

ADOT Bicycle Safety Action Plan

Contract # TO8-49-U0001
Purchase Order PG TD0440
Task Assignment MPD 18-10

TAC Meeting No. 3 Summary March 31, 2011

ADOT ADMINISTRATION BUILDING
BOARD ROOM
206 S. 17TH AVE
PHOENIX, ARIZONA

Call-in# 1-866-726-6516
Code: 227698437
9:00 a.m. – 11:00 a.m.

ATTENDANCE

Captain Larry Burns, *Arizona Department of Public Safety*
Ken Paetz, *ADOT Kingman Regional Traffic (via teleconference)*
Dale Drost, *ADOT Maintenance*
Michael Sanders, *ADOT MPD*
Pradeep Tiwari, *ADOT MPD (Data)*
Jerome Choy, *ADOT RTE Phoenix*
Tom Engel, *ADOT Safford District (via teleconference)*
Richard Moeur, *ADOT Traffic Engineering*
Ann Chanecka, *Pima Association of Governments (via teleconference)*
Gricel Sato, *ADOT Communications and Community Partnerships*
Laura Douglas, *ADOT Communications and Community Partnerships*
Maureen DeCindis, *Maricopa Association of Governments*
Martin Ince, *Flagstaff MPO*
Raymond Huang, *Phoenix Maintenance*

Consultant Staff in Attendance

Brent Crowther, *Kimley-Horn & Associates, Inc.*
Mike Colety, *Kimley-Horn & Associates, Inc.*
Alan Wachtel, *HPV Transportation Consulting*

MEETING SUMMARY

TAC Meeting No. 3 was held for the ADOT Bicycle Safety Action Plan on March 31, 2011. The purpose of TAC Meeting No. 3 was to review and discuss the Working Paper 3, which was previously distributed to the TAC. Key elements of Working Paper No. 3 include Bicycle Safety Emphasis Areas, Potential Countermeasures, and High Priority Locations Analysis

The following summarizes key discussion items.

Introductions

Michael Sanders, ADOT Project Manager, allowed for self-introductions. Mr. Sanders indicated that all project deliverables are available on the project website, http://www.azdot.gov/mpd/systems_planning/bicycle_safety_study.asp.

The focus of TAC 3 is to discuss draft Working Paper No. 3 - State Highway Priority Crash Locations and Countermeasures.

Working Paper No. 3 (WP3) Overview

Brent Crowther provided an overview of Working Paper No. 3. The PowerPoint presentation that guided the discussion is available as an attachment to the meeting summary.

Arizona Crash Statistics Refresher

- There were 1,089 bicycle-motor vehicle crashes on state highways, 2004-2008
- GIS kernel-density analysis helped to identify 746 “concentration areas” crashes on state highways
- Arizona Traffic Accident Reports were obtained for each of the 746 “concentration area” crashes.
- Information regarding each “concentration area” crash was input to the PBCAT database.
- PBCAT serves as the basis for detailed analysis completed for the study.

Emphasis Areas:

Working Paper No.3 includes a review of Bicycle Safety Emphasis Area, initially presented in Working Paper No. 2. Brent briefly reviewed each of the seven emphasis areas:

1. Reduce the number of bicycle crashes in urbanized and developed areas
2. Reduce crashes in which a bicyclist or motor vehicles failed to yield at signalized intersections
3. Reduce crashes in which a bicyclist or motor vehicles failed to yield at unsignalized intersections
4. Reduce bicycle crashes involving vehicles making a right turn
5. Reduce crashes in which the bicyclist was riding facing traffic
6. Reduce crashes where the bicyclist was riding on the sidewalk
7. Reduce bicycle crashes that occurred in dawn, dusk, or dark conditions

