City of Bisbee Comprehensive Transportation Plan

Task Assignment
MPD 34-10

Final Report

February 20, 2012

WilburSmith ASSOCIATES

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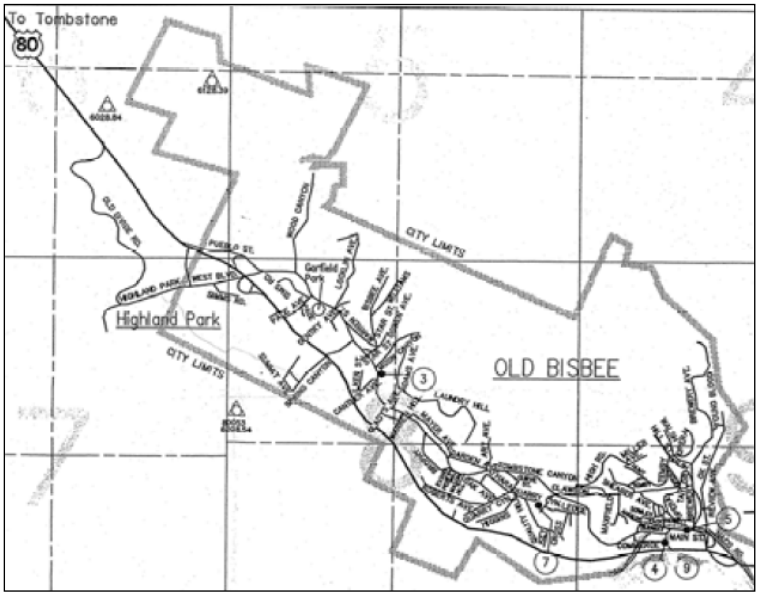
1.0 Introduction

1.1 Background Information

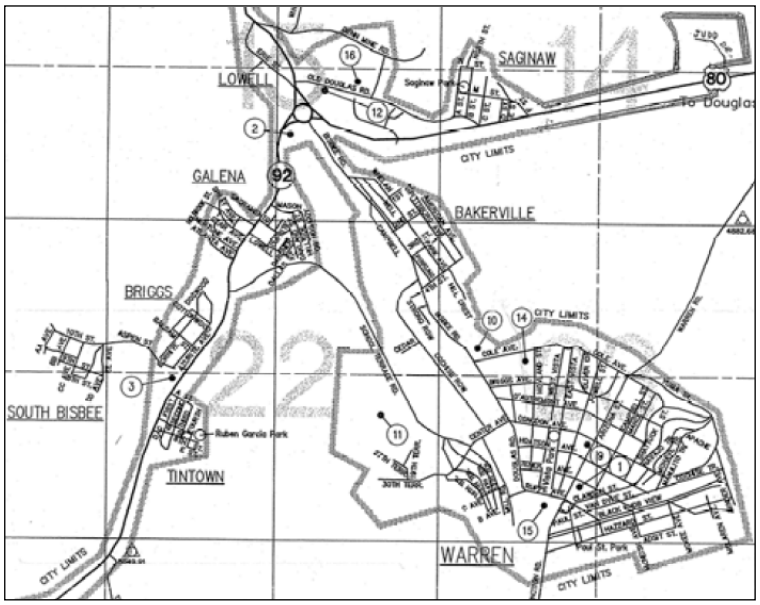
Figure 1 Old Bisbee



The City's current *City of Bisbee General Plan* 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.

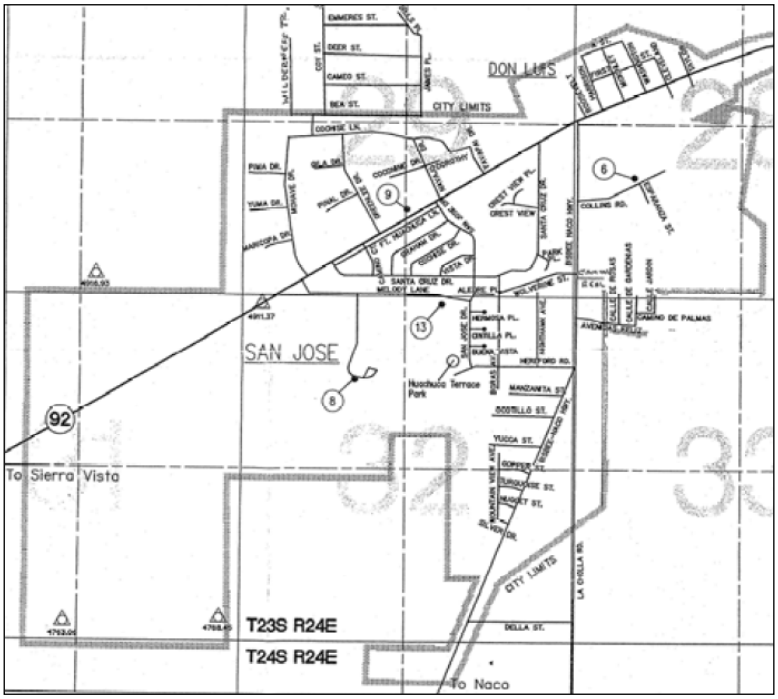
The transportation system needs of the community are substantial. Many of the streets in Old Bisbee, *Figure 1 Old Bisbee,* are located in natural drainageways or were footpaths used for property access that eventually were paved with little consideration of adequate roadway base preparation. There are many public stairways that have had little or no maintenance since they were constructed. The Works Progress Administration (WPA)-era main drainage way running through Tombstone Canyon is showing signs of distress and has had recent localized areas of failure.

Figure 2 Warren



In the Warren neighborhood, *Figure 2 Warren*, most of the streets have gone for decades without regular maintenance and repair, and are now in poor condition. The street conditions suffered further when many patches were made when a major sewer project was completed a few years ago. Street drainage throughout the Warren area is poor, and the utility patches created additional drainage problems. This situation has exacerbated deterioration of the street surface condition. This area also has open WPA-era drainageways that are in need of attention and repair in certain areas.

Figure 3 San Jose



The San Jose area, *Figure 3 San Jose,* has a number of unpaved streets. Many of those that are paved have not received adequate maintenance and are showing signs of deterioration due to neglect.

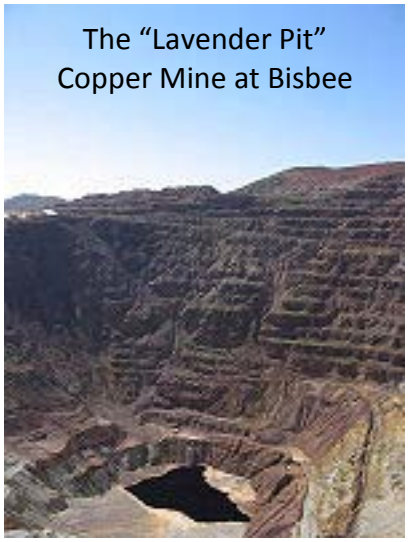
The Bisbee community's primary shopping plaza and grocery store are located in San Jose, along with a number of other retail stores, businesses, and restaurants. There are few sidewalks or improved trails in the neighborhood connecting residents to these shopping facilities, and there are few continuous sidewalks connecting San Jose to the other Bisbee neighborhoods. The shopping and business areas especially need sidewalks as evidenced by the unimproved walking paths created by pedestrians accessing the businesses. This presents safety and accessibility concerns and issues for pedestrians, and the disabled, that need to be addressed.

The Naco Highway connects Bisbee to the Naco port-of-entry with Mexico. This is one of the major north-south roadways in the area and connects to SR 92 in the heart of the San Jose business district. In addition, the *City of Bisbee General Plan 2003* identified opportunities for additional general commercial, highway commercial and employment along these two corridors.

Since cessation of mining operations, tourism has become the principle economic engine for Bisbee. This makes the primary routes bringing people into the community a key focal point. Arizona State Routes 80 and 92, and the Naco Highway (a Cochise County road) serve as the major gateways for the community. These highways present opportunities for signage, scenic corridor policies, beautification enhancements, and multimodal shared-use regional pathways to Tombstone, Douglas, Sierra Vista and the international border area at Naco. SR 80 runs through Bisbee and enters the community from the north through the Mule Mountain tunnel, and connects to Tombstone and further north to Interstate 10. SR 80 passes through Bisbee and continues to the east to Douglas and its international port of entry. SR 92 intersects with SR 80 and runs southwesterly through the San Jose area. It connects southern Bisbee with Sierra Vista, approximately 30 minutes to the west. Bisbee's regional context is shown in *Figure 4 Regional Context.*

Figure 4
Regional Context

Bisbee began as a mining community and the mine still has a major impact on the community in many ways, including on the layout of the City's transportation network and connectivity within the community. Highway SR 80 skirts the east side of the Lavender Pit *(photo to right)* copper mine. At the south end of the pit is where SR 92 intersects with SR 80 at a roundabout near the Lowell neighborhood. The newer residential neighborhoods and the San Jose shopping district have built up along this highway corridor. Cochise County offices are located just off SR 92 on Melody Lane at the west end of San Jose.



The "Lavender Pit" Copper Mine at Bisbee

The City recently created a Streets and Infrastructure Committee. This committee assists City staff in evaluating the transportation system needs and proposed projects, and makes recommendations to the City Council on needed improvement projects and their priorities. City staff, along with members of the Streets and Infrastructure Committee, completed a detailed street and sidewalk inventory. This inventory has been reviewed, updated, summarized, and incorporated into this document. (See the Current Conditions section of this report for a detailed inventory and condition assessment of the City's transportation infrastructure.) Of particular importance is the determination by the committee that 26% of the streets were found to be in poor or failing condition. A priority of the City for this study was to update that data through a more rigorous evaluation, and preserve and maintain the infrastructure that is in fair to good condition to avoid allowing those facilities to deteriorate to the point where expensive reconstruction is the only alternative.

This *City of Bisbee Comprehensive Transportation Master Plan* is to serve as a reference guide with short-term strategies to stabilize the existing transportation infrastructure and a long-term implementation program to address future needs of the community pertaining to multimodal transportation safety, mobility, accessibility, circulation, and capacity. Of particular interest is that the Bisbee transportation system includes public staircases.

Bisbee Bus

Public Bus Service in Bisbee

Bisbee Bus is a public bus service for everyone. Buses run Monday through Saturday with service in:

- Old Bisbee
- San Jose
- Naco
- Saginaw
- Warren

Bus Stops

Buses pickup and drop off passengers at signed bus stops all along each route. Bus stop locations are shown on the map and schedule included in this guide.

Regarding public transportation, the Bisbee Bus transit program has been managed by the City since 1993 and serves a vital public purpose. The transit system has been further evaluated to identify its current and future facility and operational needs, and to identify its current and future benefits to the community. The intercity bus service between Sierra Vista, Bisbee, and Douglas, however, was discontinued a few years ago due to insufficient funds to keep it in operation.

The Bisbee Municipal Airport provides general aviation services to the community. There is an Airport Master Plan dated 1999 that contains specific recommendations for funding and implementation of needed improvements at the airport.

1.2 Study Area Overview and History

The study area includes the entire corporate limits of the City of Bisbee. It extends to just beyond the City limits on US 80 to the northwest and east, and to just beyond the City limits along SR 92 to the southwest. It also includes the Naco Highway area that connects to the international port of entry and the City's municipal airport. The study area is shown in *Figure 5 Study Area* found on the next page.


George Warren

Bisbee began as a mining community in the 1880s. During the mining era in Bisbee, over three million ounces of gold and eight *billion* pounds of copper were removed from the mines. The City was originally several distinct communities that ultimately consolidated as did the several mining companies of the early era. The primary satellite communities are Warren, Lowell, and San Jose, along with smaller neighborhoods such as Bakerville, Briggs, Don Luis, Galena, Tintown, and Saginaw.

Warren was named after George Warren, one of the original discoverers of copper in the area in 1877. George Warren's photo was used as the image of the miner in the Arizona state seal. The neighborhood of Warren was developed by the Warren Company, created by the Calumet and Arizona Mining Company, to develop housing for its workers. Development of the planned community of Warren was influenced by the "City Beautiful" movement of the early 20th century. Warren was located to the south of the main copper ore deposits, and was connected to Bisbee by an electric streetcar.

1.3 Purpose, Need, and Study Objectives

Purpose: The purpose of this study is to create a useful, workable transportation system planning document that contains a realistic and achievable program for implementing transportation system improvements throughout the study area over short, medium, and long term time frames.

Need: There is a critical need for effective transportation planning to provide improved and safer traffic circulation throughout the study area and to preserve and protect the existing infrastructure.

Consequently, the primary goals and objectives for the transportation plan were as follows:

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.*

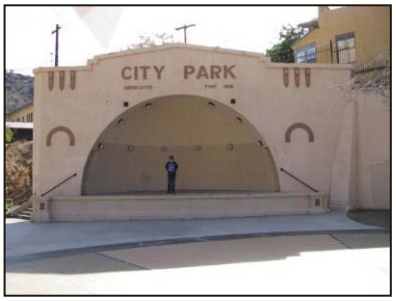
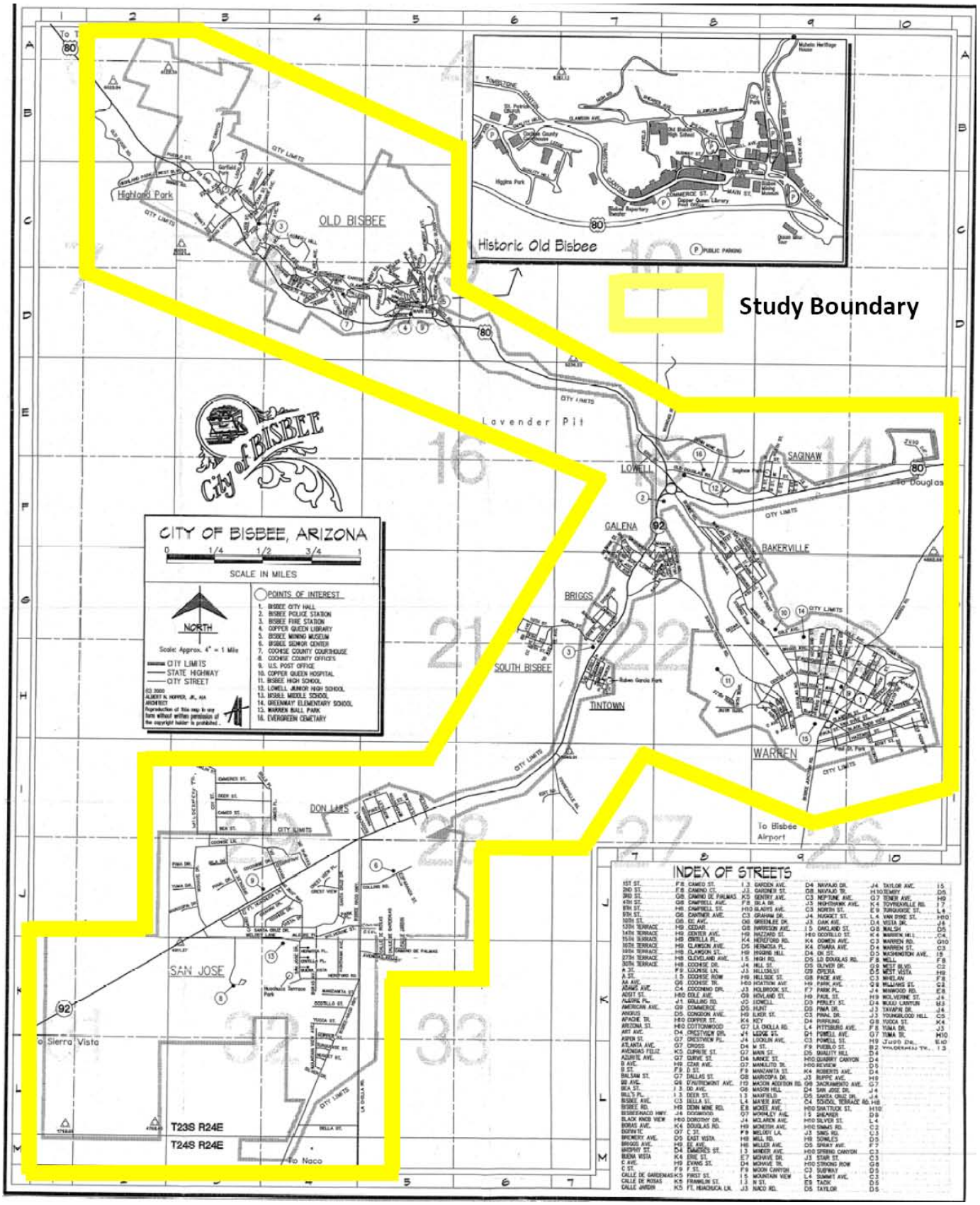


Figure 5 Study Area



1.4 Previous Plans and Studies

A considerable number of previous local, regional, and statewide planning documents were reviewed as a part of this effort to capture current and historic goals and policies. In 2007, ADOT began development of a very long range visioning process called *Building a Quality Arizona* (BQAZ). This process included the development of four regional studies called framework studies for northern, western, eastern and central Arizona areas. Additional smaller area framework studies were undertaken for metropolitan areas of the state simultaneously. These visioning efforts were not fiscally constrained and focused on year 2050 and beyond to a "build-out" condition, where the capacity of the state's developable lands was achieved. Three alternative scenarios were explored for each area, individually focusing on personal vehicle mobility, public transit, and focused growth alternatives. Focused growth is an effort to direct new development near existing development and infrastructure to minimize infrastructure investment. The Eastern Arizona Framework study was reviewed to identify issues and needs relevant to the Bisbee study area.

Several tactics were applied in order to gather all of the available information. First, the local liaisons for the project were asked to provide all study reports and background information that they were aware of for Bisbee, Cochise County, and ADOT. TAC members were asked for their input on identifying any reports or studies done in the area. In a final effort to be sure that all studies were accounted for, stakeholders were asked during their interviews if they had any reports or studies that may benefit the plan. By including all local contacts in this process, the study team was able to compile a comprehensive library of project and study reports that have been done in the study area. This effort created continuity between this report and previous studies, and built on the information already collected and planning efforts already completed to fully serve the residents of the study area. A full list of these studies and reports can be found in *Appendix 2 – Reference Documents*.

1.5 Community Involvement

The *Bisbee Comprehensive Transportation Plan* public involvement program was conducted as a cooperative planning process involving project stakeholders that include public agency staff, elected officials, and interested members of the general public. Public participation is an integral part of any transportation planning study. Study related information was presented to, and feedback solicited from, stakeholders throughout each phase of the study. ADOT's Communication and Community Partnerships Division (CCP) led the public involvement effort with the aid of their consulting consortia firms. The following sections summarize key components of the public involvement process.


Bisbee Public Works Offices
404 Bisbee Road Bisbee AZ 85603

1.5.1 Technical Advisory Committee

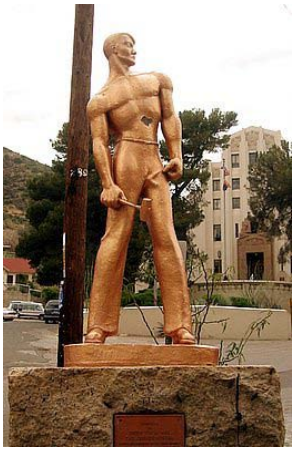
The Technical Advisory Committee (TAC) was formed at the onset of the study with key members participating in the development of the project work program. TAC meetings were scheduled to be held upon the submittal of each working paper to review study results and provide guidance and input

into the planning process. The TAC members kept their respective agency or group fully informed on the planning process and study progress, and brought appropriate issues requiring attention and/or technical analysis to the attention of the study team.

Agency and stakeholder members of the TAC include:

- Tom Klimek, Bisbee Public Works Director, *Local Study Manager*
- Karen Lamberton, Cochise County Transportation Planner
- Luke Droeger, SEAGO Transportation Planner
- Mark Hoffman, ADOT MPD, *ADOT Project Manager*
- Tom Engel, ADOT Safford District, Project Engineer
- Dee Crumbacher, ADOT ITD, Traffic Engineering
- Melissa Reuter, ADOT ITD, Environmental Planning
- C.T. Revere, ADOT CCP, Public Information Officer
- Kathy Boyle, ADOT CCP, Intergovernmental Affairs
- Paki Rico, ADOT CCP
- Mike Demlong, Arizona Game and Fish Department

Iron Man
Old Bisbee by Court House



Consultant Team Members of the TAC include:

- Heather Honsberger, Public Involvement Outreach Manager, HDR
- Dale Miller, Project Manager, Wilbur Smith Associates
- Randall Overmyer, Project Manager, Wilbur Smith Associates
- Miguel Aceves, Transportation Engineer, Wilbur Smith Associates

1.5.2 Public Open Houses

Public open houses were held after submittal of study *Working Paper #2, Future Conditions and Deficiencies,* and after submittal of study *Working Paper #3, Evaluation Criteria and Improvement Plan.* These public meetings were advertised in the local newspaper and announcements were posted in prominent locations in the City, as well as through direct notification of the TAC members, stakeholders, and local agency representatives. These meetings served as a means to communicate with the general public throughout the planning process to make sure that their concerns were being heard and addressed as appropriate, and also to apprise the public of the progress and findings of the study. Public input is important to the overall planning process, as members of the public can help to account for any issues, concerns, or background information that might have otherwise been overlooked by the project team and the technical advisory committee.

1.5.3 Stakeholder Meetings

Stakeholder meetings were held during the development of this plan. These meetings were used to solicit and receive input from individuals who may or may not be members of the TAC, but who were identified as key stakeholders for the study. Interview discussions were held 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. Each stakeholder was given a list of questions to think about in advance of

the meeting so that they had time to gather their thoughts on transportation issues and information that they wanted to discuss. The invitation sent to the stakeholders and the summarized meeting notes from interviews can be found in *Appendix 1 – Stakeholder Interview Notes*.

2.0 Inventory of Current Conditions


Bisbee City Hall 118 Arizona Street

2.1 Land Use, Population, and Socioeconomics

2.1.1 Land Use

Bisbee has a broad mix of land uses. Commercial uses are clustered along Main Street and Tombstone Canyon in Old Bisbee, along Bisbee Road in Lowell and along SR 92 in San Jose, especially surrounding its intersection with the Naco Highway. Bisbee has more public facilities and governmental offices than might be expected for a city of its size, due to its role as the county seat of Cochise County.


Cochise County Court House

There is limited availability of developable land in the Old Bisbee and Warren areas. Development that may occur there will be required to comply with zoning regulations and match the urban form of the Old Bisbee Historic District or the Warren "City Beautiful" style. Designated major growth areas for Bisbee are in the San Jose area, and the lands surrounding the Naco Highway from the existing developed area of San Jose to the community of Naco and from the Naco Highway east to the municipal airport. Existing land uses are shown in *Figure 6 Existing Land Use* taken from the *City of Bisbee General Plan 2003*.

2.1.2 Social Characteristics

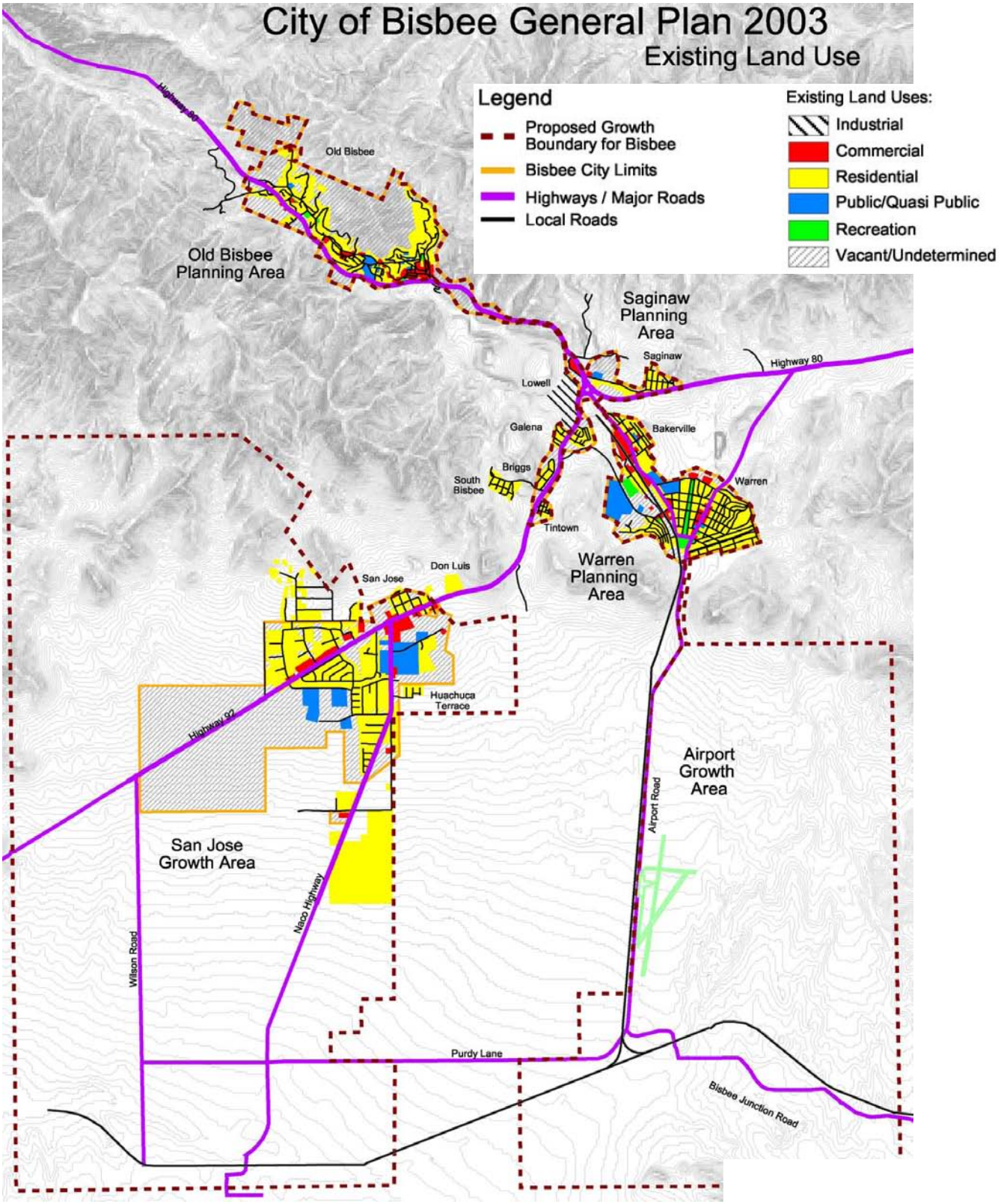
According to the Arizona Department of Commerce, the 2011 population estimate for Bisbee is 7,147; up from the 2000 Census count of 6,090. *Table 1 Social Characteristics* summarizes the age categories of the residents of Bisbee, based on data from the 2000 Census (the 2010 census was not yet available):

Table 1 Social Characteristics

Social Statistics for 2000	Bisbee Study Area	National Average
Less than 5 years old	5.9%	6.8%
18 years and over	78.4	74.3%
65 years and older	19.6%	12.4%
Disabled	29.5%	19.3%

Source: 2000 Census

Figure 6 Existing Land Use



Source: City of Bisbee General Plan 2003

Of the population that is 25 years or older, the 2000 Census collected data on educational achievement. Based on this data, 81.6 percent of the population was a high school graduate or higher, versus 81 percent in Arizona, and 80.4 percent nationwide. Bachelor's degrees or higher were 23.7 percent of the population in Bisbee compared to the state and national average numbers of 23.5 percent and 24.4 percent, respectively. It is notable that the percentage of elderly and persons with disabilities are well above the national average. This is indicative of both higher transit demand and the need to address architectural barriers to the disabled, both for public facilities and roadway infrastructure.

2.1.3 Economic Characteristics

The Arizona Department of Commerce reports that the 2008 civilian labor force (population 16 years and older) in the study area totaled 3,497; which is about 54 percent of the total population. The average unemployment rate in Bisbee in the year 2000 was five percent, which was more than the state and national averages, both of which were 4.0 percent at the time. Also at that time, 13% of households in Bisbee were at or below the poverty level. By 2008, the unemployment level had climbed to 5.9%. The Bisbee workforce is employed in the categories in *Table 2 Workforce Employment Categories 2008* below (Note that the totals do not equal 100%). Revised numbers are included in the future condition section of this report.

Table 2 Workforce Employment Categories 2008

Workforce Category	Percentage of Workforce
Public Sector	39.6%
Health and Social Service	17.7%
Retail	11.6%
Accommodations and Food Service	11.6%
Construction	2.6%
Professional	2.4%
Wholesale	1.5%

Source: Arizona Department of Commerce

According to the 2000 Census data, workers in Bisbee drove an average of 19.5 minutes to work. This is slightly lower than both the state and national average commute times of 24.9 and 25.5 minutes, respectively. Because the roadway network carries the majority of the trips made in most communities in the United States, it is the backbone of the community's transportation system. This network consists of Arizona Highways SR 80, SR 92, and the local road and street network within the study area. These routes move people and commodities throughout Bisbee, to Douglas, Tombstone,

Sierra Vista, and beyond. This roadway network comprises the primary surface transportation system, and is discussed in more detail in the following sections.

2.2 Roadway System Inventory and Traffic Analysis

This section describes and defines the existing critical roadway network for the study area. These are the significant routes that carry the majority of traffic circulating through and within the community. The existing traffic and traffic control on these routes is also discussed in brief.

Art Structures on Tack and Sowles

2.2.1 Roadway Network and Functional Classifications

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 do not serve travel independently in any major way. Rather, most travel involves movement through a network of roads. It becomes necessary then 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. Categories relevant to Bisbee are shown in *Table 3 Functional Classification Categories*.

Table 3 Functional Classification Categories

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

Source: FHWA

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 categories for urban and rural functional systems. Experience has shown that extensions of rural arterial and collector routes provide an adequate arterial street network in places of less than 5,000 in population. Hence, urban classifications are considered in the context of areas of 5,000 in population, or greater.

FHWA functional classifications are listed in descending (high to low) order of speed limit, vehicular capacity, and access restrictions. The current functional classifications of roadways in the Bisbee study

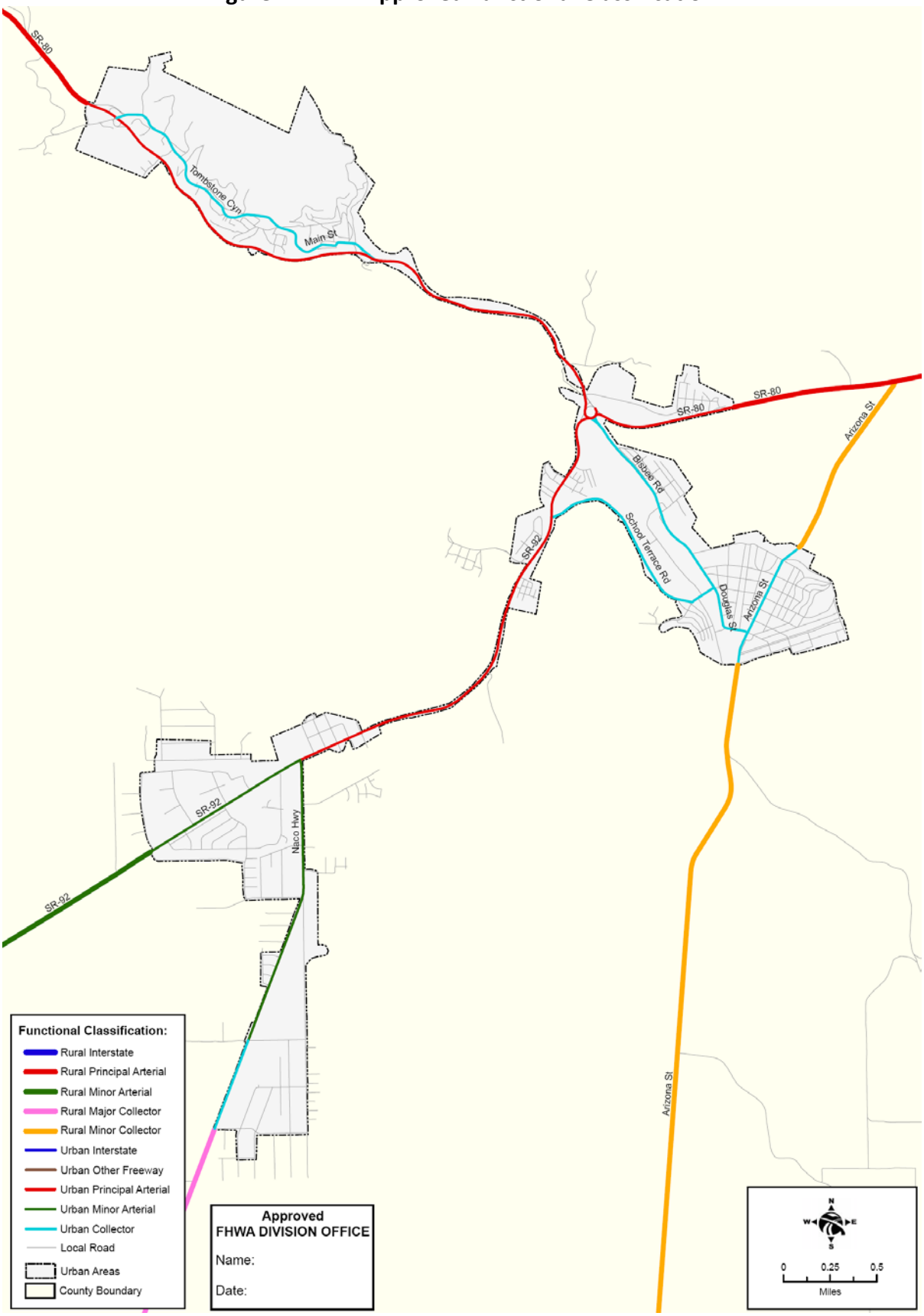
area, as approved by FHWA, are shown in *Figure 7 FHWA approved Functional Classification,* shown on the next page. For roadways to qualify for state and federal funding, they must be functionally classified as a major collector or above. A summary of the roadways shown in Figure 7, and their associated functional classification, are contained in *Table 4 FHWA Approved Functional Classification* below.

Table 4 FHWA Approved Functional Classification

Road Name	From	To	Functional Classification
Highway 80	Bisbee City Limits-West	Bisbee City Limits-East	Urban Principal Arterial
Highway 92	Bisbee City Limits-West	Naco Highway	Urban Minor Arterial
Highway 92	Naco Highway	SR 80	Urban Principal Arterial
Naco Highway	Sonoran Border	City Limits	Rural Major Collector
Naco Highway	City Limits	Della Street	Urban Collector
Naco Highway	Della Street	SR 92	Urban Minor Arterial
Purdy Lane	Naco Highway	Airport Road	Rural Minor Collector
Airport Road	Purdy Lane	Arizona Street	Rural Minor Collector
Tombstone Canyon Road	SR 80	Main Street	Urban Collector
Main Street	Tombstone Canyon Road	SR 80	Urban Collector
Bisbee Road	SR 92	Center Avenue	Urban Collector
Douglas Street	Center Street	Ruppe Avenue	Urban Collector
School Terrace Road	SR 92	Bisbee Road	Urban Collector
Arizona Street	Airport Road	Hazzard Street	Rural Minor Collector
Arizona Street	Hazzard Street	City Limits	Urban Collector
Arizona Street	City Limits	SR 80	Rural Minor Collector
Center Avenue	School Terrace Road	Bisbee Road	Urban Collector
Ruppe Avenue	Douglas Street	Arizona Street	Urban Collector

The Naco Highway has three different functional classifications. From south to north, it is a rural major collector that changes to an urban collector, and then it changes again to a rural arterial. Unifying the functional classification of this roadway should be considered, since it is in an urbanizing area per the future land use plans of the community.

Figure 7 FHWA Approved Functional Classification



2.2.2 Roadway Characteristics

All of the major local roads and streets in the Bisbee study area are 2-lane undivided facilities. Some local roadways in the Old Bisbee neighborhood residential areas are one lane facilities and do not have adequate cross sections for two vehicles to pass. SR 92 is a two lane facility except for a four lane segment south of the roundabout in the San Jose neighborhood. SR 80 is a three lane facility (two lanes uphill westbound and one lane downhill eastbound) west of the Lavender Pit and a four lane facility from there to just east of the roundabout.

2.2.3 Safety and Crash History

Overview: Crash data was obtained from the ADOT Traffic Records Section for the period 2003 through 2009. The crashes by category are quantified in the *Table 5 Bisbee Crash Data Summary 2003-2009.*

Table 5 Bisbee Crash Data Summary 2003-2009

Type of Crash	Number
No Injury	109
Possible Injury	23
Non Incapacitating Injury	55
Incapacitating Injury	14
Fatality	7
Total Reported Crashes	208

Crash types and severity by location are displayed in the six figures (Figures 8 through 13) that follow the page after the next page. Only one of the 208 total reported crashes involved a bicyclist or pedestrian. Of the 208 crashes, 135 (65% of the total) occurred on the state highway system including all seven of the reported fatalities.

The three fatalities on SR 80 included a head-on crash and two fixed objects crashes. The four fatalities on SR 92 were all within about 1.5 miles of the Naco Highway intersection to the northeast. These included a rear-end crash, a sideswipe, a fixed object crash, and one unknown cause crash. The data does not tell us if driver impairment played a role in any of the reported fatal crashes. The nature and conditions of the fatal crashes are presented in *Table 6 Fatal Crash Type and Conditions* shown on the next page.

Table 6 Fatal Crash Type and Conditions

Route	Location	Collision Type	Lighting	Weather	Surface Condition	Junction Related
SR 80	MP 340	Single Vehicle Struck Fixed Object	Daylight	Clear	Dry	No
SR 80	MP 341	Head-On	Daylight	Cloudy	Ice-Frost	No
SR 80	MP 342	Single Vehicle Struck Light Pole	Dark - Unknown Lighting	Unknown	Unknown	No
SR 92	MP 352	Rear End	Daylight	Clear	Dry	Yes
SR 92	MP 353	Single Vehicle Struck Fixed Object	Daylight	Clear	Dry	No
SR 92	MP 353	Sideswipe Opposite Direction	Daylight	Unknown	Unknown	No
SR 92	MP 353	Unknown	Daylight	Unknown	Unknown	No

