11_NI	--	63	<b>69</b>	57
R1_4E-12_NI	--	64	<b>70</b>	58
R1_4E-13_NI	--	65	<b>70</b>	59
R1_4E-14_NI	--	<b>66</b>	--	59
R1_4E-15_NI	--	<b>66</b>	--	60
R1_4E-16_NI	--	<b>66</b>	--	61
R1_4E-17_NI	--	<b>68</b>	--	62
R1_4E-18_NI	--	<b>68</b>	--	62
R1_4E-19_NI	--	<b>69</b>	--	63
R1_4E-20_NI	--	<b>68</b>	--	64
R1_4E-21_NI	--	<b>68</b>	--	64
R1_4E-22_NI	--	<b>68</b>	--	63
R1_4E-23_NI	--	<b>69</b>	--	65
R1_4E-24_NI	--	<b>70</b>	--	65
R1_4E-25_I	--	<b>70</b>	--	<b>66</b>
R1_4E-26_I	--	<b>70</b>	--	<b>67</b>
R1_4E-27_I	--	--	--	<b>67</b>
R1_4E-28_I	--	--	--	<b>68</b>
R1_4E-29_I	--	--	--	<b>68</b>
R1_4E-30_I	--	--	--	<b>68</b>
R1_4E-31_I	--	--	--	<b>69</b>
R1_4E-32_I	--	--	--	<b>70</b>
R1_4E-33_I	--	--	--	<b>71</b>
R1_4E-34_I	--	--	--	<b>71</b>
R1_4E-35_I	--	--	--	<b>70</b>

Note: **Bolded** values are equal to or greater than ADOT NAR noise impact threshold of 66 dBA  
 --- Indicates receivers do not apply to this alternative.

For Alternative 2C, the modeled noise levels range from 61 dBA to 70 dBA. For Alternative 3, the modeled noise levels range from 63 dBA to 70 dBA. For Alternative 5, the modeled noise levels range from 56 dBA to 71 dBA. **Appendix A** shows the locations of the modeled noise receivers from **Table 11**.



**South of SR30 - West**

A total of up to 31 receivers were modeled to represent 31 areas of undeveloped land (NAC Category G) west of the future SR303L and south of the future SR30. **Table 12** shows the modeled noise level results for these receivers.

Receiver	Modeled Noise Levels, $L_{Aeq1h}$			
	No-Build 2040	Build 2040 Alternative 2C	Build 2040 Alternative 3	Build 2040 Alternative 5
R1_5W-01_NI	--	<b>68</b>	64	<b>67</b>
R1_5W-02_NI	--	<b>68</b>	65	<b>67</b>
R1_5W-03_NI	--	<b>68</b>	65	<b>67</b>
R1_5W-04_NI	--	<b>66</b>	65	<b>67</b>
R1_5W-05_NI	--	65	65	65
R1_5W-06_NI	--	64	64	64
R1_5W-07_NI	--	62	64	63
R1_5W-08_NI	--	60	64	60
R1_5W-09_NI	--	58	65	57
R1_5W-10_NI	--	59	65	56
R1_5W-11_I	--	56	<b>66</b>	55
R1_5W-12_I	--	55	<b>66</b>	53
R1_5W-13_I	--	54	<b>66</b>	52
R1_5W-14_NI	--	53	65	52
R1_5W-15_NI	--	53	65	51
R1_5W-16_NI	--	52	64	51
R1_5W-17_NI	--	52	63	50
R1_5W-18_NI	--	51	61	50
R1_5W-19_NI	--	--	60	--
R1_5W-20_NI	--	--	59	--
R1_5W-21_NI	--	--	57	--
R1_5W-22_NI	--	--	56	--
R1_5W-23_NI	--	--	55	--
R1_5W-24_NI	--	--	54	--
R1_5W-25_NI	--	--	55	--
R1_5W-26_NI	--	--	55	--
R1_5W-27_NI	--	--	54	--
R1_5W-28_NI	--	--	52	--
R1_5W-29_NI	--	--	51	--
R1_5W-30_NI	--	--	50	--
R1_5W-31_NI	--	--	49	--

Note: **Bolded** values are equal to or greater than ADOT NAR noise impact threshold of 66 dBA  
 --- Indicates receivers do not apply to this alternative.

For Alternative 2C, the modeled noise levels range from 51 dBA to 68 dBA. For Alternative 3, the modeled noise levels range from 49 dBA to 66 dBA. For Alternative 5, the modeled noise levels range from 50 dBA to 67 dBA. **Appendix A** shows the locations of the modeled noise receivers from **Table 12**.

**South of SR30 - East**

A total of up to 33 receivers were modeled to represent 33 areas of undeveloped land (NAC Category G) east of the future SR303L and south of the future SR30. **Table 13** shows the modeled noise level results for these receivers.

Receiver	Modeled Noise Levels, $L_{Aeq1h}$			
	No-Build 2040	Build 2040 Alternative 2C	Build 2040 Alternative 3	Build 2040 Alternative 5
R1_5E-01_I	--	<b>70</b>	<b>70</b>	<b>70</b>
R1_5E-02_I	--	<b>70</b>	<b>70</b>	<b>70</b>
R1_5E-03_I	--	<b>70</b>	<b>69</b>	<b>72</b>
R1_5E-04_I	--	<b>69</b>	<b>67</b>	<b>69</b>
R1_5E-05_I	--	<b>68</b>	64	<b>66</b>
R1_5E-06_I	--	<b>67</b>	63	64
R1_5E-07_I	--	<b>67</b>	61	63
R1_5E-08_I	--	<b>67</b>	60	64
R1_5E-09_I	--	<b>67</b>	60	65
R1_5E-10_I	--	<b>67</b>	59	64
R1_5E-11_I	--	<b>66</b>	57	61
R1_5E-12_I	--	<b>66</b>	55	59
R1_5E-13_I	--	<b>66</b>	53	58
R1_5E-14_NI	--	64	52	56
R1_5E-15_NI	--	63	51	55
R1_5E-16_NI	--	62	51	53
R1_5E-17_NI	--	61	--	51
R1_5E-18_NI	--	60	--	50
R1_5E-19_NI	--	60	--	50
R1_5E-20_NI	--	59	--	51
R1_5E-21_NI	--	58	--	53
R1_5E-22_NI	--	57	--	55
R1_5E-23_NI	--	56	--	53
R1_5E-24_NI	--	55	--	51
R1_5E-25_NI	--	53	--	50
R1_5E-26_NI	--	51	--	48
R1_5E-27_NI	--	50	--	47
R1_5E-28_NI	--	49	--	47
R1_5E-29_NI	--	49	--	47
R1_5E-30_NI	--	49	--	45
R1_5E-31_NI	--	48	--	45
R1_5E-32_NI	--	48	--	44
R1_5E-33_NI	--	47	--	--

Note: **Bolded** values are equal to or greater than ADOT NAR noise impact threshold of 66 dBA  
 --- Indicates receivers do not apply to this alternative.

For Alternative 2C, the modeled noise levels range from 47 dBA to 70 dBA. For Alternative 3, the modeled noise levels range from 51 dBA to 70 dBA. For Alternative 5, the modeled noise levels range from 44 dBA to 72 dBA. **Appendix A** shows the locations of the modeled noise receivers from **Table 13**.

## 10.0 MITIGATION ANALYSIS

The ADOT NAR provides guidelines for noise abatement analysis. These guidelines have two components, feasibility and reasonableness. The feasibility components consist of the engineering and acoustic features which address safety, barrier height, topography, drainage, utilities, maintenance requirements, property access and overall project purpose, and encompasses the constructability of the noise abatement. To be acoustically feasible, the noise abatement must achieve at least a 5-dBA reduction at 50 percent of the impacted receptors.

There are three factors that must be met for a noise abatement action to be considered reasonable. The first factor is based on the viewpoints or preferences of the property owners and residents. The viewpoints of the property owners and residents shall be taken into account when determining whether the barrier should be constructed or not. The second is based on the noise reduction design goal; the ADOT NAR states that the noise barrier should be designed to reduce the projected unmitigated noise levels by at least 7 dBA for 50 percent of the benefited receptors closest to the transportation facility. The third factor is based on the cost effectiveness of the noise abatement. The maximum reasonable cost of abatement is \$49,000 per benefited receptor (cost-per-benefited-receptor) with barrier costs calculated at \$35 per square foot, \$85 per square foot if constructed on a structure.

The ADOT NAR defines “*benefited receptor*” as the recipient of an abatement measure that receives a noise reduction of at least 5 dBA. This would allow a receptor that is not impacted to be considered as a “*benefited receptor*” if it receives a noise reduction of at least 5 dBA from the noise abatement. The “*benefited receptor*” would be included in the determination of the cost of the noise abatement.

Lands and proposed residential developments permitted after the Date of Public Knowledge for this project will not be eligible for abatement (noise barriers). The Date of Public Knowledge is the date of approval of the EA for this project, as defined in the ADOT NAR. Permitted is defined as a definite commitment to develop land with an approved specific design of land use activities as evidenced by the issuance of a building permit by the City of Goodyear.

**Van Buren Road to Yuma Road - West**

Mitigation was evaluated for the Build Condition of Alternatives 2C, 3, and 5. **Table 14** shows the results of the noise level mitigation analysis for receptors west of Cotton Lane between Van Buren Road and Yuma Road.

<b>TABLE 14 NOISE MITIGATION VAN BUREN ROAD TO YUMA ROAD - WEST</b>					
Receiver	Number of Representative Receptors	Alternatives 2C Modeled Noise Level, $L_{Aeq1h}$		Insertion Loss, dBA	Mitigation
		Build 2040	Mitigated		
R2_1W-01A	3	<b>66</b>	63	3	Barrier W1 is potentially recommended
R2_1W-01B	17	<b>68</b>	64	4	
R1_1W-02A	36	<b>70</b>	64	6	
R1_1W-02B	39	<b>71</b>	64	7	
R2_1W-03A	17	<b>69</b>	63	6	
R2_1W-03B	4	<b>66</b>	61	5	
R1_1W-11A	6	<b>70</b>	63	7	Barriers W2A & W2B are potentially recommended
R1_1W-12A	11	<b>70</b>	63	7	
R1_1W-13A	12	<b>70</b>	63	7	
R1_1W-15A	12	<b>70</b>	63	7	
R1_1W-16A	11	<b>70</b>	63	7	
R1_1W-17A	5	<b>68</b>	62	6	
<b>Alternative 3 Modeled Noise Level, <math>L_{Aeq1h}</math></b>					
R2_1W-01A	3	<b>66</b>	63	3	Barrier W1 is potentially recommended
R2_1W-01B	17	<b>69</b>	65	4	
R1_1W-02A	36	<b>70</b>	64	6	
R1_1W-02B	39	<b>71</b>	64	7	
R2_1W-03A	17	<b>68</b>	64	4	
R2_1W-03B	4	<b>66</b>	62	4	
R1_1W-11A	6	<b>70</b>	63	7	Barriers W2A & W2B are potentially recommended
R1_1W-12A	11	<b>71</b>	64	7	
R1_1W-13A	12	<b>71</b>	64	7	
R1_1W-15A	12	<b>71</b>	64	7	
R1_1W-16A	11	<b>70</b>	64	6	
R1_1W-17A	5	<b>69</b>	63	6	
<b>Alternative 5 Modeled Noise Level, <math>L_{Aeq1h}</math></b>					
R2_1W-01A	3	<b>67</b>	63	4	Barrier W1 is potentially recommended
R2_1W-01B	17	<b>69</b>	65	4	
R1_1W-02A	36	<b>71</b>	64	7	
R1_1W-02B	39	<b>71</b>	64	7	
R2_1W-03A	17	<b>69</b>	64	5	
R2_1W-03B	4	<b>67</b>	62	5	
R1_1W-11A	6	<b>71</b>	64	7	Barriers W2A & W2B are potentially recommended
R1_1W-12A	11	<b>71</b>	65	6	
R1_1W-13A	12	<b>71</b>	64	7	
R1_1W-15A	12	<b>71</b>	64	7	
R1_1W-16A	11	<b>71</b>	64	7	
R1_1W-17A	5	<b>69</b>	63	6	

Note: **Bolded** value is equal to or greater than the noise impact threshold of 66 dBA

**Table 15** shows the noise barrier summary for barriers W1, W2A, and W2B. For the receptors west of Cotton Lane between Yuma Road and Lower Buckeye Road, there are an estimated 173 receptors that are impacted. Barrier W1 is potentially recommended for a new development, *Christopher Todd Communities at Canyon Trails*, if building permits are issued before the approval of the final EA for the project. Barriers W2A & W2B are potentially recommended for new development of *Mattamy Canyon Trails, Crestwood at Canyon Trails*, if building permits are issued before the approval of the final EA for the project. Barriers W1, W2A, and W2B are recommended for all three alternatives.

<b>TABLE 15 NOISE BARRIER SUMMARY VAN BUREN ROAD TO YUMA ROAD - WEST</b>								
<b>Barrier</b>	<b>Height Range, ft</b>	<b>Length, ft</b>	<b>Area, ft<sup>2</sup></b>	<b>Barrier Cost<sup>[1]</sup></b>	<b>NBR<sup>[2]</sup></b>	<b>%FR<sup>[3]</sup></b>	<b>%BR<sup>[4]</sup></b>	<b>CPBR<sup>[5]</sup></b>
<b>Alternative 2C</b>								
W1	12	1,400	16,801	\$678,035	96	53%	83%	\$7,063
W2A	14-16	1,400	21,600	\$756,000				
W2B	14	1,400	19,598	\$685,930				
<b>Total:</b>				<b>\$2,119,965</b>				
<b>Alternative 3</b>								
W1	12	1,400	16,801	\$678,035	75	53%	65%	\$9,040
W2A	12-14	1,600	21,600	\$756,000				
W2B	14	1,400	18,799	\$657,965				
<b>Total:</b>				<b>\$2,092,000</b>				
<b>Alternative 5</b>								
W1	12-14	1,400	18,401	\$749,035	96	100%	83%	\$7,802
W2A	12-14	1,600	22,000	\$770,000				
W2B	12-14	1,400	18,398	\$643,930				
<b>Total:</b>				<b>\$2,162,965</b>				
1. Wall cost based on \$35/ft <sup>2</sup> for off-structure barrier and \$85/ft <sup>2</sup> for on-structure barrier W1. 2. NBR - number of benefited receptors; Receptors with 5-7 dBA insertion loss within 500 ft from the R/W are accounted as benefited receptors. 3. %FR - percentage of First Row Receptors with 7+ dBA noise reduction 4. %BR - percentage of Benefited Receptors with 5+ dBA noise reduction 5. CPBR - cost per benefited receptor								

**Yuma Road to Lower Buckeye Road - West**

Mitigation was evaluated for the Build Condition of Alternatives 2C, 3, and 5. **Table 16** shows the results of the noise level mitigation analysis for receptors west of Cotton Lane between Yuma Road and Lower Buckeye Road.

<b>TABLE 16 NOISE MITIGATION YUMA ROAD TO LOWER BUCKEYE ROAD- WEST</b>					
Receiver	Number of Representative Receptors	Alternatives 2C Modeled Noise Level, L <sub>Aeq1h</sub>		Insertion Loss, dBA	Mitigation
		Build 2040	Mitigated		
R1_2W-01	3	61	61	0	Barriers W4A & W4B are recommended
R1_2W-02	2	60	59	1	
R1_2W-03	2	60	59	1	
R1_2W-04	2	62	60	2	
R2_2W-05	3	64	62	2	
R2_2W-06	3	64	61	3	
R1_2W-07	2	65	61	4	
R1_2W-08	5	65	61	4	
R1_2W-09	3	65	62	3	
R1_2W-10	5	<b>70</b>	64	6	
R1_2W-11	10	<b>70</b>	65	5	
R1_2W-12	12	<b>70</b>	65	5	
R1_2W-13	6	<b>70</b>	64	6	
R1_2W-14	9	<b>73</b>	<b>66</b>	7	
R1_2W-15	12	<b>72</b>	65	7	
R1_2W-16	9	<b>73</b>	65	8	
R1_2W-17	5	<b>70</b>	64	6	
R1_2W-18	9	<b>73</b>	65	8	
R1_2W-19	4	<b>73</b>	<b>66</b>	7	
R1_2W-20	7	<b>72</b>	65	7	
R1_2W-21	10	<b>72</b>	65	7	
R1_2W-22	8	<b>68</b>	63	5	
R2_2W-23	2	<b>66</b>	62	4	
R2_2W-24	2	64	60	4	
R1_2W-25	6	<b>69</b>	64	5	
R1_2W-26	7	<b>70</b>	63	7	
R1_2W-27	12	<b>70</b>	62	8	
R1_2W-28	3	<b>68</b>	61	7	
R1_2W-29	9	<b>68</b>	61	7	
R1_2W-30	3	<b>66</b>	62	4	
R2_2W-31	3	63	59	4	
<b>Alternative 3 Modeled Noise Level, L<sub>Aeq1h</sub></b>					
R1_2W-01	3	62	61	1	Barriers W4A & W4B are recommended
R1_2W-02	2	61	60	1	
R1_2W-03	2	61	59	2	
R1_2W-04	2	62	60	2	
R2_2W-05	3	65	62	3	
R2_2W-06	3	65	62	3	
R1_2W-07	2	<b>66</b>	62	4	
R1_2W-08	5	65	62	3	
R1_2W-09	3	<b>66</b>	62	4	
R1_2W-10	5	<b>70</b>	64	6	
R1_2W-11	10	<b>70</b>	64	6	
R1_2W-12	12	<b>70</b>	63	7	
R1_2W-13	6	<b>71</b>	63	8	

Receiver	Number of Representative Receptors	Alternatives 2C Modeled Noise Level, LAeq1h		Insertion Loss, dBA	Mitigation
		Build 2040	Mitigated		
R1_2W-14	9	<b>74</b>	65	9	Barriers W4A & W4B are recommended
R1_2W-15	12	<b>72</b>	64	8	
R1_2W-16	9	<b>73</b>	64	9	
R1_2W-17	5	<b>71</b>	63	8	
R1_2W-18	9	<b>73</b>	65	8	
R1_2W-19	4	<b>74</b>	<b>66</b>	8	
R1_2W-20	7	<b>73</b>	65	8	
R1_2W-21	10	<b>73</b>	65	8	
R1_2W-22	8	<b>69</b>	64	5	
R2_2W-23	2	<b>67</b>	63	4	
R2_2W-24	2	64	61	3	
R1_2W-25	6	<b>70</b>	65	5	
R1_2W-26	7	<b>71</b>	64	7	
R1_2W-27	12	<b>70</b>	63	7	
R1_2W-28	3	<b>69</b>	62	7	
R1_2W-29	9	<b>68</b>	63	5	
R1_2W-30	3	<b>67</b>	63	4	
R2_2W-31	3	64	60	4	
<b>Alternative 5 Modeled Noise Level, LAeq1h</b>					
R1_2W-01	3	62	61	1	Barriers W4A & W4B are recommended
R1_2W-02	2	61	60	1	
R1_2W-03	2	61	59	2	
R1_2W-04	2	63	61	2	
R2_2W-05	3	65	62	3	
R2_2W-06	3	65	62	3	
R1_2W-07	2	<b>66</b>	62	4	
R1_2W-08	5	<b>66</b>	62	4	
R1_2W-09	3	<b>66</b>	62	4	
R1_2W-10	5	<b>71</b>	64	7	
R1_2W-11	10	<b>70</b>	64	6	
R1_2W-12	12	<b>70</b>	64	6	
R1_2W-13	6	<b>71</b>	64	7	
R1_2W-14	9	<b>74</b>	<b>66</b>	8	
R1_2W-15	12	<b>73</b>	65	8	
R1_2W-16	9	<b>74</b>	65	9	
R1_2W-17	5	<b>71</b>	64	7	
R1_2W-18	9	<b>74</b>	65	9	
R1_2W-19	4	<b>74</b>	<b>66</b>	8	
R1_2W-20	7	<b>73</b>	65	8	
R1_2W-21	10	<b>73</b>	65	8	
R1_2W-22	8	<b>69</b>	62	7	
R2_2W-23	2	<b>67</b>	61	6	
R2_2W-24	2	64	59	5	
R1_2W-25	6	<b>70</b>	63	7	
R1_2W-26	7	<b>71</b>	63	8	
R1_2W-27	12	<b>70</b>	62	8	
R1_2W-28	3	<b>69</b>	61	8	
R1_2W-29	9	<b>68</b>	61	7	
R1_2W-30	3	<b>67</b>	62	5	
R2_2W-31	3	64	59	5	

Note: **Bolded** value is equal to or greater than the noise impact threshold of 66 dBA

**Table 17** shows the noise barrier summary for barriers W4A and W4B. There are an estimated 178 receptors that are impacted west of Cotton Lane between Yuma Road and Lower Buckeye Road. Barriers W4A & W4B are potentially recommended to provide mitigation to the Cottonwood Community for all three alternatives.

<b>TABLE 17 NOISE BARRIER SUMMARY YUMA ROAD TO LOWER BUCKEYE - WEST</b>								
<b>Barrier</b>	<b>Height Range, ft</b>	<b>Length, ft</b>	<b>Area, ft<sup>2</sup></b>	<b>Barrier Cost<sup>[1]</sup></b>	<b>NBR<sup>[2]</sup></b>	<b>%FR<sup>[3]</sup></b>	<b>%BR<sup>[4]</sup></b>	<b>CPBR<sup>[5]</sup></b>
<b>Alternative 2C</b>								
W4A	12-14	4,200	53,199	\$1,861,965	113	55%	99%	\$22,905
W4B	12-14	1,425	18,351	\$726,285				
<b>Total:</b>				<b>\$2,588,250</b>				
<b>Alternative 3</b>								
W4A	10-16	4,200	56,399	\$1,973,965	72	56%	94%	\$35,566
W4B	10-12	1,425	15,051	\$586,785				
<b>Total:</b>				<b>\$2,560,750</b>				
<b>Alternative 5</b>								
W4A	10-16	4,200	56,799	\$1,987,965	71	71%	94%	\$39,018
W4B	14	1,425	19,951	\$782,285				
<b>Total:</b>				<b>\$2,770,250</b>				
1. Wall cost based on \$35/ft <sup>2</sup> for off-structure barrier and \$85/ft <sup>2</sup> for on-structure barrier W4B. 2. NBR - number of benefited receptors; Receptors with 5-7 dBA insertion loss within 500 ft from the R/W are accounted as benefited receptors. 3. %FR - percentage of First Row Receptors with 7+ dBA noise reduction 4. %BR - percentage of Benefited Receptors with 5+ dBA noise reduction 5. CPBR- cost per benefited receptor								



**Yuma Road to Lower Buckeye Road - East**

Mitigation was evaluated for the Build Condition of Alternatives 2C, 3, and 5. **Table 18** shows the results of the noise level mitigation analysis for receptors east of Cotton Lane between Yuma Road and Lower Buckeye Road.

<b>TABLE 18 NOISE MITIGATION YUMA ROAD TO LOWER BUCKEYE ROAD- EAST</b>					
Receiver	Number of Representative Receptors	Alternatives 2C Modeled Noise Level, LAeq1h		Insertion Loss, dBA	Mitigation
		Build 2040	Mitigated		
R2_2E-01	3	<b>67</b>	63	4	Barriers E1 & E2 are recommended
R1_2E-02	4	<b>72</b>	63	9	
R1_2E-03	15	<b>67</b>	59	8	
R1_2E-04	13	<b>72</b>	65	7	
R1_2E-05	19	<b>76</b>	<b>66</b>	10	
R2_2E-06	6	<b>66</b>	61	5	
R1_2E-07	7	<b>71</b>	64	7	
R1_2E-08	15	<b>69</b>	61	8	
R1_2E-09	21	<b>68</b>	60	8	
R1_2E-10	8	<b>69</b>	63	6	
R1_2E-11	14	<b>72</b>	64	8	
R1_2E-12	14	<b>70</b>	63	7	
R1_2E-13	3	<b>69</b>	62	7	
R2_2E-14	5	<b>66</b>	61	5	
R2_2E-15	2	64	60	4	
<b>Alternative 3 Modeled Noise Level, LAeq1h</b>					
R2_2E-01	3	<b>68</b>	64	4	Barriers E1 & E2 are recommended
R1_2E-02	4	<b>73</b>	63	10	
R1_2E-03	15	<b>68</b>	61	7	
R1_2E-04	13	<b>73</b>	65	8	
R1_2E-05	19	<b>77</b>	<b>66</b>	11	
R2_2E-06	6	<b>67</b>	62	5	
R1_2E-07	7	<b>72</b>	65	7	
R1_2E-08	15	<b>70</b>	63	7	
R1_2E-09	21	<b>69</b>	62	7	
R1_2E-10	8	<b>70</b>	64	6	
R1_2E-11	14	<b>73</b>	65	8	
R1_2E-12	14	<b>72</b>	64	8	
R1_2E-13	3	<b>70</b>	63	7	
R2_2E-14	5	<b>68</b>	62	6	
R2_2E-15	2	65	61	4	
<b>Alternative 5 Modeled Noise Level, LAeq1h</b>					
R2_2E-01	3	<b>68</b>	64	4	Barriers E1 & E2 are recommended
R1_2E-02	4	<b>73</b>	64	9	
R1_2E-03	15	<b>68</b>	60	8	
R1_2E-04	13	<b>73</b>	<b>66</b>	7	
R1_2E-05	19	<b>77</b>	<b>67</b>	10	
R2_2E-06	6	<b>68</b>	62	6	
R1_2E-07	7	<b>72</b>	65	7	
R1_2E-08	15	<b>71</b>	63	8	
R1_2E-09	21	<b>69</b>	61	8	
R1_2E-10	8	<b>70</b>	64	6	
R1_2E-11	14	<b>73</b>	65	8	
R1_2E-12	14	<b>72</b>	64	8	
R1_2E-13	3	<b>70</b>	63	7	
R2_2E-14	5	<b>67</b>	62	5	
R2_2E-15	2	65	61	4	

Note: **Bolded** value is equal to or greater than the noise impact threshold of 66 dBA

**Table 19** shows the noise barrier summary for barriers E1 and E2. There are an estimated 149 receptors that are impacted east of Cotton Lane between Yuma Road and Lower Buckeye Road. Barriers E1 & E2 are potentially recommended to provide mitigation to Canyon Trails South, Journey Coronado, Sunset, and Sierra Pointe Communities for all three alternatives.

<b>TABLE 19 NOISE BARRIER SUMMARY YUMA ROAD TO LOWER BUCKEYE - EAST</b>								
<b>Barrier</b>	<b>Height Range, ft</b>	<b>Length, ft</b>	<b>Area, ft<sup>2</sup></b>	<b>Barrier Cost<sup>[1]</sup></b>	<b>NBR<sup>[2]</sup></b>	<b>%FR<sup>[3]</sup></b>	<b>%BR<sup>[4]</sup></b>	<b>CPBR<sup>[5]</sup></b>
<b>Alternative 2C</b>								
E1	10	400	4,000	\$140,000	56	93%	98%	\$32,571
E2	10-12	4,200	46,400	\$1,684,000				
<b>Total:</b>				<b>\$1,824,000</b>				
<b>Alternative 3</b>								
E1	10	400	4,000	\$140,000	80	93%	98%	\$24,200
E2	10-14	4,200	49,600	\$1,796,000				
<b>Total:</b>				<b>\$1,936,000</b>				
<b>Alternative 5</b>								
E1	10	400	4,000	\$140,000	42	93%	98%	\$44,762
E2	10-14	4,200	48,000	\$1,740,000				
<b>Total:</b>				<b>\$1,880,000</b>				
1. Wall cost based on \$35/ft <sup>2</sup> for off-structure barrier and \$85/ft <sup>2</sup> for on-structure barrier E2. 2. NBR - number of benefited receptors; Receptors with 5-7 dBA insertion loss within 500 ft from the R/W are accounted as benefited receptors. 3. %FR - percentage of First Row Receptors with 7+ dBA noise reduction 4. %BR - percentage of Benefited Receptors with 5+ dBA noise reduction 5. CPBR- cost per benefited receptor								

**Lower Buckeye Road to Broadway Road - West**

Mitigation was evaluated for the Build Condition of Alternatives 2C, 3, and 5. **Table 20** shows the results of the noise level mitigation analysis western of the future SR303L between Lower Buckeye Road and Broadway Road.

<b>TABLE 20 NOISE MITIGATION LOWER BUCKEYE ROAD TO BROADWAY ROAD - WEST</b>					
Receiver	Number of Representative Receptors	Alternatives 2C Modeled Noise Level, $L_{Aeq1h}$		Insertion Loss, dBA	Mitigation
		Build 2040	Mitigated		
R2_3W-01	3	64	60	4	Barrier W5 is potentially recommended
R2_3W-02	3	65	60	5	
R1_3W-03	3	65	60	5	
R1_3W-04	15	65	59	6	
R1_3W-05	3	<b>66</b>	59	7	
R1_3W-06	8	<b>66</b>	59	7	
R1_3W-07	4	<b>66</b>	60	6	
R1_3W-08	4	<b>66</b>	59	7	
R1_3W-09	2	<b>66</b>	59	7	
<b>Alternative 3 Modeled Noise Level, <math>L_{Aeq1h}</math></b>					
R2_3W-01	3	65	61	4	Barrier W5 is potentially recommended
R2_3W-02	3	<b>66</b>	61	5	
R1_3W-03	3	<b>67</b>	61	6	
R1_3W-04	15	<b>67</b>	60	7	
R1_3W-05	3	<b>67</b>	61	6	
R1_3W-06	8	<b>67</b>	60	7	
R1_3W-07	4	<b>67</b>	60	7	
R1_3W-08	4	<b>67</b>	60	7	
R1_3W-09	2	<b>66</b>	60	6	
<b>Alternative 5 Modeled Noise Level, <math>L_{Aeq1h}</math></b>					
R2_3W-01	3	<b>68</b>	64	4	Barrier W5 is potentially recommended
R2_3W-02	4	<b>73</b>	64	9	
R1_3W-03	15	<b>68</b>	60	8	
R1_3W-04	13	<b>73</b>	<b>66</b>	7	
R1_3W-05	19	<b>77</b>	<b>67</b>	10	
R1_3W-06	6	<b>68</b>	62	6	
R1_3W-07	7	<b>72</b>	65	7	
R1_3W-08	15	<b>71</b>	63	8	
R1_3W-09	21	<b>69</b>	61	8	

Note: **Bolded** value is equal to or greater than the noise impact threshold of 66 dBA

**Table 21** shows the noise barrier summary for barriers W5 & W6. There are an estimated 45 receptors are impacted west of the future SR303L between Lower Buckeye Road and Broadway Road Barriers W5 & W6 are potentially recommended for the new development, *El Cidro (Phase 1 Parcel 2)*, if building permits are issued before the approval of the final EA for the project. Barrier W5 is recommended for all three alternatives. Barrier W6 is recommended for Alternative 5.

<b>TABLE 21 NOISE BARRIER SUMMARY LOWER BUCKEYE TO BROADWAY - WEST</b>								
Barrier	Height Range, ft	Length, ft	Area, ft <sup>2</sup>	Barrier Cost <sup>[1]</sup>	NBR <sup>[2]</sup>	%FR <sup>[3]</sup>	%BR <sup>[4]</sup>	CPBR <sup>[5]</sup>
<b>Alternative 2C</b>								
W5	12-18	2,550	38,100	\$1,333,500	42	56%	100%	\$31,750
<b>Total:</b>				<b>\$1,333,500</b>				
<b>Alternative 3</b>								
W5	14-16	2,400	34,399	\$1,203,965	42	63%	100%	\$28,666
<b>Total:</b>				<b>\$1,203,965</b>				
<b>Alternative 5</b>								
W5	14	2,468	34,551	\$1,209,285	31	50%	100%	\$42,396
W6	10	300	3,000	\$105,000				
<b>Total:</b>				<b>\$1,314,285</b>				
1. Wall cost based on \$35/ft <sup>2</sup> 2. NBR - number of benefited receptors; Receptors with 5-7 dBA insertion loss within 500 ft from the R/W are accounted as benefited receptors. 3. %FR - percentage of First Row Receptors with 7+ dBA noise reduction 4. %BR - percentage of Benefited Receptors with 5+ dBA noise reduction 5. CPBR- cost per benefited receptor								

## 11.0 CONSTRUCTION NOISE AND VIBRATION

Construction noise is anticipated for roadway improvement projects and lasts for the duration of the construction. Construction activities are generally of a short-term nature. Depending on the nature of construction operations, the duration of the noise could last from seconds (e.g., a truck passing a customer) to months (e.g., constructing a bridge). Construction noise is also intermittent and depends on the type of operation, location, and function of the equipment and the equipment usage cycle. Table 22 shows the overall predicted maximum noise level ( $L_{max}$ ) of the construction equipment at 50 feet for different phases of roadway construction.

<b>Phase</b>	<b>Equipment</b>	<b>Noise Limit (<math>L_{max}</math>) At 50 feet, dBA</b>
Site Clearing	Dozer	85
	Backhoe	80
Grading & Earthwork	Scraper	85
	Grader	85
Foundation	Backhoe	80
	Front Loader	80
Base Preparation	Compressor (air)	80
	Dozer	85

1. Source- FHWA Highway Construction Noise Handbook, page 3; August 2006

ADOT has set forth guidelines for construction noise in the Standard Specifications for Road and Bridge Construction, 2008. Per ADOT specifications 104.08, Prevention of Air and Noise Pollution:

*“The contractor shall comply with all local sound control and noise rules, regulations and ordinances which apply to any work pursuant to the contract.*

*Each internal combustion engine used for any purpose on the work or related to the work shall be equipped with a muffler or a type recommended by the manufacturer. No internal combustion engine shall be operated on the work without its muffler being in good working condition.”*

Ground vibration and ground-born noise can also be a source of annoyance to individuals who live or work close to vibration-generating activities. Pile driving, demolition activity, blasting, and crack-and-seat operations are the primary sources of vibration, while the impact pile driving can be the most significant source of vibration at construction sites. It is recommended to apply methods that may be practical and appropriate in specific situations, to reduce vibration to an acceptable level.

## 12.0 COORDINATION WITH LOCAL OFFICIALS

Throughout the preparation of this noise analysis technical report, the consultant has been in communication with City of Goodyear officials to confirm all potential new developments being planned within the project corridor for inclusion in this analysis.

### 13.0 STATEMENT OF LIKELIHOOD

The FHWA-approved TNM2.5 was used to evaluate traffic noise for the Existing, No-Build, and Build Conditions. Noise impacts occurred at receptors located both east and west of Cotton Lane (future SR303L) from Yuma Road to SR 30. Tables 23, 24, and 25 show the recommended noise barriers for Alternatives 2C, 3, and 5, respectively. A final determination of noise abatement measures will be made upon completion of the project design, the public involvement process, concurrence with the ADOT NAR, and FHWA approval.

Barrier Description	Height Range, ft	Length, ft	Area, ft <sup>2</sup>	Barrier Cost <sup>[1]</sup>	NBR <sup>[2]</sup>	CPBR <sup>[3]</sup>
Barrier W1 (Sta 1281+57 to 1267+47)	12	1,400	16,801	\$678,035	96	\$7,063
Barrier W2A (Sta 1254+19 to 1240+46)	14-16	1,400	21,600	\$756,000	57	\$25,297
Barrier W2B (Sta 1242+52 to 1228+45)	14	1,400	19,598	\$685,930		
Barrier E1 (Sta 1216+29 to 1212+30)	10	400	4,000	\$140,000	56	\$32,571
Barrier E2 (Sta 1212+87 to 1170+99)	10-12	4,200	46,400	\$1,684,000		
Barrier W4A (Sta 1224+10 to 1182+11)	12-14	4,200	53,199	\$1,861,965	113	\$22,905
Barrier W4B (Sta 1183+88 to 1169+45)	12-14	1,425	18,351	\$726,285		
Barrier W5 (Sta 1171+44 to 1145+30)	12-18	2,550	38,100	\$1,333,500		
<b>Totals:</b>		<b>16,975</b>	<b>218,049</b>	<b>\$7,865,715</b>	<b>364</b>	<b>\$21,609</b>

1. Wall cost based on \$35/ft<sup>2</sup> for off-structure barrier and \$85/ft<sup>2</sup> for on-structure barrier W1, E2, and W4B.  
2. NBR - number of benefited receptors; Receptors with 5-7 dBA insertion loss within 500 ft from the R/W are accounted as benefited receptors.  
3. CPBR- cost per benefited receptor

Barrier Description	Height Range, ft	Length, ft	Area, ft <sup>2</sup>	Barrier Cost <sup>[1]</sup>	NBR <sup>[2]</sup>	CPBR <sup>[3]</sup>
Barrier W1 (Sta 1281+57 to 1267+47)	12	1,400	16,801	\$678,035	75	\$9,040
Barrier W2A (Sta 1256+19 to 1240+46)	12-14	1,600	21,600	\$756,000	57	\$24,806
Barrier W2B (Sta 1242+52 to 1228+45)	14-14	1,400	18,799	\$657,965		
Barrier E1 (Sta 1216+29 to 1212+30)	10	400	4,000	\$140,000	80	\$24,200
Barrier E2 (Sta 1212+87 to 1170+99)	10-14	4,200	49,600	\$1,796,000		
Barrier W4A (Sta 1224+10 to 1182+11)	10-16	4,200	56,399	\$1,973,965	72	\$35,566
Barrier W4B (Sta 1183+88 to 1169+45)	10-12	1,425	15,051	\$586,785		
Barrier W5 (Sta 1173+39 to 1149+37)	14-16	2,400	34,399	\$1,203,965		
<b>Totals:</b>		<b>17,025</b>	<b>216,649</b>	<b>\$7,792,715</b>	<b>326</b>	<b>\$23,904</b>

1. Wall cost based on \$35/ft<sup>2</sup> for off-structure barrier and \$85/ft<sup>2</sup> for on-structure barrier W1, E2, and W4B.  
2. NBR - number of benefited receptors; Receptors with 5-7 dBA insertion loss within 500 ft from the R/W are accounted as benefited receptors.  
3. CPBR- cost per benefited receptor

**TABLE 25**  
**RECOMMENDED NOISE BARRIER SUMMARY**  
**ALTERNATIVE 5**

Barrier Description	Height Range, ft	Length, ft	Area, ft <sup>2</sup>	Barrier Cost <sup>[1]</sup>	NBR <sup>[2]</sup>	CPBR <sup>[3]</sup>
Barrier W1 (Sta 1281+57 to 1267+47)	12-14	1,400	18,401	\$749,035	96	\$7,802
Barrier W2A (Sta 1256+19 to 1240+46)	12-14	1,600	22,000	\$770,000	57	\$24,806
Barrier W2B (Sta 1242+52 to 1228+45)	12-14	1,400	18,398	\$643,930		
Barrier E1 (Sta 1216+29 to 1212+30)	10	400	4,000	\$140,000	42	\$44,762
Barrier E2 (Sta 1212+87 to 1170+99)	10-14	4,200	48,000	\$1,740,000		
Barrier W4A (Sta 1224+10 to 1182+11)	10-16	4,200	56,799	\$1,987,965	71	\$39,018
Barrier W4B (Sta 1183+88 to 1169+45)	14	1,425	19,951	\$782,285		
Barrier W5 (Sta 1169+45 to 1143+26)	14	2,468	34,551	\$1,209,285	31	\$42,396
Barrier W6 (Sta 1165+28 to 1168+36)	10	300	3,000	\$105,000		
<b>Totals:</b>		<b>17,393</b>	<b>225,100</b>	<b>\$8,127,500</b>	<b>297</b>	<b>\$27,365</b>

1. Wall cost based on \$35/ft<sup>2</sup> for off-structure barrier and \$85/ft<sup>2</sup> for on-structure barrier W1, E2, and W4B.

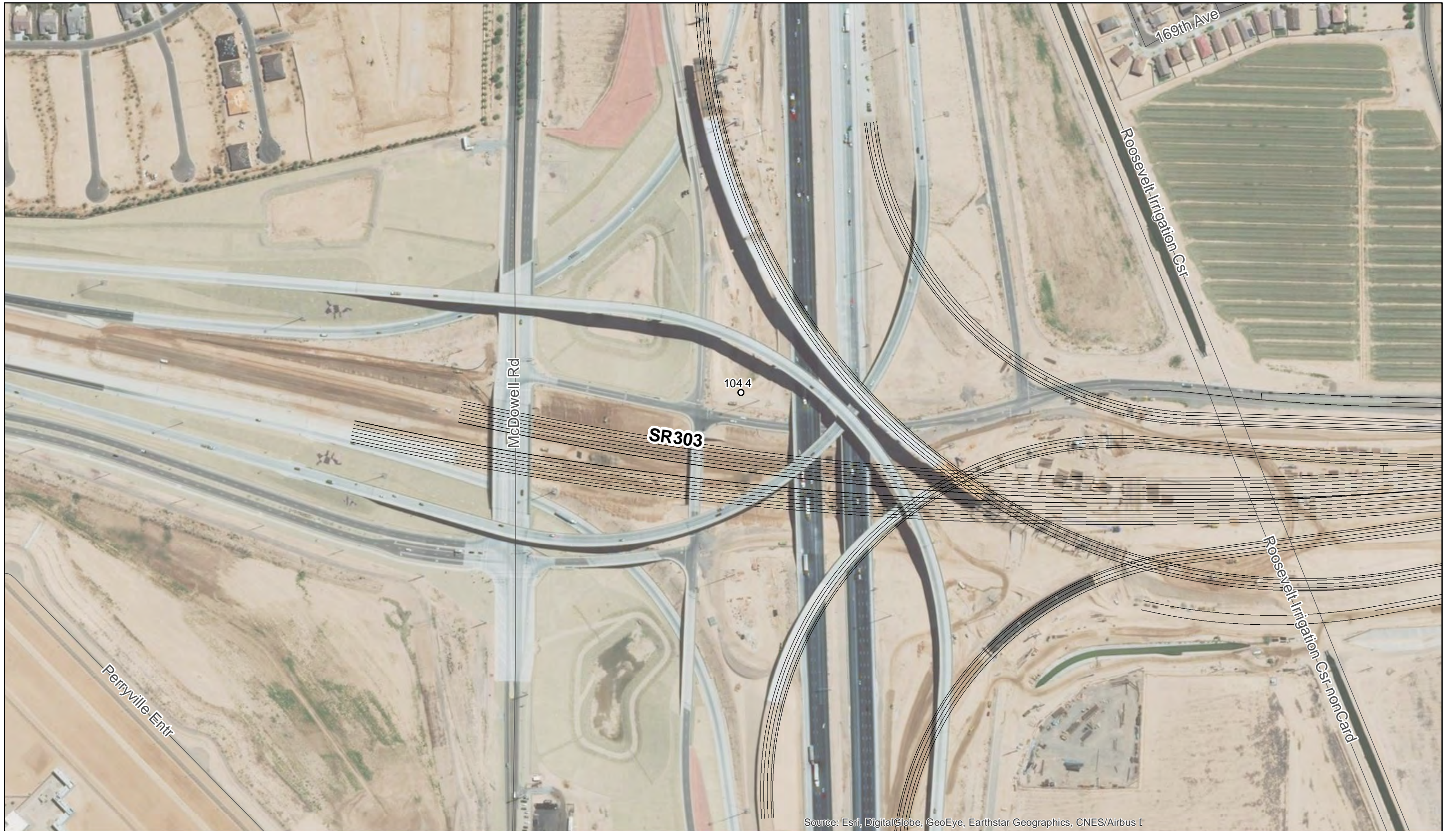
2. NBR - number of benefited receptors; Receptors with 5-7 dBA insertion loss within 500 ft from the R/W are accounted as benefited receptors.

3. CPBR- cost per benefited receptor

The total mitigation cost for Alternative 2C is \$7,865,715. The total mitigation cost for Alternative 3 is \$7,792,715. The total mitigation cost for Alternative 5 is \$8,127,500

## **APPENDIX A – RECEIVER, MONITORING, AND BARRIER LOCATIONS**

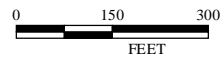




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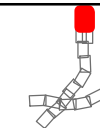


Revised: 2/26/2018  
SOURCE: World Imagery; WSP (2018)



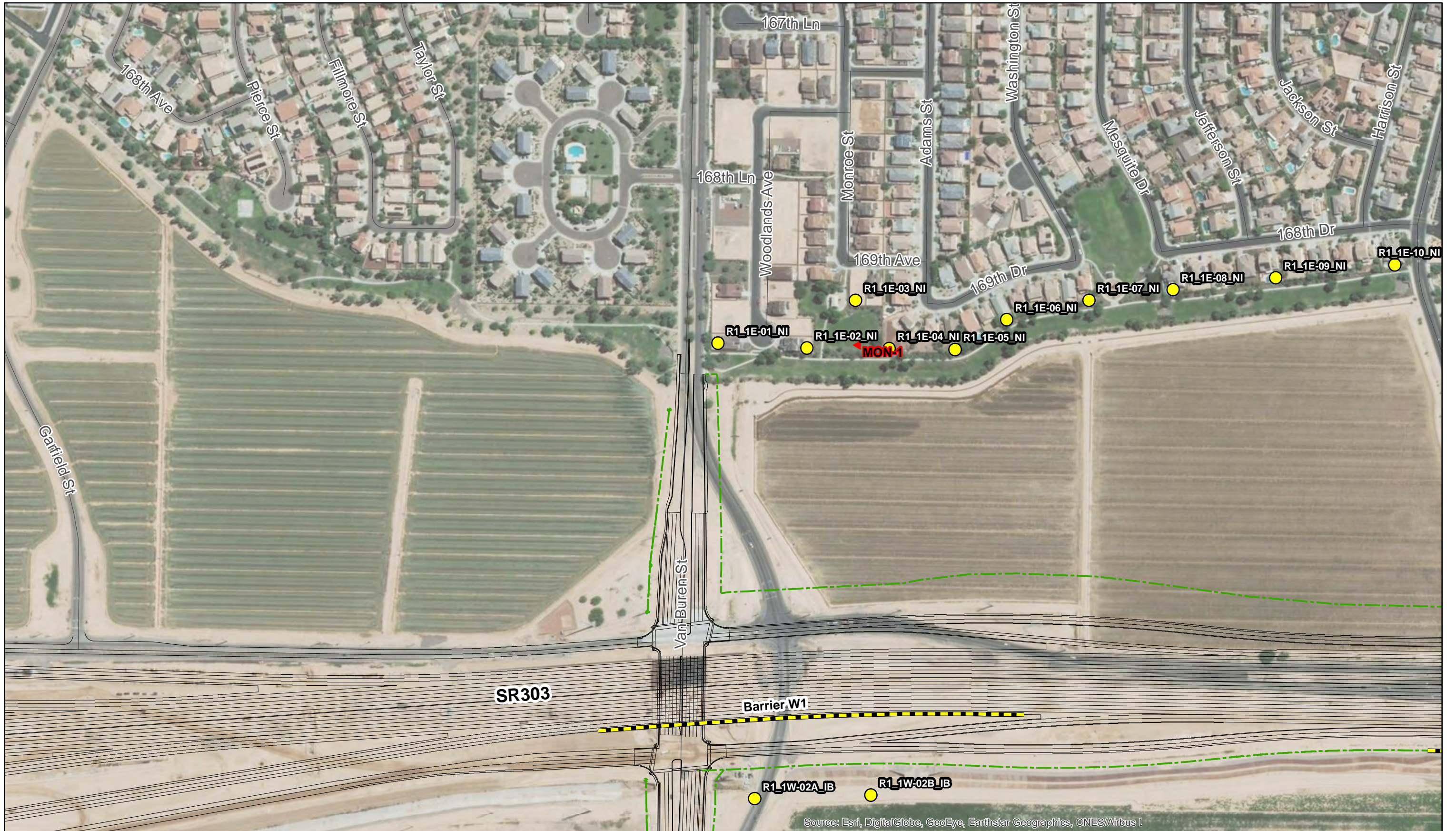
LEGEND

- Alt 2C Alignment
- Noise Receivers
- ▬ Potentially Recommended Barriers
- ▲ Monitoring Locations
- New R/W



Map Index

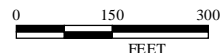
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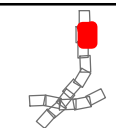


Revised: 2/26/2018  
SOURCE: World Imagery; WSP (2018)



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- Alt 2C Alignment
- Potentially Recommended Barriers
- New R/W
- Noise Receivers
- Monitoring Locations

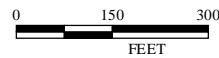


Map Index

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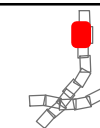


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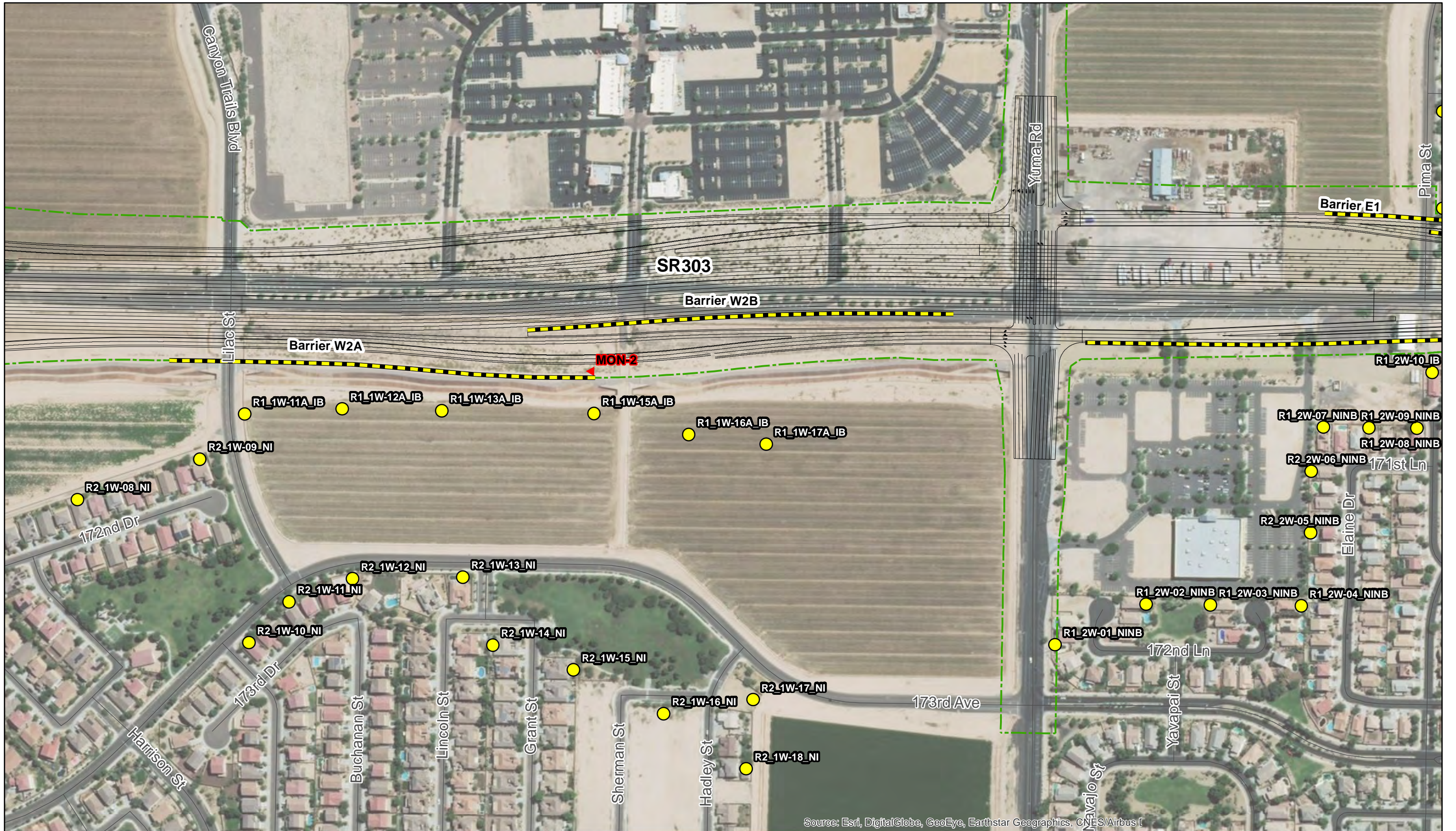
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- Alt 2C Alignment
- Potentially Recommended Barriers
- New R/W
- Noise Receivers
- Monitoring Locations



Map Index

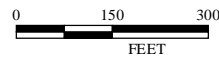
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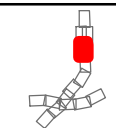


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LEGEND

- Alt 2C Alignment
- Noise Receivers
- Potentially Recommended Barriers
- ▲ Monitoring Locations
- - - New R/W



Map Index

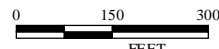
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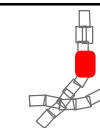


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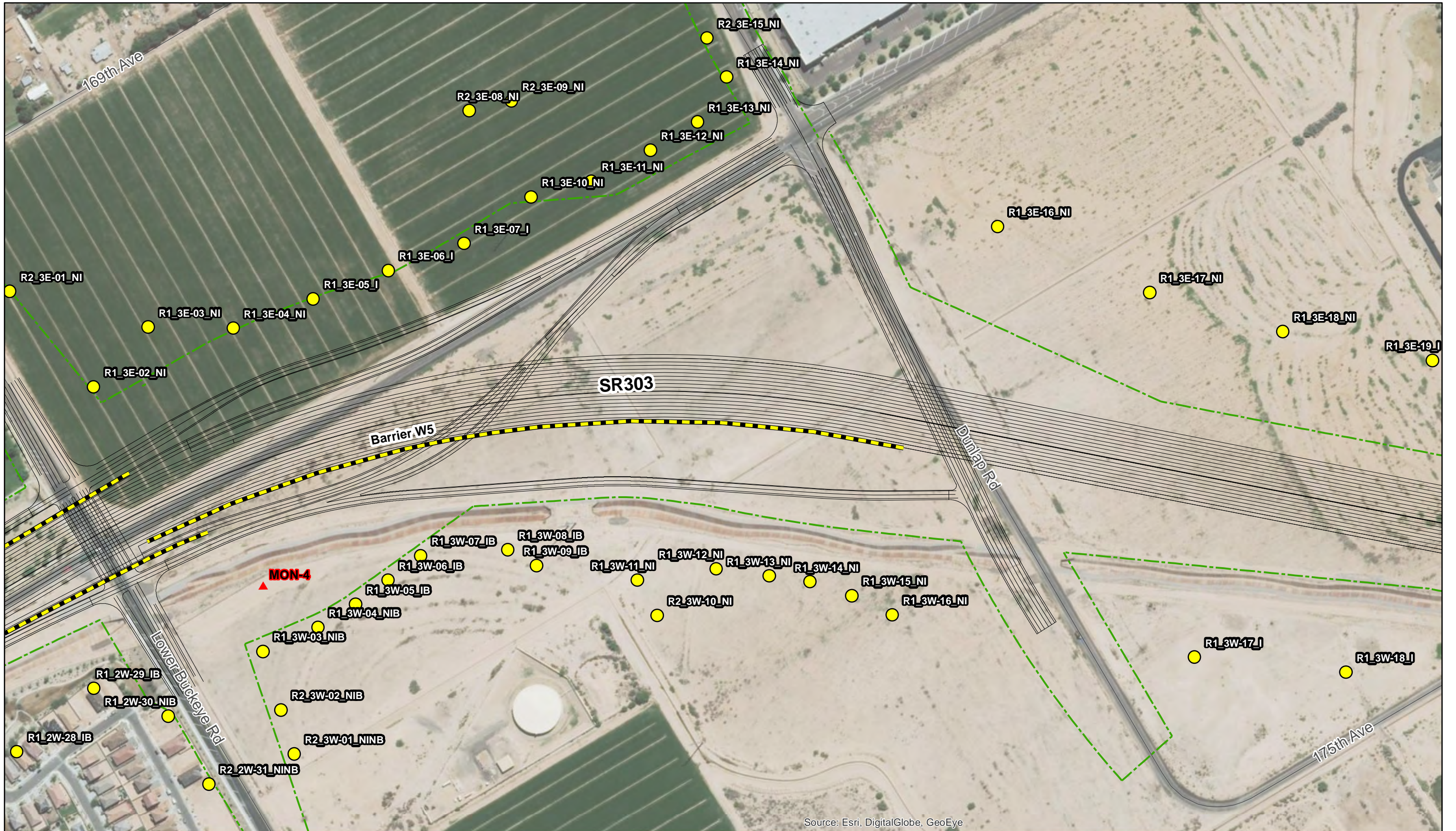
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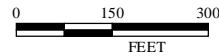


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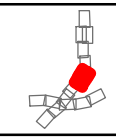


Source: Esri, DigitalGlobe, GeoEye



LEGEND

- Alt 2C Alignment
- Noise Receivers
- Potentially Recommended Barriers
- ▲ Monitoring Locations
- New R/W

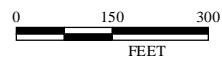


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Revised: 2/26/2018  
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Source: Esri, DigitalGlobe



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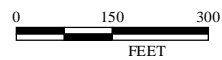
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- ▬ Potentially Recommended Barriers
- ▲ Monitoring Locations
- New R/W

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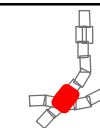


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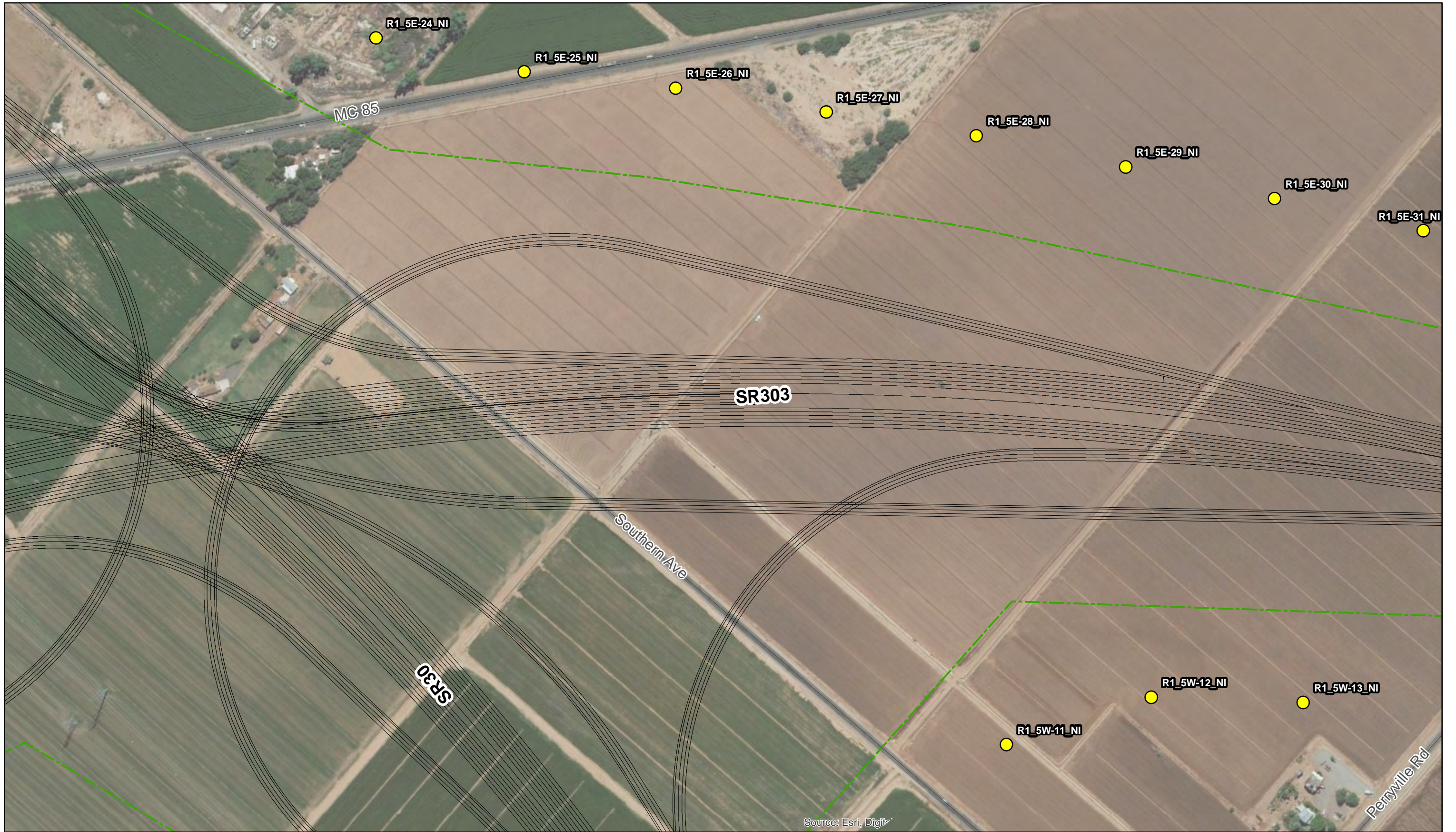
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- Noise Receivers
- ▬ Potentially Recommended Barriers
- ▲ Monitoring Locations
- New R/W



Map Index





Source: Esri, Digit



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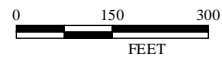
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Map Index

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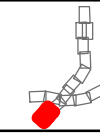


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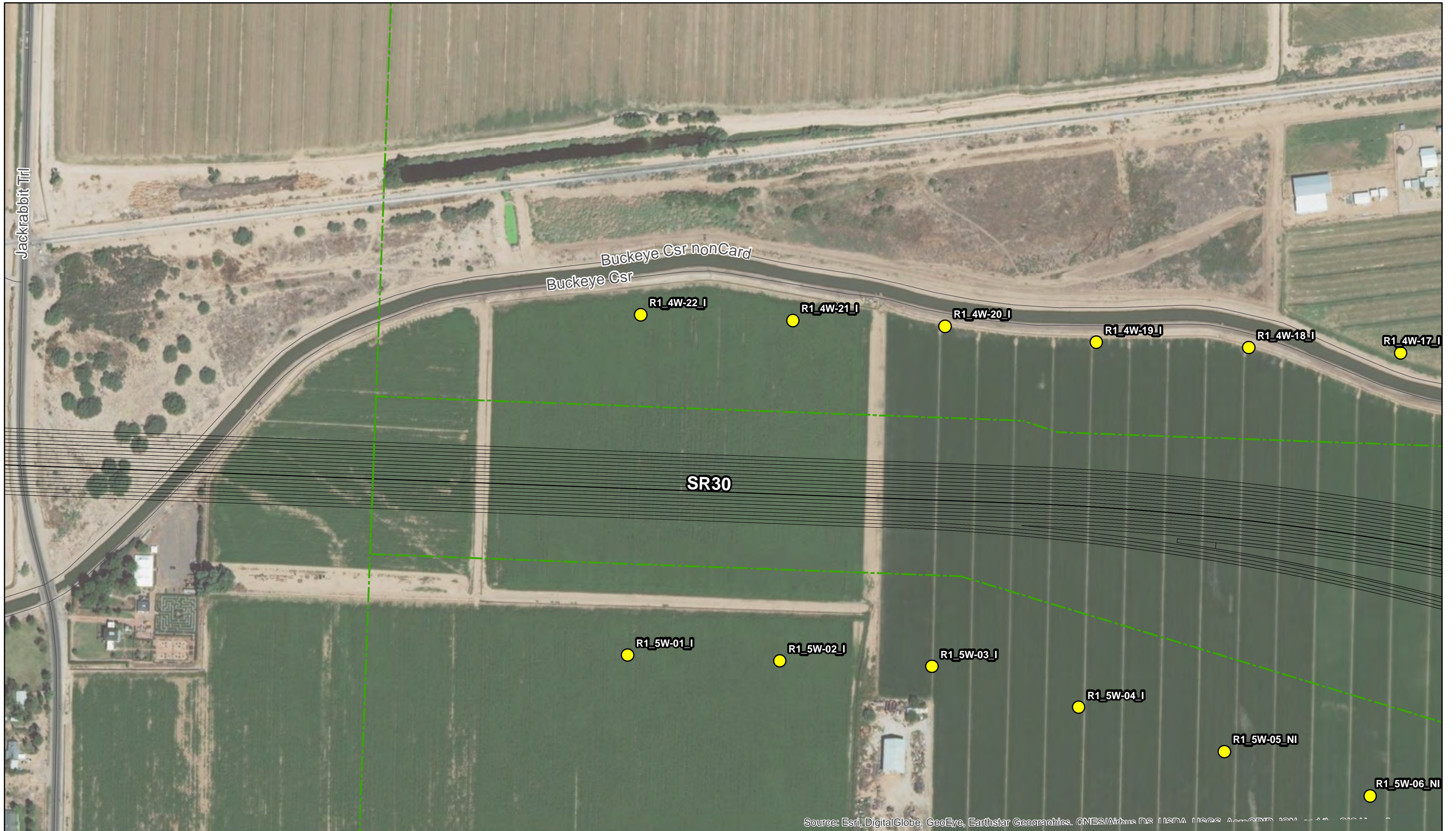


LEGEND

- Alt 2C Alignment
- Noise Receivers
- ▬ Potentially Recommended Barriers
- ▲ Monitoring Locations
- New R/W



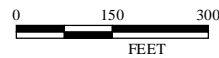
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Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, SIA, Mapbox

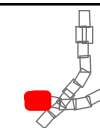


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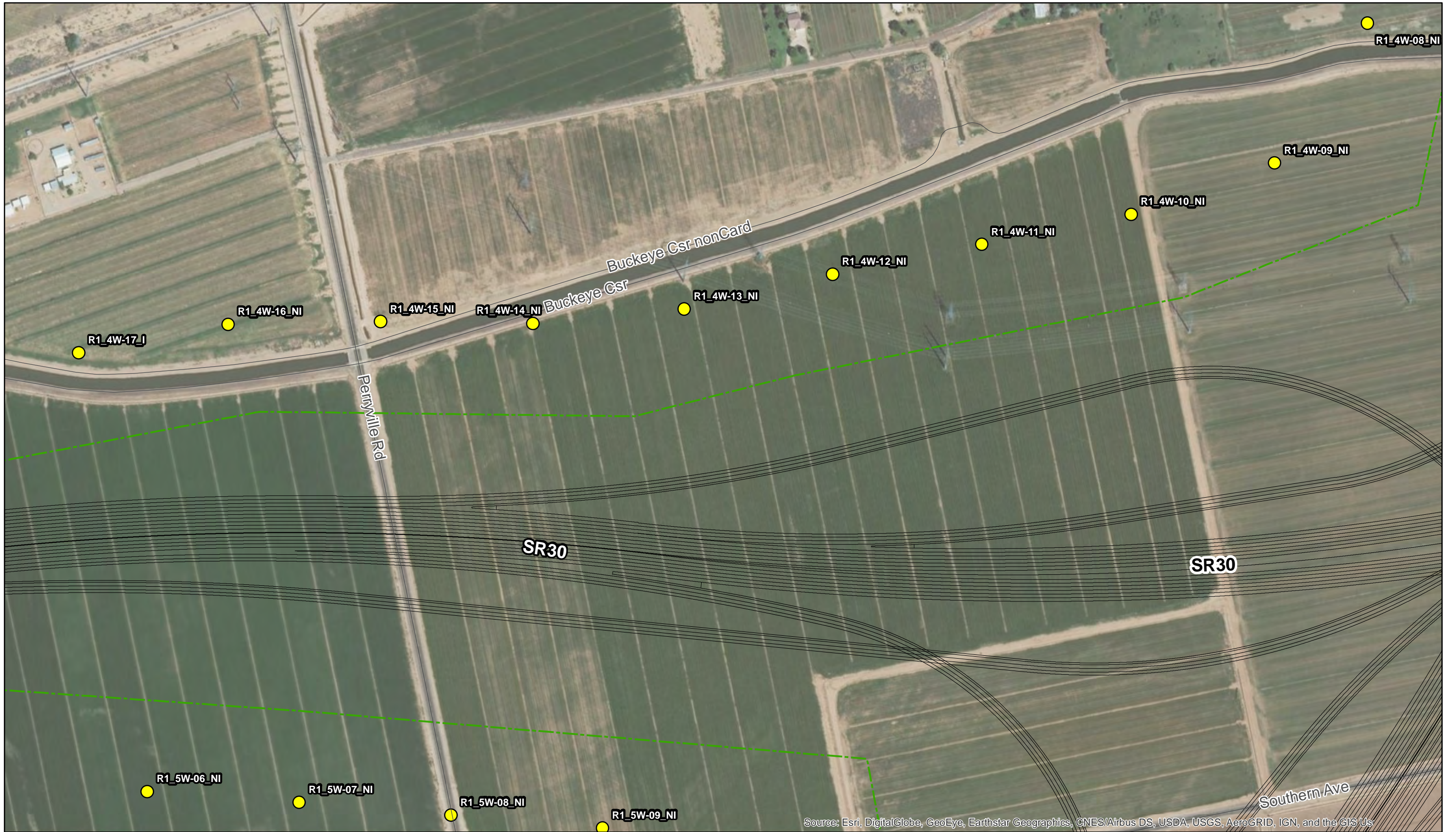
LEGEND

- Alt 2C Alignment
- Noise Receivers
- ▬ Potentially Recommended Barriers
- ▲ Monitoring Locations
- New R/W



Map Index

Figure Alt 2C



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS Us

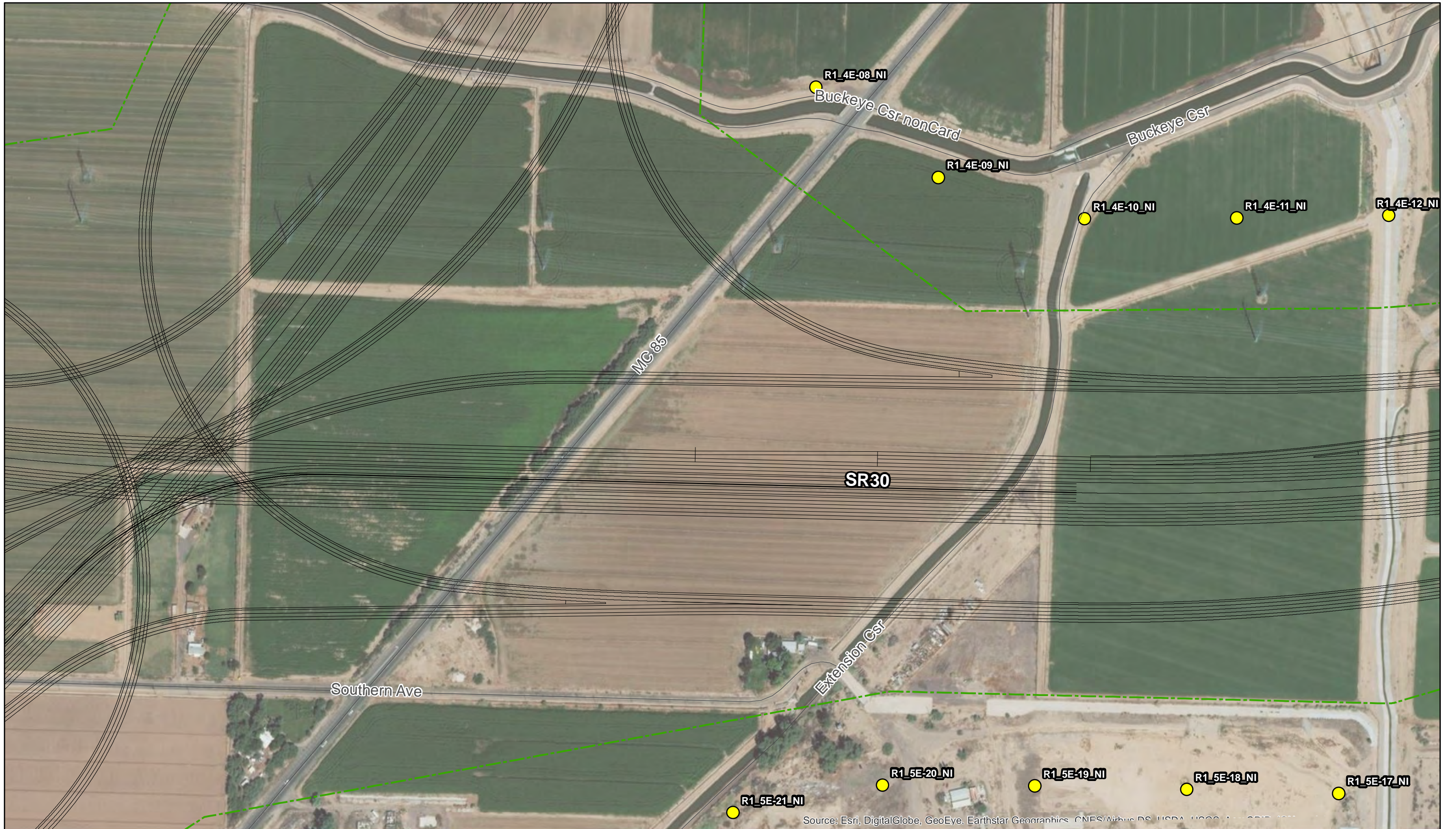


LEGEND

- Alt 2C Alignment
- Noise Receivers
- ▬ Potentially Recommended Barriers
- ▲ Monitoring Locations
- New R/W

Map Index

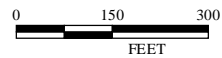
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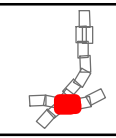


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SOURCE: World Imagery; WSP (2018)



LEGEND

- Alt 2C Alignment
- Noise Receivers
- ▬ Potentially Recommended Barriers
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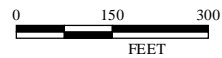


Map Index

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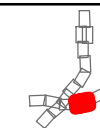


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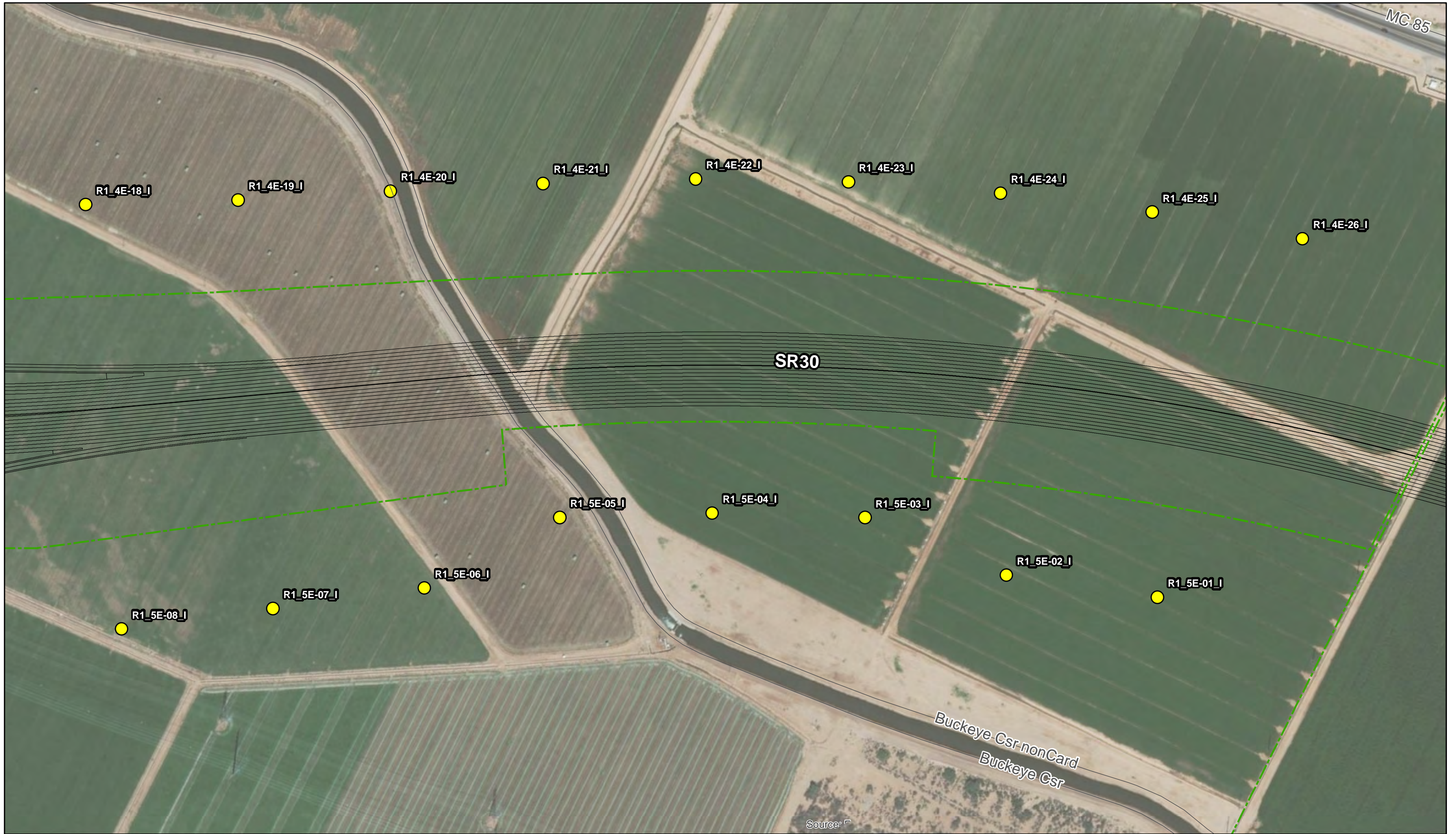
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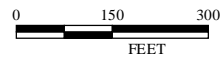


Map Index

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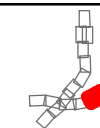


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SOURCE: World Imagery; WSP (2018)



LEGEND

- Alt 2C Alignment
- Noise Receivers
- ▬ Potentially Recommended Barriers
- ▲ Monitoring Locations
- - - New R/W



Map Index

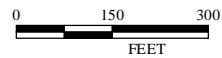
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Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbu



Revised: 2/26/2018  
SOURCE: World Imagery; WSP (2018)



