

City of Bisbee Comprehensive Transportation Plan

Task Assignment
MPD 34-10



Working Paper # 3

Evaluation
Criteria and
Improvement Plan

Final – December 16, 2011

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ASSOCIATES

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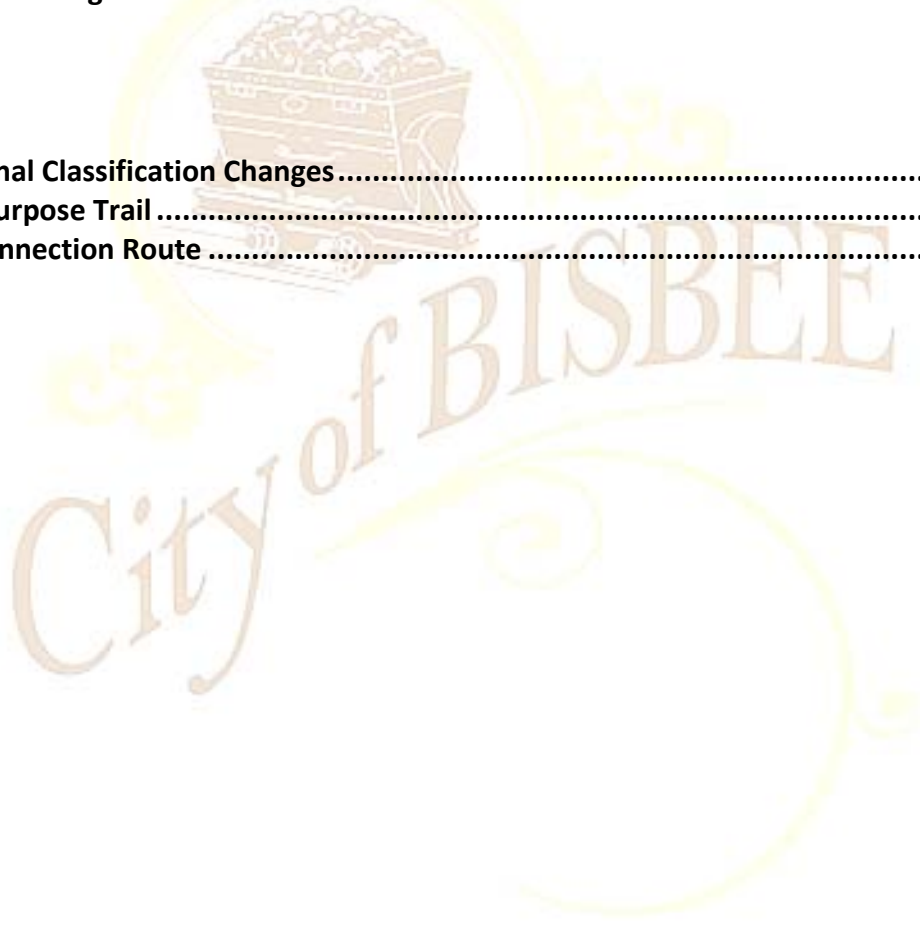
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1.0 Introduction

1.1 Background Information

The City's current *City of Bisbee General Plan 2003* calls for the creation of a Comprehensive Transportation Master Plan. This transportation plan addresses that need and includes an assessment of the City's streets, bridges, sidewalks, public stairs, shared-use pathways, transit, public parking, airport, and transportation-related drainage facilities. The transportation plan also includes an implementation plan that sets forth a comprehensive capital improvement program to bring the transportation infrastructure up to current standards and to provide an acceptable level of service for current and forecast travel demands. This effort is funded through the Arizona Department of Transportation's (ADOT) Planning Assistance for Rural Areas (PARA) program. Wilbur Smith Associates (WSA) was retained to assist in the effort. This third working paper on evaluation criteria and an implementation plan is developed prior to a draft and final report incorporating the information in the working papers and the public involvement process for the study.

1.2 Previous Working Papers

Working Paper #1, *Current Conditions*, provided existing land use and population data for the area. To supplement traffic data available from ADOT and Cochise County, additional traffic count data was collected specifically for this study at twenty-nine locations within the study area. At nine of these locations, vehicle classification counts were also taken. Classification counts show the breakout of traffic by vehicle type and are used to gauge commercial (truck) volumes as a percentage of total traffic. From this data, current traffic levels of service within the study area were calculated and reported. Data for recent crashes within the study area was obtained, analyzed and presented.

Stakeholder meetings were held during the development of that working paper. These meetings were used to solicit and receive input from individuals, groups or entities that were not members of the study technical advisory committee, but who were major stakeholders for the study. The study team conducted twelve of these interviews with the participants to learn about issues of concern to them, solicit their input, and to answer any questions that they may have regarding the study. These interview findings were included in the working paper.

Since the condition of bridges and structures, roadways, sidewalks, stairs and retaining walls is of primary concern, previous city and ADOT field inspection reports were scrutinized. In October of 2010, a field survey was conducted by WSA engineers and City of Bisbee staff, to more completely identify and document deficiencies.

Current operations of the Bisbee Bus system were evaluated along with plans for that service. The above infrastructure evaluation included pedestrian and bicycle facilities.

Working Paper #2, *Future Conditions*, evaluated the future planned land use for the area based on the Bisbee General Plan, and evaluated population projections based on both official state projections, and reduced expectations based on recent 2010 census data.

The paper also reported on predicted future traffic volumes on roadways in the study area using a sketch model built from the Cochise County Travel Demand Model. In the future, traffic levels will increase and segments of SR 92 will experience congested conditions (Level of Service D and E).

The paper also reported on future conditions of the roadways and structural components of the network, as well as operational concerns, transit and alternate modes needs. A brief summary of future conditions follows.

The most concerning future condition is the continuing deterioration of bridges, culverts, roadways stairs, and retaining walls. Much of this aging infrastructure is in poor condition. While these are current needs previously described and evaluated, they are also future condition issues if not addressed. Achieving a balance between preservation of historic character and current engineering design standards will be a challenge, as will finding the funding to address the magnitude of current needs.

As traffic increases in the future along SR 92 between Melody Lane and the intersection with SR 80, a number of steps have been addressed herein. These will include:

- Installation of a center turn lane, or a narrow median with specific turn lane locations, could be considered for as much of this segment as space (both existing right-of-way and potential additional right-of-way that can be acquired without major disruption) will allow. This will reduce the number of conflict points along the roadway, at the expense of some access restriction. This tradeoff would need to be further investigated in an engineering study and discussed with local businesses and land owners.
- If space is available, the segment of SR 92 in question could be widened to a four lane facility in addition to turn lane improvements above, including sidewalks. This would allow through traffic to pass vehicles turning into businesses without also requiring deceleration turn lanes for right hand turns.
- Consideration should be given to shared access along the segment, effectively eliminating a number of excessive and redundant driveways. Opportunities realized over time through redevelopment plan agreements or goodwill should be explored before considering formal access permit processes.
- Additional signage in the segment could be added, warning incoming traffic (some of which may not be familiar with the area) that they are approaching a congested area with pedestrian and bicycle traffic.

- Consolidation of access points in and immediately surrounding the traffic circle should be considered.
- Speed limits may be excessive, with some portions reduced from 45 miles per hour to 40.

Considerable traffic engineering analysis also will be required prior to implementing any design changes to the facility. In addition to this study, a speed and safety study and access management assessment for the segment should be strongly considered, under the supervision of appropriate ADOT traffic engineering staff.

Naco Highway has similar issues. Access management strategies that seek to consolidate access should be considered, especially in the area north of the Ace Hardware. There are driveways into vacant properties with no current need. These can be directly served from cross streets. If space is available, or as development occurs, sidewalks should be added to this facility.

New bicycle and pedestrian connections that are not immediately adjacent to roadways with right-of-way constraints are needed to better connect the neighborhoods.

Improved signage and wayfinding along SR 80 might help to address identified traffic concerns. Visitors need advance notice of destinations, facilities, parking and scenic vistas. Additional traveler information can help to reduce weaving and rapid vehicular movements when an attraction is spotted by drivers at the last moment.