- Maureen DeCindis asked, of the 746 crashes, how many motorists were cited? She stated that she feels that one of the biggest issues is that motorists hit bicyclist, and then are not cited. She is particularly interested in injury crashes.
- Richard Moeur pointed out that many of the non urban area crashes were likely not clustered. Brent confirmed that 343 of the 1,089 crashes did not occur in cluster locations. The vast majority of these were in non urban locations.
- Pradeep Tiwari asked what data was entered into PBCAT. Brent Crowther stated that for each “concentration area” crash (746 total crashes), all of the information in the Arizona Crash Form was entered into PBCAT. In addition, several other data items that are not available in the Arizona Crash Form were entered that describe bicyclist behavior, geographic information, etc. This information was obtained by reading the crash narrative, and referring to mapping, photographs, and other databases for information about the crash location. A description of data entered into PBCAT is contained in Working Paper No. 2.
- Pradeep Tiwari asked about the frequency of driver failing to yield. Officer Burns asked if there is record of the frequency with which vehicles used their turn signal. Brent Crowther stated that this data was not available. The data is limited to what is reported by the investigating police officer, or what can be gleaned about site conditions from aerial photography or other databases.
- Maureen DeCindis asked if we could develop a list of information that is recorded in the Crash Report, and what data might be missing that would be useful.
- Pradeep Tiwari referenced an article distributed by Tom Engel that describes a failure of drivers to yield as a major contributing factor to bicycle-motor vehicle crashes.
- Richard Moeur stated that in many right turn crashes, the bicyclists are traveling in the same direction, resulting in a “right-hook” crash.
- Martin Ince stated that the City of Flagstaff Traffic Engineer was recently hit by motorist on RTOR.
- Tom Engel asked about the emphasis of slide 10 (describing emphasis area #6 – bicyclists riding on the sidewalk). Brent stated that the purpose of the table was to show that bicyclists could be riding on the sidewalk because there are no dedicated bicycling facilities for them, and they may feel that they do not have any other alternatives.
- During discussion of emphasis area #7 – reduce bicycle crashes in dusk, dark, or dawn conditions, Officer Burns mentioned that dusk, dawn and dark covers a lot time and that the 129 crashes may not be an over representation, because a lot of people ride in dark conditions.

Potential Countermeasures:

- Maureen DeCindis stated that she has an upcoming project with the Coalition of Arizona Bicyclists. She asked for input on what should be addressed in the project.
- Maureen DeCindis asked about the “bicycle buffer” figure depicted on slide 13. This is in the ADOT roadway design guide. In general, this is being implemented by ADOT in most areas that have bicycle traffic. Richard confirmed that this is becoming the default treatment for a right turn.
- Ann Chanecka stated that the colored (green) asphalt treatment for bike lanes is not mentioned in the report. Richard Moeur stated that it is not included in the MUTCD and

studies are inconclusive on its effectiveness. Ann Chanecka stated that she prefers to have it included as a potential countermeasure. It was suggested that it could be included with the disclaimer of its unknown effectiveness and need for experimentation.

- Michael Sanders emphasized that this is planning study, and an engineering study would come later.
- With regards to road diets as a countermeasure, Richard Moeur stated a 3 lane section work well up to 22,000 ADT. It was suggested that another road diet configuration consists of restriping to a parking lane on one side, and bike lanes on both sides.
- There was discussion that there is a lack of crossings of I-17. The lack of crossings causes everything to be funneled to the traffic interchanges at the major arterials. A potential countermeasure is to contract half-mile crossings.
- Regarding enforcement countermeasures:
 - Richard Moeur stated that he recently read that the Berkeley Police Department decreased the fine associated with bicycle violations to \$10 (down from \$75), and are issuing a lot more citations.
 - Ann Chanecka requested that specific examples of law enforcement countermeasures be included in the report.
 - Captain Burns stated that there is a need to educate police officers of bicycle laws. However, this is very difficult because the POST curriculum is very full, and it is difficult to remove other curriculum to allow time for bicycle education.
- Regarding countermeasures to address right turn on red (RTOR):
 - Martin Ince stated that when a vehicle is going to RTOR, they are worried about catching a gap and looking to the left. This is also a hazard for pedestrians. Can we have more visible crosswalk markings and tighter turn radius as countermeasures?
 - Richard Moeur stated that advanced stop lines, limit RTOR, if not amount of bicycles on each cycle- motorists will not comply.
 - “NO RTOR When Bicyclists Present” doesn’t help when a vehicle is already in bike box, and a bicycle approaches.
 - Richard Moeur stated that there are geometric treatments that can encourage lower turning speeds, including for free flow traffic. This includes a 3-point radius treatment.