LEGEND

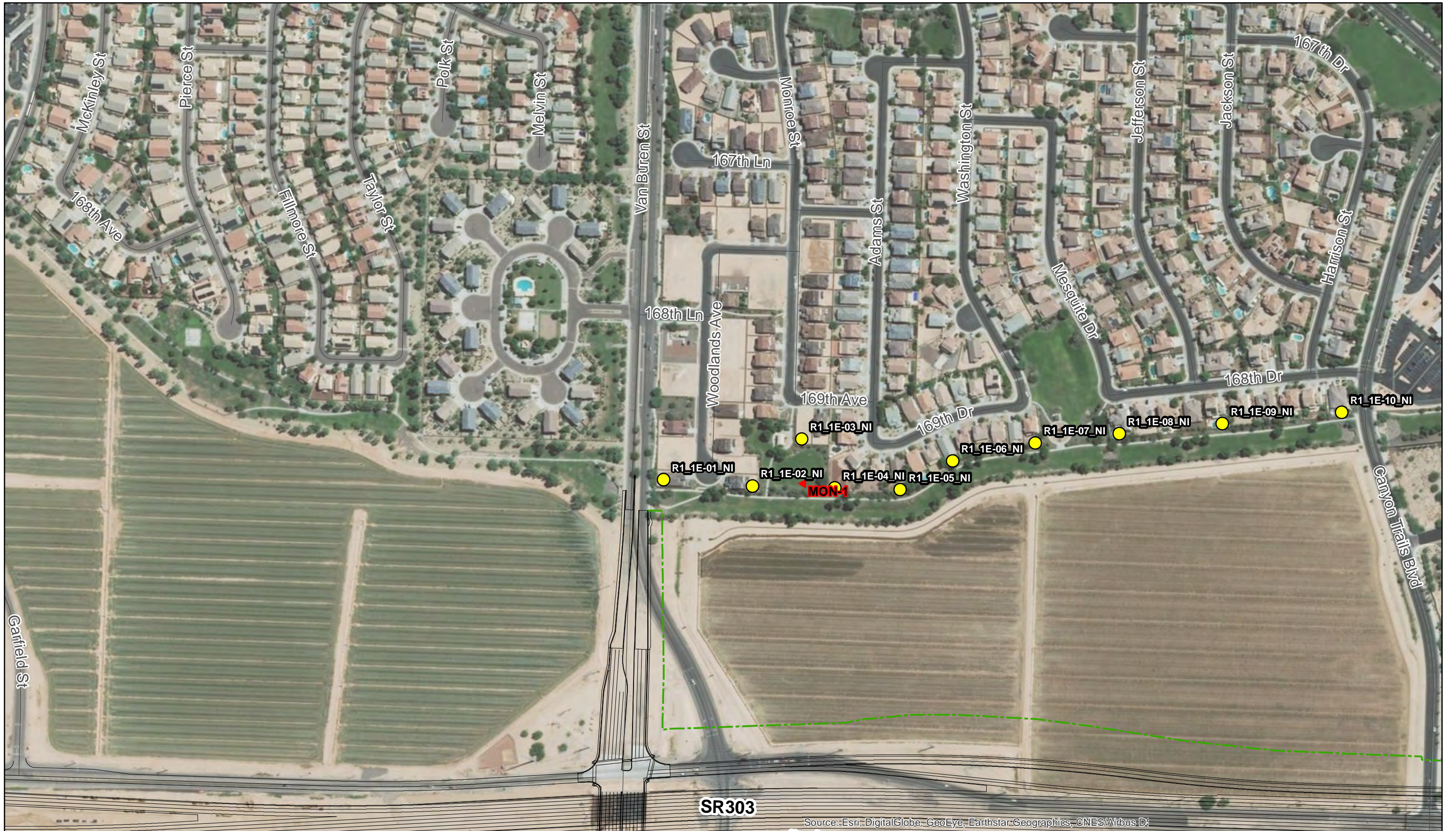
- Alt 3 Alignment
- Noise Receivers
- ▬ Potentially Recommended Barriers
- ▲ Monitoring Locations
- New R/W



Map Index

Figure Alt 3

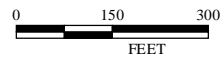




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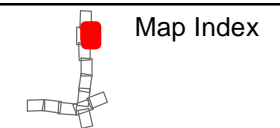


Revised: 2/26/2018  
SOURCE: World Imagery; WSP (2018)



LEGEND

- Alt 3 Alignment
- Noise Receivers
- ▬ Potentially Recommended Barriers
- ▲ Monitoring Locations
- New R/W



Map Index

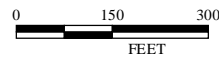
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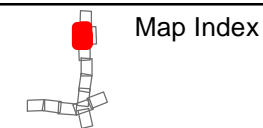


Revised: 2/26/2018  
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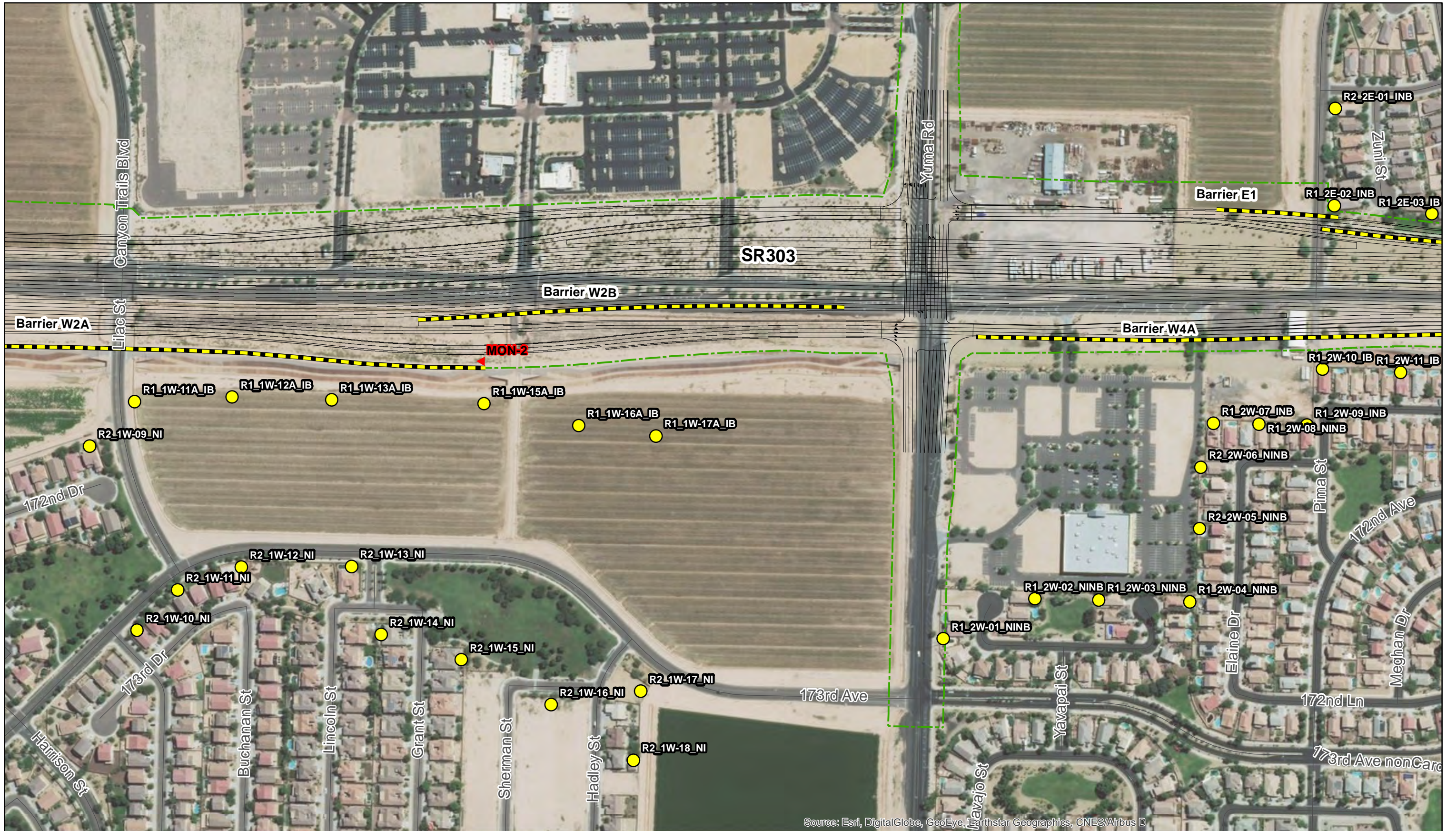
LEGEND

- Alt 3 Alignment
- Noise Receivers
- Potentially Recommended Barriers
- ▲ Monitoring Locations
- New R/W



Map Index

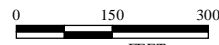
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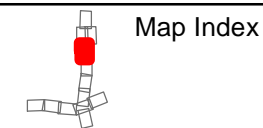


Revised: 2/26/2018  
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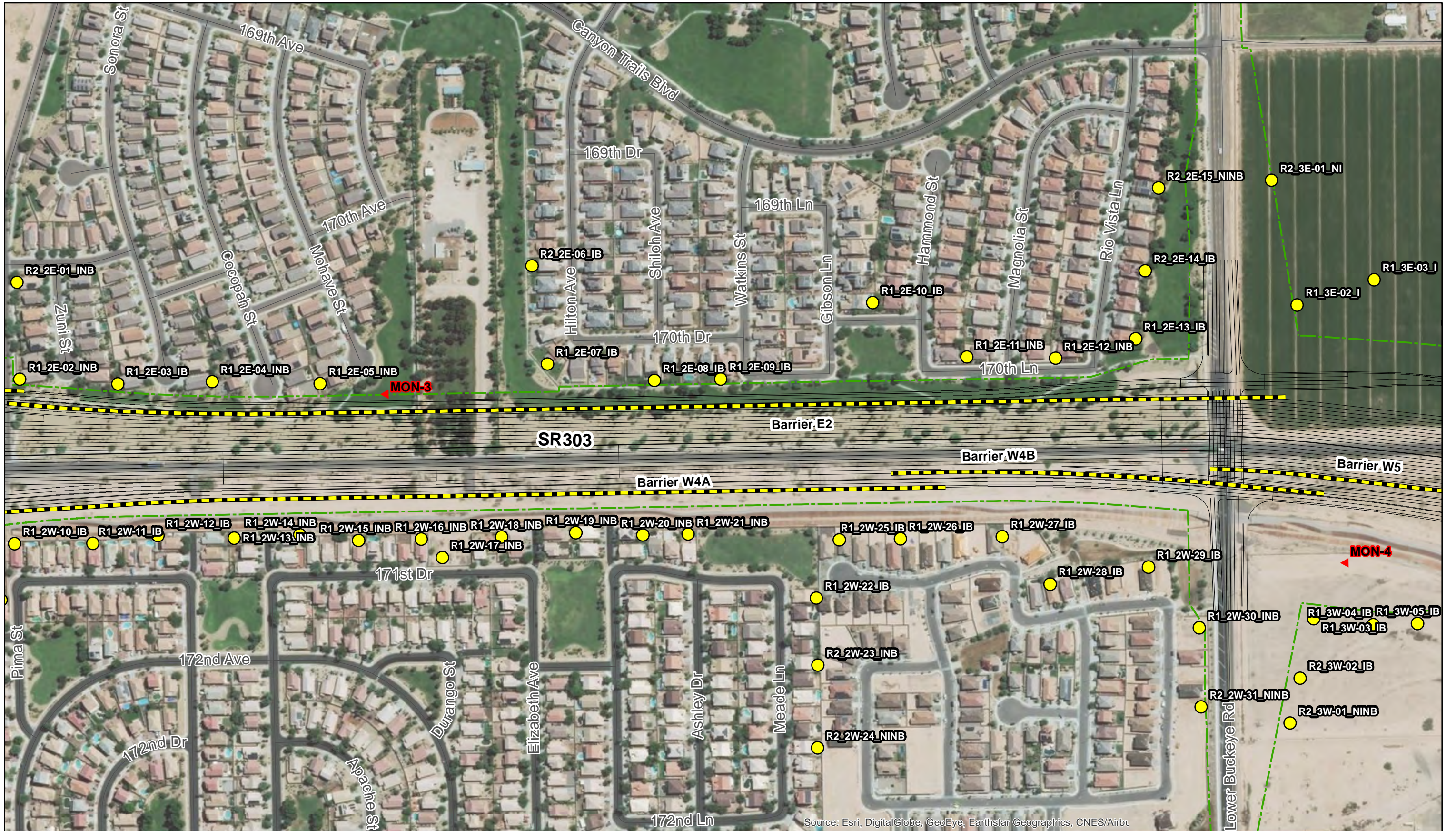
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- Alt 3 Alignment
- Noise Receivers
- Potentially Recommended Barriers
- ▲ Monitoring Locations
- - - New R/W



Map Index

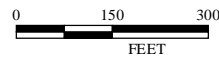
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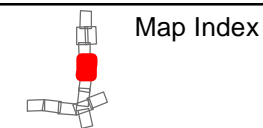


Revised: 2/26/2018  
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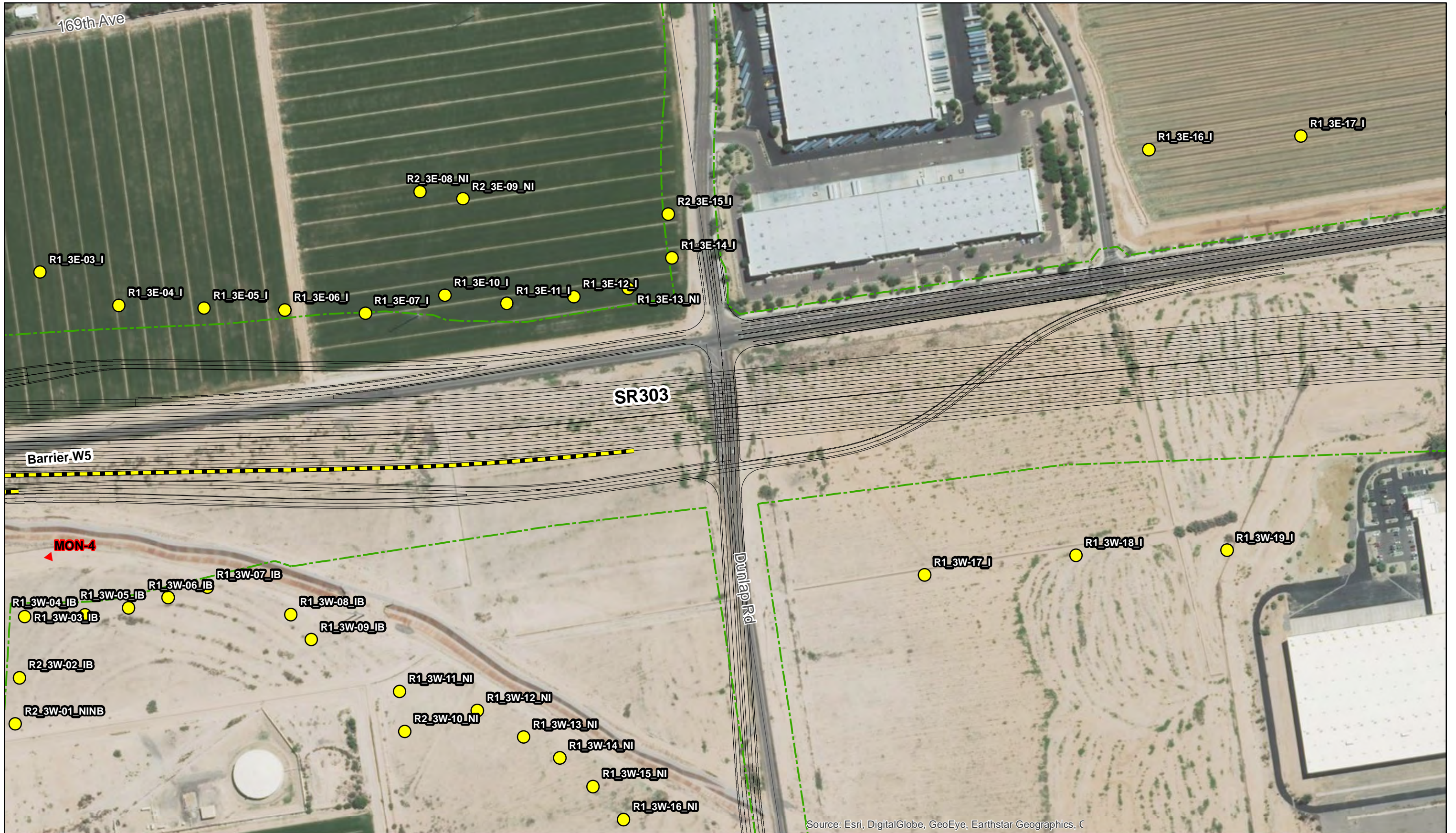
LEGEND

- Alt 3 Alignment
- Noise Receivers
- ▬ Potentially Recommended Barriers
- ▲ Monitoring Locations
- - - New R/W



Map Index

Figure Alt 3



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, C

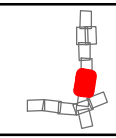


Revised: 2/26/2018  
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LEGEND

- Alt 3 Alignment
- Noise Receivers
- Potentially Recommended Barriers
- ▲ Monitoring Locations
- - - New R/W



Map Index

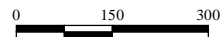
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Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES



Revised: 2/26/2018  
SOURCE: World Imagery; WSP (2018)



LEGEND

- Alt 3 Alignment
- Noise Receivers
- ▬ Potentially Recommended Barriers
- ▲ Monitoring Locations
- New R/W

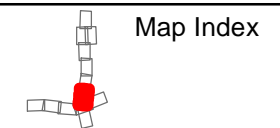


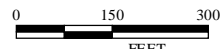
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Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS.



Revised: 2/26/2018  
SOURCE: World Imagery; WSP (2018)



LEGEND

- Alt 3 Alignment
- Noise Receivers
- ▬ Potentially Recommended Barriers
- ▲ Monitoring Locations
- - - New R/W



Map Index

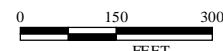
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Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Revised: 2/26/2018  
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LEGEND

- Alt 3 Alignment
- Noise Receivers
- ▬ Potentially Recommended Barriers
- ▲ Monitoring Locations
- New R/W

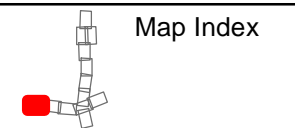
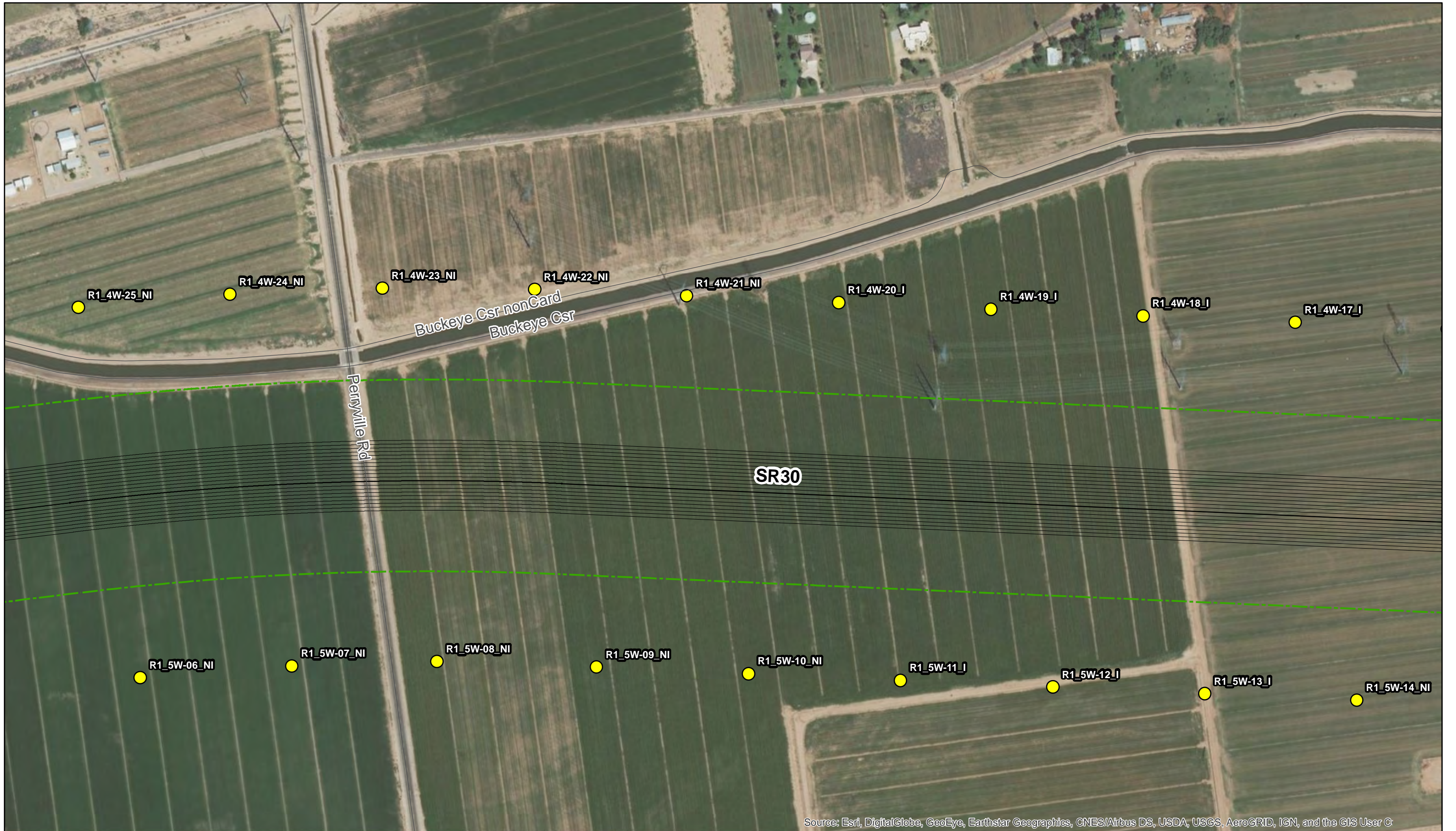


Figure Alt 3





Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User C



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LEGEND

- Alt 3 Alignment
- Noise Receivers
- ▬ Potentially Recommended Barriers
- ▲ Monitoring Locations
- - - New R/W



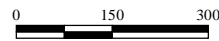
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Revised: 2/26/2018  
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LEGEND

- Alt 3 Alignment
- Noise Receivers
- ▬ Potentially Recommended Barriers
- ▲ Monitoring Locations
- New R/W

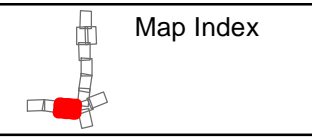
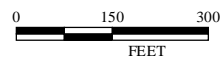


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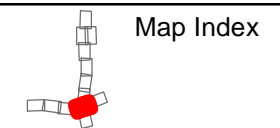


Revised: 2/26/2018  
SOURCE: World Imagery; WSP (2018)



LEGEND

- Alt 3 Alignment
- Noise Receivers
- ▬ Potentially Recommended Barriers
- ▲ Monitoring Locations
- - - New R/W

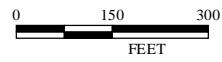


Map Index

Figure Alt 3



Revised: 2/26/2018  
SOURCE: World Imagery; WSP (2018)



LEGEND

- Alt 3 Alignment
- Noise Receivers
- ▬ Potentially Recommended Barriers
- ▲ Monitoring Locations
- - - New R/W

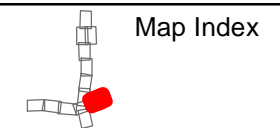


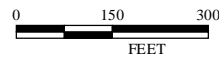
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Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus



Revised: 2/26/2018  
SOURCE: World Imagery; WSP (2018)

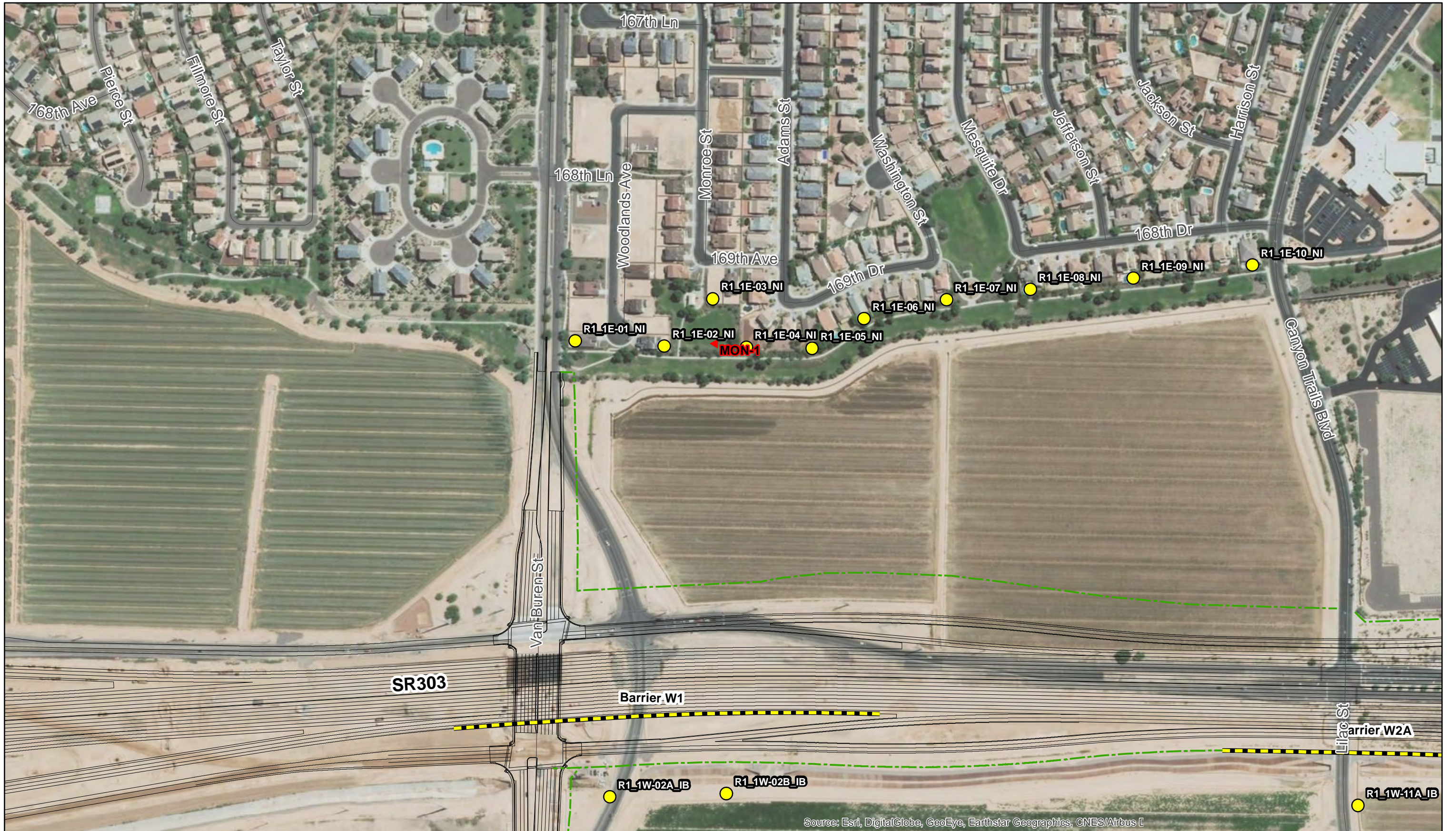


LEGEND

- Alt 5 Alignment
- Noise Receivers
- ▬ Potentially Recommended Barriers
- ▲ Monitoring Locations
- New R/W

Map Index

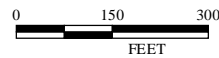
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Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus L



Revised: 2/26/2018  
SOURCE: World Imagery; WSP (2018)

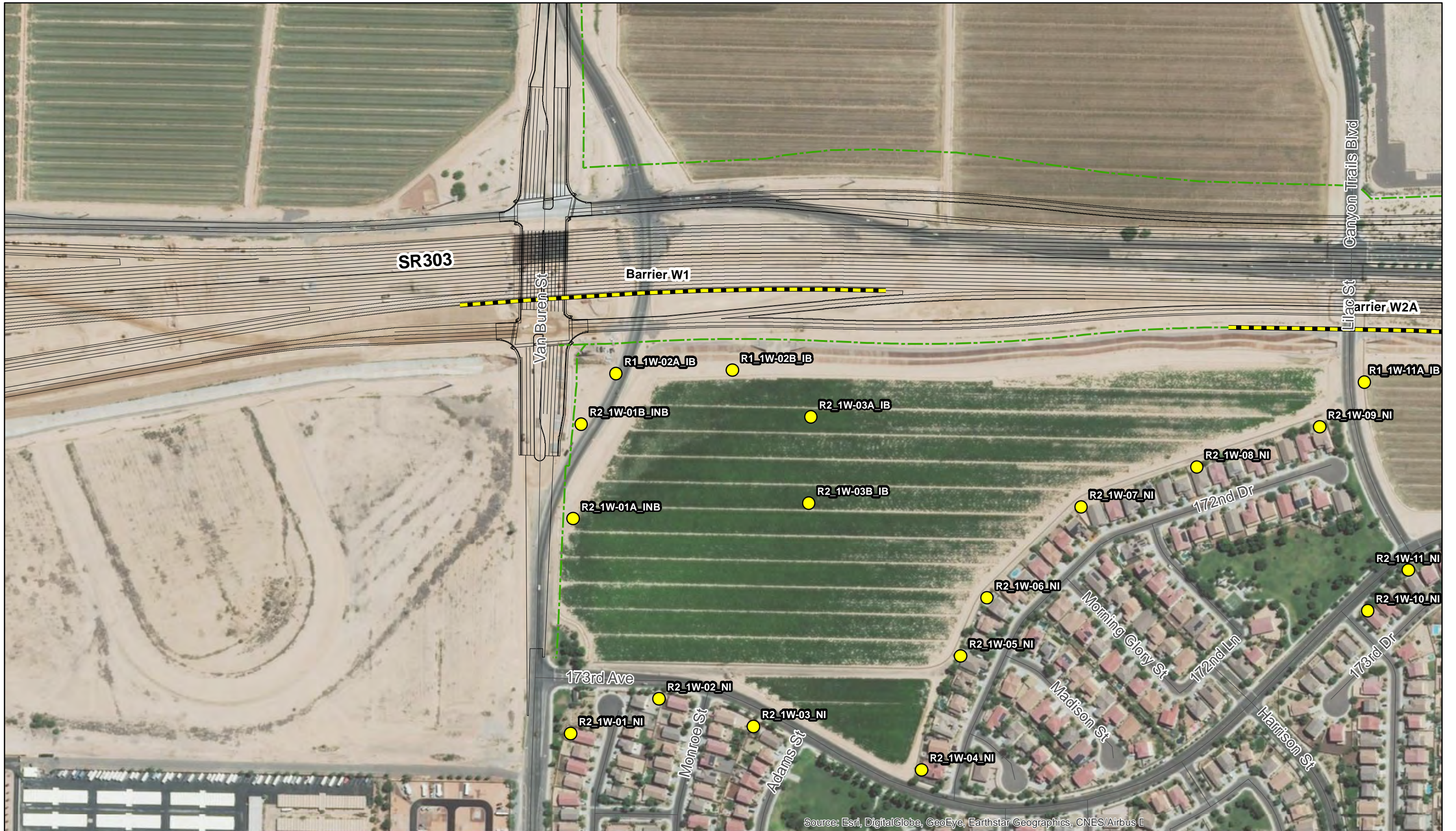


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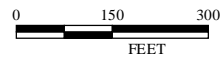
- Alt 5 Alignment
- Noise Receivers
- Potentially Recommended Barriers
- ▲ Monitoring Locations
- - - New R/W

Map Index

Figure Alt 5



Revised: 2/26/2018  
SOURCE: World Imagery; WSP (2018)

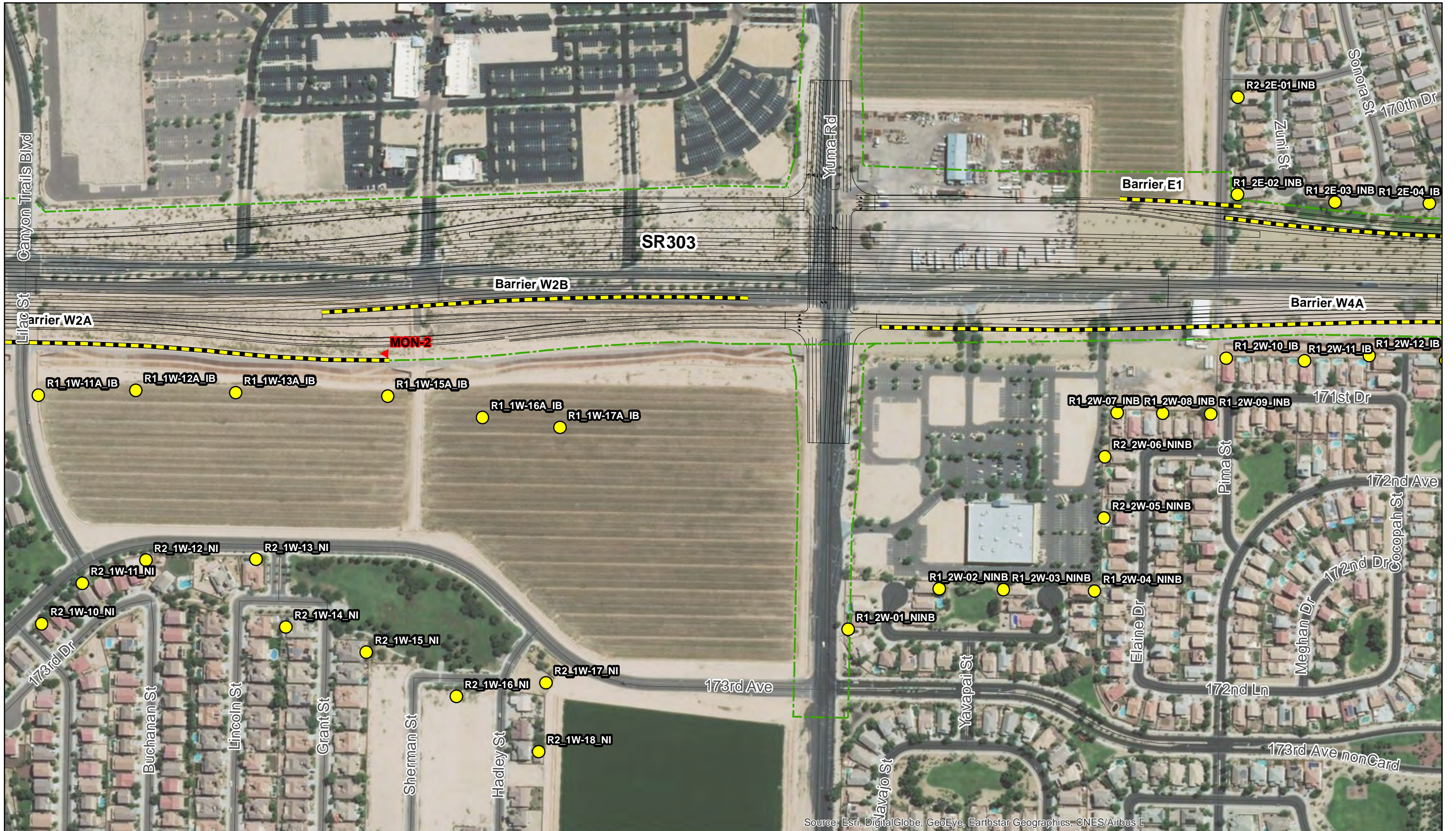


LEGEND

- Alt 5 Alignment
- Potentially Recommended Barriers
- New R/W
- Noise Receivers
- Monitoring Locations

Map Index

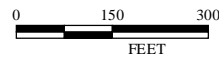
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Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus L

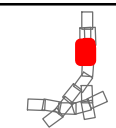


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LEGEND

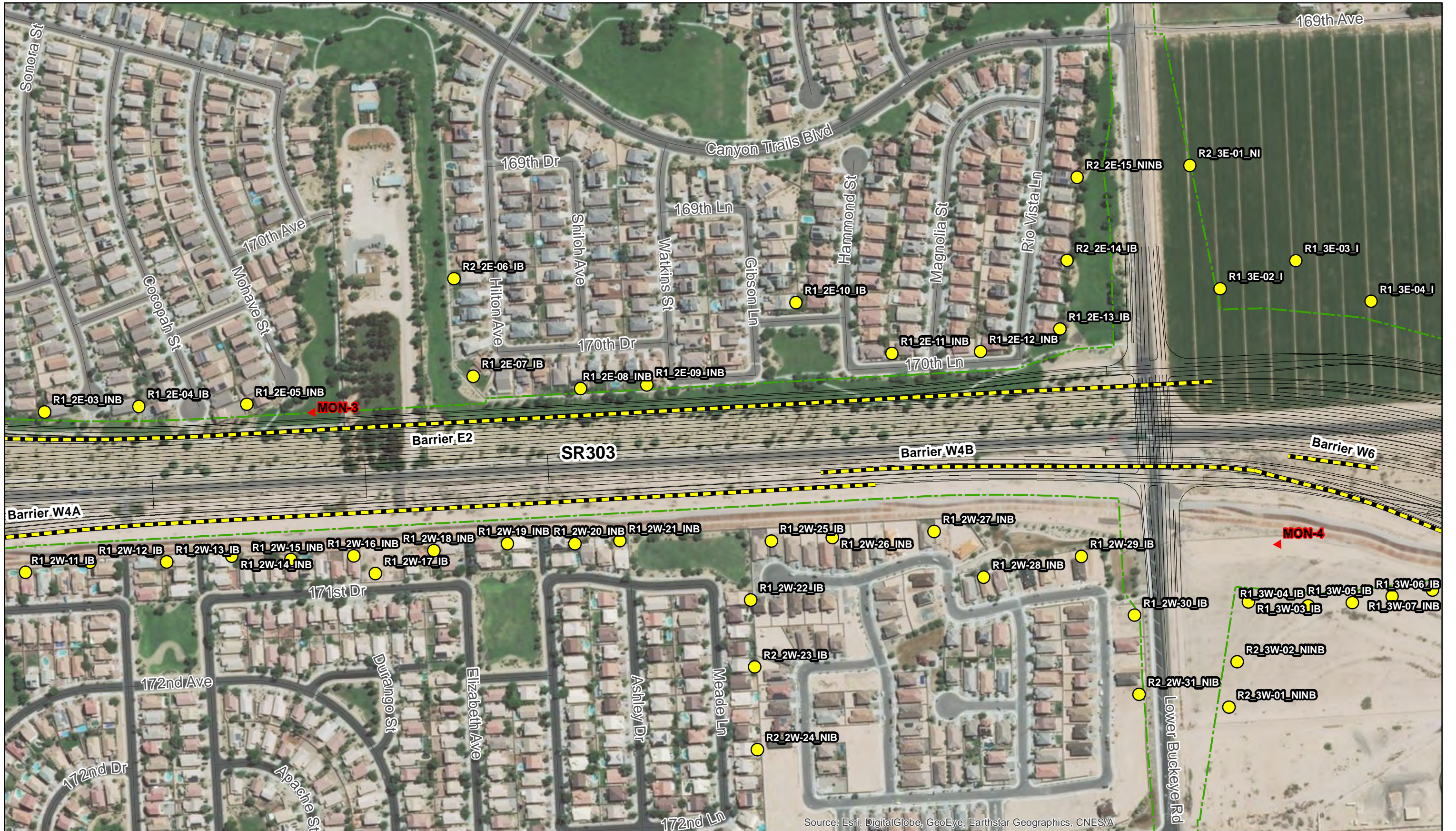
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- Noise Receivers
- ▬ Potentially Recommended Barriers
- ▲ Monitoring Locations
- - - New R/W



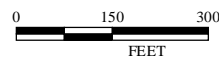
Map Index

Figure Alt 5





Revised: 2/26/2018  
SOURCE: World Imagery; WSP (2018)



LEGEND

- Alt 5 Alignment
- Noise Receivers
- Potentially Recommended Barriers
- ▲ Monitoring Locations
- - - New R/W

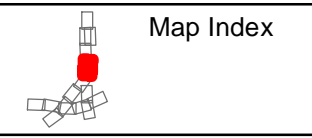
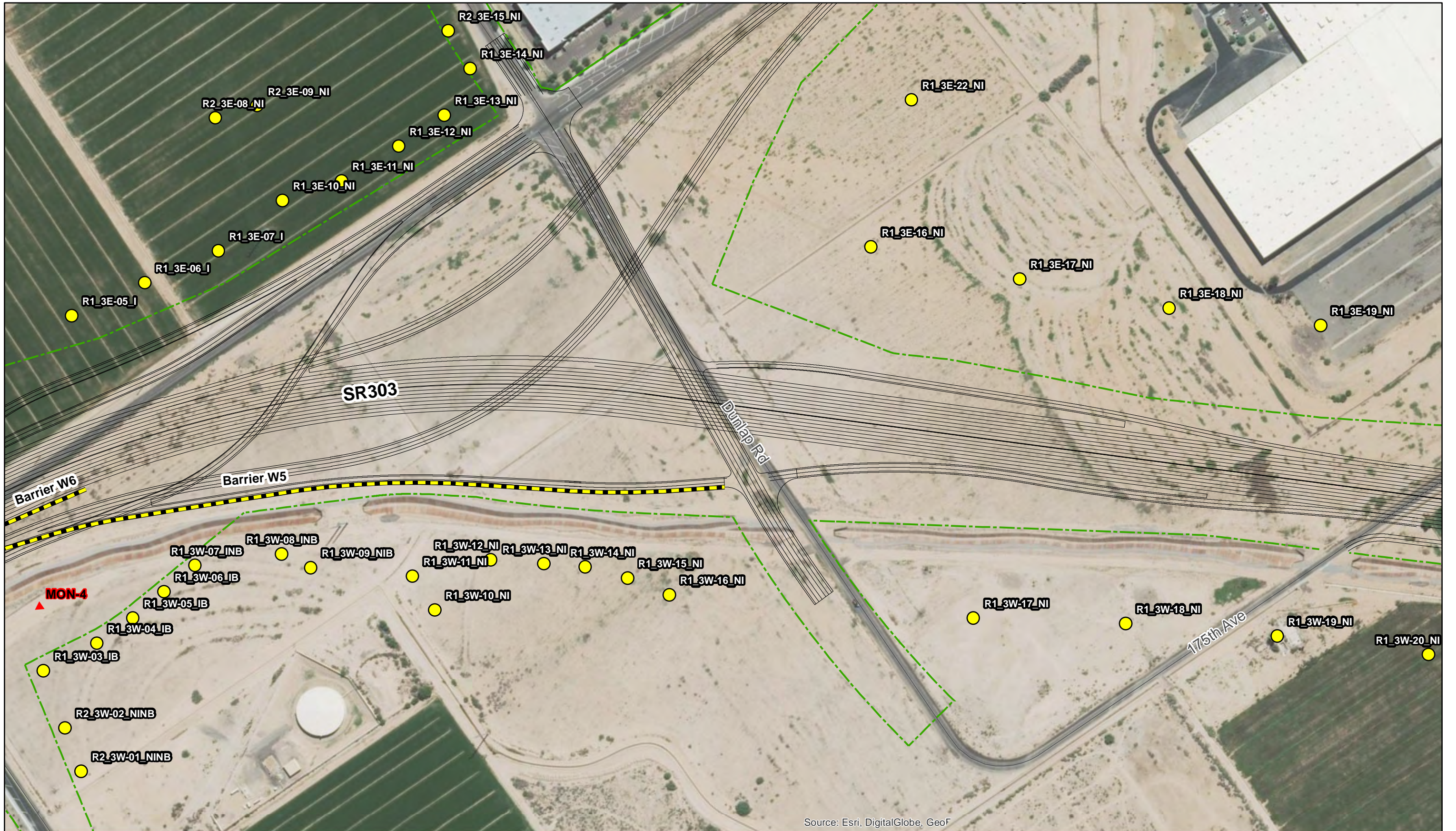
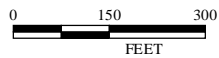


Figure Alt 5



Source: Esri, DigitalGlobe, GeoF



LEGEND

- Alt 5 Alignment
- Potentially Recommended Barriers
- New R/W
- Noise Receivers
- Monitoring Locations

Revised: 2/26/2018  
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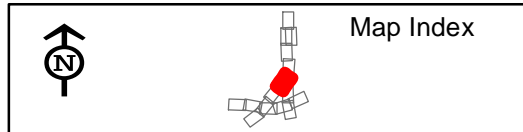
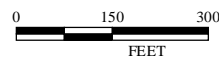


Figure Alt 5



Revised: 2/26/2018  
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LEGEND

- Alt 5 Alignment
- Noise Receivers
- ▬ Potentially Recommended Barriers
- ▲ Monitoring Locations
- - - New R/W

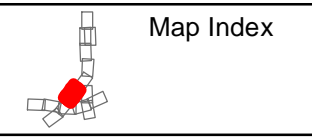
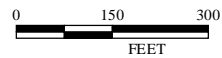


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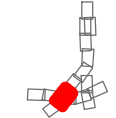
Source: Esri, DigitalGlobe, ©



LEGEND

- Alt 5 Alignment
- Noise Receivers
- ▬ Potentially Recommended Barriers
- ▲ Monitoring Locations
- New R/W

Revised: 2/26/2018  
SOURCE: World Imagery; WSP (2018)

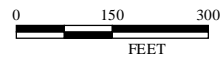


Map Index

Figure Alt 5



Revised: 2/26/2018  
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**LEGEND**

- Alt 5 Alignment
- Noise Receivers
- ▬ Potentially Recommended Barriers
- ▲ Monitoring Locations
- - - New R/W

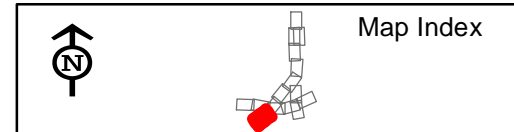


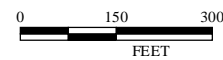
Figure Alt 5



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Revised: 2/26/2018  
SOURCE: World Imagery; WSP (2018)



LEGEND

- Alt 5 Alignment
- Noise Receivers
- ▨ Potentially Recommended Barriers
- ▲ Monitoring Locations
- New R/W



Map Index

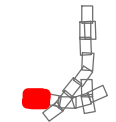


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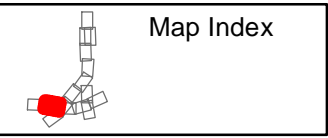


Revised: 2/26/2018  
SOURCE: World Imagery; WSP (2018)



LEGEND

- Alt 5 Alignment
- Noise Receivers
- ▬ Potentially Recommended Barriers
- ▲ Monitoring Locations
- New R/W



Map Index

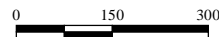
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Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

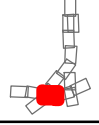


Revised: 2/26/2018  
SOURCE: World Imagery; WSP (2018)



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- Noise Receivers
- ▬ Potentially Recommended Barriers
- ▲ Monitoring Locations
- - - New R/W



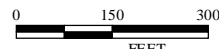
Map Index

Figure Alt 5



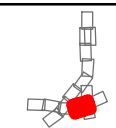


Revised: 2/26/2018  
SOURCE: World Imagery; WSP (2018)



LEGEND

- Alt 5 Alignment
- Noise Receivers
- ▬ Potentially Recommended Barriers
- ▲ Monitoring Locations
- New R/W

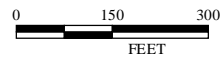


Map Index

Figure Alt 5

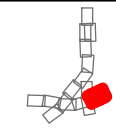


Revised: 2/26/2018  
SOURCE: World Imagery; WSP (2018)



**LEGEND**

- Alt 5 Alignment
- Noise Receivers
- ▬ Potentially Recommended Barriers
- ▲ Monitoring Locations
- New R/W



Map Index

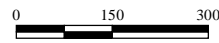
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Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus D

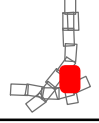


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SOURCE: World Imagery; WSP (2018)



LEGEND

- Alt 5 Alignment
- Noise Receivers
- ▬ Potentially Recommended Barriers
- ▲ Monitoring Locations
- New R/W

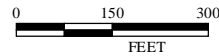


Map Index

Figure Alt 5



Revised: 2/26/2018  
SOURCE: World Imagery; WSP (2018)



LEGEND

- Alt 5 Alignment
- Noise Receivers
- ▬ Potentially Recommended Barriers
- ▲ Monitoring Locations
- - - New R/W

Map Index

Figure Alt 5

## **APPENDIX B – NOISE MEASUREMENT DATA**

Traffic Counting Log														
<b>1</b>	<b>Date</b>	<b>Sky</b>	<b>Temp °F</b>	<b>Humidity %</b>	<b>Wind Speed/Dir</b>	<b>Project</b>	<b>Day Of Week</b>	<b>Staff</b>	<b>Meter</b>	<b>Batt Check</b>	<b>Calibraton</b>	<b># Traffic Lanes</b>	<small>Receptor Above, Below Or Same Elevation As Roadway</small>	
	10/11/17	Partly Cloudy	69	32	N 7 Mph	SR 303	Wednesday	MO/Andrea	Larson Davis LXT	Yes	Yes			
Receiver 1 33° 26' 57" N - 112° 25' 29" W	<b>Sample</b>	<b>Axis</b>	<b>Autos</b>	<b>Medium Trucks</b>	<b>Heavy Trucks</b>	<b>Buses</b>	<b>Motorcycles</b>	<b>Total</b>	<b>Start Time</b>	<b>End Time</b>	<b>Duration</b>	<b>LaEQ</b>	<b>LaMin</b>	<b>LaMax</b>
	1	Van Buren E-W	38	2	0	0	0	40	7:50:00	8:05:15	0:15:15	53.8	47.9	71.3
	1	Van Buren W-E	25	2	0	0	0	27						
	1	Cotton Ln N-S	63	2	5	0	0	70						
	1	Cotton Ln S-N	80	3	2	0	0	85						
	2	Van Buren E-W	16	1	0	0	0	17	8:16:00	9:01:03	0:15:03	50.6	44	66.5
	2	Van Buren W-E	22	2	0	0	0	24						
	2	Cotton Ln N-S	57	3	1	0	0	61						
	2	Cotton Ln S-N	88	1	2	0	0	91						
	3	Van Buren E-W	17	2	0	0	0	19	8:34:00	8:49:03	0:15:03	50.3	44.2	59.7
	3	Van Buren W-E	19	3	0	0	0	22						
	3	Cotton Ln N-S	68	5	4	0	3	80						
	3	Cotton Ln S-N	78	2	5	0	0	85						
	<b>Total</b>			<b>571</b>	<b>28</b>	<b>19</b>	<b>0</b>	<b>3</b>	<b>621</b>					
<b>2</b>	<b>Date</b>	<b>Sky</b>	<b>Temp °F</b>	<b>Humidity %</b>	<b>Wind Speed/Dir</b>	<b>Project</b>	<b>Day Of Week</b>	<b>Staff</b>	<b>Meter</b>	<b>Batt Check</b>	<b>Calibraton</b>	<b># Traffic Lanes</b>	<small>Receptor Above, Below Or Same Elevation As Roadway</small>	
	10/11/2017	Partly Cloudy	80 °F	31%	NE 8 Mph	SR 303	Wednesday	MO/Andrea	Larson Davis LXT	Yes	Yes			
Receiver 2 33° 26' 22" N - 112° 25' 38" W	<b>Sample</b>	<b>Axis</b>	<b>Autos</b>	<b>Medium Trucks</b>	<b>Heavy Trucks</b>	<b>Buses</b>	<b>Motorcycles</b>	<b>Total</b>	<b>Start Time</b>	<b>End Time</b>	<b>Duration</b>	<b>LaEQ</b>	<b>LaMin</b>	<b>LaMax</b>
	1	Cotton Ln N-S	64	0	2	0	0	66	9:26:00	9:41:00	0:15:07	57	42	68.9
	1	Cotton Lane S-N	71	5	2	0	0	78						
	2	Cotton Ln N-S	50	1	3	0	0	54	9:44:00	9:59:00	0:15:03	57.5	42.8	73.4
	2	Cotton Lane S-N	65	2	5	0	0	72						
	3	Cotton Ln N-S	55	3	3	0	0	61	10:00:00	10:15:00	0:15:05	56.9	43.7	69.2
	3	Cotton Lane S-N	63	1	5	0	1	70						
	<b>Total</b>			<b>368</b>	<b>12</b>	<b>20</b>	<b>0</b>	<b>1</b>	<b>401</b>					
<b>3</b>	<b>Date</b>	<b>Sky</b>	<b>Temp °F</b>	<b>Humidity %</b>	<b>Wind Speed/Dir</b>	<b>Project</b>	<b>Day Of Week</b>	<b>Staff</b>	<b>Meter</b>	<b>Batt Check</b>	<b>Calibraton</b>	<b># Traffic Lanes</b>	<small>Receptor Above, Below Or Same Elevation As Roadway</small>	
	10/11/2017	Partly Cloudy	80 °F	31%	NE 8 Mph	SR 303	Wednesday	MO/Andrea	Larson Davis LXT	Yes	Yes			
Receiver 3 33° 25' 44" N - 112° 25' 36" W	<b>Sample</b>	<b>Axis</b>	<b>Autos</b>	<b>Medium Trucks</b>	<b>Heavy Trucks</b>	<b>Buses</b>	<b>Motorcycles</b>	<b>Total</b>	<b>Start Time</b>	<b>End Time</b>	<b>Duration</b>	<b>LaEQ</b>	<b>LaMin</b>	<b>LaMax</b>
		Cotton Ln N-S	28	2	5	0	0	35	10:55:10	11:10:28	0:15:18	68	36.5	86.6
		Cotton Lane S-N	39	3	3	0	0	45						
		Cotton Ln N-S	39	3	3	0	0	45	11:11:00	11:26:16	0:15:16	50.2	48.8	53.4
		Cotton Lane S-N	39	2	1	0	0	42						
		Cotton Ln N-S	43	5	2	0	0	50	11:28:00	11:43:07	0:15:07	67.2	36.7	82
		Cotton Lane S-N	37	1	1	0	0	39						
<b>Total</b>			<b>225</b>	<b>16</b>	<b>15</b>	<b>0</b>	<b>0</b>	<b>256</b>						



Traffic Counting Log														
4	Date	Sky	Temp °F	Humidity %	Wind Speed/Dir	Project	Day Of Week	Staff	Meter	Batt Check	Calibraton	# Traffic Lanes	Receptor Above, Below Or Same Elevation As Roadway	
	10/11/2017	Partly Cloudy	80 °F	31%	NE 8 Mph	SR 303	Wednesday	MO/Andrea	Larson Davis LXT	Yes	Yes			
Receiver 4 33° 25' 13" N - 112° 25' 41" W	Sample	Axis	Autos	Medium Trucks	Heavy Trucks	Buses	Motorcycles	Total	Start Time	End Time	Duration	LaEQ	LaMin	LaMax
	1	Cotton Ln N-S	43	1	2	0	0	46	13:37:00	13:52:01	0:15:01	45.9	34.7	60.8
	1	Cotton Lane S-N	42	4	1	0	0	47						
	1	Lower Buckeye E-W	8	0	0	0	0	8						
	1	Lower Buckeye W-E	0	0	0	0	0	0						
	2	Cotton Ln N-S	52	4	3	0	0	59	13:54:00	14:09:02	0:15:02	47	61.7	34.2
	2	Cotton Lane S-N	39	0	4	0	0	43						
	2	Lower Buckeye E-W	5	0	0	0	0	5						
	2	Lower Buckeye W-E	7	0	0	0	0	7						
	3	Cotton Ln N-S	51	6	0	0	0	57	14:11:00	14:26:02	0:15:02	46.3	36.2	69.1
	3	Cotton Lane S-N	30	9	2	0	0	41						
	3	Lower Buckeye E-W	11	0	0	0	0	11						
	3	Lower Buckeye W-E	3	0	0	0	0	3						
	Total			291	24	12	0	0	327					
5	Date	Sky	Temp °F	Humidity %	Wind Speed/Dir	Project	Day Of Week	Staff	Meter	Batt Check	Calibraton	# Traffic Lanes	Receptor Above, Below Or Same Elevation As Roadway	
	10/11/2017	Partly Cloudy	96 °F	14%	SW 8 Mph	SR 303	Wednesday	MO/Andrea	Larson Davis LXT	Yes	Yes			
Receiver 5 33° 24' 24" N - 112° 26' 42" W	Sample	Axis	Autos	Medium Trucks	Heavy Trucks	Buses	Motorcycles	Total	Start Time	End Time	Duration	LaEQ	LaMin	LaMax
	1	Broadway Rd & 179th Dr E-W	5	0	1	0	0	6	14:59:00	15:14:01	0:15:01	50.1	32.1	72.9
	1	Broadway Rd & 179th Dr W-E	0	0	0	0	0	0						
	2	Broadway Rd & 179th Dr E-W	5	0	0	0	0	5	15:15:00	15:30:04	0:15:04	48.4	32.9	73.2
	2	Broadway Rd & 179th Dr W-E	4	0	0	0	0	4						
	3	Broadway Rd & 179th Dr E-W	5	0	0	0	0	5	15:31:00	15:46:02	0:15:02	48.2	70.6	32.4
	3	Broadway Rd & 179th Dr W-E	4	0	0	0	0	4						
	Total			23	0	1	0	0	24					

## **APPENDIX C – TNM 2.5 TRAFFIC VOLUMES**



## Alternative 2C Traffic Volumes

SB Roadway Segment	June Traffic Volumes				Percent Difference	October Traffic Volumes			
	Total Hourly Volume	Percent Auto	Percent Medium Truck	Percent Heavy Truck		Total Hourly Volume	Percent Auto	Percent Medium Truck	Percent Heavy Truck
SR303L I-10 to Van Buren St	4250	90	4	6	+1.2%	4301	90	4	6
SR303L Ramp South of Van Buren	340	98	1	1	+1.5%	346	98	1	1
SR303L Van Buren St to Yuma Rd	4590	91	4	5	+1.5%	4659	91	4	5
SR303L Ramp North of Yuma Rd	1470	98	1	1	+1.5%	1493	98	1	1
SR303L over Yuma Rd	3120	88	4	8	+3.0%	3214	88	4	8
SR303L Ramp South of Yuma	280	98	1	1	+5.1%	295	98	1	1
SR303L Elizabeth Ave to Lower Buckeye	3400	88	4	8	+5.1%	3574	88	4	8
SR303L Lower Buckeye to Elwood	2060	83	6	11	+5.1%	2166	83	6	11
SR303L Ramp North of Elwood	1340	97	2	1	+5.1%	1409	97	2	1
SR303L Ramp South of Lower Buckeye	230	99	1	0	+5.1%	242	99	1	0
SR303L/SR30 S-E Ramp	810	64	9	27	-13.5%	701	64	9	27
SR303L/SR30 S-W Ramp	1260	96	3	1	+57.4%	1984	96	3	1
SR303L/SR30 E-N Ramp	640	95	4	1	+5.8%	678	95	4	1
SR303L/SR30 W-N Ramp	830	69	7	24	+11.0%	922	69	7	24
SR30 WB - East of SR303L	3540	83	4	13	+0.7%	3565	83	4	13
SR30 EB - East of SR303L	1880	79	8	13	+0.7%	1894	79	8	13
SR30 EB - West of SR303L	2060	94	4	2	-12.3%	1807	94	4	2
SR30 WB - West of SR303L	4150	91	3	6	-12.3%	3640	91	3	6
SR30 EB - Over SR303L	1420	93	5	2	-28.9%	1010	93	5	2
SR30 WB - Over SR303L	2900	88	3	9	-16.9%	2410	88	3	9
SR30 WB - East of Cotton	4940	87	4	9	+0.7%	4975	87	4	9
SR30 EB - East of Cotton	2160	81	7	12	+0.7%	2176	81	7	12
Frontage Road - Van Buren to Lilac	200	98	1	1	+1.5%	203	98	1	1
Frontage Road - Lilac to Yuma	290	98	1	1	+1.5%	295	98	1	1
Frontage Road - Yuma to Lower Buckeye	320	99	1	0	+5.1%	337	99	1	0
Frontage Road - South of Lower Buckeye	90	99	1	0	+5.1%	95	99	1	0

NB Roadway Segment	June Traffic Volumes				Percent Difference	October Traffic Volumes			
	Total Hourly Volume	Percent Auto	Percent Medium Truck	Percent Heavy Truck		Total Hourly Volume	Percent Auto	Percent Medium Truck	Percent Heavy Truck
SR303L I-10 to Van Buren St	3220	87	5	8	+1.2%	3259	87	5	8
SR303L Ramp South of Van Buren	380	98	1	1	+1.5%	386	98	1	1
SR303L Van Buren St to Yuma Rd	3590	88	4	8	+1.5%	3644	88	4	8
SR303L Ramp North of Yuma Rd	980	97	2	1	+1.5%	995	97	2	1
SR303L over Yuma Rd	2610	85	5	10	+3.0%	2689	85	5	10
SR303L Ramp South of Yuma	180	98	1	1	+5.1%	190	98	1	1
SR303L Elizabeth Ave to Lower Buckeye	2790	85	5	10	+5.1%	2933	85	5	10
SR303L Lower Buckeye to Ramp North of Elwood	1480	80	6	14	+5.1%	1556	80	6	14
SR303L Ramp North of Elwood	1310	91	4	5	+5.1%	1377	91	4	5
Frontage Road - Van Buren to Lilac	330	98	1	1	+1.5%	335	98	1	1
Frontage Road - Lilac to Yuma	310	99	1	0	+1.5%	315	99	1	0
Frontage Road - Yuma to Lower Buckeye	170	98	1	1	+5.1%	179	98	1	1
Frontage Road - South of Lower Buckeye	30	99	1	0	+5.1%	32	99	1	0
Cotton TI Ramp A	190	99	1	0	-1.5%	188	99	1	0
Cotton TI Ramp B	350	99	1	0	-62.8%	131	99	1	0
Cotton TI Ramp C	1400	97	2	1	-2.4%	1367	97	2	1
Cotton TI Ramp D	290	95	3	2	+15.8%	336	95	3	2

## Alternative 3 Traffic Volumes

SB Roadway Segment	June Traffic Volumes				Percent Difference	October Traffic Volumes			
	Total Hourly Volume	Percent Auto	Percent Medium Truck	Percent Heavy Truck		Total Hourly Volume	Percent Auto	Percent Medium Truck	Percent Heavy Truck
SR303L I-10 to Van Buren St	4060	90	4	6	+1.2%	4109	90	4	6
SR303L Ramp South of Van Buren	300	98	1	1	+1.5%	305	98	1	1
SR303L Van Buren St to Yuma Rd	4360	90	4	6	+1.5%	4425	90	4	6
SR303L Ramp North of Yuma Rd	1520	98	1	1	+1.5%	1543	98	1	1
SR303L over Yuma Rd	2840	86	5	9	+3.0%	2925	86	5	9
SR303L Ramp South of Yuma	270	97	2	1	+5.1%	284	97	2	1
SR303L Elizabeth Ave to Lower Buckeye	3110	87	5	8	+5.1%	3269	87	5	8
SR303L Lower Buckeye to Elwood	2170	82	6	12	+5.1%	2281	82	6	12
SR303L Ramp North of Elwood	940	97	2	1	+5.1%	988	97	2	1
SR303L/SR30 S-E Ramp	1180	71	9	20	-13.5%	1021	71	9	20
SR303L/SR30 S-W Ramp	990	96	3	1	+57.4%	1558	96	3	1
SR303L/SR30 E-N Ramp	400	95	4	1	+5.8%	423	95	4	1
SR303L/SR30 W-N Ramp	1970	70	6	24	+11.0%	2187	70	6	24
SR30 WB - East of SR303L	2270	95	3	2	+0.7%	2286	95	3	2
SR30 EB - East of SR303L	960	91	6	3	+0.7%	967	91	6	3
SR30 EB - West of SR303L	1760	93	5	2	-12.3%	1544	93	5	2
SR30 WB - West of SR303L	3500	96	3	1	-12.3%	3070	96	3	1
SR30 EB - Over SR303L	1360	93	5	2	-28.9%	967	93	5	2
SR30 WB - Over SR303L	2500	95	3	2	-16.9%	2078	95	3	2
SR30 WB - East of Cotton	5450	87	4	9	+0.7%	5488	87	4	9
SR30 EB - East of Cotton	2410	82	7	11	+0.7%	2427	82	7	11
Frontage Road - Van Buren to Lilac	200	98	1	1	+1.5%	203	98	1	1
Frontage Road - Lilac to Yuma	270	98	1	1	+1.5%	274	98	1	1
Frontage Road - Yuma to Lower Buckeye	430	98	1	1	+5.1%	452	98	1	1
Frontage Road - South of Lower Buckeye	20	99	1	0	+5.1%	21	99	1	0
Frontage Road - Elwood to Cotton	1160	97	2	1	+5.1%	1219	97	2	1

NB Roadway Segment	June Traffic Volumes				Percent Difference	October Traffic Volumes			
	Total Hourly Volume	Percent Auto	Percent Medium Truck	Percent Heavy Truck		Total Hourly Volume	Percent Auto	Percent Medium Truck	Percent Heavy Truck
SR303L I-10 to Van Buren St	3280	80	5	15	+1.2%	3319	80	5	15
SR303L Ramp South of Van Buren	360	98	1	1	+1.5%	365	98	1	1
SR303L Van Buren St to Yuma Rd	3640	82	5	13	+1.5%	3695	82	5	13
SR303L Ramp North of Yuma Rd	1030	97	2	1	+1.5%	1045	97	2	1
SR303L over Yuma Rd	2610	76	6	18	+3.0%	2688	76	6	18
SR303L Ramp South of Yuma	480	97	2	1	+5.1%	504	97	2	1
SR303L Elizabeth Ave to Lower Buckeye	3090	79	5	16	+5.1%	3248	79	5	16
SR303L Lower Buckeye to Ramp North of Elwood	2370	74	6	20	+5.1%	2491	74	6	20
SR303L Ramp North of Elwood	720	96	3	1	+5.1%	757	96	3	1
Frontage Road - Van Buren to Lilac	330	98	1	1	+1.5%	335	98	1	1
Frontage Road - Lilac to Yuma	310	99	1	0	+1.5%	315	99	1	0
Frontage Road - Yuma to Lower Buckeye	220	98	1	1	+5.1%	231	98	1	1
Frontage Road - South of Lower Buckeye	30	99	1	0	+5.1%	32	99	1	0
Frontage Road - Frontage Road Ramp to Elwood	790	96	3	1	+5.1%	830	96	3	1
Cotton TI Ramp A	230	99	1	0	-1.5%	227	99	1	0
Cotton TI Ramp B	400	99	1	0	-62.8%	149	99	1	0
Cotton TI Ramp C	1220	98	1	1	-2.4%	1191	98	1	1
Cotton TI Ramp D	280	95	3	2	+15.8%	324	95	3	2

## Alternative 5 Traffic Volumes

SB Roadway Segment	June Traffic Volumes				Percent Difference	October Traffic Volumes			
	Total Hourly Volume	Percent Auto	Percent Medium Truck	Percent Heavy Truck		Total Hourly Volume	Percent Auto	Percent Medium Truck	Percent Heavy Truck
SR303L I-10 to Van Buren St	4480	90	4	6	+1.2%	4534	90	4	6
SR303L Ramp South of Van Buren	360	98	1	1	+1.5%	366	98	1	1
SR303L Van Buren St to Yuma Rd	4840	91	4	5	+1.5%	4913	91	4	5
SR303L Ramp North of Yuma Rd	1280	98	1	1	+1.5%	1300	98	1	1
SR303L over Yuma Rd	3560	88	5	7	+3.0%	3667	88	5	7
SR303L Ramp South of Yuma	340	97	2	1	+5.1%	358	97	2	1
SR303L Elizabeth Ave to Lower Buckeye	3900	89	4	7	+5.1%	4099	89	4	7
SR303L Lower Buckeye to Elwood	1270	96	3	1	+5.1%	1335	96	3	1
SR303L Ramp North of Elwood	2630	86	5	9	+5.1%	2765	86	5	9
SR303L Ramp to Elwood	1530	86	5	9	+5.1%	1609	86	5	9
SR303L/SR30 S-E Ramp (SR303L Offramp to EB SR30)	1090	71	8	21	-13.5%	943	71	8	21
SR303L/SR30 S-W Ramp	1330	96	3	1	+57.4%	2094	96	3	1
SR303L/SR30 E-N Ramp	670	95	4	1	+5.8%	709	95	4	1
SR303L/SR30 W-N Ramp (SR303L Onramp from WB SR30)	1860	68	6	26	+11.0%	2065	68	6	26
SR30 WB - East of SR303L	2150	95	3	2	+0.7%	2166	95	3	2
SR30 EB - East of SR303L	930	91	6	3	+0.7%	937	91	6	3
SR30 EB - West of SR303L	1980	94	4	2	-12.3%	1737	94	4	2
SR30 WB - West of SR303L	3700	96	3	1	-12.3%	3245	96	3	1
SR30 EB - Over SR303L	1310	93	5	2	-28.9%	932	93	5	2
SR30 WB - Over SR303L	2370	96	3	1	-16.9%	1970	96	3	1
SR30 WB - East of Cotton	5260	87	4	9	+0.7%	5297	87	4	9
SR30 EB - East of Cotton	2280	82	7	11	+0.7%	2296	82	7	11
SB Cotton - Elwood to US 85	1370	98	1	1	+5.1%	1440	98	1	1
Frontage Road - Van Buren to Lilac	200	98	1	1	+1.5%	203	98	1	1
Frontage Road - Lilac to Yuma	290	98	1	1	+1.5%	295	98	1	1
Frontage Road - Yuma to Lower Buckeye	300	98	1	1	+5.1%	316	98	1	1
Frontage Road - Lower Buckeye to FR Ramp	200	97	2	1	+5.1%	211	97	2	1

NB Roadway Segment	June Traffic Volumes				Percent Difference	October Traffic Volumes			
	Total Hourly Volume	Percent Auto	Percent Medium Truck	Percent Heavy Truck		Total Hourly Volume	Percent Auto	Percent Medium Truck	Percent Heavy Truck
SR303L I-10 to Van Buren St	3630	81	5	14	+1.2%	3674	81	5	14
SR303L Ramp South of Van Buren	390	98	1	1	+1.5%	396	98	1	1
SR303L Van Buren St to Yuma Rd	4020	83	5	12	+1.5%	4081	83	5	12
SR303L Ramp North of Yuma Rd	930	97	2	1	+1.5%	944	97	2	1
SR303L over Yuma Rd	3090	79	5	16	+3.0%	3183	79	5	16
SR303L Ramp South of Yuma	520	97	2	1	+5.1%	547	97	2	1
SR303L Elizabeth Ave to Lower Buckeye	3610	82	4	14	+5.1%	3795	82	4	14
SR303L Lower Buckeye to Ramp North of Elwood	630	95	4	1	+5.1%	663	95	4	1
SR303L south of Buckeye	2530	68	6	26	+5.1%	2660	68	6	26
SR303L Ramp North of Elwood	1120	96	3	1	+5.1%	1178	96	3	1
Frontage Road - Van Buren to Lilac	330	98	1	1	+1.5%	335	98	1	1
Frontage Road - Lilac to Yuma	320	99	1	0	+1.5%	325	99	1	0
Frontage Road - Yuma to Lower Buckeye	130	98	1	1	+5.1%	137	98	1	1
Frontage Road - South of Lower Buckeye	30	99	1	0	+5.1%	32	99	1	0
Cotton TI Ramp A	220	99	1	0	-1.5%	217	99	1	0
Cotton TI Ramp B	380	99	1	0	-62.8%	142	99	1	0
Cotton TI Ramp C	1260	97	2	1	-2.4%	1230	97	2	1
Cotton TI Ramp D	250	95	3	2	+15.8%	290	95	3	2
NB Cotton - Elwood to US 85	980	96	3	1	+5.1%	1030	96	3	1

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 Air and Noise Planner/Environmental planning  
 Arizona Dept of Transportation  
 Security Level: Email, Account Authentication (None)  
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### In Person Signer Events

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### Editor Delivery Events

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### Agent Delivery Events

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### Intermediary Delivery Events

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### Certified Delivery Events

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### Timestamp

### Carbon Copy Events

### Status

### Timestamp

Angela Newton  
 angie@newtonec.com  
 Security Level: Email, Account Authentication (None)  
**Electronic Record and Signature Disclosure:**  
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Anthony Scolaro  
 Anthony.Scolaro@wsp.com  
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### Timestamps

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<b>Payment Events</b>	<b>Status</b>	<b>Timestamps</b>

**APPROVED**

By Ivan Racic at 2:26 pm, Sep 07, 2018

**Addendum 1 to Final Noise Report  
SR 303L, SR 30 to I-10 – El Cidro Phases II & III  
August 23, 2018**

## Executive Summary

The SR 303L), SR 30 to I-10, Final Noise Analysis Technical Report, dated March 6, 2018 recommended noise mitigation for the El Cidro Phase I Development which is located along the west side of the SR303L and south of Lower Buckeye Road. El Cidro Phases II and III are anticipated to have active permits prior to the approval of the Final Environmental Assessment for the project and therefore ADOT has determined that Phases II and III qualify for mitigation assessment.

The original noise study recommended noise barriers under all three alternatives (2C, 3, 5) for the El Cidro Phase I Development. This Noise Analysis Addendum 1 takes into consideration the provisions of the 2017 ADOT Noise Abatement Requirements (NAR) in determining impacts and the cost per benefitted receiver analysis for El Cidro Phases II and III. The tables below summarize the additional noise barriers recommended for El Cidro Phases II, and III for alternatives 2C, 3, 5.

**TABLE 1  
RECOMMENDED NOISE BARRIER SUMMARY – El Cidro Phases II & III  
ALTERNATIVE 2C**

Barrier Description	Height Range, ft	Length, ft	Area, ft <sup>2</sup>	Barrier Cost <sup>[1]</sup>	NBR <sup>[2]</sup>	%FR <sup>[3]</sup>	%BR <sup>[4]</sup>	CPBR <sup>[5]</sup>
Barrier E3 (Sta 1158+78 to 1170+99)	12	1,301	15,608	\$546,280	69	58%	100%	\$15,221
Barrier E5 (Sta 1147+07 to 1159+25)	12	1,200	14,399	\$503,965				
Barrier W7 (Sta 1100+30 to 1145+30)	12	4,500	54,000	\$1,890,000	59	82%	100%	\$32,034
<b>Totals:</b>		<b>7,001</b>	<b>84,007</b>	<b>\$2,940,245</b>	<b>128</b>			<b>\$22,971</b>

1. Wall cost based on \$35/ft<sup>2</sup> for off-structure barrier.
2. NBR - number of benefitted receptors; Receptors with 5-7 dBA insertion loss within 500 ft from the R/W are accounted as benefitted receptors.
3. %FR - percentage of First Row Receptors with 7+ dBA noise reduction
4. %BR - percentage of Benefitted Receptors with 5+ dBA noise reduction
5. CPBR- cost per benefitted receptor

**TABLE 2  
RECOMMENDED NOISE BARRIER SUMMARY – El Cidro Phases II & III  
ALTERNATIVE 3**

Barrier Description	Height Range, ft	Length, ft	Area, ft <sup>2</sup>	Barrier Cost <sup>[1]</sup>	NBR <sup>[2]</sup>	%FR <sup>[3]</sup>	%BR <sup>[4]</sup>	CPBR <sup>[5]</sup>
Barrier E3 (Sta 1157+53 to 1171+02)	12	1,356	17,384	\$608,440	84	81%	100%	\$14,744
Barrier E4 (Sta 1143+89 to 1159+04)	12	1,500	18,001	\$630,035				
<b>Totals:</b>		<b>2,856</b>	<b>35,385</b>	<b>1,238,475</b>	<b>84</b>			<b>\$14,744</b>

1. Wall cost based on \$35/ft<sup>2</sup> for off-structure barrier.
2. NBR - number of benefitted receptors; Receptors with 5-7 dBA insertion loss within 500 ft from the R/W are accounted as benefitted receptors.
3. %FR - percentage of First Row Receptors with 7+ dBA noise reduction
4. %BR - percentage of Benefitted Receptors with 5+ dBA noise reduction
5. CPBR- cost per benefitted receptor

**TABLE 3**  
**RECOMMENDED NOISE BARRIER SUMMARY – El Cidro Phases II & III**  
**ALTERNATIVE 5**

Barrier Description	Height Range, ft	Length, ft	Area, ft <sup>2</sup>	Barrier Cost <sup>[1]</sup>	NBR <sup>[2]</sup>	%FR <sup>[3]</sup>	%BR <sup>[4]</sup>	CPBR <sup>[5]</sup>
Barrier E3 (Sta 1156+68 to 1170+99)	12	1,440	17,279	\$604,765	69	55%	89%	\$23,779
Barrier E4 (Sta 1147+25 to 1168+90)	12	2,600	29,600	\$1,036,000				
Barrier W8 (Sta 1103+30 to 1145+30)	10	4,200	42,000	\$1,470,000	59	82%	100%	\$24,915
<b>Totals:</b>		<b>8,240</b>	<b>88,879</b>	<b>3,110,765</b>	<b>128</b>			<b>\$24,303</b>

1. Wall cost based on \$35/ft<sup>2</sup> for off-structure barrier.  
2. NBR - number of benefited receptors; Receptors with 5-7 dBA insertion loss within 500 ft from the R/W are accounted as benefited receptors.  
3. %FR - percentage of First Row Receptors with 7+ dBA noise reduction  
4. %BR - percentage of Benefited Receptors with 5+ dBA noise reduction  
5. CPBR- cost per benefited receptor

The following Appendices are included in this Addendum.