Figure 8 Crash Type – Old Bisbee

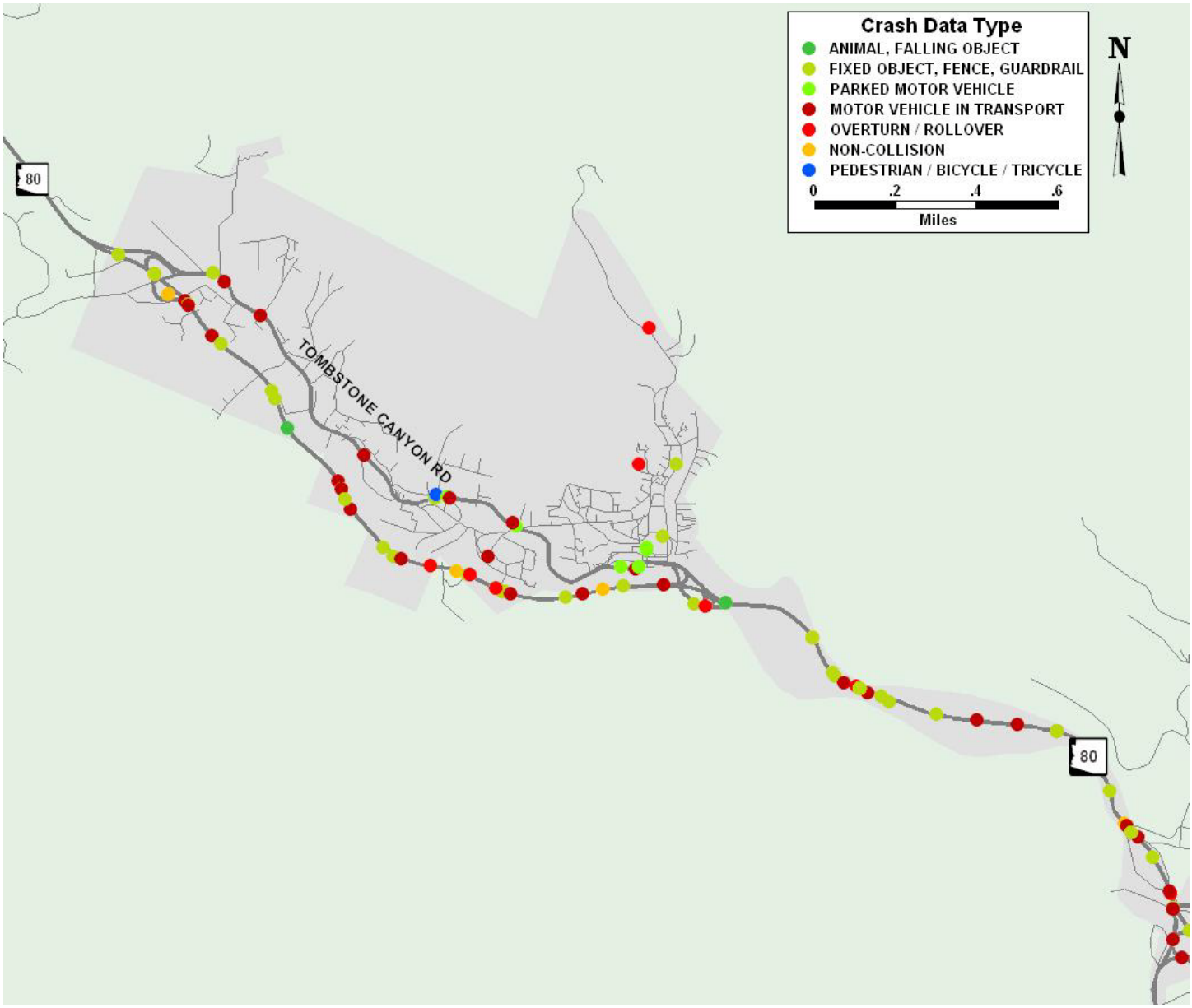


Figure 9 Crash Type – Warren

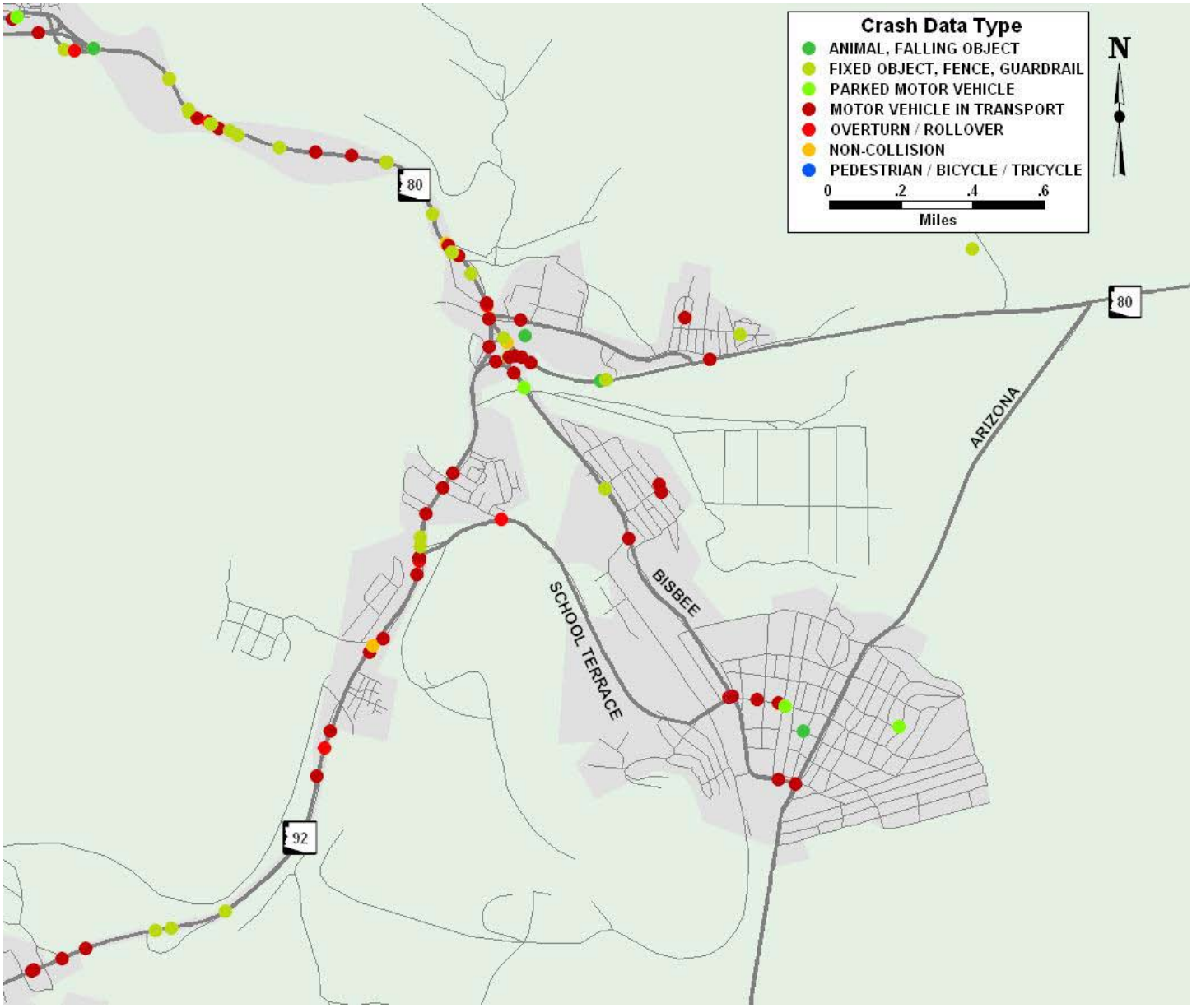


Figure 10 Crash Type – San Jose

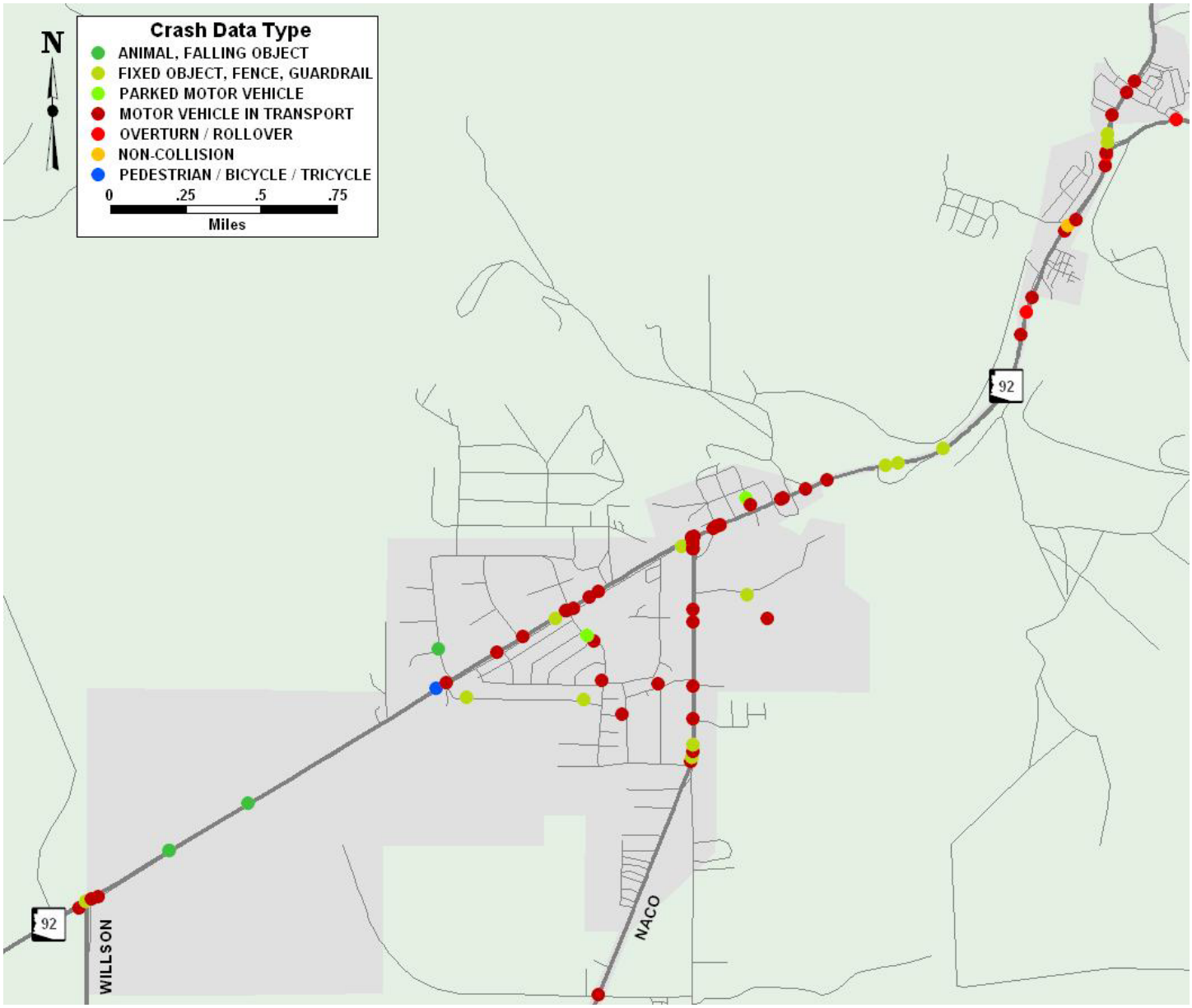


Figure 11 Crash Injury Severity – Old Bisbee

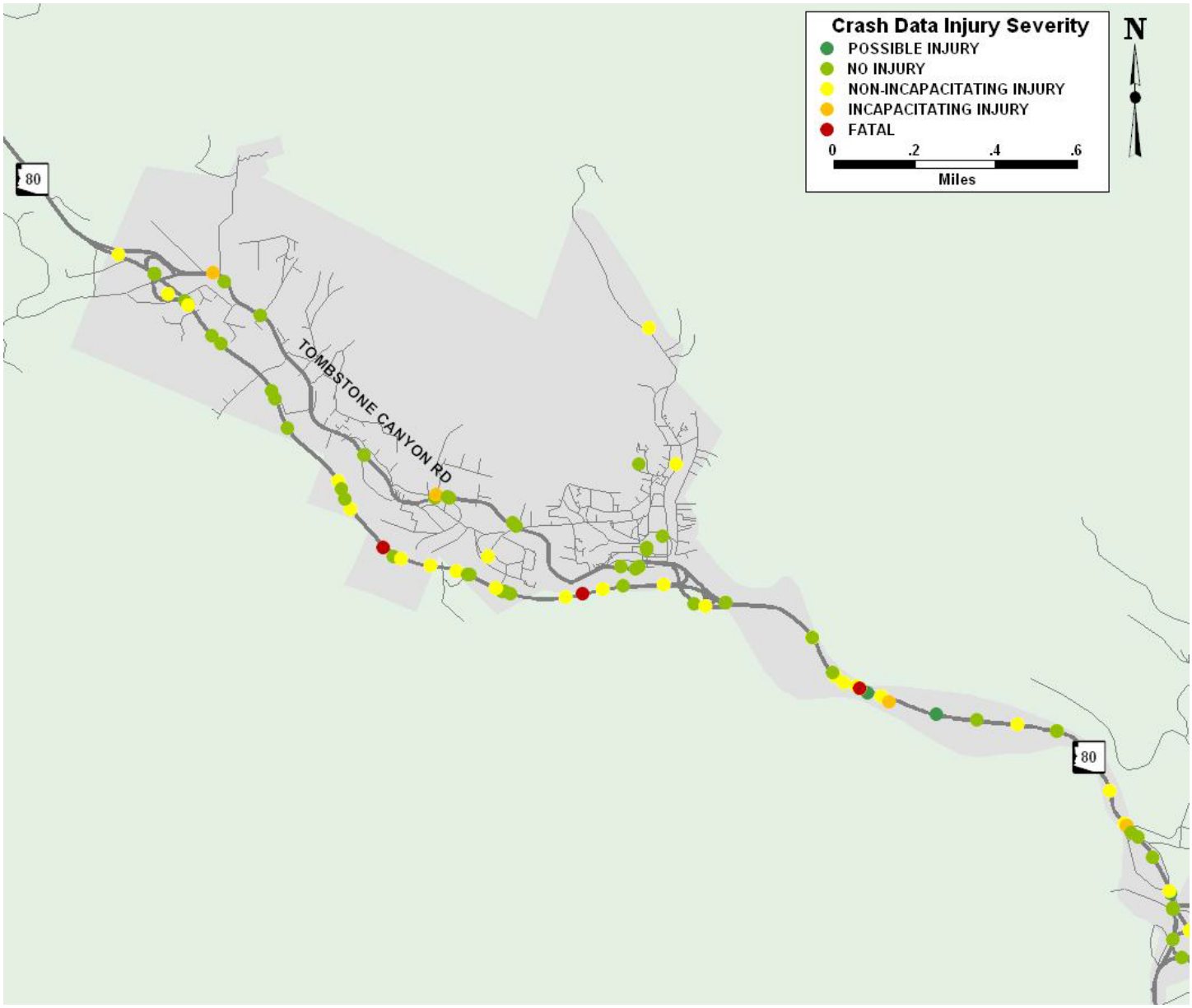


Figure 12 Crash Injury Severity – Warren

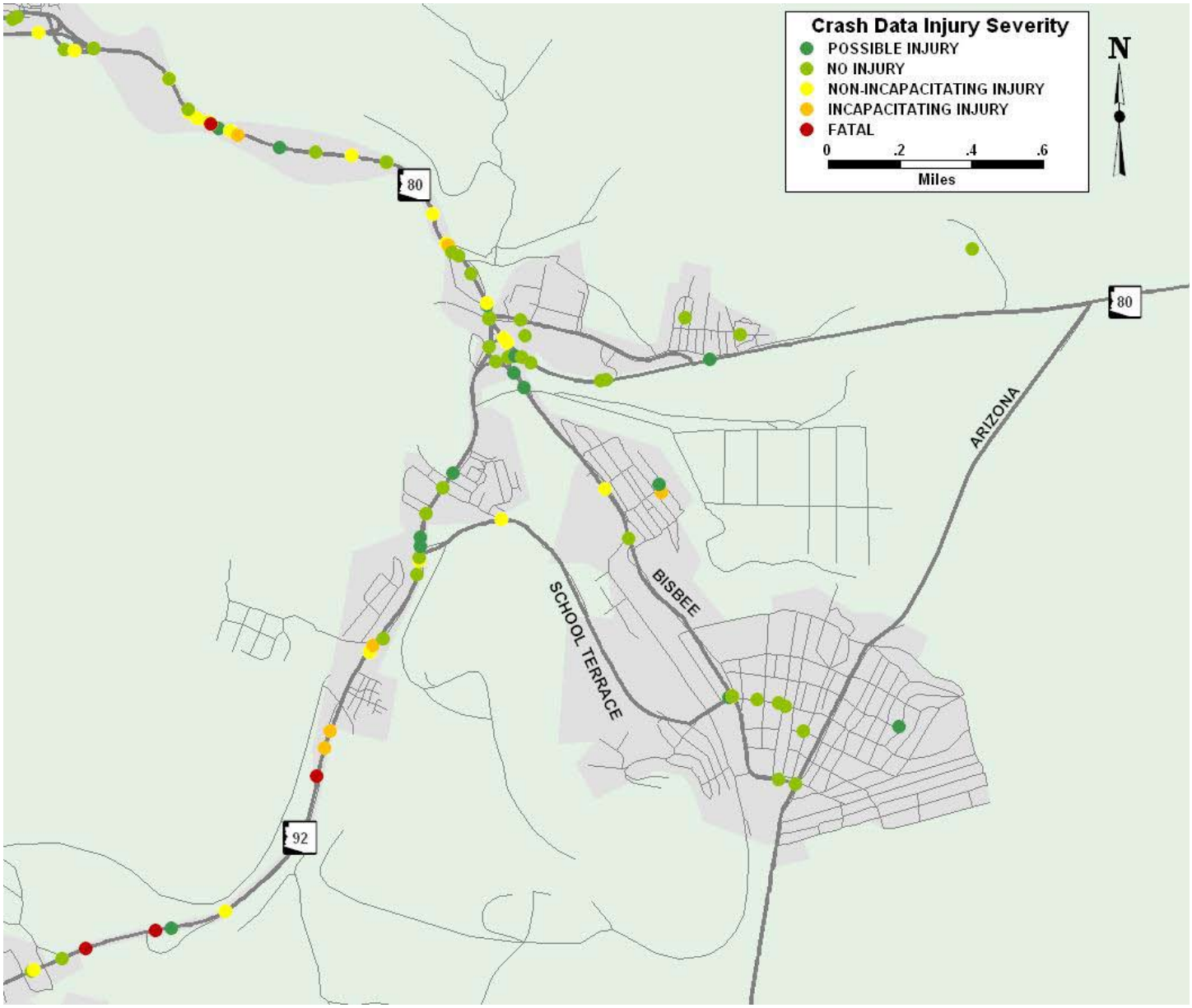
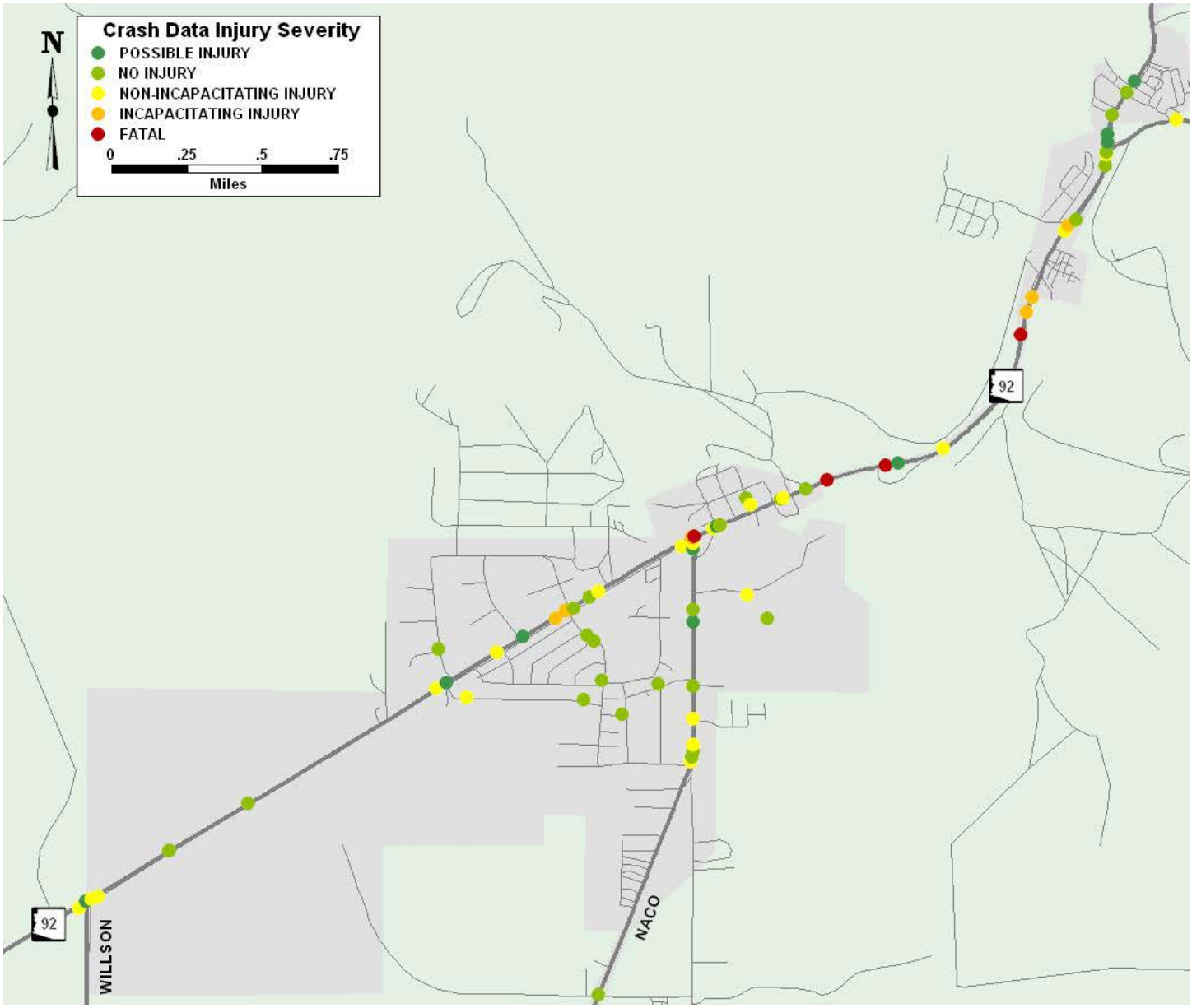


Figure 13 Crash Injury Severity – San Jose



2.2.4 Current Traffic Volumes

Data Collection: Recent traffic volume data was available from a number of sources, including the 2007 Highway Performance Monitoring System (HPMS), maintained by ADOT. This database includes recent traffic counts for all state highways and many higher level local streets. To supplement the data in these reports, additional traffic count data was collected specifically for this study. *Figure 14 Old Bisbee Traffic Count Locations, Figure 15 Warren Traffic Count Locations, and Figure 16 San Jose Traffic Count Locations* show the locations of the supplemental traffic counts collected for this study.

Figure 14 2010 Old Bisbee Traffic Count Locations

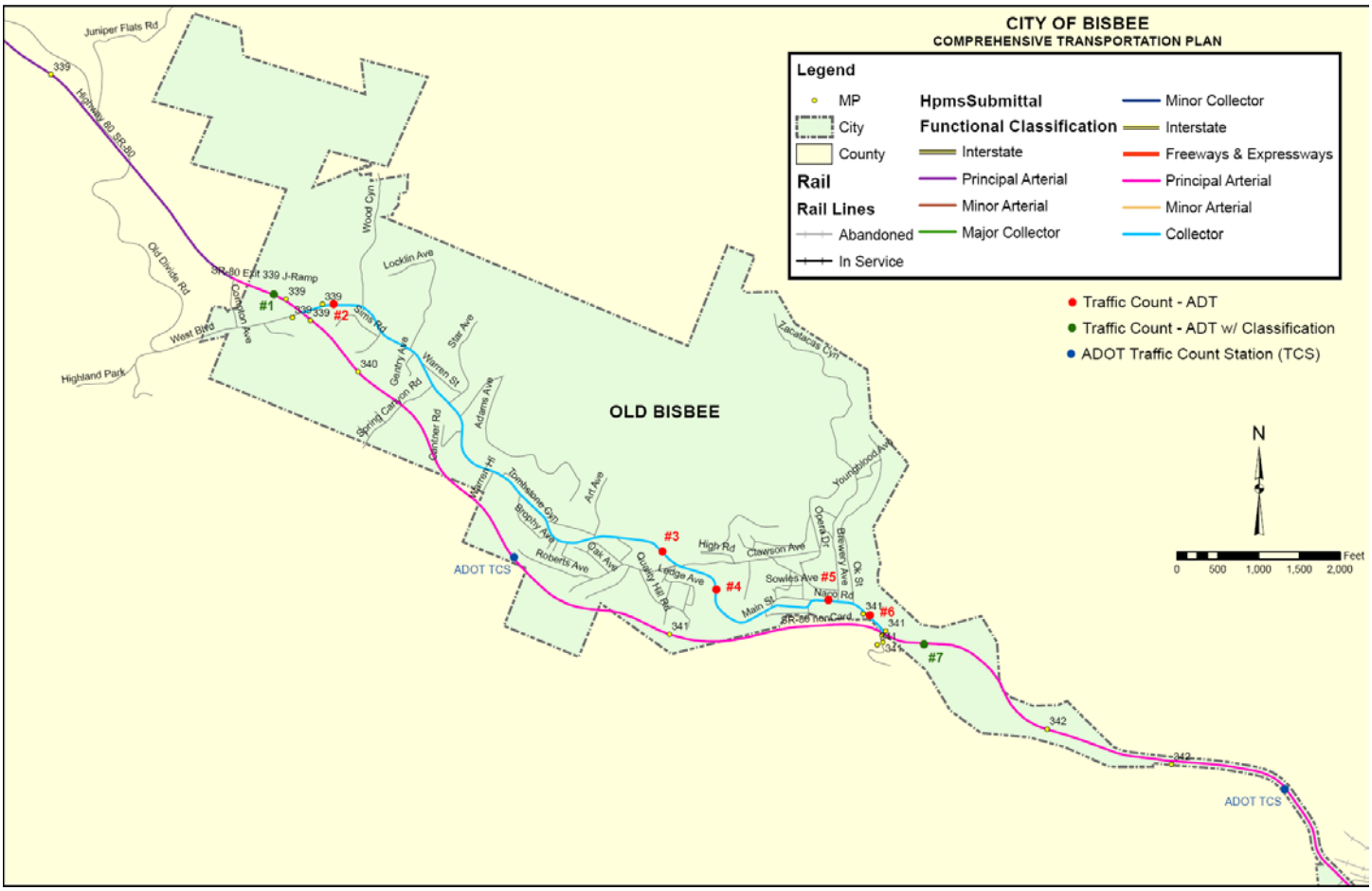


Figure 15 2010 Warren Traffic Count Locations

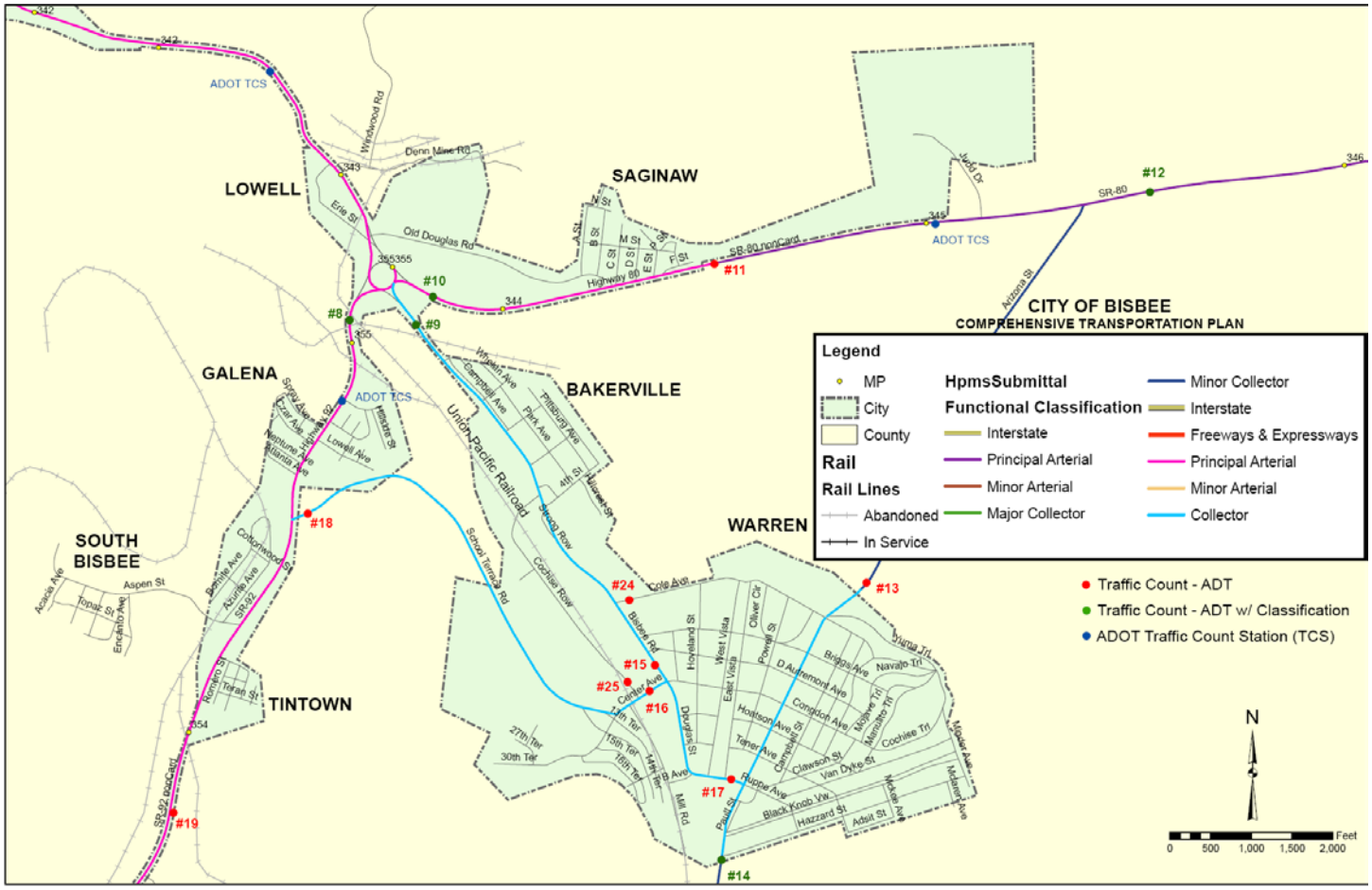
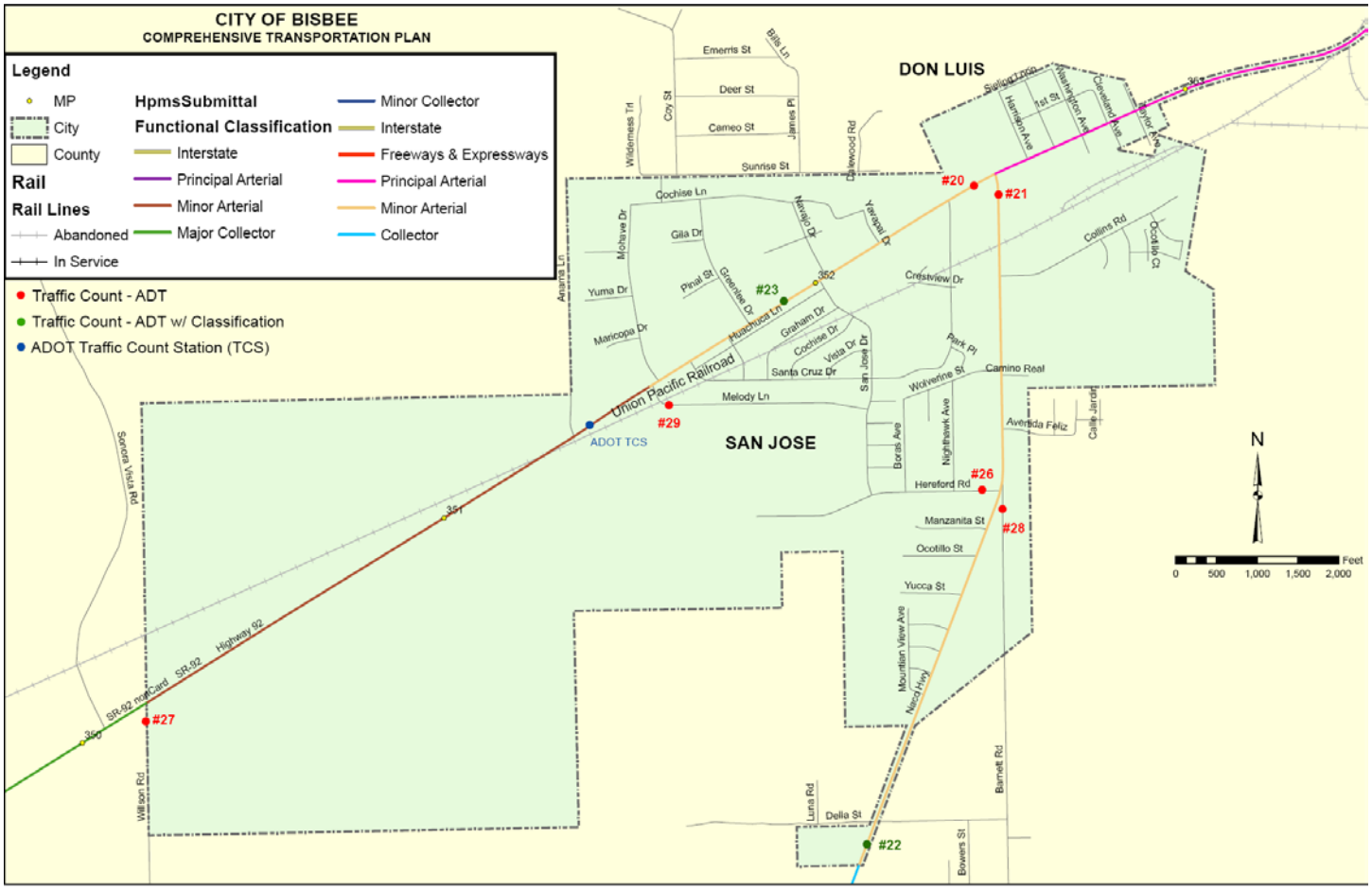


Figure 16 2010 San Jose Traffic Count Locations



These counts were conducted on October 5 and 6, 2010. Locations marked in red indicate locations where average daily traffic (ADT) was counted. Locations marked in green show locations where vehicle classification counts were taken as well as ADT. Classification counts show the breakout of traffic by vehicle type and are used to gauge commercial (truck) volumes as a percentage of total traffic. The findings of these counts are shown in *Table 7 Traffic Count Data* shown on the next page.

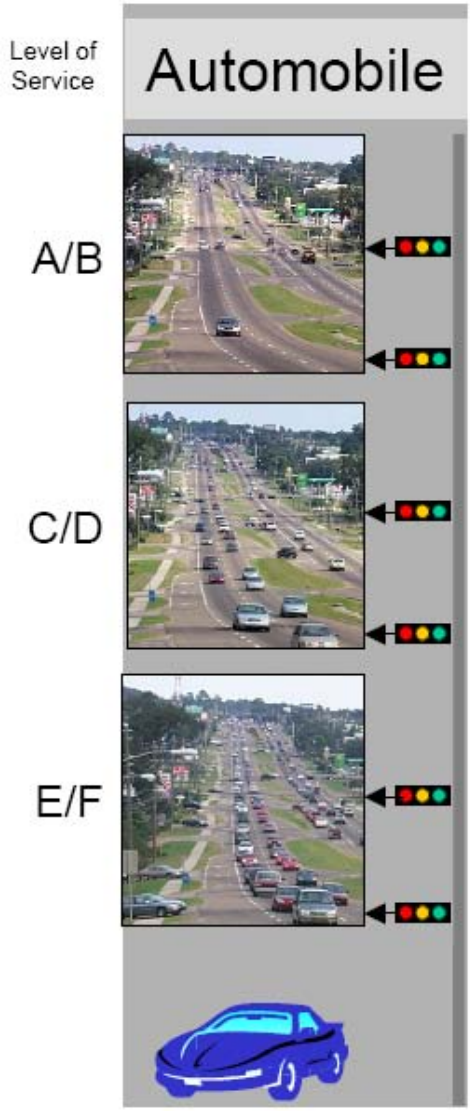
Table 7 2010 Traffic Count Data

MAP ID	Route	Location	Direction	Avg. Vol.	PCT Trucks
1	SR 80	W of WEST BLVD	EB	2672	2.7%
1	SR 80	W of WEST BLVD	WB	2122	4.2%
2	TOMBSTONE CANYON RD	W of WOOD CANYON RD	EB/WB	1299	
3	TOMBSTONE CANYON RD	W of CLAWSON AVE	EB/WB	2781	
4	TOMBSTONE CANYON RD	SE of CLAWSON AVE	NW/SE	3785	
5	TOMBSTONE CYN RD	W of BREWERY AVE	EB/WB	4828	
6	TOMBSTONE CYN RD	NW of SR 80	NW	2524	
7	SR 80	E of MP 341	EB	4266	3.3%
7	SR 80	E of MP 341	WB	4238	3.0%
8	SR 92	S of SR 80/92 ROUND-ABOUT	NB	3934	6.3%
8	SR 92	S of SR 80/92 ROUND-ABOUT	SB	4036	2.9%
9	BISBEE RD	S of SR 80/92 ROUND-ABOUT	NB	2665	1.3%
9	BISBEE RD	S of SR 80/92 ROUND-ABOUT	SB	2652	1.2%
10	SR 80	E of SR 80/92 ROUND-ABOUT	EB	2848	3.7%
10	SR 80	E of SR 80/92 ROUND-ABOUT	WB	2857	4.7%
11	SR 80	E of F ST	EB/WB	5618	
12	SR 80	E of ARIZONA ST/WARREN RD	EB	2847	5.4%
12	SR 80	E of ARIZONA ST/WARREN RD	WB	2844	4.5%
13	ARIZONA ST/WARREN RD	N of CITY LIMITS/YUMA TRAIL	NB/SB	1002	
14	ARIZONA ST/WARREN RD	S of CITY LIMITS/HAZZARD ST	NB	370	1.9%
14	ARIZONA ST/WARREN RD	S of CITY LIMITS/HAZZARD ST	SB	354	1.7%
15	BISBEE RD/DOUGLAS ST	Btwn CONGDON AVE & D AUTREMONT AVE	NB/SB	3653	
16	CENTER AVE	Btwn BISBEE RD/DOUGLAS ST & COCHISE ROW	EB/WB	3255	
17	RUPPE AVE	Btwn E VISTA & ARIZONA ST/WARREN RD	EB/WB	1942	
18	SCHOOL TERRACE RD	E of SR 92	EB/WB	3340	
19	SR 92	S of CITY LIMITS/MP 354	NB/SB	10557	
20	SR 92	Btwn NACO RD & SANTA CRUZ DR	EB/WB	7231	
21	NACO RD	S of SR 92	NB/SB	6019	
22	NACO HWY	S of DELLA ST	NB	1645	2.5%
22	NACO HWY	S of DELLA ST	SB	1633	2.3%
23	SR 92	Btwn NAVAJO DR & GREENLEE DR	EB	2712	3.0%
23	SR 92	Btwn NAVAJO DR & GREENLEE DR	WB	2722	2.4%
24	COLE AVE	E of BISBEE RD	EB/WB	1059	

MAP ID	Route	Location	Direction	Avg. Vol.	PCT Trucks
25	COCHISE ROW	N of CENTER AVE	NB/SB	302	
26	HEREFORD RD	Btwn NACO RD & NIGHTHAWK RD	EB/WB	1033	
27	WILSON RD	S of SR 92	NB/SB	683	
28	BARNETT RD	S of NACO RD/HEREFORD RD	NB/SB	633	
29	MELODY LN	S of SR 92	NB/SB	595	

2.2.5 Capacity and Level of Service

Beginning in 1965, the Highway Capacity Manual (HCM) divided highway level of service (LOS) into six letter grades, "A" through "F," with "A" being the best, and "F" being the worst. With the "A" through "F" LOS scheme, traffic engineers were much better able to explain to the general public and elected officials the operating and design concepts of highways. The LOS letter scheme caught on so well that it is now used throughout the United States in transportation.



Long range transportation planning studies typically use generalized roadway segment daily capacity and daily volume-to-capacity (V/C) based level of service (LOS) criteria as screening tools to help identify and quantify existing and future roadway deficiencies. The primary advantage of the planning level generalized criteria is that it requires relatively little data to generate reasonable results for a large number of roadway locations. Depending on the nature and scope of the study, more detailed capacity and LOS analyses may or may not be warranted. More detailed analyses require substantial additional data collection, analysis time and cost.

This section of the report offers a reasonable set of generalized planning-level roadway segment capacity and V/C based LOS criteria for consistent use in ADOT small urban area transportation planning studies. These criteria were reviewed and approved by ADOT for use on transportation planning studies for small urban areas such as Bisbee.

As much as possible, these criteria are based upon the *Highway Capacity Manual 2000* (HCM2000). However, the HCM2000 does not explicitly define roadway segment capacity or V/C based LOS criteria for all types of roadways. For example, HCM2000 uses average travel speed, not V/C, to measure LOS on urban streets. Consequently, the capacity and LOS criteria suggested below for urban streets are not directly attributable to the HCM2000, but are

reasonable approximations of determinations that may be made using HCM2000 analyses for specific roadway segments. The HCM2000 does provide somewhat more explicit guidance for freeway V/C based LOS (HCM2000 Exhibit 23-2), as well as for free-flowing rural multilane roadways (HCM2000 Exhibit 21-2). But even for these, the information reflects "ideal design and conditions", which may not exist at all locations being analyzed.

Table 8 Roadway Segment Capacities & Level of Service Criteria for Small Urban Areas below presents a proposed set of HCM2000 based planning level roadway segment per-lane capacities and V/C based level of service criteria suitable for use in small urban, urbanizing and suburban areas. Based upon Table 8, *Table 9 Roadway Segment Service Volumes for Small Urban Areas* presents the maximum service volumes by level of service for the most common roadway types found in small urban, urbanizing and suburban areas.

Table 8 Roadway Segment Capacities & Level of Service Criteria for Small Urban Areas

Roadway Type	Daily Per Lane Capacity	Max LOS A V/C Ratio	Max LOS B V/C Ratio	Max LOS C V/C Ratio	Max LOS D V/C Ratio	Max LOS E V/C Ratio
Freeway	20,000	0.29	0.47	0.68	0.88	1.00
Multilane Arterial	8,000	n/a	n/a	0.70	0.95	1.00
2-Lane Arterial	7,000	n/a	n/a	0.50	0.90	1.00
2-Lane Collector	5,000	n/a	n/a	0.50	0.90	1.00

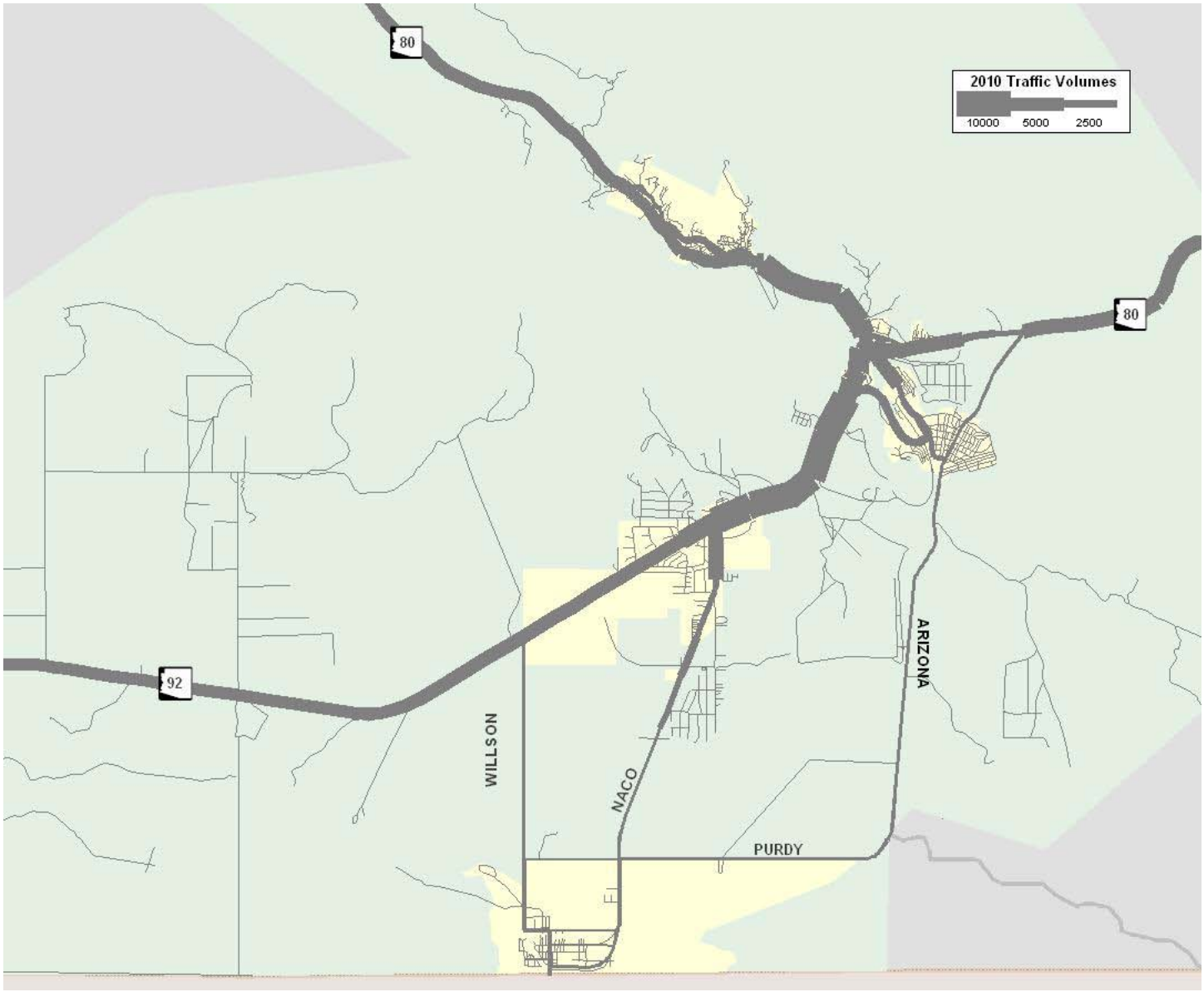
Table 9 Roadway Segment Service Volumes for Small Urban Areas

Roadway Type	Daily Per Lane Capacity	Max LOS A Service Volume	Max LOS B Service Volume	Max LOS C Service Volume	Max LOS D Service Volume	Max LOS E Service Volume
4-Lane Freeway	20,000	23,000	38,000	54,000	70,000	80,000
4-Lane Arterial	8,000	n/a	n/a	22,000	30,000	32,000
2-Lane Arterial	7,000	n/a	n/a	7,000	13,000	14,000
2-Lane Collector	5,000	n/a	n/a	5,000	9,000	10,000

Note: Service volumes have been rounded to the nearest 1,000

The flow of the modeled subarea traffic volumes for 2010 in Bisbee is shown in *Figure 17 2010 Traffic Flowband* found on the following page. As would be expected, the higher-level facilities in the area have the highest volumes. SR 92, entering the study area from the west, has a 2010 volume of 4,330 vehicles per day (vpd). SR 80, passing through the study from northwest to east, has volumes of 5,040 vpd to the west and 5,691 vpd to the east. Within the study area, the traffic flows are generally seen to increase as they near the urban core, and diminish with turning movements at intersections. Overall, the counted and modeled traffic flows for 2010 appear to be reasonable.

Figure 17 2010 Traffic Flowband



The 2010 levels of service for the study area are shown in *Figure 18 2010 Level of Service* shown on the next page. Extensive areas of the street system within Bisbee, Warren, and Naco operate at LOS A under their existing conditions. Much of the two-lane section of SR 80 operates at a LOS B within the study area with the remaining segments of the highway at LOS A. SR 92 west of Yavapai Drive operates at LOS B while the most of the highway between Yavapai Drive and its junction with SR 80 operates at LOS D with a segment of LOS B just east of Naco Highway and a segment of LOS A as the highway approaches the roundabout junction with SR 80. LOS criteria such as these are based on 24 hour traffic volumes and provide a useful planning level tool to help identify locations where existing and future roadway capacity concerns are identified, especially when viewed in comparison to other segments with lower LOS classifications. Prior to using this information for specific design or regulatory purposes, the roadway segments in question require additional investigation and analysis of traffic

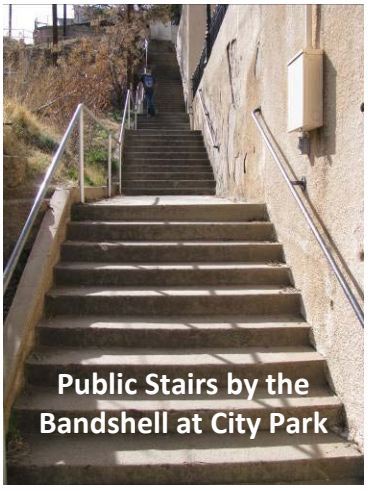
volumes, forecasts and patterns to develop potential remedies for capacity or operational improvement. Remedies are not limited solely to widening the roadway in question (although that is one option to consider), but also to other measures such as signal placement and timing, access management strategies, specific intersection geometric improvements such as dedicated turning lanes, and even improvements to complimentary nearby roadways to redistribute local traffic. In more fully developed and historic areas like old Bisbee and Warren, a full menu of options should be explored prior to the disruption that typically accompanies major roadway widening efforts. Additional traffic analysis should always be done as part of the preliminary design of identified projects and to assess the impacts of proposed developments affecting the roadway segment.

Figure 18 2010 Level of Service

2.3 Multi-Modal Transportation

2.3.1 Bicycle and Pedestrian Facility Plans and Policy Documents

This study was conducted in keeping with the goals and objectives of the *Bisbee General Plan, 2003*. That document calls for the development of bicycle and pedestrian facilities throughout Bisbee, including possible future adaptive reuse of rail rights of way as part of a trail system network for the community and surrounding region. That plan also called for improvements to existing sidewalks, stairways, and retaining walls; and the identification of specifically which facilities lie within the public rights of way. The document further called for improved signage and wayfinding, and a way to symbolically link the Old Bisbee, Warren, and San Jose areas into one linked community. Specific bicycle linkages identified as needed were from Old Bisbee to Warren along SR 80 around the Lavender Pit, and from Warren to San Jose.

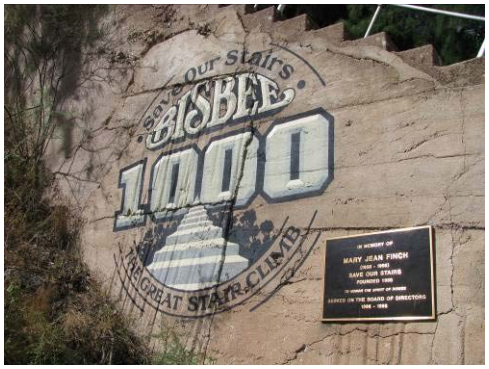

Public Stairs by the Bandshell at City Park

2.3.2 Existing Bicycle and Pedestrian Facilities

Bicycle: There are no developed bicycle facilities in the study area. While there is bicycle use in the community, there are no developed facilities such as bike lanes or bike paths. Riders can and do share the public rights of way with vehicles as best they can. There is a reported increasing use of motorized bicycles in the community to better enable bicyclists to climb the hills in Old Bisbee. Bisbee has several bicycle ride events annually, which are major attractions for the community.

Pedestrian: Since Bisbee was developed prior to the automobile, many neighborhoods and retail areas are greatly dependent on pedestrian access. Bisbee is served by a network of sidewalks and stairways, due to the topography of the area and how the community developed. The structural condition of this pedestrian infrastructure was inventoried and assessed, and the results are reported in *Appendix 5 Field Inventory*. Most of the sidewalk improvements are along major roadways, in retail areas, and near parks and schools. Many of the residential areas lack sidewalks, curbs and gutters.

There is a significant need for sidewalks and/or multiuse paths to connect the various neighborhoods to the San Jose business district, including the retirement center located to the west along SR 92. There is also a strong need to connect the neighborhoods to Bisbee High School located on School Terrace Road. School Terrace Road currently has no sidewalks in spite of the fact that the high school is located on this road.



Bisbee has a major annual event known as the Bisbee 1000 – The Great Stair Climb – which is a big draw and highlights its uniqueness with the many public staircases. Part of the revenues is used for stair repairs.

2.3.3 Transit Plans and Policy Documents

Transit is an important service providing mobility for those that do not have a car, are not able to drive, or simply choose not to drive. It is especially important to the senior and disabled communities. While transit generally takes a 'back seat' to automobile travel, it is a valuable resource for a community. In addition to expanding transportation options for residents and visitors, transit can reduce overall automobile usage, thereby decreasing vehicular traffic, lowering noise and air pollution, and reducing dependence on oil. The *2008 Bisbee Bus Five Year Plan* and the 2010 update to that document were reviewed.

2.3.4 Existing Transit Services

Bisbee Bus Transit System

The Bisbee Bus has been in continuous operation since 1986. In the early 1990s, largely in response to the requirements of the Americans with Disabilities Act (ADA), the service was converted from a fixed route system to a deviated fixed route system. A deviated route bus detours from its designated route to pick up disabled persons within three quarters of a mile of the route; who previously request a ride. The bus keeps on schedule to posted stops by allowing extra time in the schedule. Nine weekday trips and four Saturday trips are provided with headways ranging from 70 to 90 minutes. The bus serves Old Bisbee, Warren, San Jose, and Naco. Bisbee Bus uses "cutaway" type vehicles equipped with wheelchair lifts.

Formerly, a commuter service was in operation, with trips between Douglas, Bisbee, and Sierra Vista. Funding became difficult and ridership was less than what was projected; therefore the service was discontinued. In better economic times, this operation may be revisited if the demand is sufficient.

The Bisbee Bus is funded in part through grant funds provided by ADOT through the Federal Transit Administration Section 5311 program. Formerly, funds were also provided through the Local Transportation Assistance Fund II (LTAF II) program, which distributed a portion of the state lottery proceeds to local agencies for transit projects. The loss of LTAF funding has seriously hampered the funding of transit programs, not only in Bisbee, but throughout the state.

2.3.5 Freight

Through freight traffic is not significant in the SR 92 and SR 80 corridors. Based on ADOT counts, truck traffic on SR 92 west of Bisbee is less than 320 trucks per day. On SR 80 west of Old Bisbee, the figure is even lower at 156 trucks per day. Local truck traffic is higher, with up to 600 trucks per day on SR 92 in the vicinity of the Naco Highway and 270 trucks per day on SR 80 near the heart of Old Bisbee. The low truck counts recently taken on the Naco Highway south of SR 92 for this study suggest that little of the truck traffic in the area is crossing through the Naco Port of Entry to and from Naco, Sonora.

2.3.6 Airport

The Bisbee Municipal Airport has two runways; one of them dirt. The primary paved runway is 5,900 feet long. Airport operations are done under contract with a fixed base operator (FBO). ADOT Aeronautics records indicate there are currently 13 fixed base aircraft and a total of 4,900 annual operations at this airport. The most recent Airport Master Plan was done in 1999. The plan evaluated a number of alternatives for improvement of the airfield. The preferred alternative was to widen and improve the primary runway (17-35), extend and pave the secondary runway (2-20), and provide aviation, support facilities, and utility improvements.

2.3.7 Naco Port of Entry

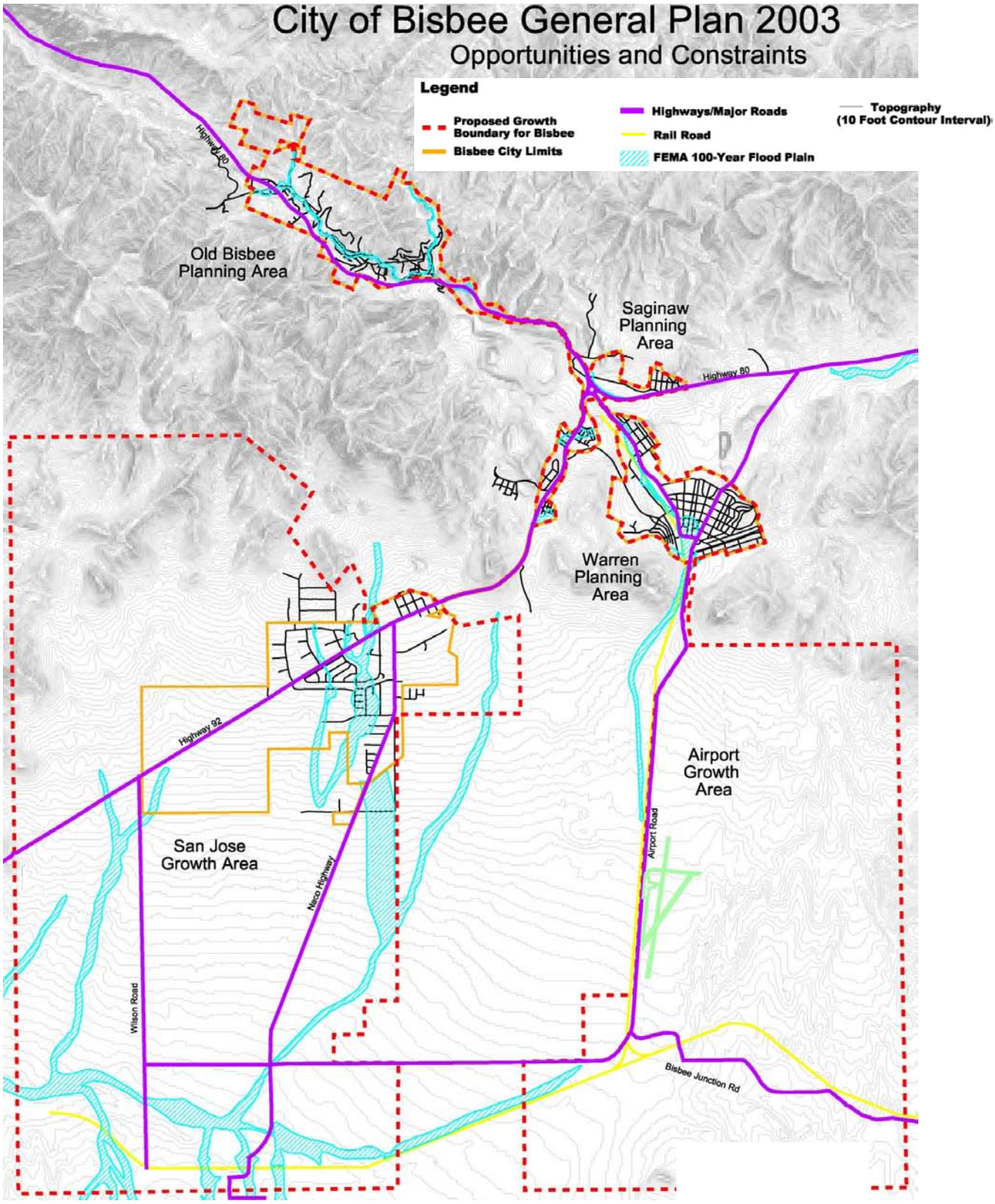
According to US Customs and Border Protection, the Naco Port of Entry (POE) accommodates significant border crossing traffic. The port handles 138 truck crossings per month, consistent with recent traffic counts, therefore the freight traffic through this port is relatively small. The port handles 6,817 pedestrian crossings per month, many attracted by retail opportunities (especially the Safeway store at the Naco Highway and SR 92) in Bisbee. Most significantly, the port accommodates 23,247 personal vehicle crossings per month, which contribute to the traffic volumes on both SR 92 and SR 80. Notably, Naco is the only POE in Arizona not served directly by a state highway.

2.4 Environmental Conditions

2.4.1 Natural Environment

Major Drainage Ways: Much of Old Bisbee was built on hillsides and many roadways were constructed in canyons, such as Brewery Gulch and Tombstone Canyon. While some improvements have been made, the poor condition of many local roadways is the result of drainage activity occurring along and on the pavement surface. The steep topography of the area accelerates the rate of runoff, increasing the damage potential. Floodplain boundaries are established by the Federal Emergency Management Agency. These floodplains are illustrated in *Figure 19 Opportunities and Constraints from the Bisbee General Plan 2003*.

Figure 19 Opportunities and Constraints from the Bisbee General Plan 2003



Source: City of Bisbee General Plan 2003

Environmental Compliance Documents: Future transportation projects with a federal nexus (e.g., those occurring on federal lands or using federal funding, permits, facilities, equipment, employees, etc.) must comply with the National Environmental Policy Act (NEPA). NEPA compliance is required when a proposed project with a federal nexus may impact the natural or human environment. Compliance documents assist planners and governments in identifying direct and cumulative impacts to a variety of natural elements such as air, water, vegetation, and wildlife, as well as various human factors. Examples of potential impacts to wildlife include: loss of nesting or roosting sites, disruption of historic wildlife corridors, vehicle collisions, fragmentation of habitat, and introduction of exotic invasive species. Early coordination with the U.S. Fish and Wildlife Service and the Arizona Game and Fish Department is necessary to determine the potentially impact of the transportation project on threatened, endangered, or other special status species and their habitats. Identifying impacts before construction begins assists planners in developing substantive measures to mitigate or avoid negative effects on wildlife populations and habitat within the project area. Efforts spent minimizing or avoiding the impacts of future transportation projects on wildlife and habitat could economically benefit the local communities served by that infrastructure.

The Economic Benefits of Considering Wildlife and Habitat: When planning for future transportation projects, the economic benefits of wildlife and habitat (open space) on local communities should be seriously considered. The deserts, grasslands, forests, wetlands, and other natural areas near Bisbee support an abundance of species and habitats found only in southern Arizona. The uniqueness of the wildlife and vegetation attracts outdoor recreationists from around the state, country, and world. Maintaining access to natural areas and public lands for wildlife-related activities is increasingly challenging in southern Arizona. Illegal and unethical activities (e.g., smuggling, trash dumping, private property vandalism) are prompting private property owners, grazing permittees, and land managers to restrict public access to some natural areas. When applicable, transportation planners should work with the Department and land managers to ensure existing legal access into natural areas is not impeded and in some cases, ensure unintentional new access is not created into sensitive areas (e.g., nesting areas, wetlands) by transportation projects. The Arizona Game and Fish Department is committed to help preserve access to public and willing privately owned lands for wildlife-related activities.

Hunting, fishing, and non-consumptive wildlife activities (e.g., bird watching) in Cochise County are estimated to contribute millions of dollars annually. Wildlife-related activities directly benefit local communities through retail sales (e.g., gasoline, supplies, food, and lodging), jobs, tax revenues, and associated indirect effects. In 2001 (the most recent figures available), the combined economic contributions of hunting, fishing, and non-consumptive wildlife activities in Cochise County was estimated to be over $29 million dollars annually. Specific dollar figures are available from these reports:

- The Economic Importance of Fishing and Hunting (Economic data on fishing and hunting for the State of Arizona and for each Arizona County); Web site: www.azgfd.gov/pdfs/w_c/FISHING_HUNTING%20Report.pdf
- Economic Impact Analysis of Non-consumptive Wildlife-Related Recreation in Arizona; Web site: www.azgfd.gov/pdfs/w_c/AZ%20County%20Impacts%20-%20Southwick.pdf

Designing transportation projects that help conserve healthy wildlife populations, habitat, and public access to these resources, will help ensure this substantive revenue stream will continue to benefit Bisbee, Cochise County, and the State of Arizona.

"Wildlife-friendly "Transportation Projects: Wildlife preservation efforts can be accomplished by developers and builders making an effort to avoid riparian habitats and floodplain open space wherever possible during the planning, design and implementation of their projects. In addition, developers can create dedicated open or natural areas along natural area in new developments and subdivisions. If it does become necessary to disturb these natural areas, the next best option is to mitigate the disturbance by replanting in adjacent areas or doing restoration projects to restore native vegetation to previously affected areas. As the population of Bisbee and southern Arizona continues to grow, the renovation of existing roadways and development of new transportation corridors is inevitable. Still, transportation projects can be planned and built to minimize impacts on wildlife populations and their habitat. Roadway components such as bridges, culverts, fences, medians, and landscaped right-of-ways can all be designed to minimize or avoid impacts. Projects can be scheduled to avoid critical breeding seasons (e.g., migratory birds) or activity periods (e.g., roosting bats). Transportation planners should initiate coordination with the Department's Habitat Branch and the U.S. Fish and Wildlife Service early in the planning process to identify potential biological issues (e.g., special status species, critical habitat, wildlife corridors, etc.). In addition to coordinating with the wildlife agencies, transportation planners can also utilize the Department's comprehensive guidelines useful when renovating or designing projects:

- Guidelines for Bridge Construction or Maintenance to Accommodate Fish & Wildlife Movement and Passage (2008); Web site: http://www.azgfd.gov/hgis/pdfs/BridgeGuidelines.pdf
- Guidelines for Culvert Construction to Accommodate Fish & Wildlife Movement and Passage (2006); Web site: http://www.azgfd.gov/hgis/pdfs/CulvertGuidelinesforWildlifeCrossings.pdf
- Fencing Guidelines (2006); Web site: http://www.azgfd.gov/hgis/pdfs/FencingGuidelines.pdf
- Wildlife Friendly Guidelines, Community and Project Planning (2009); Web site: http://www.azgfd.gov/pdfs/w_c/WildlifeFriendlyDevelopment.pdf

Wildlife Corridors: The Arizona Game and Fish Department is working with their stakeholders to identify important wildlife movement corridors statewide. Bisbee is in a "fracture zone" where wildlife corridors have been interrupted by urban, agricultural and mining activities. Although no major wildlife corridors have yet been identified in the Bisbee planning area, several have been mapped at other Cochise County locations. The Arizona Wildlife Linkages Assessment report can be found at: http://www.azdot.gov/inside_adot/OES/AZ_WildLife_Linkages/assessment.asp).