Transit is an expensive but often needed public service. No public system in this country comes close to breaking even. The recent loss of state funding due to the current budgetary problems hampers the ability of all transit programs to expand or even continue current services. Bisbee Bus fares are quite affordable. Many rural transit operators charge \$1.00 per ride, as the Bisbee Bus does. A number of other agencies, however, charge \$1.25, including Flagstaff, Sierra Vista, and Coolidge. A modest fare increase to \$1.25 might be considered with appropriate rider feedback prior to implementation.

2.0 Functional Classification

Per the Federal Highway Administration (FHWA), functional classification is the process by which streets and highways are grouped into classes, or systems, according to the character of service they are intended to provide. Basic to this process is the recognition that individual roads and streets rarely serve travel independently. Rather, most travel involves movement through a network of roads. It becomes necessary to determine how this travel can be channelized within the network in a logical and efficient manner. Functional classification defines the nature of this channelization process by defining the part that any particular road or street should play in serving the flow of trips through a highway network. Functional classifications of roadways are used in transportation planning, roadway design, and to allocate federal roadway improvement funds.

Table 1: Functional Classification

Hierarchy of Functional Classification System	
Rural Areas	Urbanized Areas
Principal Arterials	Principal Arterials
Minor Arterial Roads	Minor Arterial Streets
Collector Roads	Collector Streets
Local Roads	Local Streets

In Table 1, these FHWA classifications are listed in descending (high to low) order of speed limit, vehicular capacity, and access restrictions. Urban and rural areas have fundamentally different characteristics as to density and types of land use, density of street and highway networks, nature of travel patterns, and the way in which all these elements are related in the definitions of highway function. Consequently, functional classifications provide for separate classification of urban and rural functional systems. Experience has shown that extensions of rural arterial and collector routes provide an adequate arterial street network in places with a population of less than 5,000. Hence, urban classifications are considered in the context of areas of population of 5,000 or more.

The process of classifying roadways in Arizona is led by ADOT in cooperation with the regional councils of governments; in this case, the SouthEastern Arizona Governments Organization (SEAGO). All roads that are part of the public roadway network are to be classified. For a project to be eligible for federal funding, and to be included in the State Transportation Improvement Plan (STIP), the roadway in question must be functionally classified as a major collector or above.

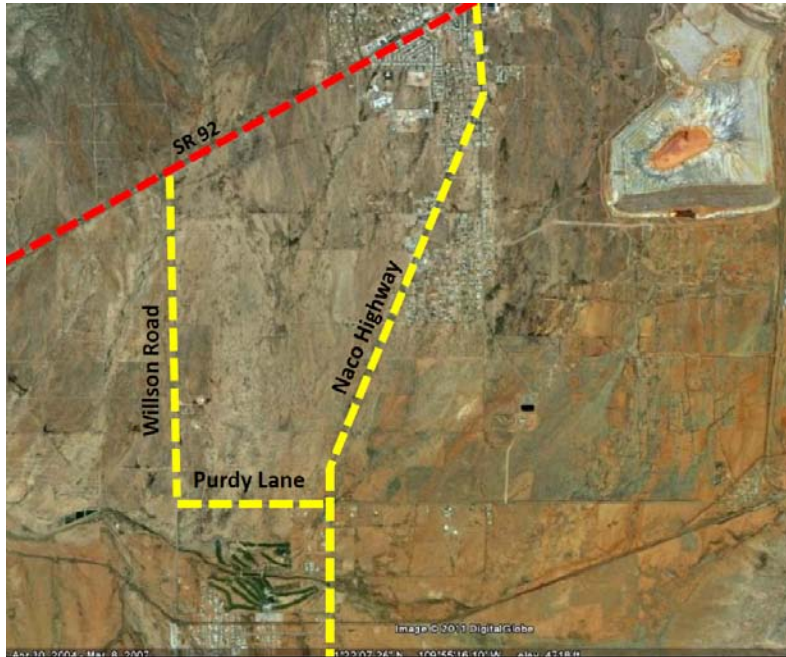
Applications for reclassification are submitted to ADOT through SEAGO. The application identifies the routes to be added or deleted, route termini, average daily traffic, and rationale for justifying the change in functional classification. ADOT’s Multimodal Planning Division reviews the application and the impacts of reclassification on the roadway system balance for the surrounding system. They will take into account the opinions and views of local officials, SEAGO, and the ADOT Safford District Engineer. If approved by ADOT, the request is then forwarded to the FHWA for their concurrence and approval.

For the most part, the current functional classification for roadways in the study area appears to correctly address all roadways that should be considered for classification above a local roadway level. Based on the analysis done in Working Papers #1 and #2, input from Stakeholder Surveys, discussions with City staff and field surveys of the community roadway network, functional classification revisions should be considered for the following facilities:

- Willson Road from SR 92 to Purdy Lane should be considered for reclassification as a collector.
- Purdy Lane from Willson Road to Naco Highway should be considered for reclassification as a collector. These are Cochise County roads, but serve Bisbee.
- The classification of Naco Highway from SR 92 to the border should be reclassified as an urban minor arterial. There are currently three different classifications along this roadway.

These segments are shown in yellow in Figure 1 below.

Figure 1 Recommended Functional Classification Changes



3. Project Needs

The projects identified in this working paper were selected based on issues identified in *Working Paper #1, Current Conditions*, and *Working Paper #2, Future Conditions*. Since the inception of this project, discussions with City staff, comments by members of the Technical Advisory Committee, and interviews with area stakeholders have all illustrated a framework of transportation needs for the area. Field investigations have validated those perceptions. These projects are illustrated in great detail in Part 2 of *Working Paper #1, Current Conditions*.

These candidate projects are, in total, less than the total universe of transportation needs within the study area. The ability to meet just these candidate needs will stress the financial resources of all area stakeholder agencies. The ability to address the entire universe of needs is extremely problematic. Most of these projects are needed now. If projects identified are not needed currently (such as widening of a segment of the state highway), it was noted in the text. Stakeholder feedback is needed on the ranking and prioritization of a finalized list of projects into short (five year), medium (ten year), and long range (twenty year) time frames. It is suggested that this should be one of the goals of the next public meeting. Asking attendees to rank projects as an interactive activity has worked well in other communities. This setting of priorities will also be influenced by the ability of external public agency partners to address a reasonable share of the needs.

Bisbee's issues differ from most of Arizona. Not only is the community, and its infrastructure, considerably older than most in Arizona, the designated historic status of much of the area requires that construction and rehabilitation must be done with sensitivity to the historic character. Close coordination with the State Historic Preservation Office (SHPO) will be required as individual projects move to the design stage. Following review of the draft version of this working paper by the TAC, we will review the recommended projects with SHPO staff, including a field review if they wish.

All planning level cost estimates were developed by Wilbur Smith Associates engineers. More specific cost information on projects will be developed as projects move into pre-design stages. Cost estimates included herein are planning level cost estimates, including minimal design fees for repair work, and should be considered the minimum rather than maximum costs. As approaches to individual projects will vary, and as there are a number of approaches to approach these jobs, costs are provided in a number of ranges, rather than absolutes, with a rationale given for the range spreads.

3.1 Structures

Twenty structures were identified during field review for Working Paper #1. Seventeen of these have been biennially inspected by ADOT. (These have identification numbers below and in the previous papers.) Additionally, three other structures were found that have not been inspected by ADOT. These three should also be put in the periodic inspection rotation. Of the balance of the twenty structures, seven have been identified by ADOT for repair or rehabilitation, including three ADOT structures not included for local programming. Monies should be programmed to do engineering design estimations for repair or rehabilitation of each of these seven structures, in addition to a load rating analysis of each. Ultimately, these will need to be done for all of the twenty structures except for the one identified for short term reconstruction below. This will cost between five and seven thousand dollars each. These seven structural projects are summarized in the Table 2 below, along with average costs for inspection, load analysis and repair cost development for the structures. At this time, we know that at least these seven will require major repair in the short term. We can only approximate costs until inspection, load analysis and repair cost development is done for each. Bridge replacement costs can reach \$200 per square foot plus another 30% for design, construction engineering and contingencies, for a total of up to \$260 per square foot. Repair costs would certainly not exceed replacement cost. An additional \$2,800,000 should be programmed over the medium and long range years to address these needs. Replacement of railings required for some bridges has a cost per linear foot of \$45-60 depending on height and style. These costs are for standard steel railings. Special artistic designs would run considerably more.