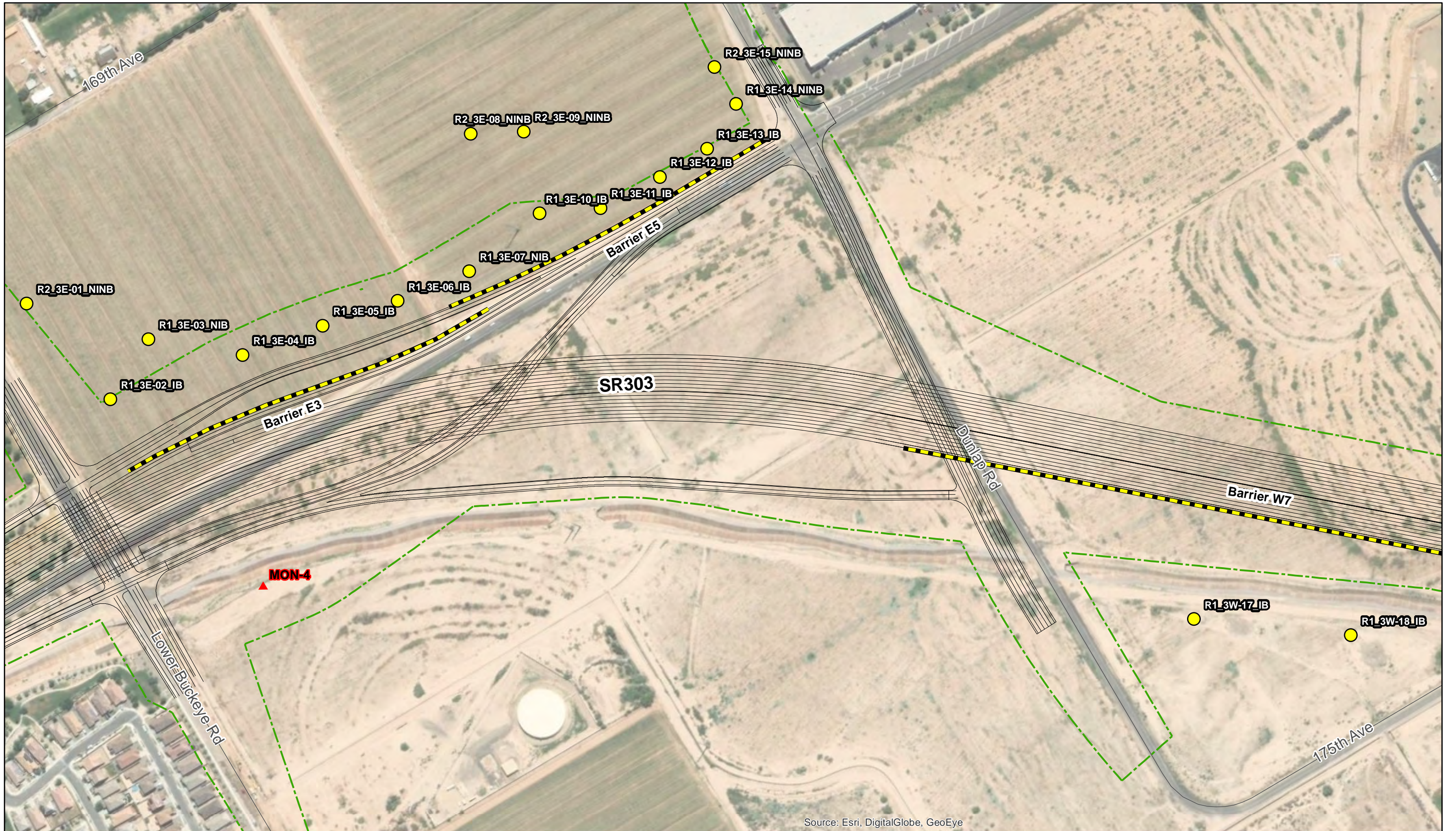
**Appendix A** – Noise Receivers and Recommended Noise Barrier Locations

**Appendix B** – El Cidro Parcel Phasing Exhibit

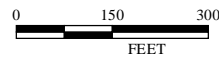
**Appendix C** – Predicted Noise Levels for El Cidro Phases II & III

**APPENDIX A – Noise Receivers and Recommended Noise Barrier Locations**





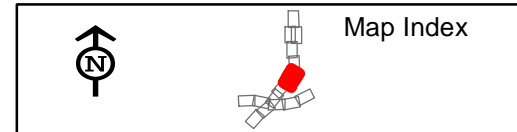
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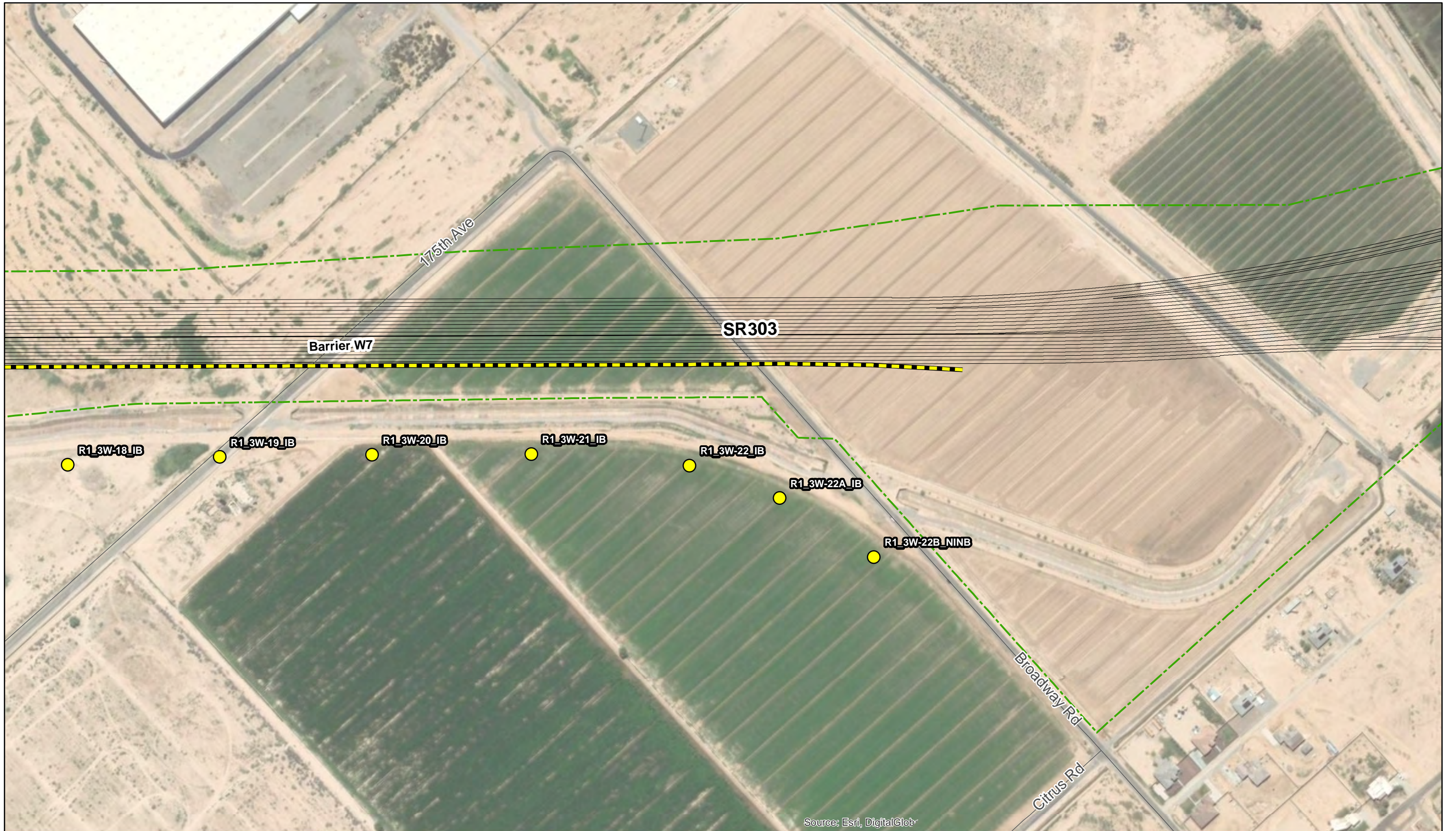


LEGEND

- Alt 2C Alignment
- Noise Receivers
- Potentially Recommended Barriers
- ▲ Monitoring Locations
- - - New R/W

Revised: 8/21/2018  
SOURCE: World Imagery; WSP (2018)

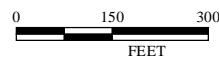




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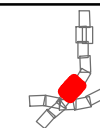


Revised: 8/21/2018  
SOURCE: World Imagery; WSP (2018)



LEGEND

- Alt 2C Alignment
- Noise Receivers
- Potentially Recommended Barriers
- ▲ Monitoring Locations
- - - New R/W



Map Index

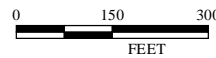
Figure Alt 2C



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbu

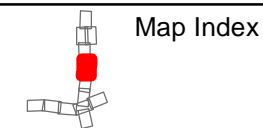


Revised: 8/21/2018  
SOURCE: World Imagery; WSP (2018)



LEGEND

- Alt 3 Alignment
- Noise Receivers
- ▬ Potentially Recommended Barriers
- ▲ Monitoring Locations
- - - New R/W

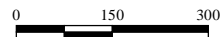


Map Index

Figure Alt 3



Revised: 8/21/2018  
SOURCE: World Imagery; WSP (2018)



LEGEND

- Alt 3 Alignment
- Potentially Recommended Barriers
- New R/W
- Noise Receivers
- Monitoring Locations

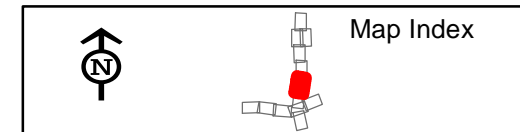


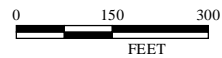
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Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/A

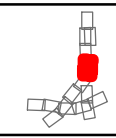
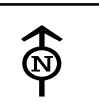


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SOURCE: World Imagery; WSP (2018)



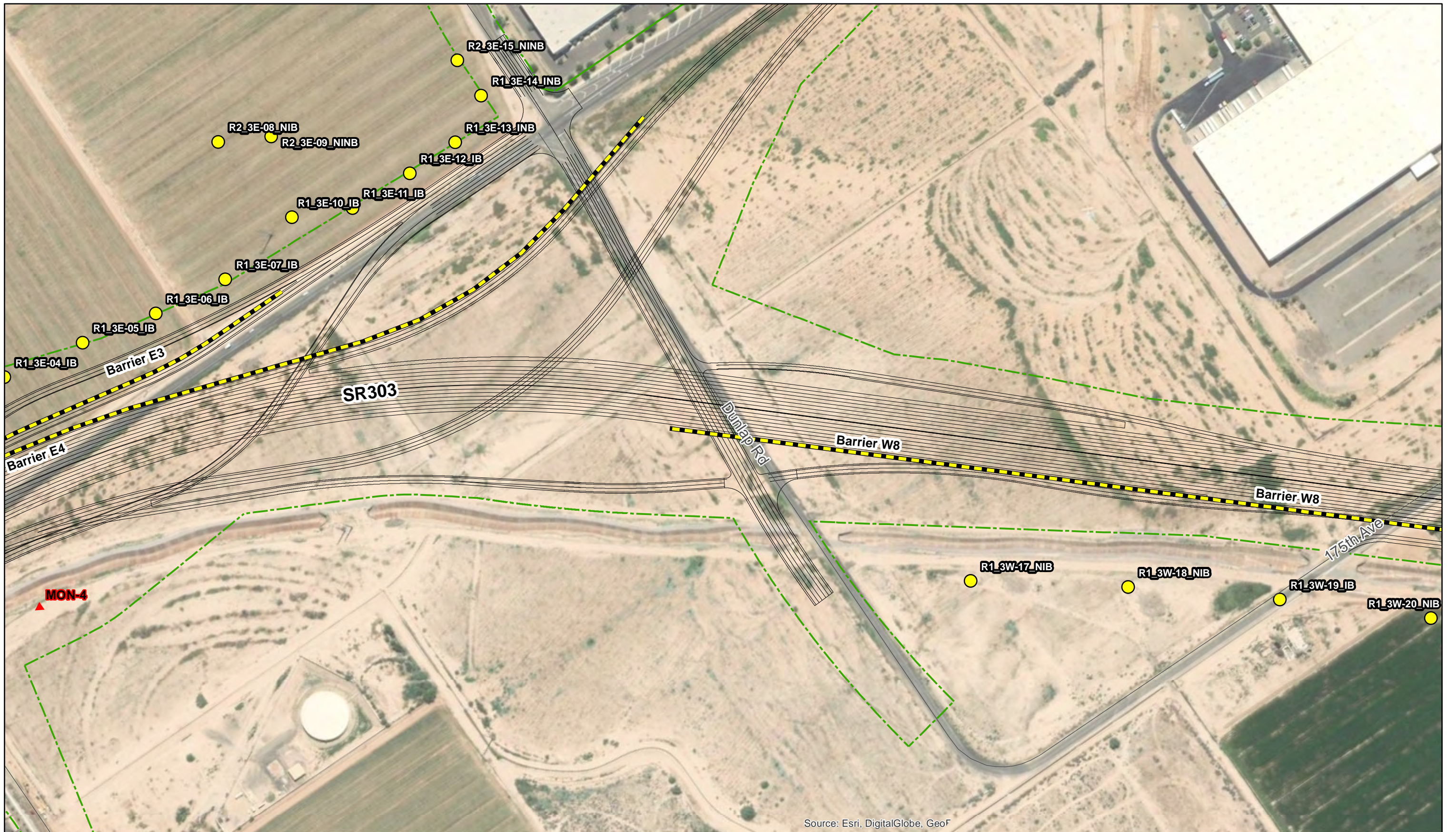
LEGEND

- Alt 5 Alignment
- Noise Receivers
- Potentially Recommended Barriers
- ▲ Monitoring Locations
- - - New RW

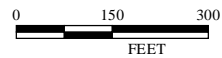


Map Index

Figure Alt 5



Revised: 8/21/2018  
SOURCE: World Imagery; WSP (2018)



LEGEND

- Alt 5 Alignment
- Potentially Recommended Barriers
- New R/W
- Noise Receivers
- Monitoring Locations

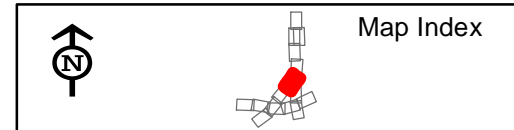
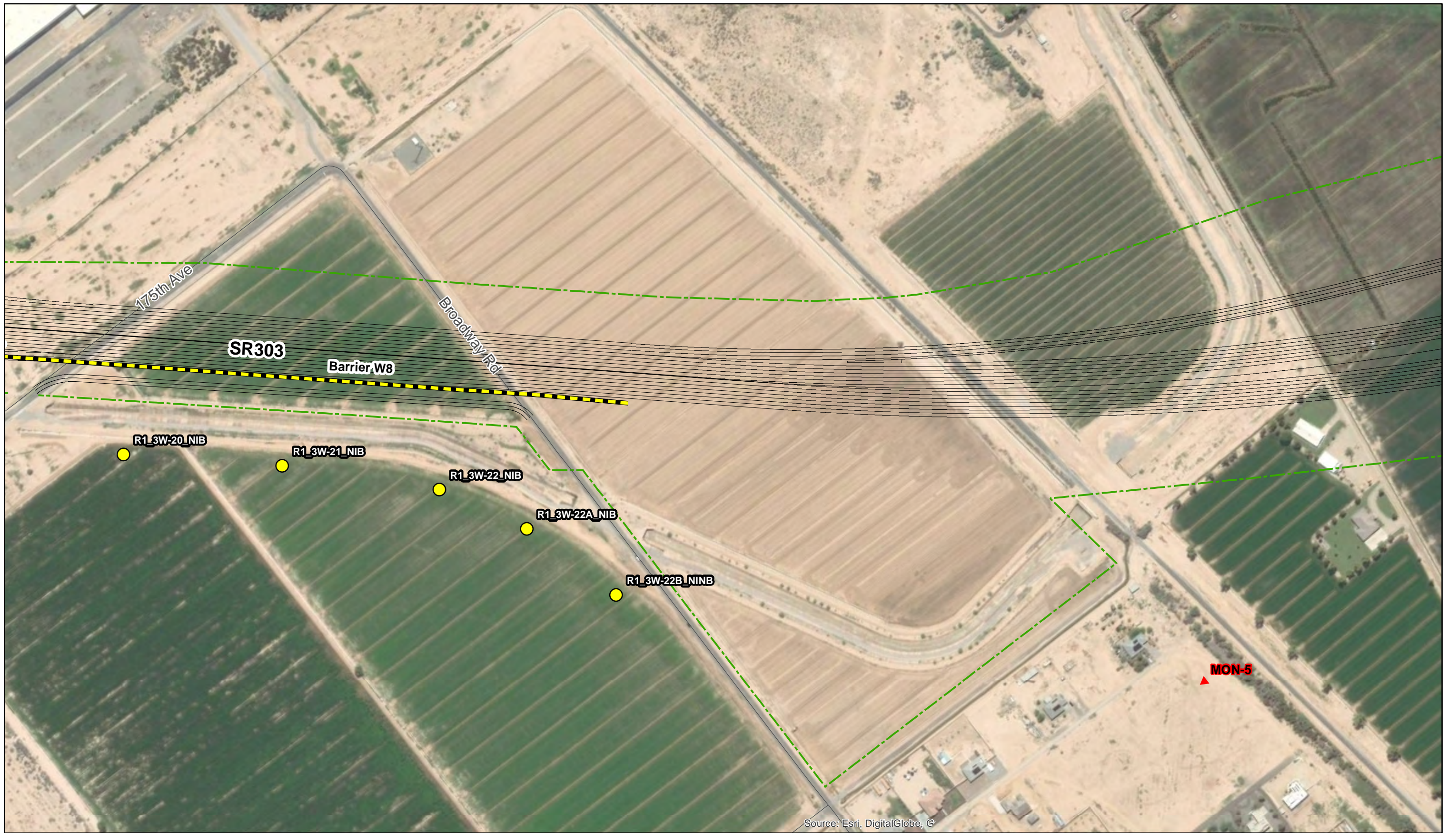
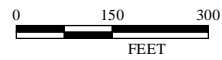


Figure Alt 5



Revised: 8/21/2018  
SOURCE: World Imagery; WSP (2018)



LEGEND

- Alt 5 Alignment
- Noise Receivers
- Potentially Recommended Barriers
- ▲ Monitoring Locations
- - - New R/W

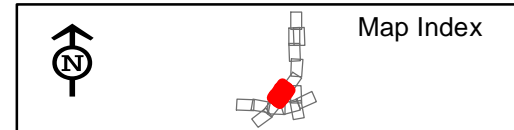
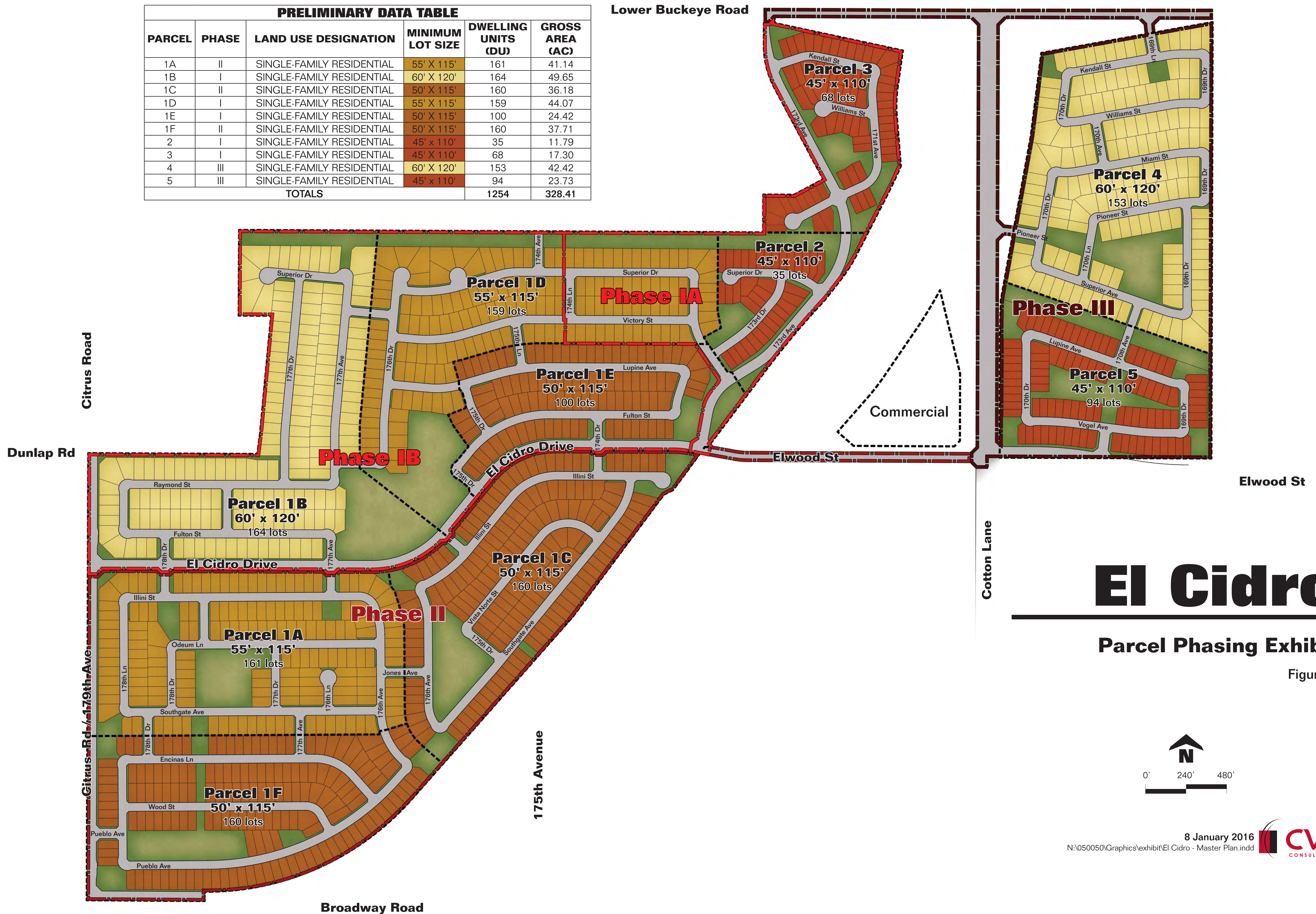


Figure Alt 5

**APPENDIX B – El Cidro Parcel Phasing Exhibit**



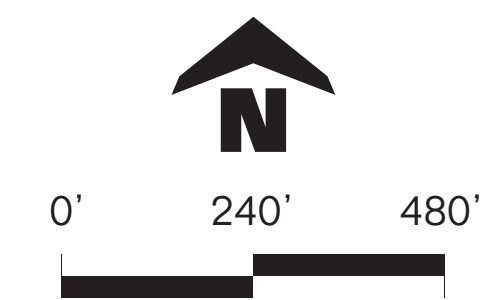
PRELIMINARY DATA TABLE					
PARCEL	PHASE	LAND USE DESIGNATION	MINIMUM LOT SIZE	DWELLING UNITS (DU)	GROSS AREA (AC)
1A	II	SINGLE-FAMILY RESIDENTIAL	55' X 115'	161	41.14
1B	I	SINGLE-FAMILY RESIDENTIAL	60' X 120'	164	49.65
1C	II	SINGLE-FAMILY RESIDENTIAL	50' X 115'	160	36.18
1D	I	SINGLE-FAMILY RESIDENTIAL	55' X 115'	159	44.07
1E	I	SINGLE-FAMILY RESIDENTIAL	50' X 115'	100	24.42
1F	II	SINGLE-FAMILY RESIDENTIAL	50' X 115'	160	37.71
2	I	SINGLE-FAMILY RESIDENTIAL	45' x 110'	35	11.79
3	I	SINGLE-FAMILY RESIDENTIAL	45' x 110'	68	17.30
4	III	SINGLE-FAMILY RESIDENTIAL	60' X 120'	153	42.42
5	III	SINGLE-FAMILY RESIDENTIAL	45' x 110'	94	23.73
TOTALS				1254	328.41



# El Cidro

## Parcel Phasing Exhibit

Figure 1



## **APPENDIX C – Predicted Noise Levels for El Cidro Phases II & III**

SR 303 - Alt 2C, El Cidro Phase 2 & 3					
Receiver ID	Number of Representative Receptors	Future Build			Barrier Analysis
		Unmitigated (dBA)	Mitigated (dBA)	Insertion Loss (dBA)	
<b>Section 03- Lower Buckeye Road to Broadway Road</b>					
R2_3E-01_NINB	5	63	59	4	Barriers E3 & E5 are recommended for El Cidro Phase 3
R1_3E-02_IB	4	66	61	5	
R1_3E-03_NIB	6	65	59	6	
R1_3E-04_IB	12	66	59	7	
R1_3E-05_IB	12	66	59	7	
R1_3E-06_IB	7	66	58	8	
R1_3E-07_NIB	5	65	57	8	
R2_3E-08_NINB	5	63	61	2	
R2_3E-09_NINB	4	64	61	3	
R1_3E-10_IB	5	66	61	5	
R1_3E-11_IB	7	68	60	8	
R1_3E-12_IB	6	67	62	5	
R1_3E-13_IB	5	66	61	5	
R1_3E-14_NINB	3	62	61	1	
R2_3E-15_NINB	3	62	61	1	
R1_3W-17_IB	8	69	60	9	Barrier W7 is recommended for El Cidro Phase 2
R1_3W-18_IB	10	70	61	9	
R1_3W-19_IB	10	71	61	10	
R1_3W-20_IB	9	69	61	8	
R1_3W-21_IB	8	69	60	9	
R1_3W-22_IB	8	68	60	8	
R1_3W-22A_IB	6	66	60	6	
R1_3W-22B_NINB	6	65	61	4	

SR 303 - Alt 3, El Cidro Phase 2 & 3					
Receiver ID	Number of Representative Receptors	Future Build			Barrier Analysis
		Unmitigated (dBA)	Mitigated (dBA)	Insertion Loss (dBA)	
<b>Section 03- Lower Buckeye Road to Broadway Road</b>					
R2_3E-01_NINB	5	65	61	4	Barriers E3 & E4 are recommended for El Cidro Phase 3
R1_3E-02_IB	4	69	61	8	
R1_3E-03_IB	6	67	61	6	
R1_3E-04_IB	12	69	61	8	
R1_3E-05_IB	12	70	62	8	
R1_3E-06_IB	7	71	63	8	
R1_3E-07_IB	5	71	65	6	
R2_3E-08_IB	5	66	61	5	
R2_3E-09_IB	4	67	62	5	
R1_3E-10_IB	5	69	63	6	
R1_3E-11_IB	7	71	64	7	
R1_3E-12_IB	6	71	64	7	
R1_3E-13_IB	5	71	63	8	
R1_3E-14_IB	3	69	63	6	
R2_3E-15_IB	3	67	62	5	

SR 303 - Alt 5, El Cidro Phase 2 & 3					
<b>Section 03- Lower Buckeye Road to Broadway Road</b>					
R2_3E-01_NINB	5	65	61	4	Barriers E3 & E4 are recommended for El Cidro Phase 3
R1_3E-02_IB	4	69	62	7	
R1_3E-03_IB	6	68	61	7	
R1_3E-04_IB	12	69	61	8	
R1_3E-05_IB	12	69	61	8	
R1_3E-06_IB	7	68	60	8	
R1_3E-07_IB	5	68	60	8	
R2_3E-08_NIB	5	63	58	5	
R2_3E-09_NINB	4	64	60	4	
R1_3E-10_IB	5	66	61	5	
R1_3E-11_IB	7	67	62	5	
R1_3E-12_IB	6	67	62	5	
R1_3E-13_INB	5	66	62	4	
R1_3E-14_INB	3	66	62	4	
R2_3E-15_NINB	3	64	61	3	
R1_3W-17_NIB	8	64	57	7	Barrier W8 is recommended for El Cidro Phase 2
R1_3W-18_NIB	10	65	57	8	
R1_3W-19_IB	10	66	57	9	
R1_3W-20_NIB	9	63	56	7	
R1_3W-21_NIB	8	64	55	9	
R1_3W-22_NIB	8	63	56	7	
R1_3W-22A_NIB	6	61	56	5	
R1_3W-22B_NINB	6	59	57	2	

## **Appendix E – Biological Review and Update**



BIOLOGY MEMORANDUM

**To:** Audrey Navarro  
Biologist-Environmental Project Manager

**Date:** December 12, 2017

**From:** Daniel Board, Biologist, WSP USA.

**Subject:**  
303-A(ASO)T  
303 MA 005 H6870 01L  
State Route 303L, State Route 30 to Interstate 10

Introduction:

A Biological Review was prepared for the extension of State Route (SR) 303L from I-10 to the future SR 30 (303-A[ASO]T; 303 MA 005 H6870 01L) and approved by the Arizona Department of Transportation (ADOT) Environmental Planning Group on February 5, 2013. The review concluded that there would be “no effect on any federally endangered, threatened, proposed, or candidate species as a result of the proposed extension of State Route 303 Loop south of Interstate 10 and the associated traffic interchanges.” Because the project would occur in an environment with minimal natural habitat, it is not expected to result in impacts on biological resources. This biology memorandum serves as an update to design and environmental assessment.

Scope of Project:

The project is located generally south of Interstate 10 along the Cotton Lane alignment within the city limits of Goodyear, west of Phoenix in Maricopa County, Arizona. The purpose of the project is to extend State Route (SR) 303 Loop (303L) south of I-10 and to provide a freeway connection to the proposed SR 30 freeway that is being planned to relieve traffic congestion on I-10. The connection will ultimately have four general purpose lanes and one high occupancy vehicle (HOV) lane in each direction. The current Regional Transportation Plan Freeway Program funds the initial installation of three general purpose lanes each direction from SR30 to I-10. The project work and limits have not been changed from the Biological Review submitted February 5, 2013 (see Figures 1 and 2).

The extension of SR 303L from I-10 to the future SR 30 would involve the construction of several miles of roadway; however, no project construction would occur within jurisdictional Waters of the United States. Large numbers and a variety of construction equipment, including earthmovers, bulldozers, and road graders, as well as paving machines and associated equipment, would be required for project construction. It is anticipated that construction would occur over a two-year period, but the exact timing has yet to be determined. The work includes a 10-lane divided, access-controlled urban freeway that would provide four general purpose lanes and an HOV lane in each direction between I-10 and the

future SR30 freeway near MC85. The new facility would also include diamond interchanges at Yuma Road and Lower Buckeye Road; and a half-diamond interchange at Elwood Street EB/Broadway Road WB. Auxiliary lanes would be provided between interchanges; and frontage roads would be provided along Cotton Lane. The proposed project would ultimately include a freeway-to-freeway system interchange between SR303L and the proposed SR30.

The project would occur within the planning limits of the City of Goodyear, City of Buckeye, and unincorporated Maricopa County. The project area elevation lies between 900 and 996 feet above mean sea level on relatively flat terrain that descends gently to the south in the Buckeye Valley southwest of Phoenix. The project area is bounded by I-10 to the north, the perennial Gila River to the south, and Estrella Mountain Regional Park to the southeast. The project vicinity supports primarily agriculture (e.g., alfalfa, cotton) and housing developments. The Union Pacific Railroad bisects the southern half of the project area. Overall, little natural terrain remains because the project area has been altered by human activities.

Because construction of the entire project will disturb more than one acre, a Section 402 (Arizona Pollutant Discharge Elimination System) permit will be obtained through the Arizona Department of Environmental Quality and a Stormwater Prevention Pollution Plan (SWPPP) will be prepared. There will be no work in Waters of the U.S.; therefore Section 404/401 permits will not be required. Terrain throughout most of the project area is highly disturbed, consisting of agricultural land, roads, and commercial and residential infrastructure. Only small patches of native vegetation remain.

#### Threatened and Endangered Species Analysis Update:

ADOT Biologist Audrey Navarro obtained an official, updated species list for the project area from the United States Fish and Wildlife Service (USFWS) on November 16, 2017. The list included seven threatened, endangered, or candidate species that should be evaluated for the project area. All species were addressed in the February 2013 submittal. The list was reviewed by a qualified biologist, Daniel Board, to determine species that may occur in the project vicinity. None of the species have the potential to occur in the project area since the area has minimal natural habitat due to human traffic and development. This project will have no effect on the species.

The Yellow-billed cuckoo (*Coccyzus americanus*) status was updated on November 3, 2014 from Candidate to Threatened. Proposed critical habitat (PCH) includes approximately 546,335 acres (221,094 hectares) in Arizona, California, Colorado, Idaho, Nevada, New Mexico, Texas, Utah, and Wyoming for the western yellow-billed cuckoo under the Act. This includes all of Arizona, and the project vicinity falls within the PCH of the Yellow-billed Cuckoo; however, the area is highly developed.

#### Sensitive Species Analysis Update:

The Arizona Game and Fish Department (AGFD) on-line environmental review tool was accessed by Audrey Navarro on September 28, 2017 to determine special status species known to occur in the project vicinity. The AGFD on-line environmental review tool included a list of special status species known to occur within three miles of the project vicinity. The state protected species list included the following updates to the February 2013 Biological Review document approval:

- The Mojave Desert tortoise population (*Gopherus agassizii*) is not listed under the Candidate Conservation Agreement (CCA).
- The Sonoran Desert Tortoise population (*Gopherus morafkai*) is listed under the CCA, and as Sensitive under the United States Forest Service (USFS) and the Bureau

- of Land Management (BLM).
- The bald eagle (*Haliaeetus leucocephalus*) Sonoran Desert population was listed as Sensitive under the USFS and BLM

According to the USFWS, the Mojave Desert Tortoise population (*Gopherus agassizii*) is considered threatened AGFD distribution data places the Mojave Desert tortoise in the area north and west of the Colorado River. USFWS range maps for the Desert Tortoise indicate its presence along the western border of the state, near Yuma, Arizona and Blythe, California. The project is located approximately 135 miles east-northeast of Yuma placing it significantly outside the Mojave Desert tortoise population range.

The USFWS range maps for the Sonoran Desert Tortoise (*Gopherus morafkai*) place it within the project area boundaries. ADOT is a signatory of the CCA listing of the Sonoran Desert Tortoise established June 19, 2015. USFWS announced a 12-month finding on October 6, 2015 [Docket No. FWS-R2-ES-2015-0150; 4500030113] stating that listing the Sonoran Desert Tortoise was not warranted; the species is still considered 'Not Listed'. According to USFWS, suitable habitat for the Sonoran Desert tortoise includes Sonoran Desertscrub and Semidesert Grassland, preferably in rocky slopes and bajadas from 900-4,200ft elevation. The Sonoran Desert tortoise most often occurs in paloverde-mixed cacti associations, but has been documented in semi-desert grassland, interior chaparral, oak woodland, ponderosa-pine dominated coniferous forests, and thorn-scrub habitats. Incised washes are important features for sheltering in lower elevation habitat. Distribution is generally south and east of the Colorado River, in the central and western parts of Arizona and into northwestern Mexico. Due to high human traffic, the project area does not contain suitable habitat for the Sonoran Desert Tortoise; therefore, impacts are not anticipated.

The bald eagle (*Haliaeetus leucocephalus*) presence on site was addressed in the February 2013 Biological Review document approval and is known to forage along the Gila River and pass over the project area while in transit between perching sites, foraging areas, or nesting sites. Project-related construction may impact bald eagle movement patterns but will not impact any nesting sites.

## Mitigation Measures

These mitigation measures are carried over from the Biological Review document approval in February 2013 and updated. Mitigation measures will be implemented to avoid impacts to Sonoran Desert Tortoises that may be encountered in the project limits.

### Design Responsibility:

- **All disturbed soils that will not be landscaped or otherwise permanently stabilized by construction will be seeded using species native to the project vicinity.**

### District Responsibilities:

- **If active bird nests are identified within the project limits, construction activities will avoid disturbing any active nest. Avoidance areas, if necessary, will be marked in the field with temporary fencing or t-posts with flagging by the approved biologist. The engineer will confer with the approved biologist to determine the appropriate avoidance strategies until the nestlings have fledged from the nest and the nest is no longer active.**
- **If any active bird nests cannot be avoided by vegetation clearing or construction activities, the Engineer will contact the Environmental Planning Group Biologist (602.712.7134 or 602.712.6819) to evaluate the situation.**

**Roadside Development Section Responsibilities:**

- The Arizona Department of Transportation Roadside Development Section will provide special provisions for the control of noxious and invasive plant species during construction that may require treatment and control within the project limits.
- Protected native plants within the project limits will be impacted by this project; therefore, the Department Roadside Development Section will determine if Arizona Department of Agriculture notification is needed. If notification is needed, the Department Roadside Development Section will send the notification at least 60 calendar days prior to the start of construction.

**Contractor Responsibilities:**

- The contractor shall develop a Noxious and Invasive Plant Species Treatment and Control Plan in accordance with the requirements in the contract documents. Plants to be controlled shall include those listed in the State and Federal Noxious Weed and the State Invasive Species list in accordance with State and Federal Laws and Executive Orders. The plan and associated treatments shall include all areas within the project right of way and easements as shown on the project plans. The treatment and control plan shall be submitted to the Engineer for the Arizona Department of Transportation Construction Professional Landscape Architect for review and approval prior to implementation by the contractor.
- To prevent the introduction of invasive species seeds, the contractor shall inspect all earthmoving and hauling equipment at the storage facility. All vehicles and equipment shall be washed and free of all attached plant/vegetation and soil/mud debris prior to entering the construction site.
- All disturbed soils that will not be landscaped or otherwise permanently stabilized by construction shall be seeded using species native to the project vicinity.
- To prevent invasive species seeds from leaving the site, the contractor shall inspect all construction equipment and remove all attached plant/vegetation and soil/mud debris prior to leaving the construction site.
- The contractor shall employ a biologist to complete a preconstruction survey for invasive plant species immediately prior to ground-disturbing activities. Upon completion of the survey, the contractor shall contact Arizona Department of Transportation Environmental Planning at 602.712.7767 to provide survey results.
- Prior to the start of ground-disturbing activities, the contractor shall arrange for and perform the control of noxious and invasive species in the project area.
- The contractor shall employ a biologist to complete a preconstruction survey for burrowing owls 96 hours prior to construction in all suitable habitat that will be disturbed. The biologist shall possess a burrowing owl survey protocol training certificate issued by the Arizona Game and Fish Department. Upon completion of the survey, the contractor shall contact Arizona Department of Transportation Environmental Planning at 602.712.7767 to provide survey results.
- If any burrowing owls are located during preconstruction surveys or construction, the contractor shall employ a biologist holding a permit from the US Fish & Wildlife Service to relocate all burrowing owls from the project area, as appropriate.
- If burrowing owls or active burrows are identified during the preconstruction surveys or during construction, no construction activities shall take place within 100 feet of any active burrow until the owls are relocated.



**Contractor Responsibilities, continued:**

- **If clearing, grubbing, or tree/limb removal will occur between March 1 and August 31, the contractor shall employ a qualified biologist to conduct a migratory bird nest search of all vegetation within the 10 (ten) days prior to removal. Vegetation may be removed if it has been surveyed and no active bird nests are present. If active nests cannot be avoided, the contractor shall notify the Engineer to evaluate the situation. During the non-breeding season (September 1 – February 28), vegetation removal is not subject to this restriction.**

Attachments:

- Figure 1 – Project Location
- Figure 2 – Vicinity Map
- USFWS Information, Planning, and Conservation Official Species List
- AGFD on-line environmental review tool

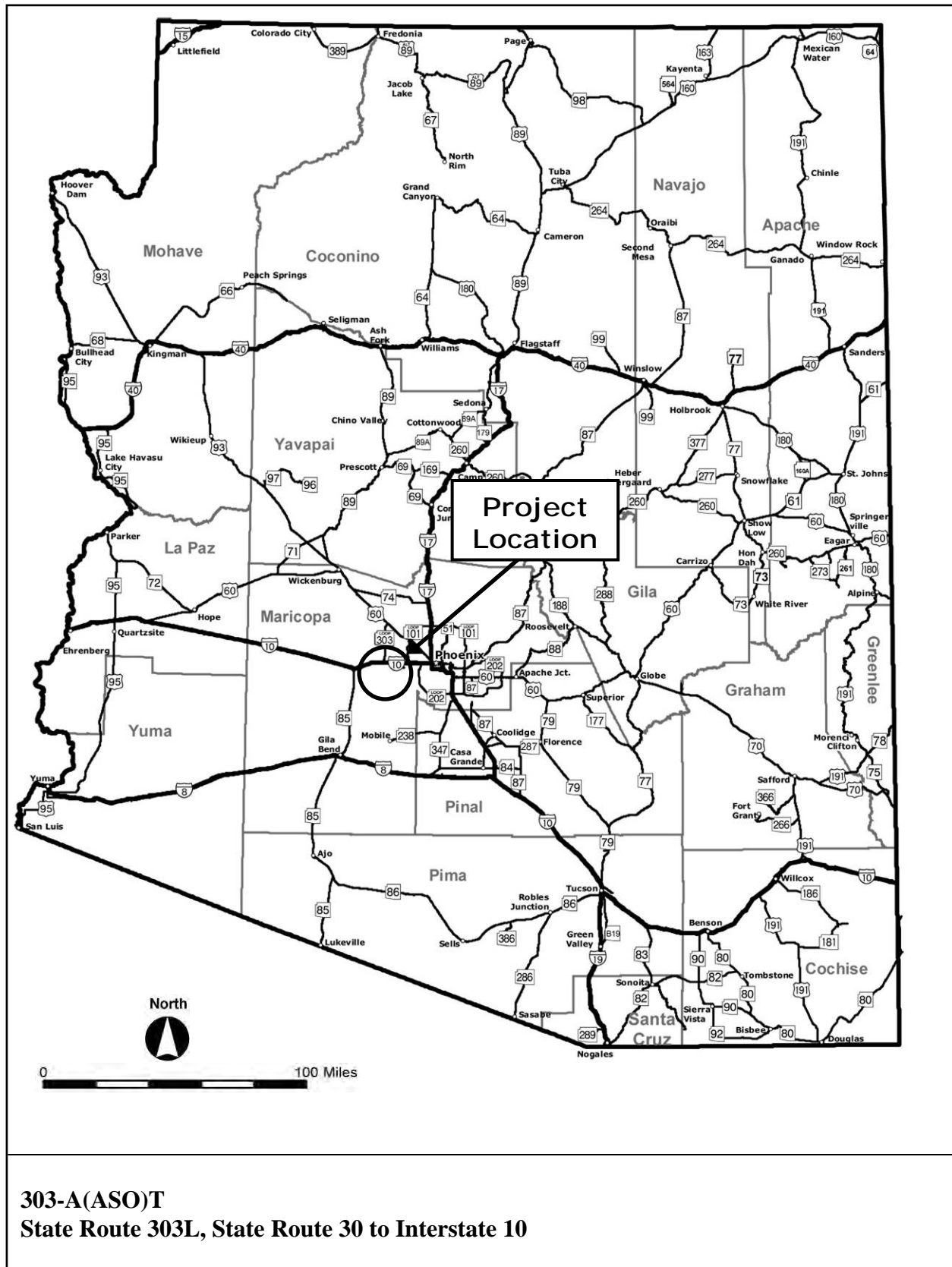
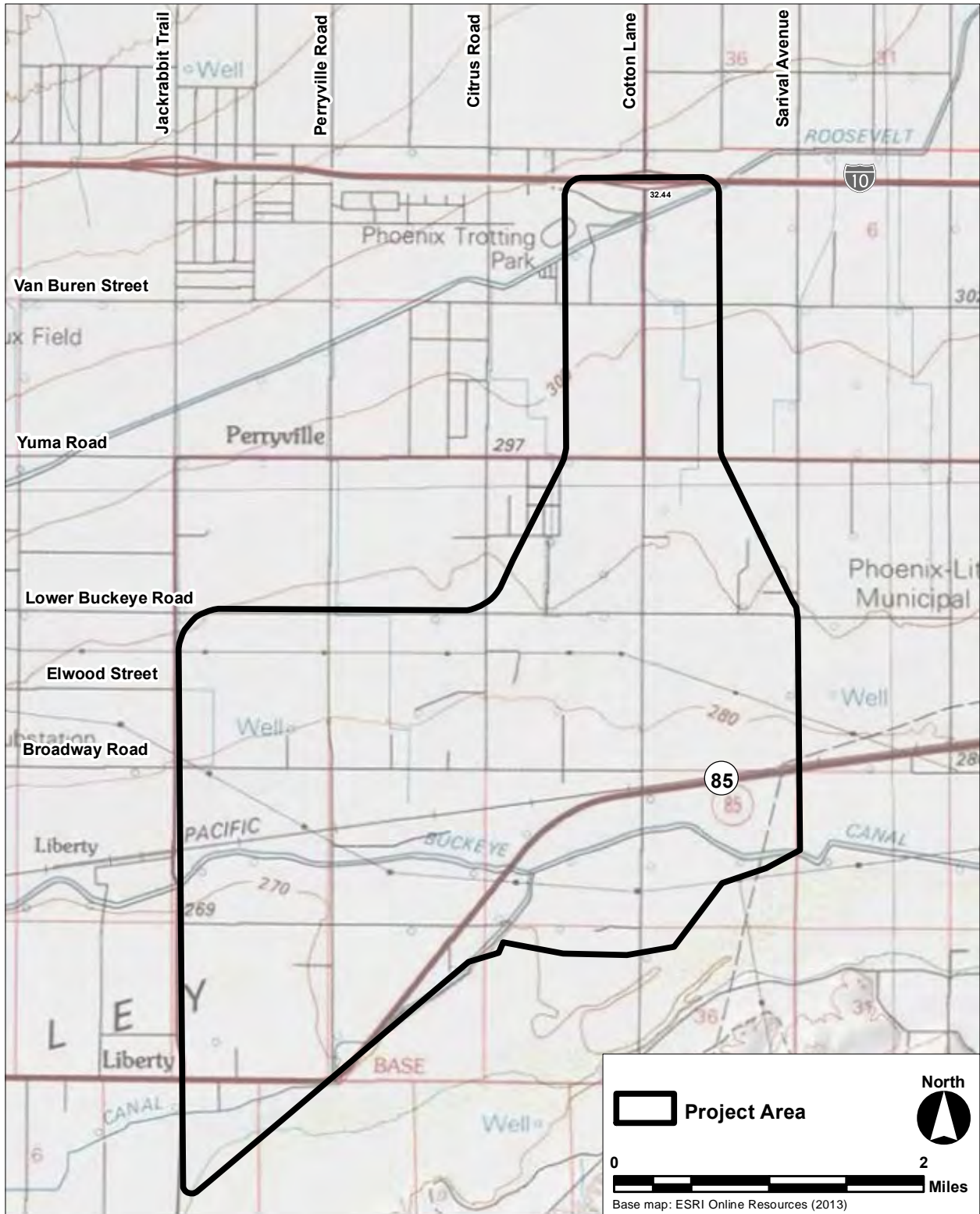


Figure 1. Project location



**303-A(ASO)T**  
**State Route 303L, State Route 30 to Interstate 10**

**Figure 2. Project vicinity**

M:\W Drive\04-755\Task 5\BIO\Figures\BR Fig2.mxd



## United States Department of the Interior



### FISH AND WILDLIFE SERVICE

Arizona Ecological Services Field Office  
9828 North 31st Ave

#c3

Phoenix, AZ 85051-2517

Phone: (602) 242-0210 Fax: (602) 242-2513

<http://www.fws.gov/southwest/es/arizona/>

[http://www.fws.gov/southwest/es/EndangeredSpecies\\_Main.html](http://www.fws.gov/southwest/es/EndangeredSpecies_Main.html)

In Reply Refer To:

November 16, 2017

Consultation Code: 02EAAZ00-2017-SLI-0993

Event Code: 02EAAZ00-2018-E-00344

Project Name: 303 MA 005 H6870; SR303L, SR 30 TO I-10

Subject: Updated list of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The Fish and Wildlife Service (Service) is providing this list under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.). The list you have generated identifies threatened, endangered, proposed, and candidate species, and designated and proposed critical habitat, that may occur within one or more delineated United States Geological Survey 7.5 minute quadrangles with which your project polygon intersects. Each quadrangle covers, at minimum, 49 square miles. In some cases, a species does not currently occur within a quadrangle but occurs nearby and could be affected by a project. Please refer to the species information links found at:

[http://www.fws.gov/southwest/es/arizona/Docs\\_Species.htm](http://www.fws.gov/southwest/es/arizona/Docs_Species.htm)

<http://www.fws.gov/southwest/es/arizona/Documents/MiscDocs/AZSpeciesReference.pdf> .

The purpose of the Act is to provide a means whereby threatened and endangered species and the habitats upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required to utilize their authorities to carry out programs for the conservation of Federal trust resources and to consult with us if their projects may affect federally listed species and/or designated critical habitat. A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, we recommend preparing a biological evaluation similar to a Biological Assessment to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If the Federal action agency determines that listed species or critical habitat may be affected by a federally funded, permitted or authorized activity, the agency must consult with us pursuant to 50 CFR 402. Note that a "may affect" determination includes effects that may not be adverse and that may be beneficial, insignificant, or discountable. You should request consultation with us even if only one individual or habitat segment may be affected. The effects analysis should include the entire action area, which often extends well outside the project boundary or "footprint." For example, projects that involve streams and river systems should consider downstream effects. If the Federal action agency determines that the action may jeopardize a proposed species or adversely modify proposed critical habitat, the agency must enter into a section 7 conference. The agency may choose to confer with us on an action that may affect proposed species or critical habitat.

Candidate species are those for which there is sufficient information to support a proposal for listing. Although candidate species have no legal protection under the Act, we recommend considering them in the planning process in the event they become proposed or listed prior to project completion. More information on the regulations (50 CFR 402) and procedures for section 7 consultation, including the role of permit or license applicants, can be found in our Endangered Species Consultation Handbook at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>.

We also advise you to consider species protected under the Migratory Bird Treaty Act (MBTA) (16 U.S.C. 703-712) and the Bald and Golden Eagle Protection Act (Eagle Act) (16 U.S.C. 668 et seq.). The MBTA prohibits the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nests, except when authorized by the Service. The Eagle Act prohibits anyone, without a permit, from taking (including disturbing) eagles, and their parts, nests, or eggs. Currently 1026 species of birds are protected by the MBTA, including species such as the western burrowing owl (*Athene cunicularia hypugea*). Protected western burrowing owls are often found in urban areas and may use their nest/burrows year-round; destruction of the burrow may result in the unpermitted take of the owl or their eggs.

If a bald eagle (or golden eagle) nest occurs in or near the proposed project area, you should evaluate your project to determine whether it is likely to disturb or harm eagles. The National Bald Eagle Management Guidelines provide recommendations to minimize potential project impacts to bald eagles:

<https://www.fws.gov/migratorybirds/pdf/management/nationalbaldeaglenagementguidelines.pdf>

<https://www.fws.gov/birds/management/managed-species/eagle-management.php>.

The Division of Migratory Birds (505/248-7882) administers and issues permits under the MBTA and Eagle Act, while our office can provide guidance and Technical Assistance. For more information regarding the MBTA, BGEPA, and permitting processes, please visit the following: <https://www.fws.gov/birds/policies-and-regulations/incidental-take.php>. Guidance for minimizing impacts to migratory birds for communication tower projects (e.g. cellular, digital television, radio, and emergency broadcast) can be found at:

<https://www.fws.gov/birds/bird-enthusiasts/threats-to-birds/collisions/communication-towers.php>

Activities that involve streams (including intermittent streams) and/or wetlands are regulated by

the U.S. Army Corps of Engineers (Corps). We recommend that you contact the Corps to determine their interest in proposed projects in these areas. For activities within a National Wildlife Refuge, we recommend that you contact refuge staff for specific information about refuge resources.

If your action is on tribal land or has implications for off-reservation tribal interests, we encourage you to contact the tribe(s) and the Bureau of Indian Affairs (BIA) to discuss potential tribal concerns, and to invite any affected tribe and the BIA to participate in the section 7 consultation. In keeping with our tribal trust responsibility, we will notify tribes that may be affected by proposed actions when section 7 consultation is initiated.

We also recommend you seek additional information and coordinate your project with the Arizona Game and Fish Department. Information on known species detections, special status species, and Arizona species of greatest conservation need, such as the western burrowing owl and the Sonoran desert tortoise (*Gopherus morafkai*) can be found by using their Online Environmental Review Tool, administered through the Heritage Data Management System and Project Evaluation Program <https://www.azgfd.com/Wildlife/HeritageFund/>.

For additional communications regarding this project, please refer to the consultation Tracking Number in the header of this letter. We appreciate your concern for threatened and endangered species. If we may be of further assistance, please contact our following offices for projects in these areas:

Northern Arizona: Flagstaff Office 928/556-2001  
Central Arizona: Phoenix office 602/242-0210  
Southern Arizona: Tucson Office 520/670-6144

Sincerely,  
/s/ Steven L. Spangle Field Supervisor

Attachment

Attachment(s):

- Official Species List
-

## Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

**Arizona Ecological Services Field Office**

9828 North 31st Ave

#c3

Phoenix, AZ 85051-2517

(602) 242-0210

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## Project Summary

Consultation Code: 02EAAZ00-2017-SLI-0993

Event Code: 02EAAZ00-2018-E-00344

Project Name: 303 MA 005 H6870; SR303L, SR 30 TO I-10

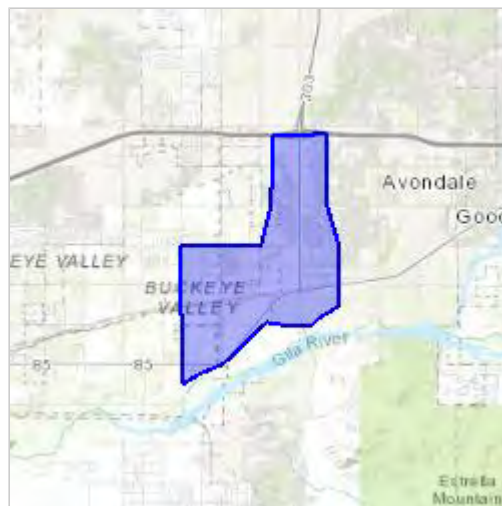
Project Type: TRANSPORTATION

**Project Description:** The purpose of the project is to extend State Route (SR) 303 Loop (303L) south of I-10 and to provide a freeway connection to the proposed SR 30 freeway that is being planned to relieve traffic congestion on I-10. The proposed project would involve the construction of a divided, access-controlled highway with four travel lanes and one HOV lane in each direction of travel; a freeway-to-freeway interchange between SR 303L and SR 30; a diamond interchange at Yuma Road; and half-diamond interchanges at Van Buren Street and Elwood Street. The project is one element of the Regional Transportation Plan Freeway/Highway Life Cycle Program associated with the passage of Proposition 400 in November 2004.

**Project Location:**

Approximate location of the project can be viewed in Google Maps:

<https://www.google.com/maps/place/33.41605441467236N112.44413565108856W>



Counties: Maricopa, AZ

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## Endangered Species Act Species

There is a total of 7 threatened, endangered, or candidate species on this species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

### Mammals

NAME	STATUS
<p>Lesser Long-nosed Bat <i>Leptonycteris curasoae yerbabuena</i>            No critical habitat has been designated for this species.             Species profile: <a href="https://ecos.fws.gov/ecp/species/3245">https://ecos.fws.gov/ecp/species/3245</a></p>	Endangered
<p>Sonoran Pronghorn <i>Antilocapra americana sonoriensis</i>            Population: U.S.A. (AZ), Mexico            No critical habitat has been designated for this species.             Species profile: <a href="https://ecos.fws.gov/ecp/species/4750">https://ecos.fws.gov/ecp/species/4750</a></p>	Experimental Population, Non-Essential

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## Birds

NAME	STATUS
California Least Tern <i>Sterna antillarum browni</i> No critical habitat has been designated for this species.  Species profile: <a href="https://ecos.fws.gov/ecp/species/8104">https://ecos.fws.gov/ecp/species/8104</a>	Endangered
Southwestern Willow Flycatcher <i>Empidonax traillii extimus</i> There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat.  Species profile: <a href="https://ecos.fws.gov/ecp/species/6749">https://ecos.fws.gov/ecp/species/6749</a>	Endangered
Yellow-billed Cuckoo <i>Coccyzus americanus</i> Population: Western U.S. DPS There is <b>proposed</b> critical habitat for this species. Your location overlaps the critical habitat.  Species profile: <a href="https://ecos.fws.gov/ecp/species/3911">https://ecos.fws.gov/ecp/species/3911</a>	Threatened
Yuma Clapper Rail <i>Rallus longirostris yumanensis</i> No critical habitat has been designated for this species.  Species profile: <a href="https://ecos.fws.gov/ecp/species/3505">https://ecos.fws.gov/ecp/species/3505</a>	Endangered

## Fishes

NAME	STATUS
Roundtail Chub <i>Gila robusta</i> Population: Lower Colorado River Basin DPS No critical habitat has been designated for this species.  Species profile: <a href="https://ecos.fws.gov/ecp/species/2782">https://ecos.fws.gov/ecp/species/2782</a>	Proposed Threatened

## Critical habitats

There is 1 critical habitat wholly or partially within your project area under this office's jurisdiction.

NAME	STATUS
Yellow-billed Cuckoo <i>Coccyzus americanus</i> <a href="https://ecos.fws.gov/ecp/species/3911#crithab">https://ecos.fws.gov/ecp/species/3911#crithab</a>	Proposed

---

# Arizona Environmental Online Review Tool Report



## *Arizona Game and Fish Department Mission*

*To conserve Arizona's diverse wildlife resources and manage for safe, compatible outdoor recreation opportunities for current and future generations.*

### **Project Name:**

303 MA 005 H6870; SR 303L, SR30 TO I-10

### **User Project Number:**

H6870; SR303L, SR30 TO I-10

### **Project Description:**

The purpose of the project is to extend State Route (SR) 303 Loop (303L) south of I-10 and to provide a freeway connection to the proposed SR 30 freeway that is being planned to relieve traffic congestion on I-10. The proposed project would involve the construction of a divided, access-controlled highway with four travel lanes and one HOV lane in each direction of travel; a freeway-to-freeway interchange between SR 303L and SR 30; a diamond interchange at Yuma Road; and half-diamond interchanges at Van Buren Street and Elwood Street. The project is one element of the Regional Transportation Plan Freeway/Highway Life Cycle Program associated with the passage of Proposition 400 in November 2004.

### **Project Type:**

Transportation & Infrastructure, Road construction (including staging areas), Realignment/new roads

### **Contact Person:**

audrey navarro

### **Organization:**

Arizona Department of Transportation

### **On Behalf Of:**

ADOT

**Project ID:**

HGIS-05848

***Please review the entire report for project type and/or species recommendations for the location information entered. Please retain a copy for future reference.***

**Disclaimer:**

1. This Environmental Review is based on the project study area that was entered. The report must be updated if the project study area, location, or the type of project changes.
2. This is a preliminary environmental screening tool. It is not a substitute for the potential knowledge gained by having a biologist conduct a field survey of the project area. This review is also not intended to replace environmental consultation (including federal consultation under the Endangered Species Act), land use permitting, or the Departments review of site-specific projects.
3. The Departments Heritage Data Management System (HDMS) data is not intended to include potential distribution of special status species. Arizona is large and diverse with plants, animals, and environmental conditions that are ever changing. Consequently, many areas may contain species that biologists do not know about or species previously noted in a particular area may no longer occur there. HDMS data contains information about species occurrences that have actually been reported to the Department. Not all of Arizona has been surveyed for special status species, and surveys that have been conducted have varied greatly in scope and intensity. Such surveys may reveal previously undocumented population of species of special concern.
4. HabiMap Arizona data, specifically Species of Greatest Conservation Need (SGCN) under our State Wildlife Action Plan (SWAP) and Species of Economic and Recreational Importance (SERI), represent potential species distribution models for the State of Arizona which are subject to ongoing change, modification and refinement. The status of a wildlife resource can change quickly, and the availability of new data will necessitate a refined assessment.

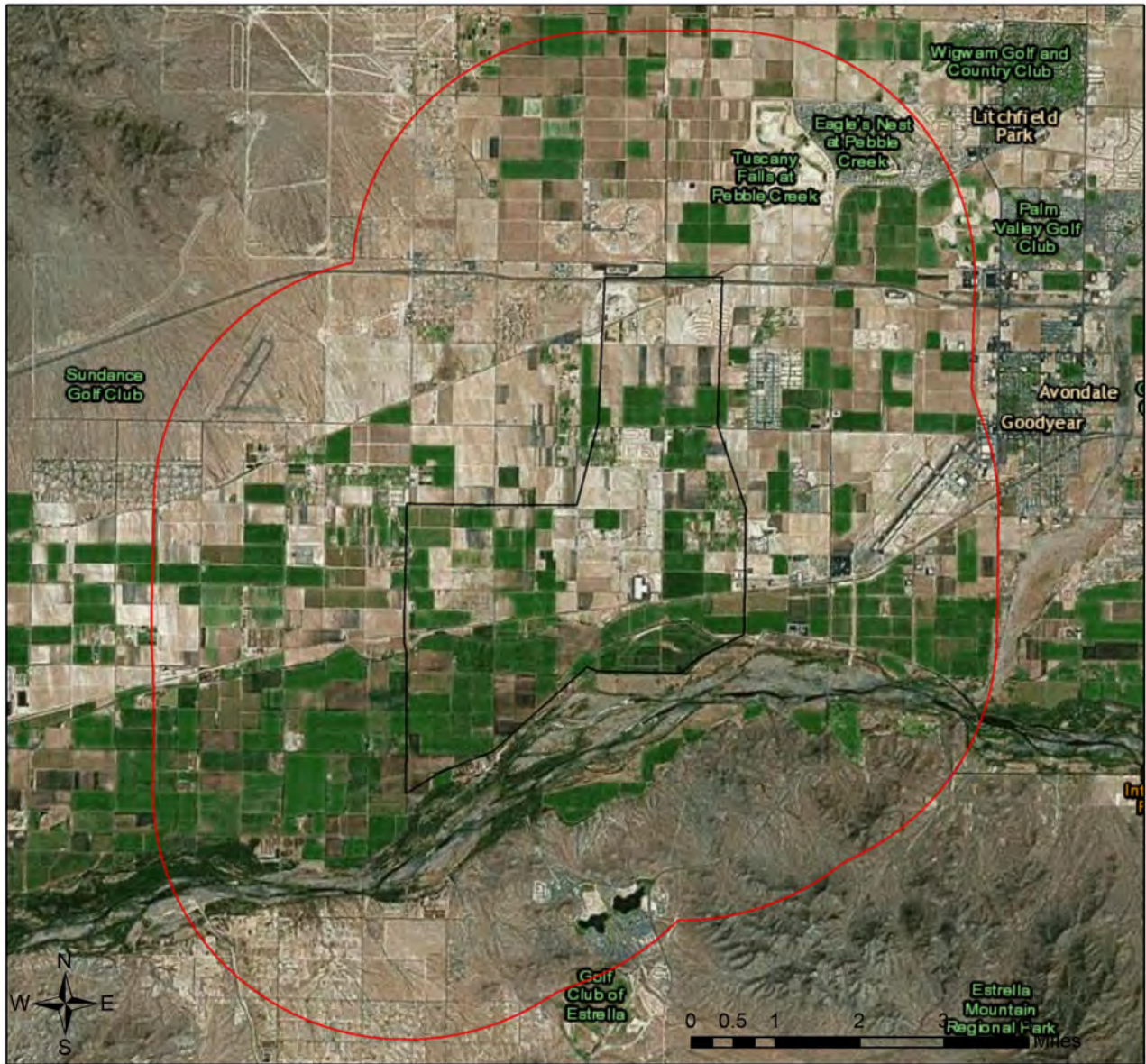
**Locations Accuracy Disclaimer:**



Project locations are assumed to be both precise and accurate for the purposes of environmental review. The creator/owner of the Project Review Report is solely responsible for the project location and thus the correctness of the Project Review Report content.

**Recommendations Disclaimer:**

1. The Department is interested in the conservation of all fish and wildlife resources, including those species listed in this report and those that may have not been documented within the project vicinity as well as other game and nongame wildlife.
2. Recommendations have been made by the Department, under authority of Arizona Revised Statutes Title 5 (Amusements and Sports), 17 (Game and Fish), and 28 (Transportation).
3. Potential impacts to fish and wildlife resources may be minimized or avoided by the recommendations generated from information submitted for your proposed project. These recommendations are preliminary in scope, designed to provide early considerations on all species of wildlife.
4. Making this information directly available does not substitute for the Department's review of project proposals, and should not decrease our opportunity to review and evaluate additional project information and/or new project proposals.
5. Further coordination with the Department requires the submittal of this Environmental Review Report with a cover letter and project plans or documentation that includes project narrative, acreage to be impacted, how construction or project activity(s) are to be accomplished, and project locality information (including site map). Once AGFD had received the information, please allow 30 days for completion of project reviews. Send requests to:  
**Project Evaluation Program, Habitat Branch**  
**Arizona Game and Fish Department**  
**5000 West Carefree Highway**  
**Phoenix, Arizona 85086-5000**  
**Phone Number: (623) 236-7600**  
**Fax Number: (623) 236-7366**  
**Or**  
[PEP@azgfd.gov](mailto:PEP@azgfd.gov)
6. Coordination may also be necessary under the National Environmental Policy Act (NEPA) and/or Endangered Species Act (ESA). Site specific recommendations may be proposed during further NEPA/ESA analysis or through coordination with affected agencies

### 303 MA 005 H6870; SR 303L, SR30 TO I-10 Aerial Image Basemap With Locator Map



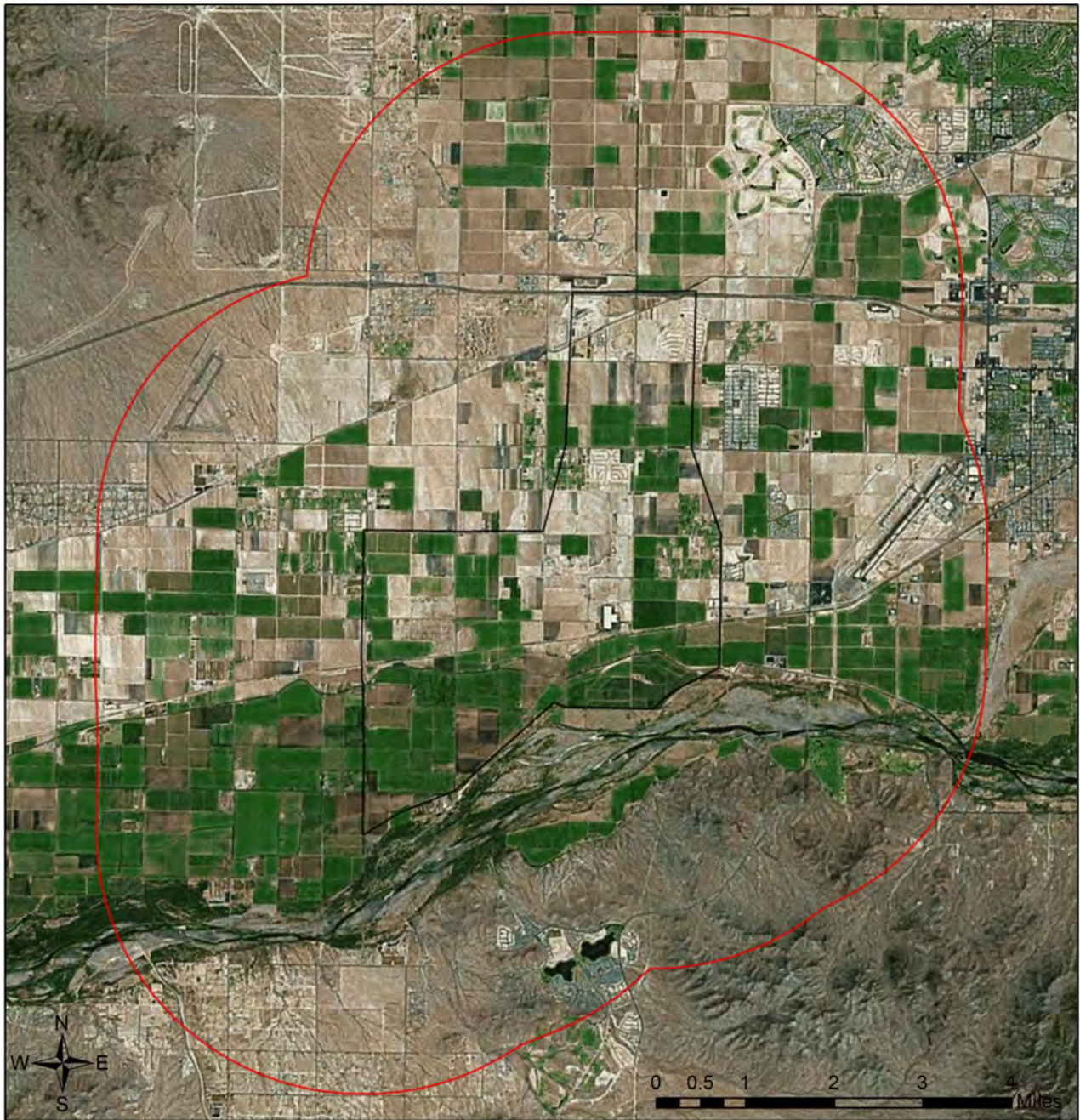
-  Project Boundary
-  Buffered Project Boundary

Project Size (acres): 8,899.09  
Lat/Long (DD): 33.4142 / -112.4421  
County(s): Maricopa  
AGFD Region(s): Mesa  
Township/Range(s): T1N, R2W; T1S, R2W  
USGS Quad(s): AVONDALE SW; PERRYVILLE

Service Layer Credits: Sources: Esri, HERE, DeLorme, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong),



### 303 MA 005 H6870; SR 303L, SR30 TO I-10 Web Map As Submitted By User



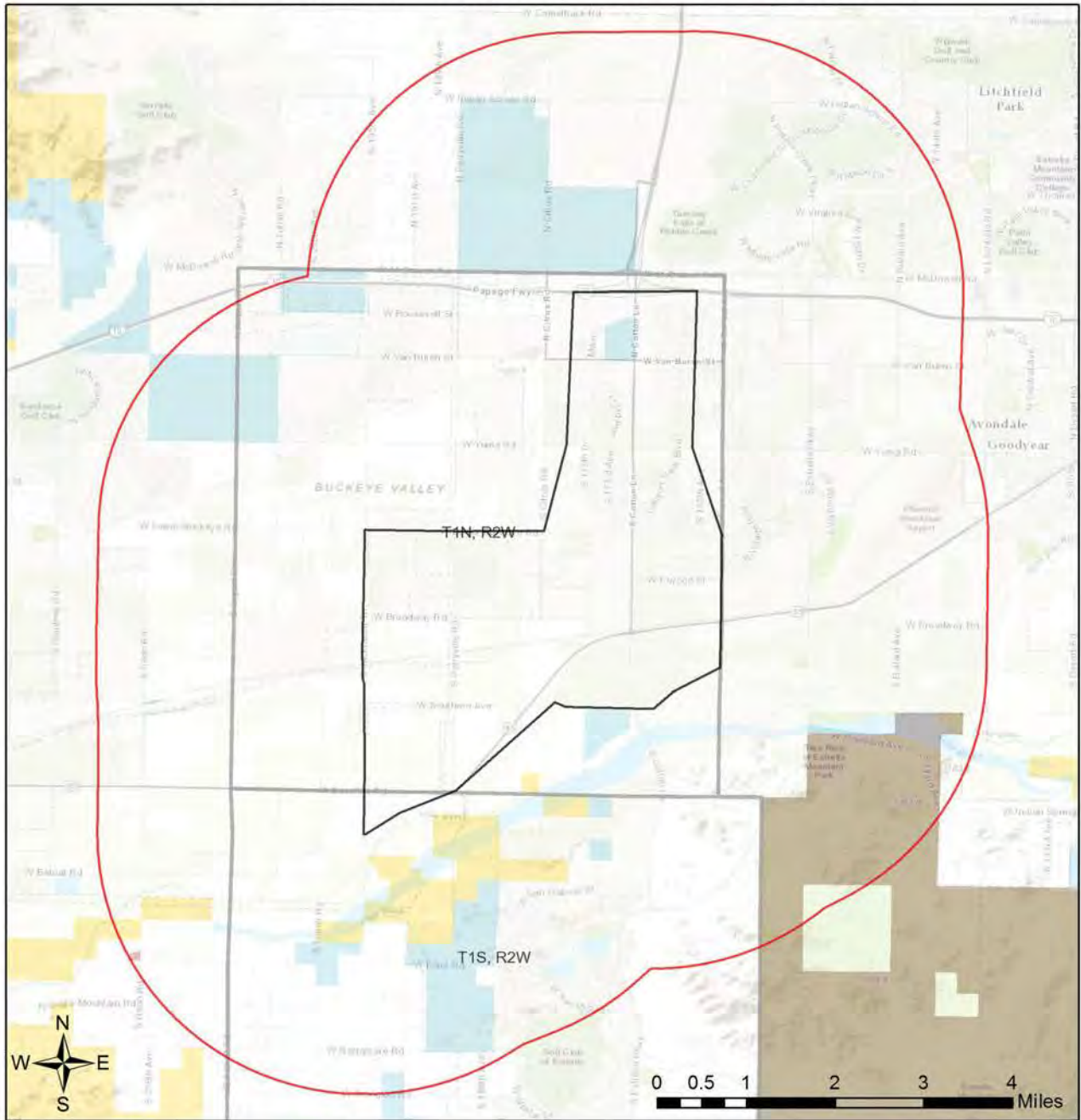
- Project Boundary
- Buffered Project Boundary

Project Size (acres): 8,899.09  
Lat/Long (DD): 33.4142 / -112.4421  
County(s): Maricopa  
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Township/Range(s): T1N, R2W; T1S, R2W  
USGS Quad(s): AVONDALE SW; PERRYVILLE

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



### 303 MA 005 H6870; SR 303L, SR30 TO I-10 Topo Basemap With Township/Ranges and Land Ownership



- |                           |                          |
|---------------------------|--------------------------|
| Project Boundary          | Mixed/Other              |
| Buffered Project Boundary | National Park/Mon.       |
| Township/Ranges           | Private                  |
| AZ Game and Fish Dept.    | State and Regional Parks |
| BLM                       | State Trust              |
| BOR                       | US Forest Service        |
| Indian Res.               | Wildlife Area/Refuge     |
| Military                  |                          |

Project Size (acres): 8,899.09  
 Lat/Long (DD): 33.4142 / -112.4421  
 County(s): Maricopa  
 AGFD Region(s): Mesa  
 Township/Range(s): T1N, R2W; T1S, R2W  
 USGS Quad(s): AVONDALE SW; PERRYVILLE

Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

**Special Status Species and Special Areas Documented within 3 Miles of Project Vicinity**

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
<i>Athene cunicularia hypugaea</i>	Western Burrowing Owl	SC	S	S		1B
<i>Coccyzus americanus</i>	Yellow-billed Cuckoo (Western DPS)	LT	S			1A
<i>Gopherus morafkai</i>	Sonoran Desert Tortoise	CCA	S	S		1A
<i>Haliaeetus leucocephalus</i> (wintering pop.)	Bald Eagle - Winter Population	SC,BG A	S	S		1A
<i>Haliaeetus leucocephalus</i> pop. 3	Bald Eagle - Sonoran Desert Population	SC,BG A	S	S		1A
PCH for <i>Coccyzus americanus</i>	Yellow-billed Cuckoo Proposed Critical Habitat					
<i>Rallus obsoletus yumanensis</i>	Yuma Ridgway's Rail	LE				1A
Salt and Lower Gila Rivers Ecosystem IBA						

Note: Status code definitions can be found at <https://www.azgfd.com/wildlife/planning/wildlifeguidelines/statusdefinitions/>

**Species of Greatest Conservation Need  
 Predicted within Project Vicinity based on Predicted Range Models**

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
<i>Aix sponsa</i>	Wood Duck					1B
<i>Ammospermophilus harrisi</i>	Harris' Antelope Squirrel					1B
<i>Anaxyrus microscaphus</i>	Arizona Toad	SC		S		1B
<i>Anaxyrus retiformis</i>	Sonoran Green Toad			S		1B
<i>Anthus spragueii</i>	Sprague's Pipit	SC				1A
<i>Aquila chrysaetos</i>	Golden Eagle			S		1B
<i>Athene cunicularia hypugaea</i>	Western Burrowing Owl	SC	S	S		1B
<i>Botaurus lentiginosus</i>	American Bittern					1B
<i>Buteo regalis</i>	Ferruginous Hawk	SC		S		1B
<i>Castor canadensis</i>	American Beaver					1B
<i>Chilomeniscus stramineus</i>	Variable Sandsnake					1B
<i>Chionactis occipitalis klauberi</i>	Tucson Shovel-nosed Snake	SC				1A
<i>Coccyzus americanus</i>	Yellow-billed Cuckoo (Western DPS)	LT	S			1A
<i>Colaptes chrysoides</i>	Gilded Flicker			S		1B
<i>Coluber bilineatus</i>	Sonoran Whipsnake					1B
<i>Corynorhinus townsendii pallescens</i>	Pale Townsend's Big-eared Bat	SC	S	S		1B
<i>Crotalus tigris</i>	Tiger Rattlesnake					1B
<i>Crotaphytus nebrius</i>	Sonoran Collared Lizard					1B
<i>Euderma maculatum</i>	Spotted Bat	SC	S	S		1B
<i>Eumops perotis californicus</i>	Greater Western Bonneted Bat	SC		S		1B
<i>Gopherus morafkai</i>	Sonoran Desert Tortoise	CCA	S	S		1A
<i>Haliaeetus leucocephalus</i>	Bald Eagle	SC	S	S		1A

**Species of Greatest Conservation Need  
 Predicted within Project Vicinity based on Predicted Range Models**

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
Heloderma suspectum	Gila Monster					1A
Incilius alvarius	Sonoran Desert Toad					1B
Kinosternon sonoriense sonoriense	Desert Mud Turtle			S		1B
Lasiurus blossevillii	Western Red Bat		S			1B
Lasiurus xanthinus	Western Yellow Bat		S			1B
Leptonycteris curasoae yerbabuenae	Lesser Long-nosed Bat	LE				1A
Lepus alleni	Antelope Jackrabbit					1B
Lithobates yavapaiensis	Lowland Leopard Frog	SC	S	S		1A
Macrotus californicus	California Leaf-nosed Bat	SC		S		1B
Melanerpes uropygialis	Gila Woodpecker					1B
Melospiza lincolni	Lincoln's Sparrow					1B
Melospiza aberti	Abert's Towhee		S			1B
Micruroides euryxanthus	Sonoran Coralsnake					1B
Myotis occultus	Arizona Myotis	SC		S		1B
Myotis velifer	Cave Myotis	SC		S		1B
Myotis yumanensis	Yuma Myotis	SC				1B
Nyctinomops femorosaccus	Pocketed Free-tailed Bat					1B
Ovis canadensis mexicana	Mexican Desert Bighorn Sheep					1B
Passerculus sandwichensis	Savannah Sparrow					1B
Perognathus amplus	Arizona Pocket Mouse					1B
Perognathus longimembris	Little Pocket Mouse	No Status				1B
Phrynosoma goodei	Goode's Horned Lizard					1B
Phrynosoma solare	Regal Horned Lizard					1B
Phyllorhynchus browni	Saddled Leaf-nosed Snake					1B
Rallus obsoletus yumanensis	Yuma Ridgeway's Rail	LE				1A
Setophaga petechia	Yellow Warbler					1B
Tadarida brasiliensis	Brazilian Free-tailed Bat					1B
Toxostoma lecontei	Le Conte's Thrasher					1B
Troglodytes pacificus	Pacific Wren					1B
Vireo bellii arizonae	Arizona Bell's Vireo					1B
Vulpes macrotis	Kit Fox	No Status				1B

**Species of Economic and Recreation Importance Predicted within Project Vicinity**

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
Callipepla gambelii	Gambel's Quail					
Odocoileus hemionus	Mule Deer					

**Species of Economic and Recreation Importance Predicted within Project Vicinity**

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
Ovis canadensis mexicana	Mexicana Desert Bighorn Sheep					1B
Puma concolor	Mountain Lion					
Zenaida asiatica	White-winged Dove					
Zenaida macroura	Mourning Dove					

**Project Type: Transportation & Infrastructure, Road construction (including staging areas), Realignment/new roads**

**Project Type Recommendations:**

**Bridge Maintenance/Construction**

Identify whether wildlife species use the structure for roosting or nesting during anticipated maintenance/construction period. Plan the timing of maintenance/construction to minimize impacts to wildlife species. In addition to the species list generated by the Arizona's On-line Environmental Review Tool, the Department recommends that surveys be conducted at the bridge and in the vicinity of the bridge to identify additional or currently undocumented bat, bird, or aquatic species in the project area. To minimize impacts to birds and bats, as well as aquatic species, consider conducting maintenance and construction activities outside the breeding/maternity season (breeding seasons for birds and bats usually occur spring - summer). Examining the crevices for the presence of bats prior to pouring new paving materials or that the top of those crevices be sealed to prevent material from dripping or falling through the cracks and potentially onto bats. If bats are present, maintenance and construction (including paving and milling) activities should be conducted during nighttime hours, if possible, when the fewest number of bats will be roosting. Minimize impacts to the vegetation community. Unavoidable impacts to vegetation should be mitigated on-site whenever possible. A revegetation plan should be developed to replace impacted communities.