There are most likely wildlife corridors connecting to the Mule Mountains from surrounding natural areas. Annual Arizona Game and Fish Department game surveys of the Mule Mountains have inventoried populations of mule deer, white-tailed deer, javelina, mountain lions, coatimundis, golden eagles, and a variety of other species close to Bisbee. Many of these species, partially the large mammals, may move between the Mule Mountains and nearby habitats, requiring passage across existing roadways. Substantive changes, renovation, or expansion of these roadways could negatively impact or even impede historic wildlife corridors. Arizona Game and Fish Department strongly encourages transportation planners to consider wildlife crossings very early in the planning process.

The Arizona Game and Fish Department encourages greater emphasis on determining and avoiding or mitigating impacts on wildlife for transportation and development projects. They have wildlife friendly guidelines that can be followed. These guidelines include facilitating crossings for wildlife; mitigating the impacts of development by providing for well designed wildlife corridors; providing wildlife connections to agricultural areas (for feeding); and avoiding concurrent connectivity for humans in the same linkage corridors (such as roads, trails, etc.). There are no major wildlife linkages currently identified in the Bisbee area, but the proximity of the Mule Mountains suggests that wildlife crossings be considered in future roadway improvements.

The most important issue that the Arizona Game and Fish Department would like to see addressed in future projects, is that the major wildlife linkage corridors be considered during design and construction. An additional priority is to engage the local agencies, to help preserve access to state and federal lands by requiring that existing accesses be maintained, or alternately, mitigated and replaced with new legal access roads, should the existing access road need to be removed. They report that they are losing access to public lands through development, making it more difficult for the public to access and enjoy these lands. Access to public lands is very important to hunters, residents, visitors, and for public safety purposes. The Department would like to see access corridors improved whenever opportunities may present themselves.

Outdoor Recreation: In addition to the historic character of Bisbee, its location amid the "Sky Islands" of southeastern Arizona offer its residents close proximity to many natural and historical attractions. These attractions include:

- Chiricahua National Monument
- Chiricahua Wilderness
- Fort Bowie National Monument
- Cochise Stronghold
- San Pedro Riparian Conservation Preserve
- Southeastern Arizona Bird Observatory
- Slaughter Ranch
- Ramsey Canyon Nature Preserve
- Arizona Cactus Succulent Research Center
- Fort Huachuca
- Tombstone Historic District
- Coronado National Monument
- Coronado National Forest

Noise: Adherence to the *ADOT Noise Abatement Policy* dated December 05, 2005, and as amended on August 24, 2007, is advised for any new or improved state and federal funded roadway corridors. This policy is based on the currently accepted noise abatement policies and procedures outlined by both the United States and Arizona governing bodies. The FHWA has specific noise abatement criteria that serve as an upper limit for projects in the State of Arizona.

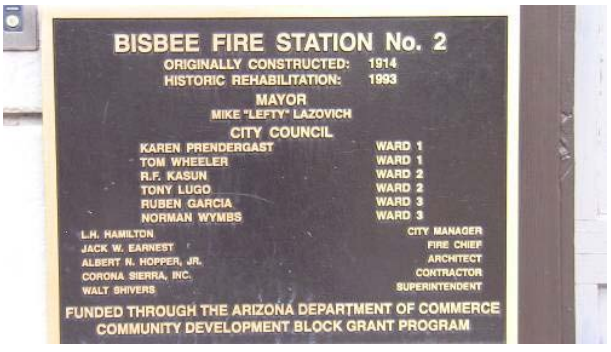
Air Quality: A review of ADEQ and EPA maps reveal no ongoing air quality issues in the study area. Air quality in the region has improved since the closing of the nearby smelter in the 1970s.

Hazardous Materials: A review of ADEQ and EPA maps reveal one hazardous material exposure location near the study area. It is outside of the City limits northeast of Old Bisbee; likely the result of previous mining activity. Freeport-McMoRan is currently working with ADEQ under its Voluntary Remediation Program (VRP) to address environmental issues remaining from past mining activities. Currently, the company is addressing potential surface soil impacts in Old Bisbee due to past smelter operations. Work is also ongoing in Warren to address city roads built with sulfide-bearing material. The company is also working with ADEQ under a mitigation order to address sulfate impacts to groundwater migrating southwest from former evaporation ponds.

2.4.2 Cultural and Historical Environment

The study area encompasses a number of cultural resources located in the City of Bisbee. Old Bisbee itself is a National Historic District. Within such a district there are also individual properties on the National Register of Historic Places. There are eleven individual properties listed in the register that are located within the study area. The State Historic Preservation Office (SHPO) is currently processing a residential area expansion of the old Bisbee District.

In 1993, a survey of the Warren neighborhood was completed. The survey identified 614 Craftsman style bungalows constructed before 1942. Warren was master planned by Warren Henry Manning, one of the foremost city planners and landscape architects associated with the "City Beautiful" movement in the early 1900s. The City of Bisbee is now pursuing a National Register District nomination for this area.



3.0 Programmed Improvements

3.1 Short Term Programmed Improvements

City of Bisbee: The 2008-2012 City Capital Improvement Plan (CIP) included funding for the Arizona Street Reconstruction project in FY 2010 in the amount of $110,000. Also in FY 2010 is $2,000,000 for

improvements to SR 92. Note that the second amount was placed in the City's CIP assuming the need for improvements to SR 92 prompted by anticipated new major development in the vicinity of Willson Road in far west Bisbee. The funds would come from developer impact fees and/or exactions. The new development has not yet occurred, and is reportedly on hold due to the current economic conditions.

SEAGO: The 2011-2015 Transportation Improvement Program (TIP) for the SouthEastern Arizona Governments Association (SEAGO) included FY 2010 federal funds programmed for Arizona Street Reconstruction and sidewalks in the amount of $2,700,000: The local match for this project was $163,203. The 2012-2016 SEAGO TIP has no programmed projects in the City of Bisbee. The SEAGO TIP is incorporated into the State Transportation Improvement Program (STIP).

4.0 Stakeholder Identified Transportation Needs

4.1 Overview

During the course of the research phase of this study, interviews were conducted with various stakeholders to learn of areas with known deficiencies, problems, safety concerns, or needed improvements, and to identify any desired projects for the local community. *Appendix 1 – Stakeholder Interview Notes* contained in this report includes a summary of the discussions with the stakeholders.

4.2 Specific Needs Identified by Stakeholders

The stakeholders interviewed identified a number of improvements to the transportation system for the study area. Many of the identified needs were common to multiple stakeholders, meaning good support for most of the identified needs for the transportation system. Many of these identified projects were also cited by local public agencies as needed transportation system improvements:

- A continuous sidewalk and a bike lane (or a multiuse path) is needed along SR 80 around the Lavender Pit area to connect Old Bisbee to Warren and San Jose along with safe crosswalk locations where needed on SR 80; better lighting and speed control measures along this stretch are needed; and improved directional signing for the pit overlook area is also needed.
- The SR 92 / Naco Highway intersection and vicinity is in need of access management measures and safety improvements; there are many driveway access points in close proximity to this intersection that are a source of the safety concerns at this intersection.
- The intersection of Tombstone Canyon and the streets at the Courthouse (where the Copper Man statue is located) needs to have the travel lanes defined with directional signage, markings, and striping; it is an area with a broad expanse of pavement that is confusing to the typical driver; the intersection area is also devoid of sidewalks and street crosswalks that are needed to safeguard pedestrians.
- A network of multiuse paths should be planned for phased implementation.

  - Arizona Street and Purdy Lane (roads from Warren to the airport) are candidate corridors.
  - The abandoned railroad lines are also possible candidate corridors.
  - SR 80 and SR 92 are candidate corridors that can provide regional connectivity.
  - The Naco Highway is another good candidate corridor for a multiuse path to connect the international border to Bisbee.
- A signage and wayfinding program is needed for implementation to facilitate and enhance the visitor's experience to Bisbee.
- Naco Road and Main Street in the Old Bisbee Downtown/tourist district need improvement to control speeding and provide safer pedestrian crosswalks.
- Drainage improvements are needed to correct problem areas and preserve street pavements.
  - On-street drainage capacity on Main Street needs to be increased with the next surface restoration project (milling at gutters prior to overlay to restore curb height).
  - Intercept surface runoff in the vicinity of the library to redirect the stormwater into the main drainage channel.
  - The area near the historic ball field in Warren has flooding issues and needs better drainage.
  - A larger drainage inlet on SR 80 between Naco Road and Dart Road is needed to mitigate plugging.


Tombstone Canyon Channel in Old Bisbee

- Additional parking is needed throughout Old Bisbee both for visitors and residents; need small "pockets" of parking where possible; need a parking "bank" to help businesses meet zoning requirements for parking.
- The SR 92 corridor needs an overall access management strategy and traffic measures to control speeds and improve safety.
- Need a funding mechanism to pay for the maintenance, upkeep, and eventual replacement of public staircases.
- Sidewalks are needed to provide for good pedestrian circulation throughout Bisbee.
  - Need sidewalks in San Jose to connect residential areas to shopping.
  - Need sidewalks to connect Warren to San Jose.
  - Need sidewalks along School Terrace Road to provide safe pedestrian access to the high school.
  - The intersection of the Naco Highway and SR 92 needs crosswalks.

- Many of the streets in Warren and Old Bisbee have poor and rough road surface conditions and need either an overlay or, in many cases, complete reconstruction.
- Some of the public staircases and retaining walls have no handrails and safety rails, or the rails are in poor condition.

- Old Divide Road (county maintenance) over Mule Mountain Pass needs to be addressed and hopefully reopened in some fashion to provide an alternate route for public safety vehicles should the SR 80 tunnel be closed for any reason.

This listing is not intended to include all transportation system improvement needs mentioned, but rather to include those that were mentioned by multiple stakeholders and those that fell into general categories.

5.0 Current Conditions Analysis of Transportation Infrastructure


Lowell community within Bisbee

During October 2010 (October 18 through October 21), a field inspection of the transportation infrastructure in Bisbee was conducted, assisted by City of Bisbee staff and a member of the City's Streets and Infrastructure Committee. This inspection included an assessment of pavement conditions, and the locations and condition of sidewalks, stairways, retaining walls, and drainage structures. Specific findings of that field inspection are contained in *Appendix 5 Field Inventory*. This is a companion element that is an integral part of this report. It contains the street and structure inventory tables with infrastructure condition assessments, associated maps, and photographic documentation. The following sections provide a brief commentary regarding Bisbee's transportation infrastructure.

5.1 Roadways

During the roadway field inspection, each local street within the study area was driven and video recorded along with a voice recording describing the condition of the road and the condition rating of the street surface. The video/voice recording files were provided to the City of Bisbee and to ADOT MPD along with the digital files of this working paper. Some still photographs were also taken of items of interest.

The following condition assessment rating system was used for both the streets and the structural elements including stairways, retaining walls, and bridges/culverts:

Condition Assessment Rating System

5 – Excellent: No visible distress, new construction, no maintenance required.

4 – Good: Shows some traffic wear, very few cracks (open 1⁄4"), no patching or very few patches in good condition; showing the first signs of aging; recent repairs or improvements; sound structural condition; little or no maintenance required.

3 – Fair: Shows traffic wear and signs of aging, longitudinal and traverse cracks (open 1/2"), some spaced less than 10', patching in fair condition; significant aging and first signs of need for strengthening; would benefit from structural/surface repairs.

2 – Poor: Closely spaced longitudinal and transverse cracks, erosion, patches in poor condition, potholes; needs extensive reconstruction or repairs.

1 – Failed: Severe distress with extensive loss of surface/structural integrity; needs total reconstruction.

Bisbee streets run the gamut from recently paved asphalt streets with concrete curb and gutter sections to dirt paths, and most everything in between including old concrete street pavements and chip seal surfaced streets with and without curb and gutter. It can be safely stated that the needs to maintain, rehabilitate, and replace streets greatly exceed the financial ability of the City to fulfill those needs to accomplish the goal of bringing the streets into reasonably good condition. The major challenge facing the City is how to allocate the available resources to preserve and maintain streets in fair to good condition to prevent them from deteriorating, and how to incrementally rebuild those streets with little or no salvage. When roads begin to fail, they degrade rapidly, and the cost to repair increased exponentially.

As an indication of the current situation regarding the local street conditions in Bisbee, the following table, *Table 10 Street Condition Summary by Street Segment*, reports the condition assessment results by street segment (ignoring street length for the sake of simplicity).

Table 10 Street Condition Summary by Street Segment

Neighborhood → Condition Rating ↓	San Jose & Don Luis	Warren, Briggs, Bakerville, Galena, Lowell, Tin Town & Saginaw	Old Bisbee	Totals	
Excellent	**1**	**2**	**0**	***3***	***1%***
Good	**18**	**26**	**2**	***46***	***17%***
Fair	**17**	**33**	**23**	***73***	***27%***
Poor	**23**	**18**	**28**	***69***	***25%***
Failed	**7**	**50**	**24**	***81***	***30%***
Totals	***66***	***129***	***77***	***272***	***100%***

Note: The table does not include SR 80 or SR 92


1st Street North of Bisbee Road

Over half the street segments rated poor to failed condition; meaning they have deteriorated to the point that major rehabilitation or complete reconstruction of the street would be the best remedy. To paraphrase the remarks made by several stakeholders, "*the streets are in bad condition, but the residents are used to it and drive more slowly over the roughest areas".* Of course the consequence is additional wear and tear on vehicles and the corresponding increased maintenance expense; less safe driving conditions because of the poor, rough surfaces; and increased fuel consumption leading to additional fuel costs, more pollution, and extra use of a limited imported resource.

The San Jose/Don Luis neighborhood streets are overall in better condition than the Warren area streets. This is logical since the former neighborhoods are newer. Also as expected, the streets in Old Bisbee, as a whole, are in the poorest condition of the three major neighborhoods since this is the original, and the oldest part, of town with the steepest terrain. See the *Roadway Inventory Table* and the *Street Condition Assessment Maps* contained in *Appendix 5,* for more detailed information on the condition assessment rating of each street segment and the nature of the deficiencies noted.


Intersection of Center Ave, 30th Terrace & 16th Terrace

Poor drainage conditions in some areas have contributed to street condition degradation. When any street rehabilitation projects are carried out, it is important that the drainage and grading conditions associated with the street be carefully analyzed and that drainage be accommodated on the street to the greatest extent possible and positive drainage away from the street is provided as well to maximize the life of the investment being made. Otherwise, the street repairs or new construction will have a shorter life than necessary. Improving street related drainage is money well spent and paramount when resources are limited.

5.2 Structures

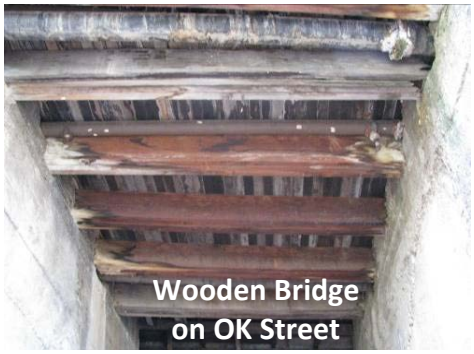

Spring Canyon Structure

Most of the bridge structures in Bisbee are inspected on a biennial basis by the Arizona Department of Transportation (ADOT). These structures are considered simple concrete slab bridges with simple tubular handrails on each side of the structure. Within the study area, ADOT inspects ten structures on the State Highway System and seven structures on local Bisbee roadways. Inspection Reports for these structures are included as *Appendix 3 – Bridge Inspection Reports* of this report. Bridge inspection reports have been reviewed for deficiencies in the study area. The reports concluded that three of the ten ADOT structures needed repairs and five of the seven local structures needed repairs.

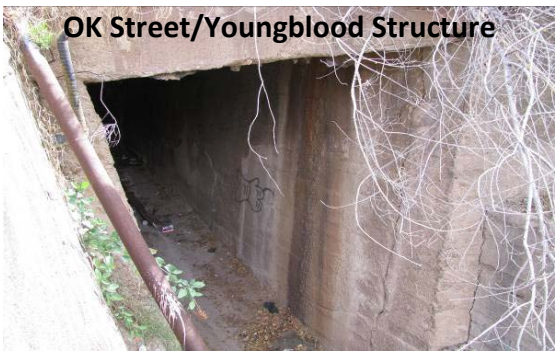
The condition of the Spring Canyon Bridge (Structure # 10540) under SR 80 is being monitored by the ADOT District Engineer's office. The wing walls of this structure are separated from the headwall (see photo to right). At present, the district has not yet identified a priority need for a structure rehabilitation project.

Many of the structures were constructed in the late 1920s or early 1930s and are in fair condition based on the overall age of the structures. The handrails are not per code, do not meet crash standards, and need upgrading to protect against vehicular strikes. Reference should be made to the inspection reports in regards to specific deficiencies found and any rehabilitation work that should be done between inspection cycles.

Three structures were found in Old Bisbee that are not in the regular rotation for inspection. Two of these structures are on OK Street. One of these structures (labeled A on Figure 20) is found near Brewery Gulch and consists of timber decking with built up timber beams. Based on visual observation, the beams are either 4 – 2x8 beams or 4 – 2x10 beams spaced approximately 5' on center (C/C). The decking is in poor condition and shows strong evidence of failure. The roadway surface is asphalt.

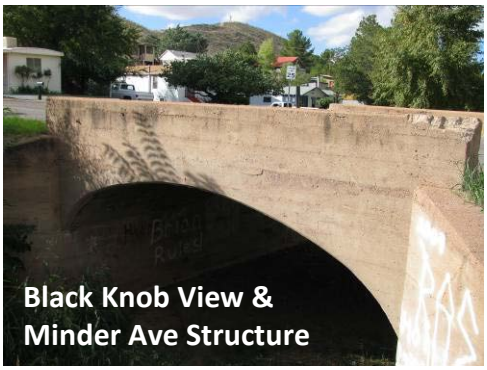

Wooden Bridge on OK Street

Per Bisbee officials, during recent rehabilitation work on homes uphill of the structure, a temporary structure was placed over the limits of the wooden bridge so that the trucks would not overstress the structure. This structure is in need of immediate replacement in order to bring it up to standards and allow continued use of OK Street.


OK Street/Youngblood Structure

The second structure (labeled B on Figure 20) is located at the intersection of OK Street and Youngblood. This structure is a concrete slab bridge over a drainageway. The structure is in fair condition. The underside of the structure shows signs of efflorescence and overall aging since the structure is approximately 80 to 90 years old. There is a large vertical crack in the downhill side of the abutment wall. The crack shows no sign of recent movement and looks to be stable. There are some signs of deterioration due to water intrusion and vegetation growth on the canal walls. Overall, the structure needs little rehabilitation work and should be added to the biennial inspection list along with the other structures located within the City of Bisbee.

The third structure (labeled C on Figure 20) is on Minder Avenue just north of Black Knob View. This structure is a concrete arch and is in fair condition. The railing on the structure needs repair or replacement due to a vehicle collision. There is some minor cracking and efflorescence due to the structure being about 64 years old.


Black Knob View & Minder Ave Structure


Typical Bent Rebar Hangers for Utilities

Overall, all of the structures, except the wooden bridge, are in fair condition, mostly because of the age of the structures. The biggest issue would be the lack of a barrier/guardrail on each side of the structures. The rails need to be upgraded to meet current AASHTO crash standards.

One other item of concern was the utility hangers that were visible on the bridges. These need to be brought up to standard and should be properly anchored into the structure. Several of the structures had these new hangers, but most of

the hangers seen on the structures consisted of bent rebar that has been placed on the curb and the utility was hanging from these bent rebar hangers.

Figure 20 Bridge and Culvert Structure Locations on the next page shows the locations of the structures in the study area.

5.3 Stairways

The public stairways are found in Old Bisbee. These were built primarily in the 1920s and 1930s. The handrails for all of the stairways consist of steel tubes welded together. The posts for the handrails are spaced approximately every five feet (5'). Most of the handrails exhibit major rust and corrosion of the vertical members. None of the handrails meet current standards and would need to be upgraded to meet current building code standards on height, spacing of horizontal members, and location in regards to the stairway locations.


Stairway at 101 OK Street

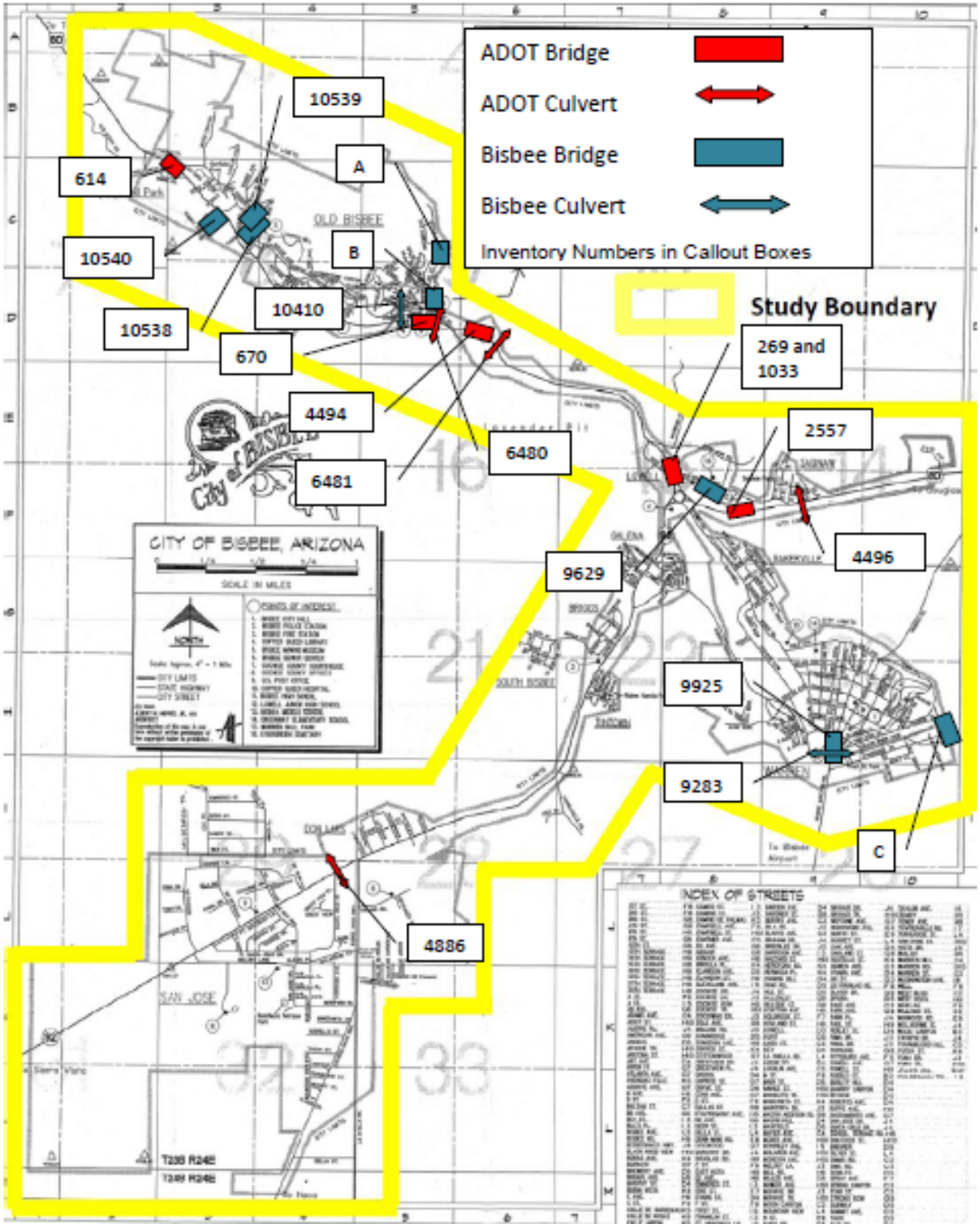
The stairways themselves are generally in fair condition. Some of the stairways occasionally have water running down the middle of the stairways that is contributing to their overall degradation. Most of the stairs currently do not meet current code for both height and depth of the treads. Some of the stairways have been recently rehabilitated by either the property owners or the City of Bisbee. Most of the repairs that have been recently completed are in good condition and should extend the life of the stairway for another 10 to 15 years without major rehabilitation work from the City. A few stairways are in need of immediate rehabilitation due to erosion of the subbase of the stairway.

Much of Old Bisbee is a designated *National Historic District*. An expansion of this district is currently underway to add in additional residential areas. Therefore, any stairways that need to be reconstructed should be closely discussed and coordinated with the State Historic Preservation Office (SHPO) to ascertain how the work can be done to preserve the historic nature of the stairway while meeting current code and safety standards.

Also, as noted earlier in this report, a survey of the Warren area identified a large number of qualifying buildings, so it is likely that a similar historic designation may follow for much, if not all, of the Warren neighborhood. Prior to undertaking major replacement or rehabilitation work on structures, stairways or walls in this neighborhood, discussion and coordination with SHPO should occur.

The locations of the various stairways are shown on the maps contained in *Appendix 5 Field Inventory*.

Figure 20 Bridge and Culvert Structure Locations



5.4 Walls

The majority of the retaining walls are located in Old Bisbee. There are several walls located in Bisbee that are utilized in conjunction with drainage channels. These walls are mostly comprised of either cobblestone or concrete, and the majority of the walls are in good/fair condition. Most of the drainage ways are usually dry except during the rainy season when these drainageways will be utilized. Most of the drainageways are clogged with debris, silt, and vegetation, and they need to be cleaned out.

In Old Bisbee, the walls are terraced to allow property owners more usable land. The City of Bisbee has taken the stance that if the wall holds up the public street, then that wall is the City's property and responsibility. If the wall is utilized to gain more usable property, then the ownership and maintenance of the wall lies with the property owner(s). It was determined during the inventory field work that the public street right of way and deeds need to be examined to correctly determine where the right of way line is in regards to the wall and the adjacent property owners.

Most of the walls within Old Bisbee were constructed in the 1920s and 1930s, and consist of concrete with a mixture of aggregate that includes stone, mine slag, glass, nails, and even railroad rails. A majority of the walls are in fair condition and are starting to reach the end of their useful life due to exposure to the elements. Several walls are in poor condition and are starting to fail and will need immediate replacement.

The wall located on OK Street at Review Avenue is a classic example of a wall at the end of its useful life. The wall crumbles when touched and the above supported roadway is showing stress cracks due to movement of the wall away from the roadway. The wall needs to be replaced as soon as possible due to its state of disrepair and its potential impact on the use of OK Street and access to property owners.


OK Street wall needs to be Replaced

OK Street

There are several walls located throughout Old Bisbee that have been rehabilitated by the property owner or the County. The repairs consisted of a shotcrete face to restore the integrity of the wall without totaling replacing the structure. Many of the repairs are in very good condition and will extend the useful life of the wall another 10 to 15 years.

It is recommended that all walls that are not yet rehabilitated receive some rehabilitation in the next 5 years. This rehabilitation would include new handrails, new gutter ways between the top of wall and the roadway, and the exposed face of the wall encased in either shotcrete or a reinforced stucco finish. The stucco finish will allow more flexibility in a color scheme for the rehabilitation effort.

The condition and location of the retaining walls are shown in the tables and on the maps contained in *Appendix 5 Field Inventory*.

6.0 Current Condition Findings

This section identifies and describes the current conditions of the transportation system for the City of Bisbee. The community is unique and diverse, as is the transportation system. The transportation needs are significant and the desired transportation improvements are set forth herein. The community is aware that mustering the resources to address the needs and meet the travel demands will be a challenge. The goal is to spend the limited funds wisely to get the most for the money spent. Some of the more important findings for the current condition of transportation in Bisbee are summarized below:

- An integral part of the Bisbee transportation system is the many public stairways and retaining walls in the Old Bisbee area. They are part of the charm, character, and history of the community. Their preservation is important.
- Bisbee is a collection of dispersed neighborhoods separated by features of the terrain and mining activities. This creates neighborhoods with distinct differences and necessitates the need for good transportation circulation and connectivity within the City.
- There are lots of pedestrians and bicyclists sharing the streets and roads. While there are some sidewalks in areas to accommodate them, there is a big demand to improve the facilities:
  - More sidewalks are needed to interconnect the neighborhoods and to provide good circulation within the neighborhoods and the City.
  - Bike facilities, such as bike lanes, multiuse paths, shareways, and bike routes, are needed as there are essentially no such facilities available today.
  - Convenient and safe crossings of the major routes including SR 80 and SR 92 are a must in and can be in the form of effectively designed crosswalks or possibly grade separated facilities.
- Parking in Old Bisbee for residents and visitors alike is critically needed and an innovative means of providing more parking needs to be explored.
- The inventory and condition assessment of the transportation assets confirmed the findings of the City's *Streets and Infrastructure Committee*; that some 25% of the street segments are in poor condition and 30% have failed, meaning complete reconstruction is the best solution.
- A considerable source of economic development for the community is from tourism, and there is a significant need for a good signage and wayfinding program to enhance the visitor's experience. The objective is to make it easy for the visitor to circulate around town and to find all the attractions, shopping, and destinations the community has to offer.
- Traffic volumes on SR 92 suggest a future congestion problem, especially in the segment from the Naco Highway to the roundabout. In conjunction with ADOT, a plan for the improvement of SR 92 should be developed that would include an access management plan, future capacity enhancements, and the

protection and preservation of anticipated additional highway right of way.

- Fatality crash rates along both SR 80 and SR 92 appear to exceed state averages for two lane arterial facilities. The mountainous terrain, curves, and unique visual attractions of the Bisbee area may all play a role in this serious problem. The City should work closely with ADOT, the Highway Patrol, and the Governor's Office of Highway Safety to develop a menu of safety measures to reduce the number and severity of crashes along these arterial routes.
- The Bisbee Bus system has had a long and successful history and fulfills a critical need for those who must use, or choose to use, public transportation. Transit will become increasingly important to the community in the future.
- There is undeveloped land in the vicinity of the airport, and the City has significant land holdings in that area. This resource lends itself to the development of a business park to attract and generate employment opportunities. Such a facility will, in turn, build tax base to generate additional revenues to help support the maintenance and operation of the transportation system.
- The Naco Port of Entry is another asset to be capitalized on for economic development opportunities. This is the only international border crossing in Arizona not served by a state highway. The stewardship of this road should be discussed with ADOT.
- A strategy on how to effectively address the many travel demands and fulfill the many infrastructure improvement needs is a key component of the transportation plan.

7.0 Future Conditions and Deficiencies Inventory

7.1 Future Land Use

The *City of Bisbee General Plan 2003* covers an area much larger than the current corporate limits. This larger area, an ultimate growth area for the community, describes five specific planning areas. Three of these, the Old Bisbee, Saginaw, and Warren areas, are primarily historic and will have little new development activity. They will, however, have redevelopment activities focused on the renovation of existing structures. As much of these areas is historic, redevelopment activities will be done while following the City's *Design Guidelines for the Bisbee Historic Districts*, and guidelines of the National Register of Historic Places.

The General Plan does address two specific planning areas with significant growth potential. These are the Bisbee Municipal Airport Area and the San Jose Area. These areas were previously identified as growth areas for Bisbee in the *Cochise County Comprehensive Plan*. The Bisbee Municipal Airport Area is totally outside of the current city limits. This is an area of 6,373 acres, or just under 10 square miles. The San Jose Area is partially within the current city limits. This planning area is 11,453 acres in size, or just under 18 square miles. Of this area, 2,376 acres is currently within the city. The area is bisected by SR 92, and includes the Naco Highway, the community of Naco and the international Port of Entry. Almost all of the future new development potential for Bisbee is within these two growth areas.

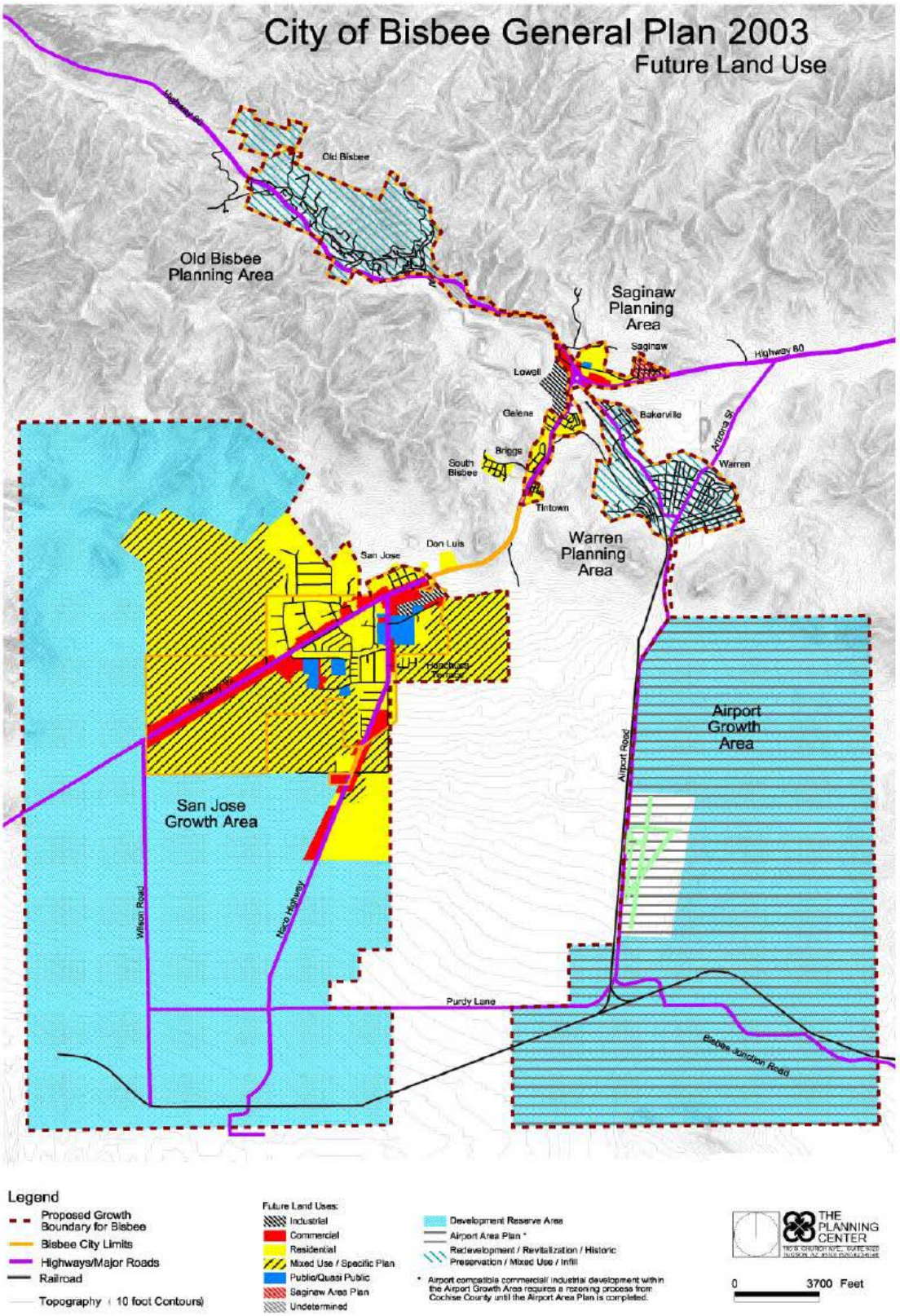
The Bisbee Municipal Airport Area is a target for airport compatible uses, which includes industrial and commercial uses. The noise contours established in the Bisbee Municipal Airport Master Plan identify

areas where future residential uses would not be suitable. Runway approach/departure and transition zones also protect both the flying public and adjacent property owners. Airport Road, Bisbee Junction Road and Purdy Lane are the existing roadways that serve the airport. It s important to consider upgrades to these facilities that can direct traffic generated by future airport compatible uses away from residential areas.

Most of the future growth in Bisbee will occur in the San Jose and Airport Growth Areas indentified in the General Plan. Vehicular and pedestrian traffic entering the area through the nearby Naco Port of Entry will likely stimulate future retail activity in this area. It should be noted that there are no plans to increase capacity at this POE, and traffic is most likely to remain at levels that are generated by the Naco, Sonora area. The General Plan envisions new residential uses occurring adjacent to existing residential areas and highway commercial, retail and commercial uses locating along the Naco Highway and SR 92 corridors. Other areas will develop as mixed use following specific plans or master plans to be developed. Redevelopment of vacant buildings may occur in the Old Bisbee and Warren areas. Seventy percent of the land in the growth area is designated as a "development reserve area" to be developed in the future in a master planned fashion. *Figure 21, Future Land Use* from the *City of Bisbee General Plan 2003*, shows the anticipated uses summarized in this section.

Growth in nearby Sierra Vista is somewhat constrained from extending east along SR 90 due to public open space lands along the San Pedro River. It is likely to continue moving south along SR 92, towards the Bisbee study area.

Figure 21 Future Land Use



7.2 Population Projections

Official population projections are developed by the Arizona Department of Commerce. These projections currently extend to the year 2055. Projections are done for incorporated communities, counties, and for geographical unincorporated areas adjacent to cities and towns that are referred to as *Census County Divisions* (CCDs). The Bisbee CCD includes areas located within the City of Sierra Vista, with a current population of just over 19,000. Because of this, the entire Bisbee CCD data is not included in the following table, which excludes those portions of the CCD now within Sierra Vista. The table includes only the City of Bisbee proper, Naco, and some outlying areas to the southwest along SR 92 not a part of Sierra Vista. Cochise County and Arizona projections are included for comparison.

Table 11 Official Arizona Department of Commerce Population Projections

Location	2011	2015	2020	2025	2030
City of Bisbee	7,147	7,489	7,867	8,195	8,483
Naco	899	920	943	964	982
Bisbee CCD (Remainder)	3,886	4,028	4,340	4,424	4,585
Area Total	11,932	12,437	13,050	13,583	14,050
Cochise County	148,672	158,650	169,717	179,317	187,725
Total Arizona Population	7,186,070	7,915,629	8,779,567	9,588,745	10,347,543

The three local areas in Table 11 above are projected to grow by just under 18% by 2030. During the same period, total State of Arizona population is projected to grow by 44%. Since tourism is a significant component of Bisbee's economy, the higher overall state growth rate suggests that tourism may well grow at a rate faster than local population growth.

Initial data from the 2010 Census indicates that Bisbee did not grow as projected. In fact, the 2010 Census reports that the City of Bisbee had a population of 5,575, down from the 2000 Census count of 6,090. There are a number of possible explanations for this drop. The comparison between Department of Commerce estimates and actual Census counts can be misleading. Projections and estimates produced throughout the decade are primarily developed from issued building permits, and then multiplied by the average persons per household, taking into account the vacancy rate from the last decennial census. Areas that have a very high seasonal or vacation home population typically see this type of discrepancy when the actual census numbers come in. The Census only counts permanent year round residents so homes built or purchased as for investment, seasonal second homes or as Bed and Breakfast businesses do not translate into a census count population increase. The Department of Commerce typically revises population projections following census counts, but this has not been done yet. New projections are expected in late 2012, and will likely be tempered by 2010 census data.

The 2010 Census reports that Bisbee had 664 vacant housing units; if these had the average persons per household number in them (2.05), the total population of Bisbee would have been 6,930 at the time of the Census count that Bisbee was carrying about three times as many housing units on the market than had been previously typical in the market. This was also the case in many other communities due to the rising number of residential foreclosures.

Although the economy may have had some impact on the population count in Bisbee, the primary reason for the change has to do with the changing demographics of the city. The 2000 Census reported that Bisbee had a household size averaging 2.20 with a median age of 43.2 and with 19.6% of the population over the age of 65. In 2010, the average household size dropped to 2.05, median age rose to 48.8 and the percentage of the population over 65 rose to 20.7%.

Another telling factor is the number of 10-19 year olds in the 2000 Census (721) who do not carry over in place (as 20-29 year olds) into 2010. A drop of 177 people in this category suggests that, once graduated from high school, a notable percentage of Bisbee young people leave for college, military or other locations rather than remain here.

If persons per household had remained the same, Bisbee would have had a count closer to 5,633, an increase of 58 people. If the vacancy rate has remained the same (15.3% instead of 20.2%), there would have been an additional 162 houses with people in them, an increase, at current occupancy rates, of 348 people. However, what happened during the decade is that an increase of 5.1% in the number of vacant houses (more rentals, more seasonal homes, more homes on the market) combined with a decline in the number of people living in each housing unit resulted in the count in the 2010 that was lower than what had been projected.

Because of this data, a revised population projection for the City of Bisbee and surrounding areas within the study area was developed using a 1 percent annual growth rate from 2010 to 2030, with the 2010 Census count as a starting point. Actual census data for Bisbee and Naco are shown, while the population for the remainder area of the Bisbee CCD was extrapolated from the difference between the 2010 Arizona official projections and the census counts for the other portions of the study area. Table 12 shows these projections.

Table 12 Unofficial Population Projections for the City of Bisbee based on Initial 2010 Census Data

Location	2010	2015	2020	2025	2030
City of Bisbee	5,575	5,854	6,147	6,454	6,777
Naco	1,046	1,098	1,153	1,211	1,271
Bisbee CCD (Remainder)	2,990	3,140	3,297	3,462	3,635
Total Study Area	9,611	10,092	10,597	11,127	11,683

It should be noted that occupants of seasonal residences still require utilities, services and transportation infrastructure while in town, so reduced population counts should not necessarily suggest reduced demand for transportation infrastructure.

Note: Cochise County staff has spent considerable effort evaluating the data from the 2010 Census, and reaching conclusions on the impacts. Development of the above section was greatly facilitated by the work done by Karen Lamberton, AICP, Cochise County Transportation Planner.

7.3 Projected Employment Characteristics

Because there is no known source for future employment data, the magnitude and distribution of future employment was estimated by WSA. The Arizona Department of Commerce reports that the 2008 civilian labor force (population 16 years and older) in the City of Bisbee totaled 3,497. Assuming that the employment rate (0.627 jobs per capita) remains constant, 2030 employment would be about 4,249 using the revised growth projections in Table 12. According to the above Department of Commerce data, the Cochise County projected growth rate from 2011 to 2030 in Table 11 above is 26.3%, exceeding the Bisbee area projected growth rate over the same period. The 2010 census data indicates that all area communities failed to meet the official projections, so the area growth rate is likely optimistic. Since Bisbee is the county seat, it would still be expected that growth in county government service jobs to meet the demand of county population growth (albeit lower than the projections) would, in part, support employment growth in Bisbee.

7.4 Traffic Projections

A computer travel demand model was developed for use in this study. Existing traffic volumes, percent trucks, and level of service (LOS) in the model are based on the Cochise County travel demand model and traffic count data collected for this study. The existing 2007 base year and the 2020 and 2040 forecast years for the Cochise County travel demand model were used to extrapolate demographics to the traffic analysis zone (TAZ) level for the years 2010, 2015, and 2030 to support this study.

A subarea for the Bisbee study area was defined and extracted from the county model for the years 2010, 2015, 2020, and 2030. The subarea model for each year was iteratively adjusted to match projected volumes at each of the newly-defined external stations. While the TAZ-level demographics and external station volumes were grown for each analysis year, no changes were made to the 2007 Cochise County network; it was used as a no-build network for each of the analysis years.

Level of service is a measure of the average service level of a roadway based on its 24-hour volume and saturation flow capacity. A simple ratio of the assigned model volume to the link capacity was used to define the LOS. On a previous PARA study (Unified Nogales/Santa Cruz County Transportation Plan 2010), WSA worked closely with Reza Karimvand and Greg Wisecaver from ADOT Southern Regional Traffic Engineering to develop a reasonable V/C Ratio table for various functional classifications for use on PARA type planning studies for rural and small urban areas.

The customary standard planning level determination for LOS is typically done using such a table. In this case, the Functional Class categories and daily capacities for the network were pre-defined based on the tables in Appendix 4. Southern Regional Traffic Engineering approved this table for use in such studies and we were directed to use this accordingly. The intent was that this table could be consistently applied for all PARA studies in the state, so that results are comparable across all studies. This previous exercise to determine the V/C Ratio calculations that were used for this study is included as Appendix 4.

Daily capacities and the ranges of the volume to capacity ratio which were used to define LOS for each functional class are shown in Table 13.

Table 13 Ranges of the V/C Ratio Used to Define LOS

Roadway Type	Daily Per Lane Capacity	Max LOS A V/C Ratio	Max LOS B V/C Ratio	Max LOS C V/C Ratio	Max LOS D V/C Ratio	Max LOS E V/C Ratio
Freeway	20,000	0.29	0.47	0.68	0.88	1.00
Multilane Arterial	8,000	0.29	0.47	0.70	0.95	1.00
2-Lane Arterial	7,000	0.29	0.47	0.50	0.90	1.00
2-Lane Collector	5,000	0.29	0.47	0.50	0.90	1.00

Assigned volumes from the 2015 Bisbee subarea travel demand model were used to calculate LOS, using the 2007 no-build network. LOS for 2015 is shown in Figure 22. An inset of the Bisbee / Warren area is shown in Figure 23. Compared to 2010, the forecast volumes for 2015 generally show a moderate increase. However, while volumes on links have increased, the increase is generally within the range of the same defined LOS category. The LOS map for 2015 is virtually identical to that for 2010. The summary table shows that just 0.2 miles of roadway have moved from operating at LOS A to LOS B.

Forecasting demographic conditions five years further to the year 2020, while still using the no-build network, some LOS degradation can be seen. LOS for 2020 for the study area is shown in Figure 24, with the inset area shown in Figure 25. Overall, the length of roadways operating at LOS D is forecast to remain the same for 2020. However, the amount of roadway at LOS A decreases, with a corresponding increase in roadways at LOS B and LOS C.

For the 2030 forecast of twenty year's worth of demographic growth on the no-build network, decreased levels of service can be seen more extensively throughout the study area. The study area LOS for 2030 is shown in Figure 26, and the inset area LOS is in Figure 27. The trend of degradation of performance on SR 92 as it approaches the traffic circle continues in 2030. A two-lane section immediately south of School Terrace Rd is forecast to drop to LOS E. This is severe congestion. SR 80 to the east of Warren is forecast to drop to LOS D, as is a part of the northern section of the Naco Highway as it approaches SR 92. Some sections of the Highway 80 ramps on the east side of Bisbee are also projected to drop to LOS D.