Table 2: Structural Project Summary with Costs

Project Location
Project Description
<i>Black Knob View/Mider Avenue Bridge</i>
Replace or repair damaged railing
<i>Wooden Bridge at OK Street</i>
Complete reconstruction (replacement) needed
<i>Black Knob Drain Culvert, ID # 9283</i>
Replace handrails
<i>Spring Canyon Bridge #10540</i>
Replace handrails
<i>Arizona Street Bridge #9925</i>
Concrete repair, drainage improvements, exposed steel
<i>Mile Gulch Bridge #9629</i>
Exposed rebar, concrete deterioration
<i>Black Knob Drain Culvert #9283</i>
<i>Concrete deterioration, corrosion of steel, cracked AC, guardrails</i>
<i>Balance of structures in study area</i>
Inspection, load analysis and repair estimation prior to costing
Total Project Cost Range \$412,000 to 507,000

3.2 Roadway Improvement Projects

Seventy-seven roadway improvement projects have been identified, exclusive of projects on the state highway system; which are all roadways that were evaluated as being in failed condition during the Working Paper #1 field investigations. These roadways are in all portions of the study area. Table 3a lists these projects.

Table 3a Local Roadway Projects-Failed Condition

Street	From	To
San Jose		
Crestview Dr	Santa Cruz Dr	End
Crestview Pl	Crestview Dr	End
Don Luis		
Taylor Ave	SR-92	End
Cleveland Ave	SR-92	Head Start Way
Head Start Way	End	Cleveland Ave
W Sieling Loop	Harrison Ave	Washington Ave

Street	From	To
Camino Real	Naco Hwy	End
Warren		
Cole Ave	Arizona St	Shattuck St
Briggs Ave	West Vista	Mojave Tr
D'Autremont Ave	Hoveland St	Arizona St
D'Autremont Ave	Mance St	Navajo Tr
Hoatson Ave	Douglas St	West Vista
Hoatson Ave	East Vista	Van Dyke St
Tener Ave	Douglas St	West Vista
Ruppe St	Arizona St	Hazzard St
Douglas St	Briggs Ave	Congdon Ave
Hoveland St	Tener Ave	Cole Ave
Oliver Circle	Cole Ave	Cole Ave
Powell St	Ruppe St	Tener Ave
Powell St	Tener Ave	Hoatson Ave
Paul St	Arizona St	Ruppe St
Clawson St	Ruppe St	Congdon Ave
Mance St	Hoatson Ave	D'Autremont Ave
Shattuck St	Hoatson Ave	Yuma Tr
Navajo Tr	Congdon Ave	Yuma Tr
Mojave Tr	Congdon Ave	Yuma Tr
Manulito Tr	Van Dyke St	Mojave Tr
Cochise Tr	Manulito Tr	Yuma Tr
Van Dyke St	Ruppe St	Minder Ave
Hazzard St	Arizona St	Minder Ave
Adsit St	McNeish Ave	McKee Ave
Unnamed	Black Knob View	Hazzard St
McNeish Ave	Black Knob View	Adsit St
McLaren Ave	Hazzard St	End
Center Ave	School Terrace	30th Terrace
30th Terrace	Center Ave	End
Mill Rd	Ruppe St	City limits
14th Terrace	C Ave	End
15th Terrace	School Terrace Rd	B Ave
16th Terrace	Center Ave	B Ave
C Ave	15th Terrace	16th Terrace
27th Terrace	30th Terrace	End
19th Terrace	27th Terrace	End
Tin Town		

Street	From	To
Arvayo St	SR-92	Romero St
Romero St	End	Escarcega St
Figueroa St	Romero St	Escarcega St
Teran St	Romero St	End
Escarcega St	SR-92	End
Vargas St	Teran St	End
Briggs		
Unnamed	Balsam St	Cottonwood St
Bakerville		
American Ave	End	3rd St
Cedar St	Cochise Row	End
Strong Row	Bisbee Rd	Bisbee Rd
Old Bisbee		
Highland Park Dr	Old Divide Rd	End
Pueblo Ct	Compton Ave	End
Simms Rd	West Blvd	End
Warren St	Tombstone Cyn	End
Ogwen Ave	Star St	End
Williams Ave	Star St	End
Moon Canyon	Tombstone Cyn.	End
Adams Ave	Moon Canyon	End
Laundry Hill	Adams Ave	End
Cantner Ave	Tombstone Cyn	Ilker St
Ilker St	Cantner Ave	End
Gladys Ave	Tombstone Cyn	End
Warren Hill St	Tombstone Cyn	End
Brophy Ave	Tombstone Cyn	Tombstone Cyn
Evans St	Tombstone Cyn	End
Higgins Hill	Quarry Canyon	End
High Rd	Clawson St	Miller Ave/ End
Shearer Ave	Clawson St	End
Temby Ave	Opera Dr	Shearer Ave
Hill St	Temby Ave	End
Youngblood	Brewery Ave	OK St
Maxfield Ave	Clawson St	End
Shearer Ave	Clawson St	Parking Lot
Upper Simms Rd	SR-80	End
Saginaw		

Street	From	To
Ione St	Unnamed	End
Frontage	Old Douglas Rd	Old Douglas Rd
Denn Mine Rd	SR-80	End
TOTAL Cost Range for Failed Streets \$3,707,000 to \$30,890,000		

The above roadway segments total about 62,000 linear feet, or over 11.7 miles of roadway with pavement in failed condition.

An additional 9.8 miles of roadway segments are in poor condition. These 69 roadway segments are listed in Table 3b.

Table 3b Local Roadway Projects Poor Condition

Street	From	To
SAN JOSE		
Silver St	Naco Hwy	Mountain View Ave
Nugget St	Naco Hwy	Mountain View Ave
Turquoise St	Naco Hwy	Mountain View Ave
Copper St	Naco Hwy	Mountain View Ave
Yucca St	Naco Hwy	EOS
Ocotillo St	Naco Hwy	EOS
Manzanita St	Naco Hwy	EOS
Wolverine St	Naco Hwy	Boras Ave
Nighthawk Ave	Hereford Rd	Wolverine St
Boras Ave	Hereford Rd	Wolverine St
Buena Vista Pl	San Jose Dr	EOS
Cintilla Pl	San Jose Dr	EOS
Hermosa Pl	San Jose Dr	EOS
Alegre Pl	San Jose Dr	EOS
Fort Huachuca Ln	Santa Cruz Dr	San Jose Dr
Cochise Ln	Navajo Dr	Yavapai Dr
Navajo Dr	SR-92	Cochise Ln
Yavapai Dr	SR-92	Cochise Ln
Coconino Dr	Navajo Dr	EOS
Maricopa Dr	Mohave Dr	EOS
Pima Dr	Mohave Dr	EOS
DON LUIS		
Cleveland Ave	SR-92	EOS (South)
Avenida Feliz	Naco Hwy	Calle Gardenias
WARREN		