Consider design structures and construction plans that minimize impacts to channel geometry (i.e., width/depth ratio, sinuosity, allow overflow channels), to avoid alteration of hydrological function. Consider incorporating roosting sites for bats into bridge designs. During construction, erosion control structures and drainage features should be used to prevent introduction of sediment laden runoff into the waterway. Minimize instream construction activity. If culverts are planned, use wildlife friendly designs to mitigate impacts to wildlife and fish movement. Guidelines for bridge designs to facilitate wildlife passage can be found on our Wildlife Friendly Guidelines web page under the Wildlife Planning button, at <https://www.azgfd.com/wildlife/planning/wildlifeguidelines/>.

Fence recommendations will be dependant upon the goals of the fence project and the wildlife species expected to be impacted by the project. General guidelines for ensuring wildlife-friendly fences include: barbless wire on the top and bottom with the maximum fence height 42", minimum height for bottom 16". Modifications to this design may be considered for fencing anticipated to be routinely encountered by elk, bighorn sheep or pronghorn (e.g., Pronghorn fencing would require 18" minimum height on the bottom). Please refer to the Department's Fencing Guidelines located on Wildlife Friendly Guidelines page, which is part of the Wildlife Planning button at <https://www.azgfd.com/wildlife/planning/wildlifeguidelines/>.

During the planning stages of your project, please consider the local or regional needs of wildlife in regards to movement, connectivity, and access to habitat needs. Loss of this permeability prevents wildlife from accessing resources, finding mates, reduces gene flow, prevents wildlife from re-colonizing areas where local extirpations may have occurred, and ultimately prevents wildlife from contributing to ecosystem functions, such as pollination, seed dispersal, control of prey numbers, and resistance to invasive species. In many cases, streams and washes provide natural movement corridors for wildlife and should be maintained in their natural state. Uplands also support a large diversity of species, and should be contained within important wildlife movement corridors. In addition, maintaining biodiversity and ecosystem functions can be facilitated through improving designs of structures, fences, roadways, and culverts to promote passage for a variety of wildlife. Guidelines for many of these can be found at: <https://www.azgfd.com/wildlife/planning/wildlifeguidelines/>.

Consider impacts of outdoor lighting on wildlife and develop measures or alternatives that can be taken to increase human safety while minimizing potential impacts to wildlife. Conduct wildlife surveys to determine species within project area, and evaluate proposed activities based on species biology and natural history to determine if artificial lighting may disrupt behavior patterns or habitat use. Use only the minimum amount of light needed for safety. Narrow spectrum bulbs should be used as often as possible to lower the range of species affected by lighting. All lighting should be shielded, canted, or cut to ensure that light reaches only areas needing illumination.

Minimize potential introduction or spread of exotic invasive species. Invasive species can be plants, animals (exotic snails), and other organisms (e.g., microbes), which may cause alteration to ecological functions or compete with or prey upon native species and can cause social impacts (e.g., livestock forage reduction, increase wildfire risk). The terms noxious weed or invasive plants are often used interchangeably. Precautions should be taken to wash all equipment utilized in the project activities before leaving the site. Arizona has noxious weed regulations (Arizona Revised Statutes, Rules R3-4-244 and R3-4-245). See Arizona Department of Agriculture website for restricted plants, <https://agriculture.az.gov/>. Additionally, the U.S. Department of Agriculture has information regarding pest and invasive plant control methods including: pesticide, herbicide, biological control agents, and mechanical control, <http://www.usda.gov/wps/portal/usdahome>. The Department regulates the importation, purchasing, and transportation of wildlife and fish (Restricted Live Wildlife), please refer to the hunting regulations for further information <https://www.azgfd.com/hunting/regulations>.

Minimization and mitigation of impacts to wildlife and fish species due to changes in water quality, quantity, chemistry, temperature, and alteration to flow regimes (timing, magnitude, duration, and frequency of floods) should be evaluated. Minimize impacts to springs, in-stream flow, and consider irrigation improvements to decrease water use. If dredging is a project component, consider timing of the project in order to minimize impacts to spawning fish and other aquatic species (include spawning seasons), and to reduce spread of exotic invasive species. We recommend early direct coordination with Project Evaluation Program for projects that could impact water resources, wetlands, streams, springs, and/or riparian habitats.

The Department recommends that wildlife surveys are conducted to determine if noise-sensitive species occur within the project area. Avoidance or minimization measures could include conducting project activities outside of breeding seasons.

Based on the project type entered, coordination with State Historic Preservation Office may be required (<http://azstateparks.com/SHPO/index.html>).

Trenches should be covered or back-filled as soon as possible. Incorporate escape ramps in ditches or fencing along the perimeter to deter small mammals and herptefauna (snakes, lizards, tortoise) from entering ditches.

Design culverts to minimize impacts to channel geometry, or design channel geometry (low flow, overbank, floodplains) and substrates to carry expected discharge using local drainages of appropriate size as templates. Reduce/minimize barriers to allow movement of amphibians or fish (e.g., eliminate falls). Also for terrestrial wildlife, washes and stream corridors often provide important corridors for movement. Overall culvert width, height, and length should be optimized for movement of the greatest number and diversity of species expected to utilize the passage. Culvert designs should consider moisture, light, and noise, while providing clear views at both ends to maximize utilization. For many species, fencing is an important design feature that can be utilized with culverts to funnel wildlife into these areas and minimize the potential for roadway collisions. Guidelines for culvert designs to facilitate wildlife passage can be found on the home page of this application at <https://www.azgfd.com/wildlife/planning/wildlifeguidelines/>.

Based on the project type entered, coordination with Arizona Department of Environmental Quality may be required (<http://www.azdeq.gov/>).

Based on the project type entered, coordination with U.S. Army Corps of Engineers may be required (<http://www.usace.army.mil/>)

Based on the project type entered, coordination with County Flood Control district(s) may be required.

Vegetation restoration projects (including treatments of invasive or exotic species) should have a completed site-evaluation plan (identifying environmental conditions necessary to re-establish native vegetation), a revegetation plan (species, density, method of establishment), a short and long-term monitoring plan, including adaptive management guidelines to address needs for replacement vegetation.

**The Department requests further coordination to provide project/species specific recommendations, please contact Project Evaluation Program directly. [PEP@azgfd.gov](mailto:PEP@azgfd.gov)**

**Project Location and/or Species Recommendations:**

HDMS records indicate that one or more listed, proposed, or candidate species or Critical Habitat (Designated or Proposed) have been documented in the vicinity of your project. The Endangered Species Act (ESA) gives the US Fish and Wildlife Service (USFWS) regulatory authority over all federally listed species. Please contact USFWS Ecological Services Offices at <http://www.fws.gov/southwest/es/arizona/> or:

**Phoenix Main Office**

2321 W. Royal Palm Rd, Suite 103  
Phoenix, AZ 85021  
Phone: 602-242-0210  
Fax: 602-242-2513

**Tucson Sub-Office**

201 N. Bonita Suite 141  
Tucson, AZ 85745  
Phone: 520-670-6144  
Fax: 520-670-6155

**Flagstaff Sub-Office**

SW Forest Science Complex  
2500 S. Pine Knoll Dr.  
Flagstaff, AZ 86001  
Phone: 928-556-2157  
Fax: 928-556-2121

HDMS records indicate that Western Burrowing Owls have been documented within the vicinity of your project area. Please review the western burrowing owl resource page at:  
<https://www.azgfd.com/wildlife/speciesofgreatestconservneed/burrowingowlmanagement/>.

The analysis has detected one or more Important Bird Areas within your project vicinity. Please see [http://aziba.org/?page\\_id=38](http://aziba.org/?page_id=38) for details about the Important Bird Area(s) identified in the report.



**Arizona Department of Transportation**

**Environmental Planning Group**

**Biological Review**

**State Route 303L, State Route 30 to Interstate 10**

**303-A(ASO)T  
303 MA 005 H6870 01L**

**Prepared for:**

Arizona Department of Transportation  
Environmental Planning Group  
1611 W. Jackson St., EM02  
Phoenix, AZ 85007

**Prepared by:**

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**February 5, 2013  
Fourth Submittal**

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## TABLE OF CONTENTS

1. PROJECT LOCATION.....	1
2. PROJECT DESCRIPTION .....	1
3. PROJECT AREA .....	4
4. SPECIES IDENTIFICATION .....	4
5. FINDING.....	6
6. MITIGATION MEASURES.....	6
7. COORDINATION .....	7
8. LITERATURE CITED.....	7
9. SIGNATURES .....	8
APPENDICES .....	8
A. State Sensitive Species .....	8
B. Migratory Birds .....	10
C. Protected Native Plants .....	11
D. Photo Log .....	12
E. Attachments.....	14



## 1. PROJECT LOCATION

This project is generally south of Interstate 10 (I-10) along the Cotton Lane alignment within the city limits of Goodyear, west of Phoenix in Maricopa County, Arizona (Figure 1–Project location and Figure 2–Project vicinity). The project area occupies Sections 1, 2, 11–15, 21–28, and 33–36 in Township (T) 1 North, Range (R) 2 West (W), and Sections 4–5 in T1 South, R2W on the Perryville (1982), Arizona, US Geological Survey 7.5-minute topographic series map. Most adjacent land is privately owned; the remaining adjacent land is under the jurisdictions of the Arizona State Land Department and the Bureau of Land Management.

Throughout this Biological Review, the term “project limits” is used to represent the construction footprint (area of disturbance), while the term “project area” includes surrounding lands outside but adjacent to the project limits. The term “project vicinity” is used to denote a more expansive landscape context.

## 2. PROJECT DESCRIPTION

The purpose of the project is to extend State Route (SR) 303 Loop (303L) south of I-10 and to provide a freeway connection to the proposed SR 30 freeway that is being planned to relieve traffic congestion on I-10. The proposed project would involve the construction of a divided, access-controlled highway with four travel lanes and one HOV lane in each direction of travel; a freeway-to-freeway interchange between SR 303L and SR 30; a diamond interchange at Yuma Road; and half-diamond interchanges at Van Buren Street and Elwood Street. The project is one element of the Regional Transportation Plan Freeway/Highway Life Cycle Program associated with the passage of Proposition 400 in November 2004.

Project construction would involve the disturbance of more than 1 acre of terrain; therefore, a Clean Water Act Section 402 permit would be obtained through the Arizona Department of Environmental Quality and a Stormwater Pollution Prevention Plan would be prepared for the project. Terrain throughout most of the project area is highly disturbed, consisting of agricultural lands, roads, and commercial and residential infrastructure. Only small patches of native vegetation remain.

Project construction would occur along the route of existing roads (e.g., Cotton Lane), would cross agricultural land, and potentially would cross some patches of native vegetation. Vegetation removal would be limited to roadside vegetation, some native shrubs growing in patches of native vegetation, and plants growing in unmaintained but previously disturbed areas between fields and within fallow fields. Such vegetation consists primarily of native and exotic grasses and herbs adapted to colonization of disturbed habitat but may include patches of native vegetation (primarily saltbush [*Atriplex* spp.]) and scattered larger perennial native and nonnative shrubs and trees. Due to the extensive disturbance of terrain, no natural drainages remain in the project area. No project construction would occur within jurisdictional Waters of the United States.

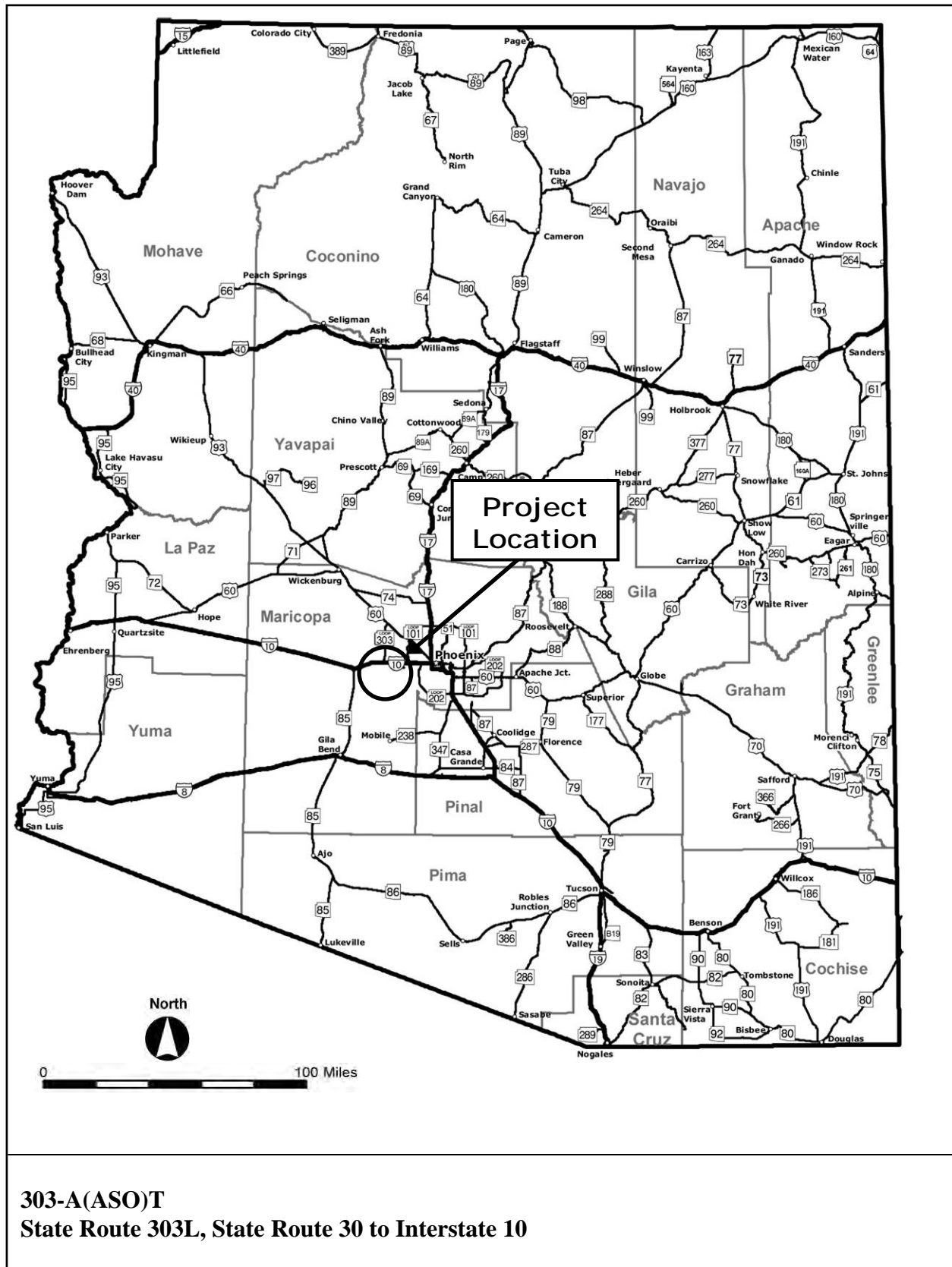
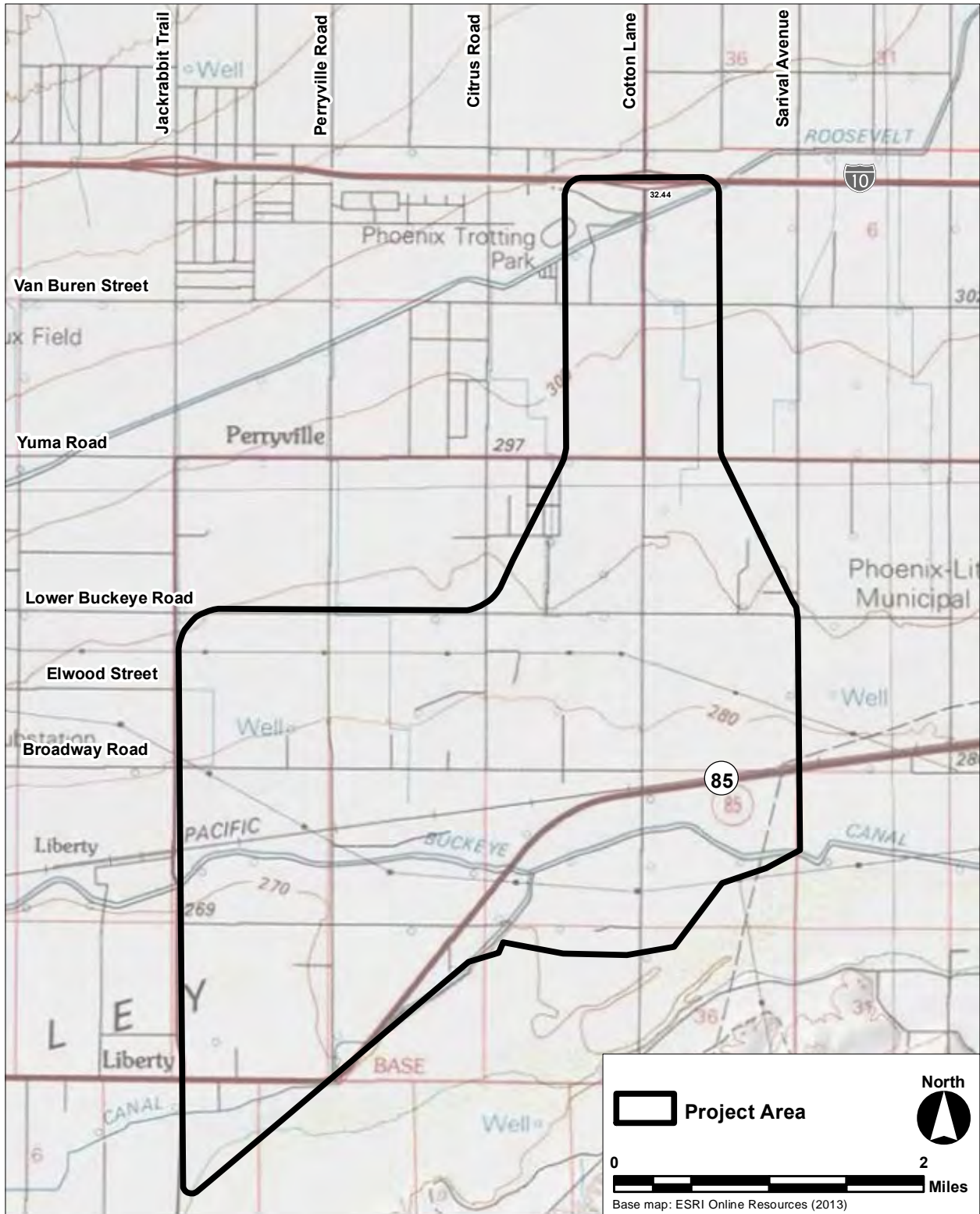


Figure 1. Project location



**303-A(ASO)T**  
**State Route 303L, State Route 30 to Interstate 10**

**Figure 2. Project vicinity**

M:\W Drive\04-755\Task 5\BIO\Figures\BR Fig2.mxd

The extension of SR 303L from I-10 to the future SR 30 would involve the construction of several miles of roadway. Large numbers and a variety of construction equipment, including earthmovers, bulldozers, and road graders as well as paving machines and associated equipment, would be required for project construction. It is anticipated that project construction would occur over a two-year period, but the exact timing has yet to be determined.

### **3. PROJECT AREA**

The project area lies between 900 and 996 feet elevation<sup>1</sup> on relatively flat terrain that descends gently to the south in the Buckeye Valley southwest of Phoenix. The project area is bounded by I-10 to the north, the perennial Gila River to the south, and Estrella Mountain Regional Park to the southeast. The project vicinity supports primarily agriculture (e.g., cotton) and housing developments. The Union Pacific Railroad bisects the southern half of the project area. Overall, little natural terrain remains because the project area has been altered by human activities.

The Estrella Mountain Regional Park, rising to 1,252 feet elevation approximately 1 mile southeast of the project limits, is the closest elevated terrain and natural plant community. The historic natural plant community occurring at the margins of the developed portions in the project area is the saltbush-dominated Lower Colorado River subdivision of Sonoran desertscrub (Turner and Brown 1994). Uncommon native perennial plants in the project area include cattle saltbush (*Atriplex polycarpa*), wolfberry (*Lycium* spp.), desertbroom (*Baccharis sarothroides*), and goldenbush (*Isocoma* spp.). Common nonnative plants with a patchy distribution include ornamental trees (e.g., eucalyptus and palm), Russian thistle (*Salsola tragus*), tamarisk (*Tamarix ramosissima*), and curly dock (*Rumex crispus*). Scattered paloverde (*Parkinsonia* spp.) and mesquite (*Prosopis* spp.) trees occur infrequently in the project area. A patch of mesquite bosque with fire damage transitions to a cottonwood (*Populus fremontii*) riparian woodland near the west-flowing, perennial Gila River, which is directly south of, and parallel to, the southern project limit.

The Salt River and the Agua Fria River join the Gila River approximately 4 to 8 miles east of the project area. The Roosevelt Canal bisects the project area north of Maricopa County Route 85 (MC 85). The Buckeye Canal and the Extension Canal bisect the project area south of MC 85. These canals include concrete-lined and earthen-banked portions in the project area. No natural wetlands or perennial surface waters occur within the project limits.

Native soils in the northern project area are classified as well drained, limy soil of the Laveen-Rillito Association and originating from surficial deposits of Holocene to late Pleistocene age (Hendricks 1985). Native soils in the southern project area are classified as well-drained, sandy to clayey soil of the Torrifluvents Association and originating from young alluvium of Holocene to late Pleistocene age (Hendricks 1985).

### **4. SPECIES IDENTIFICATION**

The US Fish and Wildlife Service (USFWS) list of endangered, threatened, proposed, and candidate species for Maricopa County (USFWS 2012) was reviewed by a qualified biologist to determine which listed species may occur in the project vicinity (Table 1).

<sup>1</sup> Elevations in this document are referenced to mean sea level.

**Table 1. USFWS listed species in Maricopa County and evaluation of effects.**

Common Name	Scientific Name	Status	Suitable Habitat Present?	Occupied Habitat Present?	Critical Habitat Present?	Species Affected?	Critical/Suitable Habitat Affected?
<b>Endangered and Threatened</b>							
Acuña cactus	<i>Echinomastus erectocentrus</i> var. <i>acunensis</i>	PE	No	No	No	No	No
Arizona cliffrose	<i>Purshia subintegra</i>	E	No	No	No	No	No
California least tern	<i>Sterna antillarum browni</i>	E	No	No	No	No	No
Desert pupfish	<i>Cyprinodon macularius</i>	E	No	No	No	No	No
Gila topminnow	<i>Poeciliopsis occidentalis occidentalis</i>	E	No	No	No	No	No
Lesser long-nosed bat	<i>Leptonycteris curasoae yerbabuena</i>	E	No	No	No	No	No
Mexican spotted owl	<i>Strix occidentalis lucida</i>	T	No	No	No	No	No
Razorback sucker	<i>Xyrauchen texanus</i>	E	No	No	No	No	No
Sonoran pronghorn	<i>Antilocapra americana sonoriensis</i>	E	No	No	No	No	No
Southwestern willow flycatcher	<i>Empidonax traillii extimus</i>	E	No	No	No	No	No
Woundfin	<i>Plagopterus argentissimus</i>	E	No	No	No	No	No
Yuma clapper rail	<i>Rallus longirostris yumanensis</i>	E	No	No	No	No	No
<b>Candidate</b>							
Desert tortoise, Sonoran population	<i>Gopherus agassizii</i>	C	No	No	No	No	No
Roundtail chub	<i>Gila robusta</i>	C	No	No	No	No	No
Sprague's pipit	<i>Anthus spragueii</i>	C	Yes	Yes	No	No	Yes
Tucson shovel-nosed snake	<i>Chionactis occipitalis klauberi</i>	C	No	No	No	No	No
Yellow-billed cuckoo	<i>Coccyzus americanus</i>	C	No	No	No	No	No

C = Candidate, E = Endangered, PE = Proposed Endangered, T = Threatened (USFWS 2012)

## 5. FINDING

- No effect to species or its habitat
- May affect species, not likely to adversely affect species or its habitat
- May beneficially affect species or its habitat
- Likely to adversely affect species or its habitat

## 6. MITIGATION MEASURES

### Design Responsibility

- All disturbed soils that will not be landscaped or otherwise permanently stabilized by construction will be seeded using species native to the project vicinity.

### Roadside Development Responsibility

- Protected native plants within the project limits will be impacted by this project; therefore, the Department Roadside Development Section will determine if Arizona Department of Agriculture notification is needed. If notification is needed, the Department Roadside Development Section will send the notification at least 60 calendar days prior to the start of construction.

### Contractor Responsibilities

- To prevent the introduction of invasive species seeds, all earthmoving and hauling equipment shall be washed at the contractor's storage facility prior to entering the construction site.
- All disturbed soils that will not be landscaped or otherwise permanently stabilized by construction shall be seeded using species native to the project vicinity.
- To prevent invasive species seeds from leaving the site, the contractor shall inspect all construction equipment and remove all attached plant/vegetation and soil/mud debris prior to leaving the construction site.
- The contractor shall employ a biologist to complete a preconstruction survey for invasive plant species immediately prior to ground-disturbance activities. Upon completion of the survey, the contractor shall contact the Department Environmental Planning Group at 602.712.7767 to provide survey results.
- The contractor shall employ a qualified specialist to appropriately treat and remove invasive plant species found during surveys immediately prior to ground-disturbance activities.
- The contractor shall employ a biologist to complete a preconstruction survey for burrowing owls 96 hours prior to construction in all suitable habitat that will be disturbed. The biologist shall possess a burrowing owl survey protocol training certificate issued by the Arizona Game and Fish Department. Upon completion of the survey, the contractor shall contact the Department Environmental Planning Group at 602.712.7767 to provide survey results.
- If any burrowing owls are located during preconstruction surveys or construction, the contractor shall employ a biologist holding a permit from the US Fish and Wildlife Service to relocate all burrowing owls from the project area, as appropriate.

### Contractor Responsibilities (continued)

- If burrowing owls or active burrows are identified during the preconstruction surveys or during construction, no construction activities shall take place within 100 feet of any active burrow until the owls are relocated.
- If any tree or shrub removal is required to accommodate project construction activities, the contractor shall complete all necessary tree and shrub removal activities prior to March 1 or after August 1 to avoid the migratory bird nesting season and minimize impacts to breeding birds. If tree and shrub removal must occur between March 1 and August 1 of any calendar year, the contractor will hire a qualified biologist to conduct surveys for breeding bird nests prior to construction.

## **7. COORDINATION**

As part of the environmental review process, these agencies and individuals were contacted:

- Arizona Game and Fish Department (AGFD) (Laura Canaca, Project Evaluation Program Supervisor)
  - The AGFD was asked whether it had specific concerns, suggestions, or recommendations regarding this project, such as information on wildlife movement, habitat issues, or seasonal concerns, and, if so, to respond with those concerns, suggestions, or recommendations.
  - The AGFD sent a response letter (attached) verifying and validating the results of the AGFD On-line Environmental Review Tool. The AGFD noted that Western burrowing owls (*Athene cunicularia hypugaea*) occur within 3 miles of the project and recommended following AGFD protocols when encountering Western burrowing owls in the project area ([http://www.azgfd.gov/pdfs/w\\_c/owl/BurrowingOwlClearanceProtocol.pdf](http://www.azgfd.gov/pdfs/w_c/owl/BurrowingOwlClearanceProtocol.pdf)). The AGFD also recommended that the USFWS be contacted regarding the project. No other concerns or issues were provided by the AGFD.
- USFWS Arizona Ecological Services Field Office (Steve Spangle, Field Supervisor, and Debra Bills, Assistant Field Supervisor for Central Arizona)
  - The agency was contacted to solicit specific concerns, suggestions, or recommendations regarding this project, such as information on wildlife movement, habitat issues, or seasonal concerns.
  - The agency has not responded.

## **8. LITERATURE CITED**

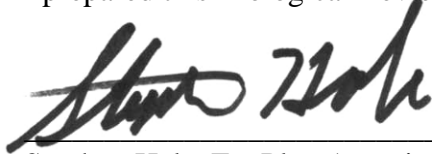
Hendricks, D.M. 1985. Arizona soils. The University of Arizona Press, Tucson, Arizona.

Turner, R.M., and D.E. Brown. 1994. Sonoran desert scrub. *In* Desert plants, biotic communities of the American Southwest–United States and Northwestern Mexico, edited by D.E. Brown, pp. 181–221. Vol. 4, Nos. 1–4.

USFWS. 2012. Arizona Ecological Services Field Office website, <http://www.fws.gov/southwest/es/arizona>. Arizona federally listed species for Maricopa County. Updated November 27, 2012. Accessed January 24, 2013.

**9. SIGNATURES**

I prepared this Biological Review:



Stephen Hale, EcoPlan Associates, Inc.  
Senior Project Scientist

February 5, 2013

Date

I am submitting this Biological Review:



Thomas C. Ashbeck, EcoPlan Associates, Inc.  
Director, Biological Resources Group

February 5, 2013

Date

**APPENDICES**

**A. State Sensitive Species**

The AGFD On-line Environmental Review Tool was accessed to determine special status species known to occur in the project vicinity. As part of the environmental review process, a letter describing the project was sent to the AGFD to inform the department of the project and to solicit comments. The letter requested specific concerns, suggestions, or recommendations the department may have related to the project.

The AGFD tool included a list of special status species known to occur within 3 miles of the project area, and the AGFD returned a response letter. The AGFD tool included the yellow-billed cuckoo, the Southwestern willow flycatcher, and the Yuma clapper rail, which are addressed in Table 1; the Western burrowing owl, the bald eagle (*Haliaeetus leucocephalus*), and the least bittern (*Ixobrychus exilis*), which are addressed in Appendix B; and the California leaf-nosed bat (*Macrotus californicus*).

California leaf-nosed bats are non-migratory bats that are found in Sonoran desertscrub and roost in mines, caves, and rock shelters. These bats are known to roost in the Estrella Mountains and may forage in the project area. Project-related construction may impact an individual bat's foraging patterns but will not impact any roosting sites.

The AGFD tool included a standard response for the treatment and management of invasive species. The project area was surveyed by EcoPlan Associates, Inc., on September 28, 2006, and invasive plant species were observed in the project area. No formal survey was conducted to identify and map the invasive plant species at the time.



Some common invasive plant species that are known to occur in Maricopa County and likely occur in the project area are:

<b>Common Name</b>	<b>Scientific Name</b>
African mustard	<i>Brassica tournefortii</i>
Barnyardgrass	<i>Echinochloa crus-galli</i>
Bermudagrass	<i>Cynodon dactylon</i>
Cheatgrass	<i>Bromus tectorum</i>
Common purslane	<i>Portulaca oleracea</i>
Curly dock	<i>Rumex crispus</i>
Dodder	<i>Cuscuta</i> spp.
Field bindweed	<i>Convolvulus arvensis</i>
Giant reed	<i>Arundo donax</i>
Johnsongrass	<i>Sorghum halepense</i>
Lehmann lovegrass	<i>Eragrostis lehmanniana</i>
London rocket	<i>Sisymbrium irio</i>
Mexican paloverde	<i>Parkinsonia aculeata</i>
Nettleleaf goosefoot	<i>Chenopodium murale</i>
Nuttall's poverty-weed	<i>Monolepis nuttalliana</i>
Puncturevine	<i>Tribulus terrestris</i>
Red brome	<i>Bromus rubens</i>
Redstem stork's bill	<i>Erodium cicutarium</i> ssp. <i>cutarium</i>
Russian thistle	<i>Salsola tragus</i>
Tamarisk	<i>Tamarix</i> spp.
Tree tobacco	<i>Nicotiana glauca</i>
Wild mustard	<i>Sinapis arvensis</i>
Yellow sweetclover	<i>Melilotus officinalis</i>

This project will incorporate the following measures to prevent the introduction and spread of invasive species:

#### Design Responsibility

- All disturbed soils that will not be landscaped or otherwise permanently stabilized by construction will be seeded using species native to the project vicinity.

#### Contractor Responsibilities

- To prevent the introduction of invasive species seeds, all earthmoving and hauling equipment shall be washed at the contractor's storage facility prior to entering the construction site.
- All disturbed soils that will not be landscaped or otherwise permanently stabilized by construction shall be seeded using species native to the project vicinity.
- To prevent invasive species seeds from leaving the site, the contractor shall inspect all construction equipment and remove all attached plant/vegetation and soil/mud debris prior to leaving the construction site.

### Contractor Responsibilities (continued)

- The contractor shall employ a biologist to complete a preconstruction survey for invasive plant species immediately prior to ground-disturbance activities. Upon completion of the survey, the contractor shall contact the Department Environmental Planning Group at 602.712.7767 to provide survey results.
- The contractor shall employ a qualified specialist to appropriately treat and remove invasive plant species found during surveys immediately prior to ground-disturbance activities.

The AGFD tool included a standard response regarding local or regional needs of wildlife movement, connectivity, access to habitat needs, and the design of various roadway features such as culverts and bridges. The Arizona Department of Transportation (ADOT), the AGFD, the Federal Highway Administration, and representatives from other agencies have completed a Wildlife Linkages Assessment to address important wildlife movement corridors in Arizona. The Gila River, at the southern end of the project area, falls within Wildlife Linkage 151—Gila/Salt River Corridor Granite Reef Dam–Gillespie Dam, as defined by the Wildlife Linkages Assessment. Based on the project scope of work described in this Biological Review, this project will not change the current wildlife connectivity of this region.

ADOT is planning to continue working with partners involved, including the AGFD, and has considered wildlife movement patterns during the planning of this project. In addition, ADOT has provided an opportunity for the AGFD to be involved with the design of roadway features and has considered AGFD recommendations during project development.

### **B. Migratory Birds**

The bald eagle is known to forage along the Gila River and pass over the project area while in transit between perching sites, foraging areas, or nesting sites. Project-related construction may impact bald eagle movement patterns but will not impact any nesting sites. The least bittern occurs along the Gila River, beyond the limits of the project area, and will not be impacted by project-related construction.

Though the Sprague's pipit does not appear in the AGFD tool, there are records in Phoenix of wintering pipits, and there is suitable habitat present in the project area. These occurrences are rare, and construction-related impacts would be limited to the disruption of wintering activities. The net loss of suitable habitat would be extremely low compared with the amount of suitable habitat beyond the project vicinity.

Based on the presence of Western burrowing owls and suitable nesting habitat in the project area, the following mitigation measures are proposed to avoid impacts:

### Contractor Responsibilities

- The contractor shall employ a biologist to complete a preconstruction survey for burrowing owls 96 hours prior to construction in all suitable habitat that will be disturbed. The biologist shall possess a burrowing owl survey protocol training certificate issued by the Arizona Game and Fish Department. Upon completion of the survey, the contractor shall contact the Department Environmental Planning Group at 602.712.7767 to provide survey results.

### Contractor Responsibilities (continued)

- If any burrowing owls are located during preconstruction surveys or construction, the contractor shall employ a biologist holding a permit from the US Fish and Wildlife Service to relocate all burrowing owls from the project area, as appropriate.
- If burrowing owls or active burrows are identified during the preconstruction surveys or during construction, no construction activities shall take place within 100 feet of any active burrow until the owls are relocated.

The vegetation in the project vicinity may provide nesting habitat for migratory birds. To ensure that no active migratory bird nests are impacted by construction activities, the following mitigation measure will be implemented:

### Contractor Responsibility

- If any tree or shrub removal is required to accommodate project construction activities, the contractor shall complete all necessary tree and shrub removal activities prior to March 1 or after August 1 to avoid the migratory bird nesting season and minimize impacts to breeding birds. If tree and shrub removal must occur between March 1 and August 1 of any calendar year, the contractor will hire a qualified biologist to conduct surveys for breeding bird nests prior to construction.

### **C. Protected Native Plants**

The project area was surveyed by EcoPlan Associates, Inc., for the presence of protected native plants on September 28, 2006. The non-systematic survey entailed a visual inspection along several road transects. Native habitat in the project area has been almost entirely altered for agricultural and development purposes. Scattered individuals of the following protected native plants were found growing along roadsides and unmaintained areas in the project area.

Common Name	Scientific Name	Occurrence
<b>Salvage Restricted</b>		
Prickly pear	<i>Opuntia</i> sp.	Uncommon
<b>Salvage Assessed</b>		
Paloverde	<i>Parkinsonia</i> spp.	Uncommon
<b>Salvage Assessed/Harvest Restricted</b>		
Mesquite	<i>Prosopis</i> spp.	Uncommon

•

The following mitigation measure is proposed in regard to protected native plants:

### Roadside Development Responsibility

- Protected native plants within the project limits will be impacted by this project; therefore, the Department Roadside Development Section will determine if Arizona Department of Agriculture notification is needed. If notification is needed, the Department Roadside Development Section will send the notification at least 60 calendar days prior to the start of construction.

**D. Photo Log**



**Photo 1. View of an abandoned field in the project area from Van Buren Street, facing northeast. Cotton Lane is visible in the right midground (adjacent to the palm trees). I-10 intersects Cotton Lane to the north and in the far background (out of sight).**



**Photo 2. View of MC 85 west of Cotton Lane, facing west. Note an agricultural field to the south and an uncommon patch of native saltbush–dominated Sonoran desertscrub to the north in the project area.**



**Photo 3. View of a patch of native saltbush–dominated Sonoran desertscrub in the project area from MC 85 west of Cotton Lane, facing north.**



**Photo 4. View of a drainage canal and an abandoned field of Russian thistle in the project area from Cotton Lane north of MC 85, facing southeast. The Estrella Mountains are visible in the far background.**



**Photo 5. View of the southern border of the project limits from Jackrabbit Trail south of MC 85, facing east. An agricultural field in the foreground is in the project area. A patch of riparian woodland adjacent to the Gila River in the background is outside the project area. Curly dock roadside vegetation is visible in the foreground.**



**Photo 6. View of the Buckeye Canal and the surrounding land in the project area from Cotton Lane south of MC 85, facing west.**

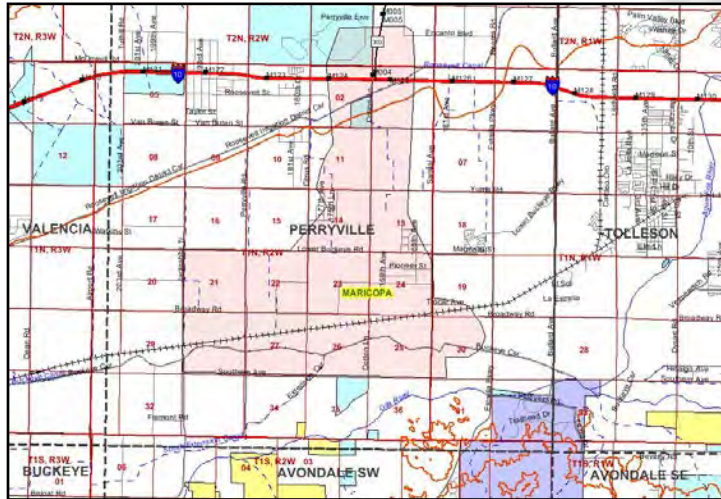
## **E. Attachments**

- AGFD On-line Environmental Review Tool receipts (2)
- AGFD scoping response letter
- USFWS scoping letters (2)

Arizona's On-line Environmental Review Tool

Search ID: 20121218019239  
 Project Name: 04-755005 B 303 Part 1  
 Date: 12/18/2012 8:02:10 AM

**Project Location**



**Project Name:** 04-755005 B 303 Part 1  
**Submitted By:** Patrick Dockens  
**On behalf of:** CONSULTING  
**Project Search ID:** 20121218019239  
**Date:** 12/18/2012 8:02:04 AM  
**Project Category:** Transportation & Infrastructure, Road construction (including staging areas), Realignment/ new roads  
**Project Coordinates (UTM Zone 12-NAD 83):** 366510.426, 3698888.468 meter  
**Project Area:** 8950.565 acres  
**Project Perimeter:** 31956.428 meter  
**County:** MARICOPA  
**USGS 7.5 Minute Quadrangle ID:** 1293  
**Quadrangle Name:** PERRYVILLE  
**Project locality is not anticipated to change**

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The Department appreciates the opportunity to provide in-depth comments and project review when additional information or environmental documentation becomes available.

**Special Status Species Occurrences/Critical Habitat/Tribal Lands within 3 miles of Project Vicinity:**

Name	Common Name	FWS	USFS	BLM	State
<i>Athene cucularia hypugaea</i>	Western Burrowing Owl	SC	S	S	
Bat Colony					
<i>Coccyzus americanus</i>	Yellow-billed Cuckoo (Western U.S. DPS)	PS:C	S		WSC
<i>Empidonax traillii extimus</i>	Southwestern Willow Flycatcher	LE			WSC
<i>Haliaeetus leucocephalus</i> (wintering pop.)	Bald Eagle - Winter Population	SC,BG A	S	S	WSC
<i>Ixobrychus exilis</i>	Least Bittern				WSC
<i>Macrotus californicus</i>	California Leaf-nosed Bat	SC	S	S	WSC
<i>Rallus longirostris yumanensis</i>	Yuma Clapper Rail	LE			WSC

## Arizona's On-line Environmental Review Tool

Search ID: 20121218019239

Project Name: 04-755005 B 303 Part 1

Date: 12/18/2012 8:02:10 AM

**Please review the entire receipt for project type recommendations and/or species or location information and retain a copy for future reference.** If any of the information you provided did not accurately reflect this project, or if project plans change, another review should be conducted, as this determination may not be valid.

### Arizona's On-line Environmental Review Tool:

1. This On-line Environmental Review Tool inquiry has generated recommendations regarding the potential impacts of your project on Special Status Species (SSS) and other wildlife of Arizona. SSS include all U.S. Fish and Wildlife Service federally listed, U.S. Bureau of Land Management sensitive, U.S. Forest Service sensitive, and Arizona Game and Fish Department (Department) recognized species of concern.
2. These recommendations have been made by the Department, under authority of Arizona Revised Statutes Title 5 (Amusements and Sports), 17 (Game and Fish), and 28 (Transportation). These recommendations are preliminary in scope, designed to provide early considerations for all species of wildlife, pertinent to the project type you entered.
3. This receipt, generated by the automated On-line Environmental Review Tool does not constitute an official project review by Department biologists and planners. Further coordination may be necessary as appropriate under the National Environmental Policy Act (NEPA) and/or the Endangered Species Act (ESA).

The U.S. Fish and Wildlife Service (USFWS) has regulatory authority over all federally listed species under the ESA. Contact USFWS Ecological Services Offices: <http://arizonaes.fws.gov/>.

Phoenix Main Office  
2321 W. Royal Palm Road, Suite 103  
Phoenix, AZ 85021  
Phone 602-242-0210  
Fax 602-242-2513

Tucson Sub-Office  
201 North Bonita, Suite 141  
Tucson, AZ 85745  
Phone 520-670-6144  
Fax 520-670-6154

Flagstaff Sub-Office  
323 N. Leroux Street, Suite 101  
Flagstaff, AZ 86001  
Phone 928-226-0614  
Fax 928-226-1099

### Disclaimer:

1. This is a preliminary environmental screening tool. It is not a substitute for the potential knowledge gained by having a biologist conduct a field survey of the project area.
2. The Department's Heritage Data Management System (HDMS) data is not intended to include potential distribution of special status species. Arizona is large and diverse with plants, animals, and environmental conditions that are ever changing. Consequently, many areas may contain species that biologists do not know about or species previously noted in a particular area may no longer occur there.
3. Not all of Arizona has been surveyed for special status species, and surveys that have been conducted have varied greatly in scope and intensity. Such surveys may reveal previously undocumented population of species of special concern.
4. HDMS data contains information about species occurrences that have actually been reported to the Department.

### **Arizona Game and Fish Department Mission**

***To conserve, enhance, and restore Arizona's diverse wildlife resources and habitats through aggressive protection and***



***management programs, and to provide wildlife resources and safe watercraft and off-highway vehicle recreation for the enjoyment, appreciation, and use by present and future generations.***

## **Project Category: Transportation & Infrastructure, Road construction (including staging areas), Realignment/ new roads**

### **Project Type Recommendations:**

All degraded and disturbed lands should be restored to their natural state. Vegetation restoration projects (including treatments of invasive or exotic species) should have a completed site-evaluation plan (identifying environmental conditions necessary to re-establish native vegetation), a revegetation plan (species, density, method of establishment), a short and long-term monitoring plan, including adaptive management guidelines to address needs for replacement vegetation.

Based on the project type entered; coordination with Arizona Department of Environmental Quality may be required (<http://www.azdeq.gov/>).

Based on the project type entered; coordination with County Flood Control districts may be required.

Based on the project type entered; coordination with State Historic Preservation Office may be required (<http://azstateparks.com/SHPO/index.html>)

Based on the project type entered; coordination with U.S. Army Corps of Engineers may be required (<http://www.spl.usace.army.mil/regulatory/phonedir.html>)

During planning and construction, minimize potential introduction or spread of exotic invasive species. Invasive species can be plants, animals (exotic snails), and other organisms (e.g. microbes), which may cause alteration to ecological functions or compete with or prey upon native species and can cause social impacts (e.g. livestock forage reduction, increase wildfire risk). The terms noxious weed or invasive plants are often used interchangeably. Precautions should be taken to wash all equipment utilized in the project activities before and after project activities to reduce the spread of invasive species. Arizona has noxious weed regulations (Arizona Revised Statutes, Rules R3-4-244 and R3-4-245). See Arizona Department of Agriculture website for restricted plants <http://www.azda.gov/PSD/quarantine5.htm>. Additionally, the U.S. Department of Agriculture has information regarding pest and invasive plant control methods including: pesticide, herbicide, biological control agents, and mechanical control: <http://www.usda.gov/wps/portal/usdahome>. The Department regulates the importation, purchasing, and transportation of wildlife and fish (Restricted Live Wildlife), please refer to the hunting regulations for further information [http://www.azgfd.gov/h\\_f/hunting\\_rules.shtml](http://www.azgfd.gov/h_f/hunting_rules.shtml).

During the planning stages of your project, please consider the local or regional needs of wildlife in regards to movement, connectivity, and access to habitat needs. Loss of this permeability prevents wildlife from accessing resources, finding mates, reduces gene flow, prevents wildlife from re-colonizing areas where local extirpations may have occurred, and ultimately prevents wildlife from contributing to ecosystem functions, such as pollination, seed dispersal, control of prey numbers, and resistance to invasive species. In many cases, streams and washes provide natural movement corridors for wildlife and should be maintained in their natural state. Uplands also support a large diversity of species, and should be contained within important

## Arizona's On-line Environmental Review Tool

Search ID: 20121218019239

Project Name: 04-755005 B 303 Part 1

Date: 12/18/2012 8:02:10 AM

wildlife movement corridors. In addition, maintaining biodiversity and ecosystem functions can be facilitated through improving designs of structures, fences, roadways, and culverts to promote passage for a variety of wildlife.

Hydrological considerations: design culverts to minimize impacts to channel geometry, or design channel geometry (low flow, overbank, floodplains) and substrates to carry expected discharge using local drainages of appropriate size as templates. Aquatic wildlife considerations: reduce/minimize barriers to migration of amphibians or fish (e.g. eliminate falls). Terrestrial wildlife: washes and stream corridors often provide important corridors for movement. Overall culvert width, height, and length should be optimized for movement of the greatest number and diversity of species expected to utilize the passage. Culvert designs should consider moisture, light, and noise, while providing clear views at both ends to maximize utilization. For many species, fencing is an important design feature that can be utilized with culverts to funnel wildlife into these areas and minimize the potential for roadway collisions. Guidelines for culvert designs to facilitate wildlife passage can be found at <http://www.azgfd.gov/hgis/guidelines.aspx>.

Minimization and mitigation of impacts to wildlife and fish species due to changes in water quality, quantity, chemistry, temperature, and alteration to flow regimes (timing, magnitude, duration, and frequency of floods) should be evaluated. Minimize impacts to springs, in-stream flow, and consider irrigation improvements to decrease water use. If dredging is a project component, consider timing of the project in order to minimize impacts to spawning fish and other aquatic species (including spawning seasons), and to reduce spread of exotic invasive species. We recommend early direct coordination with Project Evaluation Program for projects that could impact water resources, wetlands, streams, springs, and/or riparian habitats.

Planning: consider impacts of lighting intensity on mammals and birds and develop measures or alternatives that can be taken to increase

human safety while minimizing potential impacts to wildlife. Conduct wildlife surveys to determine species within project area, and evaluate proposed activities based on species biology and natural history to determine if artificial lighting may disrupt behavior patterns or habitat use.

Preconstruction - Consider design structures and construction plans that minimize impacts to channel geometry (i.e. width/depth ratio, sinuosity, allow overflow channels) to avoid alteration of hydrological function. Identify whether wildlife species use the structure for roosting or nesting during anticipated construction period. Plan the timing of construction/maintenance to minimize impacts to wildlife species. In addition to the species list generated by the Arizona's On-line Environmental Review Tool, the Department recommends that surveys be conducted at the bridge and in the vicinity of the bridge to identify additional or currently undocumented bat, bird, or aquatic species in the project area. To minimize impacts to birds and bats, as well as aquatic species, consider conducting maintenance and construction activities outside the breeding/maternity season (breeding seasons for birds and bats usually occur spring - summer). Examining the crevices for the presence of bats prior to pouring new paving materials. When bats are present, the top of the crevices should be sealed to prevent material from dripping or falling through the cracks and potentially onto bats. If bats are present, maintenance and construction (including paving and milling) activities should be conducted during nighttime hours, if possible, when the fewest number of bats will be roosting. Consider incorporating roosting habitat for bats into bridge designs. Minimize impacts to the vegetation community. A revegetation plan should be developed to replace impacted communities. Unavoidable impacts to vegetation should be mitigated on-site whenever possible. During construction: Erosion control structures and drainage features should be used to prevent introduction of sediment laden runoff into the waterway. Minimize instream construction activity. If culverts are planned, mitigate impacts to wildlife and fish movement. Guidelines for bridge designs to facilitate wildlife passage can be found at <http://www.azgfd.gov/hgis/guidelines.aspx>.

## Arizona's On-line Environmental Review Tool

Search ID: 20121218019239

Project Name: 04-755005 B 303 Part 1

Date: 12/18/2012 8:02:10 AM

Recommendations will be dependant upon goals of the fence project and the wildlife species expected to be impacted by the project.

General guidelines for ensuring wildlife-friendly fences include: barbless wire on the top and bottom with the maximum fence height 42", minimum height for bottom 16". Modifications to this design may be considered for fencing anticipated to be routinely encountered by elk, bighorn sheep or pronghorn (e.g., Pronghorn fencing would require 18" minimum height on the bottom). Please refer to the Department's Fencing Guidelines located at <http://www.azgfd.gov/hgis/guidelines.aspx>.

The Department recommends that wildlife surveys are conducted to determine if noise-sensitive species occur within the project area. Avoidance or minimization measures could include conducting project activities outside of breeding seasons.

The Department requests further coordination to provide project/species specific recommendations, please contact Project Evaluation Program directly.

Trenches should be covered or back-filled as soon as possible. Incorporate escape ramps in ditches or fencing along the perimeter to deter small mammals and herptefauna (snakes, lizards, tortoise) from entering ditches.

### **Project Location and/or Species recommendations:**

Heritage Data Management System records indicate that one or more listed, proposed, or candidate species or Critical Habitat (Designated or Proposed) have been documented in the vicinity of your project (refer to page 1 of the receipt). Please contact:  
Ecological Services Office  
US Fish and Wildlife Service  
2321 W. Royal Palm Rd.

Phoenix, AZ 85021-4951

Phone: 602-242-0210

Fax: 602-242-2513

Heritage Data Management System records indicate that western burrowing owls have been documented within the vicinity of your project area (refer to the species list on page 1 of the receipt). Please review the relocation procedures recommended for burrowing owls found on the Environmental Review Home Page: [http://mirror-pole.com/burr\\_owl/bur\\_owl1.htm](http://mirror-pole.com/burr_owl/bur_owl1.htm).

### **Recommendations Disclaimer:**

1. Potential impacts to fish and wildlife resources may be minimized or avoided by the recommendations generated from information submitted for your proposed project.
2. These recommendations are proposed actions or guidelines to be considered during **preliminary project development**.
3. Additional site specific recommendations may be proposed during further NEPA/ESA analysis or through coordination with affected agencies.
4. Making this information directly available does not substitute for the Department's review of project proposals, and should not decrease our opportunity to review and evaluate additional project information and/or new project proposals.
5. The Department is interested in the conservation of all fish and wildlife resources, including those Special Status Species listed on this receipt, and those that may have not been documented within the project vicinity as well as other game and nongame wildlife.
6. **Further coordination requires the submittal of this initialed and signed Environmental Review Receipt with a cover letter and project plans or documentation that includes project narrative, acreage to be impacted, how construction or project activity(s) are to be accomplished, and project locality information**

## Arizona's On-line Environmental Review Tool

Search ID: 20121218019239

Project Name: 04-755005 B 303 Part 1

Date: 12/18/2012 8:02:10 AM

**(including site map).**

7. Upon receiving information by AZGFD, please allow 30 days for completion of project reviews. Mail requests to:

### **Project Evaluation Program, Habitat Branch**

**Arizona Game and Fish Department**

**5000 West Carefree Highway**

**Phoenix, Arizona 85086-5000**

**Phone Number: (623) 236-7600**

**Fax Number: (623) 236-7366**

### **Terms of Use**

By using this site, you acknowledge that you have read and understand the terms of use. Department staff may revise these terms periodically. If you continue to use our website after we post changes to these terms, it will mean that you accept such changes. If at any time you do not wish to accept the Terms, you may choose not to use the website.

1. This Environmental Review and project planning website was developed and intended for the purpose of screening projects for potential impacts on resources of special concern. By indicating your agreement to the terms of use for this website, you warrant that you will not use this website for any other purpose.
2. Unauthorized attempts to upload information or change information on this website are strictly prohibited and may be punishable under the Computer Fraud and Abuse Act of 1986 and/or the National Information Infrastructure Protection Act .
3. The Department reserves the right at any time, without notice, to enhance, modify, alter, or suspend the website and to terminate or restrict your access to the website.
4. This Environmental Review is based on the project study area that was entered. The review must be redone if the project study area, location, or the type of project changes. If additional information becomes available, this review may need to be reconsidered.

5. A signed and initialed copy of the Environmental Review Receipt indicates that the entire receipt has been read by the signer of the Environmental Review Receipt.

### **Security:**

The Environmental Review and project planning web application operates on a complex State computer system. This system is monitored to ensure proper operation, to verify the functioning of applicable security features, and for other like purposes. Anyone using this system expressly consents to such monitoring and is advised that if such monitoring reveals possible evidence of criminal activity, system personnel may provide the evidence of such monitoring to law enforcement officials. Unauthorized attempts to upload or change information; to defeat or circumvent security measures; or to utilize this system for other than its intended purposes are prohibited.

This website maintains a record of each environmental review search result as well as all contact information. This information is maintained for internal tracking purposes. Information collected in this application will not be shared outside of the purposes of the Department.

If the Environmental Review Receipt and supporting material are not mailed to the Department or other appropriate agencies within six (6) months of the Project Review Receipt date, the receipt is considered to be null and void, and a new review must be initiated.

Print this Environmental Review Receipt using your Internet browser's print function and keep it for your records. Signature of this receipt indicates the signer has read and understands the information provided.

Arizona's On-line Environmental Review Tool

Search ID: 20121218019239

Project Name: 04-755005 B 303 Part 1

Date: 12/18/2012 8:02:10 AM

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Proposed Date of Implementation: \_\_\_\_\_

Please provide point of contact information regarding this Environmental Review.

*Application or organization responsible for project implementation*

Agency/organization: \_\_\_\_\_

Contact Name: \_\_\_\_\_

Address: \_\_\_\_\_

City, State, Zip: \_\_\_\_\_

Phone: \_\_\_\_\_

E-mail: \_\_\_\_\_

*Person Conducting Search (if not applicant)*

Agency/organization: \_\_\_\_\_

Contact Name: \_\_\_\_\_

Address: \_\_\_\_\_

City, State, Zip: \_\_\_\_\_

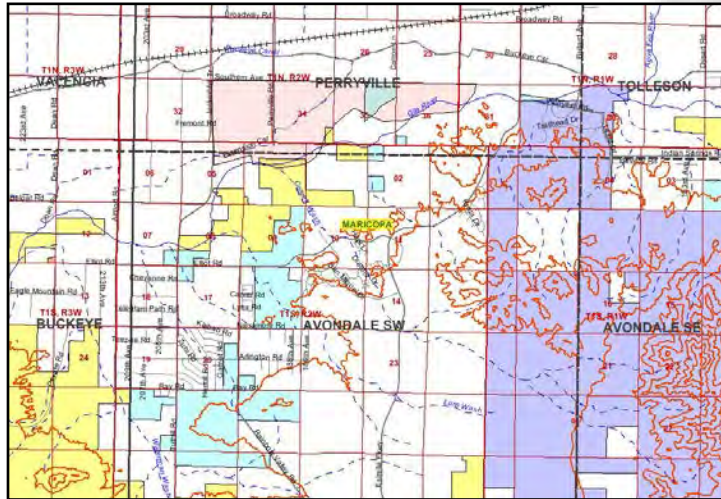
Phone: \_\_\_\_\_

E-mail: \_\_\_\_\_

Arizona's On-line Environmental Review Tool

Search ID: 20121218019240  
 Project Name: 04-755005 B 303 Part 2  
 Date: 12/18/2012 8:05:46 AM

**Project Location**



**Project Name:** 04-755005 B 303 Part 2  
**Submitted By:** Patrick Dockens  
**On behalf of:** CONSULTING  
**Project Search ID:** 20121218019240  
**Date:** 12/18/2012 8:05:42 AM  
**Project Category:** Transportation & Infrastructure, Road construction (including staging areas), Realignment/ new roads  
**Project Coordinates (UTM Zone 12-NAD 83):** 365101.560, 3694831.837 meter  
**Project Area:** 2330.594 acres  
**Project Perimeter:** 17431.028 meter  
**County:** MARICOPA  
**USGS 7.5 Minute Quadrangle ID:** 1339  
**Quadrangle Name:** AVONDALE SW  
**Project locality is not anticipated to change**

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**Special Status Species Occurrences/Critical Habitat/Tribal Lands within 3 miles of Project Vicinity:**

Name	Common Name	FWS	USFS	BLM	State
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<i>Haliaeetus leucocephalus</i> (wintering pop.)	Bald Eagle - Winter Population	SC,BG A	S	S	WSC
<i>Ixobrychus exilis</i>	Least Bittern				WSC
<i>Rallus longirostris yumanensis</i>	Yuma Clapper Rail	LE			WSC

Arizona's On-line Environmental Review Tool

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Project Name: 04-755005 B 303 Part 2  
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2321 W. Royal Palm Road, Suite 103  
Phoenix, AZ 85021  
Phone 602-242-0210  
Fax 602-242-2513

Tucson Sub-Office  
201 North Bonita, Suite 141  
Tucson, AZ 85745  
Phone 520-670-6144  
Fax 520-670-6154

Flagstaff Sub-Office  
323 N. Leroux Street, Suite 101  
Flagstaff, AZ 86001  
Phone 928-226-0614  
Fax 928-226-1099

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**To conserve, enhance, and restore Arizona's diverse wildlife resources and habitats through aggressive protection and**

***management programs, and to provide wildlife resources and safe watercraft and off-highway vehicle recreation for the enjoyment, appreciation, and use by present and future generations.***

## **Project Category: Transportation & Infrastructure, Road construction (including staging areas), Realignment/ new roads**

### **Project Type Recommendations:**

All degraded and disturbed lands should be restored to their natural state. Vegetation restoration projects (including treatments of invasive or exotic species) should have a completed site-evaluation plan (identifying environmental conditions necessary to re-establish native vegetation), a revegetation plan (species, density, method of establishment), a short and long-term monitoring plan, including adaptive management guidelines to address needs for replacement vegetation.

Based on the project type entered; coordination with Arizona Department of Environmental Quality may be required (<http://www.azdeq.gov/>).

Based on the project type entered; coordination with County Flood Control districts may be required.

Based on the project type entered; coordination with State Historic Preservation Office may be required (<http://azstateparks.com/SHPO/index.html>)

Based on the project type entered; coordination with U.S. Army Corps of Engineers may be required (<http://www.spl.usace.army.mil/regulatory/phonedir.html>)

During planning and construction, minimize potential introduction or spread of exotic invasive species. Invasive species can be plants, animals (exotic snails), and other organisms (e.g. microbes), which may cause alteration to ecological functions or compete with or prey upon native species and can cause social impacts (e.g. livestock forage reduction, increase wildfire risk). The terms noxious weed or invasive plants are often used interchangeably. Precautions should be taken to wash all equipment utilized in the project activities before and after project activities to reduce the spread of invasive species. Arizona has noxious weed regulations (Arizona Revised Statutes, Rules R3-4-244 and R3-4-245). See Arizona Department of Agriculture website for restricted plants

<http://www.azda.gov/PSD/quarantine5.htm>. Additionally, the U.S. Department of Agriculture has information regarding pest and invasive plant control methods including: pesticide, herbicide, biological control agents, and mechanical control:

<http://www.usda.gov/wps/portal/usdahome>. The Department regulates the importation, purchasing, and transportation of wildlife and fish (Restricted Live Wildlife), please refer to the hunting regulations for further information [http://www.azgfd.gov/h\\_f/hunting\\_rules.shtml](http://www.azgfd.gov/h_f/hunting_rules.shtml).

During the planning stages of your project, please consider the local or regional needs of wildlife in regards to movement, connectivity, and access to habitat needs. Loss of this permeability prevents wildlife from accessing resources, finding mates, reduces gene flow, prevents wildlife from re-colonizing areas where local extirpations may have occurred, and ultimately prevents wildlife from contributing to ecosystem functions, such as pollination, seed dispersal, control of prey numbers, and resistance to invasive species. In many cases, streams and washes provide natural movement corridors for wildlife and should be maintained in their natural state. Uplands also support a large diversity of species, and should be contained within important



## Arizona's On-line Environmental Review Tool

Search ID: 20121218019240

Project Name: 04-755005 B 303 Part 2

Date: 12/18/2012 8:05:46 AM

wildlife movement corridors. In addition, maintaining biodiversity and ecosystem functions can be facilitated through improving designs of structures, fences, roadways, and culverts to promote passage for a variety of wildlife.

Hydrological considerations: design culverts to minimize impacts to channel geometry, or design channel geometry (low flow, overbank, floodplains) and substrates to carry expected discharge using local drainages of appropriate size as templates. Aquatic wildlife considerations: reduce/minimize barriers to migration of amphibians or fish (e.g. eliminate falls). Terrestrial wildlife: washes and stream corridors often provide important corridors for movement. Overall culvert width, height, and length should be optimized for movement of the greatest number and diversity of species expected to utilize the passage. Culvert designs should consider moisture, light, and noise, while providing clear views at both ends to maximize utilization. For many species, fencing is an important design feature that can be utilized with culverts to funnel wildlife into these areas and minimize the potential for roadway collisions. Guidelines for culvert designs to facilitate wildlife passage can be found at <http://www.azgfd.gov/hgis/guidelines.aspx>.

Minimization and mitigation of impacts to wildlife and fish species due to changes in water quality, quantity, chemistry, temperature, and alteration to flow regimes (timing, magnitude, duration, and frequency of floods) should be evaluated. Minimize impacts to springs, in-stream flow, and consider irrigation improvements to decrease water use. If dredging is a project component, consider timing of the project in order to minimize impacts to spawning fish and other aquatic species (including spawning seasons), and to reduce spread of exotic invasive species. We recommend early direct coordination with Project Evaluation Program for projects that could impact water resources, wetlands, streams, springs, and/or riparian habitats.

Planning: consider impacts of lighting intensity on mammals and birds and develop measures or alternatives that can be taken to increase

human safety while minimizing potential impacts to wildlife. Conduct wildlife surveys to determine species within project area, and evaluate proposed activities based on species biology and natural history to determine if artificial lighting may disrupt behavior patterns or habitat use.

Preconstruction - Consider design structures and construction plans that minimize impacts to channel geometry (i.e. width/depth ratio, sinuosity, allow overflow channels) to avoid alteration of hydrological function. Identify whether wildlife species use the structure for roosting or nesting during anticipated construction period. Plan the timing of construction/maintenance to minimize impacts to wildlife species. In addition to the species list generated by the Arizona's On-line Environmental Review Tool, the Department recommends that surveys be conducted at the bridge and in the vicinity of the bridge to identify additional or currently undocumented bat, bird, or aquatic species in the project area. To minimize impacts to birds and bats, as well as aquatic species, consider conducting maintenance and construction activities outside the breeding/maternity season (breeding seasons for birds and bats usually occur spring - summer). Examining the crevices for the presence of bats prior to pouring new paving materials. When bats are present, the top of the crevices should be sealed to prevent material from dripping or falling through the cracks and potentially onto bats. If bats are present, maintenance and construction (including paving and milling) activities should be conducted during nighttime hours, if possible, when the fewest number of bats will be roosting. Consider incorporating roosting habitat for bats into bridge designs. Minimize impacts to the vegetation community. A revegetation plan should be developed to replace impacted communities. Unavoidable impacts to vegetation should be mitigated on-site whenever possible. During construction: Erosion control structures and drainage features should be used to prevent introduction of sediment laden runoff into the waterway. Minimize instream construction activity. If culverts are planned, mitigate impacts to wildlife and fish movement. Guidelines for bridge designs to facilitate wildlife passage can be found at <http://www.azgfd.gov/hgis/guidelines.aspx>.

## Arizona's On-line Environmental Review Tool

Search ID: 20121218019240

Project Name: 04-755005 B 303 Part 2

Date: 12/18/2012 8:05:46 AM

Recommendations will be dependant upon goals of the fence project and the wildlife species expected to be impacted by the project. General guidelines for ensuring wildlife-friendly fences include: barbless wire on the top and bottom with the maximum fence height 42", minimum height for bottom 16". Modifications to this design may be considered for fencing anticipated to be routinely encountered by elk, bighorn sheep or pronghorn (e.g., Pronghorn fencing would require 18" minimum height on the bottom). Please refer to the Department's Fencing Guidelines located at <http://www.azgfd.gov/hgis/guidelines.aspx>.

The Department recommends that wildlife surveys are conducted to determine if noise-sensitive species occur within the project area. Avoidance or minimization measures could include conducting project activities outside of breeding seasons.

The Department requests further coordination to provide project/species specific recommendations, please contact Project Evaluation Program directly.

Trenches should be covered or back-filled as soon as possible. Incorporate escape ramps in ditches or fencing along the perimeter to deter small mammals and herptefauna (snakes, lizards, tortoise) from entering ditches.

### Project Location and/or Species recommendations:

Heritage Data Management System records indicate that one or more listed, proposed, or candidate species or Critical Habitat (Designated or Proposed) have been documented in the vicinity of your project (refer to page 1 of the receipt). Please contact:  
Ecological Services Office  
US Fish and Wildlife Service  
2321 W. Royal Palm Rd.

Phoenix, AZ 85021-4951

Phone: 602-242-0210

Fax: 602-242-2513

Heritage Data Management System records indicate that western burrowing owls have been documented within the vicinity of your project area (refer to the species list on page 1 of the receipt). Please review the relocation procedures recommended for burrowing owls found on the Environmental Review Home Page: [http://mirror-pole.com/burr\\_owl/bur\\_owl1.htm](http://mirror-pole.com/burr_owl/bur_owl1.htm).

### Recommendations Disclaimer:

1. Potential impacts to fish and wildlife resources may be minimized or avoided by the recommendations generated from information submitted for your proposed project.
2. These recommendations are proposed actions or guidelines to be considered during **preliminary project development**.
3. Additional site specific recommendations may be proposed during further NEPA/ESA analysis or through coordination with affected agencies.
4. Making this information directly available does not substitute for the Department's review of project proposals, and should not decrease our opportunity to review and evaluate additional project information and/or new project proposals.
5. The Department is interested in the conservation of all fish and wildlife resources, including those Special Status Species listed on this receipt, and those that may have not been documented within the project vicinity as well as other game and nongame wildlife.
6. **Further coordination requires the submittal of this initialed and signed Environmental Review Receipt with a cover letter and project plans or documentation that includes project narrative, acreage to be impacted, how construction or project activity(s) are to be accomplished, and project locality information**

## Arizona's On-line Environmental Review Tool

Search ID: 20121218019240

Project Name: 04-755005 B 303 Part 2

Date: 12/18/2012 8:05:46 AM

**(including site map).**

7. Upon receiving information by AZGFD, please allow 30 days for completion of project reviews. Mail requests to:

### **Project Evaluation Program, Habitat Branch**

**Arizona Game and Fish Department**

**5000 West Carefree Highway**

**Phoenix, Arizona 85086-5000**

**Phone Number: (623) 236-7600**

**Fax Number: (623) 236-7366**

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4. This Environmental Review is based on the project study area that was entered. The review must be redone if the project study area, location, or the type of project changes. If additional information becomes available, this review may need to be reconsidered.

5. A signed and initialed copy of the Environmental Review Receipt indicates that the entire receipt has been read by the signer of the Environmental Review Receipt.

### **Security:**

The Environmental Review and project planning web application operates on a complex State computer system. This system is monitored to ensure proper operation, to verify the functioning of applicable security features, and for other like purposes. Anyone using this system expressly consents to such monitoring and is advised that if such monitoring reveals possible evidence of criminal activity, system personnel may provide the evidence of such monitoring to law enforcement officials. Unauthorized attempts to upload or change information; to defeat or circumvent security measures; or to utilize this system for other than its intended purposes are prohibited.

This website maintains a record of each environmental review search result as well as all contact information. This information is maintained for internal tracking purposes. Information collected in this application will not be shared outside of the purposes of the Department.

If the Environmental Review Receipt and supporting material are not mailed to the Department or other appropriate agencies within six (6) months of the Project Review Receipt date, the receipt is considered to be null and void, and a new review must be initiated.

Print this Environmental Review Receipt using your Internet browser's print function and keep it for your records. Signature of this receipt indicates the signer has read and understands the information provided.

Arizona's On-line Environmental Review Tool

Search ID: 20121218019240

Project Name: 04-755005 B 303 Part 2

Date: 12/18/2012 8:05:46 AM

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Proposed Date of Implementation: \_\_\_\_\_

Contact Name: \_\_\_\_\_

Address: \_\_\_\_\_

Please provide point of contact information regarding this Environmental Review.

City, State, Zip: \_\_\_\_\_

*Application or organization responsible for project implementation*

Phone: \_\_\_\_\_

Agency/organization: \_\_\_\_\_

E-mail: \_\_\_\_\_

Contact Name: \_\_\_\_\_

Address: \_\_\_\_\_

City, State, Zip: \_\_\_\_\_

Phone: \_\_\_\_\_

E-mail: \_\_\_\_\_

*Person Conducting Search (if not applicant)*

Agency/organization: \_\_\_\_\_



THE STATE OF ARIZONA  
**GAME AND FISH DEPARTMENT**

5000 W. CAREFREE HIGHWAY  
PHOENIX, AZ 85086-5000  
(602) 942-3000 • WWW.AZGFD.GOV

**GOVERNOR**  
JANICE K. BREWER  
**COMMISSIONERS**  
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**DIRECTOR**  
LARRY D. VOYLES  
**DEPUTY DIRECTORS**  
GARY R. HOVATTER  
BOB BROSCHEID



December 26, 2012

ADOT  
c/o Tricia Balluff  
EcoPlan Associates  
701 W. Southern Ave., Suite 203  
Mesa, AZ 85210

Re: 303-A(AS0)A  
303 MA 005 H6870 01L  
State Route 303L, State route 30 to Interstate 10

Dear Ms. Galluff:

The Arizona Game and Fish Department (Department) has received and reviewed your letter of December 20, 2012 regarding the above referenced project. I have verified and validated the searches you conducted (receipts 20121218019239 & 40) using the Department's On-line Environmental Review Tool. The searches indicate there are 2 listed endangered species (Southwestern willow flycatcher and Yuma Clapper Rail), one candidate species (yellow-billed cuckoo) and one species (bald eagle) protected under the Bald and Golden Eagle Act. The Department does not have regulatory authority to make determinations regarding effects of projects on these species. We recommend you contact the U.S. Fish and Wildlife Service to obtain their determination on potential effects.

The receipts also indicate there are western burrowing owls within 3 miles of your project. Although not listed under the ESA, this is a species of concern to the Department. We request that you insure your client's work crews are familiar with and follow our recommendations ([http://www.azgfd.gov/pdfs/w\\_c/owl/BurrowingOwlClearanceProtocol.pdf](http://www.azgfd.gov/pdfs/w_c/owl/BurrowingOwlClearanceProtocol.pdf)) for dealing with these birds when encountered in a development action.

The Department has no further comments at this time. If you have questions or concerns, please give me a call at 623 236-7513. Thank you.

Sincerely,

Daniel E. Nelson, Project Evaluation Specialist  
Cc: Kelly Wolfe-Krauter, AGFD; Debra Bills USFWS  
M12-12242917



**Arizona Department of Transportation**  
**Intermodal Transportation Division**

206 South Seventeenth Avenue Phoenix, Arizona 85007-3213

Janice K. Brewer  
Governor

John S. Halikowski  
Director

December 20, 2012

Jennifer Toth  
State Engineer

Mr. Steve Spangle  
Field Supervisor  
US Fish and Wildlife Service  
2321 W. Royal Palm Road, Suite 103  
Phoenix, AZ 85021

Re: 303-A(ASO)A  
303 MA 005 H6870 01L  
State Route 303L, State Route 30 to Interstate 10  
USFWS Consultation No. 22410-2006-I-0339

Dear Mr. Spangle:

The Arizona Department of Transportation and the Federal Highway Administration, as the lead federal agency, are reinitiating design concept and environmental studies regarding the proposed extension of the State Route (SR) 303 Loop (303L) from Interstate 10 (I-10) south to the proposed SR 30 freeway. The proposed action was identified as part of the Maricopa Association of Governments Regional Transportation Plan (RTP) that is funded by the voter-approved Proposition 400 (2004). The original SR 303L study began in 2006 with an agency scoping meeting to identify issues or concerns to be considered in the development and evaluation of alternatives. A scoping letter to the US Fish and Wildlife Service (USFWS) requesting comments and concerns was mailed on March 21, 2006. The USFWS replied on March 28, 2006, with no specific species concerns for the project. The USFWS also provided a consultation number (22410-2006-I-0339) for further communications on the project. The SR 303L study was placed on hold in 2009 due to uncertain funding levels for the RTP as well as questions concerning the location of a system interchange between SR 303L and SR 30.

Currently, funding has been identified for the design of the southern half of the I-10/SR 303L system interchange and for the extension of SR 303L, which will extend north-south through the study area between I-10 and Maricopa County Route 85 (MC 85), to SR 30, which will extend east-west south of MC 85 in the vicinity of Cotton Lane. The purpose of the project is to extend SR 303L south of I-10 and to provide a freeway connection to the proposed SR 30 freeway that is being planned to relieve traffic congestion on I-10. The proposed ultimate improvements include construction of directional ramps from I-10 to SR 303L, four general purpose lanes and a high-occupancy-vehicle lane in each direction for SR 303L between I-10 and SR 30, and a system interchange between SR 303L and SR 30 in the vicinity of Cotton Lane. The project is in the city of Goodyear and the town of Buckeye in Maricopa County, Arizona (Figure 1-Project location and Figure 2-Project vicinity). Adjacent lands are primarily agricultural and residential. The project is in Sections 1, 2, 11-15, 21-28, and 33-35 of Township 1 North, Range 2 West and in Sections 5 and 6 of Township 1 South, Range 2 West on the Perryville (1982), Arizona, US Geological Survey 7.5-minute topographic series map.