Figure 22 Forecast LOS for 2015

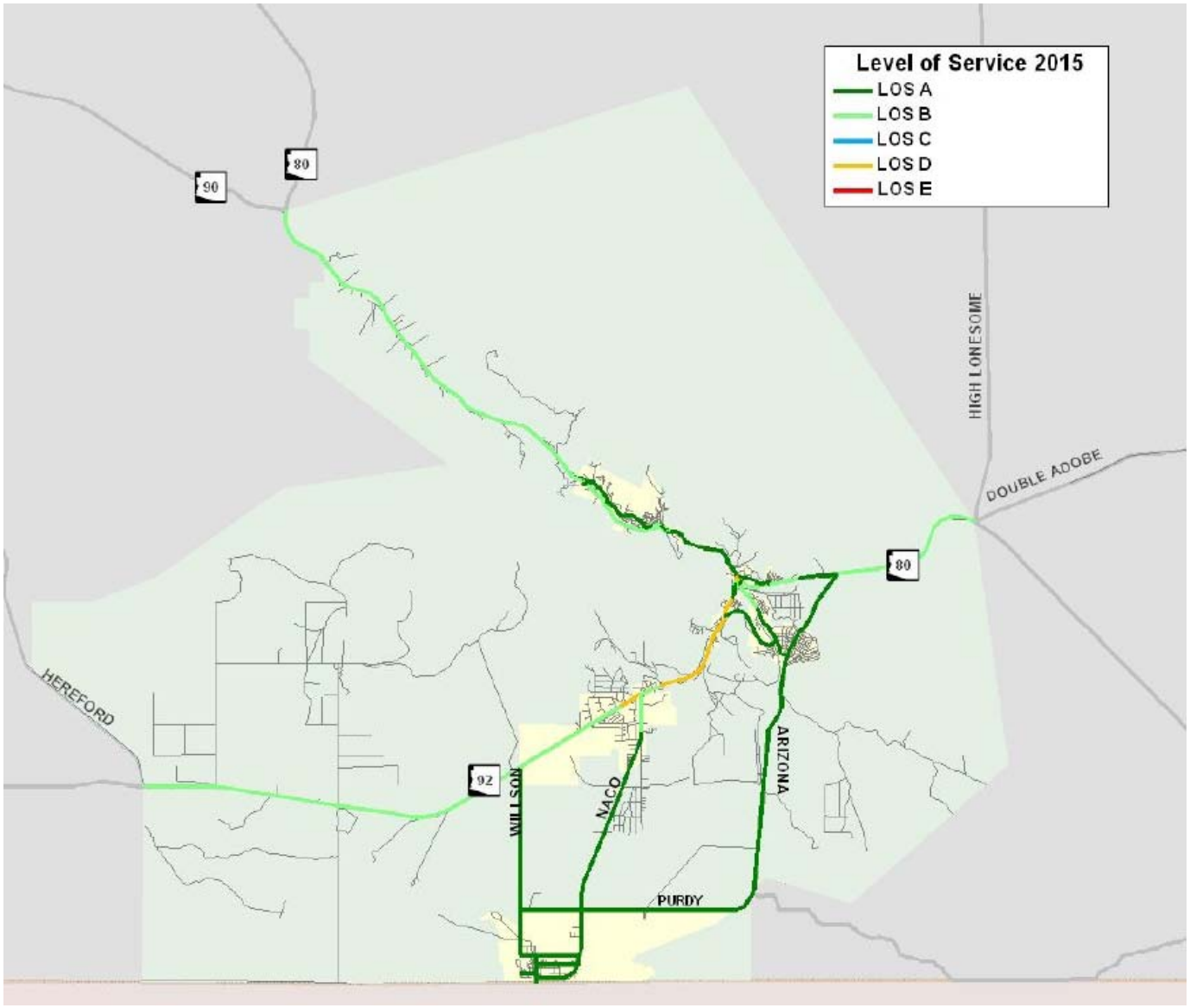


Figure 23 Old Bisbee/Warren Inset Area Forecast LOS for 2015

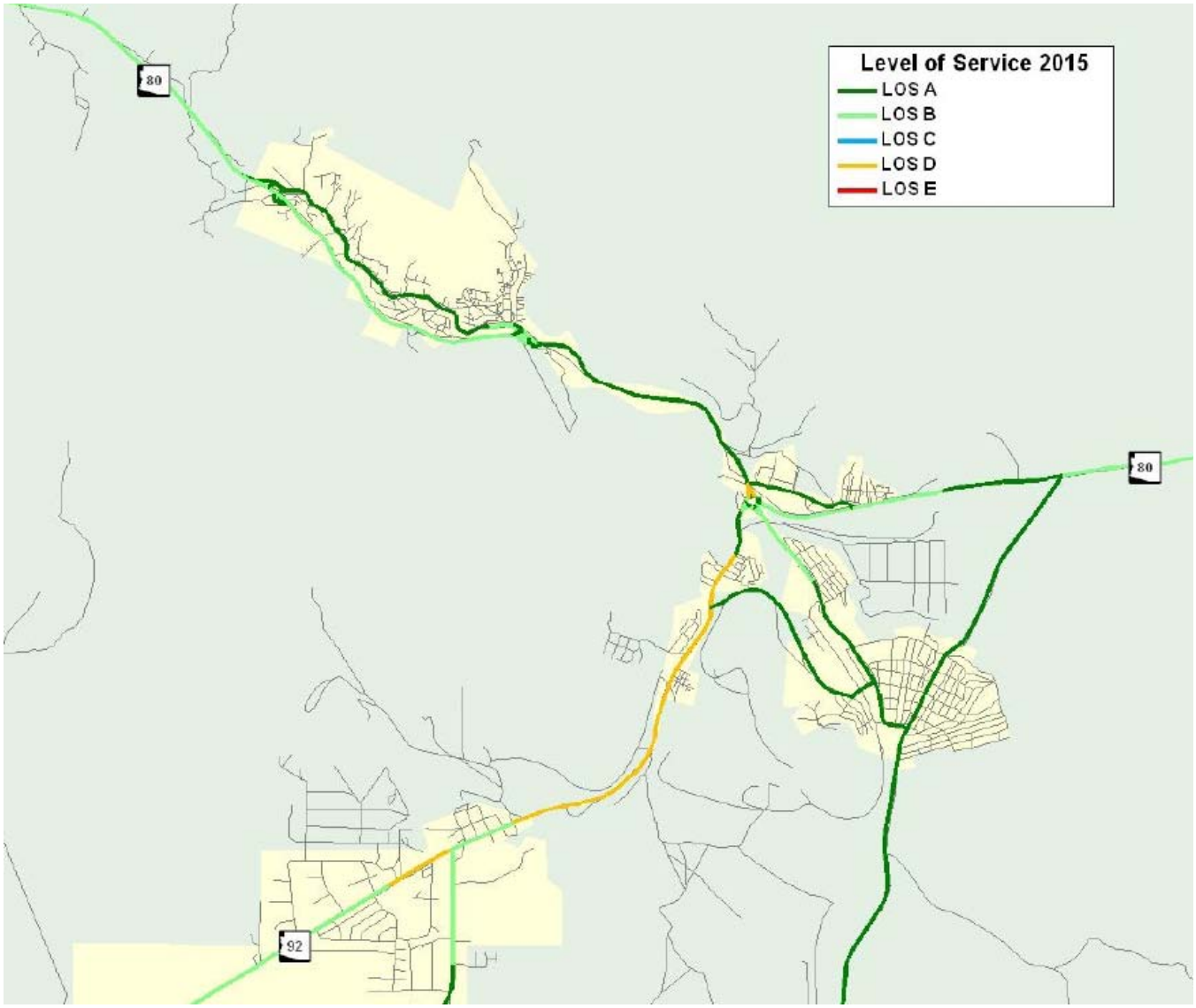


Figure 24 Forecast LOS for 2020

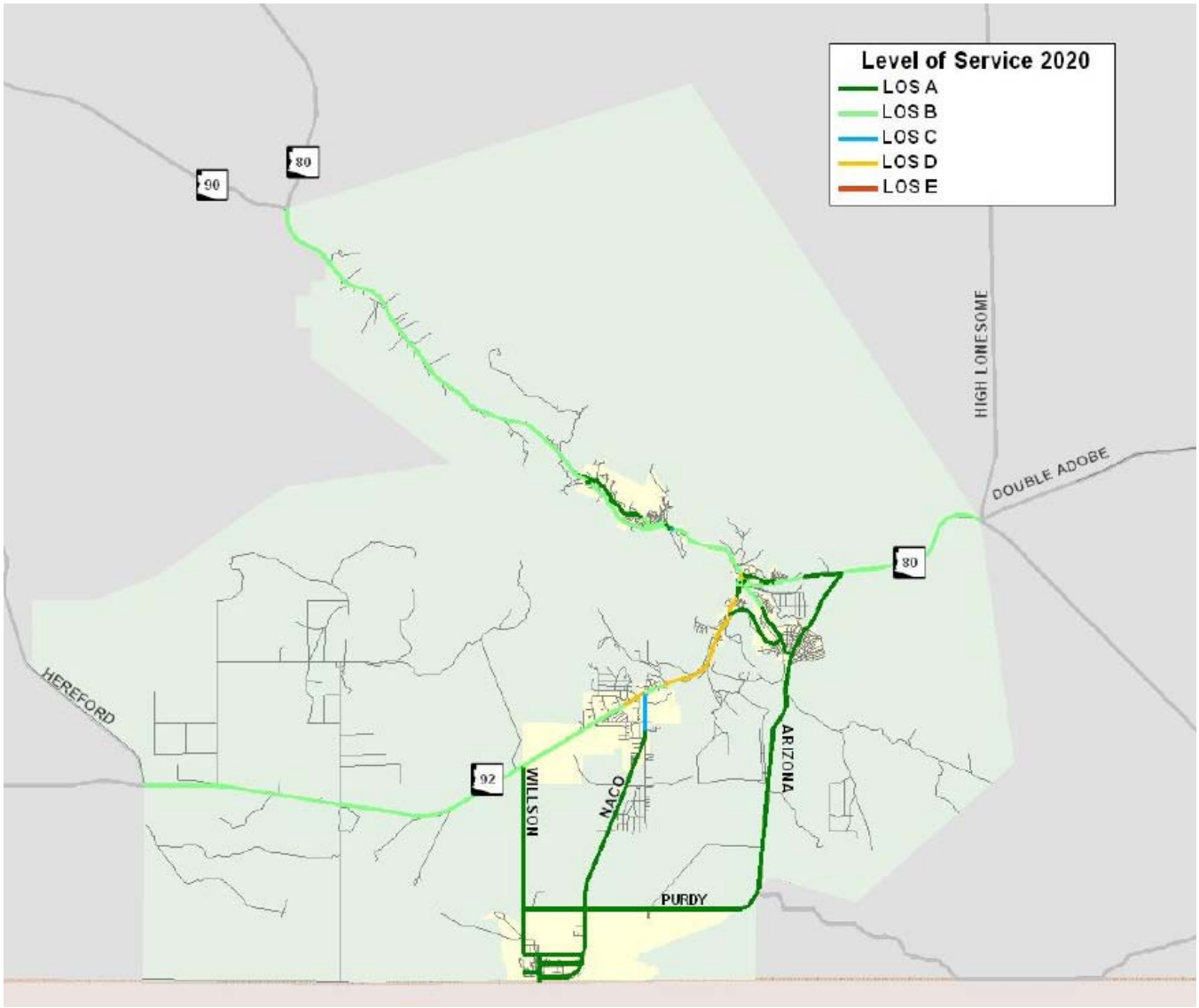


Figure 25 Old Bisbee/Warren Inset Area Forecast LOS for 2020

Figure 26 Forecast 2030 LOS

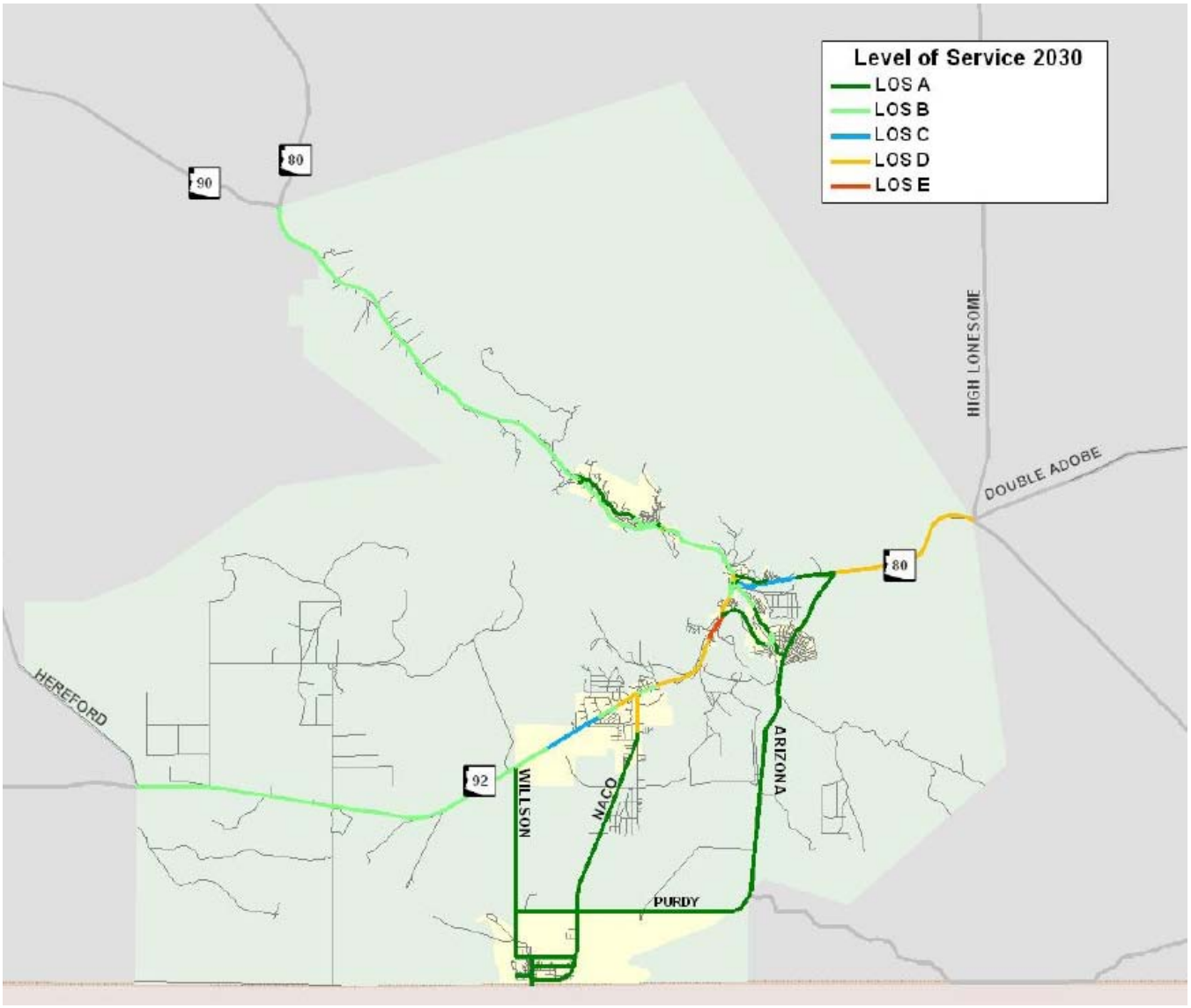


Figure 27 Old Bisbee/Warren Inset Area Forecast 2030 LOS

In general, the local roads serving the urban areas of Old Bisbee, Warren, and San Jose that are at LOS A under existing conditions in 2010 are forecast to have sufficient capacity to maintain their performance through the year 2030. In contrast, the higher-level facilities such as SR 80 and SR 92 are forecast to show declines in their levels of service. Some explanation is in order here. The modeling done was based on a no-build network. The local street system between the various neighborhoods is not well connected. As a result most inter-neighborhood trips must use the state facilities. This lack of local neighborhood connections, paired with a lack of excess capacity on these local roads likely sheds trips onto the state system. Some of the more urban sections of regionally significant arterials like Naco Highway, Main Street, and ramps are forecast to show some noticeable but less dramatic declines in their levels of service. Table 14 shows the percentage of the total mileage within the study area which is at each defined LOS category for the existing conditions and the three forecast years.

Table 14 Percent of Study Area Mileage by LOS Category

Percent of Mileage Per LOS Category						
	LOS A	LOS B	LOS C	LOS D	LOS E	LOS F
2010	52.1	43.0	0.0	4.8	0.0	0.0
2015	51.9	43.3	0.0	4.8	0.0	0.0
2020	48.3	45.7	1.2	4.8	0.0	0.0
2030	47.3	37.9	3.7	10.3	0.8	0.0

Table 14 shows that the roadways at LOS A show a slow and steady decline throughout the twenty-year forecast period. Much of the LOS A decrease is taken to LOS B through the year 2020. By that year, a trend of dropping from LOS B to LOS C is also seen. The amount of roadways at LOS D is steady until the year 2030, when volume increases sufficiently to drive it into the LOS D range. It should be noted that LOS is defined by ranges, so a road's volume can increase by a fairly significant amount without tripping into the next category.

Additionally, average volumes over a stretch of roadway vary with the traffic loading points and with turning movements at intersections. As Table 15 shows, the average volumes over the larger stretches of road segments increase for the twenty-year forecast period, with an average increase of 24%. This compares to forecast population growth of approximately 22%, indicating the vast majority of the traffic growth is coming from local population growth while increased trip making per household and increased regional transportation growth likely account for the additional 2% traffic growth.

Table 15 Average Volumes for Selected Road Segments

Average Volumes of Selected Road Segments					
	2010	2015	2020	2030	Pct Increase 2010 - 2030
Highway 80 from boundary to north ramps	4,870	5,200	5,460	6,250	28.3%
Highway 80 from north ramps to south ramps	4,600	4,870	5,190	5,710	24.1%
Highway 80 from south ramps to the Circle	8,590	9,050	9,560	10,510	22.4%
Highway 80 from Arizona to the Circle	3,920	4,160	4,310	4,800	22.4%
Highway 80 from boundary to Arizona	5,690	6,090	6,400	7,450	30.9%
Highway 92 from School Terrace to the Circle	8,020	8,370	8,870	9,670	20.6%
Highway 92 from Naco to School Terrace	10,490	10,930	11,270	12,470	18.9%
Highway 92 from Willson to Naco	5,880	6,230	6,550	7,040	19.7%
Highway 92 from Hereford to Willson	4,620	4,840	5,070	5,570	20.6%
Highway 80 from Arizona to the Circle	3,920	4,160	4,310	4,800	22.4%
Bisbee from Arizona to the Circle	2,900	3,140	3,300	3,590	23.8%
Arizona from Bisbee to Highway 80	1,130	1,220	1,320	1,460	29.2%
Arizona from Naco to Bisbee	700	750	800	910	30.0%
School Terrace from Highway 92 to Bisbee	3,300	3,600	3,880	4,150	25.8%
Naco from Towner to Highway 92	2,010	2,130	2,230	2,430	20.9%

7.5 Future Condition of Roadways

The Current Conditions section reported that over half of the local street segments were rated poor to failed condition; meaning they have deteriorated to the point that major rehabilitation or complete reconstruction of the street would be the best remedy. To paraphrase the remarks made by several stakeholders, "*the streets are in bad condition, but the residents are used to it and drive more slowly over the roughest areas".* The San Jose/Don Luis neighborhood streets are overall in better condition than the Warren area streets. This is logical since these neighborhoods are newer. Also as expected, the streets in Old Bisbee, as a whole, are in the poorest condition of the three major neighborhoods since this is the original, and the oldest part of town with the steepest terrain. From the Current Conditions section of this report, Table 16 summarizes the current (2011) conditions of local roadways. Without active rehabilitation steps, the conditions will certainly deteriorate further in the future. A priority should be to maintain the roadways that are in good condition so that they do not deteriorate as well, and secondarily to improve the condition of those facilities in poor condition.

Table 16 Current Street Condition Summary by Street Segment

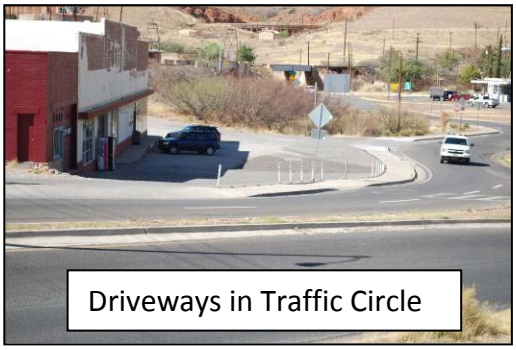
Neighborhood → Condition Rating ↓	San Jose & Don Luis	Warren, Briggs, Bakerville, Galena, Lowell, Tin Town & Saginaw	Old Bisbee	Totals	
Excellent	**1**	**2**	**0**	***3***	***1%***
Good	**18**	**26**	**2**	***46***	***17%***
Fair	**17**	**33**	**23**	***73***	***27%***
Poor	**23**	**18**	**28**	***69***	***25%***
Failed	**7**	**50**	**24**	***81***	***30%***
Totals	***66***	***129***	***77***	***272***	***100%***

Note: The table does not include SR 80 or SR 92

7.5.1 Roadway Operational Issues

A field review was conducted in April 2011 focusing on both high accident locations, and segments where Level of Service is forecast to worsen in the future. Priority concerns are SR 80 in Old Bisbee, and SR 92 from Melody Lane to the traffic circle at that roadway's intersection with SR 80. Following are summary comments on these two segments and Naco Highway:

- SR 80 has limited problems. The Current Conditions section reported and listed a number of crashes in this segment, however. Accidents may be due to driver inattention or impairment. Stakeholder interviews raised the issues of access to the Copper Queen mine tour and the scenic pullout at the Lavender Pit, as well as prior signage informing drivers of those locations.



Driveways in Traffic Circle

- There are eight driveway openings within or immediately adjacent to the traffic circle. While businesses depend on access, there may be opportunities to close some of these access points.

- SR 92 has an excessive number of driveway access points in the vicinity of the Naco Highway intersection. Twelve of these are within 700 feet of the intersection and seven are within 100 feet, including one at the direct north side of this "T" intersection.

- Naco Highway has fourteen driveway access points within 700 feet of the intersection. Two of these are for a small parcel with a masonry sign that poses sight distance problems.

- The lack of turn lanes on SR 92 exacerbates this high number of conflict points. There appears to be adequate physical space (although additional right of way may be required) to add a center turn lane or a four lane cross section with a median and turn lanes in the segment from Melody Lane to School Terrace Road.

Multiple Adjacent Driveways

- At the southwest corner of Taylor Lane and SR 92, there are four driveway openings in a space of less than 100 feet.

- A connection to the Safeway Center from Collins Road to the south would help alleviate conflicts at the entrance on SR 92.

Figure 28 below provides the locations of access points in close proximity to the intersection of SR 92 and Naco Highway. The Evaluation Criteria and Improvements section will include more detail on access management options and projects for this area.

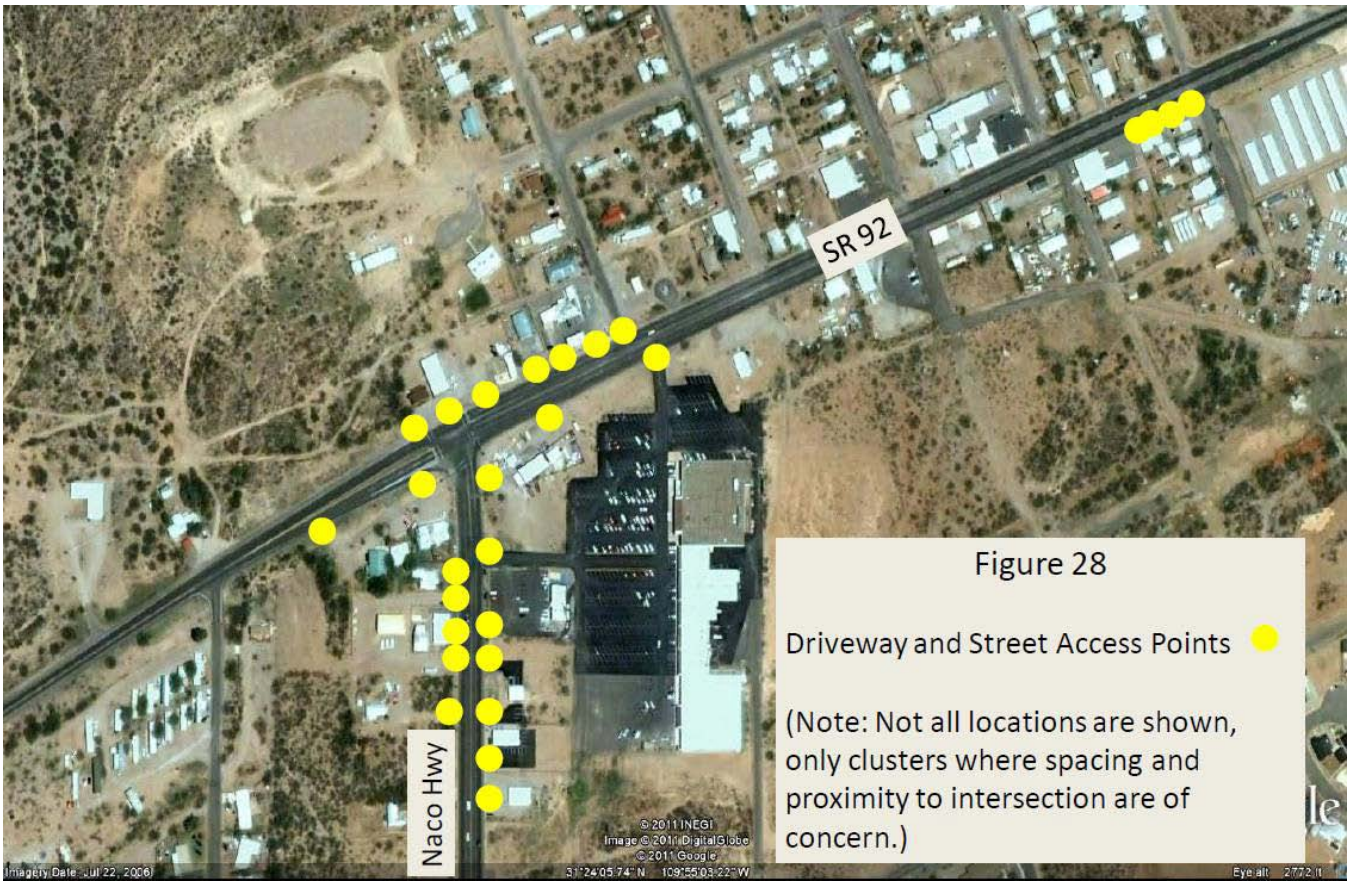
7.5.2 New Roadways

In the next section, Evaluation Criteria and Improvements Plan, attention will be given to potential locations for new roadway facilities or extensions that might help to depressurize the segments of Naco Highway and SR 92 near their intersection.

7.6 Future Condition of Bridges, Culverts and Walls

A comprehensive review of the condition of bridges, culverts and walls was conducted as part of this study. These conditions will not improve, and will continue to deteriorate if repairs are not undertaken. Some of the bridges and culverts are part of the state highway system and are the responsibility of ADOT. Others are part of the local roadway network, and are the responsibility of the City of Bisbee. A priority should be to maintain the infrastructure that is in good condition so that it does not deteriorate as well, and secondarily to improve the condition of those facilities in poor condition.

Figure 28 SR 92 and Naco Highway Access Points



7.7 Naco Port of Entry

Plans are underway for capacity expansions for the Douglas Port of Entry and the three ports of entry in Nogales. Predicted traffic volumes on SR 80 at the eastern edge of the study area (growing from 5,690 ADT today to 7,450 ADT in 2030) suggest the increased traffic from the Douglas POE is not a concern in this area. In discussions with Customs and Border Protection (CBP) officials in Tucson, they indicated that there are no plans under consideration for capacity improvements to the Naco Port of Entry. There are, however, plans to increase the number of Border Patrol agents based at the Naco station. This will marginally increase traffic further on Naco Highway and SR 92. The planned improvement of Davis Road from SR 191 to SR 80 will provide an enhanced alternative for westbound I-10 destined traffic than traveling through Bisbee on SR 80.

7.8 Future Transit Service

The Bisbee Bus is an important component of the Bisbee transportation network. Under the current economic conditions, state funding used to support public transit operations (the Local Transportation Assistance Fund) has been curtailed. The Cochise Commuter program, which extended intercity connector service between Bisbee, Douglas, and Sierra Vista was discontinued. In the future,

resumption of this service should be re-evaluated, along with service expansion within the Bisbee area. The Cochise College Campus on SR 80 east of Bisbee and regional medical services in Sierra Vista are both destinations warranting service both now and in the future. The 2008 *Rural Transit Needs Study* prepared for ADOT stated that Cochise County in general had the fourth highest rural transit demand of all Arizona counties. The report also noted that the Bisbee Bus had the second highest ridership per service hour (8.94 per hour) of all fourteen rural public transit operations in Arizona. That report identified the need for intercity bus service between Bisbee, Sierra Vista, and Benson as well.

The 2008 *Rural Transit Needs Study* predicted a transit demand in Cochise County of 930,000 passenger trips per year by 2016. The Bisbee study area (including Naco and some unincorporated neighborhoods within the Bisbee Bus service area) is about 7% of the Cochise County population. Therefore, according to the 2008 study, the transit demand in the study area by 2016 would be about 65,100 trips per year. The *Rural Transit Needs Study* used an estimation technique called the Arkansas Public Transit Needs Assessment method, or APTNA. This estimating tool focuses on populations below the poverty level, populations with disabilities and the elderly. These populations are typically referred to as "transit dependent". The Bisbee Bus currently provides just under 24,000 trips per year, or about 37% of the year 2016 demand. This observation can be supported by looking at some relevant local socioeconomic data. Recent 2010 Census data reports that 21% of Bisbee's population is over 65. Economic data from the 2010 Census is not yet available, but data from preceding years identified that 23% of the community is below the poverty level, and 29% have a disability (*American Fact Finder* 2005-2009). This data is shown in Table 17 below, and projected out to 2030 using the one percent per year unofficial growth rate used previously in the population projections section of this report. The projections shown assume that these groups percentage of the total population will remain unchanged. (In fact, the percentage of elderly has risen over the last decade. Future conditions will depend largely on employment in the study area.) Based on population growth, transit demand will increase by an additional 9,700 annual trips between 2016 and 2030.

Table 17 Projected Growth in Transit Dependent Populations

	2010	2015	2020	2025	2030
Over Age 65 (20.7%)	1,989	2,089	2,194	2,303	2,418
Disabled (29.5%)	2,835	2,977	3,126	3,282	3,446
Below Poverty Level (23.5%)	2,259	2,372	2,490	2,615	2,745
Total Study Area Population	9,611	10,092	10,597	11,127	11,683

This approach may exclude demand from "elective riders" who have access to a vehicle, but choose to use transit for a given trip due to a lack of parking at the destination, the cost of fuel, or the convenience of not driving if transit schedules for their trip are acceptable. No Arizona communities are currently meeting nearly all of their transit demand. Bisbee is not unique in this. Still, the above information strongly suggests that expanded service would fill a demand if revenues could be found to underwrite the cost.

A shortage of parking for both retail and residential use is a concern, especially in Old Bisbee. New surface parking and perhaps parking structures could be served by expanded bus operations with

higher frequency of service. This would encourage tourists to use remote parking and utilize the bus to reach retail destinations. Parking locations should include bus access as well as seating and shelters at these key stops. Bus pullout bays should be considered at stop locations with significant passenger boardings and alightings, where space is available.

7.9 Future Pedestrian and Bicycle Infrastructure

There are no developed bicycle facilities in the study area. While there is bicycle use in the community, there are no developed facilities such as bike lanes or bike paths. Riders can and do share the public rights of way with vehicles. Due to the historic nature of the community, and the proximity of structures to the existing roadways, it would be impossible to obtain additional rights of way for bike lanes to be built in most of Old Bisbee and Warren. ADOT does not include bike lanes in their cross section design standards, but bicycles are allowed to use these facilities consistent with state traffic laws, unless specifically prohibited by the State Engineer. Currently the only State Highway System facilities closed to bicycles are the Valley Freeway System in Maricopa County and I-10 between Phoenix and Tucson.

Sidewalks are especially needed along portions of SR 92 and along Naco Highway. The Safeway center is a major destination for pedestrians crossing through the Naco Port of Entry (over 6,800 per month). Locations for multipurpose paths not immediately adjacent to roadways are a solution to right-of-way constraints, and one that can provide enhanced connectivity between the areas various neighborhoods.

8.0 Future Conditions Findings and Summary

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 to be considered will be more fully explored in the following Evaluation Criteria and Implementation Plan section of this report. 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 zone studies should be considered for Bisbee segments of SR 80 and SR 92, and if speeds are found reasonable, additional enforcement may be considered.

All of these possibilities will be discussed further in the next section. 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.

To further depressurize the area surrounding the intersection of Naco Highway and SR 92, the possibility of some additional roadway connections will be examined in the next section. These could include a connection from Naco Highway to Willson Road, and connections from the airport area to SR 92 and SR 80 to the north.

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.

Increased marketing should be undertaken prior to resumption of the Cochise Commuter program. Need for this service is likely to increase with predicted Cochise County growth.

9.0 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 18 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 18, 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.

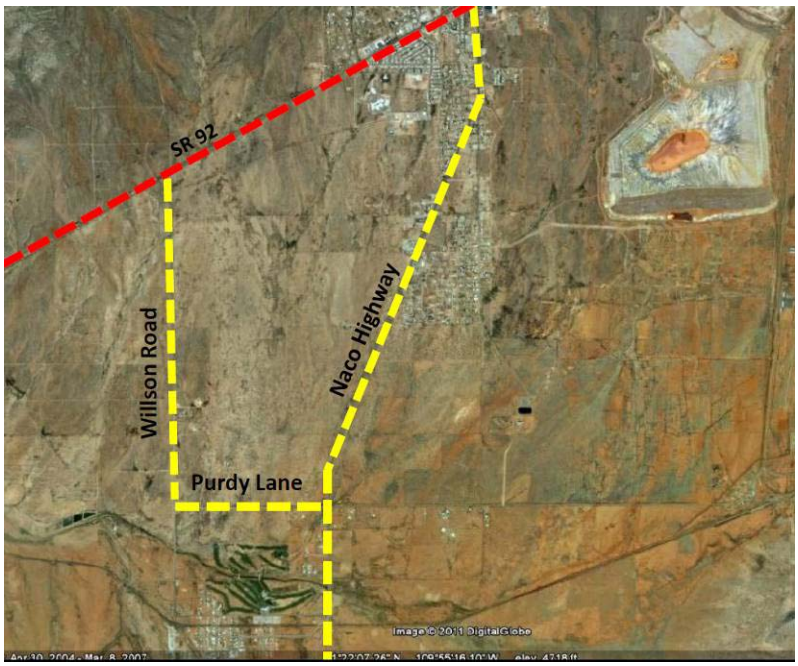
Applications for reclassification are submitted to ADOT through SEAGO. The application identifies the routes to be added or deleted, route termini, average daily traffic, and rationale for justifying the change in functional classification. ADOT's Multimodal Planning Division reviews the application 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 for previous sections of this study, 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 in or near the study area:

- 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 and may depressurize Naco Highway in the future.
- 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 29 below.

Figure 29 Recommended Functional Classification Changes



10.0 Project Needs

The projects identified in this working paper were selected based on issues identified in the Current Conditions and Future Conditions sections. 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 greater detail in Appendix 5. 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.

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.

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.

10.1 Structures

Twenty structures were identified during field review. 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 19 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 19 Structural Project Summary with Costs

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

10.2 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 field investigations. These roadways are in all portions of the study area. Table 20a lists these projects.

Table 20a 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

Street	From	To
Head Start Way	End	Cleveland Ave
W Sieling Loop	Harrison Ave	Washington Ave
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

Street	From	To
Tin Town		
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 20b.

Table 20b 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		
Tener Ave	East Vista	Black Knob View

Street	From	To
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
Ledge Ave	Ledge Ave	Cross Ave
Clawson Ave	Shearer Ave	Taylor St

Street	From	To
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 20c.

Table 20c 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)
WARREN		
Cole Ave	Bisbee Rd	East Vista
D'Autremont Ave	Bisbee Rd	Hoveland St
D'Autremont Ave	Arizona St	Mance St

Street	From	To
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
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

Street	From	To
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 tables 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.

10.3 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. 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, (including Safe Routes to Schools funds) for this should be sought, given the historic status of the area.

10.4 State Highway Improvements

Four projects were identified for the state highways (SR 80 and SR 92). These project costs are summarized in Table 21 on the next page. SR 92 widening is not needed until the long range period. Signage and wayfinding for SR 80 was identified to inform 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 21: State Highway Project Summary with Costs

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

10.5 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.

10.6 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 30.

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 30 Multipurpose Trail

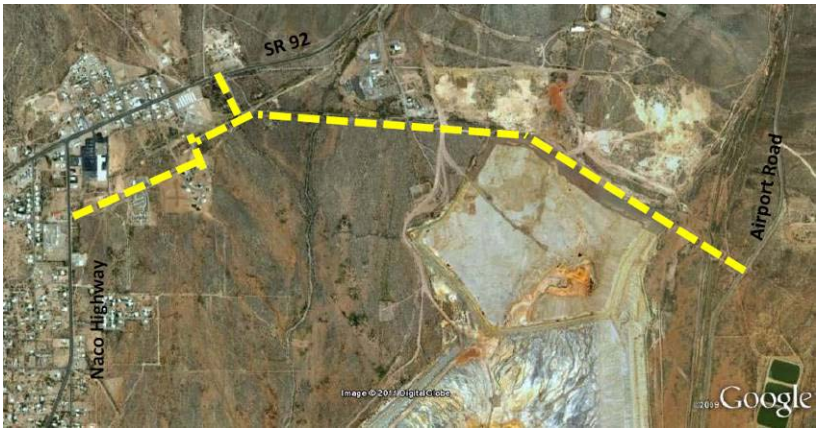
10.7 Beautification

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 along SR 80. It is suggested that a fund be established for annual beautification projects with public input on style, type and location.

10.8 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 31 below. This road is not immediately needed, but additional planning is warranted.

Figure 31 New Connector Route



10.9 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.

11.0 Revenue and Financing Alternatives

11.1 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 presidential 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.

11.2 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.

11.3 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.

11.4 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.

11.5 Current Revenue Streams

Table 22 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 22: 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.*

11.6 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, and further public education, 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.

12.0 Evaluation Criteria for Project Selection

Technical Memorandum #1, *Revised Work Program*, and the Current Conditions section of this report 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.

13.0 Implementation Plan

This section of the report 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 19 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 20a 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 23 below.

Table 23 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 20b 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 24.

Table 24 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 S1,500,000
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 25.

Table 25 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**

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 section 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.

Appendix 1 – Stakeholder Interview Notes

Interviews were conducted with stakeholders on **Monday, October 18, 2010,** and on **Tuesday, October 19, 2010**. This appendix is a compilation of the individual stakeholder interview meeting notes and summarizes the comments made and the information provided by the stakeholders during their interview sessions. The following introductory information and interview questions were used to facilitate discussions with each stakeholder, but in most cases the interviews were open format and the responses did not follow the questions.

Stakeholder Interview Questions

A key component of the data collection efforts will be conducting stakeholder interviews. The information you provide during these interviews will give us invaluable input on the location and nature of known areas of transportation infrastructure deficiencies, safety concerns and issues, and other insights into streets, roads, intersections, sidewalks, shared use paths, staircases, parking, public retaining walls, transit needs & roadsides.

1. ***Are there any specific areas of the street system that you feel should be improved? If so, what type of improvements do you feel are needed?***

2. ***Are you aware of any locations where accidents or lots of near misses have occurred?***

3. ***Are there any new streets that you feel are needed? If so, where?***

4. ***Where is more parking needed in Bisbee? For each location, is this parking for residential needs or for visitors and shopping?***

5. ***Are there specific locations where the condition of sidewalks and/or staircases is a major concern to you? Which locations should be the highest priority for repair?***

6. ***Are any new pedestrian facilities needed in Bisbee? If so, in what locations?***

7. ***What improvements need to be made to benefit bicyclists? Are there any new facilities for bicyclists that would be beneficial? How important is bicycling to Bisbee's economy?***

8. ***Do you ever use the Bisbee Bus? _____***
   How often? _____
   What public transit service improvements do you think are needed for Bisbee?
   More frequent service on current routes? _____
   Expansion of the service area within Bisbee? _____ Where? _____
   More weekend service? _____
   Regional connectivity to:

Sierra Vista	_____	***Douglas***	_____
Tombstone	_____	***Benson***	_____
Tucson	_____	***Other?***	_____

9. ***What do you believe should be the top transportation priories for the community?***

10. ***Do you have any suggestions for new funding sources for transportation improvements?***

11. ***Is there anything else you think we should know or be aware of?***

Thank you for your time!

Day: Monday	*Date:* October 18, 2010	*Time:* 8:00 am MST	*Location:* Public Works Office
Person(s) Interviewed:	**Tom Klimek, Public Works Director, City of Bisbee**		

These interview notes summarize the comments made and information provided by Mr. Klimek during the field inspection kickoff meeting. The purpose of the field inspection is to inventory the existing transportation related infrastructure for the City of Bisbee Comprehensive Transportation Plan.

1. Shaw, the contractor doing remediation work for the mine company, prepared a document that shows City owned properties in Bisbee. Tom Klimek directed Caroline Gonzales to provide a copy of the pertinent sheets showing City owned properties to the study team (Note: Ms. Gonzales did provide the copies).
2. Wants recommendations on preserving and maintaining the good streets and infrastructure.
3. Wants recommendations on reconstructing the bad streets and infrastructure.
4. The overall objective of the study is to provide a framework plan to position the streets and infrastructure needs for funding and improvement.
5. In Don Luis, the City has used CDBG money due to the area's economic conditions; it stands on its own; an assessment district potentially could be used in this area.
6. Looking for ideas on how to extend available City funds; for example, perhaps use an assessment district in conjunction with a CDBG program using the CDBG funds to subsidize the assessment for lower income households.
7. The parking issues in Old Bisbee need to be addressed.
    a. Paying for parking may be an option, but some are concerned it will discourage tourism and economic development.
    b. Residents need more parking space; may want to explore providing parking areas paid for by resident leases.
8. Looking for design criteria recommendations regarding pavement thicknesses for different classes of streets.
    a. Consider asphalt streets and chip seal surfaced streets; PCC pavement in areas that are also drainageways such as Brewery Gulch (PCC pavement has held up well on this street).
    b. There are lots of rock outcrops in Old Bisbee that can affect designs.
9. Looking for special design considerations.
    a. Streets with grades that exceed 7% for example.
    b. Should parking be prohibited on one or both sides?
    c. Material type; surfacing; prohibitions; etc.
10. The improvements in the business district(s) should promote community/economic development.
11. Consider a downtown plan and strategy similar to the one developed for the Safford Downtown area.
12. In the Castle Rock area along Tombstone Canyon, there is a lot of water on the street surface from the upper Tombstone Canyon drainage basin.
    a. May need a drainage project.
    b. Tombstone Canyon will run full curb to curb, store front to store front, during a 15-20 year storm event.

13. On Commerce Street, the road surface is the top of the large WPA drainage channel for Tombstone Canyon.
14. Look closely at improvement districts where residents can help pay for street improvements that primarily serve a small number of residents.
15. Erosion control on disturbed slopes is always an issue.
16. On street such as Wood Canyon, provision of curb and gutter also serves as flood control since the street is also the drainageway.
17. "Bisbee 1000" is the race up and down staircases within the Old Bisbee community; it is a major event that draws many people, both participants and spectators; go to www.Bisbee1000.com to download a route map for the race.
18. There are many historic structures in the community; the WPA channel is also designate historic infrastructure; environmental issues and considerations enter into play with some needed projects.
19. Larry Phillips suggested self contained street lamps powered by solar and/or wind for areas in need of additional lighting; he also stated that the infrastructure investment included the capital cost, operation cost and maintenance cost; would like to see cold in-place recycling considered and used to save money.

In attendance at this meeting were the following people:

• Tom Klimek	Director of Public Works	City of Bisbee
• Caroline Gonzales	Events/Recreation Coordinator	City of Bisbee
• Larry Phillips	Transportation Committee Member	City of Bisbee
• Mark Hoffman	Program Manager	ADOT MPD
• Miguel Aceves	Transportation Engineer	Wilbur Smith Associates
• Jamie Williams	Structural Engineer	Wilbur Smith Associates
• Dale Miller	Study Project Manager	Wilbur Smith Associates

**** End of Interview Notes – Tom Klimek ****

Day: Monday	*Date:* October 18, 2010	*Time:* 10:00 am MST	*Location:* City Hall, Bisbee, AZ
Person(s) Interviewed:	**John Charley, Community Development Director, City of Bisbee** **Stephen J. Pauken, City Manager, City of Bisbee**		

These interview notes summarize the comments made and information provided by Mr. Charley and Mr. Pauken regarding the City of Bisbee Comprehensive Transportation Plan.

1. The transportation element of the City's General Plan is right on the mark.
2. Need a sidewalk on Hwy 80 around the Lavender Pit on the pit side to improve pedestrian connectivity between Old Bisbee and Warren; it might be possible to narrow the lanes on the highway a little to create more room for a walk.
3. Improvements to lighting and measures to control speeding are needed along SR 80 in Bisbee; speeding an issue on Hwy 80 around the pit.
4. There are too many access points to businesses along SR 92 in the vicinity of the Safeway Grocery store – turning vehicles into the Safeway parking lot is a conflict point; there have been numerous accidents on west bound SR 92 at the Safeway access.
5. The pullout and parking lot at the pit needs better signage – something like "Point of Interest Ahead"; it is not a safe pullout because of cars coming onto the area and deciding to suddenly pull into the area.
6. Need traffic operational analysis in old Bisbee on Tombstone Canyon Rd at the copper man statue and the county courthouse access streets; this is a huge intersection area in need of better channelization and delineation of where the driving lanes are intended to be.
    a. There is no sidewalk or pedestrian crossing of Tombstone Canyon in this vicinity also.
7. Arizona Street/Purdy Lane (road to airport) will need widening with a multi-use path for pedestrians and biking; a multi-use path could be considered for the old railroad bed.
8. Improvements are needed on Main Street to control speeding and there needs to be signage for traffic control and wayfinding.
9. Drainage improvements are needed on Main Street; drainage runoff needs to be forced to turn in this area and overlays on the street have diminished the height of the curb; the street condition on Main Street is OK at this time; ultimately the overlays need to be milled off to restore drainage capacity.
10. A drain is needed at the library area to divert surface runoff into the drainage channel.
11. Any new streets will coincide with new development and will include sidewalks on both sides of roadway; they are advocates for sidewalks to be located on both sides of the street; they want some separation of pedestrians from the street traffic.
12. The subdivision code is available on line on the City of Bisbee web site.
13. Parking in Warren and San Jose areas is not an issue.
14. Parking in the historic district (Old Bisbee) is a real issue; need an update to the parking code for historic Bisbee to work for infill development; the problem is that businesses cannot meet the parking requirements of the current ordinances in Old Bisbee so this discourages infill development and redevelopment. A new business may want to come to town but they find they can't meet the parking criteria by ordinance. Perhaps there can be a "parking bank" that can be created that will provide parking for the downtown business area; the business can pay into the "bank" to meet the parking facility criteria.

15. At the corner of Brewery Gulch and Walsh, there may be room for such a “parking bank” facility with potential to park 30 cars.
16. There is also a parking need and issue in Old Bisbee for residents; ordinance requires on parking space for 1,000 square feet of house
17. There needs to be an analysis of available streets in Old Bisbee to determine if there are locations where “pocket parking “ can be developed where perhaps 4 or 5 spaces can be provided for use here and there.
18. Candidates for parking investigation include: Oak Street, High Road, Brophy Street; develop pocket parking areas where feasible to relieve the parking need and stress for residents; look at the feasibility of developing parking pockets for residents to accommodate four to five cars –possible through property swaps.
19. The historic ball field in Warren is owned by the School District; when used, people park on local residential streets in the area.
20. There was a planning charrette conducted for the San Jose District; John Charley indicated he would send a copy of the summary document to the study team (Note: This document has been received).
21. The San Jose community has developed concepts on how commercial/retail parking areas should look; stand in the Safeway parking lot and look around as an example of how a parking lot should not look; look at the parking lot plans developed for the Ace Hardware store being constructed across the street from Safeway and that is an example of how they want a parking lot to look.
22. Hwy 92 for its entire length from Don Luis area out to the city limits at Willson Road has excessive curb cuts for business access.
    a. The area between Melody Lane and Willson Road is currently undeveloped but could develop within the 20 year planning period.
23. Hwy 92 at Greenlee Drive – there are two access points for the Chevron Station; two access points for the San Jose Shopping Center and the street intersection; in this short stretch, there are 5 access points with full access movements onto the highway; some of the drives could and should be closed; consider access off of Greenlee Drive as the access point for the businesses, possibly eliminating four curb cuts.
24. Access control on SR 92 needs to be limited; needed improvements on SR 92 include reducing speed through the developed area and design improvements.
    a. It was reported that Bill Harmon, ADOT District Engineer, suggested the possible construction of a series of traffic circles at Willson Road, at Melody Lane/Mojave Drive, at the Naco Highway, and at School Terrace Road.
25. One of the biggest complaints in the community is speeding on SR 92.
26. Staircases and sidewalks are public conveyances and should be eligible for HURF funding; they should have equal standing with streets for funding opportunities; Bisbee has more than 3 miles of staircases – public stairs in public right of way.
27. New pathway needed to access development area in San Jose; a multi-use pathway is needed from Old Bisbee to the traffic circle, from the traffic circle to Safeway, along the Naco Hwy to the border, and to the county complex at Melody Lane off of SR 92.
    a. Collins Road needs a sidewalk system to provide pedestrian access to Safeway and Ace Hardware.
    b. There are no bike lanes in Bisbee; look at adding bike lanes where it makes sense to do so; Sierra Vista is a good example of providing bike lanes on streets and bike paths away from streets.

c. St. Mary's Road in Flagstaff and Coconino County is a good case study of providing a multi-use path along a city street and county road.

d. Look at providing bike paths on the old abandoned railroad track beds.

e. Connect the paths to the existing sidewalk system to create a pedestrian/bicycle route network to provide good circulation and connectivity to all areas of Bisbee.

f. The addition of bike facilities would be beneficial with bike racks in parking areas; need places to secure bicycles in public parking areas.

g. There are lots of motorized bicycles in Bisbee due to the hilly terrain.

28. Main Street in Old Bisbee – the recent sidewalk project was well received; other areas in downtown should be done in a similar manner.

29. The Naco Highway should be a state route to serve the port of entry at Naco; Willson Road is an alternate alignment that could be developed as a state route to the Naco POE (per Bill Harmon).

    a. The Naco Highway is a candidate for a multimodal corridor and its improvement should include a multi-use path.

30. Bisbee has an annual bike race ("Copper Classic"); Albert Hopper is the contact for bike competition events in the Bisbee area; recommended the study team get a copy of the bike race route map

31. Cochise College has a campus on SR 80 between Bisbee and Douglas; medical care is available in Sierra Vista and more specialized care is available in Tucson; public transportation is important for access to healthcare and to the Cochise College campus between Douglas and Bisbee.

32. The current loop system for the Bisbee Bus works well.

33. Priorities for the community include multi-use pathways, sidewalks, signage (traffic control and wayfinding) and traffic calming.

    a. They do not like speed bumps.

34. Possible new funding sources could include installation of parking meters in the historic section, phased in over years; revenues could be use for needed improvements in the Old Bisbee area of the community.

35. There is a one cent sales tax on the ballot for the November 2010 election that is earmarked for transportation improvements (Note: The ballot initiative failed).

36. Bisbee has not had significant growth. Growth is expected to be minimal for the foreseeable future. The dilemma that Bisbee faces is that state shared revenues are based on population and since Bisbee's population is relative stable at 6500 (anticipated for the 2010 census also), Bisbee's share of the monies declines since the state is growing overall.

    a. Bisbee has limited financial resources and these funds are anticipated to decline in the future.

    b. Bisbee's future means doing more with less money.

    c. They need innovative ways to get results with the money they receive.

    d. No growth in the near future means the City needs to prioritize and phase projects.

37. There was a 2,000 dwelling unit development proposed on 1,000 acres in the vicinity of Willson Road and Highway 92; the development has pretty much gone away when the economy took the downturn in late 2007.

38. The area along the Naco Highway in the vicinity of the airport has potential for future growth for economic development for industrial uses, not retail; city owned property in this area is significant.
    a. This area is viewed as having the potential for a job growth area.
    b. The area adjacent to the airport has potential for aviation related and aviation dependant businesses; the existing road to the airport is too narrow and needs to be widened; there is an "s-curve" with lots of accidents.

John Charley also provided specific responses to some of the questions posed in the questionnaire.

1. ***Are there any specific areas of the street system that you feel should be improved? If so, what type of improvements do you feel are needed?***

   Sidewalks around the open pit on Hwy. 80 need to be extended and wider.
   Increased lighting and signage (directional, point of interest) at this same location.
   Redesign ingress and egress for the open pit viewing area.

2. ***Are you aware of any locations where accidents or lots of near misses have occurred?***
   The north side entrance of the Safeway Plaza off of Hwy. 92
   Hwy. 80 from Old Bisbee to the traffic circle (speeding, lighting).
   Main Street in Old Bisbee (speed).
   Wilson Rd. and Melody Lane both need dedicated turning lanes from Hwy. 92.

3. ***Where is more parking needed in Bisbee? For each location, is this parking for residential needs or for visitors and shopping?***

   Commercial parking in Old Bisbee.

4. ***Are there specific locations where the condition of sidewalks and/or staircases is a major concern to you? Which locations should be the highest priority for repair?***

   Main Street in Old Bisbee needs to have the sidewalk project completed.

5. ***Are any new pedestrian facilities needed in Bisbee? If so, in what locations?***

   Multimodel paths from Old Bisbee to the Traffic Circle to Warren and the San Jose District (Naco, Melody Lane).

6. ***What improvements need to be made to benefit bicyclists? Are there any new facilities for bicyclists that would be beneficial? How important is bicycling to Bisbee's economy?***

   Bike lanes, Bike racks in all public parking facilities and key bus stops.

7. ***What do you believe should be the top transportation priories for the community?***

   Multimodel paths. Sidewalks. Directional and Points of interest signage.

8. ***Do you have any suggestions for new funding sources for transportation improvements?***

   Parking meters in Old Bisbee (revenue dedicated to improvements' in that district).

9. ***Is there anything else you think we should know or be aware of?***

   Bisbee has limited financial resources.

**** End of Interview Notes – John Charley & Stephen Paukin ****

Day: Monday	*Date:* October 18, 2010	*Time:* 12:00 pm MST	*Location:* Chamber Offices
Person(s) Interviewed:	**David Greenburg, President - Chamber of Commerce, Bisbee Chamber of Commerce** **Nancy Jacobsen, Executive Director, Bisbee Chamber of Commerce**		

These interview notes summarize the comments made and information provided by Mr. Greenburg and Ms. Jacobsen regarding the City of Bisbee Comprehensive Transportation Plan.

1. There needs to be an alternate route for Hwy 80 around the old lavender pit; should the pit wall collapse and SR 80 was closed; there is no practical detour route to get between Old Bisbee and the rest of the town located south of the pit.
2. Repair the road over the Hwy 80 tunnel for access when the tunnel is out of service for any reason.
3. Need signs for trucks on Hwy 80 entering town to not use jake brakes on the SR 80 downgrade adjacent to Old Bisbee.
4. Crosswalks at the SR 80/SR 92 traffic circle do not have disability access and are not marked for location.
5. Need crosswalk and pedestrian signs and crossing signals at the Naco Highway and SR 92.
6. Need a center turn lane on Highway 92 in San Jose from Melody Lane to beyond the Naco Highway to facilitate safer left turns off the highway into properties; also need design improvements to eliminate variations in road width.
7. Directional signage is confusing and needs to be improved for travel from district to district in Bisbee.
8. New sidewalks in the downtown area are a great improvement and everyone is happy with them.
9. Sidewalks are adequate for the historic district
10. Directional signage when leaving Old Bisbee shows “Benson”; should it say “Tombstone” and/or “Sierra Vista” in addition to or in lieu of Benson? It is harder to get out of old Bisbee and there is a need for good signage and wayfinding.
11. Bisbee is not laid out on cardinal directions; suggest perhaps a north arrow is cast into manhole covers (Note: Their installation would need a corresponding mark to line up correctly).
12. Pedestrian facilities and locations are adequate in the downtown area; pedestrians don’t always use the crosswalks provided.
13. Need sidewalk improvements in Warren along Arizona Street.
14. Bisbee Bus needed for transit dependent population for shopping and medical trips.
15. Motorized bicycles are in use in Bisbee in significant numbers.
16. There are rockfalls along SR 80 in Bisbee but ADOT seems to promptly clear the highway.
17. Streets need repair but this is not the time to raise the sales tax for street improvements
18. There is a one sent sales tax on the November 2010 election ballot for transportation improvements; however the Chamber does not support the initiative; businesses are hurting and residents are hurting economically; the timing is poor for a sales tax increase (Note: The sales tax initiative failed).
19. Arizona Street is a good project that needs to be completed; it is the old highway route so there may be a lot of unknowns uncovered when the project is done.

20. The streets in Warren are in bad condition; but these streets have been bad for many years and people have gotten used to them.
21. The staircases are part of the charm of Bisbee; there is an annual stair climb event; some of the profits from the event are used to keep the steps in good repair; note that some of the stairs have shifted over time.
22. There is a parking lot at the Busy Bee and the Terraced Parking uphill from the Copper Queen Hotel.
23. The feasibility of residential parking permits should be evaluated; if metered parking is put in, having a resident permit displayed could exempt the local people from paying the meter cost. If the City were to install meters and require residents and business owners and employees to pay the meter cost, this would be a very tough sell in the community.
24. The need for more parking in Old Bisbee is there; but the space available to provide more parking is very limited. A parking structure could be investigated at the Terrace parking area since it is multilevel anyway. Could also put a garage on the Convention Center parking lot.
25. Old Bisbee would likely not see much growth; any new growth would occur primarily in the San Jose area.
26. Explore the use of golf carts to supplement public transportation.
27. No issues on snow removal or ice mitigation in the historic district.
28. Priorities – Emergency evacuation (alternate around the pit and over the tunnel), additional funds to improve the streets, center turn lane on Hwy 92 in San Jose, and more parking in historic Bisbee area.