High Crash Locations:

- Richard Moeur stated that a countermeasure for single point urban interchanges is to phase the signal timing so that bicycles are not in the intersection when the turns are started. Alan Wachtel stated that a common objection in California is that this removes the option of skipping a phase.
- Richard Moeur observed that two of three concentration crash areas on I-17 are SPUIs.
- Emphasize in the report that the countermeasures are only a planning level recommendation, as coming out of PBCAT. The next WP will discuss how to use the recommendations.
- Martin Ince asked if the GIS locations were re-coded as we reviewed the crash reports. Brent Crowther answered that intersections were re-coded, based on the crash diagrams in the crash report.
- Please update location ID 35 to SR 89A (not SR 89).

Roundtable Discussion

- Need to propose revisions to ARS for riding in the sidewalk. These may include addressing wrong-way riding, and riding at pedestrian speeds. The Uniform Vehicle Code language could be adopted as ARS.
- Valley Metro received \$750,000 for a statewide bicycle safety campaign. This information should be provided for their use in developing the message.
- Maureen DeCindis stated that the education campaign needs to show and explain to bicyclists why wrong-way riding is dangerous.
- Richard Moeur stated that many bicyclists see bicycling as dangerous and feel a need to protect themselves and ride wrong way on sidewalk.
- Maureen DeCindis asked about rumble strips serving to separate the bicycle lane from the travel lane. Richard Moeur stated that there are operational issues with rumble strips; profile strips can work in certain situations with vehicle drifting, but they are high maintenance.
- Richard Moeur will look for a recent study that documents an increase in bicycle usage with the provision of bicycle lanes.
- Maureen DeCindis identified Show Low and Pinetop-Lakeside as an example of a state highway that lacks a continuous shoulder. There was discussion that changing the speed limit does not automatically result in a change in actual speeds, without other geometric improvements.
- Maureen DeCindis stated that a policy recommendation could be that all new bridge shall have bicycle accommodation, such as bike lanes or striped shoulder on all new bridges or retrofits.
- Martin Ince stated that side path safety issues should be discussed. Are there countermeasures to address side path safety issues?
- Richard Moeur stated that this has been the focus of recent discussion issue at the national level, but there are little proven countermeasures to address this. One thing that has been used is bicycle specific signalization, but where that has been used, it has a significant effect on intersection capacity and LOS. They are developing draft language in DRAFT AASHTO guide. Signs or markings have been ineffective. One thing that does work is to prohibit RTOR, but this reduces capacity and has compliance issue. Bike speed reduction measures are a challenge, because they cause crashes to inattentive cyclists.
- Enforcement is an important countermeasure. Training time for police officers is limited. Anything added to the POST curriculum comes at a significant cost. Decisions have to be made whether other content is reduced. Most city agencies spend little to no time on bicycle enforcement training.
- Pradeep Tiwari asked whether bicycle issues are addressed by MVD in drivers licensing. Mike Sanders that there is a page in the manual, but testing is only required for the initial license.
- Perhaps legislation could be required requiring license review every five years. It was discussed that this may be difficult considering our current legislature.
- There are four agencies that have police teaching bike courses
- The Florida Bicycle course is an example of one of the better curriculums.

Next Steps

Next steps include:

- Finalizing Working Papers No. 3
- Developing a draft Working Paper 4 - Final Recommendations