City of Bisbee Comprehensive Transportation Plan

Street	From	To
Tener Ave	East Vista	Black Knob View
Mance St	D'Autremont Ave	Cole Ave
McKee Ave	Black Knob View	Adsit St
Mill Rd	Center Ave	Ruppe St
13th Terrace	Center Ave	EOS
14th Terrace	Center Ave	C Ave
C Ave	Mill Rd	EOS
BRIGGS		
Aspen St	SR-92	City limits
GALENA		
Unnamed	Cuprite St	Sacramento Ave
Mason Addition Rd	Mason Addition Rd	Lowell Ave
Gardner St	Lowell Ave	Unnamed
Oakland St	Gardner St	Mason Addition Rd
BAKERVILLE		
Whelan Ave	Bisbee Rd	1st St
Campbell Ave	Whelan Ave	2nd St
Well Ave	Whelan Ave	1st St
Pittsburg Ave	EOS	3rd St
Pirrung Ave	Bisbee Rd	4th St
Cochise Row	Bisbee Rd	Center Ave
OLD BISBEE		
Compton Ave	West Blvd	SR-80
Pace Ave	Tombstone Canyon	EOS
Simms Rd	Pace Ave	EOS
Locklin Ave	Tombstone Canyon	EOS
Unnamed (Locklin Ave)	Locklin Ave	EOS
Gentry Ave	Tombstone Canyon	EOS
Summit Ave	Spring Canyon	EOS
Star St	Tombstone Canyon	Williams Ave
Bisbee Ave	Star St	EOS
Mayor Ave	Garden Ave	Tombstone Canyon
Mason Hill	Tombstone Canyon	EOS
Art Ave	Tombstone Canyon	EOS
O'Hara Ave	Curve St	Oak Ave
Roberts Ave	Quarry Canyon	EOS
Quality Hill	Court House	Key St
Quality Hill	Key St	Cross Ave
Cross Ave	Quality Hill	EOS

Street	From	To
Ledge Ave	Ledge Ave	Cross Ave
Clawson Ave	Shearer Ave	Taylor St
Hunt Ave	Shearer Ave	EOS
Opera Dr	Clawson St	Temby Ave
Opera Dr	Temby Ave	EOS
Opera Dr	Taylor St	Brewery Ave
Brewery Ave	Taylor St	EOS
Walsh St	Brewery Ave	EOS
Unnamed (Brewery Ave)	Brewery Ave	Brewery Ave
Howell Ave	Shearer Ave	Subway St
Sowles St	Tack Ave	EOS
TOTAL Cost Range for Poor Streets \$3,105,000 to \$25,872,000		

An additional 10.6 miles of roadway segments are in fair condition. These 72 roadway segments are listed in Table 3c.

Table 3c Local Roadway Projects-Fair Condition

Street	From	To
SAN JOSE		
Mountain View Ave	Silver St	EOS
La Cholla Rd	City Limits	Naco Hwy
Hereford Rd	Naco Hwy	EOS
San Jose Dr	Hereford Rd	SR-92
Santa Cruz Dr	SR-92	SR-92
Vista Dr	Santa Cruz Dr	San Jose Dr
Cochise Dr	Santa Cruz Dr	San Jose Dr
Graham Dr	Santa Cruz Dr	San Jose Dr
Camino Ct	Santa Cruz Dr	SR-92
Greenlee Dr	SR-92	Cochise Ln
Pinal Dr	Greenlee Dr	EOS
Gila Dr	Greenlee Dr	EOS
Cochise Ln	Mohave Dr	Navajo Dr
Dorothy Dr	Navajo Dr	EOS
Yuma Dr	Mohave Dr	EOS
DON LUIS		
Tovreaville Rd	SR-92	EOS
Taylor Ave	SR-92	EOS (South)

Street	From	To
WARREN		
Cole Ave	Bisbee Rd	East Vista
D'Autremont Ave	Bisbee Rd	Hoveland St
D'Autremont Ave	Arizona St	Mance St
Congdon Ave	Bisbee Rd	Arizona St
Ruppe St	Douglas St	Arizona St
West Vista	Ruppe St	Cole Ave
East Vista	Ruppe St	Cole Ave
Black Knob View (WB)	Arizona St	Minder Ave
Black Knob View (EB)	Arizona St	Minder Ave
Bisbee Rd	Roundabout	Douglas St
Center Ave	Bisbee Rd	School Terrace Rd
School Terrace Rd	Center Ave	City limits
14th Terrace	School Terrace Rd	Center Ave
BRIGGS		
Azurite Ave	Aspen St	Cottonwood St
Dogwood Ave	Cottonwood St	Bornite Ave
Bornite Ave	EOS	Dogwood Ave
Balsam St	Azurite Ave	EOS
Cottonwood St	Azurite Ave	Bornite Ave
GALENA		
Atlanta Ave	SR-92	Czar Ave
Neptune Ave	SR-92	Atlanta Ave
Czar Ave	SR-92	Spray Ave
Spray Ave	SR-92	Czar Ave
Holbrook St	Czar Ave	Spray Ave
Lowell Ave	SR-92	EOS
Sacramento Ave	SR-92	Gardner St
Mason Addition Rd	SR-92	Mason Addition Rd
Cuprite St	Sacramento Ave	Gardner St
Dallas St	Lowell Ave	EOS
Hillside St	Mason Addition Rd	Mason Addition Rd
BAKERVILLE		
Park Ave	1st St	2nd St
Hillcrest Dr	4th St	EOS
OLD BISBEE		
West Blvd	SR-80	Compton Ave
Highland Park Dr	Compton Ave	Old Divide Rd
Wood Canyon	Tombstone Canyon	EOS

Street	From	To
Tombstone Canyon	SR-80	Main St
Main St	Tombstone Canyon	SR-80
Pace Ct	Pace Ave	EOS
Spring Canyon	Tombstone Canyon	EOS
Garden Ave	Tombstone Canyon	Mayer Ave
Perley St	Tombstone Canyon	EOS
Curve St	Tombstone Canyon	O'Hara Ave
Oak Ave	O'Hara Ave	Quarry Canyon
Quarry Canyon	Oak Ave	EOS
Quarry Canyon	Oak Ave	Higgins Hill
Clawson Ave	Tombstone Canyon	Shearer Ave
Tack Ave	Shearer Ave	Subway St
Brewery Ave	Taylor St	Howell Ave
OK St	Naco Rd	EOS
Howell Ave	Brewery Ave	Shearer Ave
Commerce St	Main St	Main St
Subway St	Main St	Main St
Shearer Ave	Parking Lot	Tack Ave
Tack Ave	Shearer Ave	Subway St
SAGINAW		
Old Douglas Rd	SR-80	SR-80
LOWELL		
Erie St	SR-80	SR-80
TOTAL Cost Range for Fair Streets \$3,358,000 to \$27,984,000		

These figures show that rehabilitation of all local roadways in the study area could cost between 10 and 85 million dollars depending upon the treatment taken and the amenities (sidewalks, curbs, gutters) provided.

A range is provided because the roadways can be addressed in one of two ways. Fully engineered asphalt concrete pavement, or ACP, which includes a significant sub-base of compacted material for a new roadway costs about \$500 per linear foot for a two lane facility. Major reconstruction costs would be similar. A less expensive approach is to use a chip seal, or sealcoat finish, with more marginal improvements underneath. Chip seal costs about \$40 per linear foot, plus a cost to fill potholes before recoating. In the case of Bisbee roads, a total cost figure of \$60 a linear foot would be the minimum. While considerably cheaper, chip seal does not last nearly as long. Most of the roadways in question are, however, chip seal construction. Due to the significant needs, chip seal is recommended for most roadways, except for higher traffic areas and where major runoff problems exist. In such cases, Portland cement concrete pavement valley gutters running along the median should be considered as warranted. Chip seal coating was used to estimate costs for all of these projects. This does not include

drainage improvements, curbs, gutters and sidewalks. Curb and gutter improvements on both sides of a road would cost about \$30 per linear foot, and sidewalks would cost about \$25 per linear foot per side. The recent Arizona Street reconstruction in Warren is a good example. That project included replacement of subsurface utilities, drainage, lighting, and other upgrades costing over \$530 per linear foot.

An important point is that many of these roadways are in failing condition now. Additional roads are in fair or poor condition that will move into a failed condition in future years if some pavement preservation efforts are not undertaken. Bisbee's streets are in the unfortunate condition of needing both "catch up" and "keep up" steps. Annual investments between \$500,000 and \$4,250,000 are needed to attempt to address both reconstruction and ongoing maintenance needs of all of the listed 219 roadway projects. Interestingly, the lower figure is a bit above projected receipts from a potential one half cent sales tax increase discussed later in this paper.