**** End of Interview Notes – David Greenberg & Nancy Jacobsen ****

Day: Monday	*Date:* October 18, 2010	*Time:* 2:00 pm MST	*Location:* Police Dept., Bisbee
Person(s) Interviewed:	**Sergeant Ben Reyna, City of Bisbee Police Department**		

These interview notes summarize the comments made and information provided by Mr. Greenburg regarding the City of Bisbee Comprehensive Transportation Plan.

1. Important to separate the needs of the historic district from the other districts in the community. This is a unique community and it needs to be looked at through a different lens than the rest of the City.
2. The pit area is a safety issue for pedestrians and bicycles – visibility and lighting needs to be improved; cyclists can stay to one side, but there are curves and blind spots that make biking hazardous in this area; the pedestrian sidewalk is very narrow and ends short. On the north end, pedestrians are forced to cross the highway and there is not marked crosswalk. There are falling rocks and boulders in this area. The lights are not on all the time and the area is very dark at night.
3. Traffic circle at SR 80 and SR 92 needs surface repair and needs flashing lights and pedestrian crossing signs at the pedestrian crossings; bicyclists have complained about the rough surface.
4. The entry into the historic district, northbound on SR 80, is called Naco Road; it is narrow and the surface is rough; the length of this segment is approximately 400 feet; the street segment needs to be resurfaced; it also needs to be widened but it is a constricted area and that may not be possible; there is parking along this segment and with the lack of sufficient parking, it needs to be preserved if possible; the parking areas need to be delineated with pavement striping/markings and those markings need to be maintained; red zones need to be marked and maintained as well.
5. Explore the possibility of marked parking spaces in the historic district.
6. One way streets help with traffic flow in the historic district.
7. The drainage runoff this year didn't do much damage this year; occasionally there will be boulders on highway that need to be cleared.
8. Speeding on Main Street is a common complaint; Explore ways to minimize speeding on Main Street without the use of speed bumps.
9. There was a proposal made some time back to make Main Street a pedestrian only area and use a one-way pair for traffic to get around this area; but there was not serious support to make this change.
10. The intersection of Opera and Temby is hazardous; but people are very cautious and it does not have a high accident rate.
11. Improve signage and pavement markings for traffic control on Tombstone Canyon Road at the copper miner statue and the county courthouse access roads; problem is especially acute during heavy traffic times and special events; the area would work better with traffic control striping and markings.
    a. Lots of traffic issues in Old Bisbee could be fixed by traffic control striping and markings.
12. No significant traffic problems on SR80; incidents are typically caused by driver fatigue and not road conditions.
13. Between Dart Road and Naco Road on SR 80, there is one small drain that plugs and there can be 100 yards of knee deep water; there needs to be a larger drain opening at this location to help keep the drain free and clear from plugging.
14. Need pedestrian crosswalks at the north end of the pit parking lot area.

15. Need a crosswalk from the Lowell district across Hwy 92 to Warren.
16. The pass road over the tunnel needs to be repaired and reopened for public safety reasons; if the tunnel is closed for any reason, there is no reasonable detour route. Note this is not a huge impact if it is not reopened, but it would be better if it could be reopened.
17. San Jose District has the most traffic issues and most are associated with SR 92.
    a. There is a traffic operation issue at Aspen at the fire station between Tin Town and San Jose making left or right turn; see a lot of rear end collisions with turning vehicles; there needs to be turn lanes.
    b. At the Safeway entrance off SR 92, there is an occurrence of t-bone accidents with drivers making left turns in front of approaching vehicles.
    c. At the light at the intersection of the Naco Highway and SR 92; have seen accidents due to left turn conflicts (southbound to eastbound) with right turning traffic (northbound to eastbound) that wants to weave to cross lanes to make a left turn into the Safeway business area.
    d. Need a crosswalk at the Naco Highway and SR 92.
    e. The Chevron station location is a high accident area (near Greenlee Drive).
18. Most accidents on Highway SR 92 are the result of left and right turn conflicts and the variation in road lanes from 2 lane to 4 lane and back to 2 lane; SR 92 is only 4 lanes in the Don Luis area.
19. The San Jose Post Office location is another high crash location.
20. The Naco Highway does not have a lot of safety issues; however it does need more visible roadway striping.
21. Warren District issues…
    a. Road surface condition is an issue on Arizona Street and other roads in the community.
    b. Arizona Street is a commonly used bike route.
    c. Space issues exist on Bisbee Road; the speed limit is 25 mph.
    d. Four points intersection with Condon, Bisbee and Center; the poor road condition causes drivers to swerve to avoid rough areas creating a hazardous situation.
    e. A similar situation exists at the five points intersection on Yuma Trail.
22. Explore the possibility of marking lanes in the SR 80/SR 92 traffic circle.
23. The intersection of the Naco Highway and SR 92 needs marked crosswalks
24. Erie Street coming out of Lowell has issues with pedestrian movements and the SR 92 crossing.
25. Many of the staircases and retaining wall tops don't have railings.
26. Some walls have collapsed.
27. Paint bike lanes on SR 80 around the pit.
28. Priorities:
    a. Continuous pedestrian sidewalks, crosswalks, and bike lanes around the pit area.
    b. Provide SR 92 turn lanes where needed and widen road to 4-lane between mile marker 352 and 353.

**** End of Interview Notes – Sergeant Ben Reyna ****

Day: Monday	*Date:* October 18, 2010	*Time:* 3:00 pm MST	*Location:* Mine Offices, Bisbee
Person(s) Interviewed:	**Michael Jaworski, Site Manager, Freeport-McMoRan Copper & Gold, Bisbee, AZ**		

These interview notes summarize the comments made and information provided by Mr. Jaworki regarding the City of Bisbee Comprehensive Transportation Plan.

1. Mine operations involving reclamation programs are ongoing with approximately 100 employees.
2. Questions: What are the City's priorities for transportation improvements? What is the vision for the City? The big issue with the plan being developed will be how to implement the program.
3. The City created a street committee. It is critical to determine what streets are priorities for improvement.
4. The condition of retaining walls and utilities located on the surface of the walls is a major issue; some walls are old dry stack walls; the real challenge is that it is not just a street project, but rather a street plus a wall plus a stair plus utilities; the cost is considerable.
5. Cynthia Conroy, 520.226.0401, is the point of contact for Bisbee stairway events; excess fund from the event could be applied to repair, maintain, and replace deteriorated staircases.
6. Determination of property ownership will be a challenge in reference to parking.
7. Several planning charrettes occurred over the last five years for Old Bisbee and for the San Jose area; the results and outcomes of these planning charrettes are integral to future improvements. Need for clear expectations and planning.
8. Take a close look at the wet & dry utilities, drainage issues, retaining walls; part of street rehabilitation.
    a. Issues with flooding and storm water conveyance onto the streets.
    b. Need improvements to roadway to accommodate safety for pedestrians and bicycles.
9. Concern for the capability to maintain existing transportation facilities? Where will the funding come from? Is the City in a position to maintain the facilities?
10. The mine company uses the airport approximately once per month; New crosswind runway.
11. The area between Warren and the airport is a good area for business development.
12. There is a need for synergy with border operations and crossings at Naco and economic development potential. There is a lot of agriculture development on the Mexico side of the border. The Naco crossing could become increasingly important. The Douglas border crossing is slated for expansion.
13. McMoRan employees don't use the Bisbee Bus for commuting to work as many of them are from outside the community.
14. The mine doesn't move heavy equipment on the City streets and roads.
15. Major employers in Bisbee, besides the mine company, include the County government, border patrol, and the school system.
16. Recommend the community develop a vision for transportation and focus on their priorities. Let the mine know how they can help and assist in the effort. Don't let the streets deteriorate to the point they have to be reconstructed. Do preventative maintenance in a timely manner to preserve the infrastructure.

**** End of Interview Notes – Michael Jaworski ****

Day: Monday	*Date:* October 18, 2010	*Time:* 4:00 pm MST	*Location:* Public Works, Bisbee
Person(s) Interviewed:	**Caroline M. Gonzales, Events & Recreation Coordinator, City of Bisbee**		

These interview notes summarize the comments made and information provided by Ms. Gonzales regarding the City of Bisbee Comprehensive Transportation Plan.

1. The high school located along School Terrace Road needs multi-use paths and crosswalks leading to school; there needs to be a path leading up the hill to the high school from Warren as lots of students currently walk this way and a corresponding crosswalk to enable them to safely cross School Terrace Road; need a path along School Terrace Road from Warren and from SR 92 to the high school.
2. Need path along SR 92 from Safeway to School Terrace Road to accommodate pedestrians and bicycles.
3. There are no sidewalks to link neighborhoods to the Safeway grocery store; need a sidewalk along SR92 from the Naco intersection to Navajo Drive to provide access for elderly and wheelchairs; pedestrians have to cross SR 92 in Don Luis to get to the shopping area in San Jose. Provide crosswalks for people to get between the neighborhoods and the shopping area.
4. Area of concern – traffic/pedestrian conflict at School Terrace Rd and SR 92.
5. Bisbee Bus seems to serve a useful purpose.
6. Traffic operations improvement needed at the intersection of SR92 and Naco Rd; contributing to accidents is the close proximity of the Safeway curb cut and access drive to the intersection.
7. Parking is an issue in the historic district during special events; the City will close and block off segments of the main road in Old Bisbee during events; when this happens, Commerce Street and Howell/Subway one way pair is used as an alternative route; overflow parking is available at the high school and shuttles have been provided for this purpose.
8. All of Old Bisbee has concerns with the limited amount of parking available.
9. Signage needed to prohibit oversized vehicles on limited space roads in the historic district.
10. There needs to be more “Not a Through Street” signage to limit vehicles using the narrow streets that are property access only.
11. Priorities:
    a. Pedestrian and bike pathways for students traveling to school.

**** End of Interview Notes – Caroline M. Gonzales ****

Day: Tuesday	*Date:* October 19, 2010	*Time:* 8:00 am MST	*Location:* Bisbee Visitors Center
Person(s) Interviewed:	**Ilona Smerekanich, Bisbee Visitor Center Manager, City of Bisbee**		

These interview notes summarize the comments made and information provided by Ms. Smerekanich regarding the City of Bisbee Comprehensive Transportation Plan.

1. Ilona Smerekanich stated that her information would be from the tourism perspective and view point.
2. Part of Bisbee's appeal is the limited number of streets, their location and nature, and the staircases.
3. Typical comments from tourists are: "We went up a narrow street that was two-way traffic with insufficient room for two cars to pass each other." This is not in the form of a complaint, but more as a surprise as to the encounter.
4. Half of the tourists were not aware that Bisbee was an old mining town. They did not realize the streets were built for mule traffic and the access to many homes is via stairs.
5. Bisbee is very much a walking community; the elderly have some issues with circulation in the community; you don't see a lot of handicap people in town.
6. The new sidewalk project in the downtown area has been a great improvement.
7. Many of the streets in Old Bisbee are narrow; but Bisbee has the streets they have and they live with them.
8. More and better signage would be very helpful; some areas (like the lower access into Old Bisbee has too much signage and it adds to the confusion; people don't seem to look at maps or plan their trip location; would like to see the study look at what kind of signs there should be; signs that designate areas, street names, historic buildings or facilities, etc. are needed.
9. Pavement markings are needed at crosswalks and they need to be repainted routinely as they fade out over time; the painting does not seem to last long.
10. Enforcement of speed limits is needed; most of the streets in Old Bisbee have 15 mph to 25 mph speed limits; Main Street is an issue with speeding traffic all the way from the Convention Center to the Court House up Tombstone Canyon; need something to encourage drivers to drive more slowly.
11. Lighting – need better and more lighting; crosswalks need to be lit; light the Main Street area, tourist areas and Howell Avenue in front of the Copper Queen Hotel.
12. Pavement markings – center line striping is not repainted very often and quickly fade away.
13. Parking – they rarely have people complain about parking; the tourists seem to find a place to park; in the high tourist season they see 300 to 400 people per day in the Old Bisbee area; the two hour parking limits are not enforced; tourists do complain about the $5 parking fee charged at the Convention Center when the fee is in effect, that is the parking lot next to the Visitor's Center in the Convention Center; there are parking lots uphill from the Copper Queen Hotel on Howell Avenue known as tiered parking; Brewery Gulch has on street parking in the middle of the street.
14. There is also parking available up Tombstone Canyon in the vicinity of Castle Rock and the Courthouse; younger people may use them since it involves a longer walk to the downtown area.
15. Finding additional space for surface parking is preferred to a parking garage; tourists prefer surface parking.
16. Ms. Smerekanich has visited with tourist about a shuttle system to more remote parking; tourist in general do not like or want to use a shuttle bus.

17. During events, there are many vehicles parked along the shoulders and edges of SR 80 adjacent to Old Bisbee and the pit area; some have suggested the highway be widened to add parking lanes near Old Bisbee; she is not in favor of that.
18. Pay parking has been proposed; there are reservations about the impact on tourism; may keep tourists from staying as long as they otherwise have stayed due to limited time paid on meters.
19. Residents are accustomed to and cognizant of the limited parking; the locals do complain about tourists using the short term parking at the post office and parking there longer than the signed 15 minute limit; the post office is located across the street from the Visitors Center; there is some parking available on Commerce Street close to the post office as well.
20. The Convention Center lot is paid parking occasionally; they have an individual who is hired to charge for parking and he receives a portion of the revenues for his efforts; consequently, he chooses the days he charges for parking when it is likely there will be more business which are typically on weekends and during events.
21. January through April is the high tourist season in Bisbee; in March this year there were 10,000 people who came to the Visitors Center.
22. Wayfinding signage is needed; the biggest tourist attraction is the mine tour which is a two minute walk from the Visitors Center; tourist frequently ask directions on how to get to the mine tour, but some can't find it; would like to see footprints painted on the sidewalk (or something like this) to the mine tour to make it simple for people to follow; the mine tour attraction has 50,000 visitors per year; the museum across the street from the Convention Center has 20,000 visitors per year.
23. Major events – average attendance at Bisbee's major events is around 2,500 people; the 1000 stair climb event has 2,000 participants and another 2,000 that are there to support the participants; smaller events will attract 500 people; the major events include:
    a. Bicycle race
    b. 4th of July celebration
    c. 1000 stair climb
    d. Historic home tour
    e. Holiday season lighting over Thanksgiving weekend
    f. Wine tasting event
    g. Blues festival
24. The curve in the main street around the Convention Center is a safety concern area; walkers mix with vehicles and it is a wide area of pavement.
25. There have been near miss collisions between cars and pedestrians using the crosswalk between the Visitors Center and the Copper Queen hotel; would like to see signs that remind vehicles to yield to pedestrians.
26. When exiting Old Bisbee, the routes are confusing; some people will back up on the ramps when they realize they took the wrong exit lane; some people have driven across the medians to correct their mistake; the signage is confusing and the area is a safety concern.

**** End of Interview Notes – Ilona Smerekanich ****

Day: Tuesday	*Date:* October 19, 2010	*Time:* 9:00 am MST	*Location:* Cochise Co. Offices
Person(s) Interviewed:	**Ann English, Supervisor – District 2, Cochise County Board of Supervisors**		

These interview notes summarize the comments made and information provided by Supervisor English regarding the City of Bisbee Comprehensive Transportation Plan.

1. So many of the streets in Old Bisbee are narrow roads next to a drop-off (retaining wall).
2. A concern is what might become impacted or what might be dislodged or made unstable if one tries to "improve" the walls by reconstruction; needs to be a consideration when planning projects (may be better to repair and renovate rather than replace); some of the street should just get an overlay or be left alone even though rough; the area is "fragile".
3. An issue is if federal funds are used and the facility is required to be brought to current standards; this could be a problem for many of the streets in Old Bisbee.
4. The mining company is doing remediation work; they have been diligent about keeping their equipment on the major roads.
5. Mule Mountain pass road was given to the County by ADOT when the tunnel was completed; there was a fire that crossed the old Bisbee Divide Road; subsequent rains cause excessive erosion and two major sections of the road were eroded away; the County simply cannot afford to spend the money to fix and stabilize the road to enable it to be reopened to traffic; the fire was caused by work on an ADOT project, so the County expects ADOT to pay the cost to reopen the road.
6. The City of Bisbee might want to look at their planning and zoning regulations with respect to parking requirements in the Old Bisbee area due to the lack of parking and room for more parking; City may want to redo the regulations to acknowledge the parking situation.
7. The lack of parking in Old Bisbee is a concern; the tourists sometime will take the residents parking space.
8. The parking lot next to the Convention Center is a private facility; it has a lot of parking space, but a fee is charged during busy times.
9. To encourage more tourism, consider if more parking can be provided; during events, people park along SR 80 along the pit and there is a concern about that unsafe condition.
10. The Naco Highway is not a state highway; it is part in the City and part in the County; it is the only access to Mexico in the state that is not a state highway; the City should join with the County and SEAGO to get the road into the state highway system since it serves as a state highway; this will remove it from the local governments responsibility; the state needs to take over the ownership and maintenance of the Naco Highway from the port of entry to SR 92 since it serves a regional and state purpose.
11. Naco is not an incorporated community; all the streets are County facilities in Naco.
12. Supervisor English does not personally use the Bisbee Bus, but knows it provides a good service in sprawled out Bisbee; the Senior Center along SR 92 at Navajo Drive is a big origin for bus riders; there is also low income and elderly housing across the road from the senior center and those residents also use the bus.
13. There are pedestrians walking along the edge of the Naco Highway; look at shoulders and the need for delineation markings for walkers and bikers using the Naco Highway.
14. A concern is with more and more people walking and biking, need to create a safe environment for those modes and need to create a network of safe routes to walk and bike around the community.

15. In some areas the streets are falling apart; literally crumbling; don't seem to be able to fix the potholes fast enough.
16. People want to know if there is a plan; for example, in 5 years we will fix these specific streets; the plan needs to include a methodology regarding what will be done and when, and what is the funding source.
17. The streets have been neglected and this causes the City to be looking at a big program to maintain the streets that can be maintained and the need to reconstruct those that have deteriorated too far; climbing out of the hole is going to take longer than it took to get in the hole.
18. Resources are scarce; the fuel tax is flat; look at the City's bonding capacity – how much could you get? – this may be a viable option.
19. The traffic circle at SR 80/SR 92 is confusing but there have not been accidents there.

**** End of Interview Notes – Ann English ****

Day: Tuesday	*Date:* October 19, 2010	*Time:* 10:00 am MST	*Location:* Cochise Co. Offices
Person(s) Interviewed:	**Gussie Motter, Economic Development & Tourism Coordinator, Cochise County**		

These interview notes summarize the comments made and information provided by Ms. Motter regarding the City of Bisbee Comprehensive Transportation Plan.

1. Gussie Motter lives in Warren and is a former Old Bisbee resident.
2. There is no place to put more parking in Old Bisbee; but there is a big demand for more parking for the residents.
3. The street above the Old City Park, Tembly, needs parking, but there is no place to create parking.
4. Tourism parking needs could be solved using remote lots and shuttle buses.
5. Gussie Motter was fortunate that her residence was on Tombstone Canyon and there was ample on street parking across the street from her home.
6. Glad the study team is paying attention to the retaining walls and staircases in Old Bisbee; the walls and stairs are part of the charm of Old Bisbee; but there may not be a lot of money available to fix them.
7. The road over the divide (tunnel) is not open at this time; it is of paramount importance if there is an accident in the tunnel; it needs to be fixed and reopened; it would seem to be important to Bisbee to have it reopened.
8. A safety concern area is SR 80 around the pit; traffic is too fast; there is not a good walking path; when walking from Old Bisbee to the pit viewing area the pedestrian has to cross the highway and there is no marked crosswalk.
9. Sidewalks are very important to residents and to promote healthy lifestyles.
10. Bisbee was developed before there were cars; in Old Bisbee, the streets cannot be widened to create sidewalks.
11. Bisbee regulations in Old Bisbee downtown require a certain amount of parking tied to zoning; the zoning regulations on parking are contrary to economic development; a zoning overlay related to parking needs to be created for Old Bisbee.
12. New streets are not needed; just better streets.
13. Would not like to see bike lanes on streets; would like to see a bike path system so people can bike in a safe manner; bikes need a bike lane through the tunnel.
14. Need sidewalks connecting to San Jose; need continuous sidewalk system; need sidewalks to the Safeway store; need sidewalk connections to Old Bisbee and Warren from San Jose.
15. Consider a bike path from Warren to San Jose that is not necessarily attached to the road.
16. There are sidewalks on one side of the road going into the SR 80/SR 92 traffic circle.
17. Going out SR 92, 2 lanes of traffic merge through the circle: one for Bisbee Road and Douglas and one for Old Bisbee; but the circle is not striped to delineate the two lanes; there is a lot of weaving action within the circle.
18. There needs to be a sidewalk or path connecting Old Bisbee to Warren and Lowell.
19. Ms. Motter does not personally use Bisbee Bus.

20. Feels there is a need for an intercity bus route; the social security office is in Douglas; the intercity route should connect Bisbee, Douglas and Sierra Vista; will also provide bus service to the College located half way between Bisbee and Douglas.
21. Priorities:
    a. Save the roads that can be saved first; salvage roads that have some remaining life; that is the best use of limited funds.
    b. Fix drainage problems; collect stormwater runoff and use it for aquifer recharge; the big channel in Old Bisbee seems to work fairly well; there are places where there is always standing water when it rains: along SR 92 in San Jose, on Bisbee Road in areas, down by the ball park in Old Warren (the ballpark area is a low spot).
22. Funding source: There are no matching tourism funds any more as the state swept the monies; consider improvement districts that work will in specific neighborhoods or areas; the mechanism is OK but where it can be used is the question.

**** End of Interview Notes – Gussie Motter ****

Day: Tuesday	*Date:* October 19, 2010	*Time:* 1:00 pm MST	*Location:* Public Works Offices
Person(s) Interviewed:	**Jack Earnest, Fire Chief, City of Bisbee Fire Department**		

These interview notes summarize the comments made and information provided by Mr. Earnest regarding the City of Bisbee Comprehensive Transportation Plan.

1. Mr. Jack Earnest has been with the City for 32 years.
2. The Public Works building is an old fire station.
3. There are 3 distinct areas of Bisbee with separation between them; San Jose is the newer area, but not necessarily a better area from a transportation standpoint.
4. Issues – in the Old Bisbee area, driving the big fire units and ambulances can be problematic due to parking on the streets and driving through congested areas.
5. The bad road surfaces need to be fixed but are drivable.
6. The City relies on grant monies to do larger projects.
7. Warren Roads – the street surfaces need repair; there are lots of infrastructure that needs to be fixed in Warren.
8. In some places in Old Bisbee, the roads are built with driveways adjacent to the road surface; the wall of the driveway supports the road; there are utilities such as gas line, water lines, etc. that are attached to walls.
9. When looking at fixing roads in Old Bisbee, need to look at the big picture: walls, roads and utilities.
10. Mr. Earnest has seen water overflow the large channel in Tombstone Canyon.
11. Issue areas also included Commerce Street behind the post office and Brewery Gulch; the channel is beneath Commerce Street and Brewery Gulch drains into this box.
12. Spend available money on maintaining what is maintainable; the roads are rough, but have been rough for a long time, as long as he can remember.
13. The Highway 92 corridor in the Don Luis area; lighting is needed and the speed limit may be too fast for conditions; there are lots of drives and left turn movements; need turn lanes.
14. There needs to be a walking and biking path along the pit area.
15. The fire department wants the road over Mule Pass (SR 80 tunnel) to be fixed so there is an alternate route available; this is a priority for the fire department; several areas are washed out; ADOT funding may be used if available; this is a public safety concern.
16. The fire department operates within the City limits; the ambulance service has a 400 square mile response area; the municipal airport is in the Naco fire district; San Jose has a volunteer fire department.
17. The fire department is under contract with the Arizona State Lands Department for fire protection services.
18. There are lots of bicyclists in Bisbee.
19. More off street parking is beneficial as it reduces the likelihood of being able to use streets in Old Bisbee that may have been blocked by parked vehicles.

**** End of Interview Notes – Jack Earnest ****

Day: Tuesday	*Date:* October 19, 2010	*Time:* 2:00 pm MST	*Location:* City Hall, Bisbee
Person(s) Interviewed:	**James A. Gutowski, Wastewater Superintendent & Airport Manager, City of Bisbee**		

These interview notes summarize the comments made and information provided by Mr. Gutowski regarding the City of Bisbee Comprehensive Transportation Plan.

1. Repairs are needed in all of Old Bisbee and in all of Warren; can't fix 60 years of neglect overnight.
2. Since the mine was shut down in the early 1970s, not much money was available for the City.
3. The Arizona Street project start is imminent.
4. Major drainage projects are needed for the Tombstone Canyon Channel and streets at the north end of Warren including Campbell, Briggs, and Cole; all of Cole drains to the Warren channel and the channel has silted in.
5. The area around the ball field in Warren has drainage problems.
6. There are drainage issues and erosion in the area north of Cochise Lane and Mohave Drive in San Jose.
7. There are drainage and erosion problems in the east side of Don Luis in the vicinity of Yavapai Drive, Navajo Drive and Cochise Lane.
8. In San Jose, on Santa Cruz, there is a problem with drainage; the outlet is too small and the grates get plugged up easily.
9. In north San Jose, there is lots of erosion in the channel.
10. Clean out the channel in Old Bisbee; the fire on the mountain caused a lot of mud, rock and sediment to be deposited in the channel.
11. The Black Knob Street channel in Warren also is silted in and needs to be cleaned out.
12. The City is doing a program to clean out the catch basins; would like to see the City acquire a piece of equipment to clean out culverts and catch basins, but this is not in the budget.
13. Many of the washes run across private property and the City is not able to maintain the washes and that can impact the drainage and roads downstream.
14. There have been accidents and near misses on the roundabout for SR 80 and SR 92.
15. People turning into driveways along SR 92 near the Naco Highway is a safety concern.
16. The City's priority is to fix what they have.
17. A new road could be considered to connect Airport Road to Highway 92 and to connect Warren to San Jose.
18. There is a need for more parking in Old Bisbee; the roads are narrow and parking is limited; there is parking available at the Convention Center, near the Castle Rock area; a parking lot by Elmo's; by the Court House and the Tiered parking lot uphill from the Copper Queen Hotel.
19. Parking in Warren is adequate and parking will be improved with the Arizona Street project; there is parking on Vista.
20. In areas, there is brush overgrowth on walks and staircases; needs to be pruned to facilitate the 1000 Stair Climb event.
21. There is a City Garage located at Tovreaville Road south of SR 92.

22. There is a big bike race in May and the 1000 Stair Climb event is in October.
23. There are public restrooms located in Vista Park, City Park, and Garfield.
24. There is an area for a new sports complex behind the Safeway store on City owned land (to the southeast of the Naco Highway and SR 92.
25. There is City owned land along Airport Road that could be used for a new sports complex; the Warren lagoon area and the closed city dump.
26. There are limited activities for youth: no theater, no bowling alley, no sports facility.
27. There are no facilities for bicyclists such as bike paths or bike lanes; SR 80 and SR 92 have wider lanes that may be able to accommodate bike lanes or bike paths; School Terrace Road needs a bike path.
28. When the remediation plan is done on the tailings piles, the mining company is talking about creating multiuse paths and trails on these sites.
29. Old Bisbee needs "Share the Road" signs to alert motorists to bicycle traffic.
30. Mr. Gutowski does not personally ride the Bisbee Bus.
31. Priorities are to upgrade the City's pavements/streets and to maintain the streets and not neglect them.
32. To fund street improvements, there is proposed a one cent sales tax. If the ballot initiative fails, the City may install parking meters; the revenue from parking meters has been estimated to be $450K per year; enforcement will be needed for parking.
33. Bisbee is a Charter City.

**** End of Interview Notes – James Gutowski ****

Day: Tuesday	*Date:* October 19, 2010	*Time:* 3:00 pm MST	*Location:* City Hall, Bisbee
Person(s) Interviewed:	**W.J. "Jack" Porter, Mayor, City of Bisbee**		

These interview notes summarize the comments made and information provided by Mr. Porter regarding the City of Bisbee Comprehensive Transportation Plan.

1. Old Divide Road, a County maintained road, needs to be restored and reopened. The estimate to do so is $450,000.
2. The Mayor supports ADOT taking over the Naco Highway as a state highway.
3. There needs to be pedestrian facility improvements around the pit and there also needs to be bike lanes on the highway around the pit area.
4. The old rail line from Sagninaw to Don Luis should be paved as a multiuse path.
5. ADOT needs to improve the lighting along the state routes.
6. The Mayor created the Streets and Infrastructure Committee to take the politics out of the decision making process. He had proposed a modest property tax increase, a $0.004 sales tax increase (to make the total sales tax = 10%), 100% of the seized car fund, all net profits from the Queen Mine Tour, and solicit a match from the Freeport McMorRan company for use to improve the communities transportation facilities.
7. The one cent sales tax has a 50-50 chance (Note: It failed to pass by public vote). It is opposed by the Downtown Merchants Association and members of the Chamber of Commerce.
8. There are lots of street cuts and repairs in Bisbee; Bisbee put in a Street Cut Ordinance to control this.
9. There was a suit with Arizona Water and a settlement reached where Arizona Water has a reimbursement schedule; a water line was located too close to a sewer line project and it was determined the City had exclusive rights to the street right of way and Arizona Water was required to pay a $1 million settlement for use of streets.
10. Typical street construction includes compacted AB granite base material with a double chip seal.
11. The Arizona Street Improvement project is slated to commence on November 18.
12. The Mayor is the owner of the Bisbee Bug auto repair business located on Tombstone Canyon.

**** End of Interview Notes – Mayor Jack Porter ****

Appendix 2 – Reference Documents

1. City of Bisbee General Plan, City of Bisbee, 2004
2. Airport Master Plan, City of Bisbee, 1999
3. Zoning Ordinance and Maps, City of Bisbee,
4. Infrastructure Improvements and Development Fee Study Draft, City of Bisbee, 2009
5. Bisbee Bus Five Year Plan, City of Bisbee, 2010
6. Bisbee Bus Guide and Schedule, City of Bisbee, 2009
7. Guiding Principles and Best Practices, San Jose Charrette, City of Bisbee, 2008
8. Cochise County Comprehensive Plan, Cochise County, 2006
9. Naco Community Plan, Cochise County, 1998
10. Eastern Arizona Framework Study, ADOT, 2010
11. Building a Quality Arizona (BQAZ), ADOT, 2010

Appendix 3 – Bridge Inspection Reports

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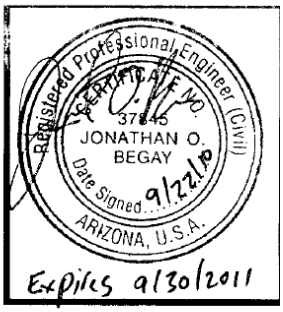
BRIDGE GROUP

Bridge Inspection Report



Structure Number:	269	Structure Name:	Lowell RR UP	Inspected By:	Begay-Leichtman
Route:	80	Road Name:	Lowell RR	Inspection No:	20
MilePost:	343.01	Agency:	ADOT	Date of Insp.:	Tuesday, August 10, 2010
ADOT District:	Safford	District Org:	8454	Next Insp. Due By:	Quarter 2, 2012

N58 - Deck Overall Rating: **N** - Not Applicable

Top Deck / Wearing Surface	N	- Not Applicable	Abandoned RR bridge
Deck Undersurface	N	- Not Applicable	N/A
Sidewalk / Median / Curb	N	- Not Applicable	N/A
N36a - Bridge Railings	N	- N/A or Feature not Requir	N/A
N36b - Rail Transitions	N	- N/A or Feature not Requir	
Deck Joint	N	- Not Applicable	N/A
Drainage System	N	- Not Applicable	N/A

Overall Deck Inspection Notes:

1. Red eff. stains on deck underside.
2. Abandoned RR deck top has gravel and four utility pipes.

N59 - Superstructure Overall Rating: **7** - Good

Main Members	7	- Good	2 steel riveted plate girders
Secondary Members	7	- Good	Steel stringers and floor beams--2 spans
Bearing Devices	6	- Satisfactory	Short rockers
Paint System	6	- Satisfactory	Silver: new paint on outside; rusty on inside
Utilities	7	- Good	4 utility pipes on top and one on outside on West

Overall Superstructure Inspection Notes:

1. Heavy brown to red eff. on girders and stringers with mild to heavy corrosion.
2. Stringer floor beam connnection have heavy eff. with corrosion.
3. Minor cracking and spalling on precast concrete deck panels with eff.

N60 - Substructure Overall Rating: **7** - Good

Abutment	7	- Good	Full height concrete walls on spread footings
Piers	7	- Good	Concrete wall
Slope Protection	N	- Not Applicable	None
Wingwalls, Dados, etc.	7	- Good	Concrete wings

Overall Substructure Inspection Notes:

1. Brown to reddish water staining on abutment and pier walls.
2. Diagonal cracks near east end of pier caps were not observed.

N61 - Waterway Overall Rating: **N** - Not Applicable

Channel	N	- Not Applicable
Bank Protection	N	- Not Applicable

Overall Waterway Inspection Notes:

Roadway / Safety

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BRIDGE GROUP

Bridge Inspection Report

Structure Number:	269	Structure Name:	Lowell RR UP	Inspected By:	Begay-Leichtman
Route:	80	Road Name:	Lowell RR	Inspection No:	20
MilePost:	343.01	Agency:	ADOT	Date of Insp.:	Tuesday, August 10, 2010
ADOT District:	Safford	District Org:	8454	Next Insp. Due By:	Quarter 2, 2012

Approaches	N	- Not Applicable	Abandoned RR tracks
Fills	7	- Good	Earthfill
N36c - Approach Rail	N	- N/A or Feature not Requir	Abandoned RR tracks
N36d - Rail Ends	N	- N/A or Feature not Requir	
Signing	7	- Good	Underpass vertical clearance signs
Lighting	7	- Good	Street lights for underpass
A211-Posted Weight	0	tons	

Overall Roadway / Safety Inspection Notes:

1. Minimum vertical clearances, measured under the structure, are 15.00 and 14.84 for NB and SB traffic respectively (see attached vertical clearance diagram).
2. SB traffic has sight distance obstruction just north of structure with 150' of sight distance. The brush should be trimmed to improve sight distance. See repair report and photo 4.
3. AC wide to medium alligator cracking beneath structure.
4. No posted vertical clearance sign for NB traffic.
5. Posted vertical clearance sign of 14'-7" for SB and NB traffic.

Appraisal Items

N67 - Structural Evaluation	7	- Better than Present Minimum Criteria
N68 - Deck Geometry	N	- Not Applicable
N69 - Vert. and Horiz. Clearances	3	- Basically Intolerable Requiring High Priority of Corrective Action
N71 - Waterway Adequacy	N	- Not Applicable
N72 - Approach Roadway Alignment	N	- Not Applicable
N113 - Scour Critical	N	- Bridge NOT over Waterway

Overall Appraisal Items Notes:

Other Miscellaneous Inspection Notes:

1. No previous repairs to verify.
2. One repair is recommended at this time. See the repair report.

Photos:
1. Elevation ID looking WB
2. Topside surface looking N
3. Soffit/deck underside view
4. Vegetation restricting view EB lane
5. Elevation ID looking EB

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BRIDGE GROUP

Bridge Inspection Report

Structure Number:	**269**	Structure Name:	**Lowell RR UP**	Inspected By:	Begay-Leichtman
Route:	**80**	Road Name:	Lowell RR	Inspection No:	20
MilePost:	**343.01**	Agency:	ADOT	Date of Insp.:	Tuesday, August 10, 2010
ADOT District:	Safford	District Org:	8454	Next Insp. Due By:	Quarter 2, 2012

Bridge Element Condition Rating

Elem #	Description	Env	Unit	Total Qty	Cond 1	Cond 2	Cond 3	Cond 4	Cond 5
38	Bare Concrete Slab	2	EA	**1**	**1**	**0**	**0**	**0**	**0**
107	Paint Stl Opn Girder	2	LF	**187**	**187**	**0**	**0**	**0**	**0**
152	Paint Stl Floor Beam	2	LF	**433**	**433**	**0**	**0**	**0**	**0**
210	R/Conc Pier Wall	2	LF	**36**	**36**	**0**	**0**	**0**	**0**
215	R/Conc Abutment	2	LF	**79**	**79**	**0**	**0**	**0**	**0**
313	Fixed Bearing	2	EA	**6**	**0**	**6**	**0**	**0**	**0**
359	Soffit of concrete decks and slabs	2	EA	**1**	**1**	**0**	**0**	**0**	**0**

Date Printed: 5/24/2010

ARIZONA DEPARTMENT OF TRANSPORTATION

BRIDGE GROUP

Bridge Inspection Report

Structure Number:	538	Structure Name:	Mule Pass Tunnel	Inspected By:	Begay-Leichtman
Route:	80	Road Name:	Mule Pass Tunnel	Inspection No:	17
MilePost:	339.06	Agency:	ADOT	Date of Insp.:	Monday, April 05, 2010
ADOT District:	Safford	District Org:	8454	Next Insp. Due By:	Quarter 2, 2012

Registered Professional Engineer (Civil) CERTIFICATE NO. 37845 JONATHAN O. BEGAY Date Signed: 9/2/10 ARIZONA, U.S.A. Expires 9/30/2011

N58 - Deck Overall Rating: **N** - Not Applicable

Top Deck / Wearing Surface	N	- Not Applicable
Deck Undersurface	N	- Not Applicable
Sidewalk / Median / Curb	N	- Not Applicable
N36a - Bridge Railings	N	- N/A or Feature not Requir
N36b - Rail Transitions	N	- N/A or Feature not Requir
Deck Joint	N	- Not Applicable
Drainage System	N	- Not Applicable

Overall Deck Inspection Notes:

N59 - Superstructure Overall Rating: **6** - Satisfactory

Main Members	6	- Satisfactory	Reinforced concrete tunnel
Secondary Members	N	- Not Applicable	
Bearing Devices	N	- Not Applicable	
Paint System	N	- Not Applicable	
Utilities	7	- Good	Electrical conduits for light bulbs in tunnel

Overall Superstructure Inspection Notes:

1. Numerous transverse longitudinal and random map cracking on tunnel walls and soffit, cracks range from hairline to medium.
2. Weepholes appear to be functioning.
3. 480' from west entrance delaminating concrete at tunnel joint ~~or~~ above EB lane.

N60 - Substructure Overall Rating: **7** - Good

Abutment	7	- Good	Sides of the tunnel
Piers	N	- Not Applicable	
Slope Protection	N	- Not Applicable	
Wingwalls, Dados, etc.	7	- Good	Reinforced concrete wingwalls

Overall Substructure Inspection Notes:

1. Heavy white to brown to black efflorescence on tunnel soffit and also near joints. The efflorescence is concentrated on the westside and eastside entrances. Trickling water at heavy efflorescence locations.
2. Narrow to medium vertical and diagonal cracking on wingwalls.

N61 - Waterway Overall Rating: **N** - Not Applicable

Channel	N	- Not Applicable
Bank Protection	N	- Not Applicable

Overall Waterway Inspection Notes:

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BRIDGE GROUP

Bridge Inspection Report

Structure Number:	538	Structure Name:	Mule Pass Tunnel	Inspected By:	Begay-Leichtman
Route:	80	Road Name:	Mule Pass Tunnel	Inspection No:	17
MilePost:	339.06	Agency:	ADOT	Date of Insp.:	Monday, April 05, 2010
ADOT District:	Safford	District Org:	8454	Next Insp. Due By:	Quarter 2, 2012

Roadway / Safety

Approaches	7	- Good	3 lane AC Roadway
Fills	N	- Not Applicable	Rock
N36c - Approach Rail	1	- Meets Standards	
N36d - Rail Ends	0	- Does NOT Meet Standard	
Signing	8	- Very Good	14'-0" clearance signs at both ends, Tunnel name
Lighting	7	- Good	Sodium vapor lights
A211-Posted Weight	0	tons	

Overall Roadway / Safety Inspection Notes:

1. AC Roadway is relatively smooth at approach and departure.
2. The 15 of the 24 burned out lights mentioned in the previous report were repaired. Lighting appears to be sufficient.
3. Minimum vertical clearance is 14' 9", therefore the posted sign reading 14' 0" is correct.
4. Non-standard guardrail end terminals.
5. Debris (mud, dirt and trash) on tunnel shoulders. The debris covers white shoulder stripe, reducing visibility.

Appraisal Items

N67 - Structural Evaluation	6	- Equal to Present Minimum Criteria
N68 - Deck Geometry	N	- Not Applicable
N69 - Vert. and Horiz. Clearances	2	- Basically Intolerable Requiring High Priority of Replacement
N71 - Waterway Adequacy	N	- Not Applicable
N72 - Approach Roadway Alignment	N	- Not Applicable
N113 - Scour Critical	N	- Bridge NOT over Waterway

Overall Appraisal Items Notes:

Other Miscellaneous Inspection Notes:

1. Previous recommended repair was not completed.
2. No repairs are recommended for this inspection.

Photos:
1. Elevation ID looking EB
2. Crown view
3. Transverse longitudinal and random map cracking on tunnel walls and soffit
4. Efflorescence on the westside and eastside entrances
5. Elevation ID looking WB
6. West end top view (possible water ponding)

Date Printed: 5/24/2010

ARIZONA DEPARTMENT OF TRANSPORTATION

BRIDGE GROUP

Bridge Inspection Report

Structure Number:	538	Structure Name:	Mule Pass Tunnel	Inspected By:	Begay-Leichtman
Route:	80	Road Name:	Mule Pass Tunnel	Inspection No:	17
MilePost:	339.06	Agency:	ADOT	Date of Insp.:	Monday, April 05, 2010
ADOT District:	Safford	District Org:	8454	Next Insp. Due By:	Quarter 2, 2012

Bridge Element Condition Rating

Elem #	Description	Env	Unit	Total Qty	Cond 1	Cond 2	Cond 3	Cond 4	Cond 5
241	Reinforced Concrete Culvert	2	LF	1400	1200	200	0	0	0
359	Soffit of concrete decks and slabs	2	EA	1	0	0	1	0	0

Date Printed: 09/28/2010

ARIZONA DEP' TMENT OF TRANSPORTATION

BRIDGE GROUP

Bridge Inspection Report

Structure Number:	614	Structure Name:	West Blvd TI OP	Inspected By:	Begay-Leichtman
Route:	80	Road Name:	SR 80	Inspection No:	20
MilePost:	339.81	Agency:	ADOT	Date of Insp.:	Monday, April 05, 2010
ADOT District:	Safford	District Org:	8454	Next Insp. Due By:	Quarter 2, 2012

N58 - Deck Overall Rating: 6 - Satisfactory

Top Deck / Wearing Surface	7	- Good	Concrete with AC overlay, bare concrete at shoulders
Deck Undersurface	6	- Satisfactory	Concrete
Sidewalk / Median / Curb	N	- Not Applicable	
N36a - Bridge Railings	1	- Meets Standards	32" Concrete barrier
N36b - Rail Transitions	1	- Meets Standards	
Deck Joint	7	- Good	Sliding plates
Drainage System	N	- Not Applicable	

Overall Deck Inspection Notes:

1. White shoulder striping is not visible on deck. See repair report.
2. Hairline to narrow map and random cracks on deck.
3. Hairline vertical cracking on bridge barrier.
4. White efflorescence on deck underside.
5. Debris in deck joint openings at 75 degrees F:
South abutment: 2"
North abutment: 2".

N59 - Superstructure Overall Rating: 7 - Good

Main Members	7	- Good	1 span, 8 - steel I girders
Secondary Members	7	- Good	Steel channel diaphragms
Bearing Devices	7	- Good	Bearing bars with keeper plates (sliding at S Abut, fixed at N Abut)
Paint System	7	- Good	Silver - lead present
Utilities	N	- Not Applicable	

Overall Superstructure Inspection Notes:

1. The delamination between the east exterior and first girders at top of north abutment was not repaired as previous recommended. See repair report.

N60 - Substructure Overall Rating: 5 - Fair

Abutment	5	- Fair	Full height abutment wall
Piers	N	- Not Applicable	
Slope Protection	N	- Not Applicable	
Wingwalls, Dados, etc.	7	- Good	Concrete wingwalls and dados

Overall Substructure Inspection Notes:

1. Due to inaccessiblity, the debris removal from the abutment seats could not be verified.
2. 2 spalls (12" x 8" and 12" x 12") on the NW corner of abutment with corroded and exposed rebar. Various spalls and with exposed corroded rebar on north abutment.
3. Delamination (verified by hammer sounding) spots throughout south abutment with exposed corroded rebar.

N61 - Waterway Overall Rating: N - Not Applicable

Channel	N	- Not Applicable
Bank Protection	N	- Not Applicable

Data Printed: 09/28/2010 ARIZONA DEP´ TMENT OF TRANSPORTATION

BRIDGE GROUP

Bridge Inspection Report

Structure Number:	614	Structure Name:	West Blvd TI OP	Inspected By:	Begay-Leichtman
Route:	80	Road Name:	SR 80	Inspection No:	20
MilePost:	339.81	Agency:	ADOT	Date of Insp.:	Monday, April 05, 2010
ADOT District:	Safford	District Org:	8454	Next Insp. Due By:	Quarter 2, 2012

Overall Waterway Inspection Notes:

Roadway / Safety

Approaches	7	- Good	Concrete approach slabs with AC overlay and AC roadways
Fills	8	- Very Good	Earth and gravel
N36c - Approach Rail	1	- Meets Standards	Guardrail (none on NE corner)
N36d - Rail Ends	1	- Meets Standards	
Signing	8	- Very Good	Vertical clearance signs, posted vertical clearance is 14'-0" for both directions
Lighting	N	- Not Applicable	
A211-Posted Weight	0	tons	

Overall Roadway / Safety Inspection Notes:

1. The vertical clearance sign 13' - 11" was replaced as previous report recommended. Verified clearance height to be correct.
2. Longitudinal hairline to narrow cracking on approach slabs.

Appraisal Items

N67 - Structural Evaluation	6	- Equal to Present Minimum Criteria
N68 - Deck Geometry	9	- Superior to Present Desirable Criteria
N69 - Vert. and Horiz. Clearances	3	- Basically Intolerable Requiring High Priority of Corrective Action
N71 - Waterway Adequacy	N	- Not Applicable
N72 - Approach Roadway Alignment	6	- Equal to Present Minimum Criteria
N113 - Scour Critical	N	- Bridge NOT over Waterway

Overall Appraisal Items Notes:

Other Miscellaneous Inspection Notes:

1. Previous 2 out fo 3 repairs were not completed.
2. One repair is repeated at this time. See the repair report.

Photos:
1. Elevation ID looking E
2. Roadway ID looking EB
3. Deck surface - typical
4. Soffit view
5. W deck joint

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BRIDGE GROUP

Bridge Inspection Report

Structure Number:	614	Structure Name:	West Blvd TI OP	Inspected By:	Begay-Leichtman
Route:	80	Road Name:	SR 80	Inspection No:	20
MilePost:	339.81	Agency:	ADOT	Date of Insp.:	Monday, April 05, 2010
ADOT District:	Safford	District Org:	8454	Next Insp. Due By:	Quarter 2, 2012

Bridge Element Condition Rating

Elem #	Description	Env	Unit	Total Qty	Cond 1	Cond 2	Cond 3	Cond 4	Cond 5
13	Concrete Deck - Unprotected w/ AC Overlay	2	EA	1	0	1	0	0	0
107	Paint Stl Opn Girder	2	LF	423	423	0	0	0	0
215	Reinforced Conc Abutment	2	LF	141	121	0	20	0	0
304	Open Expansion Joint	2	LF	141	71	70	0	0	0
311	Moveable Bearing (roller, sliding, etc.)	2	EA	8	4	4	0	0	0
313	Fixed Bearing	2	EA	8	4	4	0	0	0
321	Reinforced Concrete Approach Slab w/ or w-o/AC Ov	2	EA	2	0	2	0	0	0
331	Conc Bridge Railing	2	LF	105	105	0	0	0	0
359	Soffit of concrete decks and slabs	2	EA	1	0	1	0	0	0

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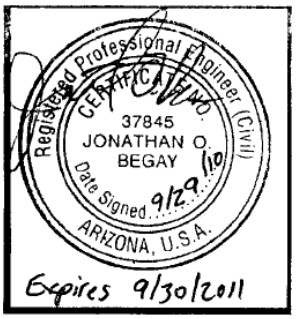
BRIDGE GROUP

Bridge Inspection Report



Structure Number:	670	Structure Name:	Brewery Gulch TI OP	Inspected By:	Begay-Leichtman
Route:	80	Road Name:	SR 80	Inspection No:	19
MilePost:	341.42	Agency:	ADOT	Date of Insp.:	Monday, April 05, 2010
ADOT District:	Safford	District Org:	8454	Next Insp. Due By:	Quarter 2, 2012

N58 - Deck Overall Rating: 7 - Good

Top Deck / Wearing Surface	7	- Good	Concrete with AC overlay
Deck Undersurface	7	- Good	Concrete
Sidewalk / Median / Curb	N	- Not Applicable	
N36a - Bridge Railings	1	- Meets Standards	C10.01B guardrail
N36b - Rail Transitions	1	- Meets Standards	
Deck Joint	N	- Not Applicable	
Drainage System	N	- Not Applicable	

Overall Deck Inspection Notes:

1. White effloresence on deck underside.

N59 - Superstructure Overall Rating: 7 - Good

Main Members	7	- Good	Concrete slab/frame
Secondary Members	N	- Not Applicable	
Bearing Devices	N	- Not Applicable	
Paint System	N	- Not Applicable	
Utilities	N	- Not Applicable	

Overall Superstructure Inspection Notes:

1. Minor spalls and scrapes on north soffit edge due to traffic impacts.
2. Hairline vertical cracking on slab fascia.

N60 - Substructure Overall Rating: 7 - Good

Abutment	7	- Good	Concrete frame walls on H piles
Piers	N	- Not Applicable	
Slope Protection	7	- Good	Concrete slope protection on NE,NW & SE
Wingwalls, Dados, etc.	7	- Good	Concrete wings

Overall Substructure Inspection Notes:

1. Hairline to narrow vertical and horz. cracks on abutments and wingwalls.
2. SE wingwall has approximately 1" movement (top away from embankment) with exposed rebar near top and spall (1.5'wide x 5" high).

N61 - Waterway Overall Rating: N - Not Applicable

Channel	N	- Not Applicable
Bank Protection	N	- Not Applicable

Overall Waterway Inspection Notes:

Roadway / Safety

Date Printed: 09/28/2010

ARIZONA DEPARTMENT OF TRANSPORTATION

BRIDGE GROUP

Bridge Inspection Report

Structure Number:	670	Structure Name:	Brewery Gulch TI OP	Inspected By:	Begay-Leichtman
Route:	80	Road Name:	SR 80	Inspection No:	19
MilePost:	341.42	Agency:	ADOT	Date of Insp.:	Monday, April 05, 2010
ADOT District:	Safford	District Org:	8454	Next Insp. Due By:	Quarter 2, 2012

Approaches	7	- Good	2 lane and one ramp AC roadways on slight curve
Fills	7	- Good	Earthfill
N36c - Approach Rail	1	- Meets Standards	C10.01B
N36d - Rail Ends	1	- Meets Standards	
Signing	7	- Good	13'-8" VC signs on both fascias, no entry and speed limit signs on top
Lighting	N	- Not Applicable	
A211-Posted Weight	0	tons	

Overall Roadway / Safety Inspection Notes:

1. The vertical clearance was replaced to read 13' -5" as previous report recommended. The minimum clearance was verified to be correct.
2. The vegetation visually blocking the clearance signs was removed as previous report recommended.
3. Large AC chunks in gutter flowline adjacent to EB traffic with AC lip 1" above gutter lip.