Mr. Spangle  
December 20, 2012  
303 MA 005 H6870 01L  
Page 2

If you or others in your agency have specific concerns, suggestions, or recommendations regarding this project, such as information on wildlife movement, habitat issues, or seasonal concerns, please let us know.

**Please identify any issues or concerns you have regarding this project by January 21, 2013, and contact Tricia Balluff via email at [tballuff@ecoplanaz.com](mailto:tballuff@ecoplanaz.com); by phone at 480.733.6666, ext. 118; by fax at 480.733.6661; or mail them to:**

**Arizona Department of Transportation  
c/o Tricia Balluff  
EcoPlan Associates, Inc.  
701 W. Southern Ave., Suite 203  
Mesa, AZ 85210**

Thank you for your time and assistance.

Sincerely,

A handwritten signature in black ink, appearing to read "Anthony Horne", with a long horizontal flourish extending to the right.

Anthony Horne  
Environmental Planner III  
Environmental Planning Group

Enclosures: Figure 1 and Figure 2

c: Debra Bills, USFWS  
Tricia Balluff, EcoPlan Associates, Inc.



**Arizona Department of Transportation**  
**Intermodal Transportation Division**

206 South Seventeenth Avenue Phoenix, Arizona 85007-3213

Janice K. Brewer  
*Governor*

John S. Halikowski  
*Director*

December 20, 2012

Jennifer Toth  
*State Engineer*

Ms. Debra Bills  
Assistant Field Supervisor for Central Arizona  
US Fish and Wildlife Service  
2321 W. Royal Palm Road, Suite 103  
Phoenix, AZ 85021

Re: 303-A(ASO)A  
303 MA 005 H6870 01L  
State Route 303L, State Route 30 to Interstate 10  
USFWS Consultation No. 22410-2006-I-0339

Dear Ms. Bills:

The Arizona Department of Transportation and the Federal Highway Administration, as the lead federal agency, are reinitiating design concept and environmental studies regarding the proposed extension of the State Route (SR) 303 Loop (303L) from Interstate 10 (I-10) south to the proposed SR 30 freeway. The proposed action was identified as part of the Maricopa Association of Governments Regional Transportation Plan (RTP) that is funded by the voter-approved Proposition 400 (2004). The original SR 303L study began in 2006 with an agency scoping meeting to identify issues or concerns to be considered in the development and evaluation of alternatives. A scoping letter to the US Fish and Wildlife Service (USFWS) requesting comments and concerns was mailed on March 21, 2006. The USFWS replied on March 28, 2006, with no specific species concerns for the project. The USFWS also provided a consultation number (22410-2006-I-0339) for further communications on the project. The SR 303L study was placed on hold in 2009 due to uncertain funding levels for the RTP as well as questions concerning the location of a system interchange between SR 303L and SR 30.

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Ms. Bills  
December 20, 2012  
303 MA 005 H6870 01L  
Page 2

If you or others in your agency have specific concerns, suggestions, or recommendations regarding this project, such as information on wildlife movement, habitat issues, or seasonal concerns, please let us know.

**Please identify any issues or concerns you have regarding this project by January 21, 2013, and contact Tricia Balluff via email at [tballuff@ecoplanaz.com](mailto:tballuff@ecoplanaz.com); by phone at 480.733.6666, ext. 118; by fax at 480.733.6661; or mail them to:**

**Arizona Department of Transportation  
c/o Tricia Balluff  
EcoPlan Associates, Inc.  
701 W. Southern Ave., Suite 203  
Mesa, AZ 85210**

Thank you for your time and assistance.

Sincerely,



Anthony Horne  
Environmental Planner III  
Environmental Planning Group

Enclosures: Figure 1 and Figure 2

c: Steve Spangle, USFWS  
Tricia Balluff, EcoPlan Associates, Inc.

# Appendix F – Natural Resources Conservation Service CPA-106 Form

U.S. DEPARTMENT OF AGRICULTURE Natural Resources Conservation Service		<b>FARMLAND CONVERSION IMPACT RATING FOR CORRIDOR TYPE PROJECTS</b>		NRCS-CPA-106 (Rev. 1-91)	
<b>PART I (To be completed by Federal Agency)</b>		3. Date of Land Evaluation Request 4/10/13		Sheet 1 of 1	
1. Name of Project 303 MA 100 H6870 OIL		5. Federal Agency Involved FHWA (ADOT)			
2. Type of Project Highway		6. County and State Maricopa, Arizona			
<b>PART II (To be completed by NRCS)</b>		1. Date Request Received by NRCS 4/24/13		2. Person Completing Form Leslie Glover II	
3. Does the corridor contain prime, unique statewide or local important farmland? (If no, the FPPA does not apply - Do not complete additional parts of this form)		YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>		4. Acres Irrigated 267,295	
5. Major Crop(s) alfalfa, cotton, grains		6. Farmable Land in Government Jurisdiction Acres: 267,295 % 4.5		7. Amount of Farmland As Defined in FPPA Acres: 190,182 % 3.2	
8. Name Of Land Evaluation System Used N/A		9. Name of Local Site Assessment System N/A		10. Date Land Evaluation Returned by NRCS 5/2/12	
<b>PART III (To be completed by Federal Agency)</b>		Alternative Corridor For Segment			
		Corridor A	Corridor B	Corridor C	Corridor D
A. Total Acres To Be Converted Directly		335	388	449	
B. Total Acres To Be Converted Indirectly, Or To Receive Services		0	0	0	
C. Total Acres In Corridor		335	388	449	
<b>PART IV (To be completed by NRCS) Land Evaluation Information</b>					
A. Total Acres Prime And Unique Farmland		335	381	444	
B. Total Acres Statewide And Local Important Farmland		0	0	0	
C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted					
D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value					
<b>PART V (To be completed by NRCS) Land Evaluation Information Criterion Relative value of Farmland to Be Serviced or Converted (Scale of 0 - 100 Points)</b>		83	82	83	
<b>PART VI (To be completed by Federal Agency) Corridor Assessment Criteria (These criteria are explained in 7 CFR 658.5(c))</b>		Maximum Points			
1. Area in Nonurban Use		15	2	2	2
2. Perimeter in Nonurban Use		10	5	5	5
3. Percent Of Corridor Being Farmed		20	20	20	20
4. Protection Provided By State And Local Government		20	0	0	0
5. Size of Present Farm Unit Compared To Average		10	0	0	0
6. Creation Of Nonfarmable Farmland		25	12	3	12
7. Availability Of Farm Support Services		5	2	2	2
8. On-Farm Investments		20	0	0	0
9. Effects Of Conversion On Farm Support Services		25	0	0	0
10. Compatibility With Existing Agricultural Use		10	0	0	0
<b>TOTAL CORRIDOR ASSESSMENT POINTS</b>		160	41	32	41
<b>PART VII (To be completed by Federal Agency)</b>					
Relative Value Of Farmland (From Part V)		100	83	82	83
Total Corridor Assessment (From Part VI) above or a local site assessment)		160	41	32	41
<b>TOTAL POINTS (Total of above 2 lines)</b>		260	124	114	124
1. Corridor Selected:  N/A		2. Total Acres of Farmlands to be Converted by Project:		3. Date Of Selection:	
				4. Was A Local Site Assessment Used?  YES <input type="checkbox"/> NO <input type="checkbox"/>	
5. Reason For Selection: A Preferred alternative is not selected at this time					
Signature of Person Completing this Part: Laurel Arndt, Senior Environmental Planner, Parsons Brinckerhoff				DATE 4/10/13	
NOTE: Complete a form for each segment with more than one Alternate Corridor					

[Clear Form](#)



# **State Route 303 Loop (SR 303L) State Route 30 to I-10**

## **Public Involvement Summary**

**APRIL 2018 | FINAL SUMMARY**

**PREPARED BY:**



## Contents

Introduction .....	2
1.0 Requirements for Public Involvement.....	3
1.1 Authorizing Legislation .....	3
1.2 Title VI of the Civil Rights Act of 1964 .....	4
1.3 Americans with Disabilities Act (ADA) of 1990 .....	4
1.4 Environmental Justice .....	5
1.5 Limited English Proficiency .....	5
1.6 Federal Highway Administration.....	6
1.7 National Environmental Policy (NEPA) Act of 1969.....	7
2.0 Public Information Meeting .....	8
2.1 Public Information Meeting Notification .....	8
2.2 Newspaper Advertisements & Media Coverage.....	9
2.3 Public Information Meeting.....	9
2.4 Website .....	9
3.0 Public Information Meeting Format .....	10
3.1 Display Boards .....	10
3.2 Presentation .....	11
4.0 Public Comment Summary .....	12
4.1 Summary of Comments.....	12
4.2 Sample Comments.....	13
Appendices .....	17

## INTRODUCTION

The Arizona Department of Transportation (ADOT) is studying the Loop 303 in the City of Goodyear, Arizona. The Loop 303 Corridor was adopted into the Maricopa Association of Governments (MAG) regional freeway system as part of the Regional Transportation Plan (RTP) approved by voters in 2004 through the passage of Proposition 400. ADOT began an Environmental Assessment (EA) for the project in 2005. Due to an economic downturn, the study was placed on hold. In 2013, ADOT and Federal Highway Administration (FHWA) reinstated the study. Figure 1 shows both the original and current study limits.

Currently, ADOT and FHWA are taking the next steps to select a Preferred Build Alternative (PBA) for the Loop 303 south of Van Buren Street to the proposed State Route 30 (SR 30) in Goodyear.

**Figure 1: Study Area**



## 1.0 REQUIREMENTS FOR PUBLIC INVOLVEMENT

As ADOT strives to create and maintain a transportation system for Arizona that improves the quality of life and bolsters the state's economy, the study team will include diverse voices and viewpoints from across the state to provide valuable insight to help inform the decision-making process.

The study team will implement public involvement efforts in response to federal guidelines under Title VI of the Civil Rights Act of 1964, Environmental Justice (EJ), Limited English Proficiency (LEP), the Americans with Disabilities Act (ADA) and the National Environmental Policy Act of 1969 (NEPA). Federal regulations do not specifically define how to perform public involvement; rather, they rely on project teams to develop and implement public involvement plans that are relative to the needs of the project and public. This flexibility allows adoption of the following guidance, which seeks to ensure public participation by a comprehensive range of stakeholders.



*More than 175 people attended the December 6, 2017 public information meeting held at Copper Trails School in Goodyear.*

## 1.1 AUTHORIZING LEGISLATION

Public involvement has long been an integral part of federal transportation legislation. The initial Federal Highway Act (Federal Aid Road Act of 1916) focused on expanding the highway system, but subsequent bills incorporated multimodal and public involvement elements. The Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991 represented a transformation, with an intermodal approach to funding and great emphasis on public involvement and collaborative planning. ISTEA's successor in 1998, the Transportation Equity Act for the 21st Century (TEA-21), expanded public involvement to include transit and freight. The Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) was enacted in 2005 and broadened public involvement requirements. Moving Ahead for

Progress in the 21st Century (MAP-21) was enacted in 2012 and public involvement remains a hallmark of the transportation planning process, along with 2016's Fixing America's Surface Transportation (FAST) Act.

In addition to the transportation bills, the study team will adhere to other federal regulations that affect how public involvement activities are planned and executed. These public involvement activities will be adopted and documented within ADOT's public involvement procedures.

## 1.2 TITLE VI OF THE CIVIL RIGHTS ACT OF 1964

Title VI of the Civil Rights Act of 1964 (Title VI) provides that "no person shall on the grounds of race, color or national origin, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination" under any ADOT or ADOT-sponsored program or activity.

The study team will ensure that every effort will be made to include as many people as possible and to prevent discrimination through the impacts of its programs, policies and activities. The following tools will be used by the study team to ensure Title VI populations have access to transportation decision-making processes throughout the study's lifecycle:

- Display Title VI language on all study materials
- Share information, with permission, at religious centers and common community meeting places (religious centers identified in stakeholder database)
- Provide information in language(s) other than English, and in alternative formats, when appropriate based on community assessments

## 1.3 AMERICANS WITH DISABILITIES ACT (ADA) OF 1990

The Americans with Disabilities Act of 1990 (ADA) stipulates that people with disabilities be involved in developing and improving public services. In highway planning, collaboration with persons with disabilities is essential for developing access points beyond those that are required. All events held for programs or projects with federal-aid funds and open to the public must be made accessible to everyone, including persons with disabilities. Special efforts are required to comply with the statutory requirements of MAP-21 and the ADA.

The following tools will be utilized by the study team to ensure that persons with disabilities have access to study information:

- Include Title VI and ADA language (constructed at a basic literacy level) on all digital or printed material created for public dissemination for special accommodation requests
- Engage health care facilities, senior centers or other community facilities that may prove to be effective locations for connecting with persons with disabilities to provide study information
- Ensure locations where public involvement takes place are ADA compliant, accessible by ADA-compliant transportation options, and that information is accessible for persons with vision or hearing disabilities (the Goodyear Ballpark public hearing facility is ADA compliant)
- When notified at least seven (7) business days in advance of a person's disability, ADOT will try to reasonably accommodate a person's disability to provide an equal opportunity for participation into the transportation decision-making process

## 1.4 ENVIRONMENTAL JUSTICE

In 1994, Executive Order (EO) 12898 Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations was issued. Environmental justice “is the fair treatment and meaningful involvement of all people, particularly minority, low-income and indigenous populations, in the project.”

To engage traditionally underserved communities, the study team will use the following community engagement tools:

- Display the Title VI language on all public advertisements
- Share information, with permission, at religious centers and common community meeting places
- Select meeting locations that are accessible by public transportation where possible

## 1.5 LIMITED ENGLISH PROFICIENCY

ADOT’s public involvement programs will strive to be innovative and proactive in engaging individuals from different cultures and backgrounds in the project-development process. Limited English Proficiency (LEP) is a term used to describe individuals who are not proficient in the English language. Title VI and Executive Order 13166 prohibit recipients of federal financial assistance from discrimination based on national origin. Recipients of federal financial assistance are required to take reasonable steps to provide LEP individuals with meaningful access to their programs, activities and services.

The study team will use the following resources to identify and engage impacted LEP communities during the EA process:

- Utilize the Safe Harbor Threshold as a guide to determine when written translation of vital documents for each eligible LEP language group is necessary. Eligibility is met if the LEP language group constitutes five percent (5%) or 1,000 persons, whichever is less, of the total population of persons eligible to be served or likely to be affected or encountered, by the program or activity.
- Conduct research through U.S. Census Bureau’s “American Community Survey” and the Environmental Protection Agency’s EJ page tool, which report data on “language spoken at home” and Linguistically Isolated Households to help identify LEP persons.
  - The data in Figure 2, finds that Spanish constitutes for over 5% and over 1,000 persons (Spanish 15.1% and 7,431 persons). These findings require that study information be produced in Spanish for the SR 303L EA and public hearing.



**Figure 2: Goodyear, Arizona/Specified Language**

Subject	Goodyear city, Arizona											
	Total		Percent		Percent of specified language speakers							
	Estimate	Margin of Error	Estimate	Margin of Error	Speak English only or speak English "very well"		Percent speak English only or speak English "very well"		Speak English less than "very well"		Percent speak English less than "very well"	
					Estimate	Margin of Error	Estimate	Margin of Error	Estimate	Margin of Error	Estimate	Margin of Error
Population 5 years and over	67,906	+/-626	(X)	(X)	63,975	+/-859	94.2%	+/-1.0	3,931	+/-718	5.8%	+/-1.0
Speak only English	53,693	+/-1,443	79.1%	+/-2.1	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)
Speak a language other than English	14,213	+/-1,432	20.9%	+/-2.1	10,282	+/-1,092	72.3%	+/-3.8	3,931	+/-718	27.7%	+/-3.8
<b>SPEAK A LANGUAGE OTHER THAN ENGLISH</b>												
Spanish	10,238	+/-1,258	15.1%	+/-1.8	7,431	+/-932	72.6%	+/-4.8	2,807	+/-661	27.4%	+/-4.8
5 to 17 years old	1,886	+/-433	2.8%	+/-0.6	1,586	+/-385	84.1%	+/-8.3	300	+/-178	15.9%	+/-8.3
18 to 64 years old	7,479	+/-1,056	11.0%	+/-1.6	5,248	+/-817	70.2%	+/-5.3	2,231	+/-523	29.8%	+/-5.3
65 years old and over	873	+/-249	1.3%	+/-0.4	597	+/-200	68.4%	+/-12.7	276	+/-134	31.6%	+/-12.7
Other Indo-European languages	1,621	+/-446	2.4%	+/-0.7	1,278	+/-354	78.8%	+/-9.3	343	+/-190	21.2%	+/-9.3
5 to 17 years old	195	+/-129	0.3%	+/-0.2	158	+/-116	81.0%	+/-15.9	37	+/-34	19.0%	+/-15.9
18 to 64 years old	1,076	+/-293	1.6%	+/-0.4	941	+/-290	87.5%	+/-9.5	135	+/-101	12.5%	+/-9.5
65 years old and over	350	+/-148	0.5%	+/-0.2	179	+/-87	51.1%	+/-19.0	171	+/-110	48.9%	+/-19.0
Asian and Pacific Island languages	1,633	+/-370	2.4%	+/-0.5	967	+/-241	59.2%	+/-8.7	666	+/-222	40.8%	+/-8.7
5 to 17 years old	255	+/-115	0.4%	+/-0.2	230	+/-110	90.2%	+/-15.8	25	+/-42	9.8%	+/-15.8
18 to 64 years old	1,172	+/-288	1.7%	+/-0.4	682	+/-174	58.2%	+/-9.4	490	+/-184	41.8%	+/-9.4
65 years old and over	206	+/-117	0.3%	+/-0.2	55	+/-51	26.7%	+/-23.6	151	+/-105	73.3%	+/-23.6
Other languages	721	+/-310	1.1%	+/-0.5	606	+/-290	84.0%	+/-12.4	115	+/-93	16.0%	+/-12.4
5 to 17 years old	145	+/-120	0.2%	+/-0.2	145	+/-120	100.0%	+/-19.9	0	+/-28	0.0%	+/-19.9
18 to 64 years old	531	+/-207	0.8%	+/-0.3	440	+/-188	82.9%	+/-11.3	91	+/-65	17.1%	+/-11.3
65 years old and over	45	+/-36	0.1%	+/-0.1	21	+/-24	46.7%	+/-50.2	24	+/-32	53.3%	+/-50.2

## 1.6 FEDERAL HIGHWAY ADMINISTRATION

The FHWA is an agency within the U.S. Department of Transportation that supports state and local governments in the design, construction and maintenance of the nation's highway system and various federally and tribal-owned lands. FHWA supports state and local governments through the Federal-Aid Highway Program (FAHP) in the design and construction of roads and bridges.

In addition to the stated NEPA requirements for public involvement, the following regulation prescribes the policies and procedures of the FHWA for implementing NEPA as amended and the regulation of the Council on Environmental Quality (CEQ), 40 CFR 1500-1508. This regulation sets forth all FHWA requirements under NEPA for the processing of highway and urban mass transportation projects. The Code of Federal Regulations (CFR) Title 23 (referring to Highways) identifies the requirements for public involvement. Pursuant to 23 CFR Section 771.111, the study team is required to provide the appropriate documentation and implement the following guidance for the SR 303L study:

- Public involvement in the identification of social, community, economic and environmental impacts, as well as impacts associated with relocation of individuals, groups or institutions
- Public meetings at convenient times and places for any project that has substantial impact on right of way; layout or functions of roadways or facilities; adjacent properties; or social, community, economic, or environmental resources
- Reasonable notice of public meetings
- Explanation during public hearings of the project purpose and need; consistency with local plans; project alternatives and major features; social, community, economic and environmental impacts; relocation assistance and right-of-way acquisition programs; and procedures for receiving oral and written comments from the public
- Public involvement opportunities in defining the purpose and need and range of alternatives to be considered in an environmental document
- Public notice and the opportunity for public review and public comment on of Section 4(f) de Minimis impact findings

- Public notice and the opportunity for public review and public comment on impacts to historically significant properties and other resources in accordance with the FHWA Historic Preservation and Archeology Program

## 1.7 NATIONAL ENVIRONMENTAL POLICY (NEPA) ACT OF 1969

The NEPA process requires environmental analysis of proposed actions prior to making decisions, including constructing highways and other publicly owned facilities. The FHWA oversees the NEPA process at the federal level to guide the overall process. Using the NEPA process, agencies evaluate the environmental and related social and economic effects of their proposed actions. Agencies must also provide opportunities for public review and comment on those evaluations. In cooperation with FHWA, ADOT must follow the NEPA process for all federally funded projects.

The study team will implement the following required public involvement guidelines mandatory for all NEPA studies:

- Use of public meetings when appropriate
- Solicitation of information from the public
- Provide reasonable access to and an explanation of where information about the NEPA process and ongoing environmental documents can be found
- Public review of environmental documents, comments received and any supporting documents
- Providing public notice of NEPA-related public meetings and the availability of environmental documents through direct notice to those who have requested it and the following for actions that are primarily of local concern
  - Notice to Native American Tribes, where appropriate
  - Publication in local newspapers of general circulation
  - Notice through other local media
  - Notice to potentially interested community organizations
  - Publication in newsletters that may reach interested persons
  - Direct mailing to owners and occupants of affected property
  - Posting of notice on and off site in the area where the action is to be located

## 2.0 PUBLIC INFORMATION MEETING

ADOT and FHWA held a public information meeting at Copper Trails School in Goodyear on December 6, 2017 from 6 to 8 p.m.

### *Community Forums*

Additional outreach included two community forums, one held in the community of Rainbow Valley on January 30, 2018, from 2 to 6 p.m. and the other held in the community of Estrella Mountain Ranch on January 31, 2018, also from 2 to 6 p.m.

The study team chose the four-hour timeframe to provide a lengthier window of opportunity for the working families and the active adult members within the communities of Rainbow Valley and Estrella Mountain Ranch. The study team also felt it was important to go directly to these communities to encourage more participation.

## 2.1 PUBLIC INFORMATION MEETING NOTIFICATION

The study team prepared and mailed postcards inviting the public within the study limits to attend the public information meeting and to provide comments in other ways (email, phone and mail) if they could not attend the meeting. The invitation was mailed on November 22, 2017, to approximately 20,000 property owners, occupants and businesses within the study limits. An electronic copy of the invitation was sent to the Loop 303 email subscription list. In addition to postcards being mailed, a letter was sent directly to intergovernmental partners. A copy of the postcard and letter are included in Appendix A.

### *Community Forum Notification*

The study team expanded outreach efforts to provide information to those who, while outside the study limits, may be affected by the future continuation of the freeway based on the alignment determined by this study.

The study team prepared and mailed postcards to the approximately 1,100 residents in Rainbow Valley, bordered by Estrella Mountain Ranch to the east, Elliot Road to the north, Ray Road to the south and Airport Road to the west. In addition, postcards were sent home with each of the 720 students attending the Rainbow Valley Elementary School.

The study team prepared and mailed postcards to the approximately 4,750 residents in Estrella Mountain Ranch communities. In addition, the Estrella Mountain Ranch Homeowner's Association posted the information on their community NextDoor account, sent email to their subscriber lists and posted the information on other social media platforms.

A copy of each postcard is included in Appendix A.

## 2.2 NEWSPAPER ADVERTISEMENTS & MEDIA COVERAGE

Newspaper advertisements providing the date and location of the public meeting and alternate ways to submit comments were published as follows:

Arizona Republic (Southwest Region)

- A 1/4-page ad was placed in the Arizona Republic's Southwest Region zone 5 with run dates on 11/22/2017, 11/24/2017, 11/25/2017 and 11/29/2017, 12/01/2017, and 12/02/2017.

West Valley View

- A 1/2-page ad was placed in the West Valley View's south and west zones with run dates on 11/22/2017 and 11/29/2017.

A copy of the advertisement is included in Appendix B.

Follow-up media coverage appeared in the Arizona Capitol Times, February 5, 2018. The article is available in Appendix C.

## 2.3 PUBLIC INFORMATION MEETING

The purpose of the public information meeting was to provide additional information about the study, present the alternatives, and provide the opportunity for attendees to ask questions and submit comments. A total of 175 people signed in at the public information meeting.

The meeting was held on Wednesday, December 6, 2017 from 6 to 8 p.m. (with a presentation at 6:30 p.m.) at Copper Trails School, 16875 West Canyon Trails Boulevard, Goodyear, AZ 85388.

### *Community Forums*

The Rainbow Valley community forum was held on Tuesday, January 30, 2018 from 2 to 6 p.m. at the Buckeye Valley Fire District Station 326, 19937 West Arlington Road, Buckeye, AZ 85326. A total of 53 people signed in at the Rainbow Valley community forum. The Estrella Mountain Ranch community forum was held on Wednesday, January 31, 2018 from 2 to 6 p.m. at the Starpointe Residents Club 17665 W Elliot Road, Goodyear, AZ 85338. A total number of 532 people signed in at the Estrella Mountain Ranch community forum.

## 2.4 WEBSITE

The project website was developed, and the web address was published on all informational materials. Public meeting information and project details were provided on the website: [azdot.gov/Loop303SouthOfVanBuren](http://azdot.gov/Loop303SouthOfVanBuren).

## 3.0 PUBLIC INFORMATION MEETING FORMAT

The public information meeting began with registration at the door, where attendees were asked to sign in and were provided with a study fact sheet, presentation question form, comment form and Title VI information. The sign-in sheets were used for updating the project mailing list. Meeting materials are available in Appendix D of this report.

The meeting was an open house format, and attendees were encouraged to visit various stations, view the displays, and ask questions of the study team. A formal presentation was provided by ADOT. After the presentation, attendees were given the opportunity to ask questions as well as revisit the stations for additional one-on-one discussion.

### *Community Forums Format*

In addition to the mass publicized public information meeting, the study team chose to provide additional opportunities for the public to learn about the study and have an opportunity to comment. Recognizing the approaching critical decision point, the team felt it necessary to keep the forums consistent with the public information meeting, minus the formal presentation.

The community forums began with attendees being greeted and asked to sign in. Attendees were encouraged to review the display boards and alternative maps and ask questions of the study team within the open house format.

## 3.1 DISPLAY BOARDS



*Gabriella Kemp, ADOT, discusses alignment alternatives with a stakeholder at the Rainbow Valley community forum.*

Display boards provided at the public information meeting and community forums included:

- Welcome and agenda (provided at public information meeting only)
- Study Area
- No Build Alternative
- Next Steps
- Loop 303 Timeline
- What is NEPA? (definition)
- Typical Sections for Loop 303 and proposed State Route 30
- Alternative 2C, variations 1 and 2
- Alternative 3, variations 1 and 2
- Alternative 5, variations 1 and 2

Additionally, enlarged maps detailing each of the three alternatives were provided on tables. A copy of the display boards can be found in Appendix E of this report.

## 3.2 PRESENTATION

A formal presentation was provided for attendees at the public information meeting. The presentation began at 6:30 p.m. The presentation can be found in Appendix F and covered the following topics:

- Introduction of study team
- Meeting Purpose
- ADOT Right-of-Way Acquisition Process
- Loop 303 Timeline
- Corridor and Alternatives Evaluations
- Build Alternatives
- The No Build Alternative
- Study Next Steps
- Q&A

## 4.0 PUBLIC COMMENT SUMMARY

The initial comment period, ending January 5, 2018, was extended to February 14, 2018, to allow ample time for comments following the additional community forums. During this time, 218 comments were received by mail, telephone, email, online, and in person via comment cards available at public meetings. The comments focused on support for or against specific alternatives, as well as requests for additional information.

Comments were classified into the following categories:

- Alternative 2C (support)
- Alternative 3 (support)
- Alternative 5 (support)
- No Build
- Against Alternative 2C
- Against Alternative 3
- Against Alternative 5
- Other Freeway Comment
- Public Meeting Comment
- Study Area Considerations
- Supportive of 303
- Aesthetics
- Construction Concerns
- Information Request

### 4.1 SUMMARY OF COMMENTS

All comments received were reviewed for issues or recommendations. Many comments included multiple areas of concern. For example, a commenter who supports Alternative 2C also may support Alternative 5 and be against Alternative 3, in which case all three responses are noted. In instances of the “no build” response, these figures were added to each of the categories against specific alternatives. A quantification of comments by issue is provided in Figure 3.

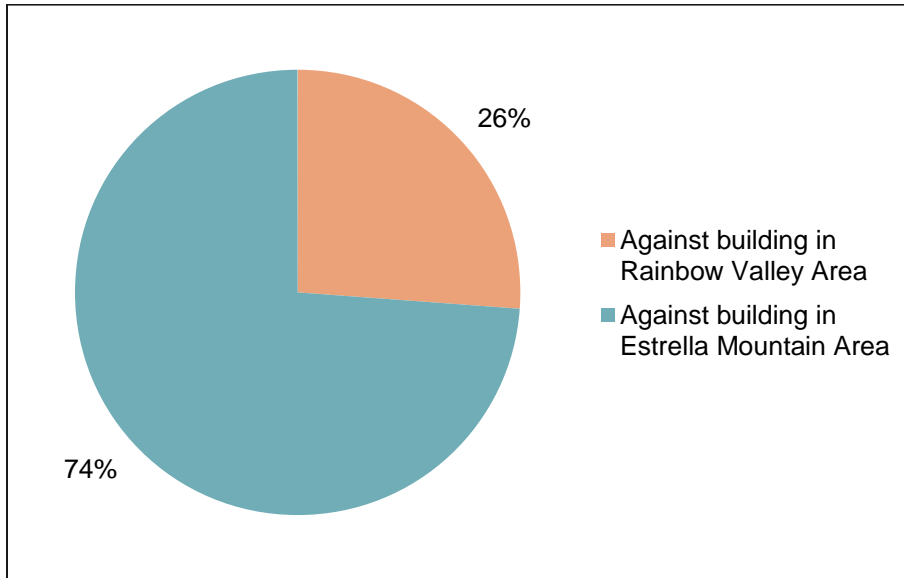
**Figure 3: Comments by Category**

Comment Category	Number of Responses*
<b>Support for Alternatives</b>	
Alternative 2C Alternative 2C-variation 1: 3 responses Alternative 2C-variation 2: 11 responses	98
Alternative 3 Alternative 3-variation 1: 1 response Alternative 3-variation 2: 5 responses	38
Alternative 5 Alternative 5-variation 1: 2 responses Alternative 5-variation 2: 9 responses	56
<b>Against Alternatives</b>	
No Build—Against all Alternatives	10
Against Alternative 2C	10
Against Alternative 3 Against Alternative 3-variation 2: 2 responses	103
Against Alternative 5	12
<b>Other</b>	
Aesthetics	1
Construction Concerns	1
Information Request Timeline: 5 responses	24
Other Freeway Comment	7
Public Meeting Comment	11
Study Area Considerations	6
Supportive of 303	4

\*Responses may have included more than one issue

Because many commenters offered responses describing more than one of the three alternatives – as well as the no build alternative – it may be misleading to look solely at which alternatives received support. All comments received were reviewed to consider the community in which the commenter was against building a freeway. When considering each comment, 191 responses could be characterized by community. Of those responses, 26% were against a freeway in the Rainbow Valley area and 74% were against a freeway in the Estrella Mountain area as shown in Figure 4. Those against building a freeway in either area (“no build” responses) are included in both counts.

**Figure 4: Comments against Building in a Specific Area**



## 4.2 SAMPLE COMMENTS

A sampling of comments by category is shown below. Comments received by comment card are available upon request. The complete comment matrix is available in Appendix G.

### *Support for Alternatives*

#### **Support Alternative 2C (98 responses)**

- I think going down Rainbow Valley Road is the best choice.
- We in Estrella would like to see it go through Rainbow Valley.
- My first preference is not to have any of these options. That having been said, if I must choose one option I would choose option 2C.
- Support Alternative 2C-variation2. 1) Less impact to schools and community. 2) Less impact to protected lands east of Estrella parkway. 3) Less impact to Palo Verde power lines. 4) Follows original 2006 corridor along Rainbow highway to south. 5) Supports economic development in Buckeye. 6) Impact to existing wetlands and Gila River corridor can be mitigated and could even improve and increase the numbers of wetland classifications and provide for additional riparian habitat.



### **Support Alternative 3 (38 responses)**

- We want Alternative 3. We want the end freeway 303 to go through Goodyear and not Rainbow Valley. Rainbow Valley is a rural community and we don't want growth.
- Alternate 3 seems to present the most direct route to the future SR30. In addition, this route also would be consistent with the most cost effective and environmentally friendly approach to a possible further extension of Loop 303 down the Cotton Lane corridor. I say this because it seems to allow a shorter, less intrusive crossing of the Gila River and allows the road to follow an existing transmission line corridor.
- I like Alternative 3 (more southerly route). 1) We need a way to get to I-10 faster. 2) The other alternatives favor the southern Buckeye farming areas.

### **Support Alternative 5 (56 responses)**

- Alt. 5 looks to be the most practical.
- 303 needs to travel west of Estrella Mtn. Ranch development. Following the drainage canal makes sense, less costly.
- As a homeowner in the Estrella Ranch Community, Alternative 5 is my vote, preference and recommendation for the following reasons: 1) Avoidance of congestion on Cotton Rd. 2) Avoidance of the negative environmental and real estate impact on our community 3) Enhanced expedience of traffic flow and control.

### *Against Alternatives*

#### **No Build—Against all Alternatives (10 responses)**

- There is no need for any freeway systems past what is already proposed. 30 will connect to the 202 which will help the traffic overload on the 10. Adding to the 303 going south will only add additional costs for minimal amount of traffic control. This will need to be relooked at 10-20 years from if farm land is converted to housing.
- I would vote for "no build alternative."

#### **Against Alternative 2C (10 responses)**

- Alternative 3. 1. Please keep out of rural Rainbow. 2. If you keep the 303 as county planned have run/follow the power lines. 3. Estrella Mnt. Ranch knew the 303 would be coming and won't affect them as much as going through Rainbow. 4. What about Federal Trust Land south of river, west of Cotton? This is closed to vehicles. 5. Alt. 3 would be less cost!!
- Build Alternatives 2 and 5 would be very close to two of the three neighborhoods in Estrella-- Montecito and Canta Mia, as Rainbow Valley Road runs along the edge of these two developments, creating lots of noise and dust.

#### **Against Alternative 3 (103 responses)**

- I do NOT want this to go through Estrella by this project. I do NOT want Estrella to be dissected or divided by this construction.
- The Loop 303 should not be developed in the Estrella Mountain Ranch community. Property owners specifically purchased their homes here for the quiet and tranquil environment.
- I am very, very much opposed to the alt. #3. The truck noise around the Star Pointe Residence Club would be terrible. Our peaceful community would be bombarded by a major highway that folks do not want to go through the roundabout area. The other two alternatives are lesser evils.

- Do not route 303 up and through or east of Estrella Parkway. Keep the extended 303 down on ... Rainbow (Valley Road). Impacts to Gila River ecosystems can be mitigated even improving wetland habitats. No build would be preferred to route the 303 east of Estrella parkway. We purchased properties in the Fairway community and do not want to see the landscape to the east changed.

#### **Against Alternative 5 (12 responses)**

- Strong concern if the 303 goes through Estrella and continues along power lines by the high school. Please do not do this! Do not do Alternative 3 or 5! Preference would be Alternative 2-variation 2 that takes loop west of Estrella, through Rainbow Valley (that parallels SR 85).
- I vigorously oppose any plan that includes Rainbow Valley corridor -- Alternative 3 is the one you need to stick with and use.

#### *Other*

#### **Aesthetics (1 response)**

- Provide sufficient landscaping and aesthetics on structures.

#### **Construction Concerns (1 response)**

- Obviously, the construction is going to affect my livelihood and quiet environment that I enjoy.

#### **Information Request (24 responses)**

- Can I get some information on the proposed routes? I live in Estrella Mountain.
- What kind of highway is proposed down Cotton Lane? How many lanes? Is it going to be a single highway or is it going to be raised up? Will there be a fence to block the noise?
- Need info on Loop 303 construction start date and meeting.

#### **Other Freeway Comment (7 responses)**

- Please make all overpasses for two cars two lanes. This greatly reduces traffic backup. If possible design carpool lane overpass instead of eliminating the lane near the interchange, then creating it back after the interchange. This greatly reduces merging lands and traffic complaints during rush hour. Please consider larger access frontage roads and turning lanes south of Lower Buckeye to take into account the increased truck/semi-truck traffic from the distribution centers such as Amazon.
- We need better access to the new 303 both northbound and southbound as Estrella residents would now use it instead of Estrella Parkway.

#### **Public Meeting Comment (11 responses)**

- The PA system of an elementary school gym sounded horrible to the ears of this senior citizen. Whether that was due to speakers positioning of the microphone to their mouth or the clarity of the speaker system, or what, I cannot say.
- No Comments. Thanks for the opportunity to see the concepts.

- I found the display helpful, but I would have like something that specifically stated consideration factors, even if no dollar amounts can be stated. I learned along costs of adding height to electric power towers, also possibly moving towers altogether, and better casing for canal. I'm sure there are many other factors that are not obvious to the untrained person. Moving existing homes and businesses is obvious.
- I was pleased to find informative people and get a good idea of what is happening with the new freeway system coming to this area.

**Study Area Considerations (6 responses)**

- I am concerned about the Las Brisas Academy School Children. I feel that that pollution has a bigger impact on growing bodies and minds. Small air particles are the most dangerous since they can infect the blood stream and can cause cancer and many other ailments.
- It seems as if this is a waste of time at this time since the first thing that must happen is a complete environmental study -- the results of which will most likely dictate the ultimate path.

**Supportive of 303 (4 responses)**

- There needs to be a way to alleviate the excessive traffic coming into Phoenix every morning and then leaving every afternoon because I-10 is the only main way in and out for people living in the West Valley.
- Throw away the no build option. We need to continue with planning and development of new roads. I-10 is turning into a train wreck!



*Tricia Brown, ADOT, reviews alignment alternatives at the display boards with stakeholders at the Rainbow Valley community forum.*

## APPENDICES

### **Appendix A: Direct Mail Postcards/Intergovernmental Letter**

- Public Meeting: December 6, 2017 at Copper Trails School (16875 W. Canyon Trails Boulevard, Goodyear, AZ 85338)
- Community Forum: January 30, 2018 at Buckeye Valley Fire District Station 326 (19937 W. Arlington Road, Buckeye, AZ 85326)
- Community Forum: January 31, 2018 at Starpointe Residents Club (17665 W. Elliot Road, Goodyear, AZ 85338)
- Intergovernmental Letter: November 22, 2017

### **Appendix B: Advertisement**

- Public Meeting: December 6, 2017 at Copper Trails School (16875 W. Canyon Trails Boulevard, Goodyear, AZ 85338)

### **Appendix C: Media Coverage**

### **Appendix D: Meeting Materials**

- Project Fact Sheet
- Presentation Question Card (provided at public information meeting)
- Comment Form (provided at public information meeting)
- Comment Form (provided at community forum meetings)

### **Appendix E: Display Boards**

- Welcome and agenda (provided at public information meeting only)
- Study Area
- No Build Alternative
- Next Steps
- Loop 303 Timeline
- What is NEPA? (definition)
- Typical Sections for Loop 303 and proposed State Route 30
- Alternative 2C, variations 1 and 2
- Alternative 3, variations 1 and 2
- Alternative 5, variations 1 and 2

### **Appendix F: PowerPoint Presentation**

### **Appendix G: Comment Matrix**

## Appendix A: Direct Mail Postcards

- Public Meeting: December 6, 2017 at Copper Trails School (16875 W. Canyon Trails Boulevard, Goodyear, AZ 85338)



**LOOP  
303**

## Join Us for a Public Information Meeting

303 SOUTH OF VAN BUREN STREET TO THE PROPOSED STATE ROUTE 30

The Arizona Department of Transportation (ADOT) and the Federal Highway Administration (FHWA) are taking the next steps to select a preferred alternative for the Loop 303 south of Van Buren Street to the proposed State Route 30 in Goodyear. Residents, business owners and other stakeholders are encouraged to attend the public information meeting, ask questions and provide comments on the proposed alternatives for this new transportation corridor:

- ▶ **Time:** 6 to 8 p.m.
- ▶ **Location:** Copper Trails School
- ▶ **Date:** Wednesday, December 6, 2017      16875 West Canyon Trails Boulevard, Goodyear, AZ 85338

The meeting will be an open-house format with a formal presentation at 6:30 p.m.

**YOUR INPUT IS IMPORTANT** and will be considered to determine which corridor alternative could be advanced for design and construction in the future. The meeting will be followed by a 30-day public comment period.

**If you are unable to attend the meeting, you can provide comments or ask questions in the following ways:**

- ▶ Call the ADOT Project Information Line at: 855.712.8530
- ▶ Email: [Projects@azdot.gov](mailto:Projects@azdot.gov)
- ▶ Mail written comments to: ADOT Communications, 1655 W. Jackson Street, MD 126F, Phoenix, Ariz., 85007  
*All comments must be received by January 5, 2018, to be included in the public record.*

**Title VI of the Civil Rights Act of 1964 and the Americans with Disabilities Act (ADA)**

Pursuant to Title VI of the Civil Rights Act of 1964 and the Americans with Disabilities Act (ADA), ADOT does not discriminate on the basis of race, color, national origin, age, sex or disability. Persons who require a reasonable accommodation based on language or disability should contact Deborah Miller at 602.712.7210 or at [DMiller5@azdot.gov](mailto:DMiller5@azdot.gov). Requests should be made as early as possible to ensure the State has an opportunity to address the accommodation.

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## Appendix A: Direct Mail Postcards

- Community Forum: January 30, 2018 at Buckeye Valley Fire District Station 326 (19937 W. Arlington Road, Buckeye, AZ 85326



## Join Us for a Community Forum

LOOP 303 SOUTH OF VAN BUREN STREET TO THE PROPOSED STATE ROUTE 30

The Arizona Department of Transportation (ADOT) and the Federal Highway Administration (FHWA) are taking the next steps to select a preferred alternative for the Loop 303 south of Van Buren Street to the proposed State Route 30 in Goodyear. Residents, business owners and other stakeholders are encouraged to attend the community forum, ask questions and provide comments on the proposed alternatives for this new transportation corridor:

▶ **Time:** 2 to 6 p.m.

▶ **Location:** Buckeye Valley Fire District Station 326  
19937 West Arlington Road, Buckeye, AZ 85326

▶ **Date:** Tuesday, January 30, 2018

The forum will be an open-house format, to review the formal presentation given at the Public Meeting in December 2017, please visit: [azdot.gov/Loop303SouthOfVanBuren](http://azdot.gov/Loop303SouthOfVanBuren).

**YOUR INPUT IS IMPORTANT** and will be considered to determine which corridor alternative could be advanced for design and construction in the future. If you are unable to stop by, all meeting materials can be viewed on the project website at your convenience. You also can provide comments or ask questions in the following ways:

- ▶ Call the ADOT Project Information Line at: 855.712.8530
- ▶ Email: [Projects@azdot.gov](mailto:Projects@azdot.gov)
- ▶ Mail written comments to: ADOT Communications, 1655 W. Jackson Street, MD 126F, Phoenix, AZ, 85007 *All comments must be received by February 14, 2018, to be included in the public record.*

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ADOT Project No: H6870 01L | Federal Project No: STP-303-A(ASO)T

## Appendix A: Direct Mail Postcards

- Community Forum: January 31, 2018 at Starpointe Residents Club (17665 W. Elliot Road, Goodyear, AZ 85338)

**LOOP  
303**

## Join Us for a Community Forum

LOOP 303 SOUTH OF VAN BUREN STREET TO THE PROPOSED STATE ROUTE 30

The Arizona Department of Transportation (ADOT) and the Federal Highway Administration (FHWA) are taking the next steps to select a preferred alternative for the Loop 303 south of Van Buren Street to the proposed State Route 30 in Goodyear. Residents, business owners and other stakeholders are encouraged to attend the community forum, ask questions and provide comments on the proposed alternatives for this new transportation corridor:

▶ **Time:** 2 to 6 p.m.

▶ **Location:** Starpointe Residents Club  
17665 W Elliot Road, Goodyear, AZ 85338

▶ **Date:** Wednesday, January 31, 2018

The forum will be an open-house format, to review the formal presentation given at the Public Meeting in December 2017, please visit: [azdot.gov/Loop303SouthOfVanBuren](http://azdot.gov/Loop303SouthOfVanBuren).

**YOUR INPUT IS IMPORTANT** and will be considered to determine which corridor alternative could be advanced for design and construction in the future. If you are unable to stop by, all meeting materials can be viewed on the project website at your convenience. You also can provide comments or ask questions in the following ways:

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ADOT Project No: H6870 01L | Federal Project No: STP-303-A(A)OT

## Appendix A: Intergovernmental Letter



An Arizona Administrative System Agency

Douglas A. Ducey, Governor  
John S. Hallam, Director  
Ernie Bosty, Deputy Director (Proc)  
Timothy Felt, Communications Director

November 22, 2017

Subject: ADOT State Route 303L - SR 30 to I-10 Project Update

Dear Sir/Madam:

The Arizona Department of Transportation has scheduled a public meeting on Wednesday, December 6, 2017, to provide an update on State Route 303L - SR 30 to I-10 project. The meeting will occur at Copper Trail Elementary School, 16675 Copper Trail Blvd., Goodyear, AZ 85338 from 6 to 8 p.m., with a presentation scheduled at 6:30 p.m.. Attached is the information that will be presented at the meeting.

ADOT is studying Loop 303 from State Route 30 to Interstate 10. ADOT is currently evaluating potential corridors with the establishment of general locations and basic characteristics (interchanges, frontage roads, vertical profile, etc.). Associated activities include environmental studies (air quality, noise, cultural resources, etc.), identification and evaluation of alternatives, general cost estimates, partnering with public and private stakeholders, and the determination of feasibility to move to the design phase. Throughout its length, Loop 303 has been planned to accommodate an ultimate configuration of two general-purpose lanes and one high-occupancy vehicle (carpool) lane in each direction.

The study area generally extends from Sarival Avenue on the east to Perryville Road on the west and Van Buren Street on the north to the proposed SR 30, north of the Gila River. The project spans about 4 miles and passes through the city of Goodyear and a portion of unincorporated Maricopa County.

ADOT is formally requesting that you inform the appropriate members of your agency about the public meeting and share the information to be presented freely with your agency members prior to the Dec. 6, 2017, public meeting.

If you have any questions, please feel free to contact the ADOT Project Manager, Tricia Brown, at 602-711-7046 or at [TBrown2@adot.gov](mailto:TBrown2@adot.gov). You may also refer to the Loop 303 - SR 30 to Interstate 10 website for updated information before and after the public meeting at:

<https://www.adot.gov/01010000/transportation-studies/loop-303-from-30-to-i-10-466430>

Sincerely,

Deborah Miller  
Community Relations Project Manager  
Arizona Department of Transportation

CC: Tricia Brown, ADOT Project Manager



**Intergovernmental Letter** (continued)

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Enclosures (2)

## Appendix B: Advertisement

- Public Meeting: December 6, 2017 at Copper Trails School (16875 W. Canyon Trails Boulevard, Goodyear, AZ 85338)

**LOOP  
303**

## JOIN US FOR A PUBLIC INFORMATION MEETING

LOOP 303 SOUTH OF VAN BUREN STREET TO THE PROPOSED STATE ROUTE 30

The Arizona Department of Transportation (ADOT) and the Federal Highway Administration (FHWA) are taking the next steps to select a preferred alternative for the Loop 303 south of Van Buren Street to the proposed State Route 30 in Goodyear. Residents, business owners and other stakeholders are encouraged to attend the public information meeting, ask questions and provide comments on the proposed alternatives for this new transportation corridor:

- Time:** 6 to 8 p.m.  
**Date:** Wednesday, December 6, 2017  
**Location:** Copper Trails School  
16875 West Canyon Trails Boulevard  
Goodyear, AZ 85338  
The meeting will be an open-house format with a formal presentation at 6:30 p.m.

**YOUR INPUT IS IMPORTANT** and will be considered to determine which corridor alternative could be advanced for design and construction in the future. The meeting will be followed by a 30-day public comment period.

If you are unable to attend the meeting, you can provide comments or ask questions in these ways:

- ▶ Call the ADOT Project Information Line at 855.712.8530
  - ▶ Email [Projects@azdot.gov](mailto:Projects@azdot.gov)
  - ▶ Mail written comments to ADOT Communications, 1655 W. Jackson Street, MD 126F, Phoenix, Ariz., 85007
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## Appendix C: Media Coverage

2/26/2016 Loop 303 opens a new gateway to the West Valley - Arizona Capitol Times

# ARIZONA CAPITOL TIMES

### Loop 303 opens a new gateway to the West Valley

By Chris Howley | February 5, 2016, 1:10 pm



I-10 traffic travels beneath of the new Loop 303 interchange in Goodyear in this view from the tallest ramp connecting the two freeways. (Photo courtesy of ADOT)

The days of driving through the congested freeways and streets of Phoenix are finally over for people of Goodyear.

On October 8 last year, the Arizona Department of Transportation opened four new ramps, allows drivers to make direct connections between Interstate 10 and Loop 303. These new connections are included in ADOT's \$64 million project focused on building and expanding the southern half of the interchange connecting the two freeways. Construction on the project started on February 22, 2015.

The completed connections have allowed the commuters who live in Goodyear and nearby bypass the congested traffic that surrounds the Phoenix metropolitan area, and commute to locations, such as Tempe and Mesa, in a reasonable amount of time.

However, saving time and limiting congestion are not the only things that the recent expansion offered. Goodyear Mayor Georgia Lord said the expansion of Loop 303 and the construction of four new ramps have helped the city produce more jobs, create a bigger market and increase development of homes and businesses along the freeway.

She added that the expansion is helping keep people in the city of Goodyear. The mayor believes this is not just a short-term improvement.

"As a gateway to our city, it will provide for the efficient flow of people, goods and services for decades to come," Lord said back in October after the opening of the interchange.

Aaron Maguire, an economist from the Maguire Company, compared the increase in development and growth of the city of Scottsdale experienced when Loop 101 was built. He also believes the expansion will draw more traffic toward Loop 303, and keep most of the freeways clear of congestion.

<http://arizona.capitoltimes.com/news/2016/02/05/loop-303-opens-a-new-gateway-to-the-west-valley/>

1/2

## Media Coverage (continued)

2/28/2018

**Loop 303 opens a new gateway to the West Valley – Arizona Capitol Times**

Companies along Loop 303, such as Dick's Sporting Goods and Recreational Equipment, Inc. primed for an increase in business and jobs as workers can now travel against rush-hour traffic in Phoenix.

The expansion may also welcome new manufacturing companies to Goodyear because of the easy access the highway offers to California and northern Arizona.

ADOT will continue to expand Loop 303 starting in the fall of 2019. That project will consist of extending Loop 303 south from Van Buren Street to Maricopa County Highway 85.

Funding for the interim project, which is part of the Maricopa Association of Governments' Transportation Plan that voters approved in 2004, comes from the countywide half-cent sales tax transportation projects, as well as federal monies.

ISSUES: 303 | AZ CAPITOL TIMES | ADOT | THE STATE DEPARTMENT OF TRANSPORTATION | WEST VALLEY | GOODYEAR | LOOP 303 | MILLER CORP

MARICOPA ASSOCIATION OF GOVERNMENTS' TRANSPORTATION PLAN | WEST VALLEY | MILLER CORP

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 <p>Planning for Arizona's 280-mile section of I-11 rolls</p> 	 <p>Car registration fee boost proposed to end raid on road</p> 	 <p>Let's use road funds on roads</p> 	 <p>Transportation is the foundation of a strong economy</p> 
<p>Investing in preventative health care would pay huge dividends</p>	<p>Lawmakers should reject Pew proposal for 'dental therapists'</p>	<p>February 5, 2018, 1:08 pm</p>	<p>February 5, 2018, 1:07 pm</p>

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**ARIZONA CAPITOL TIMES**  
The place you need to know Arizona's political pulse.  
PUNICHER, BOA

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## **Appendix D: Meeting Materials**

- Project Fact Sheet
- Presentation Question Card (provided at public information meeting)
- Comment Form (provided at public information meeting)
- Comment Form (provided at community forum meetings)



**Appendix D: Presentation Question Card** (provided at public information meeting)

**Loop 303: South of Van Buren Street to the proposed State Route 30 – Question Card**  
**Wednesday, December 6, 2017 | 6 to 8 p.m.**  
**Copper Trails School, 16875 West Canyon Trails Boulevard, Goodyear, AZ 85338**

My question is related to:

- |  |  |
|--|--|
| <input type="checkbox"/> Project Design          | <input type="checkbox"/> Property Impacts/Right-of-Way Acquisition Environmental |
| <input type="checkbox"/> Project Schedule        | <input type="checkbox"/> Impacts (Noise, Wildlife, Air Quality)                  |
| <input type="checkbox"/> Cost/Funding            | <input type="checkbox"/> Other   |
| <input type="checkbox"/> Route (Path of Freeway) |  |

Please return your card to a project team member before or during the presentation.

Write your question in the space provided below:

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*If we are unable to address this question tonight and you would like to receive an answer by email or telephone, please indicate below. A member of the project team will respond as quickly as possible. Your contact information will remain confidential and used only for the purpose of replying to your question. Thank you!*

Name \_\_\_\_\_

Telephone No. \_\_\_\_\_  Email \_\_\_\_\_







## **Appendix E: Display Boards**

- Welcome and agenda (provided at public information meeting only)
- Study Area
- No Build Alternative
- Next Steps
- Loop 303 Timeline
- What is NEPA? (definition)
- Typical Sections for Loop 303 and proposed State Route 30
- Alternative 2C, variations 1 and 2
- Alternative 3, variations 1 and 2
- Alternative 5, variations 1 and 2



# Welcome

## PURPOSE OF TODAY'S MEETING

To obtain input on corridor alternatives for the proposed Loop 303 from the proposed State Route 30 to Van Buren Street.

## AGENDA

- 6 – 6:30 p.m. Visit information stations and speak one-on-one with study representatives.
- 6:30 – 7:30 p.m. Formal presentation, followed by brief Q&A.
- 7:30 – 8 p.m. Visit information stations and speak one-on-one with study representatives.

## YOUR INPUT IS IMPORTANT TO US!

- Submit your comments at today's meeting
  - Speak to study representatives in person
  - Write your comments on the forms provided and hand them to a study team member
- Send us your comments electronically
  - Email: [Projects@azdot.gov](mailto:Projects@azdot.gov)
- Mail your comments to us at the following address:
  - ADOT Communications,  
1655 W Jackson Street, MD #1206,  
Phoenix, AZ 85007
- Call us at the study information line
  - 855.712.8530



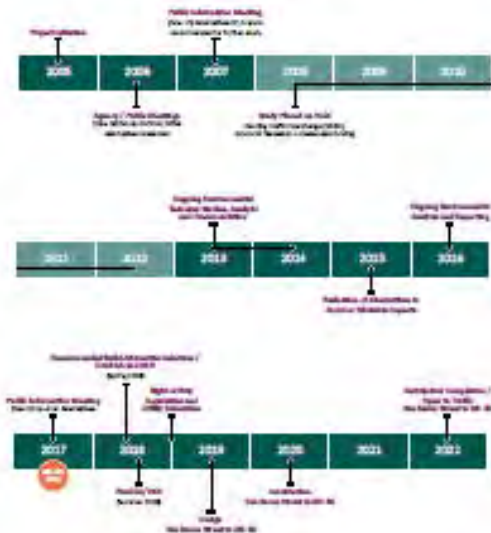
# Study Area



## No Build Alternative

- The No Build Alternative in an environmental study is the baseline condition carried forward if the proposed action (major transportation facility) were not built
- The No Build Alternative will provide the Loop 303 study team with a basis against which social, environmental, and economic impacts can be measured
- The No Build Alternative will be studied in the Loop 303 Environmental Assessment (EA) and compared with the Build Alternative
- The No Build Alternative assumes the construction of all other funded transportation projects occurs in the study area (e.g., City, County and MAG projects) would be built

## Loop 303 Timeline



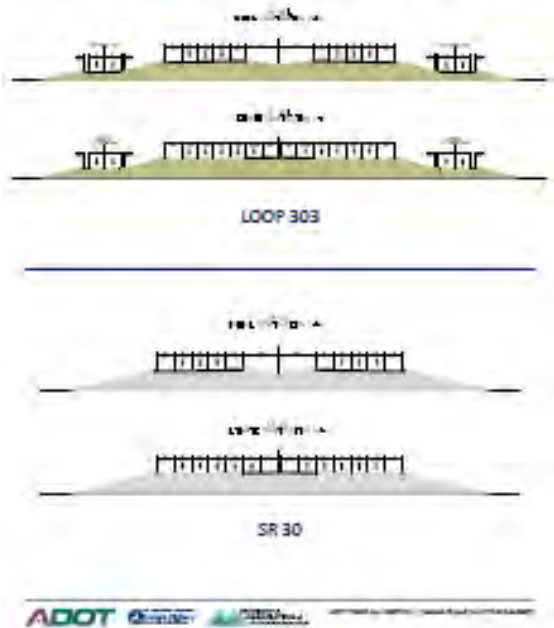
## Next Steps



## What Is NEPA?

- The National Environmental Policy Act (NEPA) of 1969 was a law written to analyze, disclose, minimize, and mitigate environmental impacts for federally funded projects.
- NEPA's basic policy requires applicable federal agencies to review impacts and mitigation to NEPA studies.
- An Environmental Assessment (EA) is the NEPA-level documentation that will be used to evaluate potential impacts for the proposed Loop 303 Study.
- The purpose of this EA is to describe the need for a proposed action, alternatives evaluated (including the No Build Alternative), environmental impacts of those alternatives, and any necessary mitigation measures.

# Typical Sections



# Alternative 2C



# Alternative 3



# Alternative 5





## WELCOME



Wednesday, December 6, 2017  
6-8 p.m.  
Copper Trails Elementary School



RESTROOM LOCATION(s)

EMERGENCY EXITS

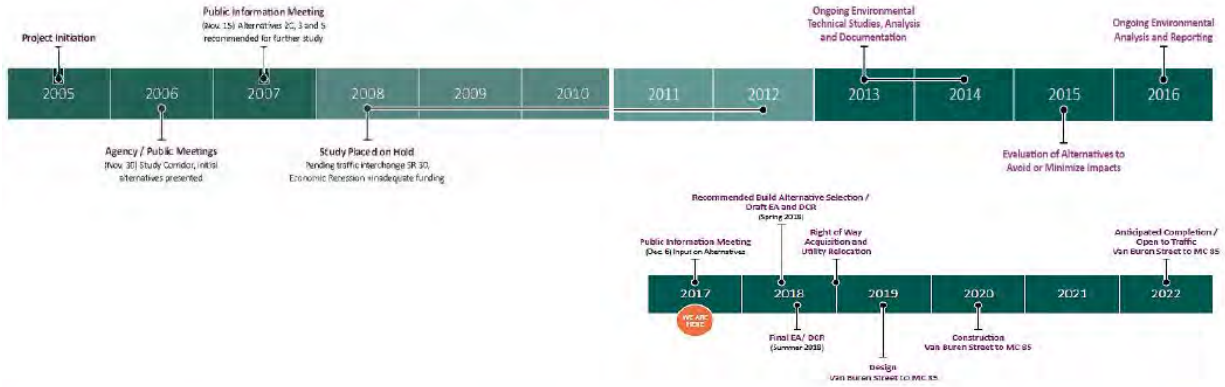
## AGENDA

- Introduction of Study Team
- Meeting Purpose
- ADOT Right-of-Way Acquisition Process
- Loop 303 Timeline
- Corridor & Alternative Evaluations
- The Build Alternatives
- The No Build Alternative
- Study Next Steps

## ADOT Right-of-Way Acquisition Process



# Loop 303 TIMELINE



# CORRIDOR EVALUATION 2006





**ALTERNATIVES  
DESCRIPTION  
ALTERNATIVE 2C**



**ALTERNATIVES  
DESCRIPTION  
ALTERNATIVE 3**





**ALTERNATIVES  
DESCRIPTION  
ALTERNATIVE 5**



**WHAT IS THE NO BUILD ALTERNATIVE**

- The No Build Alternative in an environmental study is the baseline condition carried forward if the proposed action (major transportation facility) were not built
- The No Build Alternative will provide the Loop 303 study team with a basis against which social, environmental, and economic impacts can be measured
- The No Build Alternative will be studied in the Loop 303 Environmental Assessment (EA) and compared with the Build Alternative
- The No Build Alternative assumes the construction of all other funded transportation projects occurs in the study area (e.g., City, County and MAG projects) would be built

## NEXT STEPS



Question Card Review

and

Answer Session



## YOUR INPUT IS IMPORTANT

Please send us your comments using one of the methods below:

**Email:** [Projects@azdot.gov](mailto:Projects@azdot.gov)

**Phone:** 855.712.8530

**Mail:** c/o ADOT Communications  
1655 W Jackson Street, MD #126F  
Phoenix, AZ 85007

Please send in your comments no later than January 5, 2018

**Appendix G: Comment Matrix** (see attachment)

**State Route 303 Loop (SR 303L) State Route 30 to I-10  
Comments by Issue through February 14, 2018**



- Issue
- Alternative 2c
- Alternative 3
- Alternative 5
- No Build
- Study Area Considerations
- Supportive of 303
- Information Request
- Construction Concerns
- Timeline
- Public Meeting Comment
- Aesthetics
- Other Freeway Comment
- Other

	Comment summary	Comment	Response
<b>Aesthetics</b>	Wants landscaping and design elements on structures	Provide sufficient landscaping and aesthetics on structures.	
<b>Against Alternative 3</b>	Against Alternative 3	Hello. I'm a resident in area of proposed 303/SR30 work. Where can I find an update from the meeting held on December 6th. I'd like to submit that the area of lower Buckeye from Cotton to Citrus is much too close to developed housing and school bus pickup spots!!!	(not shown)
<b>Against Alternative 3</b>	Against Alternative 3	Just NOT 3.	
<b>Against Alternative 3</b>	Against Alternative 3	I do NOT want this to go through Estrella by this project. I do NOT want Estrella to be dissected or divided by this construction.	
<b>Against Alternative 3</b>	Against Alternative 3	My husband and I HATE the idea of alternative three that parallels the power lines. This alternative dramatically changes the look and feel of Estrella Mountain Ranch and would decrease property values.	
<b>Against Alternative 3</b>	Against Alternative 3	Thank you for having this informational forum. It made me realize how finite I am as more than likely I will not be here when the project is completed. Having maps and ADOT people at each table to explain the map was extremely helpful. Having access to your (ADOT) website will also be so. I do hate the thought of the impact on Estrella in the far future and how it could will impact the people living there. Estrella is a very special place. I am sure people in other areas may have similar feelings -- but to blot out any part of the mountains is a sadness. I do understand costs and budgets have a lot of say in where it will be built and the necessity of such expansion. Anyway, thank you for the info. See you in April.	
<b>Against Alternative 3</b>	Against Alternative 3	Bringing a high speed highway anywhere near a school is insanity. The route into Estrella cannot be commercial development. Our property values will plummet.	
<b>Against Alternative 3</b>	Against Alternative 3	As long as it doesn't come into the commnity of Estrella no where near the residential areas	

<b>Against Alternative 3</b>	Against Alternative 3	Option 3, I feel is a terrible option for the Estrella subdivision. I currently can hear an EXTREME amount of NOISE coming from Cotton Lane today. I am totally opposed to this option.
<b>Against Alternative 3</b>	Against Alternative 3	Alternative 3 would not be the desired solution. EMR is a growing area with 20,000-plus planned homes. The amount of traffic, as well as the noise and air pollution concerns should far out weigh any reason for persuing this option. We chose this remote area for its beauty and seclusion. We would expect that a responsible decision be made taking these residents into consideration. The futher away from EMR the better for all who live here. Do not take our beauty from us. The other alternatives are not as close to such a populated area, and should be the ONLY considerations. We moved here to escape noise and aire pollution and traffic. Please do not steal that from us.
<b>Against Alternative 3</b>	Against Alternative 3	Take it west as far as possible. Do not bring it down Cotton Lane - it will destroy the desert mountain area and the beauty of the Estrella communities.
<b>Against Alternative 3</b>	Against Alternative 3	303 south should have a western direction when it ties to 85 or 30. 303 is the west side of Estrella Mtn and should flow in that direction. Making it flow back toward 202 or Phoenix will only create bottlenecks stay away from Cotton Lane and Estrella Parkway.
<b>Against Alternative 3</b>	Against Alternative 3	I strongly oppose both Alternative 3 options that plan to bring 303 down Cotton Lane through Estrella Mountain Ranch. EMR is the premier master-planned community in the West Valley and nobody decided to live here with an eight lane freeway running through the middle of it. My family will move and sell our custom home lot we were planiing to build our dream retirement home on. EMR property values will plunge and an exodus will ensure. Please choose an alternative west of EMR. Too many of us moved here for peace and quiet of the mountains not for the noise and pollution of this highway right through the middle of our community.
<b>Against Alternative 3</b>	Against Alternative 3; Against Alternative 3-variation 2	Definitely not Alternative 3, or 3 var. 2. Don't want the 303 running through Estrella Mtn. Ranch some day.
<b>Against Alternative 3</b>	Against Alternative 3	I am told that ADOT is looking at several options to continue the 303. I live in the Montecito area of Estrella Mtn Ranch. We are already feeling the explosion of new building and more traffic on roads that cannot be widened. I am concerned if the 303 comes up into Estrella it will bring more traffic to our beautiful development. With traffic comes potential for crime - - easy access in and out. Currently EMR has no crime. Is there a study from other expansion to indicate the impact the 303 would bring crime into this area? There is also issue of high school and parks. How would the 303 impact those.
<b>Against Alternative 3</b>	Concerned about whether Alternative 3 would destroy land and houses	If the 303 runs south thru Estrella Mountain Ranch, how much of the foothills will it take out of existence? Or is there enough space to put east of present houses to the Estrella Mountains. Was the Cotton Ln. bridge (Gila River) originally built for Rt303?
<b>Against Alternative 3</b>	Against Alternative 3	One of the reasons I moved to EMR is the wide open spaces that still exist here also limits the amount of people that lives in EMR. I believe the loop 303 will take all that away. Beautiful nature being destroyed by a freeway. Freeway's also bring crimes. Preserve our natural beauty and not destroy AZ.



<b>Against Alternative 3; information request</b>	Against Alternative 3; Wants information further south	<p>The Loop 303 should not be developed in the Estrella Mountain Ranch community. Property owners specifically purchased their homes here for the quiet and tranquil environment. If we wanted to live near a freeway, we would have purchased property in lower Goodyear or elsewhere.</p> <p>I am concerned that the pollution from a highway running through our neighborhood will cause many people to move away and our property values will decrease. I state pollution to include noise pollution, light pollution – Estrella is a dark sky community with strict regulations regarding lighting, and air pollution.</p> <p>I’m also concerned that the air pollution will affect the hiking in the Estrella Regional Park that I use on a weekly basis.</p> <p>Traffic patterns will be negatively affected all throughout Estrella including areas in close proximity to the high school.</p> <p>There are much better alternative routes that don’t include established residential communities and therefore the agriculture areas would be a much better choice.</p> <p>The ADOT map that was handed out at the January 31, 2018 meeting at the Starpointe in Estrella stops before the Gila River – not even showing the 303 continuing down Cotton Lane and into our neighborhood. I find this deceiving not to show the exact route that is being considered. The explanation given on this day was that it was not part of the study. That is a very poor excuse for not handing out the full information.</p> <p>Also, navigating through the various websites is difficult. I’m referring to <a href="http://www.bqaz.org">www.bqaz.org</a> - Hidden Valley Framework Study and Hassayampa Framework Study. Also the ADOT Website <a href="http://www.azdot.gov">www.azdot.gov</a> Loop 303:SR30 to Hassayampa Freeway does not give details. Therefore, I would strongly recommend that the Loop 303 not be constructed in the beautiful neighborhood of Estrella.</p>
<b>Against Alternative 3; Supportive of 303</b>	Against Alternative 3; Supportive of 303	<p>Only have one comment. Thank you for opportunity to see the proposals. I would be in favor of any alternative except #3. I do not see any positive results by possibly having a route east of Estrella in the future.</p>
<b>Against Alternatives 2c and 5</b>	Against locations that would impact Rainbow Valley	<p>Bought in Rainbow Valley in 2011. Was told and verified 303 expansion was going south down Cotton Road. Estrella Mtn. community was aware of this. Goodyear mayor decided it would not go that direction for personal reasons. Rainbow Valley then was put into play. We were not given the opportunity to have this information prior to purchasing. Will vigorously oppose any plan that includes Rainbow Valley corridor in 303 expansion.</p>
<b>Alternative 2c</b>	Supports Alternative 2C	<p>My primary choice is Alternative 2 with Alternative 1 second. This design is simpler and less expensive overall still meeting future transportation requirements. It allows future development of the Gila River and along SR30. It should be easier, safer to navigate for traffic. The other proposals will entail corossing/chaneling washes (Rainbow Wash) and be longer multiple crossing over the Gila River. Alt 2 goes along the existing highway system. Thank you.</p>
<b>Alternative 2c Alternative 2c Alternative 2c Alternative 2c</b>	Supports Alternative 2C Supports Alternative 2c Supports Alternative 2c Supports Alternative 2c	<p>We would like to vote on the 2C Alternative.</p> <p>Plan 2c is the only one I would be happy with.</p> <p>Option 2-c please take 303 west of us.</p> <p>We support Alternative 2c.</p>

<b>Alternative 2c</b>	Supports Alternative 2c	Variations (2) that keep 30, and by extension, the intersection of 303 and 30, farther north of the Gila River are preferable. They will reduce interference with wildlife using the flood plain and river. They also leave a wider corridor for the El Rio recreation area that Avondale, Goodyear and Buckeye desire to protect. The Citrus Rd. right of way alignment provides good access to the Western Goodyear area and Eastern Buckeye in area that could readily accomodate commercial and light industrial expansion south of the current funded segment. This area could be developed, in part, before 303 reaches it, without increasing traffic loads on existing bridges. Placement where air pollution and noise will least impact wildlife and human populations within 1 mile of the highway (American Lung Association guidelines) in the Rainbow Valley should be considered.
<b>Alternative 2c</b>	Supports Alternative 2c	After reviewing the alternative for State Route 303 loop, we recommend option 2c/5 with 5 having appearance of better traffic flow. However Alternate 5 option isn't worth additional costs over option 2c.
<b>Alternative 2c</b>	Supports Alternative 2c	Regarding the 303 and the 30 I am happy with the proposal that goes as far north from Estrella Mountain Ranch as possible. Thank you.
<b>Alternative 2c</b>	Supports Alternative 2c	Alternative 2c looks as a better choice having the interchange farther west. Should the 303 go south, having it to the west would be better in my opinion.
<b>Alternative 2c</b>	Supports Alternative 2c	I think going down Rainbow Valley Road is the best choice.
<b>Alternative 2c</b>	Supports Alternative 2c	Alternative 2c is the best choice of the 3 choices; we hiked over a 100 miles in 100 days this fall and it would be best if we kept the beauty of this area as it is! Without highway noise, lights, etc! Build YOUR freeway into the semi-developed areas. Keep this place, Estrella, beautiful that's why I live here!
<b>Alternative 2c</b>	Supports Alternative 2c	Having spent a significant amount of time hiking in the Estrella Mountain Park, especially the SW area, I believe alternative 2c would be a better choice for the environment, focusing construction and future light and noise pollution into semi developed areas.
<b>Alternative 2c</b>	Supports Alternative 2c	We prefer the road to go the path of Rainbow Valley
<b>Alternative 2c</b>	Supports Alternative 2c	This letter is to express Newland Communities strong support of River Crossing Location #3 (approximate Rainbow Valley Road alignment), as designated in the Loop 303 Study from SR 30 to Hassayampa Freeway "River Crossing/Corridor Alternatives" map.
<b>Alternative 2c; Alternative 5; Against Alternative 3</b>	Supports Alternative 2c; Supports Alternative 5; Against Alternative 3	Best choice #1: 2c. Of the three options shown today, my #1 preference would be option 2c - unsure from the view if the version north of the power lines or south of powerlines. #2 choice: 5. My second preverence would be option 5. Hate option #3. My last choice - not a choice in my viewpoint - would be option 3. This looks like it would eventually follow the foothills straight down by the high school. While I appreciate you are doing the "formal due diligence" to ask our opinions, I'm not convinced my opinion is valued. I think for Estrella residents' feedback to be more accurately reflected, ou have to show us what happens south of the studies you're showing us. We need to understand that connection (south of SR30) better! Thank you!
<b>Alternative 2c; Against Alternative 3</b>	Supports Alternative 2c; Against Alternative 3	I would like to state and vote my preference for the Loop 303 location to be routed through Rainbow Valley. Estrella Mountain Ranch is quiet and serene. Placing the Loop 303 smack in the middle of our community will devalue our way of life and what we moved here for, peace and quiet. Our views of the mountain and serenity would be replaced with views of concrete, pollution and noise from all type of vehicles. Route the Loop 303 through Rainbow Valley which will disrupt less area than Estrella.

Please confirm receipt of this email.

<b>Alternative 2c; Against Alternative 3</b>	Supports Alternative 2c; Against Alternative 3	I would be more favourable to any of the proposals that eventually utilize the Rainbow Valley route for the future 303. My reasons are keeping the 303 as far away from the community of Estrella for reasons of noise, congestion, and future property values.
<b>Alternative 2c; Against Alternative 3</b>	Supports Alternative 2c, Against Alternative 3	I just wanted to comment on the route of the 303 from Van Buren to State Route 30. I live in Estrella Mountain and my understanding is that this decision will determine the route that the 303 will take in the future.
<b>Alternative 2c; Against Alternative 3 Alternative 2c; Against Alternative 3</b>	Supports Alternative 2c; Against Alternative 3 Supports Alternative 2c; Against Alternative 3	<p>My preference would be that the route selected go to the west and NOT up Cotton Lane to Estrella Mountain ranch. I bought up here because it is a peaceful oasis and a freeway running through our beautiful neighbourhood would seriously detract from its beauty and value.</p> <p>We prefer alternative 2 south of Van Buren for the loop 303 extension. We strongly oppose alternative 3 bringing the 303 through the Estrella bedroom community.</p> <p>Thank you for holding the 303 community forum in Estrella Mountain Ranch on January 31st.</p> <p>After reviewing all the route plans, I am objecting to the Alternative plan #3, var#1 and #2, that travels right through EMR.</p> <p>We moved from California to EMR primarily due to its location in the foothills and the peace and quiet and lack of traffic.</p> <p>We saw an increase in traffic and crime after the completion of the 210 freeway that went through Rancho Cucamonga. A simple 15 minute drive became 30 minutes. An increase in crime. Most banks and businesses near on/off ramps were robbed within months of the freeway opening.</p> <p>Our city now became nightly news because of "knock-knock" burglaries.</p> <p>New big businesses, Walmart, Target, etc, started building on lots that used to be grape vines.</p> <p>Our city was chewed up, no more beautiful landscapes, just condos, green hillsides replaced with gas stations. Years went by and we started hearing about the political and corporate greed that took place behind closed doors to get the freeway completed.</p> <p>I see all of this happening to our beautiful EMR community.</p> <p>I am opposed to any freeway coming south but if it must happen, would prefer any route outside of EMR, specifically in Rainbow valley.</p> <p>If you have any questions for me, you may contact me.</p>
<b>Alternative 2c; Against Alternative 3</b>	Supports Alternative 2c; Against Alternative 3	Hi, my husband and I were out of town when you held your meeting in Estrella. We absolutely do not want the Loop 303 near our round about or cotton road. We just built a custom home on a custom lot in Sonoran Vistas gated community and would never have built here if we would have known that idea was being suggested. We are tucked away with privacy and now we heard that cotton road is being considered. We think taking Elliot Road to Rainbow Valley is a much better location without changing our little oasis in the desert, Estrella, into a much noisier busier neighborhood. People move here to get away from exactly what the 303 to Cotton Road location would bring to this area.
<b>Alternative 2c; Against Alternative 3</b>	Against Alternative 3; Supports Alternative 2c	I am definitely opposed to bringing the 303 up to the traffic circle "roundabout" and then continuing past the Estrella High School no matter what the timeline. Take the road west now and avoid all the residents in Estrella Mtn. Ranch.