Attachments

Agenda

PowerPoint Presentation



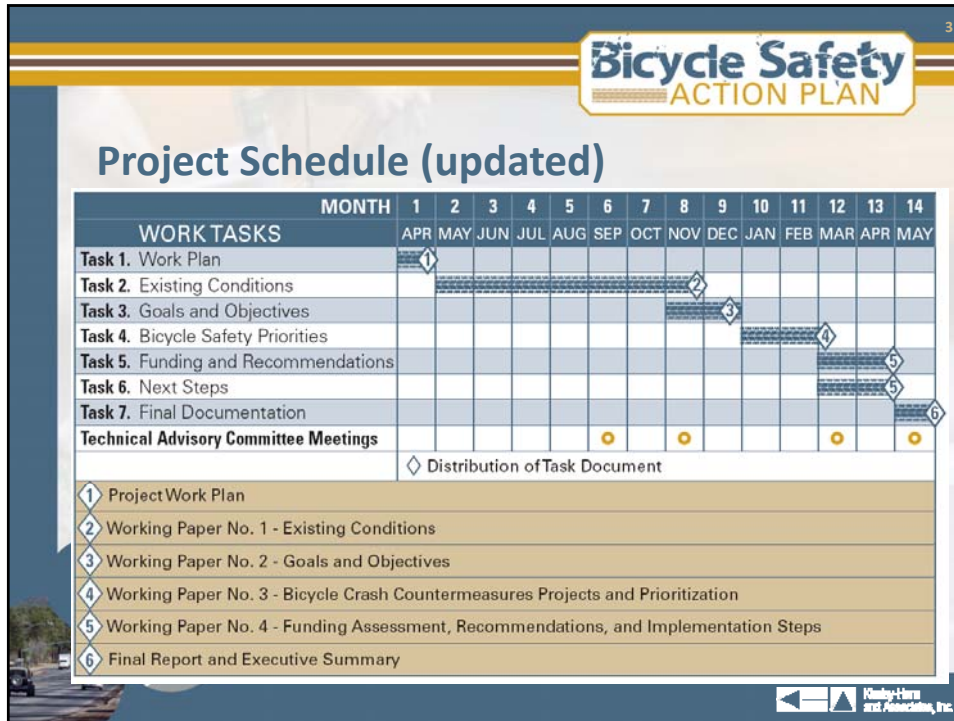
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Agenda

- Introductions
- Working Paper No. 3 Overview
- Discussion of Recommendations and Implementation
- Next Steps and Roundtable Discussion





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Working Paper No. 3 Overview

- Bicycle Safety Emphasis Areas and Menu of Countermeasures
- Priority State Highway Bicycle-Motor Vehicle Crash Locations
- Countermeasures for State Highway Priority Locations

ASCT


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Arizona Crash Statistics Refresher...

- 1,089 bicycle-motor vehicle crashes on state highways, 2004-2008
- 746 crashes identified in “concentration areas” on state highways
 - Arizona Traffic Accident Reports reviewed for each of the 746 crashes,
 - Each crash entered into PBCAT
 - PBCAT serves as the basis for the detailed analysis











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Emphasis Areas

- 1. Reduce the number of bicycle crashes in urbanized and developed areas
 - Only 9 crashes occurred out side of urbanized areas
- 2. Reduce crashes in which a bicyclist or motor vehicles failed to yield at signalized intersections
 - 408 of 746 crashes
 - Bicyclist Ride Through - Signalized Intersection (64 crashes)
 - Bicyclist did not stop at the signalized intersection
 - Motorist Drive Out - Right-Turn-on-Red (52 crashes)
 - Motorist collided with bicycle after turning right on a red light
 - Motorist Drive Out - Signalized Intersection (36 crashes)
 - Motorist did not stop at a red light

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Emphasis Areas


- 3. Reduce crashes in which a bicyclist or motor vehicles failed to yield at unsignalized intersections
 - 146 of 746 crashes
 - Education plays a major role

Table 7 – Unsignalized Crash Type Descriptions by Bicyclist Direction

Crash Type Description	Facing Traffic	Unknown	With Traffic	Row Total
Bicyclist Ride Out - Sign-Controlled Intersection	3	0	2	5
Bicyclist Ride Through - Sign-Controlled Intersection	3	1	5	9
Motorist Drive Out - Sign-Controlled Intersection	71	1	11	83
Motorist Drive Through - Sign-Controlled Intersection	5	0	2	7
Total	82	2	20	104



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Emphasis Areas

- 4. Reduce bicycle crashes involving vehicles making a right turn
 - Nearly 10 percent of all crashes were right turn on red

Table 9 – Driver Action by Crash Location

Driver Action	Number (Percentage of Driver Action Crashes) of Crashes by Driver Action by Crash Location							
	Bike Lane	Cross-walk	Drive-way	Paved Shoulder	Road-way	Sidewalk	Un-known	Row Total
Making Right Turn	3	238 (62%)	53 (9%)	5	73 (25%)	2	4	378