Appraisal Items

N67 - Structural Evaluation	7	- Better than Present Minimum Criteria
N68 - Deck Geometry	7	- Better than Present Minimum Criteria
N69 - Vert. and Horiz. Clearances	2	- Basically Intolerable Requiring High Priority of Replacement
N71 - Waterway Adequacy	N	- Not Applicable
N72 - Approach Roadway Alignment	7	- Better than Present Minimum Criteria
N113 - Scour Critical	N	- Bridge NOT over Waterway

Overall Appraisal Items Notes:

Other Miscellaneous Inspection Notes:

1. Previous recommended repairs were completed.
2. No repairs are recommended for this inspection.

Photos:
1. Elevation ID looking S
2. Roadway ID looking EB
3. Deck surface - typical
4. Soffit view

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BRIDGE GROUP

Bridge Inspection Report

Structure Number:	**670**	Structure Name:	**Brewery Gulch TI OP**	Inspected By:	Begay-Leichtman
Route:	**80**	Road Name:	SR 80	Inspection No:	19
MilePost:	**341.42**	Agency:	ADOT	Date of Insp.:	Monday, April 05, 2010
ADOT District:	Safford	District Org:	8454	Next Insp. Due By:	Quarter 2, 2012

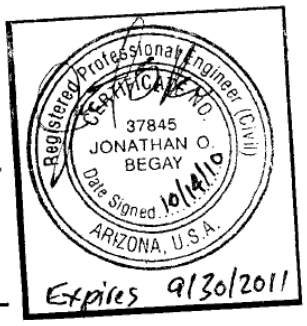
Bridge Element Condition Rating

Elem #	Description	Env	Unit	Total Qty	Cond 1	Cond 2	Cond 3	Cond 4	Cond 5
39	Unp Conc Slab/AC Ovl	2	EA	**1**	**1**	**0**	**0**	**0**	**0**
215	R/Conc Abutment	2	LF	**154**	**154**	**0**	**0**	**0**	**0**
330	Metal Bridge Railing	2	LF	**82**	**82**	**0**	**0**	**0**	**0**
359	Soffit of concrete decks and slabs	2	EA	**1**	**1**	**0**	**0**	**0**	**0**
362	Traffic Impact	2	EA	**1**	**0**	1	**0**	**0**	**0**

9/14/2010 ARIZONA DEPARTMENT OF TRANSPORTATION

BRIDGE GROUP

Bridge Inspection Report



Structure Number:	1033	Structure Name:	Lowell UP RR	Inspected By:	Begay-Leichtman
Route:	80	Road Name:	Lowell SPRR	Inspection No:	19
MilePost:	343.01	Agency:	ADOT	Date of Insp.:	Tuesday, August 10, 2010
ADOT District:	Safford	District Org:	8454	Next Insp. Due By:	Quarter 2, 2012

N58 - Deck Overall Rating: **N** - Not Applicable

Abandoned RR bridge

Top Deck / Wearing Surface	N	- Not Applicable
Deck Undersurface	N	- Not Applicable
Sidewalk / Median / Curb	N	- Not Applicable
N36a - Bridge Railings	N	- N/A or Feature not Requir
N36b - Rail Transitions	N	- N/A or Feature not Requir
Deck Joint	N	- Not Applicable
Drainage System	N	- Not Applicable

Overall Deck Inspection Notes:

1. Wooden deck timbers deflect approximately 1" beneath metal panels.

N59 - Superstructure Overall Rating: **6** - Satisfactory

Main Members	6	- Satisfactory	2 riveted plate girders--single span
Secondary Members	7	- Good	WF floor beams and angle bracings
Bearing Devices	7	- Good	Steel plates
Paint System	6	- Satisfactory	Silver top coat
Utilities	7	- Good	3 utility pipes on top

Overall Superstructure Inspection Notes:

1. Split and checked railroad ties across deck.
2. Steel girders have cracked and peeling paint revealing corroded girders and stringers.

N60 - Substructure Overall Rating: **6** - Satisfactory

Abutment	6	- Satisfactory	Full height walls
Piers	N	- Not Applicable	None
Slope Protection	N	- Not Applicable	None
Wingwalls, Dados, etc.	7	- Good	concrete wings

Overall Substructure Inspection Notes:

1. Brown to reddish water staining with delamination (verified by hammer sounding) spots on both abutments.
2. Numerous hairline to narrow map cracks on abutment walls.
3. Hairline to narrow random cracking on wingwalls.

N61 - Waterway Overall Rating: **N** - Not Applicable

Channel	N	- Not Applicable
Bank Protection	N	- Not Applicable

Overall Waterway Inspection Notes:

Roadway / Safety

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BRIDGE GROUP

Bridge Inspection Report

Structure Number:	1033	Structure Name:	Lowell UP RR	Inspected By:	Begay-Leichtman
Route:	80	Road Name:	Lowell SPRR	Inspection No:	19
MilePost:	343.01	Agency:	ADOT	Date of Insp.:	Tuesday, August 10, 2010
ADOT District:	Safford	District Org:	8454	Next Insp. Due By:	Quarter 2, 2012

Approaches	N	- Not Applicable	
Fills	7	- Good	
N36c - Approach Rail	N	- N/A or Feature not Requir	
N36d - Rail Ends	N	- N/A or Feature not Requir	
Signing	7	- Good	Underpass vertical clearance signs: WB-13'-7", EB 13'-9"
Lighting	7	- Good	Street lights for underpass
A211-Posted Weight	0	tons	

Overall Roadway / Safety Inspection Notes:

1. Minimum vertical clearances, as measured under the structure, are 14.00' and 13.84' for SB and NB traffic respectively (see attached vertical clearance diagram). Therefore, the vertical clearance signs should be changed on SB to read 13' - 7". See repair report.
2. Currently, the vertical clearance sign is posted 13-9" for SB and 13'- 7" for NB.
3. Bumpy AC patches beneath structure with wide transverse cracks.

Appraisal Items

N67 - Structural Evaluation	6	- Equal to Present Minimum Criteria
N68 - Deck Geometry	N	- Not Applicable
N69 - Vert. and Horiz. Clearances	3	- Basically Intolerable Requiring High Priority of Corrective Action
N71 - Waterway Adequacy	N	- Not Applicable
N72 - Approach Roadway Alignment	N	- Not Applicable
N113 - Scour Critical	N	- Bridge NOT over Waterway

Overall Appraisal Items Notes:

Other Miscellaneous Inspection Notes:

1. No previous repairs to verify.
2. One repair is recommended at this time. See the repair report.

Photos:
1. Elevation ID looking W
2. Topside surface looking S
3. Deck surface w/split decayed & loose timbers
4. Soffit/underside view w/split/checked timber
5. Split/checked and loose timbers
6. Elevation ID looking E

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BRIDGE GROUP

Bridge Inspection Report

Structure Number:	1033	Structure Name:	Lowell UP RR	Inspected By:	Begay-Leichtman
Route:	80	Road Name:	Lowell SPRR	Inspection No:	19
MilePost:	343.01	Agency:	ADOT	Date of Insp.:	Tuesday, August 10, 2010
ADOT District:	Safford	District Org:	8454	Next Insp. Due By:	Quarter 2, 2012

Bridge Element Condition Rating

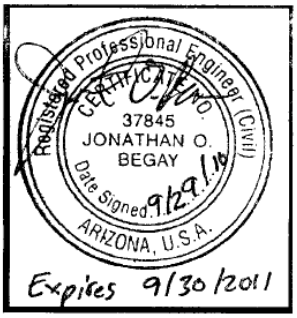
Elem #	Description	Env	Unit	Total Qty	Cond 1	Cond 2	Cond 3	Cond 4	Cond 5
31	Timber Deck	2	EA	1	1	0	0	0	0
107	Paint Stl Opn Girder	2	LF	302	302	0	0	0	0
215	R/Conc Abutment	2	LF	62	62	0	0	0	0
313	Fixed Bearing	2	EA	12	12	0	0	0	0

Date Printed: 09/28/2010

ARIZONA DEP TMENT OF TRANSPORTATION

BRIDGE GROUP

Bridge Inspection Report



Structure Number:	2557	Structure Name:	Mule Pass Bridge	Inspected By:	Begay-Leichtman
Route:	80	Road Name:	SR 80	Inspection No:	6
MilePost:	343.98	Agency:	ADOT	Date of Insp.:	Tuesday, April 06, 2010
ADOT District:	Safford	District Org:	8454	Next Insp. Due By:	Quarter 2, 2012

N58 - Deck Overall Rating: 6 - Satisfactory

Top Deck / Wearing Surface	6	- Satisfactory	Bare concrete
Deck Undersurface	6	- Satisfactory	Concrete
Sidewalk / Median / Curb	N	- Not Applicable	None
N36a - Bridge Railings	1	- Meets Standards	32" high F-shaped concrete barrier
N36b - Rail Transitions	1	- Meets Standards	
Deck Joint	N	- Not Applicable	None
Drainage System	N	- Not Applicable	None

Overall Deck Inspection Notes:

1. Numerous hairline map cracks along pier location and at patch area on NE corner of deck.
2. Minor debris on bridge shoulders.
3. Hairline vertical cracking on bridge barrier.
4. Minor spall on SW dado barrier.
5. West abutment approach slab in EB lane is approximately 1/2" higher than deck with unsealed gap and debris in joint.

N59 - Superstructure Overall Rating: 6 - Satisfactory

Main Members	6	- Satisfactory	Continuous 2-span RC slab
Secondary Members	N	- Not Applicable	
Bearing Devices	N	- Not Applicable	
Paint System	N	- Not Applicable	
Utilities	N	- Not Applicable	

Overall Superstructure Inspection Notes:

1. White efflorescence on deck underside, also along construction joints.

N60 - Substructure Overall Rating: 6 - Satisfactory

Abutment	6	- Satisfactory	Reinforced concrete
Piers	6	- Satisfactory	Reinforced concrete wall-type
Slope Protection	N	- Not Applicable	None
Wingwalls, Dados, etc.	7	- Good	Reinforced concrete

Overall Substructure Inspection Notes:

1. Hairline vertical cracks on east abutment and pier 1 walls.

N61 - Waterway Overall Rating: 8 - Very Good

Channel	8	- Very Good	Sand & gravel with concrete floor, sharp right turn at US end
Bank Protection	8	- Very Good	Riprap

Overall Waterway Inspection Notes:

1. Channel was dry during inspection with small pond beneath eastern span.

Date Printed: 09/28/2010

ARIZONA DEPARTMENT OF TRANSPORTATION

BRIDGE GROUP

Bridge Inspection Report

Structure Number:	2557	Structure Name:	Mule Pass Bridge	Inspected By:	Begay-Leichtman
Route:	80	Road Name:	SR 80	Inspection No:	6
MilePost:	343.98	Agency:	ADOT	Date of Insp.:	Tuesday, April 06, 2010
ADOT District:	Safford	District Org:	8454	Next Insp. Due By:	Quarter 2, 2012

Roadway / Safety

Approaches	7	- Good	AC roadway + concrete approach slabs
Fills	7	- Good	Fill under raodways
N36c - Approach Rail	1	- Meets Standards	W-beam with attenuators
N36d - Rail Ends	1	- Meets Standards	
Signing	N	- Not Applicable	
Lighting	N	- Not Applicable	
A211-Posted Weight	0	tons	

Overall Roadway / Safety Inspection Notes:

1. AC roadway approach and departure is fairly smooth.
2. Hairline map cracks on approach slabs.

Appraisal Items

N67 - Structural Evaluation	6	- Equal to Present Minimum Criteria
N68 - Deck Geometry	9	- Superior to Present Desirable Criteria
N69 - Vert. and Horiz. Clearances	N	- Not Applicable
N71 - Waterway Adequacy	5	- Somewhat Better than Minimum Adequacy
N72 - Approach Roadway Alignment	7	- Better than Present Minimum Criteria
N113 - Scour Critical	5	- Scour within Limits of Footing or Piles

Overall Appraisal Items Notes:

Other Miscellaneous Inspection Notes:

1. No previous repairs to verify.
2. No repairs are recommended for this inspection.

Photos:
1. Elevation ID looking D/S
2. Roadway ID looking WB
3. Deck surface - typical
4. Soffit view
5. E deck joint

Date Printed: 09/28/2010

ARIZONA DEPARTMENT OF TRANSPORTATION

BRIDGE GROUP

Bridge Inspection Report

Structure Number:	**2557**	Structure Name:	**Mule Pass Bridge**	Inspected By:	Begay-Leichtman
Route:	**80**	Road Name:	SR 80	Inspection No:	6
MilePost:	**343.98**	Agency:	ADOT	Date of Insp.:	Tuesday, April 06, 2010
ADOT District:	Safford	District Org:	8454	Next Insp. Due By:	Quarter 2, 2012

Bridge Element Condition Rating

Elem #	Description	Env	Unit	Total Qty	Cond 1	Cond 2	Cond 3	Cond 4	Cond 5
38	Concrete Slab - Bare	2	EA	1	0	1	0	0	0
210	Reinforced Conc Pier Wall	2	LF	84	80	4	0	0	0
215	Reinforced Conc Abutment	2	LF	188	180	8	0	0	0
320	P/S Concrete Approach Slab w/ or w-o/AC Ovly	2	EA	2	2	0	0	0	0
331	Reinforced Concrete Bridge Railing	2	LF	167	160	7	0	0	0
359	Soffit of concrete decks and slabs	2	EA	1	0	1	0	0	0
361	Scour	2	EA	1	1	0	0	0	0

Date Printed: 6/19/2008

ARIZONA DEPARTMENT OF TRANSPORTATION

BRIDGE GROUP

Culvert Inspection Report

Structure Number:	4494	Structure Name:	Phelps Dodge Flume	Inspected By:	Snodgrass - Leichtm
Route:	80	Road Name:	SR 80	Inspection No:	15
MilePost:	341.95	Agency:	ADOT	Date of Insp.:	Wednesday, June 11, 2008
ADOT District:	Safford	District Org:	8454	Next Insp. Due By:	Quarter 2, 2012

N58 - Deck Overall Rating: **N** - Not Applicable

Top Deck / Wearing Surface		-
Deck Undersurface		-
Sidewalk / Median / Curb		-
N36a - Bridge Railings	**N**	- N/A or Feature not Requir
N36b - Rail Transitions	**N**	- N/A or Feature not Requir
Deck Joint		-
Drainage System		-

N side of roadway has sidewalk & sidewalk has hand rail over conc. parapet. planned. HS 10/23/08

Overall Deck Inspection Notes:

N62 - Culvert Condition Rating 7 - Good

Barrels	7	- Good	2 -12' x 10' x 126' RCB w/ 3' fill
Curbs and Headwalls	7	- Good	Concrete headwalls
Wingwalls	N	- Not Applicable	None
Aprons	7	- Good	Conc. inlet apron
Retaining Walls, Flumes, Etc.	7	- Good	Concrete ret walls at outlet and N inlet. Rock wall at S inlet

Overall Culvert Condition Inspection Notes:

1. Walls have moderate fine - med. full-height vert. cracks. Soffit has moderate fine transverse cracks w/ white efflorescence. Floor has extensive med. - heavy flow abrasion and exposed rusting rebar some w/ section loss.
2. Headwalls have minor fine vert. cracks and inlet headwall has a large spall w/ exposed rebar at NE corner.
3. Retaining walls have minor fine vert. cracks and a couple of large spalls at top of W. inlet wall.

N61 - Waterway Overall Rating: 7 - Good

Channel	7	- Good	Rocky
Bank Protection	7	- Good	Retaining walls all sides
Percent Inlet Opening	100		S. side
Percent Outlet Opening	100		N. side
High Water Mark, ft	6		below soffit at inlet

Overall Waterway Inspection Notes:

1. Channel is dry w/ light vegetation at inlet and appears stable.
2. 1.7' deep scour at barrel outlets has not changed since last inspection.

Roadway / Safety

Approaches	7	- Good	4 lane AC roadway
Fills	7	- Good	Gravel and rocks
N36c - Approach Rail	**N**	- N/A or Feature not Requir	None
N36d - Rail Ends	**N**	- N/A or Feature not Requir	
Signing	7	- Good	'Warning keep out' sign over outlet
Lighting	8	- Very Good	Street lighting
A211-Posted Weight	0	tons	

Date Printed: 6/19/2008

ARIZONA DEPARTMENT OF TRANSPORTATION

BRIDGE GROUP

Culvert Inspection Report

Structure Number:	4494	Structure Name:	Phelps Dodge Flume	Inspected By:	Snodgrass - Leichtm
Route:	80	Road Name:	SR 80	Inspection No:	15
MilePost:	341.95	Agency:	ADOT	Date of Insp.:	Wednesday, June 11, 2008
ADOT District:	Safford	District Org:	8454	Next Insp. Due By:	Quarter 2, 2012

Overall Roadway / Safety Inspection Notes:

1. **AC approach roadway has no apparent defects and ride is smooth.**

Appraisal Items

N67 - Structural Evaluation	7	- Better than Present Minimum Criteria
N68 - Deck Geometry	N	- Not Applicable
N69 - Vert. and Horiz. Clearances	N	- Not Applicable
N71 - Waterway Adequacy	8	- Equal to Present Desirable Criteria
N72 - Approach Roadway Alignment	7	- Better than Present Minimum Criteria
N113 - Scour Critical	8	- Equal to Present Desirable Criteria

Overall Appraisal Items Notes:

Other Miscellaneous Inspection Notes:

1. **No repairs to verify from previous inspection and none recommended at this time.**
2. **Photos:**
   1. **Elevation ID looking U/S**
   2. **Roadway ID looking E**

Bridge Element Condition Rating

Elem #	Description	Env	Unit	Total Qty	Cond 1	Cond 2	Cond 3	Cond 4	Cond 5
241	Reinforced Concrete Culvert	2	LF	126	126	0	0	0	0
359	Soffit of concrete decks and slabs	2	EA	1	0	1	0	0	0
361	Scour Smart Flag	2	EA	1	1	0	0	0	0

Date Printed: 6/3/2008

ARIZONA DEPARTMENT OF TRANSPORTATION

BRIDGE GROUP

Culvert Inspection Report

Structure Number:	4496	Structure Name:	RCB	Inspected By:	Snodgrass - Leichtm
Route:	80	Road Name:	SR 80	Inspection No:	16
MilePost:	344.93	Agency:	ADOT	Date of Insp.:	Wednesday, May 28, 2008
ADOT District:	Safford	District Org:	8454	Next Insp. Due By:	Quarter 2, 2012

N58 - Deck Overall Rating: 7 - Good

Top Deck / Wearing Surface	8	- Very Good	4" AC overlay
Deck Undersurface	7	- Good	Concrere
Sidewalk / Median / Curb	7	- Good	Concrete curbs
N36a - Bridge Railings	N	- N/A or Feature not Requir	None
N36b - Rail Transitions	N	- N/A or Feature not Requir	
Deck Joint	N	- Not Applicable	None
Drainage System	N	- Not Applicable	None

Overall Deck Inspection Notes:

1. AC overlay has no apparent defects.

N62 - Culvert Condition Rating 7 - Good

Barrels	7	- Good	2 -10' x 8' x 46' RCB w/ 1' fill
Curbs and Headwalls	7	- Good	Concrete curb
Wingwalls	8	- Very Good	Concrete
Aprons	N	- Not Applicable	None
Retaining Walls, Flumes, Etc.	N	- Not Applicable	None

Overall Culvert Condition Inspection Notes:

1. Barrels stem walls exhibit minor fine-med. full-height vert. cracks and white efflorescent in soffit mainly at construction joints.
2. No drastic change in the undermining of downstream drop structure as observed compare to previously noted.

N61 - Waterway Overall Rating: 7 - Good

Channel	7	- Good	Gravelly
Bank Protection	N	- Not Applicable	None
Percent Inlet Opening	65		N. side
Percent Outlet Opening	98		S.side
High Water Mark, ft	3		3' below soffit at inlet

Overall Waterway Inspection Notes:

1. Channel is dry with moderate vegetation w/ 0.7' of scour at outlet and appears stable. Inlet has minor debris buildup.

Roadway / Safety

Approaches	8	- Very Good	2 lane AC roadway
Fills	8	- Very Good	Gravel
N36c - Approach Rail	N	- N/A or Feature not Requir	None
N36d - Rail Ends	N	- N/A or Feature not Requir	
Signing	N	- Not Applicable	None
Lighting	N	- Not Applicable	None
A211-Posted Weight	0	tons	

Date Printed: 6/3/2008

ARIZONA DEPARTMENT OF TRANSPORTATION

BRIDGE GROUP

Culvert Inspection Report

Structure Number:	4496	Structure Name:	RCB	Inspected By:	Snodgrass - Leichtm
Route:	80	Road Name:	SR 80	Inspection No:	16
MilePost:	344.93	Agency:	ADOT	Date of Insp.:	Wednesday, May 28, 2008
ADOT District:	Safford	District Org:	8454	Next Insp. Due By:	Quarter 2, 2012

Overall Roadway / Safety Inspection Notes:

1. **AC roadway has no apparent defects and ride is smooth.**

Appraisal Items

N67 - Structural Evaluation	7	- Better than Present Minimum Criteria
N68 - Deck Geometry	9	- Superior to Present Desirable Criteria
N69 - Vert. and Horiz. Clearances	N	- Not Applicable
N71 - Waterway Adequacy	8	- Equal to Present Desirable Criteria
N72 - Approach Roadway Alignment	8	- Equal to Present Desirable Criteria
N113 - Scour Critical	9	- Bridge Foundations (Including Piles) Well Above Flood Water

Overall Appraisal Items Notes:

Other Miscellaneous Inspection Notes:

1. **No repairs to verify from previous inspection and none recommended at this time.**
2. **Photos:**
   1. **Elevation ID looking D/S**
   2. **Roadway ID looking W**

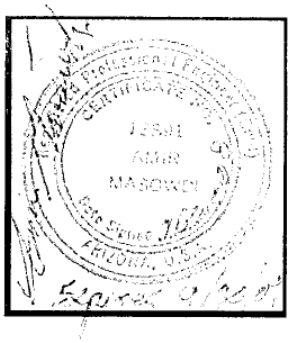
Bridge Element Condition Rating

Elem #	Description	Env	Unit	Total Qty	Cond 1	Cond 2	Cond 3	Cond 4	Cond 5
241	Concrete Culvert	2	LF	46	46	0	0	0	0
361	Scour	2	EA	1	1	0	0	0	0
359	Soffit of concrete decks and slabs	2	EA	1	1	0	0	0	0

Date Printed: 6/4/2008

ARIZONA DEPARTMENT OF TRANSPORTATION

BRIDGE GROUP



Culvert Inspection Report

Structure Number:	4886	Structure Name:	Escacado Canyon RCB	Inspected By:	Snodgrass - Leichtm
Route:	92	Road Name:	SR 92	Inspection No:	16
MilePost:	352.25	Agency:	ADOT	Date of Insp.:	Wednesday, May 28, 2008
ADOT District:	Safford	District Org:	8454	Next Insp. Due By:	Quarter 2, 2012

N58 - Deck Overall Rating: **N** - Not Applicable

Top Deck / Wearing Surface		-
Deck Undersurface		-
Sidewalk / Median / Curb		-
N36a - Bridge Railings	**N**	- N/A or Feature not Requir
N36b - Rail Transitions	**N**	- N/A or Feature not Requir
Deck Joint		-
Drainage System		-

Overall Deck Inspection Notes:

N62 - Culvert Condition Rating **8** - Very Good

Barrels	8	- Very Good	2 -10' x 7' x 52' RCB w/ 2' fill
Curbs and Headwalls	8	- Very Good	Concrete
Wingwalls	8	- Very Good	Concrete
Aprons	8	- Very Good	Sloping cemented 20' outlet apron with 2.5' drop at end
Retaining Walls, Flumes, Etc.	N	- Not Applicable	None

Overall Culvert Condition Inspection Notes:

1. **Walls have minor fine vert. cracks. Soffit at construction joints has light scaling w/ white leakage. Floor has moderate transverse and ramdom cracks.**
2. **Outlet wingwalls have minor fine - med. full-height diag. cracks.**
3. **Curbs have minor fine vert.cracks.**
4. **Outlet apron has extensive flow abrasion w/ minor transverse random cracks.**

N61 - Waterway Overall Rating: **8** - Very Good

Channel	8	- Very Good	Gravelly, rocky
Bank Protection	N	- Not Applicable	None
Percent Inlet Opening	100		N. side
Percent Outlet Opening	100		S. side
High Water Mark, ft	3.5		below soffit at inlet

Overall Waterway Inspection Notes:

1. **Channel is dry w/ moderate vegetation and up to 3.5' deep scour at end of outlet apron.**

Roadway / Safety

Approaches	8	- Very Good	2 lane AC roadway
Fills	8	- Very Good	Gravel & rocks
N36c - Approach Rail	N	- N/A or Feature not Requir	None
N36d - Rail Ends	N	- N/A or Feature not Requir	
Signing	8	- Very Good	4 b/y markers
Lighting	N	- Not Applicable	None
A211-Posted Weight	0	tons	

Date Printed: 6/2/2008

ARIZONA DEPARTMENT OF TRANSPORTATION

BRIDGE GROUP

Culvert Inspection Report

Structure Number:	4886	Structure Name:	Escacado Canyon RCB	Inspected By:	Snodgrass - Leichtm
Route:	92	Road Name:	SR 92	Inspection No:	16
MilePost:	352.25	Agency:	ADOT	Date of Insp.:	Wednesday, May 28, 2008
ADOT District:	Safford	District Org:	8454	Next Insp. Due By:	Quarter 2, 2012

Overall Roadway / Safety Inspection Notes:

1. **AC roadway has minor fine - med. long. and transverse cracks; ride is smooth.**
2. **Fill at W. inlet wingwall end has minor erosion.**

Appraisal Items

N67 - Structural Evaluation	8	- Equal to Present Desirable Criteria
N68 - Deck Geometry	N	- Not Applicable
N69 - Vert. and Horiz. Clearances	N	- Not Applicable
N71 - Waterway Adequacy	8	- Equal to Present Desirable Criteria
N72 - Approach Roadway Alignment	8	- Equal to Present Desirable Criteria
N113 - Scour Critical	8	- Equal to Present Desirable Criteria

Overall Appraisal Items Notes:

Other Miscellaneous Inspection Notes:

1. **No repairs to verify from previous inspection and none recommended at this time.**
2. **Photos:**
   1. **Elevation ID looking D/S**
   2. **Roadway ID looking E**

Bridge Element Condition Rating

Elem #	Description	Env	Unit	Total Qty	Cond 1	Cond 2	Cond 3	Cond 4	Cond 5
241	Concrete Culvert	2	LF	52	52	0	0	0	0
359	Soffit of concrete decks and slabs	2	EA	1	1	0	0	0	0
361	Scour	2	EA	1	1	0	0	0	0

Date Printed: 7/10/2008

ARIZONA DEPARTMENT OF TRANSPORTATION

BRIDGE GROUP

Culvert Inspection Report

Structure Number:	6480	Structure Name:	Brewery Gulch RCB	Inspected By:	Snodgrass - Leichtm
Route:	80	Road Name:	SR 80	Inspection No:	14
MilePost:	341.46	Agency:	ADOT	Date of Insp.:	Wednesday, June 11, 2008
ADOT District:	Safford	District Org:	8454	Next Insp. Due By:	Quarter 2, 2012

N58 - Deck Overall Rating: **N** - Not Applicable

Top Deck / Wearing Surface		-
Deck Undersurface		-
Sidewalk / Median / Curb		-
N36a - Bridge Railings	**N**	- N/A or Feature not Requir
N36b - Rail Transitions	**N**	- N/A or Feature not Requir
Deck Joint		-
Drainage System		-

Overall Deck Inspection Notes:

N62 - Culvert Condition Rating **6** - Satisfactory

Barrels	6	- Satisfactory	2 -12' x 10' x 1054' RCB w/ 21' fill
Curbs and Headwalls	7	- Good	Concrete
Wingwalls	7	- Good	Concrete at inlet
Aprons	7	- Good	Sloping concrete inlet apron
Retaining Walls, Flumes, Etc.	7	- Good	Flumes at outlet

Overall Culvert Condition Inspection Notes:

1. Walls have moderate fine-med. full height vert. cracks with white leakage. Soffit has fine-med. transverse cracks generally w/ heavy white efflorescence. Floors have extensive light flow abrasion w/ a few exposed rusting rebars and minor delamination spalls.
2. Sloping has Moderate med.-large random cracking at inlet conc. apron and minor longitudinal large cracking at outlet flume flooring.
3. Utility lines in E. bbl. appear to be in good condition.

N61 - Waterway Overall Rating: **8** - Very Good

Channel	8	- Very Good	Concrete
Bank Protection	N	- Not Applicable	Concrete flume at outlet
Percent Inlet Opening	100		N. side
Percent Outlet Opening	100		S. side
High Water Mark, ft	6		below soffit at inlet

Overall Waterway Inspection Notes:

1. Conc. channel is dry throughout structure.

Roadway / Safety

Approaches	8	- Very Good	SR 80 & local st & parking lot (at inlet)
Fills	8	- Very Good	Gravel
N36c - Approach Rail	N	- N/A or Feature not Requir	4" steel pipe mounted to inlet headwall
N36d - Rail Ends	N	- N/A or Feature not Requir	
Signing	7	- Good	Prohibit entering sign at inlet
Lighting	8	- Very Good	Street lights at inlet and SR 80

Date Printed: 7/10/2008

ARIZONA DEPARTMENT OF TRANSPORTATION

BRIDGE GROUP

Culvert Inspection Report

Structure Number:	6480	Structure Name:	Brewery Gulch RCB	Inspected By:	Snodgrass - Leichtm
Route:	80	Road Name:	SR 80	Inspection No:	14
MilePost:	341.46	Agency:	ADOT	Date of Insp.:	Wednesday, June 11, 2008
ADOT District:	Safford	District Org:	8454	Next Insp. Due By:	Quarter 2, 2012

A211-Posted Weight 0 **tons**

Overall Roadway / Safety Inspection Notes:

1. **Roadway has no apparent defects and ride is smooth.**

Appraisal Items

N67 - Structural Evaluation	**6**	- Equal to Present Minimum Criteria
N68 - Deck Geometry	**N**	- Not Applicable
N69 - Vert. and Horiz. Clearances	**N**	- Not Applicable
N71 - Waterway Adequacy	**8**	- Equal to Present Desirable Criteria
N72 - Approach Roadway Alignment	**8**	- Equal to Present Desirable Criteria
N113 - Scour Critical	**8**	- Calculated Scour Is above Top of Footing

Overall Appraisal Items Notes:

Other Miscellaneous Inspection Notes:

1. **No repairs to verify from previous inspection and none recommended at this time.**

2. **Photos:**
   1. **Elevation ID looking D/S**
   2. **Roadway ID looking E**

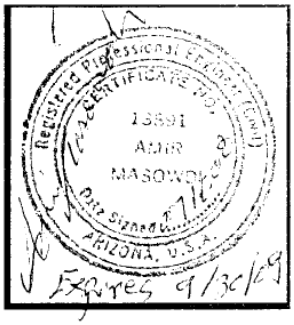
Bridge Element Condition Rating

Elem #	Description	Env	Unit	Total Qty	Cond 1	Cond 2	Cond 3	Cond 4	Cond 5
241	Reinforced Concrete Culvert	2	LF	1054	1000	54	0	0	0
359	Soffit of concrete decks and slabs	2	EA	1	0	1	0	0	0

Date Printed: 7/10/2008

ARIZONA DEPARTMENT OF TRANSPORTATION

BRIDGE GROUP



Culvert Inspection Report

Structure Number:	6481	Structure Name:	Mule Canyon RCB	Inspected By:	Snodgrass - Leichtm
Route:	80	Road Name:	SR 80	Inspection No:	13
MilePost:	342.04	Agency:	ADOT	Date of Insp.:	Wednesday, June 11, 2008
ADOT District:	Safford	District Org:	8454	Next Insp. Due By:	Quarter 2, 2012

N58 - Deck Overall Rating: **N** - Not Applicable

Top Deck / Wearing Surface	-	
Deck Undersurface	-	
Sidewalk / Median / Curb	-	
N36a - Bridge Railings	**N**	- N/A or Feature not Requir
N36b - Rail Transitions	**N**	- N/A or Feature not Requir
Deck Joint	-	
Drainage System	-	

There is a sidewalk where conc. parapet & pipe rail are located. Please note. (Chris 12, 2) Horner 10/23/08

Overall Deck Inspection Notes:

N62 - Culvert Condition Rating 6 - Satisfactory

Barrels	6	- Satisfactory	2 -12' x 10' x 696' RCB w/ 2' fill
Curbs and Headwalls	7	- Good	Concrete
Wingwalls	7	- Good	Concrete at N side of outlet
Aprons	N	- Not Applicable	None
Retaining Walls, Flumes, Etc.	7	- Good	Concrete at S side of outlet and both sides of inlet

Overall Culvert Condition Inspection Notes:

1. Walls have fine - med. full-height vert. cracks. some with white leakage. Soffit has extensive fine - med. transverse cracks with white efflorescence. Floors have extensive heavy flow abrasion w/ rusting exposed rebars; some w/ moderate to full section loss. A small portion of the RCB top slab and end wall is exposed at NE corner.
2. Headwalls have minor fine vert. cracks.
3. Retaining walls have minor fine full-height cracks.

N61 - Waterway Overall Rating: **7** - Good

Channel	7	- Good	Rocky
Bank Protection	7	- Good	Concrete retaining walls
Percent Inlet Opening	100		W. side
Percent Outlet Opening	100		E. side
High Water Mark, ft	5		below soffit at inlet

Overall Waterway Inspection Notes:

1. Channel is dry w/ about 5.0' deep scour near the outlet corner of the south bbl. and retaining wall. Recommend monitoring.

Roadway / Safety

Approaches	7	- Good	4 lane AC roadway (SR 80 runs mostly parallel to RCB)
Fills	7	- Good	Gravel and rock
N36c - Approach Rail	**N**	- N/A or Feature not Requir	Conc. parapet and pipe rail at N. side of SR 80
N36d - Rail Ends	**N**	- N/A or Feature not Requir	
Signing	N	- Not Applicable	None
Lighting	7	- Good	Street lights

Date Printed: 7/10/2008

ARIZONA DEPARTMENT OF TRANSPORTATION

BRIDGE GROUP

Culvert Inspection Report

Structure Number:	6481	Structure Name:	Mule Canyon RCB	Inspected By:	Snodgrass - Leichtm
Route:	80	Road Name:	SR 80	Inspection No:	13
MilePost:	342.04	Agency:	ADOT	Date of Insp.:	Wednesday, June 11, 2008
ADOT District:	Safford	District Org:	8454	Next Insp. Due By:	Quarter 2, 2012

A211-Posted Weight **0** **tons**

Overall Roadway / Safety Inspection Notes:

1. **AC approach roadway has no apparent defects and ride is smooth. Note: SR 80 is not carried by this structure.**

2. **NE fill has minor erosion behind wingwall.**

Appraisal Items

N67 - Structural Evaluation	6	- Equal to Present Minimum Criteria
N68 - Deck Geometry	N	- Not Applicable
N69 - Vert. and Horiz. Clearances	N	- Not Applicable
N71 - Waterway Adequacy	8	- Equal to Present Desirable Criteria
N72 - Approach Roadway Alignment	8	- Equal to Present Desirable Criteria
N113 - Scour Critical	8	- Calculated Scour Is above Top of Footing

Overall Appraisal Items Notes:

Other Miscellaneous Inspection Notes:

1. **No previous repairs to verify and none recommended at this time.**

2. **Photos:**
   1. **Elevation ID looking D/S**
   2. **Roadway ID looking E bound**
   3. **Scour at outlet**

Bridge Element Condition Rating

Elem #	Description	Env	Unit	Total Qty	Cond 1	Cond 2	Cond 3	Cond 4	Cond 5
241	Reinforced Concrete Culvert	2	LF	696	0	696	0	0	0
359	Soffit Smart Flag	2	EA	1	1	0	0	0	0
361	Scour	2	EA	1	0	1	0	0	0

Date Printed: 3/26/2010

ARIZONA DEPARTMENT OF TRANSPORTATION

BRIDGE GROUP

Culvert Inspection Report

Structure Number:	9283	Structure Name:	Black Knob Drain RCB	Inspected By:	Begay-Leichtman
Route:	0	Road Name:	Arizona Street	Inspection No:	17
MilePost:	0	Agency:	Bisbee	Date of Insp.:	Tuesday, March 31, 2009
ADOT District:	Safford	District Org:		Next Insp. Due By:	Quarter 1, 2011

P.E. Seal

N58 - Deck Overall Rating: **N** - Not Applicable

Top Deck / Wearing Surface	6	- Satisfactory	3" AC
Deck Undersurface	5	- Fair	conc. with steel I-beams
Sidewalk / Median / Curb	5	- Fair	Concrete curb
N36a - Bridge Railings	0	- Does NOT Meet Standard	2" pipe handrail on W side
N36b - Rail Transitions	0	- Does NOT Meet Standard	
Deck Joint	N	- Not Applicable	
Drainage System	N	- Not Applicable	

Overall Deck Inspection Notes:

1. I-beams have section loss with void concrete beneath. Concrete is old & deteriorating, especially on the fascia.
2. 4" depression in middle barrel soffit.
3. Could use handrail on headwall on N/E corner for pedestrians.

Previous Notes applies to the report

1. AC covered deck top has extensive cracking and some old AC patches.
2. Deck undersurface has some traces of efflorescence and exposed steel I beam bottom w/ signs of corrosion.

N62 - Culvert Condition Rating **5** - Fair

Barrels	5	- Fair	3 - 7'x3'x111' w/ 1' fill RCB
Curbs and Headwalls	5	- Fair	Concrete curb
Wingwalls	6	- Satisfactory	Short sections at outlet only
Aprons	6	- Satisfactory	12' concrete outlet apron with 2' drop:
Retaining Walls, Flumes, Etc.	N	- Not Applicable	

Overall Culvert Condition Inspection Notes:

1. North barrel wall has large diagonal crack.
2. Random to fine cracks on barrel walls.
3. Large spalls in soffit on the N/W inlet side 2" deep.
4. Barrel soffit concrete is in poor condition (verified by hammer sounding).
5. Large spall on N/W headwall corner. Large vertical and horizontal cracks on headwall.
6. Transverse cracks completely through headwall on upstream side.

N61 - Waterway Overall Rating: **6** - Satisfactory

Channel	6	- Satisfactory	Concrete lined channel at inlet side
Bank Protection	7	- Good	Stone masonary at NE and concrete at SE
Percent Inlet Opening	100		East side
Percent Outlet Opening	100		West side
High Water Mark, ft	0		flows near full

Overall Waterway Inspection Notes:

1. Scour undermining @ outlet apron. Observed approx 1' cover over sewer pipe.
2. Debris @ inlet side (branches and grass)

Date Printed: 3/26/2010

ARIZONA DEPARTMENT OF TRANSPORTATION

BRIDGE GROUP

Culvert Inspection Report

Structure Number:	**9283**	Structure Name:	**Black Knob Drain RCB**	Inspected By:	Begay-Leichtman
Route:	**0**	Road Name:	Arizona Street	Inspection No:	17
MilePost:	**0**	Agency:	Bisbee	Date of Insp.:	Tuesday, March 31, 2009
ADOT District:	Safford	District Org:		Next Insp. Due By:	Quarter 1, 2011

Roadway / Safety

Approaches	**5**	- Fair	2 lane AC roadway with paved parking
Fills	**7**	- Good	Gravel
N36c - Approach Rail	**0**	- Does NOT Meet Standard	
N36d - Rail Ends	**0**	- Does NOT Meet Standard	
Signing	**6**	- Satisfactory	1- B/Y marker at SW corner area
Lighting	**N**	- Not Applicable	
A211-Posted Weight	**0**	**tons**	

Overall Roadway / Safety Inspection Notes:

1. AC roadway has large random cracking to make roadway travel bumpy.

Appraisal Items

N67 - Structural Evaluation	**5**	- Somewhat Better than Minimum Adequacy
N68 - Deck Geometry	**9**	- Superior to Present Desirable Criteria
N69 - Vert. and Horiz. Clearances	**N**	- Not Applicable
N71 - Waterway Adequacy	**6**	- Equal to Present Minimum Criteria
N72 - Approach Roadway Alignment	**7**	- Better than Present Minimum Criteria
N113 - Scour Critical	**8**	- Equal to Present Desirable Criteria

Overall Appraisal Items Notes:

Other Miscellaneous Inspection Notes:

1. No previous repairs to verify.
2. No repairs are recommended for this inspection.

Photos:
1. Elevation ID looking U/S
2. Roadway ID looking S
3. Undermining concrete apron at end of outlet

Bridge Element Condition Rating

Elem #	Description	Env	Unit	Total Qty	Cond 1	Cond 2	Cond 3	Cond 4	Cond 5
241	Reinforced Concrete Culvert	2	LF	**111**	**0**	**111**	**0**	**0**	**0**
334	Bridge Railing - coated metal	2	LF	**33**	**0**	**33**	**0**	**0**	**0**

Date Printed: 3/26/2010

ARIZONA DEPARTMENT OF TRANSPORTATION

BRIDGE GROUP

Bridge Inspection Report

Structure Number:	9629	Structure Name:	**Mule Gulch Bridge**	Inspected By:	Begay-Leichtman
Route:	0	Road Name:	Douglas Road	Inspection No:	15
MilePost:	0	Agency:	Bisbee	Date of Insp.:	Tuesday, March 31, 2009
ADOT District:	Safford	District Org:		Next Insp. Due By:	Quarter 1, 2011

P.E. Seal

N58 - Deck Overall Rating: **4** - Poor

Top Deck / Wearing Surface	**4**	- Poor	Concrete
Deck Undersurface	**4**	- Poor	Concrete
Sidewalk / Median / Curb	**4**	- Poor	Sidewalk on S side
N36a - Bridge Railings	**0**	- Does NOT Meet Standard	2" steel handrail on N curb and S side of sidewalk
N36b - Rail Transitions	**0**	- Does NOT Meet Standard	
Deck Joint	**N**	- Not Applicable	
Drainage System	**4**	- Poor	Small drain holes near south curb

Overall Deck Inspection Notes:

1. Random large cracking in deck. Large transverse and longitudinal cracking in deck. Large transverse crack over pier 1. Large longitudinal crack along center of bridge slab parallel to centerline of roadway from pier 1 to abutment (east).
2. Various chips and spalls on handrail parapet.
3. Exposed rebar on southern side of deck adjacent to curbing at 4 locations between pier 3 and east abutment. See photo #2.
4. The concrete slab soffit is delaminating along and beneath south curbline (verified by hammer sounding). Drainage appears to be seeping through deck along south curbline and damaging soffit concrete.
5. Concrete slab fascia patch work on northside between pier 3 and east abutment is void (verified by hammer sounding) and has exposed rebar.
6. Large spall on south curb fascia with exposed rebar. See photo #3 and repair report.
7. Exposed deck rebar (1' length) at west abutment southside EB lane.

N59 - Superstructure Overall Rating: **4** - Poor

Main Members	**4**	- Poor	4 span reinforced concrete slab
Secondary Members	**N**	- Not Applicable	
Bearing Devices	**N**	- Not Applicable	
Paint System	**N**	- Not Applicable	
Utilities	**6**	- Satisfactory	Several medium and large utility pipes on all sides

Overall Superstructure Inspection Notes:

1. From pier 2 to pier 3 to east abutment there is a large longitudinal crack along the center of the soffit. The crack has efflorescence and exposed rebar. The concrete is delaminating along the large crack. The crack also coinsides with the large longitudinal deck cracking.
2. Exposed rebar in north deck fascia near pier 2, 1.5' long.
3. Between pier 1 to pier 2 (south deck fascia) there is exposed vertical rebar.
4. Recommend that a bridge rating analysis be performed to obtain an accurate figure for the bridge weight limit posting. See repair report.

N60 - Substructure Overall Rating: **5** - Fair

Abutment	**5**	- Fair	Concrete walls-weak concrete
Piers	**5**	- Fair	Concrete walls
Slope Protection	**N**	- Not Applicable	
Wingwalls, Dados, etc.	**N**	- Not Applicable	Rock masonary at NE - broken on top next to bridge to let pipes thru

Date Printed: 3/26/2010

ARIZONA DEPARTMENT OF TRANSPORTATION

BRIDGE GROUP

Bridge Inspection Report

Structure Number:	**9629**	Structure Name:	**Mule Gulch Bridge**	Inspected By:	Begay-Leichtman
Route:	**0**	Road Name:	Douglas Road	Inspection No:	15
MilePost:	**0**	Agency:	Bisbee	Date of Insp.:	Tuesday, March 31, 2009
ADOT District:	Safford	District Org:		Next Insp. Due By:	Quarter 1, 2011

Overall Substructure Inspection Notes:

1. Top to bottom large vertical crack along middle of pier 3. The large crack coinsides with the large longitudinal soffit crack.
2. The patch on pier 2, northside, has void concrete (verified by hammer sounding) from the ground to soffit.
3. Pier 2, east, has delaminating concrete near large soffit crack (verified by hammer sounding).
4. Pier 3, northside inlet, has void concrete.

N61 - Waterway Overall Rating: **7** - Good

Channel	**7**	- Good	Gravel and weedy, concrete apron with 2.5' drop on downstream side
Bank Protection	**7**	- Good	Channel retaining walls

Overall Waterway Inspection Notes:

Roadway / Safety

Approaches	**6**	- Satisfactory	2 lane AC with one conc.approach slab
Fills	**6**	- Satisfactory	Gravel
N36c - Approach Rail	**0**	- Does NOT Meet Standard	
N36d - Rail Ends	**0**	- Does NOT Meet Standard	
Signing	**7**	- Good	School: Speed limit 15 MPH on E side
Lighting	**N**	- Not Applicable	
A211-Posted Weight	**0**	**tons**	

Overall Roadway / Safety Inspection Notes:

1. Town of Bisbee should consider posting 15 ton weight limit signs on both ends of the bridge. See repair report.

Appraisal Items

N67 - Structural Evaluation	**4**	- Meets Minimum Tolerable Limits
N68 - Deck Geometry	**3**	- Basically Intolerable Requiring High Priority of Corrective Action
N69 - Vert. and Horiz. Clearances	**N**	- Not Applicable
N71 - Waterway Adequacy	**6**	- Equal to Present Minimum Criteria
N72 - Approach Roadway Alignment	**6**	- Equal to Present Minimum Criteria Sharp turn off W end
N113 - Scour Critical	**3**	- Basically Intolerable Requiring High Priority of Corrective Action

Overall Appraisal Items Notes:

Other Miscellaneous Inspection Notes:

1. No previous repair requests were recommended.

Date Printed: 3/26/2010

ARIZONA DEPARTMENT OF TRANSPORTATION

BRIDGE GROUP

Bridge Inspection Report

Structure Number:	**9629**	Structure Name:	**Mule Gulch Bridge**	Inspected By:	Begay-Leichtman
Route:	**0**	Road Name:	Douglas Road	Inspection No:	15
MilePost:	**0**	Agency:	Bisbee	Date of Insp.:	Tuesday, March 31, 2009
ADOT District:	Safford	District Org:		Next Insp. Due By:	Quarter 1, 2011

2. Three repairs are recommended at this time. See the repair report.

Photos:

1. Elevation ID looking U/S
2. Roadway ID looking E
3. Deck surface- spalls on deck/curb typical
4. Deck undersurface between P3 and A2 outlet side spall deck soffit and delam next to bottom side of curb.(see red line)
5. Exposed rebar various ares on deck surface
6. Delam on upstream side at headwall span 4
7. Delam span 3 upstream from headwall to deck undersurface approx 2 ft in
8. Center of deck underside span 2-3-4 large crack with exposed rebar
9. Exposed rebar bottom of headwall pier 2 east side
10. Pier 3 west side delam upstream side
11. West side of pier 3 outlet side delam (red line)
12. Span 3 outlet side delam (red line)
13. Delam w/ spall between pier 1 and pier 2 inlet side
14. Delam span 2 east of pier 1 inlet side

Bridge Element Condition Rating

Elem #	Description	Env	Unit	Total Qty	Cond 1	Cond 2	Cond 3	Cond 4	Cond 5
38	Concrete Slab - Bare	2	EA	1	0	0	0	1	0
210	R/Conc Pier Wall	2	LF	92	85	7	0	0	0
215	R/Conc Abutment	2	LF	59	59	0	0	0	0
321	R/Conc Approach Slab	2	EA	1	1	0	0	0	0
334	Coated Metal Rail	2	LF	72	72	0	0	0	0
358	Deck Cracking	2	EA	1	0	0	0	1	0

Date Printed: 3/26/2010

ARIZONA DEPARTMENT OF TRANSPORTATION

BRIDGE GROUP

Bridge Inspection Report

P.E. Seal

Structure Number:	9925	Structure Name:	**Arizona Street Br**	Inspected By:	Begay-Leichtman
Route:	0	Road Name:	Arizona Street	Inspection No:	12
MilePost:	0	Agency:	Bisbee	Date of Insp.:	Tuesday, March 31, 2009
ADOT District:	Safford	District Org:		Next Insp. Due By:	Quarter 1, 2011

N58 - Deck Overall Rating: **5** - Fair

Top Deck / Wearing Surface	**5**	- Fair	3" AC
Deck Undersurface	**5**	- Fair	Concrete
Sidewalk / Median / Curb	**6**	- Satisfactory	Concrete Curb
N36a - Bridge Railings	**0**	- Does NOT Meet Standard	2" steel pipe handrail on W side
N36b - Rail Transitions	**0**	- Does NOT Meet Standard	
Deck Joint	**N**	- Not Applicable	
Drainage System	**N**	- Not Applicable	

Overall Deck Inspection Notes:

1. N/E inlet side patched fascia is cracked & delaminating on headwall. The deck fascia is also delaminating (verified hammer sounding).
2. Poor drainage on deck could be causing headwall & deck fascia delamination.
3. Large random cracking on deck w/ AC patches & 1.5 ft diameter deck spalls.
4. AC top deck surface has extensive cracking and old AC patches.
5. Curbs are old and have narrow vertical cracks.
6. Slab fascia at downstream side has a 4"x5"x20' section spall w/ exposed steel member.

N59 - Superstructure Overall Rating: **4** - Poor

Main Members	**4**	- Poor	Two span reinforced concrete slab with RR rail reinforcing
Secondary Members	**N**	- Not Applicable	
Bearing Devices	**N**	- Not Applicable	
Paint System	**N**	- Not Applicable	
Utilities	**5**	- Fair	There is a large pipe under the bridge almost parallel to the roadway

Overall Superstructure Inspection Notes:

1. Pier cap concrete is crumbling and failing.
2. The under deck: Concrete lining has begun to deteriorate and steel I beams have been exposed. The I beams manifest signs of moderate levels of corrosion.
3. Most of steel I beams have lost concrete cover at the bottom with exposed steel I beams.
4. Steel I beams have moderate amount of corrosion.
5. Recommend a load rating analysis on the structure. See repair report.

N60 - Substructure Overall Rating: **5** - Fair

Abutment	**5**	- Fair	Concrete wall
Piers	**5**	- Fair	Concrete wall
Slope Protection	**N**	- Not Applicable	
Wingwalls, Dados, etc.	**N**	- Not Applicable	

Overall Substructure Inspection Notes:

1. Headwall spall at outlet (SW) corner near handrail.
2. Due to low clearance of channel, the most of substructure members are not visible. The visible parts of the members appear old and in satisfactory condition.

Date Printed: 3/26/2010

ARIZONA DEPARTMENT OF TRANSPORTATION

BRIDGE GROUP

Bridge Inspection Report

Structure Number:	**9925**	Structure Name:	**Arizona Street Br**	Inspected By:	Begay-Leichtman
Route:	**0**	Road Name:	Arizona Street	Inspection No:	12
MilePost:	**0**	Agency:	Bisbee	Date of Insp.:	Tuesday, March 31, 2009
ADOT District:	Safford	District Org:		Next Insp. Due By:	Quarter 1, 2011

N61 - Waterway Overall Rating: **6** - Satisfactory

Channel	**6**	- Satisfactory	Conc lined at u/s, not much opening at d/s end
Bank Protection	**7**	- Good	Stone masonry retaining walls at upstream side

Overall Waterway Inspection Notes:

1. Channel was dry during inspection.

Roadway / Safety

Approaches	**4**	- Poor	2 lane AC roadway
Fills	**7**	- Good	Gravel
N36c - Approach Rail	**0**	- Does NOT Meet Standard	
N36d - Rail Ends	**0**	- Does NOT Meet Standard	
Signing	**7**	- Good	25 MPH & 2 b/y object markers
Lighting	**N**	- Not Applicable	
A211-Posted Weight	**0**	**tons**	

Overall Roadway / Safety Inspection Notes:

1. AC Subgrade failure near bridge approach and departure.
2. 2' erosion hole on N/E corner abutment wingwall.
3. Roadway approaches have extensive cracking and spalls. Most of the spalls have been filled, but leave uneven surface causing transitions rough.