<b>Alternative 2c; Against Alternative 3</b>	Supports Alternative 2C; Against Alternative 3	Option 2C seems best. The 303 should stay as far west as possible it should NOT come through Estrella Mountain Ranch. When we bought our home here we were told it (303) had been decided that it would go out to Rainbow Valley. I feel these maps are VERY misleading.
<b>Alternative 2c; Against Alternative 3</b>	Supports Alternative 2c; Against Alternative 3	After reviewing the three proposed maps, alternate 2c is the most feasible way. It would take the 303 west of Estrella Mountain Ranch thus keeping the quality of life here intact.
<b>Alternative 2c; Against Alternative 3</b>	Supports Alternative 2c; Against Alternative 3	Based solely on the information presented today, I prefer Alternative 2c. I believe the considered options for planning purposes south of the Gila River on all options would have been helpful. Costs are always a consideration, I understand you are gathering those, but your experience should have been able to provide some ranges. 2c remains my suggestion today. Thanks for the opportunity to share. This road should not continue through Estrella Mtn Range.
<b>Alternative 2c; Against Alternative 3</b>	Supports Alternative 2c; Against Alternative 3	It is difficult to give feedback on this portion of the 303 without seeing where its path would go further south under each option (south of SR30). The roadway is much needed (inclusive of SR30) as the I-10 eastbound to Phoenix in the morning is already way overcrowded and with further development west of the 303, it will only get worse in the coming years without alternatives. I prefer the western alternative to avoid having the 303 go through Estrella Mt. Ranch (eventually).
<b>Alternative 2c; Against Alternative 3</b>	Supports Alternative 2c; Against Alternative 3	In order to preserve the Estrella Mtn and serenity of Estrella Master Planned Community I would vote for Alt 2c. Thank you.
<b>Alternative 2c; Against Alternative 3</b>	Supports Alternative 2c; Against Alternative 3	It is very obvious no resident of Estrella wants a freeway dividing our community. Plan alternative 2c! Variation 1 or 2!! We understand Goodyear is growing, don't TANK our community.
<b>Alternative 2c; Against Alternative 3</b>	Supports Alternative 2c; Against Alternative 3	I have lived in Estrella Mountain Ranch for many years and this community nestled up to the mountains is hard to beat. The quiet evening and small town feel are because we are distant from the hustle and bustle, a little bit. This freeway is another step towards closing the gap. Maybe good for the morning and evening commute but bad for homeowners to retreat from the "big city" lights and noises. I vote for 2c variation 2. A better solution for ALL.
<b>Alternative 2c; Against Alternative 3</b>	Supports Alternative 2c; Against Alternative 3	The continuation of Loop 303 needs to be placed to the west of Estrella Mountain Ranch Community. Placing it next to our community in an eastern flow puts a burden on the residence of the Estrella development. When the community was developed it wasn't sold with a major interstate running
<b>Alternative 2c; Against Alternative 3</b>	Supports Alternative 2c; Against Alternative 3	My opinion I choose 2c I do not want to come up Cotton Ln to Estrella Mountain
<b>Alternative 2c; Against Alternative 3</b>	Supports Alternative 2c; Against Alternative 3	Based on information presented, my strong vote is for option 2c. The reason is this will keep the future Southern connection/extension outside of the relatively high density of Estrella Mountain Ranch and place it in very low density of Rainbow Valley. Additionally the noise and emissions from the future Southern extension would be trapped at the base of the mountains within Estrella, given their proximity. Conversely Rainbow Valley is quite open and could better disperse the smog and noise, coupled with very low density.
<b>Alternative 2c; Against Alternative 3</b>	Supports Alternative 2c; Against Alternative 3	Thank you for the information. Open house format was good. Based on the plans shown, the 2c plan is my preference. Bringing the 303 down Cotton Lane, possibly into Estrella is least preferred, especially if it runs along Estrella Mountains. Arizona is beautiful there is a lot of wildlife in the area. I would hate to see it uprooted from area. We moved from Ohio and love the AZ highway systems. With the amount of people living in area, traffic usually flows nicely. Hopefully the 303 plan will add to AZ easy access.

<b>Alternative 2c; Against Alternative 3</b>	Supports Alternative 2c; Against Alternative 3	I would prefer the 2c alternative and not have it continue onto Cotton Lane into the heart of Estrella. This would desimate our beautiful community. We are densely populated unlike west of us in Rainbow Valley.
<b>Alternative 2c; Against Alternative 3</b>	Supports Alternative 2c; Against Alternative 3	Our preference is to run the 303 extension down thru Rainbow Valley an not up Cotton Lane to Estrella -- the impact would be considerably less as development is not as prevalent. The noise impact to the Extrella area would be magnified as it would resonate off the mountains back into the neighborhoods. Thank you!
<b>Alternative 2c; Against Alternative 3</b>	Supports Alternative 2c; Against Alternative 3	I believe for my interest 2c nother or south is best by cost wise. I do not want coming up Cotton Lane to Estrella Mt. need to stay in rural areas.
<b>Alternative 2c; Against Alternative 3</b>	Supports Alternative 2c; Against Alternative 3	2c is my choice. As to 30 whether it is north of the river or south becomes a financial decision. No to Cotton Lane south. Newland is building homes off Cotton lane in Estrella Ranch. Round about would be affected as well as commercial. No to affecting Estrella Mountain Ranch community.
<b>Alternative 2c; Against Alternative 3</b>	Supports Alternative 2c; Against Alternative 3	Alternative 2c version 1 ot 2 as my preferred option, best choice. Alternative 3 No! No! No!
<b>Alternative 2c; Against Alternative 3</b>	Supports Alternative 2c; Against Alternative 3	I purchased (had a house built) a home in 2008 not knowing there was a potential freeway going through the middle of my development. Why did Newland not explain that to me? Hopefully common sense prevails and the freeway does not come down Cotton Lane and close to our development. I'm only babysitting my house until my kids and grandkids get to appreciate this great neighborhood without a freeway close by. So any option to divert the freeway down Rainbow Valley Road makes more sence.
<b>Alternative 2c; Against Alternative 3</b>	Supports Alternative 2c; Against Alternative 3	I do not want the 303 to come down Cotton Lane thru Estrella Mountain. This defeats the purpose of why we moved up here, for peac and quiet, away from a million cars. If the 303 comes up Cotton Ln it will be very close to North Lake. This will change the feel of going to a lake up in the mountains to going to a lake in the middle of a city. As of right now the only reason to come up thru Estrella is if you live up here. I would like it to stay that way. I believe it should go to the west thru Rainbow Valley. I did NOT move up here to live next to a freeway!
<b>Alternative 2c; Against Alternative 3</b>	Supports Alternative 2c; Against Alternative 3	Do not want 303 to go through the mountains. Please route to go to Rainbow Valley.
<b>Alternative 2c; Against Alternative 3</b>	Supports Alternative 2c; Against Alternative 3	Alternative 2c would be the best of the 3 options for the Estrella community. It provides the outlet required for I-10 with the least disruption to the residents of the community. Alternative 3 would be disasterous for this community. It would increase traffic and noise pollution, reduce the value of the current properties. There are 3 good schools in the area. Do we want the extra traffic endangering our children and grand children.
<b>Alternative 2c; Against Alternative 3</b>	Supports Alternative 2c; Against Alternative 3	Keep the 303 from heading up Cotton after Lower Buckeye, need to go to the south to merge w/SR30 and then continue best possible route. I like the alternative that heads south of the old Rubbermaid plant.

**Alternative 2c; Against Alternative 3**

Supports Alternative 2c; Against Alternative 3

I am writing to voice my concern and opposition of the proposed extension of Loop 303 that would take the highway up Cotton Ln and through the community of Estrella Mountain Ranch.

Estrella Mountain Ranch is a vibrant and rapidly growing community that has attracted and continues to attract new residents drawn to its qualities of beauty serenity. By having the highway 303 extension run through the community those qualities that drew me and others would be destroyed or severely compromised. This will become the major truck route for cross country haulers.

Some of my objections to the proposed route through Estrella are listed below.

- Environmental: Light, noise and air pollution from the traffic. Estrella is a “dark sky” community and has ordinances against light pollution of the night sky. Noise and air pollution from heavy car and truck traffic will make outdoor activities, including hiking in Estrella and the nearby Regional Park. much less desirable. “Ballet under the Stars” will be a thing of the past!
- Traffic: The proposed highway would run very close to new homes, Estrella High School and pose dangerous traffic conditions in addition to environmental quality issues
- Property values: Decreased desirability and property value for existing homes and businesses and a precipitous drop in new builds, meaning less revenue for Goodyear .
- Better options are available: Rural land is available to the West of Estrella that could accommodate the highway with lower cost and significantly less disruption of homes and families.

**Alternative 2c; Against Alternative 3, variation 2; Against Alternative 5**

Supports Alternative 2c, variation 1 or 2; Against Alternative 3, variation 2; Against Alternative 5, variation 1 or 2

We do not want Alternative 3-Variation 2 because it would place the freeway too close to our house. We would prefer Alternative 2c -- variation 1 or 2 which would buy us out of our house. We also do not want Alternative 5 variation 1 or 2 they would place the freeway too close to our home with too much noise and disrupt our privacy.

Thank you for contacting the Arizona Department of Transportation regarding the L303 improvements. Please feel free to review the project website for more information at:

<https://www.azdot.gov/planning/transportation-studies/loop-303-from-i-10-to-sr-30/overview>

Also, since you live in Estrella Village, I would like to invite you to stop by our Community Forum at the end of the month. We are inviting members of the community to drop in, ask questions and provide comments on January 31, 2018 from 2-6 p.m. Please see attached post card that you should be receiving in the mail soon!

Hope to see you there!

**Alternative 2c; Against  
Alternative 3; Information  
request**

Supports Alternative 2c; Against  
Alternative 3; Unhappy about lack  
of information found on website

My wife and I purchased our home about one and half years ago here in the beautiful Estrella Mountains. The community is clean, quiet and extremely conducive to outdoor hiking, walking and observing wildlife. We've recently learned of the planned Highway 303 loop extension running through our local community. This is most concerning to us for a variety of obvious reasons.

There's little doubt that Interstate 10 is highly congested and overloaded west of Phoenix most of the time. The intended purpose of 303 loop to remove traffic off Interstate 10 is valid; its just that the intended route through Estrella Mountain community is much more distributive than the alternative route to the west through rural farm land. While the traffic, noise , pollution, and lighting would remain the same, the impact is far less on this sparsely populated rural area than the highly developed community of Estrella Mountain. Perhaps the purchase of the rural land for easement purposes might even help eradicate the odious aroma of the cattle farms and excessive flies from all the manure.

Its also troubling that the availability of information on this project is not readily available or clear. Even at a recent public meeting on this subject, the information provided was not comprehensive and sketchy at best. Your website is equally ambiguous and difficult to navigate.

All of us purchased our homes in this beautiful community reasonably expecting the quiet enjoyment of this peaceful and idyllic community. Developing this major highway through our community disrupts that, devalues our homes and places an unreasonable burden on us as homeowners. For all these reasons, this project should not be developed through Estrella Mountain, rather relocated west into Rainbow Valley rural farm land to minimize its adverse impact.

<p><b>Alternative 2c; Against Alternative 3; Public meeting comment; Information request</b></p>	<p>Supports Alternative 2c; Against Alternative 3; Believes additional meetings should be held; Unhappy about lack of information found on website</p>	<p>After talking with neighbors and studying the options left for the 303 Loop south input, we are in favor of the alternative that takes the loop through the Rainbow Valley Road, not close to Estrella.</p> <p>This choice continues most of the 303's construction primarily in agricultural and commercial zones, not in the middle of or close to major community developments like Estrella.</p> <p>A freeway close to Estrella will impact the community in a number of ways. These are examples: 1) Various kinds of pollution: air, noise, and light; 2) depressed property values; 3) a community that is less desirable, leading current home owners choosing to leave this community; 4) the lengthy disruption of traffic patterns in our community; and 5) disruption of educational processes at the high school, which looks to be just to the west of this route for the 303.</p> <p>We believe more time must be spent gathering community input. Two two-hour sessions in both Estrella and Rainbow Valley is certainly not enough time to gather important community input, especially with pre-construction deadlines that must be met soon. We were out of town for both, but neighbors who attended thought the sessions were poorly organized and presented. Neighbors could not get their questions answered and found the information available was poorly and vaguely written. Online searches for information have yielded the same fog of lack of information. So far AZDOT has done a poor job of communicating with the people it serves.</p> <p>Please advise us that you have received this letter. We want to know that this actually reached the people whose emails were listed on various sites for comments on the project.</p>	<p>Dear Mr. and Mrs. Gilchrist,</p> <p>Thank you for your comments. They will be included the Public Involvement Summary Report for this project.</p> <p>Public involvement is a critical element of any transportation infrastructure project and we agree that the public should be allowed more time to provide input which is why we are currently planning another opportunity for that to transpire. We will be holding a Public Hearing in spring 2018. Please be on the look-out for more information in the next month or so.</p> <p>The two Community Forums that were held at the end of January from 2-6pm were in addition to a formal Public Meeting that previously took place in early December 2017. The forums were more of an informal open house type of gatherings intended to allow the public additional opportunity to learn about the project, ask questions and comment.</p> <p>I can understand how the public may feel that the project information is a little foggy because it is adjacent to other studies in the area and they are all correlated but are not part of the same project we are currently working on. I am more than happy to discuss any questions or concerns that you may have to help you better understand this process if you'd like, however, I suggest a lot more clarity to come after the Public</p>
<p><b>Alternative 2c; Against Alternative 5; Against Alternative 3</b></p>	<p>Supports Alternative 2c; Against Alternative 5; Against Alternative 3</p>	<p>Review of alternatives leads me to favor Alt 2C where 303 would be directed farther west. My concern is for preserving the quality of life for Estrella Mountain Ranch. The alternatives 3-5 with included variation would or could lead to a future 303 that impact a residential area that currently has developed into a comfortable lifestyle devoid of noise and congestion. Don't disrupt an area that is growing positively.</p>	
<p><b>Alternative 2c; Against Alternative 5; Against Alternative 3</b></p>	<p>Supports Alternative 2c; Against Alternative 5; Against Alternative 3</p>	<p>Strong concern if the 303 goes through Estrella and continues along power lines by the high school. Please do not do this! Do not do Alternative 3 or 5! Preference would be Alternative 2-variation 2 that takes loop west of Estrella, through Rainbow Valley (that parallels SR 85).</p>	
<p><b>Alternative 2c; Alternative 3; Alternative 5-variation 1</b></p>	<p>Supports Alternative 2c; Supports Alternative 3; Supports Alternative 5-variation 1</p>	<p>Alt 2, 3, 5-variation #1 appear to be favored by us.</p>	
<p><b>Alternative 2c; Alternative 5</b></p>	<p>Supports Alternative 2c; Supports Alternative 5</p>	<p>Alternatives 2 and 5 look like better choices. Alternative 3 having the potential to extend pass the preserve has to be the least favorable from both the cost and environmental impact on the preserve.</p>	
<p><b>Alternative 2c; Alternative 5</b></p>	<p>Supports Alternative 2c; Supports Alternative 5</p>	<p>I do prefer the option #2c or 5 it would be further from the densely populated Estrella Mountain Ranch.</p>	
<p><b>Alternative 2c; Alternative 5</b></p>	<p>Supports Alternative 2c; Supports Alternative 5</p>	<p>Alt. 2c and Alt. 5 are preferred as a resident of Estrella.</p>	



<b>Alternative 2c; Alternative 5</b>	Supports Alternative 2c; Supports Alternative 5	Thank you for the opportunity to see and discuss the proposed options for 303L I-10 to 30. I prefer the options that bring the 30 interchanges to the WEST of Cotton Lane. Alternative 2c and 5 meet my preferences. When looking to the future of growth in the SW valley, I feel keeping the 303L to the west.
<b>Alternative 2c; Alternative 5</b>	Supports Alternative 2c; Supports Alternative 5	We would like to see Alternative 2 or 3. As it would take the Southern extension of 303 thru less populated residential areas.
<b>Alternative 2c; Alternative 5</b>	Supports Alternative 2c; Supports Alternative 5	We believe the best (preferred) route is the 303 extension to follow Rainbow Road to the south. Proposals in order for us are 2-2, 2-1, 5-2, 5-1. With the variation most preferred is the construction to be concentrated in the smallest possible area but with the ease of future expansion in the futures.
<b>Alternative 2c; Alternative 5; Against Alternative 3</b>	Supports Alternative 2c; Supports Alternative 5; Against Alternative 3	The residents of Estrella for the most part live out here to get AWAY from the traffic of a freeway. Alternative 2c takes the traffic the furthest from impacting our routes to our development at present. Alternative 5 is another better alternative for the MAJORITY of homeowners here. There are those on the west side opposed to the Rainbow Valley route (Alternative 3) but they are a MINORITY. Our peaceful, family oriented community would be NEGATIVELY impacted by the route through Cotton Lane (Alternative 3) bringing noise and more traffic out our way.
<b>Alternative 2c; Alternative 5; Against Alternative 3</b>	Supports Alternative 2c; Supports Alternative 5; Against Alternative 3	Alternative 2 and 5 will have least impact on Estrella Mtn community; either is preferable to Alternative 3, which will lend to the 303 going right through the neighborhoods.
<b>Alternative 2c; Alternative 5; Against Alternative 3</b>	Supports Alternative 2c; Supports Alternative 5; Against Alternative 3	Alternative 3=Do NOT want-potential for project to impact Estrella Mtn Ranch community is too great. Do not want road to come anywhere near the community. It would severely NEGATIVELY impact the quality of life that has been established here. Alternative 2C and 5=APPEAR to have little impact on the community.
<b>Alternative 2c; Alternative 5; Against Alternative 3</b>	Supports Alternative 2c; Supports Alternative 5; Against Alternative 3	I prefer either 2C or 5 as the most feasible route for 303 extension to 30. Less families would be effected with land acquisition. #5 not only would negatively affect land values here in Estrella but would unnecessarily divide the community and be the most unsightful where beautiful foothills and mountain views are impacted. Knowing the importance of increasing access to highways. We need to consider the environmental impact of the route on our wildlife and our plant life. Also the building process and the amount of blasting would have a detrimental effect on our children and our seniors. For this reason please do not choose #3.
<b>Alternative 2c; Alternative 5; Against Alternative 3</b>	Supports Alternative 2c; Supports Alternative 5; Against Alternative 3	Want the route to go 2c or 5 alternative. I do not want to come alongside Cotton Lane feel the disruption to the area where it would involve Estrella Pk. Would cause too much congestion and take up too much of the entrance to the community and bring too much traffic and noise to what is a great place to live away from the hussel bussel. The path towards Rainbow Valley will be better for future growth in Goodyear.
<b>Alternative 2c; Alternative 5; Against Alternative 3</b>	Supports Alternative 2c; Supports Alternative 5; Against Alternative 3	Thank you for providing the opportunity for feedback! Our feedback is to avoid Option 3 - the freeway running right through the Estrella community would be highly disruptive and would negate and impact all of the benefits of the present community. We chose it for remoteness and peace and quiet. Please consider option 2c or 5 as they satisfy all the project's objectives without negatively impacting the communities of Estrella and Canta Mia. Thank you for your consideration.
<b>Alternative 2c; Alternative 5; Against Alternative 3</b>	Supports Alternative 2c; Supports Alternative 5; Against Alternative 3	I am totally against alternative 3. I much prefer alternative 2c or 5. I don't believe running the 303 right through the Estrella community is a good idea. I believe the 303 should be routed to the west of the Estrella community.
<b>Alternative 2c; Alternative 5; Against Alternative 3</b>	Supports Alternative 2c; Supports Alternative 5; Against Alternative 3	Prefer 2c or 5 please. Alternative 3 would eventually disrupt the Estrella master planned community and ruin what we have. Thank you.

<b>Alternative 2c; Alternative 5; Against Alternative 3</b>	Supports Alternative 2c; Supports Alternative 5; Against Alternative 3	2c or 5. Why on earth would you divide my beautiful, amazing community?
<b>Alternative 2c; Alternative 5; Against Alternative 3</b>	Supports Alternative 2c; Supports Alternative 5; Against Alternative 3	2 vote yes on 2 or 5. No-following Cotton Lane into Estrella Mountain Ranch.
<b>Alternative 2c; Alternative 5; Against Alternative 3</b>	Supports Alternative 2c; Supports Alternative 5; Against Alternative 3	Preferred Choice: option 2c or 5 leading longterm extension into Rainbow Valley area. Against option 3.
<b>Alternative 2c; Alternative 5; Against Alternative 3</b>	Supports Alternative 2c; Supports Alternative 5; Against Alternative 3	For me Alternative 3 is a definite NOT. This will eventually bring the Loop 303 through Estrella causing noise and an unsightly highway through a beautiful and quiet/peaceful community. My preference would be for Alternative 5 or Alternative 2c; whichever is the most cost effective and most preferred. The area of Rainbow Valley is not as densely populated and would better accomodate highway traffic.
<b>Alternative 2c; Alternative 5; Against Alternative 3</b>	Supports Alternative 2c; Supports Alternative 5; Against Alternative 3	Based on the number of people impacted by the Route 303 expansion in the future (post 2022), Alternatives 2c and 5 offer the best choices. Alternative 3 would impact all of the Extrella Mountain Ranch residents, as well as those in Canta Mia, negatively with noise and air polluion. (This is a real problem for the more elderly population residing in Canta Mia.)
<b>Alternative 2c; Alternative 5; Against Alternative 3</b>	Supports Alternative 2c; Supports Alternative 5; Against Alternative 3	Preferable routes of Alternative 2c and Alternative 5!! Both routes direct traffic away from Estrella Mountain Ranch Community. Also Estrella Foothills High School will not be adversely affected. West side of Estrella Regional Park will not be negatively affected.
<b>Alternative 2c; Alternative 5; Against Alternative 3</b>	Supports Alternative 2c; Supports Alternative 5; Against Alternative 3	We want either 2c or 5. So that when it continues it will NOT go through Estrella Mountain Ranch. We have too many neighborhoods at risk.
<b>Alternative 2c; Alternative 5; Against Alternative 3</b>	Supports Alternative 2c; Supports Alternative 5; Against Alternative 3	Alternative 2c and 5 would be the preference. Take it out thru Rainbow Valley due to future growth of Estrella. Estrella is only 10% built out with 5,500 roof tops currently. Traffic congestion will be heavy without adding additional traffic.
<b>Alternative 2c; Alternative 5; Against Alternative 3</b>	Supports Alternative 2c; Supports Alternative 5; Against Alternative 3	As an Estrella resident, any alternative that turns the 303 loop westward would be preferable, as that would reduce the chances of the 303 loop continuing down Cotton Lane and essentially through the middle of Estrella (Alternative 2 or 5 therefore preferable). I'm not sure what other considerations there are, but the alternatives that leave SR30 to the north of the power lines would appear to avoid the cost of relocating the power lines and therefore be preferable.
<b>Alternative 2c; Alternative 5; Against Alternative 3</b>	Supports Alternative 2c; Supports Alternative 5; Against Alternative 3	On reviewing presented alternative, we are in favor of Alternative 2c or 5 that projects movement towards Rainbow Valley. We are not in favor of including any construction south of MC85 on Cotton Lane.
<b>Alternative 2c; Alternative 5; Against Alternative 3</b>	Supports Alternative 2c; Supports Alternative 5; Against Alternative 3	The best choice for routing the 303 on the west side would be Alternative 2c or 5. These alternatives have the 303 routing to the west of Estrella Mt. Ranch. The EMR community is a rapidly growing community, which would drastically be affected by construction of the 303 through it, during the building of and after its completion. The 303 at EMR would separate the regional park and our community. Routing through Rainbow Valley would have an impact on far fewer numbers of individuals than if it was routed in EMR. Please consider these impacts on our community.
<b>Alternative 2c-variation 1 or Alternative 5</b>	Supports Alternative 2c-variation 1 or Alternative 5	I prefer variation 2 on 1 or Alternative 5. this makes the most sense.
<b>Alternative 2c-variation 1; Against Alternative 3</b>	Supports Alternative 2c-variation 1; Against Alternative 3	Alt. 2c-variation 1 north of. So as not to ruin the Estrella scene. I know it is way in the future.

<b>Alternative 2c-variation 1; Other Freeway Comment</b>	Supports Alternative 2c, variation 1; Interested in access and freeway design issues	I prefer Alternative 2c with the Southern location for the interchange with SR 30. Please make all overpasses for two cars.two lanes. This greatly reduces traffic backup. If possible design carpool lane overpass instead of eliminating the lane near the interchange then creating it back after the interchange. This greatly reduces merging lands and traffic complaints during rush hour. Please consider larger access frontage roads and turning lanes south of Lower Buckeye to take into account the increased truck/semi truck traffic from the distribution centers such as Amazon.
<b>Alternative 2c-variation 2</b>	Supports Alternative 2c-variation 2	Alternative 2c-variation 2
<b>Alternative 2c-variation 2; Against Alternative 3</b>	Supports Alternative 2c-variation 2; Against Alternative 3	Alternative 2c variation 2 appears less disruptive to existing developments and farther away from the river wetlands. Also gives good access to 303 extension being farther west. That part should not split Estrella.
<b>Alternative 2c-variation 2; Against Alternative 3</b>	Supports Alternative 2c-variation 2; Against Alternative 3	It seems that opt. 2c-var.2 would be best from a cost standpoint? Anyway, we would prefer that the route would avoid the round-about. Thank you for being sensitive to keeping the route away from the residences in Estrella Mountain. We will look forward to the decision you come up with regarding 2c var 2 vs. 2c var 1.
<b>Alternative 2c-variation 2; Against Alternative 3</b>	Supports Alternative 2c-variation 2; Against Alternative 3	Alternative 2c-variation 2 would be preferred. Least disruption to community in Estrella, including high school.
<b>Alternative 2c-variation 2; Against Alternative 3</b>	Supports Alternative 2c-variation 2; Against Alternative 3	support Alternative 2c-variation2. 1) less impact to schools and community. 2) less impact to protected lands est of Estrella parkway. 3) less impact to Palo Verde power lines. 4) follows original 2006 corridor along Rainbow highway to south. 5) supports economic development in Buckeye. 6) impact to existing wetlands and Gila River corridor can be mitigated and could even improve and increase the numbers of wetland classifications and provide for additional riparian habitat.
<b>Alternative 2c-variation 2; Against Alternative 3</b>	Supports Alternative 2c-variation 2; Against Alternative 3	We in estrella would like to see it go through Rainbow Valley. SR 303L, SR30 to I-10 Alternative 2c-variation 2.
<b>Alternative 2c-variation 2; Against Alternative 3</b>	Supports Alternative 2c-variation 2; Against Alternative 3	I don't consider myself a "nimby" but the reason we bought in EMR was not for the convenience of a nearby freeway but for the quiet and lack of road noise and trains and ships passing in the night. So the farther north you can make this the better. For the reason I vote for Alternative 2c variation 2.
<b>Alternative 2c-variation 2; Alternative 5-variation 2; Against Alternative 3</b>	Supports Alternative 2c-variation 2; Supports Alternative 5-variation 2; Against Alternative 3	Alternative 2c-variation 2. Alternative 5-variation 2. Prefer route to go through Rainbow- Keep to the west of Estrella Mtn Ranch.
<b>Alternative 2c-variation 2; Alternative 5-variation 2; Against Alternative 3</b>	Supports Alternative 2c-variation 2; Supports Alternative 5-variation 2; Against Alternative 3	First choice Alternate 5-variation 2. Second choice Alternate 2c-variation 2. I would much prefer the 303 never come up cotton Ln. and through the ranch!
<b>Alternative 2c-variation 2; No build; Against Alternative 3</b>	Supports Alternative 2c-variation 2; Supports no build; Against Alternative 3	SR303L SR30 to I-10 Alternative 2c-variation 2 -- best. Alternative 2c-variation 2 supports economic development in Buckeye. Do not route 303 up and through or east of Estrella Parkway. Keep the extended 303 down on the lower valley following Rainbow Hwy south. Impacts to Gila River ecosystems can be mitigated even improving wetland habitats. No build would be preferred to routing the 303 east of Estrella parkway. We purchased properties in the Fairway community and do not want to see the landscape to the east changed.

<b>Alternative 3</b>	Supports Alternative 3	I am strongly in favor of Alternate 3 as presented in the subject study.
		I attended a recent presentation at the Estrella Mountain Ranch Starpoint facility on options for extending Loop 303 to meet the planned SR30. Alternate 3 seems to present the most direct route to the future SR30. In addition, this route also would be consistent with the most cost effective and environmentally friendly approach to a possible further extension of Loop 303 down the Cotton Lane corridor. I say this because it seems to allow a shorter, less intrusive crossing of the Gila River and also allows the road to follow an existing transmission line corridor.
<b>Alternative 3</b>	Supports Alternative 3	Option 3 please
<b>Alternative 3</b>	Supports Alternative 3	I would like the 303 southern extension to go directly south along Cotton Ln. This will then (not shown) connect to MC85 and the future SR30. This seems best.
<b>Alternative 3</b>	Supports Alternative 3	lop 303 should follow south and cross the Gila River at the narrow part of the river following the power line south where a right of way already exists. It is closest to what your calling alternative 3.
<b>Alternative 3</b>	Supports Alternative 3	I prefer the Cotton Lane options. Short and straight, limiting highway prescence in the river where wildlife still struggle to survive. Also, less highway mileage/building costs.
<b>Alternative 3</b>	Supports Alternative 3	Alternative 3
<b>Alternative 3</b>	Supports Alternative 3	Alternative 3
<b>Alternative 3</b>	Supports Alternative 3	Vote for Alternative 3
<b>Alternative 3</b>	Supports Alternative 3	Alternative 3. Follow power lines. No housing involved.
<b>Alternative 3</b>	Supports Alternative 3	Alternative 3. Follow power line.
<b>Alternative 3</b>	Supports Alternative 3	Alternative 3. Follow power line.
<b>Alternative 3</b>	Supports Alternative 3	#3 because it is east of Estrella Mountain Ranch. The ranch is have a great population explosion. If need to accommodate them as I see the gretest need. Thank you for letting us give input.
<b>Alternative 3</b>	Supports Alternative 3	I feel that alternative 3 would be the best choice.
<b>Alternative 3</b>	Supports Alternative 3	Spanning the river south of MC85 is not an option. Run it down Cotton Lane, less expensive! Alterntive 3.
<b>Alternative 3</b>	Supports Alternative 3	Best Alt is #3. Cheaper/easier. Was the original route and a lot of people made their lives around this way.
<b>Alternative 3</b>	Supports Alternative 3	The original plan was to bring the freeway down Cotton Lane south into Estrella. We purchased our ome in 2001 with that understanding. Keep it as originally planned -- seniority should have some extra weight in decision making.
<b>Alternative 3</b>	Supports Alternative 3	Please build Alternative #3. Thanks! P.S. Seems like a lot of Estrella residents who want 303 to go around Estrella are 60-plus years old. Meaning they may never see the alignment they're advocating. I am in my 30's and...I'll be around. Please build Alternative #3.
<b>Alternative 3</b>	Supports Alternative 3	Alternative 3 appears to be the most efficient and cost effective.
<b>Alternative 3</b>	Supports Alternative 3	Recommend one of the Alternate 3 designs -- Rt 30 would end approx. 1/2 mile west of Cotton. It could then be extended south for 303, if it goes that way. Would like to see Rt 303 straight south or originally planned.
<b>Alternative 3</b>	Supports Alternative 3	"303 South" I like Alternative 3 (more southerly route). 1) We need a way to get to I-10 faster. 2) The other alternatives favor the southern Buckeye farming areas.
<b>Alternative 3</b>	Supports Alternative 3	I would like to see the SB 303 use the Cotton Ln (Alternative 3) route. To me that impacts the fewest homes, has the least amount of environmental impact, and costs the least.

<b>Alternative 3</b>	Supports Alternative 3	Alternative 3 is better because it maintains further out of Estrella, yet being easily accessible and short distance to Phoenix easy access through Cotton Lane.
<b>Alternative 3; Against Alternatives 2c and 5</b>	Supports Alternative 3; Against Alternatives 2c and 5	I attended the Estrella Ranch public meeting on the extension of the Loop 303 to proposed State Route 30 in Goodyear. After reviewing the maps and talking with AZDOT personnel present, I think Build Alternative 3 is the best route for the extension and for any future builds. Obviously, the route the extension takes determines the route of the future build out of the 303, via either Rainbow Valley or Cotton Lane. Build Alternative 3 has the shortest and most direct route over the Gila River and therefore it would cost less. Very few houses, if any, would need to be acquired for right-away access if this route is adopted. Build Alt 2 and 5 would require funds to buy out many current homeowners. At least one neighborhood along Rainbow has high-end homes on acre lots. It is my understanding that Build Alternative 3, which sets forth the Cotton Lane continuation route, would run east of the existing power poles that run parallel to Estrella Parkway. This route is further away from existing homes than the Rainbow Valley route, meaning less noise and less dust during construction. Build Alternatives 2 and 5 would be very close to two of the three neighborhoods in Estrella--Montecito and Canta Mia, as Rainbow Valley Road runs along the edge of these two developments, creating lots of noise and dust.  Again, I think Build Alternative 3 is the way to proceed.  Thank you for the opportunity to comment.
<b>Alternative 3; Against Alternatives 2c and 5</b>	Supports Alternative 3; Against Alternatives 2c and 5	My name is Sheree and my husband and I reside in Rainbow Valley (Buckeye) AZ. We are writing to you today to have our opinion included in the Loop 303 construction route and we choose option 3. Having this freeway go down any other options would not only disrupt the natural habitat or our area, including the bald eagles that reside here, but it would also impact the rural living that we enjoy. A freeway going through would completely change the way of living and force many of us to move. We moved out here because we wanted to raise our children to know and understand what it means to work hard and still enjoy life, be able to raise animals and run around and be boys. Not be in the city life or next to a noisy freeway.  I appreciate you taking the time to take our opinion into consideration.
<b>Alternative 3; Against Alternatives 2c and 5</b>	Supports Alternative 3; Against Alternatives 2c and 5	Please use the route toward the (Alt. 3) direct Cotton Lane arterial south of MC 85 to SR 30. I would prefer that the eventual 303 south passed SR30 go through the east side of Estrella Mountain Ranch, not Rainbow Valley proposal.
<b>Alternative 3; Against Alternatives 2c and 5</b>	Supports Alternative 3; Against Alternatives 2c and 5	Alternative 3 is the plan you need to use. When we bought our home in Rainbow Valley in 2011. We were told and verified the 303 was going south on Cotton Lane and follow the power lines. It is our understanding home owners that built in that area were also informed and signed off on it. It will also cost more to change the route to any of them so I don't understand the reason to consider them. Therefore, I vigorously oppose any plan that includes Rainbow Valley corridor -- Alternative 3 is the one you need to stick with and use.
<b>Alternative 3; Against Alternatives 2c and 5 Alternative 3; Against Alternatives 2c and 5</b>	Supports Alternative 3; Against Alternatives 2c and 5 Supports Alternative 3; Against Alternatives 2c and 5	We want alternative 3. We want the end freeway 303 to go through Goodyear and not Rainbow Valley. Rainbow Valley is a rural community and we don't want growth. Alternative III or Three or 3. I. Please keep out of rural Rainbow. 2. If you keep the 303 as county planned have run/follow the power lines. 3. Estrella Mnt Ranch knew the 303 would be coming and won't affect them as much as going through Rainbow. 4. What about Federal Trust Land south of river, west of Cotton? This is closed to vehicles. 5. Alt. 3 would be less cost!!

<b>Alternative 3; Public meeting comment</b>	Supports Alternative 3; Appreciated information at meeting	Excellent amount of data. Thank you. 303 through Rainbow Valley appears to be most expensive possibility southbound. Property acquisition, river flood plain width are all issues. Southbound 303 through Estrella appears to be best. Concerned about intersection with Estrella Pkwy.
<b>Alternative 3; Public meeting comment; Other Freeway Comment</b>	Informative public meeting; Supports Alternative 3; Recognizes need for freeways	I was pleased to find informative people and get a good idea of what is happening with the new freeway system coming to this area. It is a step in the right direction as far as transportation out here. We are woefully in need of better and more highways. My husband works in Mesa, and has worked only in the east valley for the last 20 years as long as we have lived here. I am concerned about the direction this enormous roadway may turn going south beyond the stack system I've seen. I have lived very near the I-10 before moving out here and became very nauseated by the smog or pollution that a major freeway creates. Although it will be necessary somewhere, I am hoping ADOT will consider past development plans down thru Estrella as opposed to making one out of thin air. I believe all things being equal, stick to any original plan that would have been put in place long before this system was created. Because I live in Rainbow Valley I do have a valid concern as all involved do. I would not like to live next to a giant freeway system, I would for sure have to move away from it. And I don't believe the powerful and connected should have any more sway than the small and not connected in the least. I believe the shortest, cheapest and most environmentally friendly choice should prevail above all. I am not very confident in the system working for those with the smallest voice or smallest community, but strange things can happen. I hope for the best outcome for all.
<b>Alternative 3; Supportive of 303</b>	Supports Alternative 3; Supports 303/Against No Build	Thank you for your presentation! My opinion: Throw away the no build option. We need to continue with planning and development of new roads. I-10 is turning into a train wreck! The valley needs this. Following Cotton up to the round about on Estrella/Cotton intersection makes the most sense to me. The bridge over the Gila River is completed and it appears many of the right of ways are already in place. Best Regards,
<b>Alternative 3-variation 1</b>	Supports Alternative 3-variation 1	I envisioned a plan similar to Alt 3 Var 1 when we moved here 4 years ago. The community south of the Gila River appeared to have built with that in the infrastructure. The powerlines east of Estrella Pkwy looked to be a perfect companion to the future routing.
<b>Alternative 3-variation 2</b>	Supports Alternative 3-variation 2	My vote is Alternative 3, variation 2 because it will continue straight south and not affect our neighborhood.
<b>Alternative 3-variation 2</b>	Supports Alternative 3-variation 2	I prefer Alternative #3-variation 2. We would like to keep Rainbow Valley more rural. Less impact to wildlife. #2 takes more land and could cost more - (no). #3 would cost less. #3 allows more focus traffic. #2C looks like more cost \$ (no). #3 could use more of the existing highway and allow for more expansion and utilized more.
<b>Alternative 3-variation 2</b>	Supports Alternative 3-variation 2	Alt. 3 variation 2 is the best and original "solution." The other 2 options/alternatives bring the freeway directly behind my home (within 1 mile) and with the building of commercial businesses along the freeway will literally bring them to my fence. I have fought these options since the beginning of talks for this project. I also realize that this project is a long time in coming, but I am trying to protect future owners.
<b>Alternative 3-variation 2; Alternative 3-variation 2; Other Freeway Comment</b>	Supports Alternative 3-variation 2; Supports Alternative 3-variation 2; Wants better access to 303 for Estrella residents	Alternative 3 variation 2 Alternative 3 variation 2. I like it but we need better access to the new 303 both northbound and southbound as Estrella residents would now use it instead of Estrella Parkway.
<b>Alternative 5</b>	Supports Alternative 5	Alt. 5 looks to be the most practical.
<b>Alternative 5</b>	Supports Alternative 5	We prefer Alternative 5.

<b>Alternative 5</b>	Supports Alternative 5	Alt. 5 is our choice. It will impact us less.
<b>Alternative 5</b>	Supports Alternative 5	#5. 303 needs to travel west of Estrella Mtn Ranch development. Following the drainage canal makes sense less costly.
<b>Alternative 5; Against Alternative 3</b>	Supports Alternative 5; Against Alternative 3	Dear Sir or Madam: Alternative 5 is the best option as I see it. First, it would be the termines of Rt 30 and 303. Second, it would be best for the extension of the 303 south down the Rainbow Valley Road area. Third, this would be best for the future growth of both Buckeye and Goodyear. Fouth, it would eliminate the highway noise from bouncing off the Estrella mountains and decreasing the residents of Estrella Mountain Ranch. Ex: traffic flows to Buckeye would not need to flow through Estrella Mountain Ranch but would be better off Rainbow Valley Road.
<b>Alternative 5; Against Alternative 3</b>	Supports Alternative 5; Against Alternative 3	Thank you for giving this opportunity to the public for feedback. I would vote for 5 - either view. I don't want the freeway going between the Estrella community and the Estrella mountains. The sound of traffic is not needed. We appreciate the quietness of our current community. It is treasured by many. The look of a freeway would not be appreciated. We bought because of the mountains and the desert and the fact that the community was isolated from the city traffic.
<b>Alternative 5; Against Alternative 3</b>	Supports Alternative 5; Against Alternative 3	My preference is option 5 -- with eastbound lanes linking to I-30 separately and Rt 303 parallelling Rainbow Valley Road. I do not want to see 303 going thru the middle of Estrella Mountain Ranch Community. I would actually prefer that it parallel JackRabbit instead of Rainbow Valley, but that is not in the planning stages at this time.
<b>Alternative 5; Against Alternative 3</b>	Supports Alternative 5; Against Alternative 3	Running a four lane highway through the round about area would destroy the atmosphere of the entire area. Can't imagine enjoying the lakes with a huge highway right there. The highway also passes by the high school which wouldn't be a good idea. Alternate 5 seems to be the preferred location for ths highway. It doesn't disturb the already established residencial areas of Estrella. Rainbow Valley is the better choice.
<b>Alternative 5; Against Alternative 3</b>	Supports Alternative 5; Against Alternative 3	It appears that option 5 would minimize the impact on housing developments by having the 303 and SR30 further west. The "King Ranch" land was slated to be a large residential and commercial development. The potential to devlue that approx. 6,000 units would be very high if 303 continues to follow the Cotton Lane right away past Lower Buckeye. I believe the terrain south of MC85 and east of Cotton Lane would be costly to implement a multilane highway like 303.
<b>Alternative 5; Against Alternative 3</b>	Supports Alternative 5; Against Alternative 3	As a home owner in Estrella Ranch I would want to see option 5 with the new 303 extension curving south to meet the new state road 30. This would avoid the future expansion of 303 going right through our subdivision which would eventually happen with option 3. The future track of option 3 should take it along Paradise Valley Road which is wide open undeveloped space.
<b>Alternative 5; Against Alternative 3</b>	Supports Alternative 5; Against Alternative 3	As a homeowner in the Estrella Ranch Community, Alternative 5 is my vote, preference and recommendation for the following reasons: 1-avoidance of congestion on Cotton Rd. 2-avoidance of the negative environmental and real estate impact on our community 3-enhanced expedience of traffic flow and control
<b>Alternative 5; Against Alternative 3</b>	Supports Alternative 5; Against Alternative 3	Alternative 5 is the best for estrella, we don't want 303 becoming so close to us.

<b>Alternative 5; Against Alternative 3</b>	Supports Alternative 5; Against Alternative 3	Looking at the different alternatives, it seems Alternative 5 would be most prudent if the 303 traverses Estrella Mtn Ranch in its proposed route, the natural elements of mountain bike trails, mines and mountains would be negatively affected. In addition, running behind the high school and bike track could be dangerous to the youth of Goodyear. The noise would be exasperbated by the mountain enclosure to the east as well as increased traffic through the community. Rainbow Valley is less populated and already serves as a passage on Rainbow Valley Road.
<b>Alternative 5; Alternative 2c; Against Alternative 3</b>	Supports Alternative 5; Supports Alternative 2c; Against Alternative 3	Least impact for us Estrella residents for Var. #5. That would be my preferred route. Alternative #2c and least of all #3.
<b>Alternative 5; Alternative 2c; Against Alternative 3</b>	Supports Alternative 5; Supports Alternative 2c; Against Alternative 3	We prefer 5 or 2c which would swing 303 over to the west. Reasoning would be effect on community.
<b>Alternative 5; Alternative 2c; Against Alternative 3</b>	Supports Alternative 5; Supports Alternative 2c; Against Alternative 3	I am in favor of Alt 5-variation 1 -- It appers that it would be of least impact to Estrella Mountain Ranch homes and their environment. Alt. 2c-variation 1 is my second favored proposal as it again would be of least impact to Estrella Mountain Ranch homes.
<b>Alternative 5; Alternative 2c; Against Alternative 3</b>	Supports Alternative 5; Supports Alternative 2c; Against Alternative 3	As we understand three of the original alternatives were eliminated after mandatory, studious due deligence which concluded their impact on the flora/fauna and environment of the Gila River Basin was wholly negative, with that same approach, albeit the impact on the human residence of Estrella Mountain Ranch, the only alternative with minimal impact on these residences would be Alternative 5 or 2c. This choice is for a variety of reasons, not the least of which are crime, noise, pollution, and the loss of the tranquil environment that the vast majority of residents considered in their original choice. In the final analysis, it must be the choice of residents over agriculture.
<b>Alternative 5; Alternavtive 2c; Against Alternative 3; Public Meeting comment</b>	Prefers Alternative 5, variation 1 or 2; Supports Alternavtive 2C, variation 1 or 2; Against Alternative 3; Unhappy with content and delivery of information at Copper Trails School.	In follow-up to the public meeting held December 6, 2017 at Copper Trails School, Goodyear, AZ, I am offering several comments, as follows: -There were 3 Alternative routes, each with 2 variations, for a total of 6 possible choices for routing of the the roadways. -Alternative 3, either variation is unacceptable -Alternative 2C, variations 1 and 2 are acceptable -Alternative 5, variations 1 and 2 are acceptable It is my opinion that the routing of Alternative 5 is the preferred option, with either variation. I am sure the final location of SR 30 is dependent on factors beyond my level of concern so I would encourage Alternave 5, variation 1 or 2, to be your final selection. A note regarding the meeting held at Copper Trails School: I was very impressed with the scheduled meeting and the amount of planning and preparation involved. I was disappointed with the introduction of how things were laid-out and what would be discussed in the formal presentation. The biggest disappointment came in that presentation. The PA system of an elementary school gym sounded horrible to the ears of this senior citizen. Whether that was due to speakers positioning of the microphone to their mouth or the clarity of the speaker system, or what, I cannot say. I only know I could not understand 90% of what was presented. You had a very good turnout of local citizens for this important topic. If you are unable to communicate with the willing folks that show-up how can you expect to get the other folks to listen?



<b>Alternative 5-variation 1; public meeting comment</b>	Supports Alternative 5-variation 1; Appreciated open house	Our church plant (2004) purchased 6 acres at Broadway and Jack Rabbitt in (2007). We plan to break ground Fall 2018 and occupy Easter 2019. Plan 5 looks best for this in the future. We are for the freeway coming as close to our proximity as possible (Southwest Ranch--Future--Buckeye). We live here in Estrella. Glad to see plan possibility that goes to the southwest rather thru straight south! Plan 5! variation #1. Thanks for the open house! Well done!	
<b>Alternative 5-variation 2</b>	Supports Alternative 5-variation 2	We/I prefer Alternative 5-variation 2.	
<b>Alternative 5-variation 2</b>	Supports Alternative 5-variation 2	I prefer alternative 5-variation 2.	
<b>Alternative 5-variation 2;</b>	Supports Alternative 5-variation 2;	My preference is for Alternative 5, variation 2.	
<b>Against Alternative 3</b>	Against Alternative 3	I prefer Alternative 5 variation 2 so that the atmosphere of Estrella Mountain Ranch will be impacted less for future development and allow for optimal value in road construction (as I understand it).	
<b>Alternative 5-variation 2;</b>	Supports Alternative 5-variation 2;	Preference to Alt 5 variation 2 as it takes the 303 away from Estrella towards the west.	
<b>Against Alternative 3</b>	Against Alternative 3	Preference: Alternative 5-Variation 2. Concerned with the future extension of 303 and this variation avoids going up Cotton Lane. It also would take 303 around the foothills to the west to hook up with Rte 85 and avoids going through the Reservation. Other alternatives that go up Cotton Lane threaten to cut Estrella Mountain Ranch communities in the future when 303 would be extended beyond 2022. Also would require the road to skirt or go through the Estrella Mountains to hook up with Rte 85 in the future. I think it is disingenuous not to have shown the future extension routes through Estrella Mtn Ranch. Adot-what are you afraid of?	
<b>Alternative 5-variation 2; Information Request Construction Concerns; Other Freeway Comment</b>	Supports Alternative 5-variation 2; Wants information further south Concerned about construction's effect on livelihood and quiet environment; potential noise of freeway	Alternative 5-variation 2! You need the maps to go farther south so Estrella residents can see the impact to us. The presentation is incomplete in terms of the effect on us. Hi, I was unable to attend the Dec 6 meeting. I currently reside south of Yuma and east of cotton lane. Obviously the construction is going to affect my livelihood and quiet environment that I enjoy. What kind of highway is proposed down cotton lane? How many lanes? Is it going to be a single highway or is it going to be raised up? Will there be a fence to block the noise?	(not shown)
<b>Information Request</b>	Requested information about the potential effect on a business location	I would like to talk about the 303 and how it affects the cotton gin on Yuma/Cotton in Goodyear.	ADOT returned the call.

<b>Information Request</b>	Doesn't want to live near a freeway. Informed that home is significantly outside the study area.	<p>I have received information that the 303 highway is going to go thru my neighborhood. My address is 11415 West Sunland Avenue, Tolleson(Avondale), AZ 85353. My major cross streets are Avondale Blvd and Southern Avenue, I'm 1 street north of Hidalgo.</p> <p>I want to know if my home is going to be effected by the Loop 303. I don't want to live by a major freeway.</p>	<p>Thank you for contacting ADOT. I have forwarded your concerns and comments to our Project Team for review and response as quickly as possible. I would also encourage you to attend the public meeting scheduled for Dec. 6, 2017 at the address below, as well as visiting the Loop 303 Project website at the link below for additional information on the project:</p> <p><a href="https://www.azdot.gov/planning/transportation-studies/loop-303-from-i-10-to-sr-30">https://www.azdot.gov/planning/transportation-studies/loop-303-from-i-10-to-sr-30</a></p> <p>Again, thank you for contacting our office. -----The Loop 303 project team has reviewed your question concerning your property address and have found that since this address is approximately 7 miles east of Cotton Lane (future Loop 303 alignment), it will not be impacted by the Loop 303. However, I am forwarding your property address to our SR 30 team to see if it may be impacted by that proposed project. Thank you.</p>
<b>Information Request</b>	Requested alternatives	<p>I am interested in the future alignment of the Loop 303 south of and through Estrella. Are there potential alignments being considered at this time. I see where Goodyear shows the alignment on their General Plan Land Use Map. Do you have any maps that you can share?</p> <p>I would appreciate any background and updates you may have.</p>	<p>Thank you for contacting the Arizona Department of Transportation. Please feel free to review the website for additional background information and maps of potential SR 30 alignments: <a href="https://www.azdot.gov/planning/transportation-studies/loop-303-from-i-10-to-sr-30/overview">https://www.azdot.gov/planning/transportation-studies/loop-303-from-i-10-to-sr-30/overview</a>. You will find map alternatives located in the Meetings tab.</p> <p>Please let me know if you have any additional questions or comments.</p>
<b>Information Request</b>	Requested alternatives and public meeting information	Please send the alternative routes to our email and the planned meeting agenda that will be presented Dec. 6th public meeting.	<p>Thank you for contacting our office regarding the Loop 303; SR 30 to I-10 project. The materials for the public meeting are not available at this time. I have provided the link to the project website where you can find the materials currently available for the public. I would encourage you to attend the Dec. 6th meeting, as well as subscribe on the website for all alerts regarding the project.</p> <p><a href="https://www.azdot.gov/planning/transportation-studies/loop-303-from-i-10-to-sr-30">https://www.azdot.gov/planning/transportation-studies/loop-303-from-i-10-to-sr-30</a></p> <p>Again, thank you for contacting ADOT.</p>
<b>Information Request</b>	Requested general freeway information	So there's nothing being considered at this time further south of the SR-30 alignment?	Correct. The current Regional Transportation Plan Freeway Program goes to 2025, and does not include construction of the Loop 303 connections to the planned SR 30.

<b>Information Request</b>	Requested general information	(Information request by phone.)	<p>It was very nice speaking with you today. I have provided the links to both the Loop 303 project and the Maricopa Association of Governments:</p> <p><a href="https://www.azdot.gov/planning/transportation-studies/loop-303-from-i-10-to-sr-30/overview">https://www.azdot.gov/planning/transportation-studies/loop-303-from-i-10-to-sr-30/overview</a></p> <p><a href="http://azmag.gov/">http://azmag.gov/</a></p> <p>Please feel free to contact our office with any other questions or concerns regarding the project. Thank you for contacting ADOT.</p>
<b>Information Request</b>	Requested information on alignments	Can I get some information on the proposed routes? I live in Estrella Mountain.	
<b>Information Request</b>	Requested information outside project parameters, interested in determination of alignment	<p>Thank you Gabriella. I did review the alignment/status of the 303 to the SR-30 alignment. Are there any plans for the 303 alignment south of the SR-30 alignment?</p> <p>Can you tell me what the status on the potential alignment is going through Estrella?</p>	<p>We are still early on in the environmental process and hoping to have a draft Environmental Assessment and Design Concept Report this spring. A Public Hearing will then be held and the final Environmental Assessment is expected to be completed in summer 2018.</p> <p>You can review the Alternatives being considered here: <a href="https://www.azdot.gov/docs/default-source/transportation-studies/loop-303-alternatives-boards-120417.pdf?sfvrsn=2">https://www.azdot.gov/docs/default-source/transportation-studies/loop-303-alternatives-boards-120417.pdf?sfvrsn=2</a> and as always, there is a no build alternative as well.</p> <p>Good afternoon Ms. Bomar, thank you for your email regarding ADOT's Project SR 303, SR 30 – I-10.</p> <p>Please see the attached exhibit showing Parcel 502-50-15F in relation to the study limits. Additional information related to the study can be found on ADOT's website: <a href="https://www.azdot.gov/planning/transportation-studies/loop-303-from-i-10-to-sr-30">https://www.azdot.gov/planning/transportation-studies/loop-303-from-i-10-to-sr-30</a>.</p> <p>I am happy to answer any additional questions you may have.</p>
<b>Information Request</b>	Requested project status, interested in determination of alignment	<p>Your contact information was shared with me by the City of Goodyear, AZ. We are property owners of Maricippa County Tax parcel 502-50-15F. We are in the process of working with the City of Goodyear, AZ for possible annexation and wanted to determine the status of the Design for the SR303 loop. The City indicated that a portion was proposed to come close to the site.</p> <p>Any update you could provide would be greatly appreciated.</p>	<p>Good afternoon Ms. Bomar, thank you for your email regarding ADOT's Project SR 303, SR 30 – I-10.</p> <p>Please see the attached exhibit showing Parcel 502-50-15F in relation to the study limits. Additional information related to the study can be found on ADOT's website: <a href="https://www.azdot.gov/planning/transportation-studies/loop-303-from-i-10-to-sr-30">https://www.azdot.gov/planning/transportation-studies/loop-303-from-i-10-to-sr-30</a>.</p> <p>I am happy to answer any additional questions you may have.</p>
<b>Information Request</b>	Verified public meeting location	<p>I accessed the link below, the Dec 6th meeting is in Goodyear, is that correc? Or is it the address of 1655 W Jackson, per your email, and is it the same time frame of 6-8?</p> <p>Thank you, Have A Great Day!</p>	<p>The Dec. 6 meeting is in Goodyear. The location and time for the meeting: Location: Copper Trails School 16875 West Canyon Trails Boulevard ,Goodyear, AZ 85338 Time: 6 to 8 p.m. Please let me know if I can help with any other information. Thank you.</p>

<b>Information Request</b>	Wants to know if home is in the alignment	I am a new owner to this house address above purchased July 2017. I am now starting to find out about the 303 highway being built from the completed 303 section to MC85 by 2020. My house is 5 houses east of 303. I am hearing about houses being torn down for the expand 303 highway. Can you please send me information about this and is my house in the way of the new highway? Thank you	
<b>Information Request</b>	Requested general information	Hello, I was unable to attend the meeting listed below on 12/6 but is there a transcript or other info that came out of it? Thanks!	Thank you for contacting our office regarding the Loop 303 project. The information provided at the public meeting held on Dec. 6, 2017 can be found on the website link below: <a href="https://www.azdot.gov/planning/transportation-studies/loop-303-from-i-10-to-sr-30/meetings">https://www.azdot.gov/planning/transportation-studies/loop-303-from-i-10-to-sr-30/meetings</a>
<b>Information Request</b>	Requested contact regarding right of way	Hello, I am a homeowner situated 4 houses in from the corner of Lower Buckeye and Cotton Lane. My address is 17005 W Rio Vista Ln, Goodyear AZ 85338. Being so close to the proposed/scheduled construction of the next segment of Loop 303 South I have specific questions I would like to ask a right of way advisor. Please have a right of way advisor contact me. sincerely Beth Myers	
<b>Information Request</b>	Wants information further south	I would like to see more info based on topo maps and plans and profiles of the proposed site.	
<b>Information Request: Timeline</b>	Completion date for Yuma Road area	I would like to ascertain the current projected time line or schedule for completion of the stretch of 303 to Yuma Road. Please respond at your earliest convenience.	Thank you for your inquiry regarding the Loop 303; SR 30-I-10 project. The study plans for the continued southerly extension of Loop 303 to the proposed SR 30 south of MC 85. The next segment of Loop 303, Van Buren Street to MC 85, is scheduled to begin final design in the Fall of 2018 and begin construction after the of Summer 2020. Additional information and a timeline for the project can be found at the link below:
<b>Information Request: Timeline</b>	Construction start date for Yuma Road area	Needed info on start date for construction of Loop 303 to Yuma Rd	
<b>Information Request: Timeline</b>	Delay construction until completion of SR 30	My comment is that this Loop 303 freeway is being extended to nowhere...at this time. It's construction should be delayed until Loop 303 can connect to SR30, the I-10 Reliever. OK to push ahead with determination of route, ROW acquisition, design and environmental studies. But hold off on any construction until SR30 is ready for traffic and the TI connecting Loop 303 and SR30 is ready to go. Use the money instead to accelerate development of SR 30. In the interim, the existing condition of Cotton Lane Road as a 4-lane arterial is sufficient to handle the traffic.	Tricia Brown, Project Manager met with constituent on Monday, Nov. 6 to discuss project and provide information about upcoming public meeting. Email: Thank you for your comments. The comments will be reviewed by the project team and included in the summary of the public meeting.
<b>Information Request: Timeline</b>	Requested construction start date and public meeting information	Need info on Loop 303 construction start date and meeting	Provided date of Public Meeting and sent email with website. Email: provided link to website and info regarding Dec. 6 meeting - no construction scheduled as of yet

<b>Information Request: Timeline</b>	ROW purchase timing	What is the anticipated timeline for ROW purchases for this project around the Yuma Rd area?	The Arizona Department of Transportation (ADOT) anticipates the Final Design Concept Report and Environmental Assessment to be completed in late-spring, early-summer of 2018. At that point design can commence. Typically no right of way acquisition work starts until the design reaches Stage III (60%) plans, to ensure the right of way footprint is set. 60% plans are anticipated to be issued in early-mid fall of 2018. Maricopa Association of Governments (MAG) currently has funding programmed for right of way acquisition in Fiscal Year 2019, and only limited right of way work will occur until the 60% plans are issued. At that point, ADOT will start title and property delineation work, followed by ordering appraisals for offers. ADOT anticipates the delineation, title and appraisal work will take a minimum of 6 months, so the earliest that offers may be expected would be spring/summer of 2019.
<b>No Build No Build No build</b>	Supports no build alternative Supports no build alternative No build	My vote goes to the "no build alternative!" I would vote for "no build alternative." There is no need for any freeway systems past what is already proposed. 30 will connect to the 202 which will help the traffic overload on the 10. Adding to the 303 going south will only add additional costs for minimal amount of traffic control. This will need to be relooked at 10-20 years from if farm land is converted to housing.	
<b>No build; Against Alternative 3; Against Alternative 5; Information request</b>	No build; Against Alternative 3; Against Alternative 5; Wants information further south	Do not build this! You have come with woefully inadequate information. Without having maps that show the proposed route of 303 after it connects with 30, we cannot see the impact of the 303 to 30 to our community. You have this backward. You should not be in a "build as we figure it out" posture. I would like to know who is behind the organized opposition to this whole plan. You are destroying Estrella no matter what you do. Alternatives 3 and 5-absolutely not.	
<b>No Build; Against Alternative 3; Alternative 2c</b>	Supports No Build option; Against Alternative 3; Supports Alternative 2c	1-Consider "No Build." 2-If moving ahead with building 303, then do NOT take it up Cotton Lane. The negative impact on the Estrella Mountain Ranch neighborhood (visual, noise, construction disruption long term, wildlife, impact, traffic flow, scenery, stress, etc.) as well as the Estrella Mountain parkland impact will be overwhelming. Bringing 303 up Cotton Lane will disrupt and divide EMR. Please choose proposal 2c.	
<b>No Build; Alternative 2c</b>	Supports no build; supports Alternative 2c	Vote no-go, if that is actually a viable option. (Reluctantly vote, but choose 2c) We appreciate the time you took to come to Estrella. This proposed hwy extension will strike a few chords. Most will undoubtedly feel as we do. We moved to Estrella because of its seclusion. Against the masses we chose here in the West Valley. The view, unhindered means everything to us. For us to drive up the hill to avoid traffic, why would this ease of access be even worthwhile. We have a few fiews, are specifically of Estrella. Our kids go to schools, one in high school here. That view and peacefulness draws you in. The kids have that gorgeous view as they play sports. I cannot imagine the loss of that, the noise that comes with it also. All things we garder each and every day. Since there is an alternative, through the farmland, we obviously vote for that. The cost must be a factor, but so is the opinion of 6,000 homeowners and our concern of our investment and homelife.	

<b>No Build; Alternative 2c; Against Alternative 3</b>	Supports no build; supports Alternative 2c; Against Alternative 3	We live in Estrella Mountain Ranch. We moved here for the peaceful mountains and quiet area. We are not happy to see that any of these options are going to go through. My first preferences is not to have any of these options. Tha having been said, if I must choose one option I would choose option 2c. This would affect our area the least with noise and pollution. This would take the traffic west of EMT.
<b>No build; Alternative 2c; Against Alternative 3</b>	No build; Supports Alternative 2c; Against Alternative 3	I am very very much opposed to the alt. #3. The truck noise around the Star Pointe Residence Club would be terrible. Our peaceful community would be bombarded by a major highway that folks do not want going through the roundabout area. The other two alternative are lesser evils. These decisions should have been done with better planning before nice communities like Estrella were built. I reluctantly vote for 2c if it has to be done. Really, I vote for NO BUILD.
<b>No build; Alternative 2c- variation 2</b>	No build; Supports Alternative 2c-variation 2	Of the three -- Alternative 2c-variation 2. Do--no build option on 303 -- south of MC85/state route 30. Beautiful quiet desert, not developed, no 303 needed. SR30 to 202 to the 10 should carry enough traffic to alleviate 10 traffic.
<b>Other Freeway Comment</b>	Reuse MC35; Consider light rail along I-10 and I-60	To save costs, you should reuse MC35. This would cause least amount of impact on community, environment, etc. Should look at light rail options for I-10 and I-60 to reduce number of vehicles. Better use of funds.
<b>Other Freeway Comment</b>	Supportive of SR30	Get funding and build SR 30 quickly! Thanks!
<b>Other Freeway Comment; Against Alternative 2c; Against Alternative 5</b>	Supports freeways for safety concerns; does not support purchase of land in Rainbow Valley	To endorse a freeway through Rainbow Valley which offers many benefits to the community and many problems is not easy. My concern is a future 303 heading toward Rainbow Valley carrying eminent domain or right of way intentions. However driving through Rainbow Valley through its many intersections carries danger as many residents do not fully stop at these intersections. To put it simply there in a hurry and a freeway might help with folks to much in a hurry to stop at a simple stop sign. On the other hand eminent domain is easier to carry out in Rainbow Valley then other parts of the county. Land parcels are in acres averaging 1.2 per parcel and less expensive to purchase. If the freeway would curve to accomodate communities through Rainbow Valley then it would have my vote. If eminent domain is the intention then I do not support it.
<b>Public Meeting Comment</b>	Could not hear speakers at Copper Trails School meeting due to sound system and/or use of microphones	Lousy sound system. Could only hear about 10% of what was said. Speakers need to be instructed on how to hold and speak into a directional mic. Their words were wated and it was a waste of my time. Organizers need to check out sound ahead of meeting. I can probably go online and learn more.

<b>Public Meeting Comment</b>	Requested Estrella-area public meeting	Will there be a meeting in the Estrella development for the Loop 303 extension south of Van Buren Street to the Gila River? I see there will be a meeting in Canyon Trails at Copper Trails school as advertised in the paper and on your website. The two mile section of the Loop 303 extension along the Canyon Trails master plan from Van Buren Street to Lower Buckeye goes along Cotton Lane with no other alignment options. I would expect few questions other than when will it be done from this neighborhood as the alignment has been decided. I also do not think people in this neighborhood are the demand generators as why would they want to travel south on this dead end freeway? They predominantly travel north to I-10 and east to employment centers and shopping areas. Few people live south of Lower Buckeye to the Gila River bed in the industrial areas but this is the area with several route alternatives. The alternative chosen to either follow Cotton Lane south of Lower Buckeye, over the Gila River and into the Estrella Development or start to bend to the west and go around Estrella is of great importance to Estrella residents. They will have entirely different questions than the people of the Canyon Trails area. One of the first questions asked each year at the Estrella HOA meeting is where is the freeway going to go? It would be helpful to have a meeting in Estrella.	Thank you for contacting ADOT regarding the Loop 303; SR 30-I-10 Project. Our team has been in discussions to consider scheduling an informational meeting in the Estrella community in January 2018, as we realize there are unique questions and concerns for this community. Your comments will be forwarded to the Study Team for review as we move forward in discussing the possible meeting for the Estrella Community.
<b>Public Meeting Comment</b>	Found Jan. 30, 2018 meeting informative	Informative	
<b>Public Meeting Comment</b>	(unclear)	Interesting	
<b>Public Meeting Comment</b>	Appreciated public meeting	No Comments. Thanks for the opportunity to see the concepts.	
<b>Public Meeting Comment</b>	Would like to see a list of potential factors considered in determining the alignment	I found the display helpful, but I would have like something that specifically stated consideration factors, even if no dollar amounts can be stated. I learned along costs of adding height to electric power towers, also possibly moving towers altogether, and better casing for canal. I'm sure there are many other factors that are not obvious to the untrained person. Moving existing homes and businesses is obvious.	
<b>Study Area Considerations</b>	Concerned about potential hazardous materials site near MC 85/Cotton Lane	We had an inquiry about the hazardous materials site near MC 85 and Cotton Lane that was mentioned at the public meeting. Can you provide some additional information about the location of the site and materials that cause the issue?	ADOT's study team finds no information on a haz mat site near MC 85 and Cotton Lane. Do you have more information about who/where the reference was made?
		Luke Albert, City Traffic Engineer, Engineering Department, City of Goodyear, Arizona	
<b>Study Area Considerations</b>	Would be against building east of Cotton Lane/study area boundary	Please see the attached comments.	(not shown)
<b>Study Area Considerations</b>	Believes environmental study will dictate the alignment and that this timing would be more appropriate for a public meeting	It seems as if this is a waste of time at this time since the first thing that has to happen is a complete environmental study -- the results of which will most likely dictate the ultimate path. As with the current regulation it will be optimistically at least 10 years before any decision could be made. So complete the study - present the realistic possibilities at time to the people who will be here then. Since the average family moves every 7 years the chance of this group assembled today being here is very small.	
<b>Study Area Considerations</b>	Concerned about relocating power towers	Concern was relocating area power tower runs. It doesn't appear this project will impact roadways SE of "Main area Estrella Mtn." We reside at Canta Mia and unless project takes a major turn, we are in the clear. Question: How will improvement increase traffic flow via MC85 to I-8? Question: How or will improvement link into SR30 and is future design conceived as of yet for this enhancement? Thanks for the opportunity to voice my concern.	

**Study Area Considerations;** Concerned about freeway's impact  
**Against Alternative 2c** on health and (Alternative 2c)

My name is Renee Molina and my family lives in the Goodyea, AZ Las Brisas Community. Please make sure that those that are making the final decision of the freeway read my concern.

I am concerned about the Las Brisas Academy School Children. I feel that that pollution has a bigger impact on growing bodies and minds. Small air particles are the most dangerous since they are able to infect the blood stream and can cause cancer and many other ailments. Please see references below.

I am concerned that their health will be negatively impacted by compounding factors such as: the Plastic Plant and Industrial plants on the east side of the school, Agriculture surrounding the school, and with the freeway close to this community it will EXPONENTIALLY RAISE HEALTH ISSUES WITH THIS COMMUNITY.

2 companies that manufacture plastic goods. One manufactures plastic containers and is called Schoeller Arca Systems Inc. The other company recently bought and occupied the balance of the building which is called Huhtamaki North America and which manufactures food service containers out of plastic. So the current land use involves plastics manufacturing. PLEASE SEE THE EPA MAP BELOW REGARDING WHERE THESE INDUSTRIAL PLANTS ARE LOCATED IN RELATION TO THE LOCATION OF OUR COMMUNITY. Please keep in mind wind usually moves east to west and the community is west of the plants.  
[https://iaspub.epa.gov/triexplorer/tri\\_factsheet.factsheet?pstate=AZ&pParent=TRI&pDataSet=TRIQ1&pzip=85338&pYear=2016&pParent=TRI&pDataSet=TRIQ1](https://iaspub.epa.gov/triexplorer/tri_factsheet.factsheet?pstate=AZ&pParent=TRI&pDataSet=TRIQ1&pzip=85338&pYear=2016&pParent=TRI&pDataSet=TRIQ1)

The Toxics Release Inventory (TRI) tracks the management of certain toxic chemicals that may pose a threat to human health and the environment. Certain industrial facilities in the U.S. must report annually how much of each chemical is recycled, combusted for energy recovery, treated for destruction, and disposed of or otherwise released on- and off-site.

This information is collectively referred to as production-related waste management.  
I would like to inform you that crucial data may be missing from your project.

**Study Area Considerations;** Concerned about freeway's impact  
**Against Alternative 2c** to school (Alternative 2C)

ADOT plans to build the LOOP 303 on MC85 and ADOT did not include in their study the location of an elementary school- LAS BRISAS ACADEMY. It has been operating for 2 years. My child goes to this school and I am concerned that the ADOT is planning to build a freeway without considering the impact on the elementary school children and the surrounding community.

I did not see the school included in the online 303 information presentation slides of 303 project.

I want to make sure that the decision makers in this project are informed of the elementary school located next to MC85. I would like my request to be reviewed by upper management.

Thank you for contacting the Arizona Department of Transportation (ADOT). The study team has further researched your inquiry and has determined that the Las Brisas Academy is located approximately 3,400 feet from the nearest build alternative (2C). To review all the alternatives, please visit:  
<https://azdot.gov/planning/transportation-studies/loop-303-from-i-10-to-sr-30/meetings>. This school is outside of the Environmental Assessment study limits and will be mentioned as an adjacent community facility in the environmental document.



**Supportive of 303**

Supports concept of a southerly route for West Valley commuters

There needs to be a way to alleviate the excessive traffic coming into Phoenix every morning and then leaving every afternoon because I-10 is the only main way in and out for people living in the West Valley. By taking the 303 south of I-10 and continuing south until you hit a route that stays just north of Estrella mountain/South Mountain the 303 and then bending the 303 so it runs parallel to I-10 into Phoenix could be used to alleviate this traffic burden every day.

Options could be to bring the loop 303 extension south of VanBuren into either the new 202 south off 59th, or perhaps all the way into Phoenix crossing the new 202 south via a southerly route such as following Baseline road or another route further south of Baseline.

**Supportive of 303**

Supports concept of an alternative to MC85 and I-10

Thank you for this. I like this route and it will take traffic off the MC-85 as well as the I-10. When we drive into Phoenix or to Sky Harbor we only take MC-85 as the I-10 is a nightmare anytime of day or night. This helps us with the understanding of what is taking place and look forward to the completion soon.

Thank you for contacting the Arizona Department of Transportation. The SR 30 is a proposed new route that could potentially be built south of I-10 to help alleviate traffic congestion on I-10. Please check out the project website, in particular please view the presentation from the public meeting. You will be able to see the proposed routes: <https://www.azdot.gov/planning/transportation-studies/state-route-30/overview>.

The Community Forum is intended to inform residents of Estrella Mountain about the next phase of the Loop 303 south of I-10. Please view the project website here: <https://www.azdot.gov/planning/transportation-studies/loop-303-from-i-10-to-sr-30/overview> and again, review the presentation materials from the public meeting to view proposed alternatives.

Please let me know if I can be of further assistance. I look forward to seeing you at the Forum at the end of the month.



# **State Route 303 Loop (SR 303L) State Route 30 to I-10**

## **Public Hearing Report**

**September 2018 | DRAFT SUMMARY**

**PREPARED BY:**



## Contents

Introduction .....	2
1.0 Requirements for Public Involvement .....	3
1.1 Authorizing Legislation .....	3
1.2 Title VI of the Civil Rights Act of 1964.....	3
1.3 Americans with Disabilities Act (ADA) of 1990 .....	4
1.4 Environmental Justice .....	4
1.5 Limited English Proficiency .....	4
1.6 Federal Highway Administration .....	5
1.7 National Environmental Policy (NEPA) Act of 1969.....	6
2.0 Public Hearing.....	7
2.1 Public Hearing Notification .....	7
2.2 Newspaper Advertisements & Media Coverage .....	8
2.3 Public Hearing .....	8
2.4 Website .....	8
3.0 Public Hearing Format.....	9
3.1 Display Boards .....	10
3.2 Informational Video .....	11
4.0 Public Comment Summary.....	12
4.1 Summary of Comments .....	12
Appendices .....	15

## INTRODUCTION

The Arizona Department of Transportation (ADOT) is studying the Loop 303 south of Interstate 10 between Van Buren Street and MC 85, in the City of Goodyear, Arizona. The Loop 303 Corridor was adopted into the Maricopa Association of Governments (MAG) regional freeway system as part of the Regional Transportation Plan (RTP) approved by voters in 2004 through the passage of Proposition 400. ADOT began an Environmental Assessment (EA) for the project in 2005. Due to an economic downturn, the study was placed on hold. In 2013, ADOT and Federal Highway Administration (FHWA) reinstated the study.

ADOT and FHWA have taken the next steps to select a Preferred Build Alternative 2C South for the Loop 303 south of Van Buren Street to the proposed State Route 30 (SR 30) in Goodyear.



*More than 280 people attended the June 27, 2018 public hearing held at the Goodyear Ballpark in Goodyear.*

## 1.0 REQUIREMENTS FOR PUBLIC INVOLVEMENT

As ADOT strives to create and maintain a transportation system for Arizona that improves the quality of life and bolsters the state's economy, the study team will include diverse voices and viewpoints from across the state to provide valuable insight to help inform the decision-making process.

The study team implemented public involvement efforts in response to federal guidelines under Title VI of the Civil Rights Act of 1964, the Americans with Disabilities Act (ADA) of 1990, Environmental Justice (EJ), Limited English Proficiency (LEP), Federal Highway Administration (FHWA) requirements, and the National Environmental Policy Act (NEPA) of 1969. Federal regulations do not specifically define how to perform public involvement; rather, they rely on study teams to develop and implement public involvement plans that are relative to the needs of the study and public. This flexibility allows adoption of the following guidance, which seeks to ensure public participation by a comprehensive range of stakeholders.

### 1.1 AUTHORIZING LEGISLATION

Public involvement has long been an integral part of federal transportation legislation. The initial Federal Highway Act (Federal Aid Road Act of 1916) focused on expanding the highway system, but subsequent bills incorporated multimodal and public involvement elements. The Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991 represented a transformation, with an intermodal approach to funding and great emphasis on public involvement and collaborative planning. ISTEA's successor in 1998, the Transportation Equity Act for the 21st Century (TEA-21), expanded public involvement to include transit and freight. The Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) was enacted in 2005 and broadened public involvement requirements. Moving Ahead for Progress in the 21st Century (MAP-21) was enacted in 2012 and public involvement remains a hallmark of the transportation planning process, along with 2016's Fixing America's Surface Transportation (FAST) Act.

In addition to the transportation bills, the study team adhered to other federal regulations that affect how public involvement activities are planned and executed. These public involvement activities were adopted and documented within ADOT's public involvement procedures for this study.

### 1.2 TITLE VI OF THE CIVIL RIGHTS ACT OF 1964

Title VI of the Civil Rights Act of 1964 (Title VI) provides that "no person shall on the grounds of race, color or national origin, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination" under any ADOT or ADOT-sponsored program or activity.

The study team ensured that every effort was made to include as many people as possible and to prevent discrimination through the impacts of its programs, policies and activities. The following tools were used by the study team to ensure Title VI populations had access to transportation decision-making processes throughout the study's lifecycle:

- Displayed Title VI language on all study materials
- Shared information, with permission, at religious centers and common community meeting places (religious centers identified in stakeholder database)
- Provided information in language(s) other than English, and in alternative formats, when appropriate based on community assessments

### 1.3 AMERICANS WITH DISABILITIES ACT (ADA) OF 1990

The Americans with Disabilities Act (ADA) of 1990 stipulates that people with disabilities be involved in developing and improving public services. In highway planning, collaboration with persons with disabilities is essential for developing access points beyond those that are required. All events held for programs or projects with federal-aid funds and open to the public must be made accessible to everyone, including persons with disabilities. Special efforts are required to comply with the statutory requirements of MAP-21 and the ADA.

The following tools were utilized by the study team to ensure that persons with disabilities had access to study information:

- Included Title VI and ADA language (constructed at a basic literacy level) on all digital or printed material created for public dissemination for special accommodation requests
- Engaged health care facilities, senior centers and other community facilities that proved to be effective locations for connecting with persons with disabilities to provide study information
- Ensured locations where public involvement took place were ADA compliant, accessible by ADA-compliant transportation options, and that information was accessible for persons with vision or hearing disabilities (the Goodyear Ballpark public hearing facility is ADA compliant)
- When notified at least seven (7) business days in advance of a person's disability, ADOT will try to reasonably accommodate a person's disability to provide an equal opportunity for participation into the transportation decision-making process (no accommodations were requested)

### 1.4 ENVIRONMENTAL JUSTICE

In 1994, Executive Order (EO) 12898 Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations was issued. Environmental justice "is the fair treatment and meaningful involvement of all people, particularly minority, low-income and indigenous populations, in the project."

To engage traditionally underserved communities, the study team used the following community engagement tools:

- Displayed the Title VI language on all public advertisements
- Shared information, with permission, at religious centers and common community meeting places
- Selected meeting locations that are accessible by public transportation where possible

### 1.5 LIMITED ENGLISH PROFICIENCY (LEP)

ADOT's public involvement programs will strive to be innovative and proactive in engaging individuals from different cultures and backgrounds in the decision-making process. Limited English Proficiency (LEP) is a term used to describe individuals who are not proficient in the English language. Title VI and Executive Order 13166 prohibit recipients of federal financial assistance from discrimination based on national origin. Recipients of federal financial assistance are required to take reasonable steps to provide LEP individuals with meaningful access to their programs, activities and services.

The study team used the following resources to identify and engage impacted LEP communities during the study process:

- Utilized the Safe Harbor Threshold as a guide to determine when written translation of vital documents for each eligible LEP language group is necessary. Eligibility is met if the LEP language group constitutes five percent (5%) or 1,000 persons, whichever is less, of the total population of persons eligible to be served or likely to be affected or encountered, by the program or activity.
- Conducted research through U.S. Census Bureau’s “American Community Survey” and the Environmental Protection Agency’s Environmental Justice page tool, which report data on “language spoken at home” and Linguistically Isolated Households to help identify LEP persons.
  - The data in figure 1, below, finds that Spanish constitutes more than 5% and more than 1,000 persons (Spanish 15.1% and 7,431 persons). These findings required that study information be produced in Spanish for the Loop 303 EA and public hearing.