Emphasis Areas

- 5. Reduce crashes in which the bicyclist was riding facing traffic
 - 439 of 746 crashes

Table 12 – Driver Action by Bicyclist Direction

Driver Action	Facing Traffic	Not Applicable	Unknown	With Traffic	Row Total
Making Right Turn	277 (37%)	0	13	88	378
Going Straight Ahead	57	17	23	74	171
Making Left Turn	50	1	4	60	115
Leaving Alley or Driveway	42	1	0	5	48






Emphasis Areas

- 6. Reduce crashes where the bicyclist was riding on the sidewalk
 - 253 of 746 crashes

Table 16 – Bicyclist Violation by Bicycle Facility Presence

Bicyclist Violation 1	Bicycle Facility Present					Row Total
	Bicycle Lane	Multi-use Path	None	Paved Shoulder	Wide Curb Lane	
Did Not Use Crosswalk	0	0	1	0	1	2
Disregarded Traffic Signal	7	2	109	3	1	122
Drove in Opposing Traffic Lane	13	1	222	13	0	249
Failed to Yield Right-of-Way	3	1	58	5	1	68
Inattention	3	0	23	2	1	29
Knowingly Operated with Faulty or Missing Equipment	0	0	3	0	0	3
Made Improper Turn	1	0	4	1	0	6
No Improper Action	15	8	150	30	1	204
Other	1	0	0	0	0	1
Other Unsafe Passing	0	0	1	0	0	1
Passed in No Passing Zone	0	0	3	0	0	3
Ran Stop Sign	0	0	6	0	0	6
Speed Too Fast for Conditions	0	0	8	0	0	8
Unknown	0	0	36	1	0	37
Unsafe Lane Change	0	0	6	1	0	7
Total	43	11	630	56	5	746



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Table 15 – Bicyclist Location before Crash by Crash Type

Crash Type Description	Bike Lane	Cross-walk	Drive-way	Multi-use Path	Other	Parking Lot	Paved Shoulder	Roadway	Side-walk	Un-known	Row Total
Motorist Drive Out - Sign-Controlled Intersection	1	3	0	3	0	0	3	22	47	4	83
Motorist Drive Out - Commercial Driveway / Alley	2	0	0	1	0	1	5	15	45	2	71
Motorist Drive Out - Right-Turn-on-Red	0	15	0	1	1	0	0	6	31	22	76
Bicyclist Ride Through - Signalized Intersection	0	24	0	2	1	0	0	17	23	36	103
Motorist Drive Out - Midblock - Unknown	1	0	0	0	0	0	1	6	20	5	33
Motorist Right Turn - Same Direction	5	4	0	1	0	0	7	12	19	11	59
Motorist Drive Out - Signalized Intersection	2	12	0	1	0	0	0	7	15	24	61
Motorist Left Turn - Opposite Direction	4	6	0	0	1	0	3	13	6	12	45
Motorist Left Turn - Same Direction	0	5	0	0	0	0	0	2	6	5	18
All Other Crash Types	4	27	3	1	3	1	6	65	41	46	197
Total	19	96	3	10	6	2	25	165	253	167	746





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Emphasis Areas

- 7. Reduce bicycle crashes that occurred in dawn, dusk, or dark conditions
 - 129 of 746 crashes
 - Number likely exceeds the proportion of riding that takes places in dark conditions
 - No-single crash type is overly-dominant
 - Lighting is a complex treatment requiring thoughtful analysis



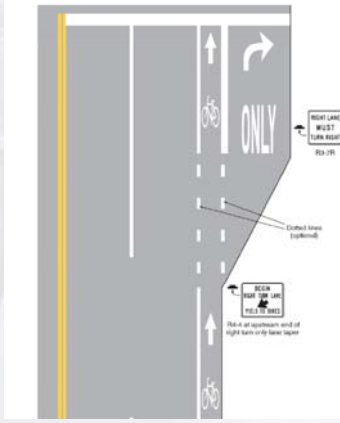





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Potential Countermeasures

- Bicyclist and Motorist Education
- Pavement markings and signage
 - Bicycle Lanes
 - Stencils w/ directional arrows
 - Bicycle buffer striping