3.3 Retaining Wall, Stairway and Railing Projects

Bisbee has approximately 20,000 linear feet of stairways and retaining walls. While not all of these facilities are in failing condition, most will need some repairs to prevent further deterioration. Installation of a new top layer would stabilize walls and prevent further erosion. A structural grade of topcoat should be used for this work, one with fiberglass reinforcement. The cost of such improvements is \$25-35 per square foot. A similar cost per square foot would be required to refinish or reconstruct stairs. Such repair work is very labor intensive. In some cases, removal and replacement of stairs using standard forms might well be more affordable, but consultation with the SHPO would be required before commencing work on a case-by case basis. Replacing hand railing along walls and stairs to current standards would cost \$45-60 per linear foot. Addressing all of the needs in this category would incur costs in a range from \$6,000,000 to \$8,000,000 as all facilities will ultimately need repair. Excavation during rehabilitation may well uncover additional needs that would increase this cost significantly. It is suggested that monies be programmed in an amount of at least \$385,000 per year during the mid and long range periods of this plan to address the balance of these needs. All sources of grant funding for this should be sought, given the historic status of the area.

3.4 State Highway Improvements

Four projects were identified for the state highways (SR 80 and SR 92). These project costs are summarized in Table 4 below. SR 92 widening is not needed until the long range period. Signage and wayfinding for SR 80 was identified to advise drivers of the Lavender Pit scenic pullout, the Copper Queen mine tour and Old Town Bisbee, as well as the fact that visitors are entering an urbanized area. This should consist of information signs for Old Bisbee, the Lavender Pit pull off and the Copper Queen Tour, as well as warning flashers to the west to alert people that they are entering an urban area.

Table 4: State Highway Project Summary with Costs

Project Location	Planning Level Cost
Project Description	
<i>SR 92 from Melody Lane to the SR 80 roundabout</i>	\$12,000,000 to \$14,000,000
Expand Roadway from two to four lanes. (not including ROW costs)	
<i>SR 92 from Melody Lane to SR 80 Roundabout</i>	\$1,000,000 to 1,500,000
Provide Multipurpose path set back from roadway (plus ROW)	
<i>SR 80 from Old Bisbee to SR 92</i>	\$220,000 to \$300,000
Widen sidewalk on south side of roadway	
<i>SR 80 from west end of study area to SR 92</i>	\$21,000 to 24,000
Signage and wayfinding information, including warning flashers	
Total Cost Range	\$13,241,000 to \$15,824,000

3.5 Transit

The Bisbee Bus is a useful part of the transportation network in the city. Expansion of service operations within Bisbee could help to tie various parking locations (discussed below) with service centers, lodging, retail and residential areas. A doubling of the service operations would provide a considerably higher level of service, and would make the service more attractive to “choice” riders, including tourists. This additional level of service would cost approximately \$170,000 per year (including Saturday service). Subject to availability of federal transit funds through ADOT, up to 50% of this cost could be funded with these federal funds.

Over the 20 year life of the plan, the cost of capital replacement of vehicles for the existing level of service would be \$600,000, assuming a per vehicle cost of \$75,000 and a life cycle per vehicle of five years. Expansion of service described about would double this cost. Federal funds, if available, would cover up to 80% of this cost.

Resumption of regional service between Bisbee and Cochise College (and Douglas) to the east, and to Sierra Vista to the west, would vary based on the number of daily trips provided. One of the expenses of such service is “deadheading” the vehicles, or returning them, mostly empty, to Bisbee between trips. Providing four round trips eastbound to the college and six westbound to Sierra Vista could cost up to \$380,000 annually in operations cost and about \$60,000 in annualized capital costs.

Since these trips would be regional in nature, it is recommended that a regional transit operations study be done to fine tune projected costs as well as conduct a market and demand analysis for such

services. The study should also focus on shared costs among served communities. The service area investigated should expand north to cover Huachuca City, Whetstone, and perhaps Benson.

3.6 Alternate Modes

The various neighborhood areas in Bisbee are somewhat disconnected due to the acreage formerly used for mining operations. Additionally, the city is not a typical suburban community with wide streets and large building setbacks. For this reason, and the topographical challenges, it would be very difficult to add bike lanes or wider multi-purpose sidewalks to most of Bisbee.

It is not the policy of ADOT to build bike lanes along the state highways. Bikes are, however, allowed to use the roadways unless specific roads are closed to bicycles by the State Engineer. (Today only I-10 between Phoenix and Tucson, and the valley freeway system in metropolitan Phoenix are so designated.) The path along SR 92 suggested above is envisioned to be outside ADOT Right-of-Way.

One issue that could be addressed is the development of a multi-purpose trail between Old Bisbee and the South Bisbee neighborhoods. This would require negotiations with Freeport McMoRan for right of way or an easement. If an agreement could be reached, a specific alignment would need to be engineered to determine slopes and the need for erosion stops, and retention improvements. Engineering design for such a project is estimated to cost about \$160,000, with construction costs of at least \$450,000. This could be a project where volunteer labor from citizens, visitors, and interest groups (as is done on some park and forest trails) could be a cost saving. A preliminary alignment is shown below in Figure 2.

An additional alternate mode project is the multipurpose path along SR 92. This project is included in the section on state highway improvements. It is also suggested that \$50,000 per year be programmed in the long range segment of the program for additional bike and pedestrian improvements.

Figure 2 Multipurpose Trail



3.7 Beautification

During the public meeting following development of the draft of this working document, citizens spoke of the need to address streetscape beautification, especially entering the community from the east long SR 80. It is suggested that a fund be established for annual beautification projects with public input on style, type and location.

3.8 New Roadways

A new roadway connecting Airport Road to SR 92 in the San Jose area has been discussed during this study. The roadway would provide an additional connection between the Warren area and SR 92 to the south in the San Jose area. The cost of this roadway ranges from about \$5,000,000 for an asphalt concrete pavement facility to just over \$1,000,000 for a chip seal facility, the selected approach. These figures are exclusive of right-of-way. A generalized alignment is shown in Figure 3 below. This road is not immediately needed, but additional planning is warranted.

Figure 3 New Connector Route



3.9 Parking

Parking for both residents and visitors is a critical issue in Bisbee. Since the city developed prior to the universal use of the private automobile, not all residences have adequate vehicular access or on-site vehicle storage space. While transit can help with this need, space for the vehicles of both residents and visitors is needed. It is suggested that the city seek to provide an additional 800 parking spaces, with about 500 of those needed in Old Bisbee, 200 in the Warren area and 100 in San Jose near Naco Highway. These can also serve as local and regional park and ride facilities supporting transit services. As previously explained in the section on roadways, paving can be accomplished with engineered asphalt concrete pavement, or with considerably cheaper chip seal or sealcoating. The City of Bisbee

owns considerable property in Old Bisbee, and a large parcel in San Jose north of the Senior Center and east of the Safeway store. These holdings could be excellent target locations.

A parking structure in Old Bisbee would be optimum, taking advantage of space restrictions. A structure could possibly be a combined public/private venture, with cafes on top, to take advantage of the views of the historic area. The cost of a structure would range from \$10,000 to \$13,000 per space, and a 500 space structure costing from \$5,000,000 to \$6,500,000 would be optimum. Surface parking in Warren and San Jose would suffice, for an additional \$400,000 to \$500,000.

4. Revenue and Financing Alternatives

4.1 Federal Funding

There are a number of federal funding programs that can be used to address transportation needs within the study area. These funds are typically distributed through and by the Arizona Department of Transportation (ADOT). In some cases, such as Transportation Enhancement Funds, regional Councils of Governments (COGs) rank the local applications. The Bisbee area is represented by the SouthEastern Arizona Governments Organization (SEAGO).