**Figure 1: Goodyear, Arizona/Specified Language**

Subject	Goodyear city, Arizona											
	Total		Percent		Percent of specified language speakers							
	Estimate	Margin of Error	Estimate	Margin of Error	Speak English only or speak English "very well"		Percent speak English only or speak English "very well"		Speak English less than "very well"		Percent speak English less than "very well"	
					Estimate	Margin of Error	Estimate	Margin of Error	Estimate	Margin of Error	Estimate	Margin of Error
Population 5 years and over	67,906	+/-626	(X)	(X)	63,975	+/-859	94.2%	+/-1.0	3,931	+/-718	5.8%	+/-1.0
Speak only English	53,693	+/-1,443	79.1%	+/-2.1	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)
Speak a language other than English	14,213	+/-1,432	20.9%	+/-2.1	10,282	+/-1,092	72.3%	+/-3.8	3,931	+/-718	27.7%	+/-3.8
<b>SPEAK A LANGUAGE OTHER THAN ENGLISH</b>												
Spanish	10,238	+/-1,258	15.1%	+/-1.8	7,431	+/-932	72.6%	+/-4.8	2,807	+/-661	27.4%	+/-4.8
5 to 17 years old	1,886	+/-433	2.8%	+/-0.6	1,586	+/-385	84.1%	+/-8.3	300	+/-178	15.9%	+/-8.3
18 to 64 years old	7,479	+/-1,056	11.0%	+/-1.6	5,248	+/-817	70.2%	+/-5.3	2,231	+/-523	29.8%	+/-5.3
65 years old and over	873	+/-249	1.3%	+/-0.4	597	+/-200	68.4%	+/-12.7	276	+/-134	31.6%	+/-12.7
Other Indo-European languages	1,621	+/-446	2.4%	+/-0.7	1,278	+/-354	78.8%	+/-9.3	343	+/-190	21.2%	+/-9.3
5 to 17 years old	195	+/-129	0.3%	+/-0.2	158	+/-116	81.0%	+/-15.9	37	+/-34	19.0%	+/-15.9
18 to 64 years old	1,076	+/-293	1.6%	+/-0.4	941	+/-290	87.5%	+/-9.5	135	+/-101	12.5%	+/-9.5
65 years old and over	350	+/-148	0.5%	+/-0.2	179	+/-87	51.1%	+/-19.0	171	+/-110	48.9%	+/-19.0
Asian and Pacific Island languages	1,633	+/-370	2.4%	+/-0.5	967	+/-241	59.2%	+/-8.7	666	+/-222	40.8%	+/-8.7
5 to 17 years old	255	+/-115	0.4%	+/-0.2	230	+/-110	90.2%	+/-15.8	25	+/-42	9.8%	+/-15.8
18 to 64 years old	1,172	+/-288	1.7%	+/-0.4	682	+/-174	58.2%	+/-9.4	490	+/-184	41.8%	+/-9.4
65 years old and over	206	+/-117	0.3%	+/-0.2	55	+/-51	26.7%	+/-23.6	151	+/-105	73.3%	+/-23.6
Other languages	721	+/-310	1.1%	+/-0.5	606	+/-290	84.0%	+/-12.4	115	+/-93	16.0%	+/-12.4
5 to 17 years old	145	+/-120	0.2%	+/-0.2	145	+/-120	100.0%	+/-19.9	0	+/-28	0.0%	+/-19.9
18 to 64 years old	531	+/-207	0.8%	+/-0.3	440	+/-188	82.9%	+/-11.3	91	+/-65	17.1%	+/-11.3
65 years old and over	45	+/-36	0.1%	+/-0.1	21	+/-24	46.7%	+/-50.2	24	+/-32	53.3%	+/-50.2

## 1.6 FEDERAL HIGHWAY ADMINISTRATION (FHWA)

The FHWA is an agency within the U.S. Department of Transportation that supports state and local governments in the design, construction and maintenance of the nation’s highway system and various federally and tribal-owned lands. FHWA supports state and local governments through the Federal-Aid Highway Program (FAHP) in the design and construction of roads and bridges.

In addition to the stated NEPA requirements for public involvement, the following regulation prescribes the policies and procedures of the FHWA for implementing NEPA as amended and the regulation of the Council on Environmental Quality (CEQ), 40 Code of Federal Regulations (CFR) 1500-1508. This regulation sets forth all FHWA requirements under NEPA for the processing of highway and urban mass transportation projects. The CFR Title 23 (referring to Highways) identifies the requirements for public

involvement. Pursuant to 23 CFR Section 771.111, the study team is required to provide the appropriate documentation and implement the following guidance for the SR 303L study:

- Public involvement in the identification of social, community, economic and environmental impacts, as well as impacts associated with relocation of individuals, groups or institutions
- Public meetings at convenient times and places for the study that has substantial impact on right of way; layout or functions of roadways or facilities; adjacent properties; or social, community, economic, or environmental resources
- Reasonable notice of public meetings
- Explanation during public hearings of the project purpose and need; consistency with local plans; project alternatives and major features; social, community, economic and environmental impacts; relocation assistance and right-of-way acquisition programs; and procedures for receiving oral and written comments from the public
- Public involvement opportunities in defining the purpose and need and range of alternatives to be considered in the environmental document
- Public notice and the opportunity for public review and public comment on a Section 4(f) de Minimis impact findings
- Public notice and the opportunity for public review and public comment on impacts to historically significant properties and other resources in accordance with the FHWA Historic Preservation and Archeology Program

## 1.7 NATIONAL ENVIRONMENTAL POLICY ACT (NEPA) OF 1969

The NEPA process requires environmental analysis of proposed actions prior to making decisions, including constructing highways and other publicly owned facilities. The FHWA oversees the NEPA process at the federal level to guide the overall process. Using the NEPA process, agencies evaluate the environmental and related social and economic effects of their proposed actions. Agencies must also provide opportunities for public review and comment on those evaluations. In cooperation with FHWA, ADOT must follow the NEPA process for all federally funded projects.

The study team implemented the following required public involvement guidelines mandatory for all NEPA studies:

- Use of public meetings when appropriate
- Solicitation of information from the public
- Provided reasonable access to and an explanation of where information about the NEPA process and ongoing environmental documents can be found
- Public review of environmental documents, comments received and any supporting documents
- Provided public notice of NEPA-related public meetings and the availability of environmental documents through direct notice to those who have requested it and the following for actions that are primarily of local concern
  - Notice to Native American Tribes, where appropriate
  - Publication in local newspapers of general circulation
  - Notice through other local media
  - Notice to potentially interested community organizations
  - Publication in newsletters that may reach interested persons
  - Direct mailing to owners and occupants of affected property
  - Posting of notice on and off site in the area where the action is to be located



## 2.0 PUBLIC HEARING

ADOT and FHWA held a public hearing at the Goodyear Ballpark in Goodyear on June 27, 2018 from 3 to 7 p.m. (open house format).

The study team chose the four-hour timeframe to provide a lengthier window of opportunity for the working families and the active adult members within the communities of Rainbow Valley, Estrella Mountain Ranch and other areas within the study area. The study team also felt it was important to host the public hearing at a location with which community members were familiar, and that the venue could host large crowds and was ADA compliant.

### 2.1 PUBLIC HEARING NOTIFICATION

The study team prepared and mailed postcards inviting the public within the study area, including the communities of Rainbow Valley and Estrella Mountain Ranch, to attend the public hearing and to provide comments in a variety of other ways (email, phone and mail) if they could not attend the hearing. The invitations were mailed on June 12, 2018, to approximately 25,000 property owners, occupants and businesses within the study area, including the communities of Rainbow Valley and Estrella Mountain Ranch. An electronic copy of the invitation was sent to the Loop 303 email subscription list (list includes all subscribers of the Loop 303 corridor). In addition, a letter was sent to intergovernmental partners. A copy of the postcard, letter and intergovernmental letter mailing list are included in Appendix A.



*Goodyear Ballpark*

## 2.2 NEWSPAPER ADVERTISEMENTS & MEDIA COVERAGE

Newspaper advertisements, as well as information posted to social media platforms, provided the date and location of the public hearing and alternate ways to submit comments. A copy of the advertisement is included in Appendix B. Advertisements and run dates included:

- *The Arizona Republic* (Southwest Region – Zone 5)  
Run dates: 6/13, 6/15, 6/16, 6/20, 6/22 and 6/23
- *West Valley View* (South Zone)  
Run dates: 6/13 and 6/20
- *La Voz*  
Run dates: 6/8 and 6/22

Event information, live coverage and follow-up media coverage appeared as follows:

- June 18, American Association of State Highway and Transportation Officials, <http://news.transportation.org/Pages/StateDotNewsDetail.aspx?MessageId=59016>
- June 27, Nextdoor, <https://nextdoor.com/events/az/goodyear/public-invited-to-formal-public-hearing-for-proposed-loop-303-south-of-van-buren-street-2213608>
- June 27, Twitter, <https://twitter.com/arizonadot/status/1012087550263980032?lang=en>
- June 27, ABC15 Arizona, <https://www.abc15.com/news/region-west-valley/goodyear/adot-asking-public-to-weigh-in-on-loop-303-extension-in-west-valley>
- June 27, Facebook, <https://www.facebook.com/AZDOT/videos/2029401283798231/>
- June 28, ABC15 Arizona, MSN.com, <https://www.msn.com/en-us/video/w/adot-holds-public-meeting-on-loop-303-expansion/vp-AAzgzdr>
- June 28, ABC15 Arizona, MSN.com, <https://www.msn.com/en-us/video/null/adot-to-hold-open-house-on-loop-303-expansion/vp-AAzgtVM>
- July 6, West Valley View\* [https://www.westvalleyview.com/news/adot-hosts-public-hearing-on-loop-extension/article\\_6f61912c-8075-11e8-a1ec-6b9dc03b97d5.html](https://www.westvalleyview.com/news/adot-hosts-public-hearing-on-loop-extension/article_6f61912c-8075-11e8-a1ec-6b9dc03b97d5.html) (This article is available in Appendix C.)

## 2.3 PUBLIC HEARING

The purpose of the public hearing was to review and comment on the findings of the Draft Environmental Assessment and the Initial Design Concept Report. A total of 280 people signed in at the public hearing. (Please note, some attendees may have chosen not to sign in.)

The public hearing was held on Wednesday, June 27, 2018 from 3 to 7 p.m. at the Goodyear Ballpark, 1933 S. Ballpark Way, Goodyear, AZ 85388.

## 2.4 WEBSITE

The project website was updated with the most recent content and the web address was published on all informational materials. All the materials presented at the public hearing, including the informational video, visual simulations and comment forms were available on the study website: [azdot.gov/Loop303SouthOfVanBuren](http://azdot.gov/Loop303SouthOfVanBuren).

### 3.0 PUBLIC HEARING FORMAT

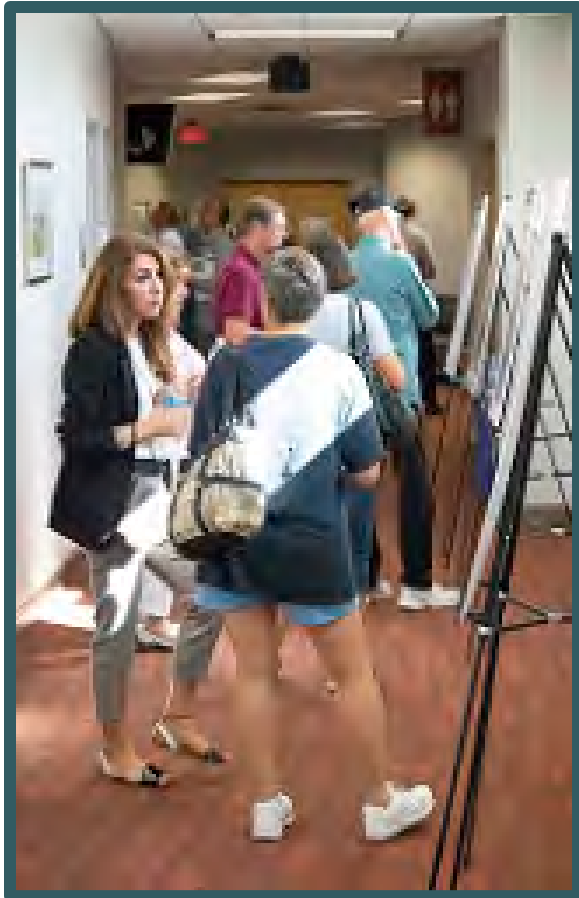
The public hearing began with registration within the gates of the ballpark's home plate entrance. Attendees were asked to sign in and were provided with a fact sheet, comment form, hearing participation guide and Title VI information. The sign-in sheets were used for updating the project mailing list. Public hearing materials are available in Appendix D of this report.

The public hearing was an open house format. Activities included viewing an informational project video, interactive visual simulations (available at <http://vtour.123bim.com/AAEL/>) and an opportunity to provide oral remarks before a formal study panel (three-minute time limit). Additional methods for accepting comments included comment forms and court reporters available to document input for the study record. Study team members were available to address questions and concerns. Attendees were encouraged to provide comments while at the public hearing, pick up additional materials for those who were not able to attend, and return comments by July 15, 2018.



*A resident provides a three-minute comment to the study panel.*

### 3.1 DISPLAY BOARDS



Display boards provided at the public hearing included:

- Welcome
- Study Area
- No Build Alternative
- Next Steps
- Loop 303 Timeline
- What is NEPA? (definition)
- Typical Sections
- Alternatives Evaluation Matrix
- Preferred Alternative 2C South

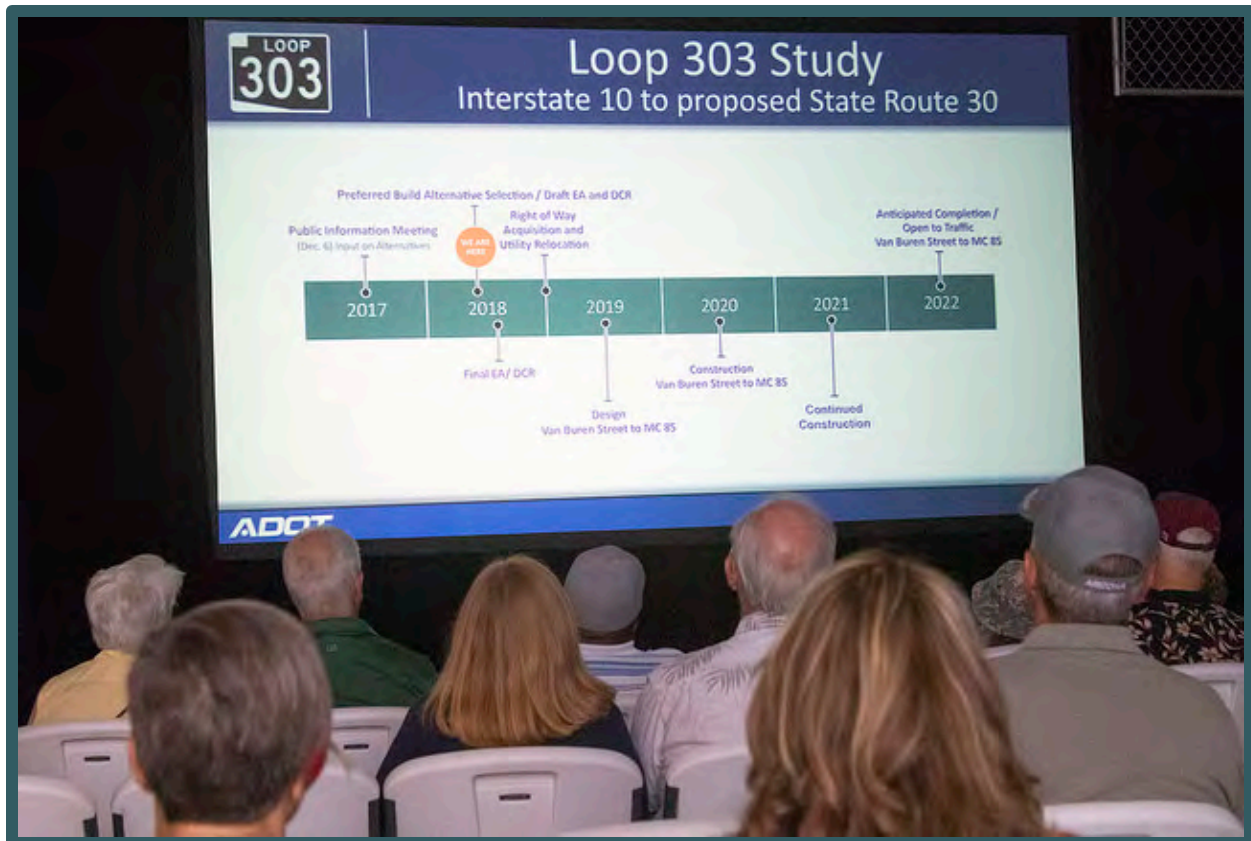
Additionally, enlarged maps detailing the Preferred Alternative 2C South were displayed on walls in the foyer on the second floor in the suites area of the public hearing. A copy of the display boards can be found in Appendix E of this report.



*Attendees interact with the study team and review the visual simulations.*

### 3.2 INFORMATIONAL VIDEO

An informational video was provided for attendees at the public hearing in both English and Spanish and was played approximately every 10-minutes throughout the duration of the public hearing. The informational video provided an overview of the study, study history and where the study team is in the process. The informational video was uploaded to the study website and can be found at the following link: (<http://www.azdot.gov/loop303southhofvanburen>).



*Attendees watch the informational video during the June 27, 2018 public hearing.*

## 4.0 PUBLIC COMMENT SUMMARY

The public hearing comment period was open June 12 through July 15, 2018. During this time, 78 comments were received by mail, email/online, and in person at the public hearing via comment cards or as documented by a court reporter (Table 1).

Please note that individuals may have utilized more than one method to provide a comment to the study team.

**Table 1: Comments by Participation Method**

Participation Method	Number of Responses
Mail	3
Email/online	33
Public Hearing: Comment Cards	37
Public Hearing: Court Reporter	5

## 4.1 SUMMARY OF COMMENTS

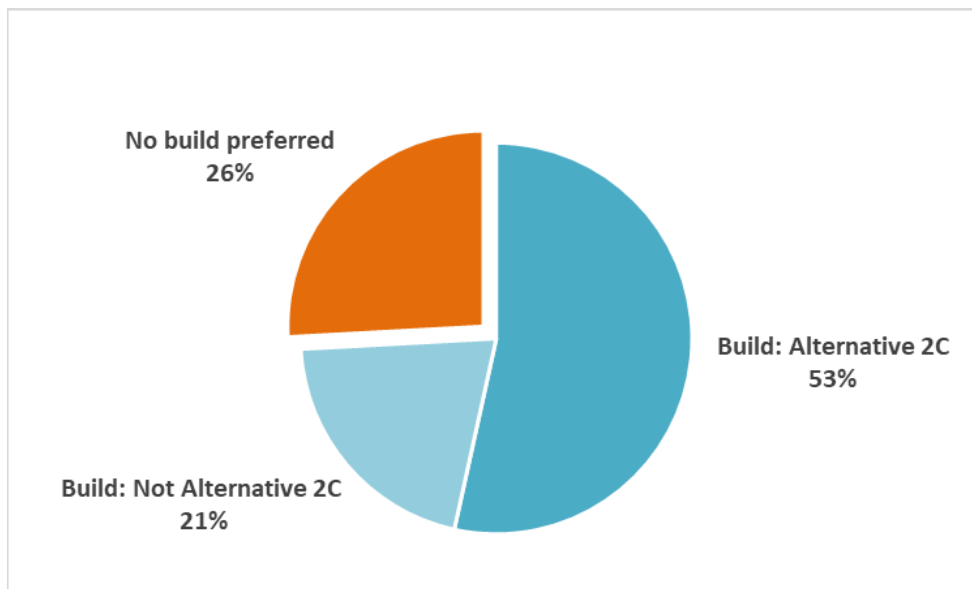
All comments received were reviewed for issues or recommendations. Comments focused on support for the preferred alternative, support for other alternatives, support for the no build alternative, and other comments. A quantification of comments by issue is provided in Table 2.

**Table 2: Comments by Category**

Comment Category	Number of Responses
Build: Alternative 2C	31
Build: Not Alternative 2C	12
No Build Preferred	15
Other (build/no build not expressed)	20

When considering only those comments that specified support for or against building a freeway, 74 percent supported building a freeway and 26 percent were against building a freeway (Figure 1). Specifically, 53 percent supported building Alternative 2C and 21 percent supported building another freeway option.

**Figure 1: Comments Specifying Build/No Build**



## Sample Comments

A sampling of comments by category is shown below. Comments received by comment card are available upon request. The complete comment matrix is available in Appendix F.

### **Build: Alternative 2C (31 responses)**

- As someone who travels throughout Maricopa County and has previously lived in Goodyear, I am in strong support of Loop 303 South and State Route 30. The Southwest portion of the Valley needs alternatives to travel from the West to downtown Phoenix. It is anticipated that the Loop 202 extension will allow motorists to bypass downtown Phoenix if traveling in the direction of the new Loop 202 extension but will not aid in the commute to get to downtown Phoenix during peak travel times in the morning. Something needs to be done to alleviate the congestion along I-10 in the mornings. The Loop 303 South and State Route 30 is a step in that direction. I would also like to see the continuation of Northern Parkway Eastward to Loop 101 or beyond.
- I am a Surprise resident and a strong advocate for expansion of the 303. We need to drive more economic opportunities to the west valley and additionally, we need to relieve traffic off the 10. Getting out of the west valley to downtown is a nightmare and expansion here will help that.
- I'm excited about the current Loop 303 constructed exits/entrances. The proposed (preferred) looks great and I'm looking forward to seeing the next phase of construction begin...sooner rather than later.
- Support proposed build route and SR30. Please do not reconsider. We live in Estrella Mountain Ranch and plan to remain long into retirement. We will definitely relocate if this plan changes and goes through EMR.

### **Build: Not Alternative 2C (12 responses)**

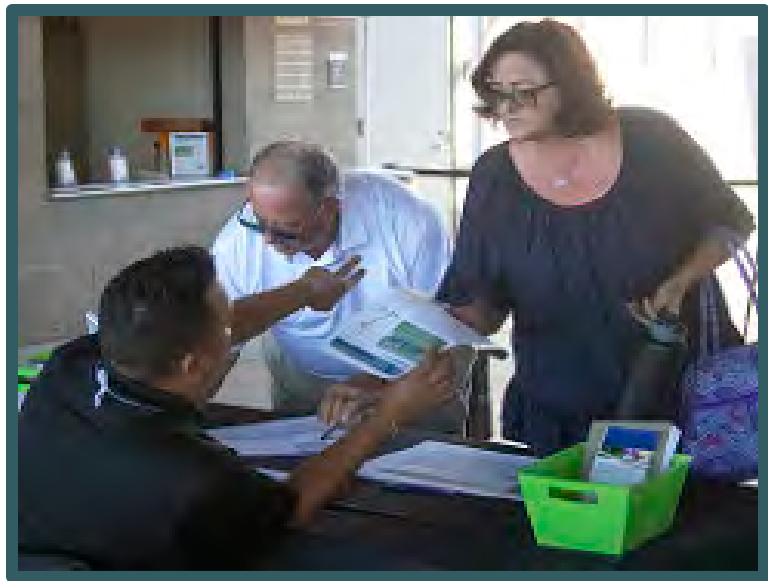
- Being an AZ resident all my life I understand the need for traffic growth. However since I now live on Cotton Ln and lower buckeye I don't look forward to the noise expected during construction and once it's completed. My opinion is that no I don't think the freeway should take that route but another more west where there's less homes. If the current plan stays, please ensure the noise barriers are a sure thing not an option.
- I would prefer the 303 alignment be at Cotton into Estrella Mt. Ranch, but we will take anything. Please build this road. We agree with the SR30 to Loop 202 and would like that built sooner. Build it now. We will take anything.
- I'm glad to see some improvements being made to help with the traffic going through downtown Phoenix. To put it frankly, it's a nightmare. I think the 30 should be as part of the improvement from the 202. All the traffic entering on to I-10 from the 202 will cause a heavy converging of traffic onto the west I-10., including the 30 from the 202 (going west) would just about eliminate a traffic at I-10.

### **No Build Preferred (15 responses)**

- My biggest concern is the level of noise, traffic relief, environmental issues, and how the freeway will beautify the area. I would like to continue to hear crickets, but I am not sure if the traffic walls will be enough to keep the noise level at a lower level. Why can't you keep the 303 at Van Buren St., since I-30 has not been funded yet. I see no benefit of extending it to

MC-85 (Buckeye Rd.).  
The community will also lose a great deal of farming land to accommodate the new freeway. I hope you guys truly listen to the people.

- This is not needed now. It is a solution in search of a problem. The adjoining road -85- is lightly travelled. Usually very lightly. Looks like a road to nowhere to me. The 30 freeway? Why not just extend Southern Av thru from Buckeye to the 85 near Cotton Ave. Much cheaper. Then spend the savings widening I-10 freeway from Verrado to western Tonopah. There are other better uses for this expensive (because no traffic demand) proposal. This would be a luxury, in effect, highest cost per auto/truck travelled mile in the West.
- This is our retirement home a freeway in our back yard not my idea of peace and quiet. Stop the building of the road.



*Residents sign in to the public hearing and receive materials to guide them through open house activities.*

**Other (build/no build not expressed) (20 responses)**

- This was fantastic!! Well organized and executed. We got all of our questions answered and more. Great ideas. Thanks!!
- Very concerned about noise within the Cotton flower neighborhood as well as traffic flow impacts with Yuma and Lower Buckeye roads. Expansion of Yuma Road?
- I would like to mention that I am representing Agua Fria High School Transportation Dept. Just concerned that our access to routes east and west of construction zone "Canyon Trails" and Lilac, north and south of Lower Buckeye.



## APPENDICES

### **Appendix A: Notification**

- Public Hearing Postcard
- Intergovernmental Letter
- Intergovernmental Letter Mailing List

### **Appendix B: Advertisement**

### **Appendix C: Media Coverage**

### **Appendix D: Public Hearing Materials**

- Project Fact Sheet (English and Spanish)
- Comment Form
- Hearing Participation Guide (four-page brochure)

### **Appendix E: Display Boards**

- Welcome
- Study Area
- No Build Alternative
- Next Steps
- Loop 303 Timeline
- What is NEPA? (definition)
- Typical Sections
- Alternatives Evaluation Matrix
- Preferred Alternative 2C South

### **Appendix F: Comment Matrix**

- **Comment documents**

### **Appendix G: Public Hearing Transcript**

### **Appendix H: Notice of Availability**

**Appendix A: Notification**

- Public Hearing Postcard
- Intergovernmental Letter
- Intergovernmental Letter Mailing List



# Take me out to the *Hearing!*

The Arizona Department of Transportation and the Federal Highway Administration invite you to a Formal Public Hearing to review and comment on the findings of the Draft Environmental Assessment and the Initial Design Concept Report for the Loop 303 south of Van Buren Street to the proposed State Route 30, a proposed, new freeway south of Interstate 10.

- Wednesday, June 27, 2018
- 3 – 7 p.m. (Open House format)
- Goodyear Ballpark: 1933 S. Ballpark Way, Goodyear, AZ 85338

The public hearing will include an informational video, an interactive visual animation and an opportunity to provide oral remarks before a formal study panel (three-minute time limit). Comment forms and court reporters will also be available to document your input for the study record. Project team members will be on-site to address questions and concerns.



Public Hearing Location: ☆

FOR MORE INFORMATION:  
Loop303south@azdot.gov • 855.712.8530



ADOT Project No: H6870 01L | Federal Project No: RARF-303-A(ASO)5



## HOW TO PARTICIPATE AND COMMENT

The Draft Environmental Assessment and Initial Design Concept Report will be available for public review at the following locations from June 12 to July 15, 2018.

- |   |  |   |
|---|--|---|
| <b>Goodyear Library</b><br>14455 W. Van Buren St. C-101<br>Goodyear, AZ 85338 | <b>Starpointe Residents Club</b><br>17665 W. Elliot Road<br>Goodyear, AZ 85338 | <b>Buckeye Valley Fire District Station 326</b><br>19937 W. Arlington Road<br>Buckeye, AZ 85326 |
|---|--|---|

### Commenting is Easy and Convenient

All of the materials presented at the public hearing, including the informational video, visual animation and comment forms, will also be available on the study website: [azdot.gov/loop303southofvanburen](http://azdot.gov/loop303southofvanburen).

### Mail, Email and Telephone

During the comment period, comments can be submitted in the following ways:

ADOT Community Relations Loop 303 Study,  
1655 W. Jackson Street, MD 126F Phoenix, AZ 85007

Loop303south@azdot.gov 855.712.8530

The comment period is from June 12-July 15. All comments must be received by **July 15, 2018** to be included in the study record.

**Title VI of the Civil Rights Act of 1964 and the Americans with Disabilities Act (ADA)**  
Pursuant to Title VI of the Civil Rights Act of 1964, and the Americans with Disabilities Act (ADA), ADOT does not discriminate on the basis of race, color, national origin, or disability. Persons who require a reasonable accommodation based on language or disability should contact Gaby Kemp at 480.215.7178 or at [GKemp@azdot.gov](mailto:GKemp@azdot.gov). Requests should be made as early as possible to ensure the State has an opportunity to address the accommodation.

De acuerdo con El Título VI de la Ley de Derechos Civiles de 1964 y la Ley de Estadounidenses con Discapacidades (ADA por sus siglas en inglés), el Departamento de Transporte de Arizona (ADOT por sus siglas en inglés) no discrimina por raza, color, nacionalidad, o discapacidad. Personas que requieren asistencia (dentro de lo razonable) ya sea por el idioma o por discapacidad deben ponerse en contacto con la Gaby Kemp al 480.215.7178 o [GKemp@azdot.gov](mailto:GKemp@azdot.gov). Las solicitudes deben hacerse lo más pronto posible para asegurar que el equipo encargado del proyecto tenga la oportunidad de hacer los arreglos necesarios.



Map of Preferred Build Alternative 2C South



Communications

*An Arizona Management System Agency*

Douglas A. Ducey, Governor  
John S. Halikowski, Director  
Kevin Biesty, Deputy Director for Policy  
Timothy Tait, Communications Director

June 13, 2018

Subject: Loop 303 south of Van Buren Street to proposed State Route 30

Dear Sir/Madam:

The Arizona Department of Transportation (ADOT) has scheduled a formal public hearing on Wednesday, June 27, 2018, to provide an update on the Loop 303 study south of Van Buren Street to the proposed State Route 30, a potential new freeway south of Interstate 10. The hearing will occur at Goodyear Ballpark, 1933 S. Ballpark Way, Goodyear, AZ 85338 from 3 to 7 p.m. The hearing will consist of an informational video, an interactive visual animation, and the opportunity to provide written and oral remarks before a formal study panel (three-minute time limit). Attached is the newspaper advertisement that is being placed in local newspapers to inform the community of the hearing.

ADOT and the Federal Highway Administration (FHWA) invite you to review the recent findings of the Draft Environmental Assessment and the Initial Design Concept Report at one of the following locations: Goodyear Library, 14455 W. Van Buren St. C-101, Goodyear, AZ 85338, Starpointe Residents Club, 17665 W. Elliot Road, Goodyear, AZ 85338 or Buckeye Valley Fire District Station 326, 19937 W. Arlington Road, Buckeye, AZ 85326. Vital documents will be available for review at all three locations between June 12 and July 15. All comments must be received by July 15 to be included in the official study record.

ADOT is formally requesting that you inform the appropriate members of your agency about this public hearing and share the information to be presented freely with your agency members prior to the June 27, 2018, public hearing.

If you have any questions, please feel free to contact the ADOT Project Manager, Tricia Brown, at 602-712-7046 or at [TBrown2@azdot.gov](mailto:TBrown2@azdot.gov). You may also refer to the Loop 303: SR 30 to Interstate 10 website for updated information before and after the public hearing at: [azdot.gov/Loop303southofvanburen](http://azdot.gov/Loop303southofvanburen)

Sincerely,

Gabriella Kemp  
Community Relations Project Manager  
Arizona Department of Transportation

CC: Tricia Brown, ADOT Project Manager

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Enclosures (2)

---

**Agency and Representative****Department or Title****City of Tolleson**

Pilar Sinawi  
Paul Gilmore  
John Paul Lopez  
Reyes Medrano, Jr.

Inter Gov  
City Engineer  
Asst. City Manager  
City Manager

**City of Avondale**

Dave Janover  
Tracy Stevens  
Jessica Blazina

City Engineer  
Dev/Eng. Services  
Intergov Affairs Manager

**City of Buckeye**

Scott Lowe  
Scott Zipprich  
George Diaz  
Annie De Chance

Public Works Director  
City Engineer  
Government Relations Manager  
PIO

**City of Goodyear**

Luke Albert  
Julie Arendall  
Rebecca Zook  
Rob Bohr  
Dan Cotterman  
Wynette Reed  
Sherine Zaya

City Traffic Engineer  
City Manager  
Dir. Engineering  
Inter Gov  
Deputy City Manager  
Deputy City Manager  
PIO

**MCDOT**

Denise Lacey  
Nicolaas Swart

Traffic & IT Manager

**Maricopa County Board of Supervisors**

Rick Bohan

Inter Gov

**MAG**

Eric Anderson  
Bob Hazlett  
Kelly Taft

Transportation Director  
Sr. Engineering Project Manager  
Communications Manager

**FCDMC**

Jennifer Pokorski  
Debbi Shortal

**Legislators**

Representative Timothy Dunn, District 13  
Representative Darin Mitchell, District 13  
Representative Gerae Peten, District 4  
Senator Lisa Otondo, District 4  
Charlene Fernandez, Minority Whip

**Westmarc**

Sintra Hoffman

## Appendix B: Advertisement



The Arizona Department of Transportation and the Federal Highway Administration invite you to a Formal Public Hearing to review and comment on the findings of the Draft Environmental Assessment and the Initial Design Concept Report for the Loop 303 south of Van Buren Street to the proposed State Route 30, a proposed, new freeway south of Interstate 10.

- Wednesday, June 27, 2018 3 – 7 p.m. (Open House format)
- Goodyear Ballpark: 1933 S. Ballpark Way, Goodyear, AZ 85338

The public hearing will include an informational video, an interactive visual animation and an opportunity to provide oral remarks before a formal study panel (three-minute time limit). Comment forms and court reporters will also be available to document your input for the study record. Project team members will be on-site to address questions and concerns.

### HOW TO PARTICIPATE AND COMMENT

The Draft Environmental Assessment and Initial Design Concept Report will be available for public review at the following locations until July 15, 2018.

Goodyear Library • 14455 W. Van Buren St., C-101 • Goodyear, AZ 85338

Starpointe Residents Club • 17665 W. Elliot Road • Goodyear, AZ 85338

Buckeye Valley Fire District • 19937 W. Arlington Road • Buckeye, AZ 85326

#### Commenting is Easy and Convenient

All of the materials presented at the public hearing, including the informational video, visual animation and comment forms, will also be available on the study website: [azdot.gov/loop303southofvanburen](http://azdot.gov/loop303southofvanburen).

#### Mail, Email and Telephone

During the comment period (June 12 to July 15), comments can be submitted in the following ways:

Mail to:  
ADOT Community Relations  
Loop 303 Study  
1655 W. Jackson Street, MD 126F  
Phoenix, AZ 85007

Email: [Loop303south@azdot.gov](mailto:Loop303south@azdot.gov)

Telephone: 855.712.8530



Map of Preferred Build Alternative 2C South

FOR MORE INFORMATION: [Loop303south@azdot.gov](mailto:Loop303south@azdot.gov) • 855.712.8530



ADOT Project No: H6670 01L | Federal Project No: RARF-303-A(ASO)5

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FEATURED

## ADOT hosts public hearing on Loop 303 extension

By Israel Gonzalez Jul 6, 2018



f t e b q

The Arizona Department of Transportation shared its findings on a draft environmental assessment for a Loop 303 extension to around 500 West Valley residents at a public hearing on June 27.

The project proposes extending the Loop 303 through a route south of Van Buren Street to Elwood Street going through Cotton Lane. If all goes as planned, construction could start in 2020 with the extension open to traffic in 2022.

The project is part of an effort to accommodate traffic in the growing West Valley, said Gabriella Kemp, community relations project manager at ADOT.

"There is a lot of growth happening in the West Valley," Kemp said. "So, we have to plan accordingly for that growth and a lot of it is taking place south of Interstate 10. With our study, we looked at how we can extend the Loop 303 for better connectivity."

The project also has a proposed loop from around Cotton Lane and Lower Buckeye Road in a southwestern direction to eventually connect to the proposed State Route 30. But only the current 2.5-mile stretch from Van Buren Street to Elwood Street is funded.



Several routes were evaluated by environmental and engineering criteria such as noise pollution, construction costs and visual impacts. The preferred route was found to be the least impactful and least harmful of the proposed routes. A no-build alternative will also be considered throughout the project. A final environmental assessment will be completed by the end of the year, with either the route approved or a no-build alternative selected.

The Loop 303 extension is planned to have four general-purpose lanes and one carpool lane in each direction. Current funding will have the extension start with three general-purpose lanes in each direction from Van Buren Street to Elwood Street.

While the preferred route was found to have the least environmental impact, some residents still expressed concerns over the freeway.

"My biggest concern is the noise pollution that can still happen from the loops themselves and the State Route 30," said Cynthia Knaut, a West Valley resident who would live 1.5 miles south of the proposed route.

Knaut expressed her concerns about noise and air pollution to a panel of ADOT representatives at the public hearing, but still admitted that something had to be done about the growing traffic in the area.

"The Interstate 10 is a mess," Knaut said. "There has to be ways to unload it. So I think the 303 is fantastic. I love the 303."

ADOT members stressed that public comments are important and taken into consideration at each step of the project.

"Public input, sometimes it doesn't seem like it has so much to do with this," said Tricia Brown, an ADOT project manager. "But it is definitely an evaluation criteria and that's why these meetings are so important to get people out to get their comments and their thoughts."

Comments on the project will be accepted through July 15. They can be emailed to [Loop303south@azdot.gov](mailto:Loop303south@azdot.gov), called in at 1-855-712-8530 or mailed to ADOT Community Relations, Loop 303 Study, 1655 W. Jackson Street, MD 126 F, Phoenix, AZ 85007.

For more information on the Loop 303 project visit [azdot.gov/loop303southofvanburen](http://azdot.gov/loop303southofvanburen).

**Appendix D: Public Hearing Materials**

- Project Fact Sheet (English and Spanish)
- Comment Form
- Hearing Participation Guide (four-page brochure)

# LOOP 303

## Loop 303 South of Van Buren Street to the Proposed State Route 30

### OVERVIEW

The Arizona Department of Transportation (ADOT) and the Federal Highway Administration (FHWA) have completed the Draft Environmental Assessment (EA) and Initial Design Concept Report (DCR) for the proposed extension of Loop 303 from south of Van Buren Street to the proposed State Route 30, and identified a Preferred Alternative. If constructed, this new freeway would continue the development of the Loop 303 corridor in the West Valley in conjunction with the Maricopa Association of Government's (MAG) Regional Transportation Plan. ADOT and the FHWA are also evaluating a No-Build Alternative (taking no action) as required by federal law.

### WHERE WOULD THE FREEWAY BE LOCATED?

The Preferred Alternative 2C South would follow Cotton Lane to approximately Lower Buckeye Road where it would take a south westerly route toward MC 85 where it would connect to the proposed State Route 30 south of the existing transmission lines.

### WHEN WOULD THE FREEWAY BE BUILT?

If the outcome of the study is the Preferred Alternative, then the timing of construction would depend upon the completion of final design, right-of-way acquisition and utility relocation. MAG's current Regional Transportation Plan identifies construction funding from Van Buren Street to approximately Elwood Street in 2020. Construction is anticipated to take nearly two years to complete. The project is anticipated to be implemented in phases pending allocation of future funding. If the No-Build Alternative is selected, then no action would be taken.



Map of Preferred Alternative 2C South



ADOT Project No: 303 MA 100 H6870 01L  
Federal Project No: STP-303-A(ASO)5

## WHAT WOULD THE FREEWAY LOOK LIKE?

Throughout its length, Loop 303 has been planned to accommodate an ultimate configuration of four general-purpose lanes and one high-occupancy vehicle (carpool) lane in each direction. MAG's Regional Transportation Plan programs funding to build three general-purpose lanes in each direction for the segment from Van Buren to Elwood streets in 2020. In addition, one-way frontage roads would be constructed where the Loop 303 alignment is along Cotton Lane to maintain local access.

## HOW CAN THE PUBLIC BE INVOLVED?

Members of the public are encouraged to review the Draft EA and Initial DCR and provide their input. Both documents are available for public review during normal business hours at the following locations through July 15, 2018.

### Goodyear Library

14455 W. Van Buren St C-101  
Goodyear, AZ 85338

### Starpointe Residents Club

17665 W. Elliot Road  
Goodyear, AZ 85338

### Buckeye Valley Fire District Station 326

19937 W. Arlington Road  
Buckeye, AZ 85326

## PUBLIC COMMENT PROCESS

All of the materials presented at the public hearing, including the informational video, visual animation and comment forms, will be available on the study website [azdot.gov/loop303southofvanburen](http://azdot.gov/loop303southofvanburen).

Comments can be submitted anytime through July 15, 2018 the following ways:



### Mail:

ADOT Community Relations  
Loop 303 Study  
1655 W. Jackson Street, MD 126 F  
Phoenix, AZ 85007



### Telephone:

1.855.712.8530



### Email:

[Loop303south@azdot.gov](mailto:Loop303south@azdot.gov)

## FOR MORE INFORMATION:

[Loop303south@azdot.gov](mailto:Loop303south@azdot.gov) • 855.712.8530

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# LOOP 303

## Loop 303 sur de la calle Van Buren a la propuesta Ruta Estatal 30

### VISIÓN GENERAL

El Departamento de Transporte de Arizona (ADOT) y la administración federal de carreteras (FHWA) han completado la evaluación ambiental (EA) y el reporte de concepto de diseño inicial (DCR) para la extensión propuesta del Loop 303 desde el sur de la calle Van Buren a la propuesta Ruta Estatal 30, e identificado una alternativa preferida. Si se construye, esta nueva autopista continuaría el desarrollo del corredor 303 Loop en el oeste del valle conjunto con el plan regional de transporte de la asociación de los gobiernos de maricopa (MAG). ADOT y FHWA también están evaluando una alternativa de no construir (no tomar ninguna acción) como lo requiere la ley federal.

### ¿DÓNDE SE UBICARÍA LA AUTOPISTA?

La alternativa preferida 2C Sur seguiría la calle Cotton Lane hasta aproximadamente Lower Buckeye Road donde tomaría una ruta sudoeste hacia el MC 85 donde se conectaría con la propuesta ruta estatal 30 al sur de las líneas de transmisión existentes.

### ¿CUÁNDO SE CONSTRUIRÁ LA AUTOPISTA?

Si el resultado del estudio es la alternativa preferida, entonces el tiempo de la construcción dependería en la terminación del diseño final, la adquisición del derecho de paso y la reubicación de las utilidades. El plan actual del la regional de transporte de MAG identifica la financiación de la construcción desde la calle Van Buren hasta aproximadamente la calle Elwood en 2020. Se prevé que la construcción tardará casi dos años en completarse. Se anticipa que el proyecto se implemente en fases en espera de la asignación de fondos futuros. Si se selecciona la opción no-Build, entonces no se tomará ninguna acción.



Mapa de la alternativa preferida 2C sur

### Selección alternativa preferida/bosquejo EA y DCR



No. del Proyecto de ADOT: 303 MA 100 H6870 01L  
No. del proyecto federal: STP-303-A(ASO)5

## ¿CÓMO QUEDARÍA LA AUTOPISTA?

A lo largo de su longitud, Loop 303 ha sido planeado para acomodar una configuración final de cuatro carriles de propósito general y un carril de vehículo de alta ocupación (carpool) en cada dirección. El plan regional de transportación de MAG programa financiamiento para construir tres carriles de propósito general en cada dirección para el segmento de la Van Buren a la calle de Elwood en 2020. Además, se construirían caminos de fachada de una vía donde la alineación del Loop 303 es a lo largo del carril de Cotton Lane para mantener el acceso local.

## OTROS RECURSOS DEL PROYECTO

Se puede encontrar información sobre estudios adicionales en el área en los siguientes sitios web:

- Loop 303: SR 30 to Hassayampa Freeway Study – <https://azdot.gov/planning/transportation-studies/loop-303-from-sr-30-to-hassayampa-freeway/>
- SR 30 Study: [Azdot.gov/SR30](http://Azdot.gov/SR30)
- Interstate 11: [I-11study.com/Arizona](http://I-11study.com/Arizona)
- I-10 Hassayampa Valley Study: [BQAZ.org](http://BQAZ.org)

## ¿CÓMO PUEDE PARTICIPAR EL PÚBLICO?

Se alienta a los miembros del público a que revisen el EA e inicial DCR y proporcionen su contribución. Ambos documentos están disponibles para revisión pública durante las horas de trabajo normales en las siguientes ubicaciones hasta el 15 de julio de 2018.

### Biblioteca Goodyear

14455 W. Van Buren St C-101  
Goodyear, AZ 85338

### Club de residentes de Starpointe

17665 W. Elliot Road  
Goodyear, AZ 85338

### La estación 326 del distrito de bomberos de Buckeye Valley

19937 W. Arlington Road  
Buckeye, AZ 85326

## PROCESO DE COMENTARIOS PÚBLICOS

Todos los materiales presentados en la audiencia pública, incluyendo el video informativo, la animación visual y los formularios de comentarios, estarán disponibles en el sitio web del estudio [azdot.gov/loop303southofvanburen](http://azdot.gov/loop303southofvanburen).

Los comentarios pueden ser presentados en cualquier momento hasta el 15 de julio de 2018 las siguientes maneras:



### Correo:

ADOT Community Relations  
Loop 303 Study  
1655 W. Jackson Street, MD 126 F  
Phoenix, AZ 85007



### Teléfono:

1.855.712.8530



### Correo electrónico:

[Loop303south@azdot.gov](mailto:Loop303south@azdot.gov)

## PARA MÁS INFORMACIÓN:

[Loop303south@azdot.gov](mailto:Loop303south@azdot.gov) • 855.712.8530

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## Public Hearing Participant Guide

### PUBLIC COMMENT OPTIONS

The comment period is open until July 15, 2018, and you can submit comments in the following ways:

- ④ Email: Loop303south@azdot.gov
- ④ Phone: 855.712.8530
- ④ Mail: ADOT Loop 303 Study  
1655 W. Jackson Street, MD 126F  
Phoenix, AZ 85007
- ④ Speak to a court reporter
- ④ Complete a comment form
- ④ Formal three-minute comment to the study panel

ADOT encourages all interested parties to submit written comments on any aspect of the Draft EA. ADOT will consider all comments in preparing the Final EA, which will include responses to all comments, final conclusions on potential impacts and FHWA's final decision.

It is helpful to ADOT to receive comments on:

- ④ The Preferred Alternative, impact assessment and/or draft mitigation
- ④ Any information you feel is incomplete or incorrect
- ④ How the proposed action would affect you

When submitting comments, please be as specific as possible and substantiate your concerns and recommendations.



ADOT Project No: 303 MA 100 H6870 01L  
Federal Project No: STP-303-A(ASO)S



## Take me out to the *Hearing!*

### PARTICIPANT GUIDE

## WELCOME TO THE PUBLIC HEARING!

To hit a homerun at this interactive Public Hearing, please follow this guide during your visit. We welcome your input and thank you for participating!

### OVERVIEW OF THE PUBLIC HEARING

Today's public hearing is organized into three main activities, each running continuously over the course of four hours. The open house format will allow you the opportunity to review and comment on the Draft Environmental Assessment (EA) and Initial Design Concept Report (DCR). Study team members are also on-site to address questions and concerns.



### BEFORE YOU BEGIN AT THE PUBLIC HEARING

#### Attendee Sign-in

Sign-in information helps the study team keep a formal record of attendance and also gives you an opportunity to add your name to the study distribution list for future notices. This is not mandatory.

#### Speaker Registration

If you would like to provide formal public comment for up to three minutes to a panel of study team members, you must REGISTER to speak. You can register at the Speaker Registration table located on the second floor (suites level).

#### Interpretation Services – Interpretación de español disponible

Please see study team members if you need Spanish interpretation assistance. Por favor vea a los miembros del equipo del estudio si necesita ayuda de interpretación en español.





# HIT A PUBLIC HEARING

## Home Run!



### What the Study is About

Visit the theatre room to watch a brief informational video that describes what the study is, study history and where we are today so that you can make informed comments.



### Interactive Simulations

Check out the potential future plans for the Loop 303 and exhibits that will help give you a better idea of what the proposed Loop 303 south of Van Buren Street could look like. You can also scan the QR code and view the Preferred Alternative on your phone or visit: <http://vtour.123bim.com/AAEL/>.



### Ways to Comment Today

Please visit our commenting suites to fill out a comment form, speak to a court reporter who will document your input for the record, or register to deliver your three-minute oral remarks before the study panel, which includes representatives from ADOT, FHWA and MAG.



### HOME RUN!

Thank you for being an active participant. We appreciate your input! Be sure to sign up to receive future project updates at: [azdot.gov/loop303southofvanburen](http://azdot.gov/loop303southofvanburen).



## **Appendix E: Display Boards**

- Welcome
- Study Area
- No Build Alternative
- Next Steps
- Loop 303 Timeline
- What is NEPA? (definition)
- Typical Sections
- Alternatives Evaluation Matrix
- Preferred Alternative 2C South



Take me out to the *Hearing!*

# Welcome

## PURPOSE OF TODAY'S HEARING

To obtain input on the Draft Environmental Assessment for the proposed Loop 303 from south of Van Buren Street to the proposed State Route 30.

## YOUR INPUT IS IMPORTANT TO US!

All of the materials presented at the public hearing, including the informational video, visual animation and comment forms, will be available on the study website: [azdot.gov/loop303southofvanburen](http://azdot.gov/loop303southofvanburen).

Comments can be submitted anytime until July 15, 2018, the following ways:



**Mail:**

ADOT Community Relations  
Loop 303 Study  
1655 W. Jackson Street, MD 126 F  
Phoenix, AZ 85007



**Telephone:**

1.855.712.8530

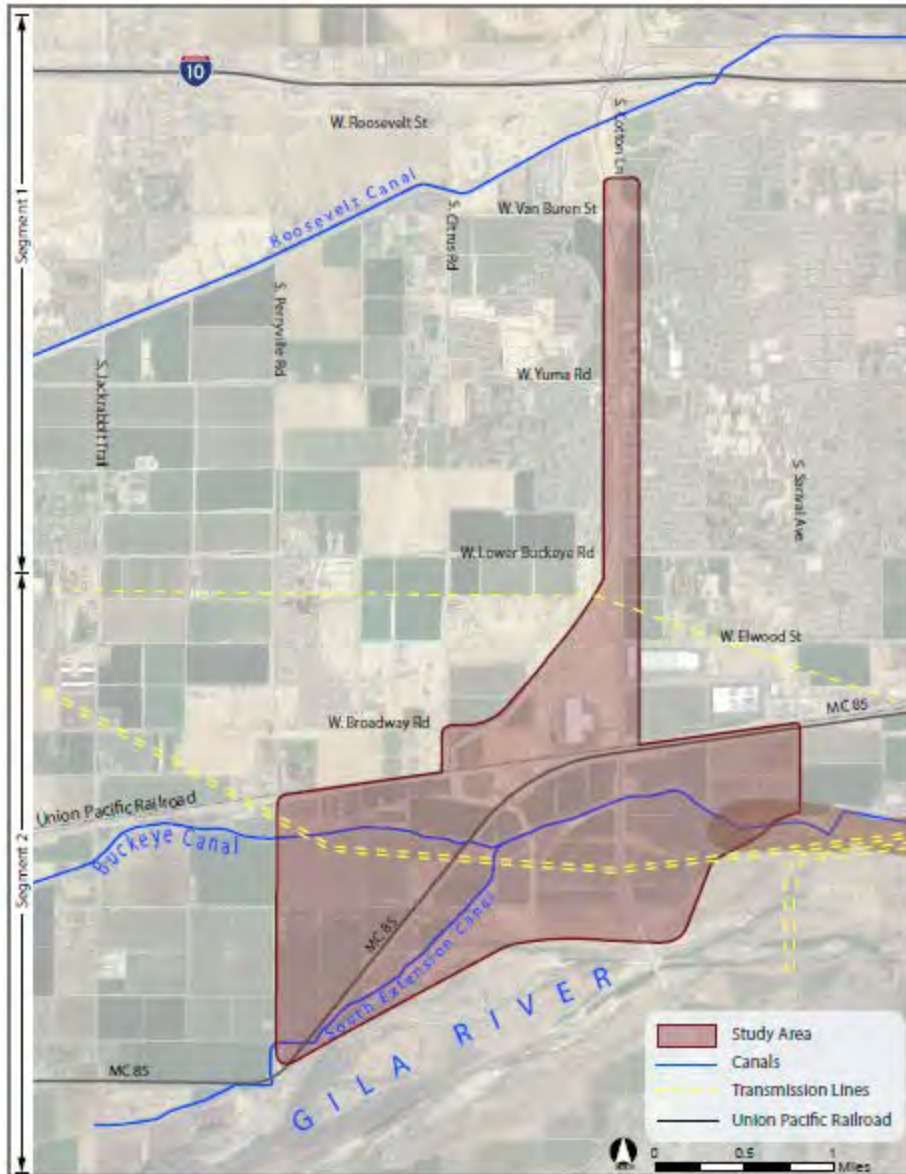


**Email:**

[Loop303south@azdot.gov](mailto:Loop303south@azdot.gov)



# Study Area





Take me out to the *Hearing!*

# No-Build Alternative

- The No-Build Alternative in an environmental study is the baseline condition carried forward if the proposed action (major transportation facility) was not built
- The No-Build Alternative provided the Loop 303 study team with a basis against which social, environmental, and economic impacts were measured
- The No-Build Alternative was studied in the Loop 303 Environmental Assessment (EA) and compared with the Preferred Alternative
- The No-Build Alternative assumes the construction of all other funded transportation projects in the Study Area (e.g., City, County, MAG projects, and other ADOT projects) would be built

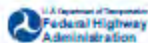


Take me out to the *Hearing!*

# Next Steps



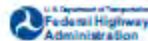
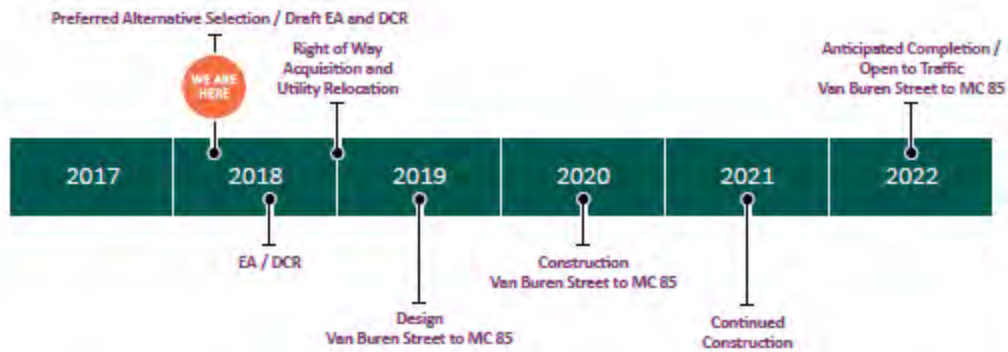
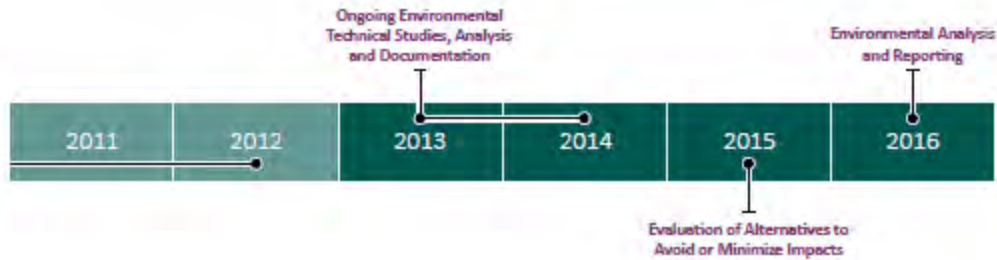
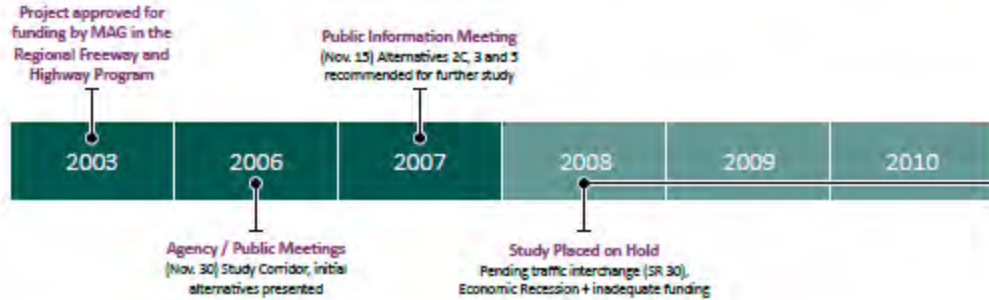
\*Pending Finding of No Significant Impact (FONSI)





Take me out to the *Hearing!*

# Loop 303 Timeline





Take me out to the *Hearing!*

# What Is NEPA?

- The National Environmental Policy Act (NEPA) of 1969 was a law written to analyze, disclose, minimize, and mitigate environmental impacts for federally funded projects.
- NEPA's basic policy requires applicable federal agencies to review impacts and mitigation to NEPA studies.
- An Environmental Assessment (EA) is the NEPA-level documentation that was used to evaluate potential impacts for the Loop 303 Study.
- The purpose of this EA is to describe the need for the proposed action, alternatives evaluated (including the No-Build Alternative), environmental impacts of those alternatives, and any necessary mitigation measures.





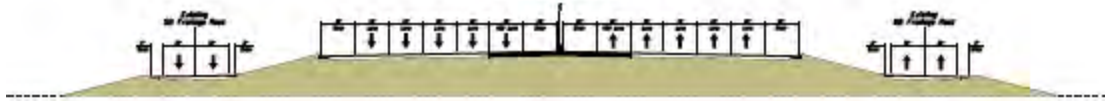
Take me out to the *Hearing!*

# Typical Sections

SR 303L  
INITIAL CONSTRUCTION (3+0)  
(Anticipated to open 2022)

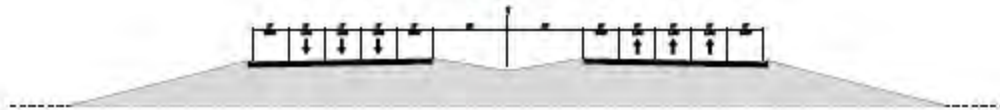


SR 303L  
ULTIMATE CONSTRUCTION (4+1)  
(Unfunded Future Construction)



## LOOP 303

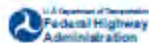
SR 30  
INITIAL CONSTRUCTION (3+0)  
(Unfunded Future Construction)



SR 30  
ULTIMATE CONSTRUCTION (4+1)  
(Unfunded Future Construction)



## SR 30





Take me out to the *Hearing!*

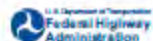
# Alternatives Evaluation Matrix

Evaluation Criteria	2CN	2CS	3N	3S	5N	5S
Air Quality/Noise Impacts	3	3	3	3	4	4
Visual Impacts	4	3	5	5	4	4
Archaeological Resource Impacts	3	1	5	3	5	1
Section 4(f) Impacts	3	1	5	5	5	3
Local Access	2	2	4	4	4	4
Traffic Operations	3	3	3	3	2	2
Construction Cost*	3	3	4	3	4	4
Right of Way	3	4	3	2	3	4
Utilities – Canal/APS reclaimed water line	4	2	4	3	4	2
Utilities - Power Lines	3	4	3	5	3	4
Public Input	3	3	3	3	3	3
Planning Consistency	1	1	5	5	2	2
<b>TOTALS</b>	<b>35</b>	<b>30</b>	<b>47</b>	<b>44</b>	<b>43</b>	<b>37</b>

1= Low Impact or More Favorable, 5 = High Impacts or Less Favorable

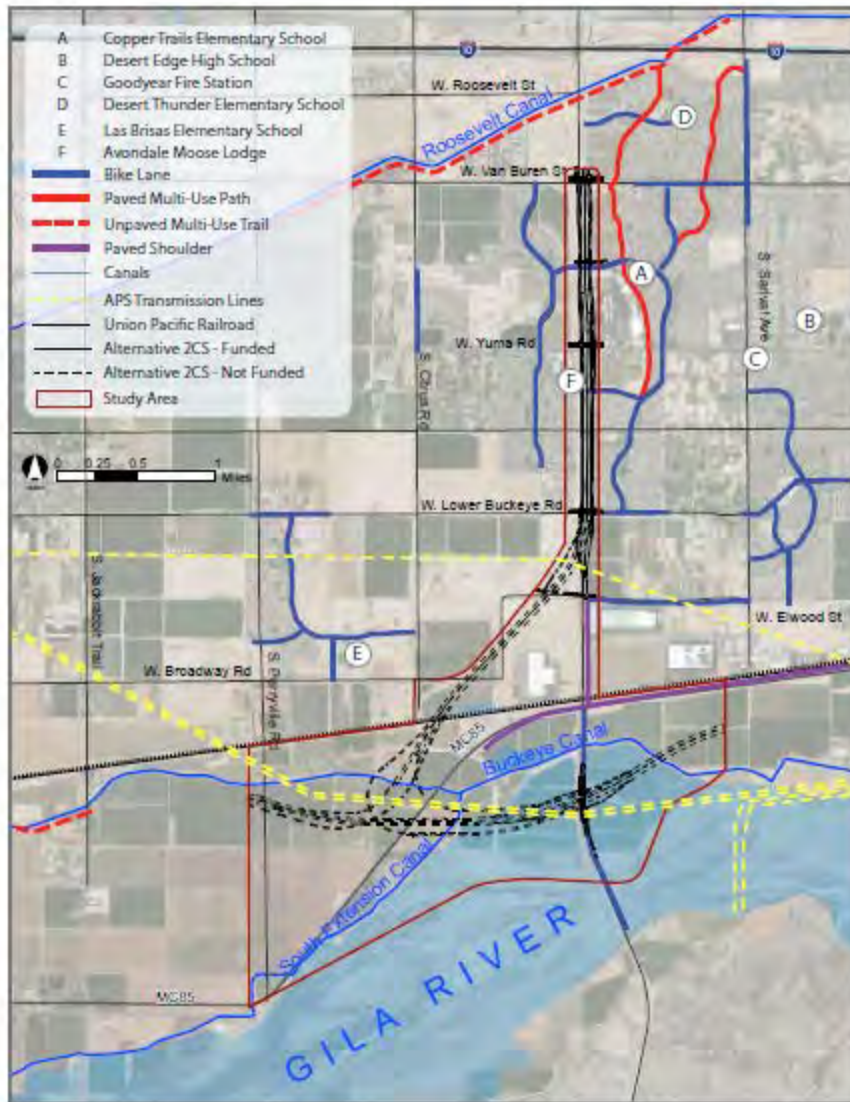
\* Major utility costs are addressed under the Utilities criteria

Source: ADOT Location / Design Concept Report, SR303L, SR30 to I-10, 2018.





# Preferred Alternative 2C South



## **Appendix F: Comment Matrix**

- Comment documents

## State Route 303 Loop (SR 303L) State Route 30 to I-10

PUBLIC HEARING COMMENTS (as of July 18, 2018)

Comment Type	Comment	Response
0	This was fantastic!! Well organized and executed. We got all of our questions answered and more. Great ideas. Thanks!!	Thank you for your comment and for participating in the Loop 303 study process.
0	However, I realize that ideally "disclosure" is required, the content and presentation at each of the several meetings I've attended have been top-rated! The amount of hard work dedication, knowledge, experience and science dedicated so far to this entire 303 project is commendable. Good work and good luck!!	Thank you for your comment and for participating in the Loop 303 study process.
0	Very informative! Thank you.	Thank you for your comment and for participating in the Loop 303 study process.
0	Very concerned about noise within the Cotton flower neighborhood as well as traffic flow impacts with Yuma and Lower Buckeye roads. Expansion of Yuma Road?	<p>Thank you for taking the time to submit your input. Your participation in the Loop 303 study process is important, and your comments will be included in the public record. ADOT conducts noise analysis under worst-hour traffic noise conditions. Any time a noise sensitive area is predicted to experience traffic noise levels that ADOT considers approaching or exceeding Federal Highway Administration (FHWA) Noise Abatement Criteria or which is predicted to experience a substantial noise increase, ADOT considers various noise abatement measures, including noise barriers. Among other criteria, noise barriers need to provide a seven decibel reduction in noise levels, or more, for at least half of noise sensitive areas closest to the highway.</p> <p>Within ADOT right-of-way and maintenance limits, Yuma road and Lower Buckeye Road will be improved to three thru lanes and two left-turn lanes in each direction. Outside of the ADOT right-of-way and maintenance limits the roadways will taper back to existing conditions. The City of Goodyear has jurisdiction for roadway improvements outside of the ADOT right-of-way.</p>

0	My question is not related to this project. What are the plans to add a traffic signal at Jackrabbit Trail and I-10? Busy intersection with many near-misses and accidents. Thank you for today's outreach program.	Thank you for your comment and for participating in the Loop 303 study process. The Jackrabbit Trail and Interstate 10 interchange you mention in your comment, has been studied and it meets the requirements for the placement of a traffic signal. At this time, funding is being identified for the signal installation. You may contact ADOT at 855.712.8530 or <a href="mailto:projects@azdot.gov">projects@azdot.gov</a> , for updates on the status of funding.
0	I would like to mention that I am representing Agua Fria High School Transportation Dept. Just concerned that our access to routes east and west of construction zone "Canyon Trails" and Lilac, north and south of Lower Buckeye.	Thank you for taking the time to submit your input. Your participation in the Loop 303 study process is important, and your comments will be included in the public record. If the Preferred Alternative 2C South is approved, traffic control plans will be developed during final design and used during construction. Traffic control plans will be designed to maintain access to surrounding areas of the construction zones. ADOT will also work directly with stakeholders during construction to notify them of any construction related impacts as well as access changes.
0	Rainbow Valley home owners would like to know if and when you will go through Tuthill or Rainbow Valley Rd., Buckeye	Thank you for your comment and for participating in the Loop 303 study process. Currently the Maricopa Association of Governments' (MAG's) 2040 Regional Transportation Plan does not include an extension of the Loop 303 south of State Route 30. However, MAG's long range planning efforts have identified future roadway networks in the area as part of the Interstate 8 and Interstate 10 Hidden Valley Framework Study. Information regarding the study can be found at the following website: <a href="http://www.bqaz.org/hiddConcept.asp?mS=m4">http://www.bqaz.org/hiddConcept.asp?mS=m4</a> .
0	Why south bound frontage road on north side of 303 at Lower Buckeye and Elwood?	Thank you for your comment and for participating in the Loop 303 study process. The separation of the southbound frontage road south of Lower Buckeye Road allows southbound traffic that wants to go west on Elwood Street to access future planned development a more direct route than continuing south to the intersection of Elwood Street. During final design this separation could be eliminated all together or kept and implemented.

0	<p>We live in Canyon Trails Unit 4S. Our address is 17015 W. Hammond St. In the greenbelts surrounding our home we have had a problem with some pretty severe sink holes. One was over five feet deep and about eight to ten feet around. It was actually fenced off for two years. We also had a sink hole in our front yard that was about two feet deep and two feet wide. We have large cracks in our sidewalks and driveway as well. My question and concern is will this make this problem continue or become worse? There was a class action suit on this problem.</p>	<p>Thank you for taking the time to submit your input. Your participation in the Loop 303 study process is important, and your comments will be included in the public record. The area that you note does have the potential for sink holes. If the Preferred Alternative, 2C South is approved, during final design, further tests of the ground will be performed to investigate the continued potential for sink holes and recommendations to mitigate them will be developed as necessary.</p>
0	<p>I would like to thank all of the folks responsible for approving to hold the hearing and giving of their time to do it. I am a recent transplant from IL and live in Canta Mia so at this time I have little "skin in the game." My only concern is the risk of building the 303 extension and not getting SR30 approved. How do we minimize that risk?</p>	<p>Thank you for taking the time to submit your input. Your participation in the Loop 303 study process is important, and your comments will be included in the public record. Currently the Maricopa Association of Governments' (MAG's) 2040 Regional Transportation Plan does include the implementation of the State Route 30. The SR 30 is currently in the environmental study phase, similar to that of this Loop 303 study. If approved by the Federal Highway Administration, SR 30 will be constructed as funding becomes available as part of MAG's Regional Transportation Plan.</p>
0	<p>Hello, we will be attending the meeting my question is very personal and need to address it through an email, How soon will we know which of freeway plans will be decided on ? Our house is in the Canyon Trails 4 South on Shiloh Ave We have decided to relocate and found our new house, our situation is our current house is a VA loan , and want our new house to be VA loan unfortunately we had to file bankruptcy which has been is charged a year ago. We are currently waiting 11 months to be able to qualify for our home loan. Our new house will take 6 months to build and already have in mind what lot we would like our new house.The home builders will begin building our new house in November 2018 .</p> <p>The problem is that in 11 months from now a realtor may not want to place our current house for sell if there is a risk of this house being part of the 303 freeway plan . Then we may lose our chance to buy our new house, then to later find out that we could have sold it or the 303 freeway is purchasing our house but too late to qualify for the house that we chose . Also my next question is we just replaced our dishwasher if the 303 freeway purchase our house are we allowed to take our new dishwasher and any other such as cabinets and ceiling fans ?</p>	<p>Thank you for your comment and for participating in the Loop 303 study process. A decision whether to move forward with the Preferred Alternative, 2C South or the No Build Alternative is anticipated in the fall of 2018. An exact address would be needed to determine if and to what extent there would be any impacts to the property.</p>

0	<p>My name is Kimberly Anderson's and I live off of Cotton Lane and Yuma. Currently there is a green belt between my house and Cotton Lane. I'd like to know if the current plan includes declaring eminent domain over any properties? If it does, at what point will I be notified? If not when will I find out how much of my green belt I am losing?</p> <p>Thank you and have a nice week!</p>	<p>Thank you for your comment and for participating in the Loop 303 study process. An exact address is needed to determine if and to what extent there are impacts to the property.</p>
0	<p>ADOT, I work with BET Investments, owner of the El Cidro project in Goodyear, AZ, and the purpose of this email is to provide comments on the Draft Environmental Assessment and Section 4(f) Evaluation, State Route (SR) 303L, SR 30 to I-10, and in particular the Noise Analysis Technical Report. El Cidro project is significantly impacted by SR 303. Unfortunately neither I nor my client were able to attend the open house on June 27; however, we do have serious concerns with the Noise Analysis Technical Report. It appears that your noise consultant (Newton Environment Consulting) failed to account for the entire El Cidro project. El Cidro is an approximately 630 acre project with approximately 320 acres of residential and 1,254 platted and approved single family lots. The entire El Cidro project has a vested preliminary plat that has been approved by the City of Goodyear. Phase 1, consisting of Parcels 2, 3 and a portion of 1D have been final platted and sold to Beazer Homes. The engineering work has been completed on the balance of the project and we are currently preparing the submittal for the final plat for Phase 2, consisting of Parcel 1E, 1C and the balance of 1D. Construction is underway on the public improvements needed to serve the entire project, as well as the site work for the parcels sold to Beazer Homes. Home construction will begin in the next few weeks. The Noise Analysis Technical Report only shows a sound attenuation wall along the west side of SR 303, adjacent to Parcels 2 and 3 (the parcels between Elwood and Lower Buckeye Road on the west side of SR 303). However, Parcels 4 and 5, located opposite Parcels 2 and 3 on the east side of SR 303 are also platted and approved for single family residential development, and in fact many of these homes will be even closer to SR 303 given that the Flood Control channel is located along the west side of SR 303. Additionally, Parcels 1C and 1F, located along the west side of SR303 between Elwood and Broadway all platted and approved for single family residential. SR 303 will impact the homes within these parcels in exactly the same manner it will impact the homes located within Parcels 2 and 3. I can only surmise that the noise consultant did not account for the balance of the single family homes approved within the El Cidro project because final plats have not been processed for the entire project. I reiterate, the preliminary plat for the entire project has been approved and it became vested when the final plats for Parcels 2, 3 and a portion of 1D were approved. As you may or may not know, the approval of the remaining final plats is simply a technicality, and the City must approve them provided they are consistent with the preliminary plat. I believe it is imperative that we meet ASAP to discuss this oversight. My client and I will make ourselves available to accommodate your schedule.</p>	<p>Thank you for you comment and for participating in the Loop 303 study process. The noise analysis is completed to the extent that design information is available at the time the environmental clearance document is being completed. The response from City of Goodyear, the applicable local jurisdiction, received on July 12, 2018, is "Parcel 1D, 2 and 3 have final plats recorded and are very close to having its first building permits. These areas are shown as having noise barriers in the preliminary report. The other areas have vested preliminary plats, no final plat approval, no building permits." However, ADOT is working closely with the City of Goodyear and the Federal Highway Administration (FHWA) Arizona Division, to determine if there is a change in status when it comes to the permits and eligibility. As per 23 Code of Federal Regulation 772.5 Definitions Permitted. A definite commitment to develop land with an approved specific design of land use activities as evidenced by the issuance of a building permit. As per 23 Code of Federal Regulation 772(c)(2)(vii) (A) A highway agency shall determine if undeveloped land is permitted for development. The milestone and its associated date for acknowledging when undeveloped land is considered permitted shall be the date of issuance of a building permit by the local jurisdiction or by the appropriate governing entity. (B) If undeveloped land is determined to be permitted, then the highway agency shall assign the land to the appropriate Activity Category and analyze it in the same manner as developed lands in that Activity Category. (C) If undeveloped land is not permitted for development by the date of public knowledge, the highway agency shall determine noise levels in accordance with 772.17(a) and document the results in the project's environmental clearance documents and noise analysis documents. Federal participation in noise abatement measures will not be considered for lands that are not permitted by the date of public knowledge. ADOT Chapter 2.6 stipulates that "Land which is permitted, but which has not yet been developed, including partially developed land with an active permit as defined by the applicable jurisdiction, will be considered under the appropriate category for the permitted development." Page 34 of the Noise Analysis Technical Report (NAR), Statement of Likelihood, explains that ADOT needs to verify the date of issuance and, if applicable, the status of permit at the final design stage of the project. "A final determination of noise abatement measures will be made upon completion of the project design, the public involvement process, concurrence with the ADOT NAR, and FHWA approval."</p>



0	<p>Kevin Kirkpatrick: My address is 2009 South Cotton Lane, and I've known the freeway's going to come through for a while. My concern is my accessibility to get out of my property. I currently get in and out of, on Cotton Lane, and the accessibility during the construction phase. I also have a concern of my fair compensation of my property when it's purchased. I also am concerned about the sound barrier wall being between the frontage road and the main freeway as I will still get noise from the frontage road on to my property. I wanted to make sure they also had a transition from the frontage road into my driveway, and good luck with it. That's it, I guess. Okay.</p>	<p>Thank you for taking the time to submit your input. Your participation in the Loop 303 study process is important, and your comments will be included in the public record. Access will be provided by a right turn into this property and a right turn out of the property to the northbound frontage road. This will replace the current access to Cotton Lane. In order to reach locations on the west side of existing Cotton Lane, it will be necessary to make two left turns at any of the street overpasses and use the southbound frontage road.</p> <p>Access during construction will be maintained with occasional restrictions as necessary.</p> <p>If acquisition is necessary, construction would begin following the acquisition. The State of Arizona follows Federal Regulations that ensures that all acquisitions are fair and just. ADOT hires independent appraisers and will be reviewed by an ADOT review appraiser and an offer will be made for fair market value.</p> <p>In addition to acoustic conditions, sound walls need to meet various engineering conditions, such as safety and maintenance. Sound walls will be located between the freeway and the frontage road so they can be continuous. Sound from the northbound frontage road is not expected to provide perceptibly different sound levels than current sound from Cotton Lane as traffic volumes on the frontage road will be reduced from current volumes.</p> <p>Driveway access will be provided to current standards.</p>
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0	<p>Berry Hitchcock: Okay, I'm concerned about the noise impact. When 303 is complete and built over the intersecting roads, I want to know what the speed limit is going to be, because in my opinion a speed limit of 65 or 70 miles an hour will create such a noise that even trees and noise walls will not bring down the decibel level to comfort level. I can imagine three tractor trailers traveling down 303, either north or south, in a group doing 70 miles an hour, and you couldn't build a wall high enough to shut out the noise. So, that's my comment. And I would wish somebody would address it. Forty-five mile an hour speed limit sounds a little more reasonable in that area because you got to have 300 homes in that stretch. Two-and-a-half, two-and-a-quarter mile, two-and-a-half stretch. And we have been to Pebble Creek and people that have bought homes within a third of a mile still hear that traffic. And we were at a party a year and a half ago, and the traffic drowned our conversation out on the patio. So they need to address that. Thank you.</p>	<p>Thank you for expressing your concerns during the Loop 303 study process. Your input is important and will be included in the public record. The design speed for the Loop 303 is 65 mph. When the initial project from MC 85 to Van Buren Street is constructed there will be an end of freeway condition just south of Lower Buckeye Road that will be similar to what currently exists south of Van Buren Street.</p> <p>ADOT requires noise analysis to correspond to the worst-hour traffic noise conditions, traffic volumes and speed that correspond to Level of Service C. Level of Service C, the presence of other vehicles begins to restrict the maneuverability and within the traffic stream. Average speeds remain at or near the free flow speed level. And that includes heavy truck volumes and all the vehicles traveling at 5 mph above posted speed limit. Any time a noise sensitive area is predicted to experience traffic noise levels that ADOT considers approaching or exceeding FHWA Noise Abatement Criteria (NAC) for their appropriate Activity Category or which is predicted to experience a substantial noise increase, ADOT considers various noise abatement measures, including noise barriers. Among other criteria, noise barriers need to provide 7 dBA reduction in noise levels, or more, for at least half of noise sensitive areas closest to the highway.</p>
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0	<p>Richard Horner: Okay. I have a -- first of all, I have concerns about the noise level through the 303 corridor. I would urge all possible noise abatement issues be implemented, including noise abatement walls, quiet pavement, lower speed limit through the corridor, as well as any landscaping that can be done to limit noise. I'm also concerned about the visual impact of the project, and would like to see landscaping and that kind of thing be done through the corridor. I'm concerned about access to the 303 and then to the Interstate 10 from between Yuma and Van Buren streets. I'm also concerned about the fact that folks who live to the west of Cotton Lane will be essentially, or to some degree, cut off from the rest of Goodyear because of this project. I'm also concerned that in the data that was provided, the extent of the data that was provided, there seem to be little effort to describe what the effects of the project might be on home owners. There was some talk about reimbursement for losses for taking property and for relocation expenses and that kind of thing, but it was minimal amount, minimal amount of information regarding that.</p>	<p>Thank you for taking the time to submit your input. Your participation in the Loop 303 study process is important, and your comments will be included in the public record. ADOT conducts noise analysis under worst-hour traffic noise conditions. Any time a noise sensitive area is predicted to experience traffic noise levels that ADOT considers approaching or exceeding Federal Highway Administration (FHWA) Noise Abatement Criteria or which is predicted to experience a substantial noise increase, ADOT considers various noise abatement measures, including noise barriers. Among other criteria, noise barriers need to provide seven decibel reduction in noise levels, or more, for at least half of noise sensitive areas closest to the highway.</p> <p>An exact address is needed to determine if and to what extent there are impacts to the property. If impacts are identified, reimbursement and relocation expenses will be discussed as part of any right-of-way acquisition and may vary depending on each individual situation.</p>
0	<p>Hello, I own a 20 acre piece of Property Southeast of the Rainbow Valley area. Approximately a 1/2 mile west of the Mobile Airport.</p> <p>I have been hearing rumors that there are plans to build a Highway from the Estrella Mountain Ranch or Buckeye area, Southeast toward the Mobile area. Possibly from AZ SR 85 or from the new Hwy 303.</p>	<p>Thank you for your comment and for participating in the Loop 303 study process. Currently the Maricopa Association of Governments' (MAG's) 2040 Regional Transportation Plan does not include any extension of the Loop 303 south of State Route 30. However, MAG's long range planning efforts have identified future roadway networks in the area as part of the Interstate 8 and Interstate 10 Hidden Valley Framework Study. Information regarding the study can be found at the following website: <a href="http://www.bqaz.org/hiddConcept.asp?mS=m4">http://www.bqaz.org/hiddConcept.asp?mS=m4</a>.</p>
0	<p>We currently live at 17944 W. Atlanta Ave., Goodyear, AZ 85338. The suggested 303 freeway route takes out our parents home to the east of us and our well that supplies water to our home. Some of the routes show easement access coming through our home. While we know this property is irreplaceable we feel fortunate to have lived in this farming community. We do not want to have a freeway in our front or backyard. We want you to know that we want to be BOUGHT out of our home. Please do not make arrangements to leave our house standing near the freeway. Please continue with building the freeway through our property.</p>	<p>Thank you for taking the time to submit your input. Your participation in the Loop 303 study process is important, and your comments will be included in the public record. At this time, the project limits are just south of Lower Buckeye Road, the proposed south end for Loop 303 is projected to be near MC 85 south of Broadway Road and Citrus Road where it will tie in with the proposed State Road 30, currently in the environmental phase.</p>

I live at 2206 S 170th Dr. which part of the Canyon Trails Unit 4 South and my backyard faces S Cotton Lane between the crossroads of W Pima St and W Lower Buckeye Rd.  
I would prefer ADOT "NO BUILD OR EXPANDED THE LOOP 303 SOUTH PROPOSAL."  
I attended the 27 June 2018 Goodyear Ballpark Loop 303 Public Hearing and got what I thought at first were answers to my concerns and questions about this ADOT project. But what I got was a bunch of conflicting comments and explanations and what I want is the truth about this proposed Loop 303 S Extension (Van Buren-- Lower Buckeye Rd).  
The ADOT Loop 303 S video showed a raised 5 lane with an HOV lane running north and south (10-11lanes) but during questions at the hearing we we're told on engineering maps that the 303 S would only be a raised 3 lane with possible HOV lane north and south (6-8 lanes) with 2, 2 lane frontage roads running one-way originally to detour S Cotton Lane traffic around the freeway construction.