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Potential Countermeasures

- Lane width reduction to enable striped shoulder/bicycle lane
- Road diets
- Traffic signals detection (sensitive to bicyclists)
- Develop alternative networks in urban areas

Enforcement





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Priority State Highway Locations

- **Intersection/interchange:** crash pattern is focused on specific intersections/ interchanges; adjacent roadways did not exhibit a pattern of crashes
 - Priority intersection/interchanges are those that experienced five or more (5) crashes in the analysis period (2004-2008)
 - 15 intersections/interchanges met criteria








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Table 22 – Concentration Area Intersection/Interchange Crashes

Location ID	City/Town	Type	On Street	Intersecting Street	Number of Crashes	Priority Location
39b	Tempe	Intersection	Scottsdale Road	SR 202 Ramp	8	✓
18c	Mesa	Intersection	SR 87	SR 202 Ramp	6	✓
26b	Phoenix	Intersection	Indian School Road	SR 51 Ramp	6	✓
28c	Phoenix	Intersection	Northern Avenue	I-17 Frontage Road/Ramp	6	✓
28e	Phoenix	Intersection	Bethany Home Road	I-17 Frontage Road/Ramp	6	✓
30a	Phoenix	Intersection	Indian School Road	I-17 Frontage Road/Ramp	6	✓
39a	Tempe	Intersection	Priest Drive	SR 202 Ramp	6	✓
39e	Tempe	Intersection	Baseline Road	I-10 Ramp	6	✓
6a	Chandler	Intersection	Elliot Road	SR 101 Ramp/Frontage Road	5	✓
6d	Chandler	Intersection	SR 87	SR 202 Ramp	5	✓
18e	Mesa	Intersection	SR 87	McKellips Road	5	✓
26f	Phoenix	Intersection	7th Street	I-10 Ramp	5	✓
26h	Phoenix	Intersection	24th Street	SR 202 Ramp	5	✓
27b	Phoenix	Intersection	27th Avenue	SR-101 Frontage Road (Beardsley Road)	5	✓
39f	Tempe	Intersection	Priest Drive	US 60	5	✓
22d	Oro Valley	Intersection	SR 77	Orange Grove Road	4	-
25e	Peoria and Glendale	Intersection	US 60	Bethany Home Road	4	-
26d	Phoenix	Intersection	McDowell Road	SR 51 Ramp	4	-
26i	Phoenix	Intersection	32nd Street	SR 202 Ramp	4	-



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Priority Locations Analysis

Location No. 30a Phoenix

PRIORITY INTERSECTION Location No. 30a Phoenix	On Road	Intersecting Road	Total Crashes	
	Indian School Road	I-17 Frontage Road/Ramp	6	
Leading Crash Type Descriptions	1. Bicyclist Ride Through – Signalized Intersection (33.3%) 2. Motorist Drive Out – Right-Turn-on-Red (16.7%) 3. Motorist Drive Out – Signalized Intersection (16.7%) 4. Motorist Right Turn on Red – Opposite Direction (16.7%)			
Probable Contributing Causes	1. Motorist fails to yield 2. Bicyclist travels facing traffic 3. Bicyclist disregards signal			
Potential Countermeasures	1. Curb radii reduction (to slow the speed of right turning vehicles) 2. Sight distance improvement 3. Intersection signing and marking improvement 4. Intersection warning treatments 5. Bike lane or paved shoulder			
Desired Outcomes	Engineering, education, and enforcement (EEE) countermeasures for further consideration			
	Bicyclists	Motorists	Engineers and Planners	Law Enforcement
Travel with the flow of traffic	Education campaign	N/A	Signage and pavement markings with directional arrows	Enforcement of proper bicyclist behavior
Adherence to signs and signals	Education campaign	N/A	N/A	Enforcement of observance of signs and signals
Yield when turning right or left	N/A	Education campaign	1. Intersection signing and marking improvement 2. Intersection warning treatments 3. Bike lane	Enforcement of proper motorist behavior