Federal surface transportation programs are included in an omnibus funding program that is intended to be reauthorized every five years or so. The current program, The Safe Accountable Flexible Efficient Transportation Equity Act – A Legacy for Users (SAFETEA-LU), expired in 2009. A new bill has not yet been enacted by Congress. In such cases of a funding lag (which has happened in the past), a series of short term “continuing resolutions” serve to bridge the gap until Congress agrees on the wording and policies of a new authorization bill.

The structure of the new authorization bill is not yet known. It will be influenced by Congress, the Obama Administration, and various transportation professional associations (such as the American Association of State Highway and Transportation Officials (AASHTO), and the American Public Transportation Association (APTA), as well as a variety of other transportation advocacy groups. The trend for the program appears to focus on modal balance, flexibility of funds between programs, and performance based funding decision making.

Since the recent economic downturn, the American Recovery and Reinvestment Act (ARRA) has also provided “stimulus funding” for projects including transportation. While these funds are most welcome, the requirements for rapid obligation and expenditure of these funds, while mandating adherence to all federal project requirements, makes it difficult to use these resources for projects that would require federal environmental clearance. Environmental reviews to comply with the National Environmental Policy Act (NEPA) can be quite lengthy, and since such reviews are not required for state

and local projects in Arizona, it can be difficult to use these funds for many desired projects, especially those that include right of way acquisition, utility relocation, and capacity expansion.

At the present time, federal funding programs include:

American Recovery and Reinvestment Act (ARRA) Funds: “Stimulus Program” funds described above. Additional ARRA funds beyond those already obligated are uncertain.

Border Infrastructure Program: Very limited discretionary (competitive) program in SAFTEA-LU. Projects must be related to cross-border (international border) trade and traffic movements. Because of Bisbee’s proximity to the border, these funds may be worth considering.

Congestion Mitigation and Air Quality Program (CMAQ): These funds are limited to designated areas that exceed air quality standards. The study area is not eligible for these funds.

Federal Transit Administration (FTA) Section 5311 Funds: These monies are used to support public transit service in non-metropolitan (rural) areas such as the study area. These funds can be used for both capital and operating costs.

Federal Transit Administration (FTA) Section 5310 Funds: This program provides capital funds for vehicles for agencies providing transit service to the elderly and persons with disabilities. The primary target recipients are non-profit agencies and Native American Indian tribes. Local public agencies can apply for these funds if no “willing and able” non-profit agencies are available in a service area. These funds are available to both urban and rural recipients. Funds can be used to cover 90% of vehicle costs, but recipients must fund the costs of operating service.

Highway Bridge Program: These funds are used for maintenance and repairs to bridges on the State Highway System.

Highway Safety Improvement Program (HSIP): These funds are designated for highway safety projects, including high risk rural roads and railroad crossings of roadways. The funds are distributed through ADOT to the various regional councils of governments (COGs), and then to the local agencies for use on specific safety projects.

Interstate Maintenance Funds: These funds are restricted to maintenance costs for the existing Interstate Highway System.

Job Access Reverse Commute Funds: The Job Access and Reverse Commute (JARC) program was established to address the unique transportation challenges faced by welfare recipients and low-

income persons seeking to obtain and maintain employment. Many new entry-level jobs are located in suburban areas, and low-income individuals have difficulty accessing these jobs from inner city, urban, or rural neighborhoods. States and public agencies are eligible designated recipients. Eligible sub-recipients are private non-profit organizations, state or local governments, and operators of public transportation services including private operators of public transportation services. The program funds capital planning and operating expenses for projects that transport low income individuals to and from jobs and activities related to employment, and for reverse commute projects, typically through the FTA Section 5311 program.

National Highway System Funds: The funds are used for maintenance of the designated National Highway System (NHS). There are no NHS routes in the study area.

Safe Routes to Schools Program: This federal program was created in 2005 to encourage students to walk or bicycle to school, and to provide funding for programs to encourage students in elementary and middle schools to walk or bike to school and address safety improvements needed for the route to the school. The program has averaged \$2.2 million per year in funding in Arizona and is administered by ADOT. Eligible projects include:

- Sidewalk improvements
- Traffic calming and speed reduction improvements
- Pedestrian and bicycle crossing improvements
- On-street bicycle facilities
- Off-street bicycle and pedestrian facilities
- Secure bicycle parking facilities
- Traffic diversion improvements in the vicinity of schools
- Creation and reproduction of promotional and educational materials
- Bicycle and pedestrian safety curricula, materials and trainers
- Training including workshops that target school- and community-level audiences
- Incentives for SRTS contests and incentives that encourage more walking and bicycling
- Safety and educational tokens that also advertise the program
- Photocopying, duplicating, mailing and printing costs related to the program
- Costs for data gathering, analysis, and evaluation reporting at the local project level
- Pay for substitute teacher to cover for faculty attending SRTS functions
- Costs for additional law enforcement or equipment needed for enforcement activities
- Equipment and training needed for establishing crossing guard programs
- Stipends for parent or staff coordinators

Statewide Planning and Research (SPR) funds: These federal funds are used for planning studies such as ADOT's PARA program that funded this planning study.

Surface Transportation Program funds (STP): These are federal highway funds distributed by ADOT. They can be used for a broad number of transportation projects, including transit.

The New Freedom Program: This FTA program aims to provide additional tools to overcome existing barriers facing Americans with disabilities seeking integration into the work force and full participation in society. Lack of adequate transportation is a primary barrier to work for individuals with disabilities. The 2000 Census showed that only 60 percent of people between the ages of 16 and 64 with disabilities are employed. The New Freedom formula grant program seeks to reduce barriers to transportation services and expand the transportation mobility options available to people with disabilities beyond the requirements of the Americans with Disabilities Act (ADA) of 1990. States and public bodies are eligible designated recipients. Eligible sub-recipients are private non-profit organizations, state or local governments, and operators of public transportation services including private operators of public transportation services. Eligible activities are capital and operating expenses for new public transportation services and new public transportation alternatives beyond those required by the American with Disabilities Act of 1990 (ADA) that are designed to assist individuals with disabilities.

Tolling Program: Very limited discretionary money was provided in the SAFETEA-LU program for pilot or demonstration projects to finance Interstate construction or reconstruction projects. The study area would not qualify for these funds.

Transportation Enhancement Funds: These federal funds are distributed by ADOT and may be used for bicycle, pedestrian, and aesthetic enhancements to transportation projects. Competition for these limited funds is extremely keen. Individual project funding limits are \$943,000 for state system projects and \$750,000 for local projects, supplemented by local matching funds in the minimum amount of 5.7% of the total project value.

4.2 State Funding

State funding for transportation is somewhat limited. Gasoline tax, and vehicle fees are the only revenue sources. As vehicles become more fuel efficient, and roadway costs increase, the buying power of the fuel tax is diminishing. The state gasoline tax has not been raised for many years. Forty of the fifty states have higher gasoline taxes than Arizona. In addition to these constraints, a portion of the fuel tax revenues is being used to support the operation of the Department of Public Safety, which patrols the State Highway System. Local Transportation Assistance Funds (LTAF) were state shared revenues from proceeds of the state lottery, to be spent on roadways or public transit. These funds were distributed based on population, and were distributed to cities and towns, but not to counties. These were “swept” into the general fund during the recent state fiscal crisis, and ultimately discontinued altogether. The elimination of these shared revenues directly contributed to the

elimination of the Cochise Connection regional bus service. Recent discussions have focused on the fact that the use of these funds in support of public transit, (at least in urban air quality non attainment areas), were part of the state’s mitigation plan for air quality attainment and replacement measures have not been identified or implemented. It is not know if this issue may result in an eventual replacement of some or all of these funds. Current state funding sources are as follows:

Highway User Revenue Funds (HURF): These are state gasoline tax and vehicle license funds, shared with local jurisdictions and distributed by percentage of state population. These may be “swept” into the general fund during a state fiscal crisis. These are typically expended for maintenance rather than capital improvements.