Appraisal Items

N67 - Structural Evaluation	**4**	- Meets Minimum Tolerable Limits
N68 - Deck Geometry	**5**	- Somewhat Better than Minimum Adequacy
N69 - Vert. and Horiz. Clearances	**N**	- Not Applicable
N71 - Waterway Adequacy	**6**	- Equal to Present Minimum Criteria Not much water goes under this bridge
N72 - Approach Roadway Alignment	**6**	- Equal to Present Minimum Criteria
N113 - Scour Critical	**8**	- Equal to Present Desirable Criteria

Overall Appraisal Items Notes:

Other Miscellaneous Inspection Notes:

1. Previous repair requests were not done, they will be repeated at this time.
2. Three repairs are recommended at this time. See the repair report.

Photos:

1. Elevation ID looking U/S
2. Roadway ID looking S

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ARIZONA DEPARTMENT OF TRANSPORTATION

BRIDGE GROUP

Bridge Inspection Report

Structure Number:	**9925**	Structure Name:	**Arizona Street Br**	Inspected By:	Begay-Leichtman
Route:	**0**	Road Name:	Arizona Street	Inspection No:	12
MilePost:	**0**	Agency:	Bisbee	Date of Insp.:	Tuesday, March 31, 2009
ADOT District:	Safford	District Org:		Next Insp. Due By:	Quarter 1, 2011

3. Deck surface typical
4. Deck undersurface/soffit
5. N/E erosion at wing wall approx. 2 feet in
6. Elevation ID looking D/S
7. Bottom of headwall spall 4x2 inches half the lenght of bridge

Bridge Element Condition Rating

Elem #	Description	Env	Unit	Total Qty	Cond 1	Cond 2	Cond 3	Cond 4	Cond 5
39	Concrete Slab - Unprotected w/ AC Overlay	2	EA	**1**	**0**	**0**	**0**	**1**	**0**
210	Reinforced Conc Pier Wall	2	LF	**69**	**0**	**49**	**20**	**0**	**0**
215	Reinforced Conc Abutment	2	LF	**141**	**0**	**121**	**20**	**0**	**0**
334	Coated Metal Rail	2	LF	**36**	**36**	**0**	**0**	**0**	**0**
359	Soffit of concrete decks and slabs	2	EA	**1**	**0**	**0**	**0**	**1**	**0**

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BRIDGE GROUP

Culvert Inspection Report

Structure Number:	10410	Structure Name:	Tombstone Canyon RCB	Inspected By:	Begay-Leichtman
Route:	0	Road Name:	Main Street	Inspection No:	4
MilePost:	0	Agency:	Bisbee	Date of Insp.:	Tuesday, March 31, 2009
ADOT District:	Safford	District Org:		Next Insp. Due By:	Quarter 1, 2011

P.E. Seal

N58 - Deck Overall Rating: **N** - Not Applicable

Top Deck / Wearing Surface	8	- Very Good	2" AC over 4" ABC
Deck Undersurface	7	- Good	Concrete
Sidewalk / Median / Curb	8	- Very Good	4' sidewalk on E side with conc. curbs
N36a - Bridge Railings	0	- Does NOT Meet Standard	2 square steel tubes over concrete parapet at ends of culvert
N36b - Rail Transitions	0	- Does NOT Meet Standard	
Deck Joint	N	- Not Applicable	
Drainage System	N	- Not Applicable	

Overall Deck Inspection Notes:

1. Soffit has transverse small-medium cracks with white efflorescence @ approx. 10' intervals along barrel.

N62 - Culvert Condition Rating 7 - Good

Barrels	7	- Good	1 - 16'x10'x115' w/ 1' fill RCB
Curbs and Headwalls	8	- Very Good	Concrete curb
Wingwalls	N	- Not Applicable	
Aprons	N	- Not Applicable	
Retaining Walls, Flumes, Etc.	7	- Good	Concrete retaining walls at all sides & steel pipe rails over retaining walls

Overall Culvert Condition Inspection Notes:

1. Barrel soffit has some narrow transverse cracks w/ minor efflorescence.
2. Medium transverse & random floor slab cracking.
3. Sewer line runs parallel to south wall about 3' above slab. Gas line runs above it 2' below soffit.

N61 - Waterway Overall Rating: 7 - Good

Channel	7	- Good	Concrete bottom
Bank Protection	7	- Good	Concrete retaining walls
Percent Inlet Opening	100		East side
Percent Outlet Opening	100		West side
High Water Mark, ft	5		below soffit at inlet

Overall Waterway Inspection Notes:

1. Various debris clinging to sewer line bracing system beneath the soffit along the barrel walll.
2. Channel was trickling with water during inspection.

Roadway / Safety

Approaches	7	- Good	2 lane AC roadway
Fills	8	- Very Good	Gravel
N36c - Approach Rail	0	- Does NOT Meet Standard	
N36d - Rail Ends	0	- Does NOT Meet Standard	

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BRIDGE GROUP

Culvert Inspection Report

Structure Number:	**10410**	Structure Name:	**Tombstone Canyon RCB**	Inspected By:	Begay-Leichtman
Route:	**0**	Road Name:	Main Street	Inspection No:	4
MilePost:	**0**	Agency:	Bisbee	Date of Insp.:	Tuesday, March 31, 2009
ADOT District:	Safford	District Org:		Next Insp. Due By:	Quarter 1, 2011

Signing	**N**	- Not Applicable
Lighting	**N**	- Not Applicable
A211-Posted Weight	**0**	**tons**

Overall Roadway / Safety Inspection Notes:

1. City should consider standard handrail over wingwalls. See photo # 6.
2. Medium transverse cracking in AC & random cracking. There appears to be sub-grade problems in NB lane over box. May need to be sealed in the future to prevent more sub-grade problems.

Previous Notes applies to this report

1. Roadway approaches are curved on the north end. The transitions appear somewhat smooth at this time.

Appraisal Items

N67 - Structural Evaluation	**7**	- Better than Present Minimum Criteria
N68 - Deck Geometry	**5**	- Somewhat Better than Minimum Adequacy
N69 - Vert. and Horiz. Clearances	**N**	- Not Applicable
N71 - Waterway Adequacy	**8**	- Equal to Present Desirable Criteria
N72 - Approach Roadway Alignment	**6**	- Equal to Present Minimum Criteria Reverse curves off both ends
N113 - Scour Critical	**8**	- Equal to Present Desirable Criteria

Overall Appraisal Items Notes:

Other Miscellaneous Inspection Notes:

1. Deck fascia parallel to streets Wood Canyon & Tombstone Canyon has spall on both sides with exposed rebar & steel reinforcement.
2. No previous repairs to verify.
3. No repairs are recommended for this inspection.

Photos:

1. Elevation ID looking U/S
2. Roadway ID looking N
3. Deck surface - typical
4. Soffit
5. Elevation ID looking D/S
6. City should consider standard handrail

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Culvert Inspection Report

Structure Number:	**10410**	Structure Name:	**Tombstone Canyon RCB**	Inspected By:	Begay-Leichtman
Route:	**0**	Road Name:	Main Street	Inspection No:	4
MilePost:	**0**	Agency:	Bisbee	Date of Insp.:	Tuesday, March 31, 2009
ADOT District:	Safford	District Org:		Next Insp. Due By:	Quarter 1, 2011

Bridge Element Condition Rating

Elem #	Description	Env	Unit	Total Qty	Cond 1	Cond 2	Cond 3	Cond 4	Cond 5
241	Reinforced Concrete Culvert	2	LF	**115**	**115**	**0**	**0**	**0**	**0**
334	Bridge Railing - coated metal	2	LF	**36**	**36**	**0**	**0**	**0**	**0**

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BRIDGE GROUP

Bridge Inspection Report

Structure Number:	**10538**	Structure Name:	**Moon Canyon Ave Bridge**	Inspected By:	Begay-Leichtman
Route:	**0**	Road Name:	Moon Canyon Ave	Inspection No:	3
MilePost:	**0**	Agency:	Bisbee	Date of Insp.:	Wednesday, April 01, 2009
ADOT District:		District Org:		Next Insp. Due By:	Quarter 1, 2011

P.E. Seal

N58 - Deck Overall Rating: **4** - Poor

Top Deck / Wearing Surface	**4**	- Poor	Concrete
Deck Undersurface	**4**	- Poor	Concrete
Sidewalk / Median / Curb	**4**	- Poor	Concrete curb at N. side
N36a - Bridge Railings	**0**	- Does NOT Meet Standard	Single 2" pipe railing (broken north side)
N36b - Rail Transitions	**0**	- Does NOT Meet Standard	
Deck Joint	**N**	- Not Applicable	
Drainage System	**N**	- Not Applicable	

Overall Deck Inspection Notes:

1. Many random medium cracks on deck surface with worn exposed aggregate & many spalled locations. Spalled areas have been AC patched near NE part of deck. See the repair report.
2. There is a sag in the middle of the deck. The sag increases from north to south to a maximum of 2" depression.
3. Approximately 1' of NW corner curbing has broken off exposed steel plate.
4. Deck underside has very coarse concrete or an unconsolidated concrete mix covered by a fine aggregate concrete grout like mix. Various spalling areas.
5. The handrail on the north end is broken at the bottom. See repair report.
6. Many (18 +/-) soffit locations have spalling soffit concrete with exposed reinforcement probably due to lack of concrete cover and/or concrete not anchored property to reinforcement.
7. White efflorescence of soffit at various locations.
8. Deck undersurface has narrow to medium longitudinal and transverse cracks plus some old construction voids.
9. Curb fascia has extensive narrow map cracking. (only on north side)

N59 - Superstructure Overall Rating: **4** - Poor

Main Members	**4**	- Poor	Simple span slab w/ steel I beams reinforced
Secondary Members	**N**	- Not Applicable	
Bearing Devices	**N**	- Not Applicable	Not visible/unknown
Paint System	**N**	- Not Applicable	
Utilities	**7**	- Good	Medium pipe on north abutment wall; large pipe near exterior fascia of curb

Overall Superstructure Inspection Notes:

1. Fine to medium map cracking on north side of fascia with 1/8" surface concrete coming off.
2. Approximately 50% of the soffit concrete is void (hammer sounding verified). See the repair report.
3. Some steel I beams have been exposed at the bottom due to old concrete voids. The exposed I beam bottoms show rusty signs.
4. Recommend a load rating analysis on the structure. See the repair report.

N60 - Substructure Overall Rating: **5** - Fair

Abutment	**5**	- Fair	Concrete wall
Piers	**N**	- Not Applicable	None
Slope Protection	**N**	- Not Applicable	
Wingwalls, Dados, etc.	**N**	- Not Applicable	Concrete retaining wall continues at end of abutment in all directions

Overall Substructure Inspection Notes:

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Bridge Inspection Report

Structure Number:	10538	Structure Name:	**Moon Canyon Ave Bridge**	Inspected By:	Begay-Leichtman
Route:	0	Road Name:	Moon Canyon Ave	Inspection No:	3
MilePost:	0	Agency:	Bisbee	Date of Insp.:	Wednesday, April 01, 2009
ADOT District:		District Org:		Next Insp. Due By:	Quarter 1, 2011

1. Hollow sounding delamination on west abutment (northside approx. 5') hammer test verified.
2. East abutment has medium to fine vertical crack top to bottom.
3. West abutment has a large vertical crack on the north side, and also has a large horizontal crack along abutment construction joint.
4. 2 ½ deep spall with exposed reinforcement on SE corner of abutment.
5. The east abutment seat is deteriorating (void in construction joint & 6" deep holes in concrete). 1' high by 7' long along east abutment wall, east abutment seat is in poor condition. See the repair report.

N61 - Waterway Overall Rating: **7** - Good

Channel	**7**	- Good	Silty and weedy
Bank Protection	**7**	- Good	Concrete retaining walls at both sides

Overall Waterway Inspection Notes:

1. Channel has vegetation growth and appears somewhat stable.

Roadway / Safety

Approaches	**7**	- Good	2 lane AC, "T" at west side
Fills	**7**	- Good	Gravel
N36c - Approach Rail	**0**	- Does NOT Meet Standard	None
N36d - Rail Ends	**0**	- Does NOT Meet Standard	
Signing	**7**	- Good	Stop sign; "Slow children playing"; "Moon Canyon Road"; "Tombstone Canyon Road"
Lighting	**7**	- Good	Street light at west side
A211-Posted Weight	**0**	**tons**	

Overall Roadway / Safety Inspection Notes:

1. AC roadway approach at east side is worn with potholes. The transition appears little rough.

Appraisal Items

N67 - Structural Evaluation	**3**	- Basically Intolerable Requiring High Priority of Corrective Action
N68 - Deck Geometry	**2**	- Basically Intolerable Requiring High Priority of Replacement
N69 - Vert. and Horiz. Clearances	**N**	- Not Applicable
N71 - Waterway Adequacy	**7**	- Better than Present Minimum Criteria
N72 - Approach Roadway Alignment	**4**	- Meets Minimum Tolerable Limits
N113 - Scour Critical	**8**	- Equal to Present Desirable Criteria

Overall Appraisal Items Notes:

Other Miscellaneous Inspection Notes:

1. Previous recommended repairs were not completed.

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Bridge Inspection Report

Structure Number:	**10538**	Structure Name:	**Moon Canyon Ave Bridge**	Inspected By:	Begay-Leichtman
Route:	**0**	Road Name:	Moon Canyon Ave	Inspection No:	3
MilePost:	**0**	Agency:	Bisbee	Date of Insp.:	Wednesday, April 01, 2009
ADOT District:		District Org:		Next Insp. Due By:	Quarter 1, 2011

2. Two repairs are recommended at this time. See the repair report.

Photos:

1. **Elevation ID looking D/S**
2. **Roadway ID looking S**
3. **Deck surface - typical**
4. **Soffit**
5. **Sag - 2" depression in the middle of slab.**

Bridge Element Condition Rating

Elem #	Description	Env	Unit	Total Qty	Cond 1	Cond 2	Cond 3	Cond 4	Cond 5
38	Concrete Slab - Bare	2	EA	1	0	0	0	1	0
215	Reinforced Conc Abutment	2	LF	32	0	16	16	0	0
334	Bridge Railing - coated metal	2	LF	40	30	8	2	0	0
359	Soffit of concrete decks and slabs	2	EA	1	0	0	0	1	0

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BRIDGE GROUP

Bridge Inspection Report

Structure Number:	10539	Structure Name:	**Star Avenue Bridge**	Inspected By:	Begay-Leichtman
Route:	0	Road Name:	Star Avenue	Inspection No:	3
MilePost:	0	Agency:	Bisbee	Date of Insp.:	Wednesday, April 01, 2009
ADOT District:		District Org:		Next Insp. Due By:	Quarter 1, 2011

P.E. Seal

N58 - Deck Overall Rating: **5** - Fair

Top Deck / Wearing Surface	**5**	- Fair	Concrete
Deck Undersurface	**5**	- Fair	Concrete
Sidewalk / Median / Curb	**6**	- Satisfactory	Concrete curb at South side
N36a - Bridge Railings	**0**	- Does NOT Meet Standard	2" pipe railing at East and West sides of bridge
N36b - Rail Transitions	**0**	- Does NOT Meet Standard	
Deck Joint	**N**	- Not Applicable	
Drainage System	**N**	- Not Applicable	

Overall Deck Inspection Notes:

1. Long cracking down the middle of soffit & random cracking on soffit completely through to the top of the deck.
2. White efflorescence on soffit.
3. Spall of soffit fascia on the south side.
4. ½" to ¾" sag in deck slab.
5. Handrail is 28 high and very corroded with rough edges and no intermediate rail.
6. AC covers deck on east side (4'x12' +/-).
7. Deck top surface has wear w/ exposed aggregate.
8. Deck undersurface has narrow random cracks and some old construction voids.
9. Curb fascia has minor cracking.

N59 - Superstructure Overall Rating: **5** - Fair

Main Members	**5**	- Fair	Single span steel I beams covered by concrete
Secondary Members	**N**	- Not Applicable	
Bearing Devices	**N**	- Not Applicable	
Paint System	**N**	- Not Applicable	
Utilities	**7**	- Good	Utility pipes along both slab fascia and west abutment wall

Overall Superstructure Inspection Notes:

1. Slab soffit has voids with moderately corroded exposed bottom of steel I-beams.
2. Recommend a load rating analysis on the structure. See the repair report.

N60 - Substructure Overall Rating: **5** - Fair

Abutment	**5**	- Fair	Concrete walls
Piers	**N**	- Not Applicable	None
Slope Protection	**N**	- Not Applicable	
Wingwalls, Dados, etc.	**N**	- Not Applicable	

Overall Substructure Inspection Notes:

1. NE corner abutment/retaining wall is undermining rock wall support needs to be reinforced to support the deck. See the repair report.
2. Spalling exposed I-Beam locations and needs to be repaired (6" high x 2' long). See the repair report.

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Bridge Inspection Report

Structure Number:	**10539**	Structure Name:	**Star Avenue Bridge**	Inspected By:	Begay-Leichtman
Route:	**0**	Road Name:	Star Avenue	Inspection No:	3
MilePost:	**0**	Agency:	Bisbee	Date of Insp.:	Wednesday, April 01, 2009
ADOT District:		District Org:		Next Insp. Due By:	Quarter 1, 2011

N61 - Waterway Overall Rating: **7** - Good

Channel	**7**	- Good	Concrete lined retaining wall on either side
Bank Protection	**5**	- Fair	Concrete retaining walls at both sides

Overall Waterway Inspection Notes:

1. Channel appears somewhat stable at this time with tall grasses & tree roots & drop structure down stream.
2. Channel was dry during inspection.

Roadway / Safety

Approaches	**7**	- Good	1 lane AC roadway at east side; "T" at west side
Fills	**7**	- Good	Gravel
N36c - Approach Rail	**0**	- Does NOT Meet Standard	
N36d - Rail Ends	**0**	- Does NOT Meet Standard	
Signing	**7**	- Good	Stop sign at NW corner
Lighting	**7**	- Good	Street light at W side
A211-Posted Weight	**0**	**tons**	

Overall Roadway / Safety Inspection Notes:

1. Roadway approach at East side appears somewhat smooth at this time. West end has potholes and is not a smooth transition.
2. Install 10 ton weight limit signs recommended previously and also install "Narrow Bridge" signs. See repair report.

Appraisal Items

N67 - Structural Evaluation	**3**	- Basically Intolerable Requiring High Priority of Corrective Action
N68 - Deck Geometry	**3**	- Basically Intolerable Requiring High Priority of Corrective Action
N69 - Vert. and Horiz. Clearances	**N**	- Not Applicable
N71 - Waterway Adequacy	**6**	- Equal to Present Minimum Criteria
N72 - Approach Roadway Alignment	**4**	- Meets Minimum Tolerable Limits
N113 - Scour Critical	**8**	- Equal to Present Desirable Criteria

Overall Appraisal Items Notes:

Previous Notes applies to this report.

1. For N67 rating, the inventory and operating rating levels were set to 10 due to lack of such information. Communication has been sent to Mr.Russ McConnell regarding this on May 10th, 2005 and in the interim, we shall be using engineering judgment to estimate N67 rating values.
Consequently, bridge weight limit of 10 ton has been recommended for this structure. We also recommend that a bridge rating analysis be performed to obtain the current bridge weight limit posting.

Other Miscellaneous Inspection Notes:

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Bridge Inspection Report

Structure Number:	**10539**	Structure Name:	**Star Avenue Bridge**	Inspected By:	Begay-Leichtman
Route:	**0**	Road Name:	Star Avenue	Inspection No:	3
MilePost:	**0**	Agency:	Bisbee	Date of Insp.:	Wednesday, April 01, 2009
ADOT District:		District Org:		Next Insp. Due By:	Quarter 1, 2011

1. Previous recommended repairs were not completed.
2. Three repairs are recommended at this time. See the repair report.

Photos:

1. Elevation ID looking D/S
2. Roadway ID looking S/S/W
3. Deck surface
4. Soffit showing extended section
5. NE corner abutment/retaining wall is undermining rock wall support and needs to be reinforced to support the deck
6. Pothole S/E corner

Bridge Element Condition Rating

Elem #	Description	Env	Unit	Total Qty	Cond 1	Cond 2	Cond 3	Cond 4	Cond 5
38	Concrete Slab - Bare	2	EA	**1**	**0**	**1**	**0**	**0**	**0**
215	Reinforced Conc Abutment	2	LF	**32**	**0**	**32**	**0**	**0**	**0**
334	Bridge Railing - coated metal	2	LF	**40**	**30**	**10**	**0**	**0**	**0**
359	Soffit of concrete decks and slabs	2	EA	**1**	**0**	**1**	**0**	**0**	**0**

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BRIDGE GROUP

Bridge Inspection Report

Structure Number:	10540	Structure Name:	**Spring Canyon Ave Bridge**	Inspected By:	Begay-Leichtman
Route:	0	Road Name:	Spring Canyon Ave	Inspection No:	3
MilePost:	0	Agency:	Bisbee	Date of Insp.:	Wednesday, April 01, 2009
ADOT District:		District Org:		Next Insp. Due By:	Quarter 1, 2011

P.E. Seal

N58 - Deck Overall Rating: **5** - Fair

Top Deck / Wearing Surface	**6**	- Satisfactory	AC surface on concrete deck top
Deck Undersurface	**5**	- Fair	Not visible (concrete covered by cardboard like material)
Sidewalk / Median / Curb	**N**	- Not Applicable	
N36a - Bridge Railings	**0**	- Does NOT Meet Standard	Single 2" pipe railing on east and west sides of deck
N36b - Rail Transitions	**0**	- Does NOT Meet Standard	
Deck Joint	**N**	- Not Applicable	
Drainage System	**N**	- Not Applicable	

Overall Deck Inspection Notes:

1. AC longitudinal cracking along center of deck & transverse (large cracks) at abutments locations.
2. South side of soffit shows map-cracking (fine-to- medium).
3. Deck concrete is deteriorating (verified by hammer sounding)

N59 - Superstructure Overall Rating: **5** - Fair

Main Members	**5**	- Fair	6" concrete slab supported by 4 x W8x4 steel I beam @ 5' o.c.
Secondary Members	**N**	- Not Applicable	
Bearing Devices	**N**	- Not Applicable	
Paint System	**N**	- Not Applicable	
Utilities	**7**	- Good	Medium pipe on north abutment wall, few pipes near west slab fascia

Overall Superstructure Inspection Notes:

1. Efflorescence on bottom of soffit. Concrete slab soffit is mostly cover by a bound breaker material (tar paper).
2. Slab soffit north side is deteriorating.
3. Due to past inspection report bridge weight limit of 10 ton has been recommended for this structure. We also recommend that a bridge rating analysis be performed to obtain an accurate figure for the bridge weight limit posting.
4. Steel I beams located in soffit has moderate corrosion.
5. Bridge (eastern 5' section) slab appears not to have steel.
6. Random fine-medium cracking showing through soffit paper.

N60 - Substructure Overall Rating: **6** - Satisfactory

Abutment	**6**	- Satisfactory	Integral with the concrete retaining wall
Piers	**N**	- Not Applicable	None
Slope Protection	**N**	- Not Applicable	
Wingwalls, Dados, etc.	**N**	- Not Applicable	

Overall Substructure Inspection Notes:

1. East abutment (S/E) has large vertical and full height crack.
2. West abutment has large horizontal crack (mid-height)
3. West abutment (S/W) has large crack beneath and above 14" sewerline.
4. Large concrete voids at abutment walls.

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BRIDGE GROUP

Bridge Inspection Report

Structure Number:	10540	Structure Name:	**Spring Canyon Ave Bridge**	Inspected By:	Begay-Leichtman
Route:	0	Road Name:	Spring Canyon Ave	Inspection No:	3
MilePost:	0	Agency:	Bisbee	Date of Insp.:	Wednesday, April 01, 2009
ADOT District:		District Org:		Next Insp. Due By:	Quarter 1, 2011

N61 - Waterway Overall Rating: **6** - Satisfactory

Channel	**6**	- Satisfactory	Silty, weedy
Bank Protection	**6**	- Satisfactory	Concrete retaining walls

Overall Waterway Inspection Notes:

1. Repair has been made on the S/E corner.
2. Channel was dry during inspection.

Roadway / Safety

Approaches	**6**	- Satisfactory	2 lane AC roadway at south side, "T" at north side
Fills	**7**	- Good	Gravel
N36c - Approach Rail	**0**	- Does NOT Meet Standard	
N36d - Rail Ends	**0**	- Does NOT Meet Standard	
Signing	**7**	- Good	"Dead End", "Spring Canyon", "Tombstone Canyon", "Stop" signs
Lighting	**7**	- Good	Street light at NW corner
A211-Posted Weight	**0**	**tons**	

Overall Roadway / Safety Inspection Notes:

1. Loose handrail on North side (not secured) . See repair report.
2. No weight limits sign on Tombstone Canyon or Spring Canyon streets.
3. 15 mph sign on Spring Canyon & 25 mph on Tombstone Canyon.
4. Bridge weight limit of 10 ton has been recommended for this structure. There is no bridge weight limit posting as of this inspection.

Appraisal Items

N67 - Structural Evaluation	**3**	- Basically Intolerable Requiring High Priority of Corrective Action
N68 - Deck Geometry	**2**	- Basically Intolerable Requiring High Priority of Replacement
N69 - Vert. and Horiz. Clearances	**N**	- Not Applicable
N71 - Waterway Adequacy	**6**	- Equal to Present Minimum Criteria
N72 - Approach Roadway Alignment	**4**	- Meets Minimum Tolerable Limits
N113 - Scour Critical	**8**	- Equal to Present Desirable Criteria

Overall Appraisal Items Notes:

Other Miscellaneous Inspection Notes:

1. Previous repair requests were not completed.
2. Two repairs are recommended at this time. See the repair report.

Photos:
1. Elevation ID looking D/S

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BRIDGE GROUP

Bridge Inspection Report

Structure Number:	**10540**	Structure Name:	**Spring Canyon Ave Bridge**	Inspected By:	Begay-Leichtman
Route:	**0**	Road Name:	Spring Canyon Ave	Inspection No:	3
MilePost:	**0**	Agency:	Bisbee	Date of Insp.:	Wednesday, April 01, 2009
ADOT District:		District Org:		Next Insp. Due By:	Quarter 1, 2011

2. Roadway ID looking S
3. Deck surface - typical
4. Soffit

Bridge Element Condition Rating

Elem #	Description	Env	Unit	Total Qty	Cond 1	Cond 2	Cond 3	Cond 4	Cond 5
39	Concrete Slab - Unprotected w/ AC Overlay	2	EA	**1**	**0**	**0**	**1**	**0**	**0**
215	Reinforced Conc Abutment	2	LF	**32**	**0**	**32**	**0**	**0**	**0**
334	Bridge Railing - coated metal	2	LF	**40**	**30**	**10**	**0**	**0**	**0**
359	Soffit of concrete decks and slabs	2	EA	**1**	**0**	**0**	**1**	**0**	**0**

Appendix 4: Roadway Segment Capacity and Level of Service Criteria for ADOT Small Urban Area Planning Studies

Long range transportation planning studies typically use generalized roadway segment daily capacity and daily volume-to-capacity (V/C) based level of service (LOS) criteria as screening tools to help identify and quantify existing and future roadway deficiencies. The primary advantage of the planning level generalized criteria is that it requires relatively little data to generate reasonable results for a large number of roadway locations. Depending on the nature and scope of the study, more detailed capacity and LOS analyses may or may not be warranted. More detailed analyses require substantial additional data collection, analysis time and costs.

The purpose of this paper is to offer a reasonable set of generalized planning-level roadway segment capacity and V/C based LOS criteria for consistent use in ADOT small urban area transportation planning studies. As much as possible these criteria are based upon the Highway Capacity Manual 2000 (HCM2000). However, the HCM2000 does not explicitly define capacity or V/C based LOS criteria for all types of roadways. For example, HCM2000 uses average travel speed, not V/C, to measure LOS on urban streets. Consequently, the capacity and LOS criteria suggested below for urban streets are not directly attributable to the HCM2000, but are reasonable approximations. The HCM2000 does provide somewhat more explicit guidance for freeway V/C based LOS (HCM2000 Exhibit 23-2), as well as for free-flowing rural multilane roadways (HCM2000 Exhibit 21-2). But even for these, the information reflects “ideal design and conditions”, which may not exist at all locations being analyzed.
Table 1 below presents a proposed set of HCM2000 based planning level roadway segment per-lane capacities and V/C based level of service criteria suitable for use in small urban and suburban areas. Based upon Table 1, Table 2 presents the maximum service volumes by level of service for the most common roadway types found in small urban and suburban areas.

Table 1: Planning Level Roadway Segment Capacities & Level of Service Criteria for Small Urban Areas

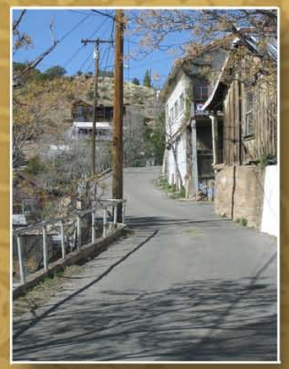
Roadway Type	Daily Per Lane Capacity	Max LOS A V/C Ratio	Max LOS B V/C Ratio	Max LOS C V/C Ratio	Max LOS D V/C Ratio	Max LOS E V/C Ratio
Freeway	20,000	0.29	0.47	0.68	0.88	1.00
Multilane Arterial	8,000	n/a	n/a	0.70	0.95	1.00
2-Lane Arterial	7,000	n/a	n/a	0.50	0.90	1.00
2-Lane Collector	5,000	n/a	n/a	0.50	0.90	1.00

Table 2: Planning Level Roadway Segment Service Volumes for Small Urban Areas

Roadway Type	Daily Per Lane Capacity	Max LOS A Service Volume	Max LOS B Service Volume	Max LOS C Service Volume	Max LOS D Service Volume	Max LOS E Service Volume
4-Lane Freeway	20,000	23,000	38,000	54,000	70,000	80,000
4-Lane Arterial	8,000	n/a	n/a	22,000	30,000	32,000
2-Lane Arterial	7,000	n/a	n/a	7,000	13,000	14,000
2-Lane Collector	5,000	n/a	n/a	5,000	9,000	10,000

Notes: Service volumes have been rounded to the nearest 1,000


City of BISBEE



City of Bisbee Comprehensive Transportation Plan

Task Assignment
MPD 34-10

Appendix #5

Field Conditions Inventory

WilburSmith ASSOCIATES

List of Exhibits

Exhibit 1 Roadway Inventory & Condition Assessment

1-Excellent	2-Good	3-Fair	4-Poor	5-Failed

LEGEND: AC-Alligator Cracking, BC-Block Cracking, CR-Cracks, EC-Edge Cracking, ER-Erosion, DR-Drainage Issues, GR-Grading issues, LA-Loss of Aggregate, LC-Longitudinal Cracks, LS-Loss of Surface / Surface Deterioration, PH-Potholes, RA-Raveling, RP-Rippling and Shoving (washboard), RT-Rough Terrain/Uneven Surface, RU-Rutting, SF-Sealcoat/Surface Failed, SP-Spalling TC-Transverse Cracks

Street	From	To	Surface Type	Score	AC	BC	CR	EC	ER	DR	GR	LA	LC	LS	PH	RA	RP	RT	RU	SF	SP	TC
SAN JOSE																						
Silver St	Naco Hwy	Mountain View Ave	Sealcoat	4	x			x		x	x				x	x						
Nugget St	Naco Hwy	Mountain View Ave	Sealcoat	4			x					x			x	x						
Turquoise St	Naco Hwy	Mountain View Ave	Sealcoat	4	x							x			x							
Copper St	Naco Hwy	Mountain View Ave	Sealcoat	4	x							x			x	x						
Mountain View Ave	Silver St	EOS	Sealcoat	3								x			x	x						
Yucca St	Naco Hwy	EOS	Sealcoat	4			x					x			x	x						
Ocotillo St	Naco Hwy	EOS	Sealcoat	4								x			x	x						
Manzanita St	Naco Hwy	EOS	Sealcoat	4			x	x				x			x	x						
Della St	Naco Hwy	City Limits	Sealcoat	2								x										
La Cholla Rd	City Limits	Naco Hwy	Sealcoat	3			x	x						x	x	x						
Hereford Rd	Naco Hwy	EOS	Sealcoat	3			x					x										
Wolverine St	Naco Hwy	Boras Ave	Sealcoat	4				x				x			x							
Nighthawk Ave	Hereford Rd	Wolverine St	Sealcoat	4	x			x				x			x							
Boras Ave	Hereford Rd	Wolverine St	Sealcoat	4	x									x	x	x						
San Jose Dr	Hereford Rd	SR-92	Sealcoat	3			x					x			x							
Buena Vista Pl	San Jose Dr	EOS	Sealcoat	4										x	x							
Cintilla Pl	San Jose Dr	EOS	Sealcoat	4										x	x							
Hermosa Pl	San Jose Dr	EOS	Sealcoat	4										x	x							
Alegre Pl	San Jose Dr	EOS	Sealcoat	4										x	x							
Santa Cruz Dr	SR-92	SR-92	Asphalt	3			x					x										
Vista Dr	Santa Cruz Dr	San Jose Dr	Sealcoat	3								x			x							
Cochise Dr	Santa Cruz Dr	San Jose Dr	Sealcoat	3			x					x			x							
Graham Dr	Santa Cruz Dr	San Jose Dr	Sealcoat	3			x					x			x							
Camino Ct	Santa Cruz Dr	SR-92	Sealcoat	3								x										
Fort Huachuca Ln	Santa Cruz Dr	San Jose Dr	Sealcoat	4				x			x	x		x	x							
Melody Ln	San Jose Dr	SR-92	Asphalt	2								x										
Crestview Dr	Santa Cruz Dr	EOS	Sealcoat	5	x									x	x							
Crestview Pl	Crestview Dr	EOS	Sealcoat	5	x									x	x							
Greenlee Dr	SR-92	Cochise Ln	Sealcoat	3								x										
Pinal Dr	Greenlee Dr	EOS	Sealcoat	3				x				x			x							
Gila Dr	Greenlee Dr	EOS	Sealcoat	3								x			x							
Cochise Ln	Mohave Dr	Navajo Dr	Sealcoat	3				x				x					x					
Cochise Ln	Navajo Dr	Yavapai Dr	Sealcoat	4	x			x						x	x	x			x			

1-Excellent | 2-Good | 3-Fair | 4-Poor | 5-Failed

LEGEND: AC-Alligator Cracking, BC-Block Cracking, CR-Cracks, EC-Edge Cracking, ER-Erosion, DR-Drainage Issues, GR-Grading issues, LA-Loss of Aggregate, LC-Longitudinal Cracks, LS-Loss of Surface / Surface Deterioration, PH-Potholes, RA-Raveling, RP-Rippling and Shoving (washboard), RT-Rough Terrain/Uneven Surface, RU-Rutting, SF-Sealcoat/Surface Failed, SP-Spalling TC-Transverse Cracks

Street	From	To	Surface Type	Score	AC	BC	CR	EC	ER	DR	GR	LA	LC	LS	PH	RA	RP	RT	RU	SF	SP	TC
Navajo Dr	SR-92	Cochise Ln	Sealcoat	4	x			x				x			x							
Yavapai Dr	SR-92	Cochise Ln	Sealcoat	4	x			x				x		x	x							
Dorothy Dr	Navajo Dr	EOS	Sealcoat	3				x				x			x							
Coconino Dr	Navajo Dr	EOS	Sealcoat	4				x				x		x	x	x						
Mohave Dr	Cochise Ln	SR-92	Sealcoat	2								x			x							
Maricopa Dr	Mohave Dr	EOS	Sealcoat	4				x						x	x	x		x				
Yuma Dr	Mohave Dr	EOS	Sealcoat	3				x				x			x	x						
Pima Dr	Mohave Dr	EOS	Sealcoat	4				x						x	x							
DON LUIS																						
Tovreaville Rd	SR-92	EOS	Sealcoat	3				x				x				x						
Taylor Ave	SR-92	EOS (South)	Sealcoat	3								x			x							
Taylor Ave	SR-92	EOS (North)	Sealcoat	5				x						x	x	x						
Cleveland Ave	SR-92	EOS (South)	Sealcoat	4										x	x	x						
Cleveland Ave	SR-92	Head Start Way	Sealcoat	5				x						x	x	x						
Washington Ave	SR-92	Sieling Loop	Sealcoat	2								x										
Washington Ave	SR-92	EOS (South)	Sealcoat	2								x			x							
McKinley Ave	SR-92	Sieling Loop	Sealcoat	2								x										
Harrison Ave	SR-92	Sieling Loop	Sealcoat	2								x										
Head Start Way	EOS	Cleveland Ave	Sealcoat	5				x				x		x	x	x						
W Sieling Loop	Harrison Ave	Washington Ave	Gravel	5						x	x				x			x				
Collins Rd	Naco Hwy	EOS	Sealcoat	2												x						x
Esperanza Ln	Collins Rd	EOS	Sealcoat	2								x										
Camino de Nevada	Collins Rd	EOS	Sealcoat	2								x										
Nevada Pl	Camino de Nevada	EOS	Sealcoat	2								x										
Camino Real	Naco Hwy	EOS	Dirt	5						x	x				x			x				
Avenida Feliz	Naco Hwy	Calle Gardenias	Sealcoat	4												x						
Calle de Rosas	Avenida Feliz	EOS	Sealcoat	2								x										
Calle de Gardenias	Avenida Feliz	EOS	Sealcoat	2								x										
Camino de Palmas	Calle de Gardenias	Calle Jardin	Sealcoat	2								x										
Calle Jardin	Camino de Palmas	EOS	Sealcoat	2								x										
WARREN																						
Cole Ave	Bisbee Rd	East Vista	Sealcoat	3	x		x					x			x							
Cole Ave	East Vista	Arizona St	Sealcoat	2								x										
Cole Ave	Arizona St	Shattuck St	Sealcoat	5										x	x			x				
Yuma Tr	Arizona St	Minder Ave	Sealcoat	2								x										
Minder Ave	Yuma Tr	EOS	Sealcoat	2					x			x										

1-Excellent | 2-Good | 3-Fair | 4-Poor | 5-Failed

LEGEND: AC-Alligator Cracking, BC-Block Cracking, CR-Cracks, EC-Edge Cracking, ER-Erosion, DR-Drainage Issues, GR-Grading issues, LA-Loss of Aggregate, LC-Longitudinal Cracks, LS-Loss of Surface / Surface Deterioration, PH-Potholes, RA-Raveling, RP-Rippling and Shoving (washboard), RT-Rough Terrain/Uneven Surface, RU-Rutting, SF-Sealcoat/Surface Failed, SP-Spalling TC-Transverse Cracks

Street	From	To	Surface Type	Score	AC	BC	CR	EC	ER	DR	GR	LA	LC	LS	PH	RA	RP	RT	RU	SF	SP	TC
Briggs Ave	Bisbee Rd	West Vista	Sealcoat	2								x										
Briggs Ave	West Vista	Mojave Tr	Sealcoat	5	x			x						x	x			x	x			
D'Autremont Ave	Bisbee Rd	Hoveland St	Sealcoat	3	x									x	x							
D'Autremont Ave	Hoveland St	Arizona St	Sealcoat	5	x		x	x						x	x							
D'Autremont Ave	Arizona St	Mance St	Sealcoat	3				x							x							
D'Autremont Ave	Mance St	Navajo Tr	Sealcoat	5					x						x							
Congdon Ave	Bisbee Rd	Arizona St	Sealcoat	3									x			x						x
Congdon Ave	Arizona St	Manulito Tr	Sealcoat	2											x							
Hoatson Ave	Douglas St	West Vista	Sealcoat	5	x									x	x							
Hoatson Ave	East Vista	Van Dyke St	Sealcoat	5						x	x			x	x							
Tener Ave	Douglas St	West Vista	Sealcoat	5	x									x	x							
Tener Ave	East Vista	Black Knob View	Sealcoat	4	x		x	x		x				x	x							
Ruppe St	Douglas St	Arizona St	Sealcoat	3		x									x							
Ruppe St	Arizona St	Hazzard St	Sealcoat	5			x		x	x	x			x	x							
Douglas St	Briggs Ave	Congdon Ave	Sealcoat	5	x									x	x					x		
Hoveland St	Tener Ave	Cole Ave	Sealcoat	5	x					x				x	x				x			
West Vista	Ruppe St	Cole Ave	Sealcoat	3			x					x			x	x			x			
East Vista	Ruppe St	Cole Ave	Sealcoat	3								x			x	x			x			
Oliver Circle	Cole Ave	Cole Ave	Sealcoat	5	x					x				x	x							
Powell St	Ruppe St	Tener Ave	Dirt	5						x	x				x			x				
Powell St	Tener Ave	Hoatson Ave	Sealcoat	5										x	x							
Powell St	Hoatson Ave	Cole Ave	Sealcoat	2	x							x			x							
Paul St	Arizona St	Ruppe St	Sealcoat	5			x						x	x	x							
Clawson St	Ruppe St	Congdon Ave	Sealcoat	5																		
Campbell St	Clawson St	Cole Ave	Sealcoat	2								x			x							
Mance St	Hoatson Ave	D'Autremont Ave	Sealcoat	5						x	x			x	x			x				
Mance St	D'Autremont Ave	Cole Ave	Sealcoat	4			x				x			x	x							
Shattuck St	Hoatson Ave	Yuma Tr	Sealcoat	5			x	x		x				x	x							
Navajo Tr	Congdon Ave	Yuma Tr	Sealcoat	5				x						x	x					x		
Mojave Tr	Congdon Ave	Yuma Tr	Sealcoat	5	x			x						x	x							
Manulito Tr	Van Dyke St	Mojave Tr	Sealcoat	5				x						x	x							
Cochise Tr	Manulito Tr	Yuma Tr	Sealcoat	5						x	x			x	x					x		
Van Dyke St	Ruppe St	Minder Ave	Sealcoat	5			x							x	x			x	x			
Black Knob View (WB)	Arizona St	Minder Ave	Sealcoat	3				x				x										
Black Knob View (EB)	Arizona St	Minder Ave	Sealcoat	3				x				x										
Hazzard St	Arizona St	Minder Ave	Sealcoat	5							x			x	x			x	x			

1-Excellent | 2-Good | 3-Fair | 4-Poor | 5-Failed

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Street	From	To	Surface Type	Score	AC	BC	CR	EC	ER	DR	GR	LA	LC	LS	PH	RA	RP	RT	RU	SF	SP	TC
Adsit St	McNeish Ave	McKee Ave	Sealcoat	5					x					x	x							
Unnamed	Black Knob View	Hazzard St	Sealcoat	5										x	x					x		
McNeish Ave	Black Knob View	Adsit St	Sealcoat	5				x			x			x	x					x		
McKee Ave	Black Knob View	Adsit St	Sealcoat	4			x							x								
McLaren Ave	Hazzard St	EOS	Sealcoat	5										x						x		
Bisbee Rd	Roundabout	Douglas St	Asphalt	3								x	x		x							x
Center Ave	Bisbee Rd	School Terrace Rd	Sealcoat	3			x															
Center Ave	School Terrace Rd	30th Terrace	Sealcoat	5	x									x	x	x				x		
30th Terrace	Center Ave	EOS	Sealcoat	5	x									x	x	x				x		
Mill Rd	Center Ave	Ruppe St	Sealcoat	4	x		x					x		x	x							
Mill Rd	Ruppe St	City limits	Sealcoat	5										x	x					x		
School Terrace Rd	Center Ave	City limits	Asphalt	3	x		x										x		x			
13th Terrace	Center Ave	EOS	Sealcoat	4						x	x			x	x							
14th Terrace	School Terrace Rd	Center Ave	Sealcoat	3			x					x										
14th Terrace	Center Ave	C Ave	Sealcoat	4			x							x	x							
14th Terrace	C Ave	EOS	Sealcoat	5										x	x							
15th Terrace	School Terrace Rd	B Ave	Sealcoat	5										x	x					x		
16th Terrace	Center Ave	B Ave	Sealcoat	5			x							x	x				x			
B Ave	15th Terrace	16th Terrace	Sealcoat	5										x	x					x		
C Ave	Mill Rd	EOS	Sealcoat	4				x						x	x						x	
27th Terrace	30th Terrace	EOS	Sealcoat	5										x	x					x		
19th Terrace	27th Terrace	EOS	Sealcoat	5										x	x					x		
TIN TOWN																						
Arvayo St	SR-92	Romero St	Dirt/Sealcoat	5						x	x			x	x					x		
Romero St	EOS	Escarcega St	Dirt/Sealcoat	5						x	x			x	x					x		
Figueroa St	Romero St	Escarcega St	Dirt/Sealcoat	5						x	x			x	x					x		
Teran St	Romero St	EOS	Dirt/Sealcoat	5						x	x			x	x					x		
Escarcega St	SR-92	EOS	Dirt/Sealcoat	5						x	x			x	x					x		
Vargas St	Teran St	EOS	Dirt/Sealcoat	5						x	x			x	x					x		
BRIGGS																						
Aspen St	SR-92	City limits	Sealcoat	4				x				x		x	x							
Azurite Ave	Aspen St	Cottonwood St	Sealcoat	3				x							x	x						
Dogwood Ave	Cottonwood St	Bornite Ave	Sealcoat	3								x				x		x				
Bornite Ave	EOS	Dogwood Ave	Sealcoat	3				x				x			x	x						
Balsam St	Azurite Ave	EOS	Sealcoat	3				x							x							
Cottonwood St	Azurite Ave	Bornite Ave	Sealcoat	3									x			x						

1-Excellent | 2-Good | 3-Fair | 4-Poor | 5-Failed

LEGEND: AC-Alligator Cracking, BC-Block Cracking, CR-Cracks, EC-Edge Cracking, ER-Erosion, DR-Drainage Issues, GR-Grading issues, LA-Loss of Aggregate, LC-Longitudinal Cracks, LS-Loss of Surface / Surface Deterioration, PH-Potholes, RA-Raveling, RP-Rippling and Shoving (washboard), RT-Rough Terrain/Uneven Surface, RU-Rutting, SF-Sealcoat/Surface Failed, SP-Spalling TC-Transverse Cracks

Street	From	To	Surface Type	Score	AC	BC	CR	EC	ER	DR	GR	LA	LC	LS	PH	RA	RP	RT	RU	SF	SP	TC
Unnamed	Balsam St	Cottonwood St	Gravel	5							x				x			x				
GALENA																						
Atlanta Ave	SR-92	Czar Ave	Sealcoat	3								x			x	x						
Neptune Ave	SR-92	Atlanta Ave	Sealcoat	3								x			x							
Czar Ave	SR-92	Spray Ave	Sealcoat	3				x				x			x	x						
Spray Ave	SR-92	Czar Ave	Sealcoat	3								x			x	x						
Holbrook St	Czar Ave	Spray Ave	Sealcoat	3								x				x						
Lowell Ave	SR-92	EOS	Sealcoat	3								x			x	x						
Sacramento Ave	SR-92	Gardner St	Sealcoat	3								x			x							
Unnamed	Cuprite St	Sacramento Ave	Sealcoat	4				x				x			x	x						
Mason Addition Rd	SR-92	Mason Addition Rd	Sealcoat	3								x				x						
Mason Addition Rd	Mason Addition Rd	Lowell Ave	Sealcoat	4								x		x	x	x						
Cuprite St	Sacramento Ave	Gardner St	Sealcoat	3				x				x										
Gardner St	Lowell Ave	Unnamed	Sealcoat	4				x				x			x	x						
Dallas St	Lowell Ave	EOS	Sealcoat	3											x	x						
Oakland St	Gardner St	Mason Addition Rd	Sealcoat	4										x	x							
Hillside St	Mason Addition Rd	Mason Addition Rd	Sealcoat	3								x				x						
BAKERVILLE																						
Whelan Ave	Bisbee Rd	1st St	Asphalt	4				x					x		x							
1st St	Bisbee Rd	EOS	Asphalt	2								x				x						
2nd St	Bisbee Rd	Pittsburg Ave	Asphalt	2												x						
3rd St	Bisbee Rd	American Ave	Asphalt	2												x						
4th St	Bisbee Rd	American Ave	Asphalt	2									x			x						
Campbell Ave	Whelan Ave	2nd St	Sealcoat	4				x							x	x						x
Well Ave	Whelan Ave	1st St	Sealcoat	4				x							x	x						x
Park Ave	1st St	2nd St	Asphalt	3				x					x		x							
Park Ave	2nd St	4th St	Asphalt	2								x			x	x						
Pittsburg Ave	EOS	3rd St	Sealcoat	4				x						x	x	x						
Pittsburg Ave	3rd St	4th St	Asphalt	2												x						
American Ave	EOS	3rd St	Sealcoat	5										x	x	x						
American Ave	3rd St	4th St	Asphalt	2									x									
Hillcrest Dr	4th St	EOS	Sealcoat	3				x				x			x	x						
Pirrung Ave	Bisbee Rd	4th St	Sealcoat	4			x							x	x	x						
Cochise Row	Bisbee Rd	Center Ave	Sealcoat	4	x					x					x	x						x
Cedar St	Cochise Row	EOS	Sealcoat	5				x						x	x							
Strong Row	Bisbee Rd	Bisbee Rd	Sealcoat	5										x	x				x			

1-Excellent | 2-Good | 3-Fair | 4-Poor | 5-Failed

LEGEND: AC-Alligator Cracking, BC-Block Cracking, CR-Cracks, EC-Edge Cracking, ER-Erosion, DR-Drainage Issues, GR-Grading issues, LA-Loss of Aggregate, LC-Longitudinal Cracks, LS-Loss of Surface / Surface Deterioration, PH-Potholes, RA-Raveling, RP-Rippling and Shoving (washboard), RT-Rough Terrain/Uneven Surface, RU-Rutting, SF-Sealcoat/Surface Failed, SP-Spalling TC-Transverse Cracks

Street	From	To	Surface Type	Score	AC	BC	CR	EC	ER	DR	GR	LA	LC	LS	PH	RA	RP	RT	RU	SF	SP	TC
OLD BISBEE																						
West Blvd	SR-80	Compton Ave	Asphalt	3			x		x			x				x						
Highland Park Dr	Compton Ave	Old Divide Rd	Asphalt	3			x					x			x	x					x	
Highland Park Dr	Old Divide Rd	EOS	Sealcoat	5				x						x	x							
Compton Ave	West Blvd	SR-80	Sealcoat	4	x		x	x						x	x							
Pueblo Ct	Compton Ave	EOS	Asphalt	5	x		x	x			x				x							
Simms Rd	West Blvd	EOS	Sealcoat	5				x						x	x	x						
Wood Canyon	Tombstone Canyon	EOS	Concrete	3									x								x	x
Tombstone Canyon	SR-80	Main St	Asphalt	3			x					x										
Main St	Tombstone Canyon	SR-80	Asphalt	3			x					x		x								
Pace Ave	Tombstone Canyon	EOS	Asphalt	4				x			x	x			x							
Simms Rd	Pace Ave	EOS	Concrete	4				x							x						x	
Pace Ct	Pace Ave	EOS	Concrete	3			x														x	
Locklin Ave	Tombstone Canyon	EOS	Sealcoat	4			x	x						x	x							
Unnamed (Locklin Ave)	Locklin Ave	EOS	Sealcoat	4			x							x	x							
Gentry Ave	Tombstone Canyon	EOS	Sealcoat	4										x				x			x	
Warren St	Tombstone Canyon	EOS	Sealcoat	5										x	x					x		
Spring Canyon	Tombstone Canyon	EOS	Sealcoat	3			x	x	x												x	
Summit Ave	Spring Canyon	EOS	Dirt	4							x			x	x							
Star St	Tombstone Canyon	Williams Ave	Asphalt	4				x	x					x	x			x				
Ogwen Ave	Star St	EOS	Sealcoat	5										x	x			x				
Bisbee Ave	Star St	EOS	Sealcoat	4					x					x	x			x				
Williams Ave	Star St	EOS	Sealcoat	5										x	x			x				
Moon Canyon	Tombstone Canyon	EOS	Concrete/Sealcoat	5			x							x	x						x	
Adams Ave	Moon Canyon	EOS	Concrete	5										x	x	x					x	
Laundry Hill	Adams Ave	EOS	Sealcoat	5			x							x	x	x					x	
Cantner Ave	Tombstone Canyon	Ilker St	Concrete	5										x	x					x		
Ilker St	Cantner Ave	EOS	Concrete	5				x						x	x					x		
Gladys Ave	Tombstone Canyon	EOS	Sealcoat	5										x	x					x	x	
Warren Hill St	Tombstone Canyon	EOS	Concrete	5										x	x					x	x	
Brophy Ave	Tombstone Canyon	Tombstone Canyon	Sealcoat	5										x	x	x				x	x	
Mayor Ave	Garden Ave	Tombstone Canyon	Sealcoat	4			x					x		x							x	
Garden Ave	Tombstone Canyon	Mayer Ave	Sealcoat	3			x	x						x		x						
Evans St	Tombstone Canyon	EOS	Sealcoat	5										x	x					x		
Perley St	Tombstone Canyon	EOS	Asphalt	3			x				x			x								
Mason Hill	Tombstone Canyon	EOS	Sealcoat	4										x	x						x	