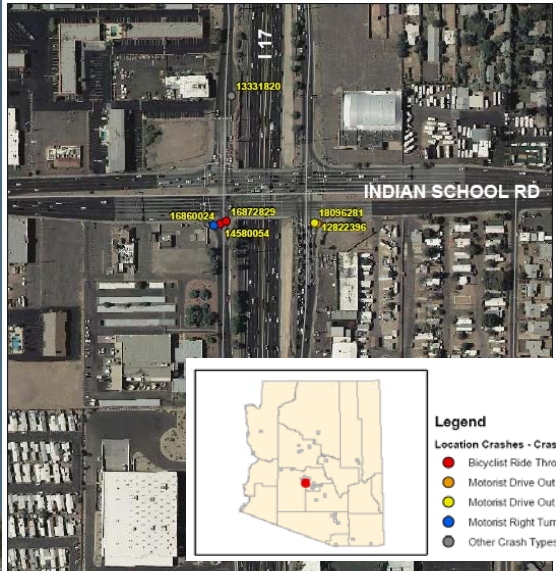
- Leading Crash Type Descriptions
- Probable Contributing Causes
- Menu of Potential Engineering Countermeasures
 - Education,
 - Enforcement, and
 - Encouragement





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Priority Locations Analysis

Location No. 30a Phoenix




- Mapping of Each Priority Location is included in Appendix A





Legend

<p>Location Crashes - Crash Type</p> <ul style="list-style-type: none"> ● Bicyclist Ride Through - Signalized Intersection ● Motorist Drive Out - Right-Turn-on-Red ● Motorist Drive Out - Signalized Intersection ● Motorist Right Turn on Red – Opposite Direction ● Other Crash Types 	<p>Non-Location Crash</p> <ul style="list-style-type: none"> ● Other Bicycle-Motor Vehicle Crash Streets Crash ID
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ADOT Bicycle Safety Action Plan
Location 30a - Indian School Road at I-17 Frontage Road/Ramp








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Priority State Highway Locations

- **Segments:** crash pattern extends along the length of a corridor; segment crashes include those at intersections within the segment
 - **Priority segments met either of the following:**
 - More than five (5) crashes in the analysis period (2004-2008).
 - Crashes per mile per year on the segment are greater than 1.

21 segments met the criteria





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Segments

Table 23 – Concentration Area Segment Bicycle Crashes

Location ID	City/Town	Type	On Street	Limits	Number Through Lanes	Length (Miles)	Number of Crashes	Crashes/Mile / Year	Priority Location
11c	Flagstaff	Segment	SR 40B	SR 89A to Elden Street	4	1	56	11.2	✓
11a	Flagstaff	Segment	SR 89A (Milton Road)	I-17 to SR 40B	4	1.3	33	5.1	✓
15	Lake Havasu City	Segment	SR 95	Swanson Avenue to Mesquite Avenue	4	0.22	4	3.6	-
18a	Mesa	Segment	SR 101 Frontage Road/Ramp	University Drive to Broadway Road	2	1.01	15	3.0	✓
11d	Flagstaff	Segment	Route 66	Switzer Canyon Drive to Lockett Road	4	3.1	45	2.9	✓
22c	Oro Valley	Segment	SR 77	Mountain Vista Drive to Ina Road	6	1.33	19	2.9	✓
40a	Tucson	Segment	SR 77 (Oracle Road)	River Road to Miracle Mile	6	2.5	32	2.6	✓
8	Cottonwood	Segment	SR 89A	Cottonwood Street to Grosetta Road	4	0.63	8	2.5	✓
44b	Yuma	Segment	SR 8B	7th Street to Catalina Drive	4 or 6	3.05	35	2.3	✓
24a	Payson	Segment	SR 87	Forest Drive to Ridge Lane	4	1.95	22	2.3	✓
5	Casa Grande	Segment	SR 287/SR 387	Cottonwood Lane to Arizona Road	4	3.5	37	2.1	✓




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Segments

Table 23 – Concentration Area Segment Bicycle Crashes (continued)