Safety Enforcement Transportation Infrastructure Fund (SETIF): These funds are generated from fees charged to foreign vehicles entering Arizona through the international ports of entry. The funds are used for vehicle safety enforcement, to improve and maintain facilities within twenty-five miles of the international border, and to reduce congestion at the ports of entry. These funds have also been used for Department of Public Safety activities and for joint projects with the Department of Homeland Security, the Arizona-Mexico Commission, and the International Development Authority. There are no eligible projects in the study area.

Vehicle License Tax Funds (VLT): These are state shared revenues from vehicle license taxes. These funds may also be “swept” into general fund during a state fiscal crisis.

4.3 Local Funding Sources

There is a wide range of options available for local funding sources. State enabling legislation varies as well as some, but not all, jurisdictions have been empowered by state statutes to levy things such as dedicated sales taxes. Local funding sources overlap to some degree with private funding options since they rely on resident funding and sometimes developers. Local funding sources include:

Bonding: Funding for capital projects from the sale of bonds by a public agency. Bond programs must be approved by a vote of the public. Bonding is actually a financing tool rather than a funding source. A revenue stream, typically from a secondary property tax, is needed to retire general obligation bond debt service. A second type of bonding, revenue bonds, can be issued for projects with a dedicated revenue source, such as toll roads.

Development Exactions: In many areas, builders of residential and commercial developments construct all internal public infrastructure (roads, curb, gutter, and sidewalks, traffic and street lights, and utility infrastructure), and then dedicate these improvements to the local public agency as public

infrastructure and public street right-of-way. Sometimes these exactions extend to parks and property for public schools as well, depending on the size and scope of the developments.

Development Impact Fees: A number of local public agencies, both counties and cities, have imposed development impact fees. These fees cover the costs of extending public services to new developments, and, in some cases, provide funds to offset capacity demands on public service systems some distance removed from the developments. These fees can cover utility services such as water, wastewater, and refuse collection, fire and police facilities, libraries, and transportation. These fees are for capital outlays only, and do not cover ongoing operations and maintenance costs. Recent legislation has limited the amounts and use of such funds.

Transportation impact fees are typically computed based on the trip generation of new developments and are calculated on residential units and “equivalent dwelling units” for employment and commercial land uses. This analysis is usually based on planned roadway facilities in a General Plan Transportation Element. Developers usually receive credits against these fees for planned regional roadways within or adjacent to their respective developments that they have constructed. Transportation (or Development) Impact Fees, therefore, usually require the developer to front load the construction costs, as fees are imposed on building permits.

The trip analysis done for impact fee studies typically discounts “pass-through” or external traffic on targeted roadways, as such traffic is not created by the developments bearing the fees. Roadway capacity to accommodate total traffic, however, is required, and limited area impact fees only address a portion of the needed capacity. Therefore, it is preferable that impact fees be adopted over a larger regional area to address a larger portion of the regional travel needs and to prevent development from “leapfrogging” beyond the boundaries of smaller fee imposition areas.

The acceptance of such fees by the developers varies. Residential impact fees are passed on to home buyers through higher home purchase prices. Market accommodation of commercial development impact fees can only be achieved by higher commodity prices, however. This results in higher prices at stores within the impact fee area than at similar nearby retailers in areas with lower or no impact fees. As a result, resistance to these fees can be high. Local officials are sometimes leery of losing retail sales taxes when commercial developments seek to locate near, but outside of their impact fee areas. Impact fee rates vary, but a number of suburban communities in Arizona impose transportation impact fees higher than \$5,000 per home or dwelling unit. The volatility of this revenue source is high, as income rises and falls with the market demand for new housing units.

Improvement Districts: Improvement Districts are created to provide specific facilities for specific geographical areas, and use the sale of obligation bonds to fund the improvements. Historically, improvement districts were used to upgrade older areas to modern standards for such actions as

installing street lights, undergrounding utilities, or converting an area from septic tanks to sanitary sewers. These districts can also be used for newer areas to provide needed capital facilities. Usually a district uses a secondary property tax to retire the bonds. Sometimes a neighborhood area approaches a local government to create such a district to provide needed improvements. A vote of the property owners of the impacted area is required to authorize a district.

Improvement districts can be used for roadway improvements within cities or in county areas. The creation of an improvement district requires the concurrence of 51% of the property owners, and costs are imposed on properties based on calculated benefits which may include parcel size, roadway frontage, or some other value. Special assessments are then levied against the benefited property for the apportioned cost of the improvements. A “cash demand period” is established wherein owners may pay the assessment up front, interest free, within a short specified period of time. Bonds are sold for the balance of the costs of the improvements, and the owners make periodic payments including interest over the life of the bond which is based on the complete cost of the improvements. If roadways are improved to public agency standards, then the city or county typically assumes ownership, maintenance responsibility, and liability for the roadway. If roadways are improved, but not up to city or county standards, the public agency will not assume maintenance or liability for the roadway, and maintenance and liability remain the responsibility of the district. It is more expensive up front to build the roadways to public agency standards, but less expensive in the long run as the public agency is thereafter responsible for operations and maintenance as well as liability exposure.

Improvement Districts are typically established to address deficiencies in the infrastructure in established areas. Infrastructure deficiencies may include roadway width, drainage, pavement, or enhancements such as sidewalks, streetlights, utility undergrounding, or installing sanitary sewers in areas with current septic systems.

General Funds: Monies generated by local governments from local revenue sources.

Local or Countywide Sales Taxes: A number of cities and urban counties have dedicated general sales taxes for transportation. Some locations have restricted such tax revenues to public transit, while others have used the funds for all modes of transportation. Additionally, some local jurisdictions have dedicated sales taxes for transportation just on construction materials. Such taxes also include a computation of the materials used in new building construction as well as purchases made at home improvement stores. The logic behind this is that new construction increases vehicular impacts on the roadways and consequently should share in the cost of needed transportation infrastructure to service the increased traffic. A number of suburban high growth cities have received rather high returns on such taxes until the recent housing slump. A sales tax increase dedicated to transportation was rejected by Bisbee voters in 2010.

P3 funding: On July 13, 2009, Governor Jan Brewer signed HB 2396, Arizona’s landmark P3 legislation. P3s are public-private partnerships, which include toll facilities and a variety of other innovative

financing techniques involving private partnerships. The bill allows ADOT to issue concessions of up to 50 years, with extensions, for P3 projects. ADOT can also grant other units of government authority to develop P3 projects.

4.4 Private Funding Sources

Community Facilities Districts (CFDs): In 1988, the Arizona Community Facilities District Act was approved. The purpose was to provide new mechanisms for funding of infrastructure improvements for both municipalities and developers. The law authorized tax exempt bonds to be issued and repaid by assessing only the lands directly benefiting by the new infrastructure. Originally, Community Facilities Districts were required to be within a city or town. In 2006, these districts were also allowed in unincorporated areas. CFD bonds can fund a number of public infrastructure needs including transportation. Developers prefer this funding approach, since their cost exposure is less than with conventional financing, and no security needs to be pledged against the bond other than the projected assessment revenue stream. Some local jurisdictions do not support CFDs due to the inherent risk that, in the event of developer default, the debt could fall on the public agency. CFD bonds are not backed by a contingent general obligation of the entire city, town or county, as are general obligation bonds.

To establish a CFD, at least 25% of the impacted property owners must petition for such a district and then the establishment moves forward through hearing, notification, and election processes. The notice, hearing, and election process can be waived if 100% of the impacted property owners petition for the CFD's establishment, which could be the case for a new planned development under a single ownership entity.

P3 funding: As discussed above, P3s involve a mix of public and private funding through a public-private partnership agreement.

4.5 Current Revenue Streams

Table 6 shows the five year history of existing revenue sources and amounts that the City has used to address their transportation needs (VLT, HURF, LTAF, LTAF II,). It is important to realize that the majority of the transportation revenues are used for administration of the local transportation agencies and for the operations and maintenance of the transportation systems.