1. What is the correct number of lanes proposed for the Loop 303S including the frontage roads?
2. How tall will the raised 303S road be between Yuma and W Lower Buckeye Rd?
3. How tall will the 303S sound wall be for (10-11lanes)?
4. How tall will the 303S sound wall be for (6-8 lanes)?
5. How far will the east side of the 303S raised lanes, sound wall and frontage road come to my Canyon Trails Unit 4 South backyard property wall? Current right of way to Cotton Lane is gravel, then an HOA green belt flood plain and sidewalk runs parallel...how far into that green belt flood plain will be removed by the east side of the 303S construction?
6. When will your Environmental Plan (EP) be reviewed?

Thank you for your comment and for participating in the Loop 303 study process. 1. The Loop 303 freeway has been planned to be a freeway that has 4 regular travel lanes and 1 high occupancy vehicle (HOV) lane in each direction in its ultimate configuration. The initial construction proposed to begin in the Fall of 2020 will only construct regular travel lanes in each direction leaving room in the middle of the freeway corridor for the addiiton of another regular travel lane and the HOV lane. The one-way frontage roads will have 2 lanes each.  
2. The Loop 303 will be approximately 25-feet above ground level at the bridged crossings of Yuma and Lower Buckeye roads. Between these roadways the freeway will transition down to between 3 and 5-feet above ground level.  
3/4. The height and aesthetics of the sound walls will be determined during final design and the ultimate build conditions in accordance with the ADOT Noise Abatement Requirements.  
5. At the location of your property the frontage road will be approximately 25-feet from your back wall. The freeway will be approximately 70-feet away. Both the freeway and the frontage road will be just slightly above existing ground level. The sound wall will be between the frontage road and the freeway. The new right-of-way line will be at the back the wall.  
6. The Draft Environmental Assessment was published for Public Comment June 11, 2018 and the comment period ended July 15, 2018.

	<p>7. If your EP is approved when will this project be reviewed for funding since the current construction start date is 2020?</p> <p>8. What frontage road traffic noise, construction noise and air quality abatement can homeowners expect during the construction project?</p> <p>9. Would it be possible for an ADOT engineer involved in the Loop 303S Extension to meet with Canyon Trails homeowners whose property runs parallel to S Cotton Lane and show how close the 303S lanes and frontage road will be to home between W Pima St and W Lower Buckeye Rd?</p>	<p>7. If FHWA approves the Environmental Assessment, ADOT plans to begin final design in Spring 2019 with an approximately 12 month design period. Funding has been identified for design, right-of-way and construction between 2018-2022 as part of the Maricopa Association of Government's (MAG's) Transportation Improvement Program.</p> <p>8. The contractor is obligated to perform activities in full compliance with the ADOT Standard Specifications for Road and Bridge Construction - 104.08 Prevention of Air and Noise Pollution available at <a href="https://www.azdot.gov/RBCStandards">https://www.azdot.gov/RBCStandards</a></p> <p>9. ADOT would be happy to meet with the Canyon Trails homeowners to display distances between the community freeway and the frontage road.</p>
20	<b>TOTAL COMMENTS WITHOUT PREFERENCE OF BUILD OR NO BUILD</b>	
1	We vote for preferred Alternative 2C.	Thank you for your comment and for participating in the Loop 303 study process.
1	I think this is a great project and support it. I'm all for connecting to state Rt. 30 which can serve as an alternative to I-10 and the traffic jam. During school year I take MC-85/Buckeye into work which is at JP Morgan Chase across from Sky Harbor Car Rental. I've always wished we could convert MC85/Buckeye into a freeway and think State Rt. 30 can help since I-10 is way too busy. I hope the West Valley can have multiple ways to get into downtown Phx like the East Valley. I support the extension 100% and looks like it won't be too invasive to existing people in area.	Thank you for your comment and for participating in the Loop 303 study process.
1	I support preferred Alternative 2C South as currently proposed by ADOT and FHWA.	Thank you for your comment and for participating in the Loop 303 study process.
1	Pleased to see that plan 2C South had the LEAST amount of environmental impact. Also, pleased that this plan was selected.	Thank you for your comment and for participating in the Loop 303 study process.
1	We are in full support of this Loop 303 and future development of SR30. There is a great need for an alternate route south of the 10 to gain access to the East Valley and other areas south and east of Phoenix. Hope you can make this happen and, if possible, move up the completion date for SR30.	Thank you for your comment and for participating in the Loop 303 study process.

1	Build that road. We also need to R30 built to allow West Valley residents the ability to get to the 202 to have access to the jobs in that area (S. Phoenix, Chandler, etc.) We would also love a plan to get south of Estrella Mtns for ease of transport, to other parts of valley	Thank you for your comment and for participating in the Loop 303 study process.
1	I'm excited about the current Loop 303 constructed exits/entrances. The proposed (preferred) looks great and I'm looking forward to seeing the next phase of construction begin...sooner rather than later.	Thank you for your comment and for participating in the Loop 303 study process.
1	Thank you for choosing the 2CS option. I live in Estrella Mountain Ranch community and are relieved to see that the 303L will not come straight down Cotton Lane into our community. I have a few remaining concerns about NOISE pollution from the proposed 303 to SR30 connectors. I am concerned that the decibel level of ongoing traffic from three lanes both ways now and potentially six lanes each way in the future will be very detrimental to the way of life and quality of life in the Estrella community where I live specifically. Today I already hear a lot of traffic noise just from Cotton Lane, so a major freeway within 1-2 miles may make it unbearable. Thank you for listening to our concerns!	Thank you for taking the time to submit your input. Your participation in the Loop 303 study process is important, and your comments will be included in the public record. ADOT conducts noise analysis under worst-hour traffic noise conditions. Any time a noise sensitive area is predicted to experience traffic noise levels that ADOT considers approaching or exceeding Federal Highway Administration (FHWA) Noise Abatement Criteria or which is predicted to experience a substantial noise increase, ADOT considers various noise abatement measures, including noise barriers. Among other criteria, noise barriers need to provide a seven decibel reduction in noise levels, or more, for at least half of noise sensitive areas closest to the highway.
1	Looks good, SR30 will help my commute when it is built. Just please, please, please do not run the 303 through Estrella Mountain Ranch! Thank you.	Thank you for your comment and for participating in the Loop 303 study process. Currently the Maricopa Association of Governments' (MAG's) 2040 Regional Transportation Plan does not include an extension of the Loop 303 south of State Route 30.
1	Excellent work -- Proceed ASAP!!	Thank you for your comment and for participating in the Loop 303 study process.
1	Please build this freeway.	Thank you for your comment and for participating in the Loop 303 study process.
1	I am an Estrella resident and the purpose of my participating in your meeting today was to express by desire not to have the new highway(s) go into our Estrella neighborhood. We moved to this community during our retirement years because it was not too close to the freeways. We are pleased to see that the build in the future for necessary highways will bypass Estrella. Your information sharing on this project has been exceptional, as has your team. Thank you for hearing us!	Thank you for taking the time to submit your input. Your participation in the Loop 303 study process is important, and your comments will be included in the public record.

1	We support your decision to eliminate the initial/potential route of extending down Cotton Lane through Estrella Mountain Range/Estrella Mountain Ranch. Thank you for choosing the other option.	Thank you for your comment and for participating in the Loop 303 study process.
1	Support proposed build route and SR30. Please do not reconsider. We live in Estrella Mountain Ranch and plan to remain long into retirement. We will definitely relocate if this plan changes and goes through EMR.	Thank you for taking the time to submit your input. Your participation in the Loop 303 study process is important, and your comments will be included in the public record. The study process evaluated several alternatives, which can be found at the following link <a href="https://www.azdot.gov/docs/default-source/environmental-planning-library/draft-ea-loop-303-sr30-to-i-10-appendix-a.pdf?sfvrsn=2">https://www.azdot.gov/docs/default-source/environmental-planning-library/draft-ea-loop-303-sr30-to-i-10-appendix-a.pdf?sfvrsn=2</a>
1	We need it built as a freeway now! Please find the funding to build so I-10 gets some relief. SR30 and the Loop 303 connection -- Please hurry!	Thank you for your comment and for participating in the Loop 303 study process.
1	We support this project and see the long-term benefits of this proposed extension of Loop 303 as long as it does not go through Estrella Mountain Ranch (which does not appear to be a current possibility). Should future plans include going through Estrella Mountain Ranch, it would cause many families to relocate and cause a decrease in property values which concerns many residents.	Thank you for taking the time to submit your input. Your participation in the Loop 303 study process is important, and your comments will be included in the public record. The study process evaluated several alternatives, which can be found at the following link <a href="https://www.azdot.gov/docs/default-source/environmental-planning-library/draft-ea-loop-303-sr30-to-i-10-appendix-a.pdf?sfvrsn=2">https://www.azdot.gov/docs/default-source/environmental-planning-library/draft-ea-loop-303-sr30-to-i-10-appendix-a.pdf?sfvrsn=2</a>
1	Please keep us updated. Please keep clear of existing homes in Estrella. Noise and structures please keep livable.	Thank you for your comment and for participating in the Loop 303 study process. The study process evaluated several alternatives, which can be found at the following link <a href="https://www.azdot.gov/docs/default-source/environmental-planning-library/draft-ea-loop-303-sr30-to-i-10-appendix-a.pdf?sfvrsn=2">https://www.azdot.gov/docs/default-source/environmental-planning-library/draft-ea-loop-303-sr30-to-i-10-appendix-a.pdf?sfvrsn=2</a>
1	Hello, I am a Surprise resident and a strong advocate for expansion of the 303. We need to drive more economic opportunities to the west valley and additionally, we need to relieve traffic off the 10. Getting out of the west valley to downtown is a nightmare and expansion here will help that.	Thank you for your comment and for participating in the Loop 303 study process.

1	<p>On Wednesday, June 27, my wife and I attended the public hearing on the proposed Loop 303 South of Van Buren Street to the Proposed State Route 30. I am writing in support of Preferred Alternative 2C South. I support this route for the following reasons:</p> <ul style="list-style-type: none"> <li>• Before this presentation, I had been informed (right or wrong) that the inter-tie would come through Estrella Parkway south. This alternative would put too much traffic on what I consider a community road. The Parkway is not very straight and would, I believe, require condemning additional property. It would also place the new road too close to too many communities.</li> <li>• Alternative 2C disturbs fewer community roads and farmland. It is also ties in well with the current State Route 303, which we use frequently to travel through the west valley north and into the east valley.</li> </ul> <p>Thank you for the opportunity to comment.</p>	Thank you for your comment and for participating in the Loop 303 study process.
1	My wife and I are in complete agreement to this expansion and would love to see this highway built soon.	Thank you for your comment and for participating in the Loop 303 study process.
1	I live and work in the west valley. I am definitely in favor of expanding the 303 further.	Thank you for your comment and for participating in the Loop 303 study process.
1	<p>Yes please! Anything that can be done to make the West Valley more connected gets a go ahead from me. I've lived in Surprise since 2005 and can't believe what a difference these improvements have made not only to my commute time but to the communities as a whole. Business have moved in, home prices have increased, and it's now easier than ever to get out and experience the rest of what the Valley has to offer.</p>	Thank you for your comment and for participating in the Loop 303 study process.
1	Please expand the 303!!! All the way south to the airport would be great!	Thank you for your comment and for participating in the Loop 303 study process.
1	I am in favor of the extension of the Freeway. My family lives in Estrella Mtn and we travel from Surprise on a regular basis. This expansion is good for the Valley as a whole and beneficial to the West Valley cities as well.	Thank you for your comment and for participating in the Loop 303 study process.
1	I really want the expansion to the south all the way down to the I-10 somewhere. I have lived here for 26 years and the traffic through Phoenix is going to far surpass the capacity of the I-10 through the city in a few short years. This will allow cars and trucks going past the city to completely avoid it.	Thank you for your comment and for participating in the Loop 303 study process.



1	<p>As someone who travels throughout Maricopa County and has previously lived in Goodyear, I am in strong support of Loop 303 South and State Route 30.</p> <p>The Southwest portion of the Valley needs alternatives to travel from the West to downtown Phoenix. It is anticipated that the Loop 202 extension will allow motorists to bypass downtown Phoenix if traveling in the direction of the new Loop 202 extension but will not aid in the commute to get to downtown Phoenix during peak travel times in the morning. Something needs to be done to alleviate the congestion along I10 in the mornings. The Loop 303 South and State Route 30 is a step in that direction. I would also like to see the continuation of Northern Parkway Eastward to Loop 101 or beyond.</p>	Thank you for your comment and for participating in the Loop 303 study process.
1	<p>We attended the June 27, 2018 Public Hearing regarding the 303 Draft EA. The presentation was very well organized and supplied the public with a great deal of information on both the 303 and 30 and how they intersect. Our Company Quantum Holdings II is in escrow to purchase 483 acres south of MC-85 on both the East and West sides of Cotton Lane in Goodyear. Preferred Alternative 2C South is the best alternative considered for our property. Even with this alternative we lose approximately 100 acres or 20% of our site to a future freeway that is mostly elevated through our property. By no means is this a benefit to our property, but for the West Valley this future I-10 receiver will be very beneficial to the current Community residents and those in the future.</p> <p>Although our desired alternative was and still is a "No Build", we do support the selected Preferred Alternative 2C South as proposed. It makes the best use of the new and very expensive Cotton Lane bridge over the Gila River, as a full diamond interchange at SR-30 and Cotton Lane additional access is achieved to the east and the west on SR-30 as well as the 303 to the north to tie in with I-10, south to Rainbow Valley and the 20,000-acre Estrella Mountain Ranch. All while continuing to take full advantage of MC-85 as the third leg of the West Valley east west flow of traffic.</p> <p>As one of the largest future property owners we appreciate the level of time, energy and common sense that was put into the selection of this much needed transportation corridor. We look forward to working closely with A-dot personnel over the coming years.</p>	Thank you for your comment and for participating in the Loop 303 study process.

1	<p>Corey Stohlquist: My comment -- my name is Corey Stohlquist, and my comment would be that there should be stop, a four-way stop, at 173rd and Yuma Road to help make a left turn, because once the construction gets there with an on off ramps it's going to be awful hard to make turns across into the other lane. It's already pretty busy with the new Route 303 that was just finished but -- it's a good thing, you know? It's a good -- the Route 303 that's already finished is a good thing. It lets us get on and off I-10 quicker, and that's pretty much it. It's just stop and go. They're going to need one there because of all the traffic on Yuma Road.</p> <p>We've heard from a lot of people in the community on the Nextdoor App that they've been wanting, and even as it is right now, a stop and go light to be on 173rd and Yuma Road. And now that we know that this is coming, it's going to just make it that much more crazier to get in and out of that, you know, from 173rd on to Yuma.</p> <p>There's a lot of near misses there now since the 303's been done. With the increase traffic there's been more near misses there, 173rd and Yuma Road.</p>	<p>Thank you for your comment and for participating in the Loop 303 study process. This intersection is under consideration by the City for a future traffic signal. If a traffic signal is not installed prior to the freeway ramps open, then traffic control at the intersection will be evaluated to determine if other modifications are needed.</p>
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1	<p>I live in Goodyear, about 1/2 mile from the Loop 303's current southern terminus at Canyon Trails Blvd. I would like to see the Loop 303 continue to be built south and link to the proposed Route 30. Here on the west side, we are in great need of an additional east/west route besides I-10 and have needed one for a few years. The fact one single accident can close or severely restrict I-10 east or west bound leaves a driver with zero options - either sit in the traffic mess or exit the freeway and drive surface streets to get around the issue. Knowing an accident occurred ahead of time, one can use the 303/Route 30 to get around the I-10 blockage. The east side has three east/west options (both legs of the 202 and US 60), and the west side is growing in size and population each year, which increases the need of at least a second freeway option. I see there is a definite need for Route 30 and the Loop 303 link to it. Please build both to help relieve the traffic stress of I-10.</p> <p>Thank you for your attention to this matter and for allowing public comment.</p>	Thank you for your comment and for participating in the Loop 303 study process.
1	<p>Stephanie Palmer: Okay. So thank you for having this open meeting. I like the process that's --I've been to several of these meetings and I like the process. So she said feel free to give you that input. I think it's a good way to get comments, and it's a good way to understand.</p> <p>On the part of 303 that is not funded yet, my concern would be that we would, because there was a comment made that they would like to build as much of that as possible before maybe SR-30 is completed, and my concern is that we don't build a road that stops and goes nowhere for 10, 15, 20 years and, you know, my tax dollars have been spent on a road to nowhere. So that's that comment. I like Alternative 2C. That's it.</p>	Thank you for your comment and for participating in the Loop 303 study process.

1	<p>I am a resident of the Estrella Community and I am opposed to any future Loop 303 alignment that would divide the Estrella Community. I was heavily involved in the initial Loop 303 study that took place in 2003. After numerous meetings, ADOT select Alignment "F" the Rainbow Valley alignment south of MC 85. The city of Goodyear based their transportation master plan on this decision. Had the outcome of ADOT's decision been different and Alignment "A" was selected, I would have immediately put my home up for sale because my home is located in the Avalon Del Lago neighborhood directly adjacent to this proposed alignment. Home prices were much higher back then than they are now so I would have come out much better financially. I was completely surprised when the issue of alignments came up again in 2012. Again I am opposed to any future Loop 303 alignment that would divide the Estrella Community. Most, if not all residents moved here for the tranquility, lakes and trails. Estrella is also noted as one of the most "Green" (environmentally friendly) communities in the state. To divide it with a freeway would be a travesty. I am not opposed to Alignment 2C of your new study as long as any future extension of Loop 303 south of SR 30 would be on the Rainbow Valley Alignment. This would conform to the city of Goodyear Transportation Master Plan dated June 12, 2014. A map of this plan is available to view on the city of Goodyear website, Document #9854 on pages 28 and 29. This map clearly shows Loop 303 routed to the west of the Community of Estrella.</p>	<p>Thank you for taking the time to submit your input. Your participation in the Loop 303 study process is important, and your comments will be included in the public record. Currently the Maricopa Association of Governments' (MAG's) 2040 Regional Transportation Plan does not include an extension of the Loop 303 south of State Route 30.</p>
31	TOTAL COMMENTS WITH PREFERENCE OF ALTERNATIVE 2C BUILD OPTION	
2	<p>I would prefer the 303 alignment be at Cotton into Estrella Mt. Ranch, but we will take anything. Please build this road. We agree with the SR30 to Loop 202 and would like that built sooner. Build it now. We will take anything.</p>	<p>Thank you for your comment and for participating in the Loop 303 study process.</p>
2	<p>Another east/west main highway into/out of Phoenix (proposed Route 30) is five years, maybe 10 years overdue. I-10 is backed up almost to the loop 101 going east into Phoenix nearly 330 days a year. Build the Route 30 first! The new 202 is not going to have a significant reduction of traffic into Phoenix. Continue Route 30 east past the 202 into the Durango curve area on I-17 for true I-10 traffic alleviation. East Valley has 2-3 main routes into central Phoenix; West Valley only has one which is why you have the congestion. Suggest 303 south extension be done concurrently with Route 30 construction.</p>	<p>Thank you for your comment and for participating in the Loop 303 study process.</p>

2	Right now, I would prefer that the 303 is not built but the money for it be held in a separate account for the future, and when the money is appropriated for Rt. 30, only then should the 303 be built to the connecting of the 30 to make the loop complete from the 202 to the MC85. The short segment (from Violent (Van Buren) to Lower Buckeye Rd.) has no real advantage for the time being. But it will if and when the 30 is approved and funded.	Thank you for your comment and for participating in the Loop 303 study process.
2	I don't want it to run through Rainbow Valley. It will divide it into two sections. Run it down the intended route behind Estrella community.	Thank you for your comment and for participating in the Loop 303 study process. The study process evaluated several alternatives, which can be found at the following link <a href="https://www.azdot.gov/docs/default-source/environmental-planning-library/draft-ea-loop-303-sr30-to-i-10-appendix-a.pdf?sfvrsn=2">https://www.azdot.gov/docs/default-source/environmental-planning-library/draft-ea-loop-303-sr30-to-i-10-appendix-a.pdf?sfvrsn=2</a>
2	This study group is great. People were very informative. We appreciate the future access that 30 will bring. Can't do that soon enough. 303 to 202 sounds GREAT.	Thank you for your comment and for participating in the Loop 303 study process.
2	I received the flyer with the map of the preferred build alternative to loop 2C South. I'm confused as why not its not continuing straight South on Cotton Lane to the state route 30 as it seems the direct route would be cheaper.	Thank you for your comment and for participating in the Loop 303 study process. The study process evaluated several alternatives, which can be found at the following link <a href="https://www.azdot.gov/docs/default-source/environmental-planning-library/draft-ea-loop-303-sr30-to-i-10-appendix-a.pdf?sfvrsn=2">https://www.azdot.gov/docs/default-source/environmental-planning-library/draft-ea-loop-303-sr30-to-i-10-appendix-a.pdf?sfvrsn=2</a>
2	I live in the Cotton flower neighborhood just west of cotton lane. I'm excited for this project but the one thing I don't understand is the need to loop the freeway to the west before connecting to proposed SR-30. That adds additional driving for those connecting and heading east bound. I know its negligible but just wanted to voice my opinion about it.	Thank you for your comment and for participating in the Loop 303 study process. The study process evaluated several alternatives, which can be found at the following link <a href="https://www.azdot.gov/docs/default-source/environmental-planning-library/draft-ea-loop-303-sr30-to-i-10-appendix-a.pdf?sfvrsn=2">https://www.azdot.gov/docs/default-source/environmental-planning-library/draft-ea-loop-303-sr30-to-i-10-appendix-a.pdf?sfvrsn=2</a>
2	With all the recent talk of Loop 303 expanding which I think is great. What's the rest of the plan? How and where is it going to connect to 202 or I-10 south? Obviously I10 in the west valley needs relief. But further south will only help truck traffic. Not workers heading into town. How about finishing the northern parkway to I17?	Thank you for your comment and for participating in the Loop 303 study process. Other projects and transportation options such as the Northern Parkway falls under the jurisdiction of the Maricopa County Department of Transportation. In addition projects to improve or enhance the Maricopa County Region, are part of the Maricopa Association of Government's (MAG's) 2040 Regional Transportation Plan and can be view on MAG's website <a href="http://azmag.gov/Programs/Transportation/Regional-Transportation-Plan-RTP">http://azmag.gov/Programs/Transportation/Regional-Transportation-Plan-RTP</a> .

2	<p>A planner friend and I visited the ADOT Open House two weeks ago and felt we needed to make known our thoughts about I-10, SR30 and MC85.</p> <p>SR30 will be a reliever for I-10 therefore, please keep in consideration the number of lanes needed as it will take on the heaviest traffic from local commuters as well as the savvy commuters, wanting to avoid I-10's congestion, accidents, delays and so on, especially since it connects from the 303 to 202.</p> <p>As a land broker working in the southwest valley, I avoid the I-10 if possible. It's danger and delay are deterrents to my desire to travel on it. SR30 will greatly relieve this problem especially now that the 202 is bringing even more burden in the very near future to I-10. With that I plead, please speed up bringing SR30 to the west valley. Unless I missed this on the maps and in our conversations with the ADOT representatives at the Open House, another consideration is there is no apparent offramp to MC85 from SR30 as it connects to 303. Please look at the intersection of MC85, 303 &amp; SR30 and consider the importance of easy access to MC85 for Buckeye, Goodyear and outlying areas. I understand there will be a future connection further west to MC85 however a greater value would be at the intersection of the three connecting highways.</p> <p>Thank you for your consideration of my planner friend and my comments.</p>	<p>Thank you for your comment and for participation in the Loop 303 study process. A similar study to this is underway for State Route 30 between Loop 303 and Loop 202 and the draft environmental documents are scheduled for public review in early 2019. The current Maricopa Association of Governments' (MAG's) Transportation Improvement Plan (TIP) includes funding for State Route 30 right-of-way in fiscal years 2018 and 2020; final design in fiscal year 2020; and construction of the interim roadway in fiscal 2022.</p> <p>The Loop 303 and State Route 30 interchange is immediately adjacent to where these roadways cross at MC 85. Because of this proximity, providing an interchange from SR 30 to MC 85 would have negative impacts to the Loop 303 / SR 30 interchange operational performance. Access to MC 85 from SR 30 will be provided via the Cotton Lane / SR 30 interchange.</p>
2	<p>I'm glad to see some improvements being made to help with the traffic going through downtown Phoenix. To put it frankly, it's a nightmare. I think the 30 should be as part of the improvement from the 202. All the traffic entering on to I-10 from the 202 will cause a heavy converging of traffic onto the west I-10., including the 30 from the 202 (going west) would just about eliminate a traffic at I-10.</p>	<p>Thank you for your comment and for participation in the Loop 303 study process.</p>

2	<p>I'm against the 303 route. Please don't build the 303 going on this current preferred route 2C south. Please move it back to the east route along Cotton Lane through Estrella Mountain Ranch. We at Rainbow Valley are a small community of about 1,300 people and with the Goodyear government and the Estrella community and their multitude of people, there is no way that our opinion matters. We lose because we don't have a big voice. It will cut our community in half. The noise, lights, and inconvenience is harmful to our community. If you don't change it to the other route, then don't build it at all.</p>	<p>Thank you for your comment and for participating in the Loop 303 study process.</p>
2	<p>Being an AZ resident all my life I understand the need for traffic growth. However since I now live on cotton ln and lower buckeye I don't look forward to the noise expected during construction and once it's completed. My opinion is that no I don't think the freeway should take that route but another more west where there's less homes. If the current plan stays please ensure the noise barriers are a sure thing not an option.</p>	<p>Thank you for your comment and for participating in the Loop 303 study process. ADOT conducts noise analysis under worst-hour traffic noise conditions. Any time a noise sensitive area is predicted to experience traffic noise levels that ADOT considers approaching or exceeding Federal Highway Administration (FHWA) Noise Abatement Criteria or which is predicted to experience a substantial noise increase, ADOT considers various noise abatement measures, including noise barriers. Among other criteria, noise barriers need to provide a seven decibel reduction in noise levels, or more, for at least half of noise sensitive areas closest to the highway.</p>
12	<p><b>TOTAL COMMENTS FOR BUILD OPTION; DIFFERENT ALTERNATIVE THAN 2C</b></p>	
3	<p>I am in favor of the NO BUILD. We moved south of the 10 to be in a rural area. There is no desire to have a freeway in our backyard. There are alternative routes and means to alleviate traffic without putting a freeway through a community. How will this effect my home property value? What will this cost us -- raise in taxes? How will it be funded?</p>	<p>Thank you for taking the time to submit your input. Your participation in the Loop 303 study process is important, and your comments will be included in the public record. Funding for the proposed Loop 303 is part of the Maricopa Association of Government's (MAG's) 2040 Regional Transportation Plan. This regional plan was voted on and approved by voters in 2004 as part of Proposition 400. The regional plan is a continuation of a half-cent sales tax initiative for Maricopa County that was first approved by voters in 1985 as part of Proposition 300. There are no tax raises required to fund the project. Currently funding for design, right-of-way and construction for the section from MC 85 to Van Buren Street is in the MAG Transportation Improvement Program for 2018-2022.</p>

3	<p>My biggest concern is the level of noise, traffic relief, environmental issues, and how the freeway will beautify the area. I would like to continue to hear crickets but I am not sure if the traffic walls will be enough to keep the noise level at a lower level. Why can't you keep the 303 at Van Buren St., since I-30 has not been funded yet. I see no benefit of extending it to MC-85 (Buckeye Rd.). The community will also lose a great deal of farming land to accommodate the new freeway. I hope you guys truly listen to the people.</p>	<p>Thank you for taking the time to submit your input. Your participation in the Loop 303 study process is important, and your comments will be included in the public record.</p>
3	<p>Cotton Ln. from Yuma to Lower Buckeye is a residential, established single family community. Many neighbors in Cotton Flower including myself were never informed of a 303 or any other freeway coming through when we purchased homes (at least in 2012). 1) The noise from semi trucks at corner of Yuma and Cotton is already intolerable not to mention the traffic and speed of vehicles coming south on Cotton. I am a proponent for no build in this area! Move the plans to less impact established communities! *Air quality in residential area will suffer! *Noise pollution (we already hear MC85 as far north as Yuma! * Lastly, we are given two weeks to July 15th to respond? Really? Why was a date not provided on hearing notice?</p>	<p>Thank you for taking the time to submit your input. Your participation in the Loop 303 study process is important, and your comments will be included in the public record. For this level of environmental study, there is a 30-day comment period. The public hearing notice was sent to nearly 26,000 addresses within the study area and in the communities of Rainbow Valley and Estrella Mountain Ranch, approximately 15 days in advance of the public hearing to advertise respository locations where the environmental document was available to review, advertise the public hearing date and comment period end date. In addition to the postcard mailer, newspaper ads were placed that advertised the same information, approximately 15-days prior to the public hearing.</p>
3	<p>To Whom It May Concern:  We are residents in Canyon Trails South 4 and wish to express that we are NOT in favor of the proposed 303 south route. Just having Cotton Lane south of Yuma connect to the 303 has brought more traffic to our neighborhood cars through the neighborhood. Just want it on the record that we DO NOT want this expansion as proposed.</p>	<p>Thank you for your comment and for participation in the Loop 303 study process.</p>
3	<p>This is our retirement home a freeway in our back yard not my idea of peace and quite. Stop the building of the road</p>	<p>Thank you for taking the time to submit your input. Your participation in the Loop 303 study process is important, and your comments will be included in the public record.</p>



3	<p>This is not needed now. It is a solution in search of a problem. The adjoining road -85- is lightly travelled. Usually very lightly. Looks like a road to nowhere to me.</p> <p>The 30 freeway ? Why not just extend Southern Av thru from Buckeye to the 85 near Cotton Ave. Much cheaper. Then spend the savings widening 10 freeway from Verrado to western Tonopah.</p> <p>There are other better uses for this expensive ( because no traffic demand ) proposal. This would be a luxury, in effect, highest cost per auto/truck travelled mile in the West.</p>	<p>Thank you for taking the time to submit your input. Your participation in the Loop 303 study process is important, and your comments will be included in the public record.</p>
3	<p>I drive 85 often. Seldom is there traffic. So why build a 2nd roadway? You are talking a spaghetti bowl of interchange ramps mixed in with 2 surface streets.</p> <p>Who will use it ? Few, that's who. Hwy 85 (parallel road) is a super-street already &amp; will be sufficient for at least 10 years.</p> <p>I see this as a waste of today's money. Money that should be spent on education, where there is a need NOW. So just "dead-end" the 303. Rte. 30 is surplus to needs. Wait to build it. Put Southern thru to 85 instead.</p>	<p>Thank you for your comment and for participation in the Loop 303 study process.</p>
3	<p>AZDOT: you are proposing a freeway interchange per the diagram. 6-15-18 pg19</p> <p>Adjacent to it is a Superstreet. Already in place. This proposal creates a duplication of effort. And a complicated interchange will be needed, not shown in the diagram.</p> <p>Solution: use existing 85 east/west as the preferred mode. Superstreet it, like Pac Coast Highway from Laguna Beach to Downtown Huntington Beach (except Corona del Mar) in Cali. Few signals, far apart, timed for traffic flow, dual left turn pockets.</p> <p>This will save money &amp; avoid an spaghetti bowl of ugly road creation in that area.</p> <p>PS: who will use this new proposed road ? How will it get thru Buckeye ?</p> <p>Remember: we could use this money to educate children. we are in a desert, and should AZ grow by another million - our Lake Mead water will be in jeopardy at the same time that new million increase materializes.</p>	<p>Thank you for your comment and for participation in the Loop 303 study process.</p>

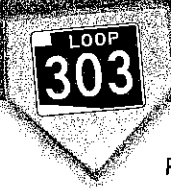
3	<p>To Whom It May Concern,</p> <p>I do not want to see an 8 lane highway going south on Cotton. I live less than 1 mile from Cotton. The 4 lane arterial between Van Buren &amp; Yuma is sufficient to allow easy access to all services, entrance to the single lanes to the freeway and frontage roads. Estrella Parkway has more services, commercial, and housing all the way to Estrella mountain and the 4 lanes there are adequate.</p>	<p>Thank you for your comment and for participation in the Loop 303 study process.</p>
3	<p>We are residents of canyon trails. We are in favor of the no build option. There are so many homes and families in this area that will be affected by this freeway. The pollution, home value, and quality of the neighborhood will be greatly diminished. I'm sure there is another area that is not filled with homes, beautiful horse properties, and farming land to build this freeway if it must be build. We bought our dream home in this community and were never told this could happen. I have lived near a freeway and it was miserable. Access to a freeway also increases crime. Please consider the no build option. Goodyear does not need this. Goodyear is appealing because although it is a big town it feels small.</p>	<p>Thank you for taking the time to submit your input. Your participation in the Loop 303 study process is important, and your comments will be included in the public record.</p>

3	<p>I highly support the No Build Alternative at this point in time.</p> <p>I live right off Cotton Lane in Canyon Trails Unit 4 South. I firmly believe ADOT needs to hold any further 303 construction until they know for sure what exactly they are connecting to. State Route 30 may not happen for several years, and may not get funded at all. Until such time as SR 30 is fully designed, and more importantly, funded, ADOT should not cause serious disruption to existing neighborhoods prematurely.</p> <p>The neighborhoods north and south of Cotton Lane (south of I-10) are currently quiet and lovely. Home prices are stable and the neighborhoods are very desirable. Loop 303 expansion will ruin all of that, for a 3 mile road that currently will connect to nothing. It could easily be up to 10 years before SR30 (or longer for I-11) is a certainty. Expanding the 303 with the proposed plan will ruin the desirability of these neighborhoods, particularly since the sound walls are another unknown. To do this now, before any connection road is even funded, is a slap in the face to us home owners who are here now. Obviously we would be more supportive once there is a fully funded comprehensive plan.</p> <p>I would also offer that an expanded Loop 303 doesn't offer much improvement to home owners in Estrella Mountain Ranch, either. Cotton Lane currently has very few stop signs/lights, it has good traffic flow. It makes no sense to "partially" improve connectivity to this area (which 3 miles of "loop 303" instead of Cotton Lane doesn't really do), causing major disruption to other neighborhoods, without a fully funded comprehensive plan.</p> <p>Thank you for the opportunity to comment. Please seriously consider holding off on 303 expansion until future connectivity plans are designed and funded.</p>	Thank you for your comment and for participation in the Loop 303 study process.
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3	<p>Hi, my name is Gloria Ravelo and I am a resident of Canyon Trails, Goodyear AZ. I attended the public hearing today and walked out heartbroken and depressed. I am retired military and after so many years of moving from one place to another I felt that I had finally found my forever home in Canyon Trails. The area is booming with beautiful and affluent homes. The area is beautiful as it is and that is why I OPPOSE the extension of the Loop 303. The large intersection will bring excessive noise, trash, and speeding vehicles and traffic of large trucks and vehicles. I have enjoyed taking walks thru and around Canyon Trails. There is several wildlife and birds and baby owls that everyone respects. All this beauty will disappear if the intersection is continued. I have read what people go thru when an extension is built around their neighborhood and it is all bad. I will have to leave my beautiful home if the extension continues.</p>	Thank you for your comment and for participation in the Loop 303 study process.
3	<p>Do not build! Please stop wasting our money by building freeways to nowhere. Maintaining this 'Build it and they will come' infrastructure will bankrupt the next generation of Arizonans. Focus on small projects and high capacity transport options only please.</p>	Thank you for your comment and for participation in the Loop 303 study process.

<p>3</p>	<p>Our home is located just on Cotton Lane. Our back yard faces west and we vote no.          We fell in love with Goodyear and bought our home in 2012 and are empty nesters.          What drew us to Goodyear? It is outside of the City away from crime, congestion, pollution and traffic. I is peaceful and I feel safe. The skies are clear and I can see the stars at night.          What will the freeway bring to Goodyear?          It will bring an eye sore that will run directly through 2 neighborhoods, pollution, traffic congestion, poor air quality, lingering hazes, excessive traffic noise, freeway backups, busy and dangerous traffic very close to homes such as ours that will be directly impacted because we will be just feet away from the massive freeway.          A sound wall will be a visually unattractive eye sore to our beautiful neighborhood. I will have to worry about crime because someone can jump right in my backyard without being seen since this wall creates perfect privacy for predators. Also, our community will lose our bike and walking paths because this 10 lane plus 2 frontage roads will take more than half of our greenbelt cutting into our bike and walking paths. If there is a redesign of a the bike and walking paths I would not feel safe using them because the sound wall creates the perfect privacy for any predator. I hate to even think we would lose this beauty and sense of security.          The size and stretch will draw speed racers, transients and hitchhikers who are passing through neighborhoods where, retired families and young families with children live.          If this was in the works for over 15 years then ADOT did a poor job at planning and failed homeowners leaving us with our hands tied. ADOT should have reserved more land instead of allowing homes to be built near the "proposed freeway" route.          I was told home values will not drop but for those like myself who are feet away our property values may drop. How promising and positive is that? That just adds to the frustration.          Who will want to buy a home whose back yard will be less than 30 yards from this massive structure, a 30 plus foot sound wall and all its unwanted attractions?          I was also told during the construction phase its not so bad. Okay, so I am being told it is not so bad from someone who comes to the job site. Not someone whose home will be directly impacted. If worrying about pollution, noise, dirty, traffic, construction vibrations, stress on our pets, possible damage to our home for 2 years is not that bad than I must be a fool.          Again very frustrating...          My husband and I were planning to do a beautiful backyard upgrade with a pool but we have halted our plans to invest in our home because we feel our most valuable investment is going to go south because of the freeway and we will be at a loss.          Goodyear is a Suburb and draws people in by its beauty. This massive structure will turn the Suburb into another</p>	<p>Thank you for taking the time to submit your input. Your participation in the Loop 303 study process is important, and your comments will be included in the public record. The study area encompasses land under the jurisdiction of the City of Goodyear, Arizona State Land Department and the Flood Control District of Maricopa County. The Maricopa Association of Government's Regional Transportation Plan from as early as 1987 and the City of Goodyear General Plan, have identified the need for a new transportation facility in the study area and it would generally be consistent with the vision, goals and development envisioned in several other local and regional transportation plans, general plans and area plans.</p>
<p>3</p>	<p>I feel that to build the short section from Van Buren to Lower Buckeye has little gain. Terminating the expressway at an undeveloped road gives minimal return or convenience. This section would make more sense to be worked when (and if) 303 extends to MC 85 or future 30. Still do not understand 303 future down Rainbow. You're almost at Arizona 85 which is layed out to be widened. Estrella makes much more sense to extend 303 south. Otherwise, save the money. That stub sound wall north of Lilac is ridiculous. Needs to be several hundred feet longer.</p>	<p>Thank you for your comment and for participating in the Loop 303 study process. Currently the Maricopa Association of Governments' (MAG's) 2040 Regional Transportation Plan does not include an extension of the Loop 303 south of State Route 30.</p>





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THIS WAS FANTASTIC!!  
WELL ORGANIZED AND EXECUTED,  
WE GOT ALL OF OUR QUESTIONS ANSWERED  
AND MORE GREAT IDEAS.

THANKS!!

### CONTACT INFORMATION (OPTIONAL) Información de contacto (opcional)

Name / Nombre Joseph Rinney - 3 RIVERS HISTORICAL SOCIETY

Address / Dirección \_\_\_\_\_

City / Ciudad \_\_\_\_\_ State / Estado \_\_\_\_\_ Zip / Código postal \_\_\_\_\_

Phone / Teléfono 623-256-4122 email / Correo electrónico \_\_\_\_\_

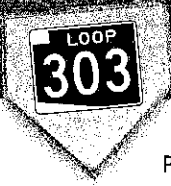
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*Downer*  
I realize that ideally "disclosure" is required. The content and presentation at each of the several meetings I've attended have been top notch! The amount of hard work, dedication, knowledge, experience and sheer dedication so far for this entire 303 project is commendable. Good work & God Bless!!

### CONTACT INFORMATION (OPTIONAL) Información de contacto (opcional)

Name / Nombre MICHAEL T. PRESLIN  
Address / Dirección 13681 S. 177TH AVE  
City / Ciudad GOODYEAR State / Estado AZ Zip / Código postal 85338  
Phone / Teléfono (602) 321-7040 Email / Correo electrónico 6PRESLIN@GMAIL.COM

Thank you for your participation. Turn in completed form today or mail to: ADOT Community Relations, 1655 W. Jackson Street MD 126F, Phoenix 85007 Comment by telephone: 855.712.8530 Comment by email: Loop303south@azdot.gov. All comments must be received by July 15, 2018 to be included in the public record.

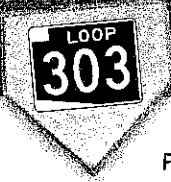
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*We vote for preferred alternative 2C*

*(S)*

### CONTACT INFORMATION (OPTIONAL) Información de contacto (opcional)

Name / Nombre \_\_\_\_\_

Address / Dirección \_\_\_\_\_

City / Ciudad \_\_\_\_\_ State / Estado \_\_\_\_\_ Zip / Código postal \_\_\_\_\_

Phone / Teléfono \_\_\_\_\_ Email / Correo electrónico \_\_\_\_\_

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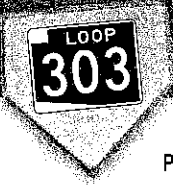
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19  
21



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I think this is a great project and support it. I'm all for connecting to state Rt 30 which can serve as an alternative to I-10 and the traffic jam. During school year I take MC-85/Buckeye into work which is at JP Morgan Chase across from Sky Harbor <sup>Car</sup>Rental. I've always wished we could convert MC85/Buckeye into a Freeway and think State Rt 30 can help since I-10 is way too busy. I hope the West Valley can have multiple ways to get into Downtown PHX like the East Valley. I support the extension 100% and looks like it won't be too evasive to existing people in area.

### CONTACT INFORMATION (OPTIONAL) Información de contacto (opcional)

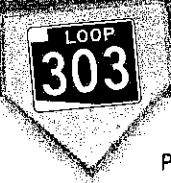
Name / Nombre Chad Johnson  
Address / Dirección 16012 W. Bartlett Ave  
City / Ciudad Goodyear State / Estado AZ Zip / Código postal 85338  
Phone / Teléfono 623-521-9619 Email / Correo electrónico go-u-of-m@hotmail.com

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I support preferred Alternative 2 C South AS  
currently proposed by ADOT & FHWA.  
Thank you  
Steve Barrett

### CONTACT INFORMATION (OPTIONAL) Información de contacto (opcional)

Name / Nombre Steve Barrett  
Address / Dirección 17514 W Copper Ridge Dr  
City / Ciudad Goodyear State / Estado AZ Zip / Código postal 85338  
Phone / Teléfono \_\_\_\_\_ Email / Correo electrónico Steve.Barrett77@gmail.com

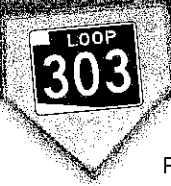
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PLEASED TO SEE THAT PLAN 2C SOUTH HAD THE LEAST AMOUNT OF ENVIRONMENTAL IMPACT.

ALSO, PLEASED THAT THIS PLAN WAS SELECTED.

### CONTACT INFORMATION (OPTIONAL) Información de contacto (opcional)

Name / Nombre NANCY BARRETT

Address / Dirección 17514 W. COPPER RIDGE DR.

City / Ciudad GOODYEAR State / Estado AZ Zip / Código postal 85338

Phone / Teléfono 336.554.4543 Email / Correo electrónico nancybarrett52@gmail.com

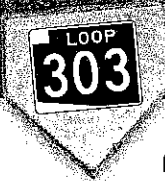
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Build that Road. We also need to R30 built to allow West Valley residents the ability to get to the 202 to have access to the jobs in that area (S. Phoenix, Chandler, ~~Phoenix~~ etc.

We would also love a plan to get South of Estrella Mtns for ease of transport, to other parts of valley.

### CONTACT INFORMATION (OPTIONAL) Información de contacto (opcional)

Name / Nombre Myla Baptiste-Lord  
Address / Dirección 16756 S. 180th Ave  
City / Ciudad Goodyear State / Estado AZ Zip / Código postal 85338  
Phone / Teléfono 623-512-3414 Email / Correo electrónico edmund@2003@yahoo.com

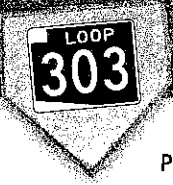
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I would prefer the 303 Alignment be at Cotton into Estrella Mt Ranch, but we will take anything please build this Road. We agree with the SR30 to Loop 202 and would like that built sooner.

Build it Now. We will take anything.

CONTACT INFORMATION (OPTIONAL) Información de contacto (opcional)

Name / Nombre Edmund Lord

Address / Dirección 16756 S 180th Ave

City / Ciudad Goodyear State / Estado AZ Zip / Código postal 85338

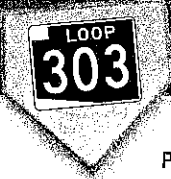
Phone / Teléfono 623 5942004 Email / Correo electrónico Lord.Ed24@gmail.com

Thank you for your participation. Turn in completed form today or mail to: ADOT Community Relations, 1655 W. Jackson Street MD 126F, Phoenix 85007 Comment by telephone: 855.712.8530 Comment by email: Loop303south@azdot.gov. All comments must be received by July 15, 2018 to be included in the public record.

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I'm excited about the current loop 303 constructed exits/entrances.

The proposed (preferred) looks great & I'm looking forward to seeing the next phase of construction begin... sooner rather than later.

### CONTACT INFORMATION (OPTIONAL) Información de contacto (opcional)

Name / Nombre Kathryn Supplee  
Address / Dirección 1817 S 127th Ave  
City / Ciudad Goodyear State / Estado AZ Zip / Código postal 85338  
Phone / Teléfono 480.980.2326 Email / Correo electrónico kathrynsupplee@gmail.com

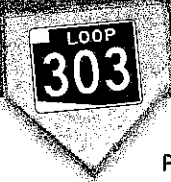
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Thank you for choosing the 2CS option. I live in Estrella Mountain Ranch Community and am relieved to see that ~~the~~ the 303L will not come straight down Cotton Lane into our community.

I have a few remaining concerns about Noise pollution from the proposed 303 to SR30 connectors. I am concerned that the decibel level of ongoing traffic from 3 lanes both ways now + potentially 6 lanes each way in the future will be very detrimental to the way of life + quality of life in the Estrella Community where I live specifically. Today I already hear a lot of traffic noise just from Cotton Lane, so a major freeway w/in 1-2 miles ~~may~~ <sup>will</sup> make it unbearable.

CONTACT INFORMATION (OPTIONAL) Información de contacto (opcional)

Name / Nombre Cynthia Knaut

Address / Dirección 9351 S. 178<sup>th</sup> Ave

City / Ciudad Goodyear State / Estado AZ Zip / Código postal 85338

Phone / Teléfono 623-386-6231 Email / Correo electrónico CUKRom8@msn.com

Thank you for listening to our concerns!  
Thank you for your participation. Turn in completed form today

or mail to: ADOT Community Relations, 1655 W. Jackson Street MD 126F, Phoenix 85007 Comment by telephone: 855.712.8530 Comment by email: Loop303south@azdot.gov. All comments must be received by July 15, 2018 to be included in the public record.

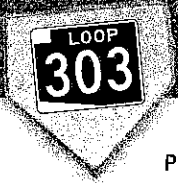
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miércoles 27 de junio 2018

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Looks good, SR 30 will help my commute when it is built. Just please please do not run the 303 through Estrella Mountain Ranches  
Thank you.

### CONTACT INFORMATION (OPTIONAL) Información de contacto (opcional)

Name / Nombre \_\_\_\_\_

Address / Dirección \_\_\_\_\_

City / Ciudad \_\_\_\_\_ State / Estado \_\_\_\_\_ Zip / Código postal \_\_\_\_\_

Phone / Teléfono \_\_\_\_\_ Email / Correo electrónico \_\_\_\_\_

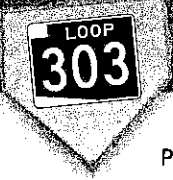
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Another East/West main highway into/out-of Phoenix (proposed Route 30) is 5 years, maybe 10 years overdue. I-10 is backed up almost to the loop 101 going East into Phoenix nearly 330 days a year. Build the Route 30 first! The new 202 is not going to have a significant reduction of traffic into Phoenix. Continue Route 30 east past the 202 into the <sup>(Durango)</sup> curve area on I-17 for true I-10 traffic alleviation. East Valley has 2-3 main routes into central Phoenix; West Valley only has 1 which is why you have the congestion. Suggest 303 South extension be done concurrently with Route 30 construction.

CONTACT INFORMATION (OPTIONAL) Información de contacto (opcional)

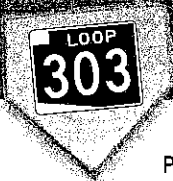
Name / Nombre Ken Vallier  
Address / Dirección 23075 W. Yavapai St  
City / Ciudad Buckeye State / Estado AZ Zip / Código postal 85326  
Phone / Teléfono 623-377-2733 Email / Correo electrónico vallierkc@centurylink.net

Thank you for your participation. Turn in completed form today or mail to: ADOT Community Relations, 1655 W. Jackson Street MD 126F, Phoenix 85007 Comment by telephone: 855.712.8530 Comment by email: Loop303south@azdot.gov. All comments must be received by July 15, 2018 to be included in the public record.

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EXCELLENT WORK - PROCEED ASAP!!

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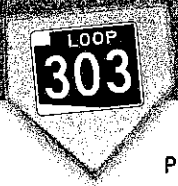
Name / Nombre DON HEIBERT  
Address / Dirección 15814 W. PAPAGO ST  
City / Ciudad GOODYEAR State / Estado AZ Zip / Código postal 85338  
Phone / Teléfono 480-748-0657 Email / Correo electrónico DONHEIBERT@ASU.EDU

Thank you for your participation. Turn in completed form today  
or mail to: ADOT Community Relations, 1655 W. Jackson Street MD 126F, Phoenix 85007 Comment by telephone: 855.712.8530 Comment by email: Loop303south@azdot.gov. All comments must be received by July 15, 2018 to be included in the public record.

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We are in full support of this Loop 303 and future development of SR 30. There is a great need for an alternate route south of the 10 to gain access to the East Valley and other areas south and east of Phoenix. Hope you can make this happen and, if possible, move up the completion date for SR 30.

CONTACT INFORMATION (OPTIONAL) Información de contacto (opcional)

Name / Nombre \_\_\_\_\_

Address / Dirección \_\_\_\_\_

City / Ciudad \_\_\_\_\_ State / Estado \_\_\_\_\_ Zip / Código postal \_\_\_\_\_

Phone / Teléfono \_\_\_\_\_ Email / Correo electrónico \_\_\_\_\_

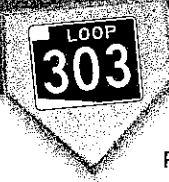
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Please Build This Freeway

### CONTACT INFORMATION (OPTIONAL) Información de contacto (opcional)

Name / Nombre Gregory Charles  
Address / Dirección 23062 W Tama Linda Blvd  
City / Ciudad Buckeye State / Estado AZ Zip / Código postal 85326  
Phone / Teléfono 805-208-8722 Email / Correo electrónico pushsticks@gmail.com

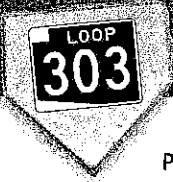
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I am an Estrella resident and the purpose of my participating in your meeting today was to express my desire not to have the new highway (5) go into our Estrella neighborhood. We moved to this community during our retirement years because it was not too close to the freeways. We are pleased to see that the build in the future for necessary highways will bypass Estrella. Your information sharing on this project has been exceptional, as has your team. Thank you for hearing us!

### CONTACT INFORMATION (OPTIONAL) Información de contacto (opcional)

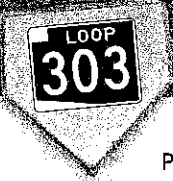
Name / Nombre DIANA BRESLIN  
Address / Dirección 13681 S. 177<sup>th</sup> AVE  
City / Ciudad GOODYEAR State / Estado AZ Zip / Código postal 85338  
Phone / Teléfono 602-625-8198 Email / Correo electrónico DECOR.GIRL.48@gmail.com

Thank you for your participation. Turn in completed form today or mail to: ADOT Community Relations, 1655 W. Jackson Street MD 126F, Phoenix 85007 Comment by telephone: 855.712.8530 Comment by email: Loop303south@azdot.gov. All comments must be received by July 15, 2018 to be included in the public record.

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We Support your DECISION TO  
ELIMINATE THE INITIAL/POTENTIAL  
ROUTE OF EXTENDING DOWN COTTON  
LANE THROUGH ESTRELLA MOUNTAIN RANGE/  
ESTRELLA MOUNTAIN RANCH.

THANK YOU FOR ~~CHOOSING~~ CHOOSING  
THE OTHER OPTION

### CONTACT INFORMATION (OPTIONAL) Información de contacto (opcional)

Name / Nombre ED & MAUIS GREENBERG  
Address / Dirección 17920 W LAVENDER LANE  
City / Ciudad GOODYEAR State / Estado AZ Zip / Código postal 85338  
Phone / Teléfono 623-213-8928 Email / Correo electrónico edgreenberg33@gmail.com

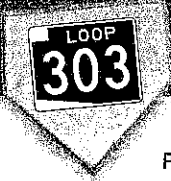
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Support proposed wild route a SR  
20. Please do not reconsider.  
We live in Estrella Mountain Ranch  
& plan to remain long into retirement.  
We will definitely relocate if this plan  
changes & goes through EMR.

### CONTACT INFORMATION (OPTIONAL) Información de contacto (opcional)

Name / Nombre Jon Skelly  
Address / Dirección 17842 W Paseo Way Goodyear AZ  
City / Ciudad Goodyear State / Estado AZ Zip / Código postal 85338  
Phone / Teléfono 801-557-1254 Email / Correo electrónico tondj.skelly@jnhdc.com

Thank you for your participation. Turn in completed form today  
or mail to: ADOT Community Relations, 1655 W. Jackson Street MD 126F, Phoenix 85007 Comment by telephone: 855.712.8530 Comment by  
email: Loop303south@azdot.gov. All comments must be received by July 15, 2018 to be included in the public record.

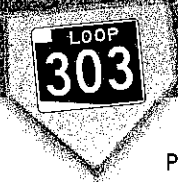
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WE NEED IT BUILT AS A  
FREEWAY NOW! Please find the  
funding to build so I-10 gets  
SOME relief. SR 30 and the Loop 303  
connection - Please hurry!

### CONTACT INFORMATION (OPTIONAL) Información de contacto (opcional)

Name / Nombre GEORGE QUINN  
Address / Dirección 5080 N. 40th ST # 205  
City / Ciudad Phoenix State / Estado AZ Zip / Código postal 85018  
Phone / Teléfono 602 952-0123 Email / Correo electrónico quinn@peakaz.com

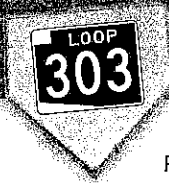
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We support this project and see the long-term benefits of this proposed extension of loop 303 as long as it does not go through Estrella Mountain Ranch (which ~~is~~ does not appear to be a current possibility). Should future plans include going through Estrella Mountain Ranch, it would cause many families to relocate and cause a decrease in property values which concerns many residents

CONTACT INFORMATION (OPTIONAL) Información de contacto (opcional)

Name / Nombre Tina Skelly  
Address / Dirección 17842 W. Pasco Way  
City / Ciudad Goodyear State / Estado AZ Zip / Código postal 85338  
Phone / Teléfono 623 398 8605 Email / Correo electrónico tand.skelly@yahoo.com

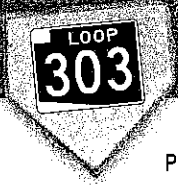
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Please keep us updated.

Please keep clear of existing homes in Estrella  
Noise & structures please keep livable.

### CONTACT INFORMATION (OPTIONAL) Información de contacto (opcional)

Name / Nombre Cynthia Tornetta

Address / Dirección Estrella Mtn Ranch

City / Ciudad \_\_\_\_\_ State / Estado \_\_\_\_\_ Zip / Código postal \_\_\_\_\_

Phone / Teléfono 623-536-6892 Email / Correo electrónico adft@msn.com

Thank you for your participation. Turn in completed form today

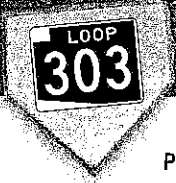
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I'm Against the 303 route.

Please don't build the 303 going on this current preferred route 2c south.

Please move it back to the East route along Cotton Lane thru Estrella Mountain Ranch.

We at Rainbow Valley are a small community of about 1300 people and with the Goodyear Govt. and the Estrella Community and their multitude of people - there is no way that our opinion matters. We loose because we don't have a big voice. It will cut our community in half. The noise, lights, and nuisance is harmful to our community.

If you don't change it to the other route, then don't build it at all.

CONTACT INFORMATION (OPTIONAL) Información de contacto (opcional)

Name / Nombre Kelly Schrum

Address / Dirección 18834 W. Kaibab Rd

City / Ciudad Buckeye State / Estado AZ Zip / Código postal 85326

Phone / Teléfono 623-889-1009 Email / Correo electrónico KJSchrum@gmail.com

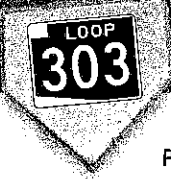
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I don't want it to run thru Rambova Valley. It will divide it into 2 sections. Run it down the intended route behind Estrella community.

### CONTACT INFORMATION (OPTIONAL) Información de contacto (opcional)

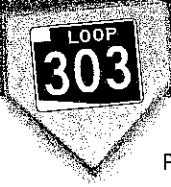
Name / Nombre MIRA SCARUM  
Address / Dirección 18834 W KAIBAB  
City / Ciudad BUADREYE State / Estado AZ Zip / Código postal 85326  
Phone / Teléfono \_\_\_\_\_ Email / Correo electrónico \_\_\_\_\_

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I am in favor of the NO BUILD.

We moved south of the 10 to be in a rural area. There is no desire to have a freeway in our back yard.

There are alternative routes and means to alleviate traffic without putting a freeway through a community.

How will this effect my home property value?  
What will this cost us - raise in taxes? How will it be funded?

### CONTACT INFORMATION (OPTIONAL) Información de contacto (opcional)

Name / Nombre Sandra Russo  
Address / Dirección 16974 W. Durango St  
City / Ciudad Goodyear State / Estado AZ Zip / Código postal 85338  
Phone / Teléfono (630) 667-7014 Email / Correo electrónico SRusso24@yahoo.com

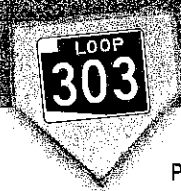
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My biggest concern is the level of noise, traffic relief, environmental issues, and how the freeway will beautify the area. I would like to continue to hear crickets but I am not sure if the traffic walls will be enough to keep the noise level at ~~a~~ a lower level. Why can't you keep the 303 at Van Buren St., since I-30 has not been funded yet. I see no benefit of extending it to MC-85 (Buckeye Rd.). The community will also lose a great deal of farming land to accommodate the new freeway. I hope you guys truly listen to the people.

CONTACT INFORMATION (OPTIONAL) *Información de contacto (opcional)*

Name / Nombre \_\_\_\_\_

Address / Dirección \_\_\_\_\_

City / Ciudad \_\_\_\_\_ State / Estado \_\_\_\_\_ Zip / Código postal \_\_\_\_\_

Phone / Teléfono \_\_\_\_\_ Email / Correo electrónico \_\_\_\_\_

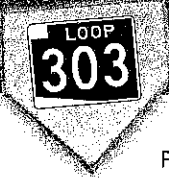
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COTTON LN from Yuma to Lower Buckeye is a residential, established single family community. many neighbors in Cotton Flower including myself were never informed of a 303 or any other freeway coming thru when we purchased homes (at least in 2012).

1) The noise from semi trucks at corner of Yuma & Cotton is already intolerable not to mention the traffic & speed of vehicles coming south on Cotton.

I am a proponent for no build in this area! Move the plans to less impact established communities!

\* air quality in residential area will suffer!  
\* noise pollution (we already hear MCS as far north as Yuma!)

Name / Nombre \_\_\_\_\_  
 Address / Dirección \_\_\_\_\_  
 City / Ciudad \_\_\_\_\_ State / Estado \_\_\_\_\_ Zip / Código postal \_\_\_\_\_  
 Phone / Teléfono \_\_\_\_\_ Email / Correo electrónico \_\_\_\_\_

\* lastly, we are given 2 weeks to July 15th to respond? really?? why was a date not provided on hearing notice

Linda Newton  
17455 W. Wattlins St  
Suckpea

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That stub south of I-10 is ridiculous  
Need to be several hundred feet longer

I feel that to build the short section from Van Buren to Lower Buckeye ~~is~~ has little gain. Terminating the expressway @ an undeveloped road gives ~~the~~ minimal return or convenience. This section would make more sense to be worked when (and if) 303 extends to MC85 or future 30.

Still do not understand 303 future down Rainbow. You're almost @ Aviz. 85 which is laid out to be widened. Estrella makes much more sense to extend 303 south. Otherwise save the money.

CONTACT INFORMATION (OPTIONAL) Información de contacto (opcional)

Name / Nombre JOHN KLINE  
Address / Dirección 17323 Buchanan Street  
City / Ciudad Goodyear State / Estado AZ Zip / Código postal 85338  
Phone / Teléfono 812-706-9151 Email / Correo electrónico jhkline162@hotmail.com

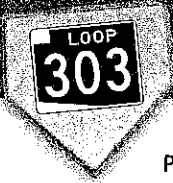
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\$ - money

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Right now I would prefer that the 303 is not built but the \$ for it be held in a separate account for the future, and when the \$ is appropriated for Rt 30 only then should the 303 be built to the connecting of the 30 to make the loop complete from the 202 to the Mc85.

The short segment has no real advantage for the time being. (from Violet (Van Buren) to lower buckeye Rd)

But it will if & when the 30 is approved & funded.

### CONTACT INFORMATION (OPTIONAL) Información de contacto (opcional)

Name / Nombre Deborah Klinz  
Address / Dirección 17323 W. BUCHANAN ST  
City / Ciudad GOODYEAR State / Estado AZ Zip / Código postal 85338  
Phone / Teléfono 814-421-2308 Email / Correo electrónico deborah\_klinz@hotmail.com

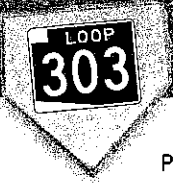
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*Very informative!*

*Thank you*

### CONTACT INFORMATION (OPTIONAL) Información de contacto (opcional)

Name / Nombre Marissa & Ralph Garcia

Address / Dirección 16305 W. Pima St

City / Ciudad Goodyear State / Estado AZ Zip / Código postal 85338

Phone / Teléfono 623-914-3114 Email / Correo electrónico mnk2mom@a Cox net

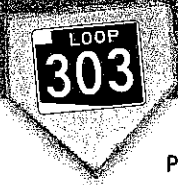
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Very concerned about noise within the Cottonflower neighborhood as well as traffic flow impacts with Yuma & Lower Buckeye Roads.  
Expansion of Yuma Road?

### CONTACT INFORMATION (OPTIONAL) Información de contacto (opcional)

Name / Nombre \_\_\_\_\_

Address / Dirección \_\_\_\_\_

City / Ciudad \_\_\_\_\_ State / Estado \_\_\_\_\_ Zip / Código postal \_\_\_\_\_

Phone / Teléfono \_\_\_\_\_ Email / Correo electrónico \_\_\_\_\_

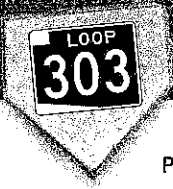
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My question is not related to this project.

→ What are the plans to add a traffic signal at Jack rabbit Trail and I-10?

Busy intersection with many near-misses and accidents.

Thank you for today's outreach program

### CONTACT INFORMATION (OPTIONAL) Información de contacto (opcional)

Name / Nombre Barbara Hummell  
Address / Dirección 3511 S 201 Drive (don't in your system)  
City / Ciudad Buckeye State / Estado AZ Zip / Código postal 85326  
Phone / Teléfono \_\_\_\_\_ Email / Correo electrónico bchummell@aol.com

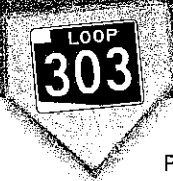
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Goodyear Ballpark, 1933 S Ballpark Way  
Goodyear, AZ 85338  
Wednesday, June 27, 2018  
miércoles 27 de junio 2018

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I would like to mention that I am representing Agua Fria High School Transportation Dept. Just concerned that our access to routes east + west of construction zone "Canyon Trails and Litch, north + south of Lower Buckeye.

### CONTACT INFORMATION (OPTIONAL) Información de contacto (opcional)

Name / Nombre Celia Dunlap

Address / Dirección \_\_\_\_\_

City / Ciudad Surprise State / Estado AZ Zip / Código postal 85374

Phone / Teléfono 6023211802 Email / Correo electrónico ldunlap@aguafria.org  
lpe.butterfly@yahoo.com

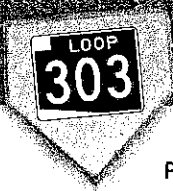
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*Homeowners*  
Rainbow Valley Wood Like to know  
if and when you will go through Tutthill or  
Rainbow Valley Rd - Buckeye

### CONTACT INFORMATION (OPTIONAL) Información de contacto (opcional)

Name / Nombre Julie Cissna  
Address / Dirección 19322 W. Fox Rd  
City / Ciudad Buckeye State / Estado AZ Zip / Código postal 85326  
Phone / Teléfono 602-717-0842 Email / Correo electrónico jeissna008@gmail.com

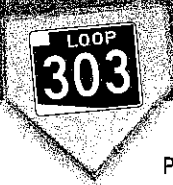
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Phoenix 85007 Comentario por teléfono: 855.712.8530 Comentario por correo electrónico: Loop303south@azdot.gov. Todos los comentarios  
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Why south bound frontage road on north side of 303 @ Laerbankys and Elwood?

### CONTACT INFORMATION (OPTIONAL) Información de contacto (opcional)

Name / Nombre Kevin Meyer

Address / Dirección 15960 W. Lakeside

City / Ciudad Goodyear State / Estado AZ Zip / Código postal 85338

Phone / Teléfono 480-436-9358 Email / Correo electrónico KJMeyer1066@gmail.com  
KJMeyer1066

Thank you for your participation. Turn in completed form today or mail to: ADOT Community Relations, 1655 W. Jackson Street MD 126F, Phoenix 85007 Comment by telephone: 855.712.8530 Comment by email: Loop303south@azdot.gov. All comments must be received by July 15, 2018 to be included in the public record.

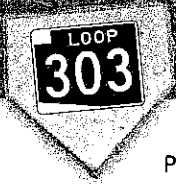
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We live in Canyon Trails Unit 4 S. Our address is 17015 W. Hammond St. in the greenbelts surrounding our home we have had a problem with some pretty severe sink holes. One was over five feet deep and about eight to ten feet around. It was actually fenced off for two years. We also had a sink hole in our front yard that was about two feet deep + two feet wide. We have large cracks in our sidewalks + driveways as well. My question + concern is will this make this problem continue or become worse? There was a class action suit on this problem.

### CONTACT INFORMATION (OPTIONAL) Información de contacto (opcional)

Name / Nombre Deborah Siegel

Address / Dirección 17015 W. Hammond St.

City / Ciudad Goodyear State / Estado AZ Zip / Código postal 85338

Phone / Teléfono 602-622-2316 Email / Correo electrónico ghostwriters@cox.net

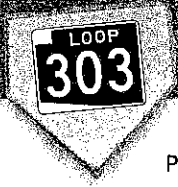
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This Study group is great, People were very informative. We appreciate the future access that 30 will bring. Can't do that soon enough. 303 to 202 sounds GREAT

### CONTACT INFORMATION (OPTIONAL) Información de contacto (opcional)

Name / Nombre Joseph A Ertl  
Address / Dirección 18590 W. McNeil St.  
City / Ciudad Goodyear State / Estado AZ Zip / Código postal 85338  
Phone / Teléfono 602-540-0486 Email / Correo electrónico ertlj8@hotmail.com

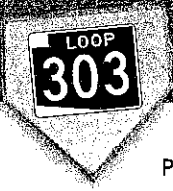
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I would like to thank all of the folks responsible for approving to hold the hearing and giving of their time to do it. I am a recent transplant from IL and live in Cantua Mia so at this time I have little "skin in the game". My only concern is the risk of building the 303 extension and not getting SR 30 approved. How do we minimize that risk?

### CONTACT INFORMATION (OPTIONAL) Información de contacto (opcional)

Name / Nombre Minda Walker  
Address / Dirección 17904 W Nighthawk Way  
City / Ciudad Goodyear State / Estado \_\_\_\_\_ Zip / Código postal 85338  
Phone / Teléfono \_\_\_\_\_ Email / Correo electrónico minda@travelinglife.net

Thank you for your participation. Turn in completed form today  
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## Appendix G: Public Hearing Transcript

Public Comment ADOT Public Hearing  
June 27, 2018

Page 1

Arizona Department of Transportation and the Federal  
Highway Administration

Public Comment Regarding the 303 Freeway

June 27, 2018

5:00 p.m.

Goodyear Ballpark  
1933 S. Ballpark Way  
Goodyear, AZ 85338

Reported By:

Leanne McBride

1 Corey Stohlquist: My comment -- my name is Corey  
2 Stohlquist, and my comment would be that there should be  
3 stop, a four-way stop, at 173rd and Yuma Road to help  
4 make a left turn, because once the construction gets  
5 there with an on off ramps it's going to be awful hard to  
6 make turns across into the other lane. It's already  
7 pretty busy with the new Route 303 that was just finished  
8 but -- it's a good thing, you know? It's a good -- the  
9 Route 303 that's already finished is a good thing. It  
10 lets us get on and off I-10 quicker, and that's pretty  
11 much it. It's just stop and go. They're going to need  
12 one there because of all the traffic on Yuma Road.

13 We've heard from a lot of people in the community  
14 on the Nextdoor App that they've been wanting, and even  
15 as it is right now, a stop and go light to be on 173rd  
16 and Yuma Road. And now that we know that this is coming,  
17 it's going to just make it that much more crazier to get  
18 in and out of that, you know, from 173rd on to Yuma.

19 There's a lot of near misses there now since the  
20 303's been done. With the increase traffic there's been  
21 more near misses there, 173rd and Yuma Road.

22

23 Kevin Kirkpatrick: My address is 2009 South  
24 Cotton Lane, and I've known the freeway's going to come  
25 through for a while. My concern is my accessibility to

1 get out of my property. I currently get in and out of,  
2 on Cotton Lane, and the accessibility during the  
3 construction phase. I also have a concern of my fair  
4 compensation of my property when it's purchased. I also  
5 am concerned about the sound barrier wall being between  
6 the frontage road and the main freeway as I will still  
7 get noise from the frontage road on to my property. I  
8 wanted to make sure they also had a transition from the  
9 frontage road into my driveway, and good luck with it.  
10 That's it, I guess. Okay.

11

12 Stephanie Palmer: Okay. So thank you for  
13 having this open meeting. I like the process that's --  
14 I've been to several of these meetings and I like the  
15 process. So she said feel free to give you that input.  
16 I think it's a good way to get comments, and it's a good  
17 way to understand.

18 On the part of 303 that is not funded yet, my  
19 concern would be that we would, because there was a  
20 comment made that they would like to build as much of  
21 that as possible before maybe SR-30 is completed, and my  
22 concern is that we don't build a road that stops and goes  
23 nowhere for 10, 15, 20 years and, you know, my tax  
24 dollars have been spent on a road to nowhere. So that's  
25 that comment. I like Alternative 2C. That's it.

1 Berry Hitchcock: Okay, I'm concerned about the  
2 noise impact. When 303 is complete and built over the  
3 intersecting roads, I want to know what the speed limit  
4 is going to be, because in my opinion a speed limit of 65  
5 or 70 miles an hour will create such a noise that even  
6 trees and noise walls will not bring down the decibel  
7 level to comfort level. I can imagine three tractor  
8 trailers traveling down 303, either north or south, in a  
9 group doing 70 miles an hour, and you couldn't build a  
10 wall high enough to shut out the noise. So, that's my  
11 comment. And I would wish somebody would address it.  
12 Forty-five mile an hour speed limit sounds a little more  
13 reasonable in that area because you got to have 300 homes  
14 in that stretch. Two-and-a-half, two-and-a-quarter mile,  
15 two-and-a-half stretch. And we have been to Pebble Creek  
16 and people that have bought homes within a third of a  
17 mile still hear that traffic. And we were at a party a  
18 year and a half ago, and the traffic drowned our  
19 conversation out on the patio. So they need to address  
20 that. Thank you.

21

22 Richard Horner: Okay. I have a -- first of  
23 all, I have concerns about the noise level through the  
24 303 corridor. I would urge all possible noise abatement  
25 issues be implemented, including noise abatement walls,



1 quiet pavement, lower speed limit through the corridor,  
2 as well as any landscaping that can be done to limit  
3 noise. I'm also concerned about the visual impact of the  
4 project, and would like to see landscaping and that kind  
5 of thing be done through the corridor. I'm concerned  
6 about access to the 303 and then to the Interstate 10  
7 from between Yuma and Van Buren streets. I'm also  
8 concerned about the fact that folks who live to the west  
9 of Cotton Lane will be essentially, or to some degree,  
10 cut off from the rest of Goodyear because of this  
11 project. I'm also concerned that in the data that was  
12 provided, the extent of the data that was provided, there  
13 seem to be little effort to describe what the effects of  
14 the project might be on home owners. There was some talk  
15 about reimbursement for losses for taking property and  
16 for relocation expenses and that kind of thing, but it  
17 was minimal amount, minimal amount of information  
18 regarding that.

19  
20  
21  
22  
23  
24  
25