Location ID	City/Town	Type	On Street	Limits	Number Through Lanes	Length (Miles)	Number of Crashes	Crashes/ Mile / Year	Priority Location
14b	Kingman	Segment	SR 66	I-40 to Armour Avenue	4	0.5	5	2.0	√
25e	Peoria and Glendale	Segment	US 60	Northern Avenue to Bethany Home Road	6	0.5	5	2.0	√
44a	Yuma	Segment	US 95	Arizona Avenue to 24th Street	4	3.02	26	1.9	√
40b	Tucson	Segment	SR 77 (Miracle Mile)	Fairview Avenue to Romero Road	4	0.67	6	1.8	√
35	Sedona	Segment	SR 89	Dry Creek Road to Soldier Pass Road	4	1.88	15	1.6	√
11e	Flagstaff	Segment	US 180	SR 40B to Meade Lane	2	1.4	11	1.6	√
38	Somerton	Segment	US 95	State Street to Somerton Avenue	4	0.27	2	1.5	-
2b	Apache Junction	Segment	SR 88	Broadway Avenue to 14th Avenue	4	0.42	3	1.4	-
11b	Flagstaff	Segment	SR 40B	Blackbird Roost Street to Riordan Road	4	0.29	2	1.4	-
17b	Mesa	Segment	US 60X	Sossaman Road to Meridian Drive	6	5.02	34	1.4	√




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Segments

Table 23 – Concentration Area Segment Bicycle Crashes (continued)

Location ID	City/Town	Type	On Street	Limits	Number Through Lanes	Length (Miles)	Number of Crashes	Crashes/ Mile / Year	Priority Location
32	Prescott	Segment	SR 69/SR 89	Bradshaw Drive to Heather Heights	4	0.61	4	1.3	-
37a	Sierra Vista	Segment	SR 92/SR 90	MLK Parkway/Tree Top Ave to Calle Mercancia	4	2.49	15	1.2	√
19a	Mesa/ Gilbert	Segment	SR 87	Guadalupe Road to Baseline Road	6	1.02	6	1.2	√
9	Douglas	Segment	US 191B	1st Street to 7th Street	4	0.6	3	1.0	-
10a	El Mirage	Segment	US 60	Thompson Ranch Road to Poppy Street	4	0.43	2	0.9	-
7	Chino Valley	Segment	SR 89	Road 1 North to Perkinsville Road	4	1.3	5	0.8	-
21a, 21b	Nogales	Segment	SR 19B	SR 82 to International Street	4	1.47	5	0.7	-
39j	Tempe	Segment	SR 101 Front Road/Ramp	Baseline Road to US 60	2	1.02	3	0.6	-
4	Bullhead City	Segment	SR 95	Marina Boulevard to Seventh Street	4	4.4	11	0.5	√
24c	Payson	Segment	SR 260	Tyler Parkway to Chaparral Pines Road	4	0.84	2	0.5	-
31	Pinetop Lakeside	Segment	SR 260	Woodland Lake Road to Rainbow Lake Dr.	4	4.58	9	0.4	√






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Roundtable discussion of Final Recommendations

- **Revisions to ARS?**
 - Uniform Vehicle Code includes language on how bicyclists are to operate on sidewalks; they should follow the rules of pedestrians
- **Education campaign**
 - Must be based on current law



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Roundtable discussion of Final Recommendations

- **Revisions to ADOT Policy?**
 - Lane width reductions where needed to accommodate wide shoulder/striped shoulder
 - Directional arrows in shoulders (no IGA requirement)
 - Allow expenditure on local streets if a benefit can be demonstrated to the state highway system
 - Establish / correct key connections to off load the state highway?
 - Local street crossings of I-17 (for example) at ½ mile locations; will reduce reliance on the traffic interchanges, improve connectivity

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Bicycle Safety
ACTION PLAN

Roundtable discussion of Final Recommendations

- Enforcement
 - POST curriculum
- Others?






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Bicycle Safety
ACTION PLAN

Next Steps

- Working Paper No. 3 – Priority Locations and Countermeasures
 - Submit comments by April 8
- Task 5/6 – Final Recommendations
 - Develop Draft Working Paper
 - Distribute for TAC review and comment
 - TAC Meeting (if needed)

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