In addition, the table contains town sales tax revenues and state-shared state sales tax revenues for the same years. Note that all revenue sources have declined to some extent due the recent economic downturn and recession. The revenues are expected to rebound with a slower growth trend starting in the next year or two as economic conditions hopefully start to improve. These sales tax funding sources are not specifically earmarked for transportation purposes. To the best of our knowledge,

these funds are not being used for transportation system improvements by either the county or the city, although they can be used for such purposes. These are potential additional funding sources, if the local agencies choose to use them for this purpose.

Table 5: Six Year Revenue History

Year	VLT	HURF	LTAF	LTAF II	City Sales Tax	State Sales Tax
2006	\$292,026	\$583,209	\$33,596	\$19,396	\$1,628,386	\$642,078
2007	\$310,433	\$578,886	\$29,314	\$10,180	\$1,899,111	\$622,479
2008	\$304,555	\$549,381	\$18,010	\$18,010	\$1,914,700	\$580,838
2009	\$300,252	\$447,118	\$27,257	\$8,866	\$1,705,266	\$491,748
2010	\$291,287	\$475,049	\$2,865	0	\$1,819,578	\$481,935
2011*	\$287,086	\$477,531	\$0	\$8,841	\$2,024,676	\$515,602

**Note: 2011 figures were projected from seven months available data.*

4.6 Suggested New Revenue Approaches

New revenue sources that may be considered by the City of Bisbee include:

An additional sales tax dedicated to transportation system improvements: A one-half cent dedicated sales tax could be imposed exclusively within the city through an increase in the sales tax rate. This would generate around \$405,000 (2011 dollars) annually. The city currently has a two and a half cent sales tax. A measure to do so was rejected by voters in 2010, but following some economic recovery, a similar measure may be reconsidered.

Development impact fees imposed on new development within the study area to fund regional roadway system improvements. Such development fees should only be considered if new subdivision plans are proposed. It would be difficult to impose fees on individual home builders who often do work in a piecemeal fashion. Large scale developers could also elect to use CFDs as a funding approach to provide internal infrastructure.

Improvement Districts could be used to fund improvements in portions of the study area where the neighborhoods would support investment in infrastructure with a quick realization of their goals. Typically these are used when areas wish improvements beyond what the local public agencies provide, or where local agencies provide little, if any funding for capital improvements, such as in unincorporated areas.

5. Evaluation Criteria for Project Selection

Technical Memorandum #1, *Revised Work Program*, and Working Paper #1, *Current Conditions*, identified the following primary goals and objectives for the transportation plan:

1. *To improve the physical stability, condition, and safety of the transportation system infrastructure.*
2. *To improve multimodal accessibility for all residents and visitors.*
3. *To minimize and mitigate any adverse environmental impacts.*
4. *To plan for future demands on the transportation system.*
5. *To identify sources of, and plan for, adequate resources to implement the transportation plan.*

Since the inception of this project, discussions with City of Bisbee staff, comments by members of the Technical Advisory Committee, and interviews with area stakeholders have all illustrated a framework of transportation needs for the area. Field investigations have validated those perceptions. Projects identified in this draft were recommended based on the following evaluation criteria:

- Identify and address urgent immediate infrastructure needs in Bisbee.
- Provide improved access to Bisbee’s historic retail, restaurant and lodging opportunities that have attracted tourists and visitors to Bisbee and contributed to the area’s economy.
- Support and expand multimodal opportunities in Bisbee, including bus service, and bike and pedestrian facilities.
- Plan to accommodate future traffic growth by addressing areas of concern before they dramatically worsen.
- Seek opportunities to provide more parking, especially in Old Bisbee.
- Provide adequate access to locations designated as future growth areas in the Bisbee General Plan to encourage economic development.

6.0 Implementation Plan

This section of the paper makes recommendations for specific future programming of the projects in the sections above. Projects are arrayed in short term (five year) medium term (ten year) and long term (twenty year) programs.

All of the structural projects shown in Table 2 above should be programmed in the first five year period. This will address those projects where needs are most urgent and are clearly known, as well as inspection, load analysis and repair cost development for the other structures in the study area. It is suggested that all of the roadways categorized as failing be listed in the short term program. All of the roadways in failing condition shown in Table 3a should be positioned in the short term program. A

fourth of the stairways, railing and retaining walls should be addressed in the short term program, as should the SR 80 sidewalk improvements around the Lavender Pit and the SR 80 signage and wayfinding improvements. Other recommendations are as shown in Table 6 below.

Table 6 Short Term Program

Category	Cost Range
Structures	\$412,000 to \$507,000
Roadways	\$3,707,000 to \$30,890,000
Retaining Walls, Stairways and Railings	\$1,500,000 to \$2,000,000
State Highway and Related Projects(SR 80 sidewalk & signs)	\$241,000 to \$324,000
Expanded Local Transit Service (Capital and Operations)	\$850,000
Regional Transit Service (Capital and Operations)	0
Alternate Modes	0
New Roadway Facilities	0
Beautification Program	\$500,000
TOTAL	\$7,210,000 to \$35,071,000

The Medium Term (five to ten years) Program includes all roadways shown in Table 3b as being in poor condition. It also includes \$1,400,000 to address specific bridge and culvert needs after completion of the inspection, load analysis and repair cost development for the structures not addressed in the short term program. This program should also include ¼ of the retaining wall, stairway and railing needs. Expansion of local transit service is introduced in this time frame, as is the resumption of the “Cochise Connector” regional bus service between Cochise College, Bisbee and Sierra Vista. The connecting trail around the Lavendar Pit is positioned here as is new surface parking. Beautification funds of \$100,000 per year are also included. These projects are shown in Table 7.

Table 7 Medium Term Program

Category	Cost
Structures	\$1,400,000
Roadways	\$3,105,000 to \$25,872,000

Retaining Walls, Stairways and Railings	\$1,500,000 to \$2,000,000
State Highway and Related Projects (Path along SR 92)	\$1,000,000 to \$1,500,000
Expanded Local Transit Service (Capital and Operations)	\$1,000,000
Regional Transit Service (Capital and Operations regional cost)	\$2,200,000
Alternate Modes (Connecting trail around Lavender Pit)	\$610,000
New Roadway Facilities	0
Surface Parking (construction only)	\$400,000 to \$500,000
Beautification	\$500,000
TOTAL	\$11,715,000 to \$35,582,000

The Long Term Program includes the balance of the structure projects, and the roadway segments identified as being in fair condition at the current time. The final 50% of the retaining walls, staircase and railing projects are positioned here, as this is a ten year time frame. Expanded local and regional transit service is continued and \$50,000 per year is suggested for a fund for additional alternate modes facilities for pedestrians and bicyclists. The Old Bisbee Parking Structure is included as well. These projects are shown in Table 8.

Table 8 Long Term Program

Category	Cost
Structures	\$1,400,000
Roadways	\$3,358,000 to \$27,984,000
Retaining Walls, Stairways and Railings	\$3,000,000 to \$4,000,000
State Highway and Related Projects (widening SR 92)	\$12,000,000 to 14,000,000
Expanded Local Transit Service (Capital and Operations)	\$2,000,000
Regional Transit Service (Capital and Operations regional cost)	\$4,400,000
Alternate Modes (programming for future facilities)	\$500,000
New Roadway Facilities (plus ROW)	\$1,000,000
Parking Structure (construction only)	\$5,000,000 to \$6,500,000
Beautification	\$1,000,000

TOTAL	\$33,658,000 to \$62,784,000
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These tables identify a project cost range from \$52,583,000 to \$133,437,000 over a twenty year period. This is an annualized cost range of \$2.6 to \$6.7 million per year. The wide range of costs is primarily the difference between chip sealing and full asphalt concrete pavement over new sub-base explained above. Decisions on the design approach to the roadway projects will need to be made on a case by case basis.

A review of the specific projects in this working paper may suggest a priority of projects in the Old Bisbee area. This is where the preponderance of the walls and stairs are to be found, which shifts the emphasis in this area. In addition, however, this is where much of the retail activity is located. Bisbee is a regional and national tourist destination. The emphasis on this area is important to retain and enhance the revenue flow resulting from visitors to Bisbee.