1-Excellent	2-Good	3-Fair	4-Poor	5-Failed

LEGEND: AC-Alligator Cracking, BC-Block Cracking, CR-Cracks, EC-Edge Cracking, ER-Erosion, DR-Drainage Issues, GR-Grading issues, LA-Loss of Aggregate, LC-Longitudinal Cracks, LS-Loss of Surface / Surface Deterioration, PH-Potholes, RA-Raveling, RP-Rippling and Shoving (washboard), RT-Rough Terrain/Uneven Surface, RU-Rutting, SF-Sealcoat/Surface Failed, SP-Spalling TC-Transverse Cracks

Street	From	To	Surface Type	Score	AC	BC	CR	EC	ER	DR	GR	LA	LC	LS	PH	RA	RP	RT	RU	SF	SP	TC
Art Ave	Tombstone Canyon	EOS	Sealcoat	4								x		x	x	x					x	
Curve St	Tombstone Canyon	O'Hara Ave	Sealcoat	3							x	x			x			x				
O'Hara Ave	Curve St	Oak Ave	Sealcoat	4				x				x			x	x		x			x	
Oak Ave	O'Hara Ave	Quarry Canyon	Sealcoat	3										x		x					x	
Quarry Canyon	Oak Ave	EOS	Concrete	3			x											x				
Roberts Ave	Quarry Canyon	EOS	Asphalt	4			x					x		x	x						x	
Quarry Canyon	Oak Ave	Higgins Hill	Concrete	3			x								x						x	
Higgins Hill	Quarry Canyon	EOS	Sealcoat	5			x							x	x	x				x		
Quality Hill	Quarry Canyon	Court House	Asphalt	2																		
Quality Hill	Court House	Key St	Asphalt	4										x	x					x		
Key St	Quality Hill	EOS	Sealcoat	3			x							x	x						x	
Quality Hill	Key St	Cross Ave	Sealcoat	4			x					x		x	x	x						
Cross Ave	Quality Hill	EOS	Sealcoat	4			x	x				x		x	x	x						
Ledge Ave	Ledge Ave	Cross Ave	Sealcoat	4										x	x	x						
Ledge Ave	Tombstone Canyon	Ledge Ave	Asphalt	2			x															
Clawson Ave	Tombstone Canyon	Shearer Ave	Sealcoat	3			x							x	x						x	
Clawson Ave	Shearer Ave	Taylor St	Asphalt	4			x							x	x						x	
Tack Ave	Shearer Ave	Subway St	Asphalt	3			x					x	x									
High Rd	Clawson St	Miller Ave / EOS	Sealcoat	5		x								x	x	x						
Shearer Ave	Clawson St	EOS	Sealcoat	5			x		x					x	x	x						
Hunt Ave	Shearer Ave	EOS	Sealcoat	4			x					x		x							x	
Opera Dr	Clawson St	Temby Ave	Sealcoat	4								x		x	x	x		x				
Temby Ave	Opera Dr	Shearer Ave	Sealcoat	5			x							x	x					x		
Hill St	Temby Ave	EOS	Concrete	5			x							x	x					x		
Opera Dr	Temby Ave	EOS	Sealcoat	4								x		x	x	x		x				
Opera Dr	Taylor St	Brewery Ave	Sealcoat	4			x							x	x							
Brewery Ave	Taylor St	EOS	Sealcoat	4			x							x	x						x	
Walsh St	Brewery Ave	EOS	Concrete	4			x					x		x	x							
Brewery Ave	Taylor St	Howell Ave	Concrete/Sealcoat	3			x							x	x							
Unnamed (Brewery Ave)	Brewery Ave	Brewery Ave	Asphalt	4			x							x	x						x	
OK St	Naco Rd	EOS	Concrete/Sealcoat	3			x					x			x						x	
Youngblood	Brewery Ave	OK St	Concrete	5			x		x		x			x	x		x				x	
Howell Ave	Brewery Ave	Shearer Ave	Asphalt	3			x							x	x							
Howell Ave	Shearer Ave	Subway St	Asphalt	4			x							x	x	x						
Commerce St	Main St	Main St	Sealcoat	3			x					x			x						x	
Subway St	Main St	Main St	Asphalt	3									x	x	x						x	

1-Excellent | 2-Good | 3-Fair | 4-Poor | 5-Failed

LEGEND: AC-Alligator Cracking, BC-Block Cracking, CR-Cracks, EC-Edge Cracking, ER-Erosion, DR-Drainage Issues, GR-Grading issues, LA-Loss of Aggregate, LC-Longitudinal Cracks, LS-Loss of Surface / Surface Deterioration, PH-Potholes, RA-Raveling, RP-Rippling and Shoving (washboard), RT-Rough Terrain/Uneven Surface, RU-Rutting, SF-Sealcoat/Surface Failed, SP-Spalling TC-Transverse Cracks

Street	From	To	Surface Type	Score	AC	BC	CR	EC	ER	DR	GR	LA	LC	LS	PH	RA	RP	RT	RU	SF	SP	TC
Maxfield Ave	Clawson St	EOS	Sealcoat	5			x							x	x						x	
Shearer Ave	Clawson St	Parking Lot	Asphalt	5			x							x	x			x			x	
Shearer Ave	Parking Lot	Tack Ave	Asphalt	3			x						x	x								
Tack Ave	Shearer Ave	Subway St	Asphalt	3			x														x	
Sowles St	Tack Ave	EOS	Sealcoat	4			x					x		x	x							
Upper Simms Rd	SR-80	EOS	Sealcoat	5			x							x	x			x				
SAGINAW																						
A St	Old Douglas Rd	EOS	Asphalt	2								x										
B St	Old Douglas Rd	EOS	Asphalt	2								x										
M St	A St	F St	Asphalt	2								x										
N St	A St	EOS	Asphalt	2								x										
C St	Old Douglas Rd	EOS	Asphalt	2								x				x						
D St	SR-80	EOS	Asphalt	2								x										
E St	SR-80	EOS	Asphalt	2								x										
N St	M St	EOS	Asphalt	2								x										
P St	M St	E St	Sealcoat	2								x										
North St	N St	EOS	Asphalt	2								x										
F St	SR-80	P St	Asphalt	2								x										
Judd Dr	SR-80	EOS	Asphalt	2			x															
Old Douglas Rd	SR-80	SR-80	Asphalt	3			x		x			x	x		x							
Ione St	Unnamed	EOS	Dirt	5								x		x	x							
Frontage	Old Douglas Rd	Old Douglas Rd	Sealcoat	5						x	x			x	x							
Denn Mine Rd	SR-80	EOS	Sealcoat	5				x						x	x	x						
LOWELL																						
Erie St	SR-80	SR-80	Asphalt	3			x					x		x	x							
BISBEE																						
SR-80 (East)	Roundabout	City Limits	Asphalt	1																		
SR-80 (West)	Roundabout	City Limits	Asphalt	2									x								x	
Arizona St	SR-80	Cole Ave	Asphalt	1																		
Arizona St	Cole Ave	Hazzard St	Sealcoat	5				x			x			x	x	x						
Arizona St	Hazzard St	Airport	Asphalt	1																		
SR-92	Roundabout	City Limits	Asphalt	3	x		x														x	
Naco Hwy	SR-92	Purdy Ln	Asphalt	2			x									x						
Naco Hwy	Purdy Ln	POE	Asphalt	1																		
Melody Ln	SR-92	San Jose Dr	Asphalt	2								x										
Maintenance Way	Melody Ln	EOS	Asphalt	2								x										

1-Excellent	2-Good	3-Fair	4-Poor	5-Failed

LEGEND: AC-Alligator Cracking, BC-Block Cracking, CR-Cracks, EC-Edge Cracking, ER-Erosion, DR-Drainage Issues, GR-Grading issues, LA-Loss of Aggregate, LC-Longitudinal Cracks, LS-Loss of Surface / Surface Deterioration, PH-Potholes, RA-Raveling, RP-Rippling and Shoving (washboard), RT-Rough Terrain/Uneven Surface, RU-Rutting, SF-Sealcoat/Surface Failed, SP-Spalling TC-Transverse Cracks

Street	From	To	Surface Type	Score	AC	BC	CR	EC	ER	DR	GR	LA	LC	LS	PH	RA	RP	RT	RU	SF	SP	TC
Roundabout	N/A	N/A		3	x		x														x	

Exhibit 2A Street Condition Assessment Map – San Jose

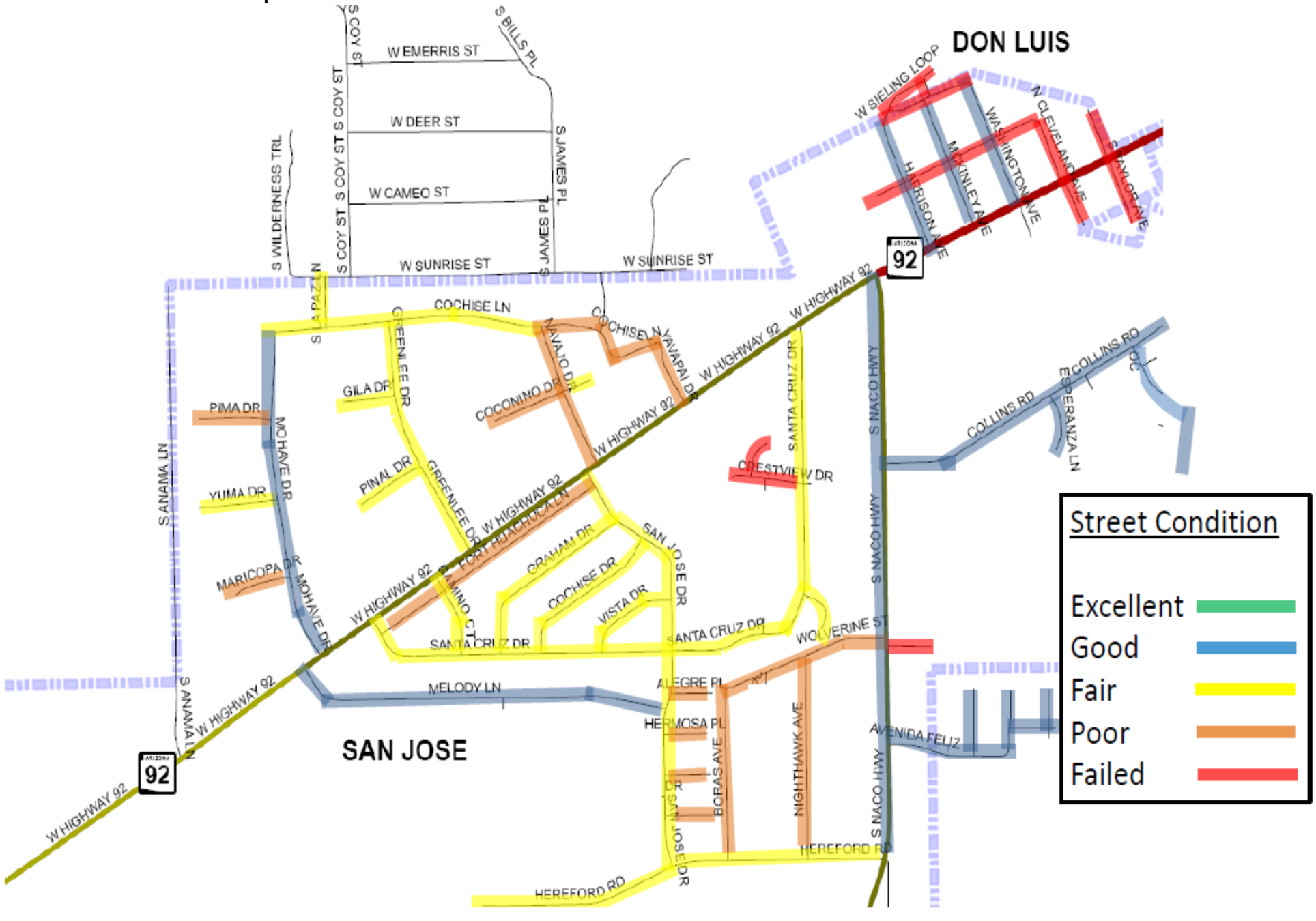

Exhibit 2B Street Condition Assessment Map – San Jose South

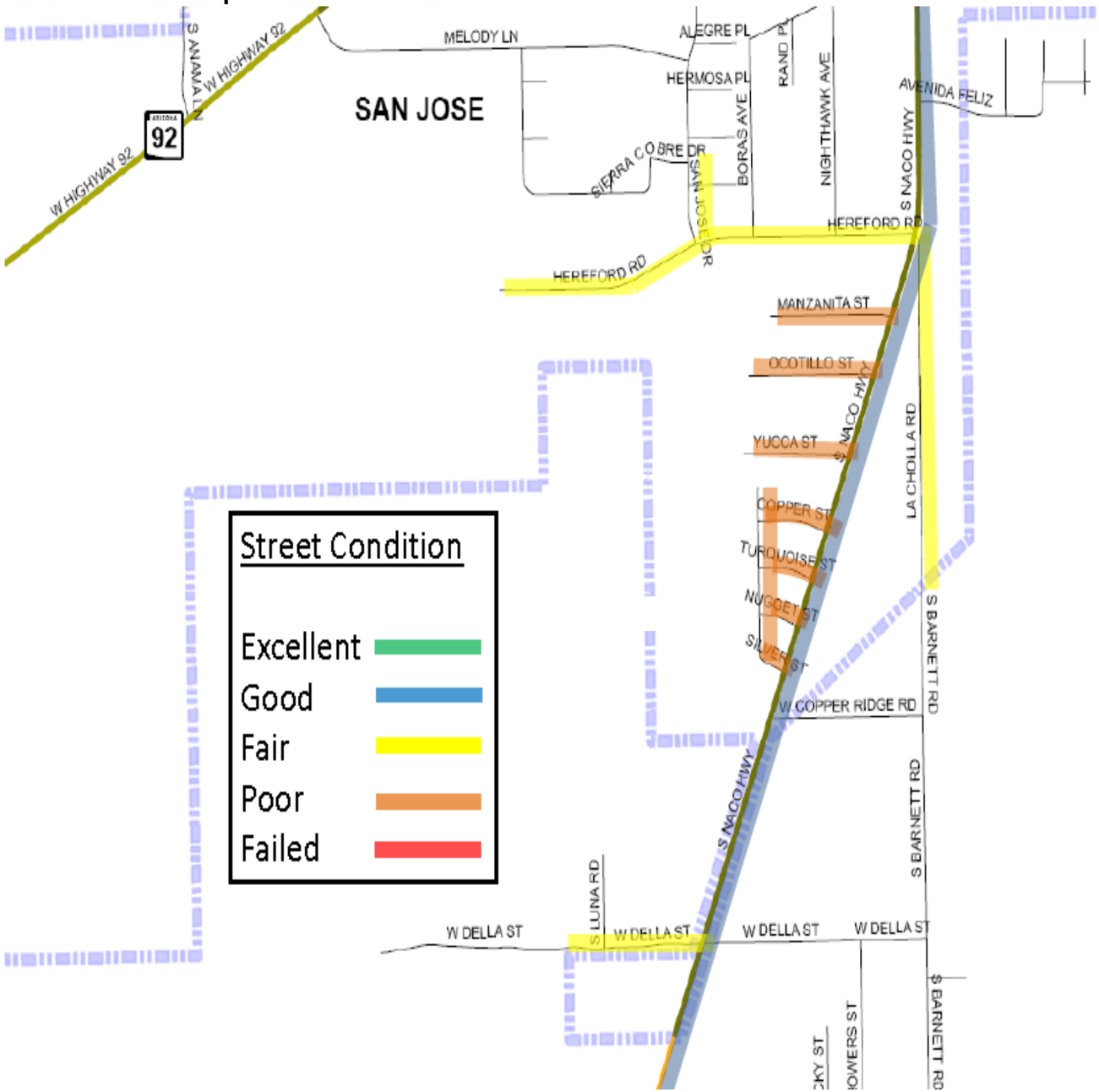

Exhibit 2C Street Condition Assessment Map – Warren

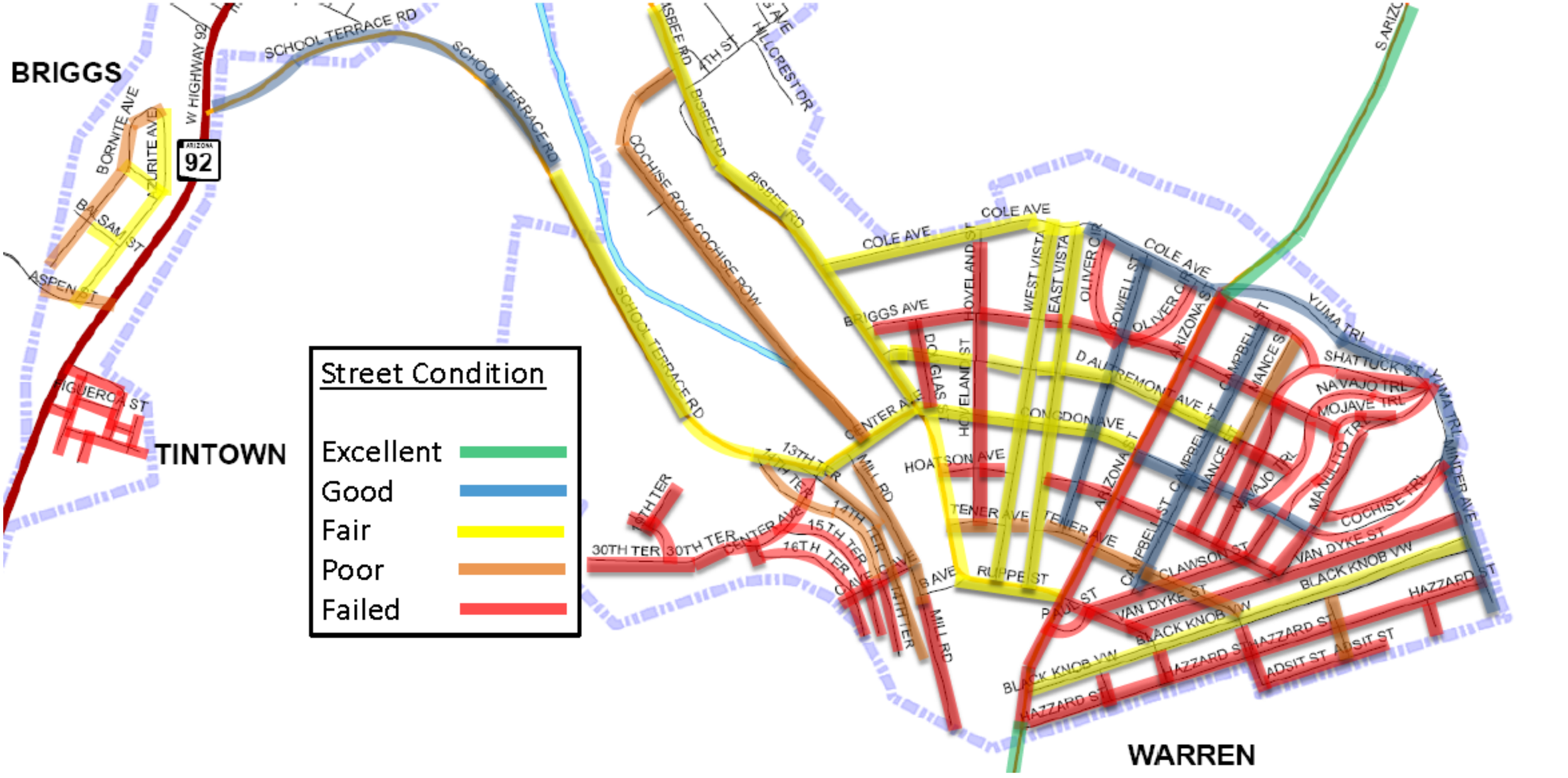

Exhibit 2D Street Condition Assessment Map – Lowell & Saginaw

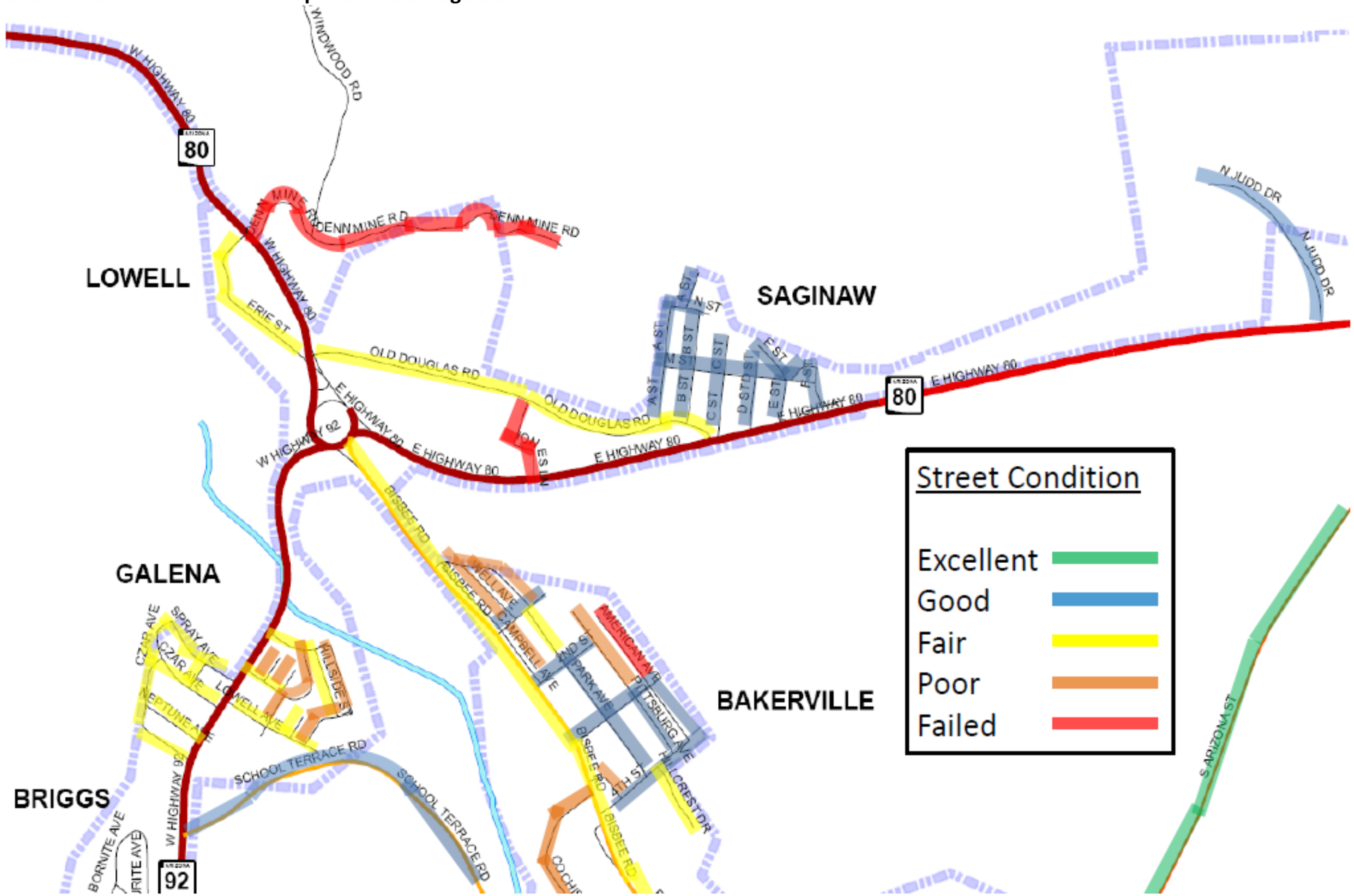

Exhibit 2E Street Condition Assessment Map – Old Bisbee

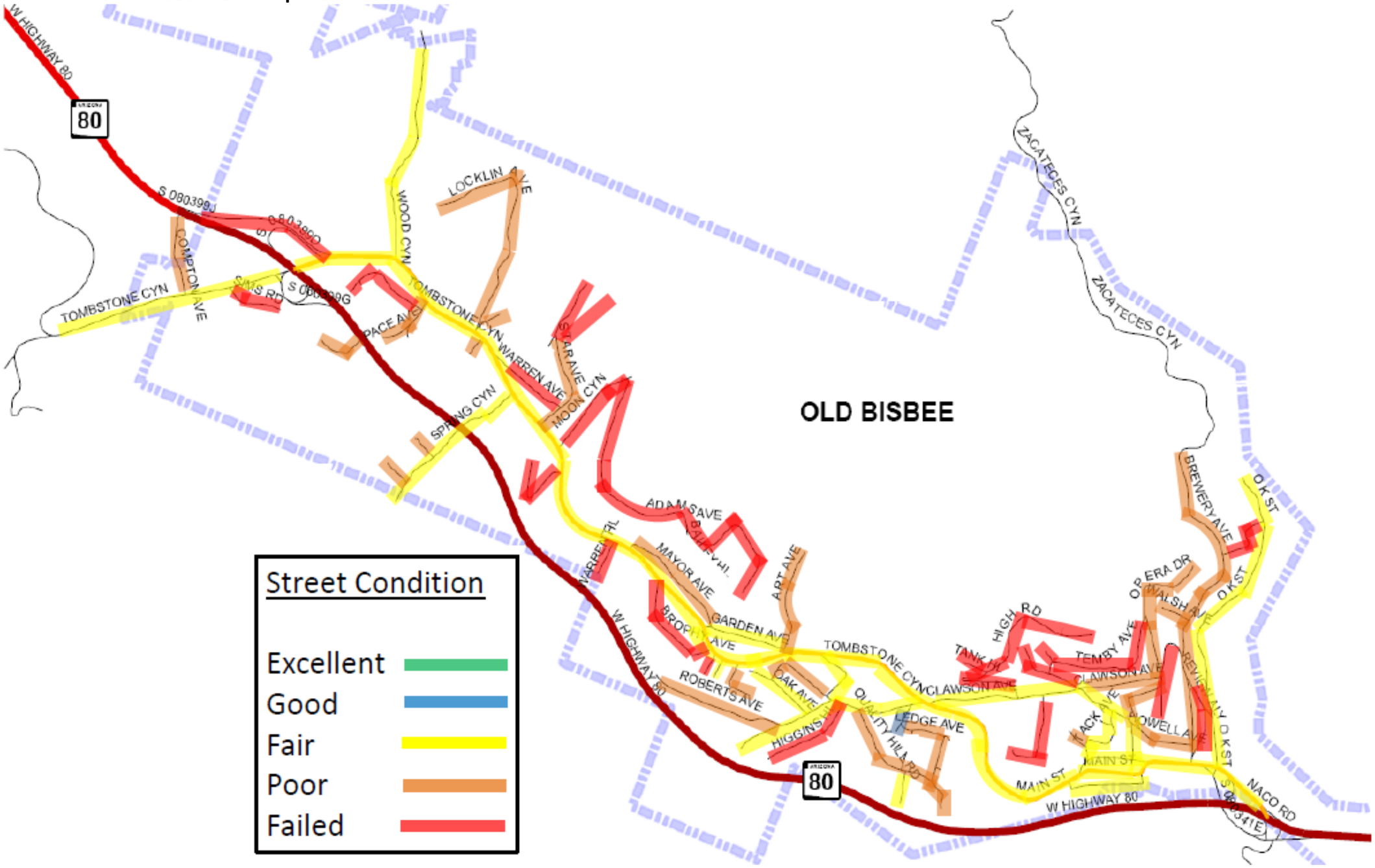

Exhibit 3 Street Condition Pictures

 YUMA TRL/NAVAJO TRL	 YUMA TRL/MOHAVE TRL – LKG N	 YUMA TRL/MOHAVE TRL – LKG E	 MINDER AVE – LKG N	 HAZZARD ST – LKG E	 MCLAREN AVE
 MCLAREN AVE – LKG S	 BLACK KNOB VIEW – LKG E	 BLACK KNOB VIEW – LKG W	 BLACK KNOB VIEW SURFACE	 MCNEISH AVE – LKG S	 RUPPE ST – LKG S
 RUPPE ST – LKG SE	 RUPPE ST – LKG NW	 ARIZONA ST – LKG N	 D'AUTREMONT AVE	 SHATTUCK ST	 SHATTUCK ST & COLE AVE
 SHATTUCK ST – LKG E	 ARIZONA ST – LKG S	 COLE AVE/ARIZONA ST	 BISBEE ROAD – LKG W	 N SIDE BISBEE RD – LKG W	 EAST VISTA – LKG N

 CENTER AVE/30TH TER/16TH TER	 16TH TERRACE – LKG E	 30TH TERRACE – LKG W	 CENTER AVE/SCHOOL TERRACE RD	 4TH STREET – LKG NE	 2ND STREET – LKG NE
 BISBEE RD SURFACE	 1ST STREET – LKG NE	 D STREET – LKG N	 SPRAY AVE – LKG W	 ATLANTA AVE – LKG S	 LOWELL AVE – LKG SE
 GARDNER ST/SACRAMENTO AVE	 HEAD START WAY – LKG W	 WASHINGTON AVE – LKG S	 MOUNTAIN VIEW AVE	 N CURB – MOUNTAIN VIEW AVE	 DRAINAGE X-ING HEREFORD WAY
 HEREFORD WAY AT DRAIN X-ING	 SANTA CRUZ DR DRAINAGEWAY	 SANTA CRUZ DRIVE – LKG E	 MARICOPA DRIVE – LKG W	 YUMA DRIVE – LKG W	 NAVAJO DRIVE – LKG S

 COCHISE LN DRAINAGE X-ING	 COCHISE LANE – LKG E	 NACO ROAD – LKG NW	 TOMBSTONE CYN DRAIN – LKG S	 TOMBSTONE CYN DRAIN – LKG N	 WARREN AVENUE – LKG W
 WEST BOULEVARD	 SIMMS ROAD	 WALL REPAIR – PACE AVE	 TOMBSTONE CYN – LKG S	 EVANS STREET	 PERLEY STREET
 ART AVENUE	 TOMBSTONE CANYON – LKG S	 OAK AVENUE	 OK STREET – LKG N	 OK STREET	 OAK STREET – UPPER END
 YOUNGBLOOD HILL	 SHEARER AVENUE	 TEMBY AVENUE	 TEMBY AVENUE	 TEMBY AVE RETAINING WALL	 TEMBY STREET

 TAYLOR STREET	 ERIE STREET	 UTILITY IN STREET	 TOMBSTONE CANYON	 OLD BISBEE STAIRCASE & STREET	 KELLER ROAD
 ADAMS AVENUE	 LAVENDER PIT ALONG SR 80	 WARREN AVENUE			

Exhibit 4 Walls & Stairs Inventory – OK Street

WALLS / STAIRS INVENTORY

Street	Segment		Length	Height Range	Construction Material	Rails & Condition	Comments (e.g. plumbness, associated purpose)	Condition Assessment					Needs
	From	To						5	4	3	2	1	
OK Street	Intersection of Brewery Avenue		~80'	3' to 16.5'	Concrete	Tubular Steel - Poor Condition; Gas line runs along the length of the wall at roadway level	Wall is crumbling and starting to lean out towards to Brewery Avenue. Heavy spalling of concrete (crumbles with the touch of hand). Major water intrusion due to surface runoff from the street. (See Pics. 53 -64)					X	**Needs replaced immediately**. Wall is failing and starting to lean towards Brewery Avenue. Distress in pavement on OK Street shows movement of roadway towards the wall. Wall is past its service life.
OK Street	Brewery Ave.	Canal		18'-2"	Concrete	Tubular Rail - Fair Condition. Concrete in which the posts are located is in poor condition and needs replaced.	Several Vertical Cracks. Wooden Weep Holes, filled with debris. Top 2'-3' in poor condition due to water/roadway. (See Pics. 195-196)			X			No immediate need of rehabilitation work. May need long term shotcrete face to protect the integrity of the wall.
OK Street	Canal	Garage Parking Area		12'	Concrete	Tubular Rail - Fair Condition. Concrete in which the posts are located is in poor condition and needs replaced.	Cobblestone Wall; heavy vegetation along the face of the wall. Wall is in good shape except the top 2'-3' which is in poor condition. (See Pics. 197-198)			X			No immediate need of rehabilitation work. May need long term shotcrete face to protect the integrity of the wall.
OK Street	Brewery Gulch		Stairway		Metal	CLOSED	See Pics 200-201					X	Stair case is closed and needs removed
OK Street	Hotel Lamore		Stairway		Concrete	Handrail is in poor condition and needs replacement	Upper landing is in poor condition. Stair treads are in fair condition. Wall for upper staircase is in fair condition. (See Pics. 202-210)			X			No immediate need of rehabilitation work. May need long term rehabilitation work. Handrails need to be repainted and replaced in some locations
OK Street	Pythian Apartments		Stairway		Concrete	No handrail on upper portion of stairwell.	Stairs are in poor condition. (See Pics. 211-221)				X		Needs to be rehabilitated to protect the integrity of the stair treads and handrail in the next 2-3 years.
OK Street	Brewery Avenue		Stairway		Concrete	Stairs are in good condition.	Stairs are not per current code. The tread depth is too long. Tread height is ~8" (See Pics. 222-227)		X				Needs to be rehabilitated to protect the integrity of the stair treads and handrail in the next 5-10 years.

WALLS / STAIRS INVENTORY

Street	Segment		Length	Height Range	Construction Material	Rails & Condition	Comments (e.g. plumbness, associated purpose)	Condition Assessment					Needs
	From	To						5	4	3	2	1	
OK Street	69 Ok Street				Concrete		Wall is in good condition (See Pic. 228)		X				No immediate need of rehabilitation work. May need long term shotcrete face to protect the integrity of the wall.
OK Street	Brewery Avenue		Stairway		Concrete/Brick		Tread are in good condition. The alley is brick and in good condition. There is a landing with a section of brick missing and is dirt path. Brick walkway is in good condition (See Pics. 229-232)		X				Brick walkway needs replaced.
OK Street	75 OK Street		Stairway		Concrete	No handrail.	Upper landing is in poor condition. The wall along the stairway is degraded (See Pics. 233-237)				X		Staircase will need to be rehabilitated in the next 5 years to address handrail/stairway conditions
OK Street			90'	~11'	Concrete	New 8" handrail	Wall is in good condition Heavy vegetation along the roadway edge.(See Pics. 238-243)		X				No immediate need of rehabilitation work. May need long term shotcrete face to protect the integrity of the wall. Need to remove vegetation along roadway edge to protect the top of the wall
OK Street	101 OK Street		Stairway		Concrete	Handrail is in good condition	Steps/Treads in good condition. Upper part of stairway is in poor condition but is not traveled often and is neglected. (See Pics. 244-245)		X				Staircase will need to be rehabilitated in the next 5 years to address handrail/stairway conditions
OK Street	101 OK Street			7.5'	Concrete	Handrail is in fair condition.	Wall is in good condition (See Pics. 246-248)			X			No immediate need of rehabilitation work. May need long term shotcrete face to protect the integrity of the wall.
OK Street	103 OK Street			4'-5'	Concrete	Handrail is in fair condition and is bent in several places.	Wall is in poor condition. Asphalt has been placed on wall top. (See Pic. 249 - 253)				X		Asphalt needs to be removed from the top of wall and the wall top rebuilt. The front face of the wall needs to be faced with shotcrete to protect integrity of the wall.
OK Street	105 OK Street		Stairway			Stair case is very steep and in poor condition. Handrail is in poor condition	See Pics 254-256					X	Stair case needs to be closed and replaced

WALLS / STAIRS INVENTORY

Street	Segment		Length	Height Range	Construction Material	Rails & Condition	Comments (e.g. plumbness, associated purpose)	Condition Assessment					Needs
	From	To						5	4	3	2	1	
OK Street	107 OK Street			28'	Concrete	Handrail is in poor condition and needs replacement	Wall is in good condition (See Pics. 257-261)						No immediate need of rehabilitation work. May need long term shotcrete face to protect the integrity of the wall.
OK Street	115 OK Street					Handrail cap is recently rehabilitated. Handrail is in poor condition	Heavy vine growth for the first 30' - 40' of the wall. (See Pics 262 - 264)			X			No immediate need of rehabilitation work. May need long term shotcrete face to protect the integrity of the wall.
OK Street	115 OK Street		Stairway			Handrail is in poor condition and needs replacement	Lots of debris on treads. Water runs down the stair way contributing to its poor condition. (See Pics. 265 - 271)				X		Stair well needs to be rehabilitated with attention given to the water coming down the steps. The handrail (which is original) needs to be replaced and updated per code requirements.
OK Street	118 OK Street						Good shape. Recent work on top cap. Conduit was placed for future handrail which is currently not installed. (See Pics. 275 - 277)		X				No immediate need of rehabilitation work. May need long term shotcrete face to protect the integrity of the wall.
OK Street	125 OK Street			7'			Wall is in good condition (See Pic. 278)		X				No immediate need of rehabilitation work. May need long term shotcrete face to protect the integrity of the wall.
OK Street	135 OK Street to 139 OK Street			5'			Wall is in Fair Condition (See Pics 279 - 291)			X			No immediate need of rehabilitation work. May need long term shotcrete face to protect the integrity of the wall.

Exhibit 5 Walls & Stairs Inventory – OK Street - Pictures


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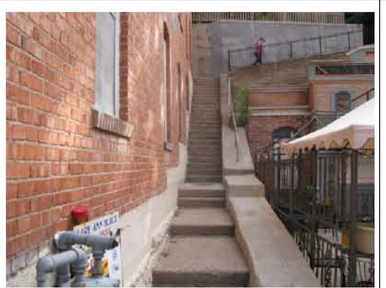
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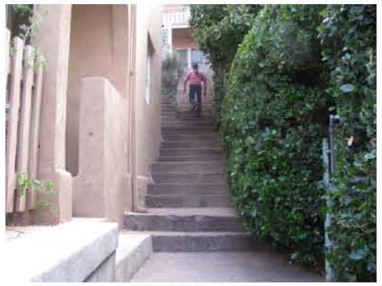
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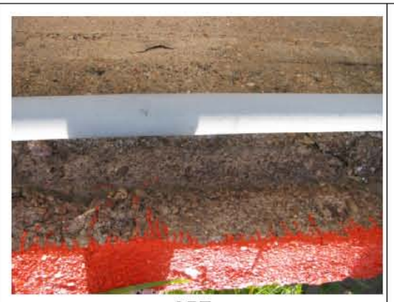
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 289	 290	 291			

Exhibit 6 Walls & Stairs Inventory

WALLS / STAIRS INVENTORY

Street	Segment		Length	Height Range	Construction Material	Rails & Condition	Comments (e.g. plumbness, associated purpose)	Condition Assessment					Needs
	From	To						5	4	3	2	1	
East/West Black Knob	Black Knob		Full Length of Black Knob View		Concrete	Tubular Steel - Fair Condition	Walls are in good shape (See Pics 105-107)			X			No immediate need of rehabilitation work. May need long term shotcrete face to protect the integrity of the wall.
Temby Avenue			Full length of Tempy Avenue	12'	Concrete	Tubular Rail - 5' Spacing; 2'-2" High-Fair Condition	(See Pics. 125-151)				X		
Opera Drive			100'	5.5'	Concrete	Tubular Rail	Wall is in Fair/Poor Condition. There is evidence of concrete spalling due to overall age and exposure of the wall. (See Pics. 152-158)				X		Needs some rehabilitation work to stabilize the wall face. The concrete is starting to show stress due to age and exposure to the elements. The face of the wall needs to encapsulated with shotcrete to protect the wall from water intrusion.
Opera Drive	Parking Lot Area		90'	12'	Concrete	Tubular Rail	Wall is poor condition. Vertical cracks can been seen in the wall but there is no evidence that movement has occurred recently (See Pics. 172-177)					X	Needs replaced due to overall poor condition
Tack Avenue				6'	Concrete	Tubular Rail - New and in good condition	Walls recently repaired. Walls are in good condition. (See Pics. 178-181)		X				No need for rehabilitation work. Wall was recently repaired.
Adams Avenue	@ Laundry Hill				Concrete		Some brush/vegetation growth. No visible signs of distress (See Pics 182-184)			X			No immediate need of rehabilitation work. May need long term shotcrete face to protect the integrity of the wall.
Adams Avenue			N/A	N/A	Concrete	Tubular handrail. Fair/Poor condition. Only thing left of the wall and is not needed.	No wall present. The wall has eroded away. (See Pics. 185-189)					X	Wall may not be needed due to the stable slope.

WALLS / STAIRS INVENTORY

Street	Segment		Length	Height Range	Construction Material	Rails & Condition	Comments (e.g. plumbness, associated purpose)	Condition Assessment					Needs
	From	To						5	4	3	2	1	
Quality Hill/Key Street					Concrete/Rock	No railing	Buttress Wall - Buttress in good shape; rock wall is in fair condition. Lower side the rock wall is in poor condition. The wall closer to the courthouse is gone except for the buttress but the slope is stable. (See Pics. 308-316; 318-321; 323; 325)			X			Need to remove vegetation on the wall and address some of the rock gabion cages to make sure they are in good condition. The wall needs yearly maintenance to remove vegetation/trees along the wall.
Roberts Avenue					Concrete	Stairway and handrail has been recently repaired.	Wall has been recently repaired. (See Pics. 326-339)	X					No work needed in the near future
Roberts Avenue	443 Roberts Avenue				Concrete/Cobblestone		Cobblestone wall with a stucco finish		X				No immediate need of rehabilitation work. May need long term shotcrete face to protect the integrity of the wall.
Ohara	Towards Tombstone Canyon		Stairway		Concrete	Handrail is in good condition	Steps have a vertical crack in the middle but seem to be in good condition		X				
Ohara	Corner of Ohara and Quarry Canyon				Concrete		See Pics. 351-355						No immediate need of rehabilitation work. May need long term shotcrete face to protect the integrity of the wall.
Curve Street					Concrete/Cobblestone		Cobblestone wall in good condition. (See Pics. 356-358)						No immediate need of rehabilitation work. May need long term shotcrete face to protect the integrity of the wall.
Art Avenue	To Laundry Hill/Adams Avenue		Stairway		Concrete	Handrail is in poor condition; missing vertical members	Stairway is in poor condition; the wall is leaning out supporting the stairway. (See Pics. 360-367)				X		Stairway will need rehabilitation in the next 2-3 years to replace steps and upgrade the handrail to meet current code requirements
High Road	First Switchback				Concrete	Handrail is in good condition	Lower wall was recently repaired and is in excellent shape; upper wall is in good condition. Starting to see some slight spalling of concrete due to weathered conditions. Buttresses are in good shape. (See Pics 375-386)		X				No immediate need of rehabilitation work. May need long term shotcrete face to protect the integrity of the wall.

WALLS / STAIRS INVENTORY

Street	Segment From	Segment To	Length	Height Range	Construction Material	Rails & Condition	Comments (e.g. plumbness, associated purpose)	Condition Assessment 5	4	3	2	1	Needs
High Road	Second Switchback				Concrete	Handrail is in good condition	Wall is in good condition. (See Pics. 387-393)		X				No immediate need of rehabilitation work. May need long term shotcrete face to protect the integrity of the wall.
High Road	Schare Avenue		Stairway		Concrete	No handrail present. It seems it has been cut by property owner.	Stair treads are in good condition (ee Pics. 400-402)		X				No immediate need of rehabilitation work. Handrail may need to be brought up to code.
High Road	Between switchbacks				Concrete	Handrail is in good condition	Wall is in good condition. (See Pics. 395-400)		X				No immediate need of rehabilitation work. May need long term shotcrete face to protect the integrity of the wall.
Laundry Hill			Stairway		Concrete		Steps are in good condition		X				
Naco Road			Stairway		Concrete	No Handrail present.	Stairs are undercut by erosion and in poor condition. The bedrock has been exposed. The treads are in poor condition. (See Pics. 419-434)				X		Stairway is in need of immediate rehabilitation work due to erosion of base underneath the steps. Handrail needs to be installed.
Subway Street			Stairway		Concrete	Handrail is in fair condition	Treads are in fair condition. See Pics. 435-441			X			No immediate need of rehabilitation work. Handrail may need to be brought up to code.
Main Street	102 Ledge Avenue		Stairway		Concrete	Handrail is in fair condition	Treads are cracked in the lower half; upper treads are in fair condition. (See Pics. 442-449)			X			No immediate need of rehabilitation work. Handrail may need to be brought up to code.
Main Street	81	81C	Stairway		Concrete	Handrail is in fair condition	Previous repair work. Repairs are delaminating from the old stairway. Upper treads are in fair condition (See Pics. 450 - 456; 458 - 460)			X			No immediate need of rehabilitation work. Handrail may need to be brought up to code.
Tombstone	129	131	Stairway		Concrete	Handrail is in poor condition	Narrow steps but the steps and treads are in fair condition. (See Pics. 461-463)			X			No immediate need of rehabilitation work. Handrail may need to be brought up to code.

WALLS / STAIRS INVENTORY

Street	Segment		Length	Height Range	Construction Material	Rails & Condition	Comments (e.g. plumbness, associated purpose)	Condition Assessment					Needs
	From	To						5	4	3	2	1	
Tombstone	126	Ledger Ave	Stairway		Concrete	Handrail is rusted out in places.	Stairs are in fair condition. Water is flowing over the steps resulting in further deterioration of the steps. Vegetation was growing over the upper steps and needs removed. (See Pics. 464-472)			X			No immediate need of rehabilitation work. Handrail may need to be brought up to code.
Warren Hill			Stairway		Concrete		Stairs are in poor condition and shows signs of serious water damage. (See Pics. 475-478)				X		Stair are in need of immediate rehabilitation and there is a need to reroute the water flowing over the steps.
Icker Street	To Tombstone		Stairway		Concrete	Handrail is in fair condition	Steps are in fair condition (See Pics. 479-486)			X			No immediate need of rehabilitation work. Handrail may need to be brought up to code.
Warren Avenue			Stairway		Concrete	Handrail is in fair condition	Steps/Treads are in poor condition (upper side). The lower side has been recently reconstructed. (See Pics. 488-493)			X			Reconstruct the upper portion of the stairway to match the lower portion.
Wood Canyon			Stairway		Concrete	Handrail is in fair condition. Some of the members are rusted and are in need of replacement.	The stairs are in fair shape and the bridge over the canal is made of wood beams/wood planks and is in good condition with no observed signs of distress. (See Pics. 494 – 505; 507 - 511)			X			No immediate need of rehabilitation work. Handrail may need to be brought up to code.

Exhibit 7 Walls & Stairs Inventory – Pictures


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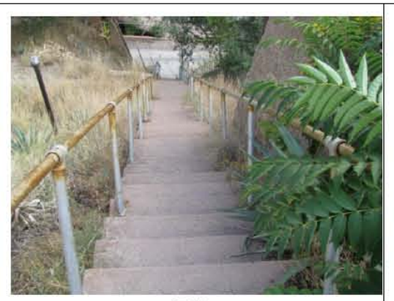
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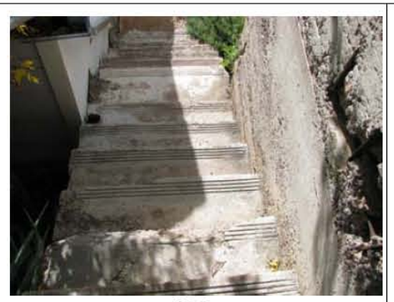
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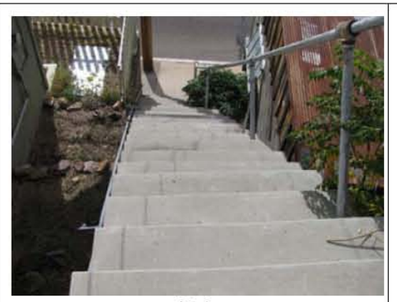
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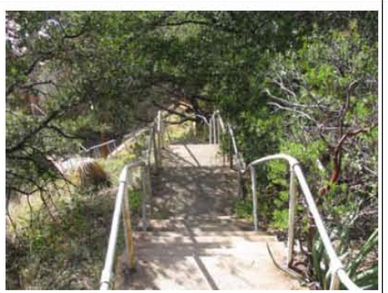
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Exhibit 8 Bridge & Culvert Inventory

BRIDGE / CULVERT INVENTORY

Structure No.	Bridge Name	Length	Width	Sidewalk Width		Construction Material	Rails/Headwall	Comments (e.g. rip-rap)	Condition Assessment					Needs
				Lt	Rt				5	4	3	2	1	
9283	Black Knob Drain Culvert													
9629	Mule Gulch Bridge	See Structural Reports Done By ADOT; Inspection of structure is done on a semi-annual basis. Next inspection year - 2011												
9925	Arizona Street	See Structural Reports Done By ADOT; Inspection of structure is done on a semi-annual basis. Next inspection year - 2011												
10410	Tombstone Canyon Culvert	See Structural Reports Done By ADOT; Inspection of structure is done on a semi-annual basis. Next inspection year - 2011												
10538	Moon Canyon Bridge	See Structural Reports Done By ADOT; Inspection of structure is done on a semi-annual basis. Next inspection year - 2011												
10539	Star Avenue Bridge	See Structural Reports Done By ADOT; Inspection of structure is done on a semi-annual basis. Next inspection year - 2011												
10540	Spring Canyon Bridge	See Structural Reports Done By ADOT; Inspection of structure is done on a semi-annual basis. Next inspection year - 2011												
N/A	Wooden Bridge @ OK Street	~12'	N/A	N/A	N/A	Wood with asphalt overlay	Concrete	Bridge Deck is in poor condition. Consists of 4 - 2x8's nailed together, spaced at ~5' c/c. (Pics 190-194)					X	Replaced in the next 2-3 years. Can not handle large trucks due to poor condition
N/A	OK Street & Youngblood	~25'	N/A	N/A	N/A	Concrete Slab with asphalt overlay	Concrete	Walls are in good condition; no visible stress cracks. Bottom of structure shows small cracks and efflorescence. Vertical crack on headwall is stable. (Pics 292-303)			x			Structure is in fair condition and only needs to be rehabilitated in the next 10 years. Need to divert some water intrusion on the downhill side. Roadway surface is in fair condition.

BRIDGE / CULVERT INVENTORY

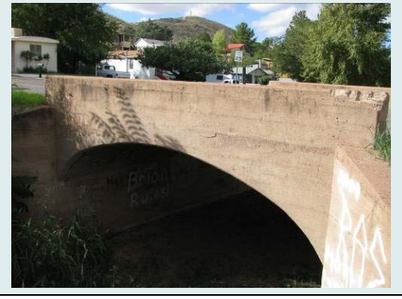
Structure No.	Bridge Name	Length	Width	Sidewalk Width		Construction Material	Rails/Headwall	Comments (e.g. rip-rap)	Condition Assessment					Needs
				Lt	Rt				5	4	3	2	1	
N/A	Black Knob View/ Mider Avenue			N/A	N/A	Concrete Arch	Concrete	Good Condition - Some minor cracking / efflorescence. Heavy vegetation on the upstream side. (See Pictures 109-115)			X			Structure is in fair condition and only the railing on the superstructure needs repair due to a vehicle hit. Age of the structure is ~64 years.

Exhibit 9 Bridge & Culvert Inventory Photos

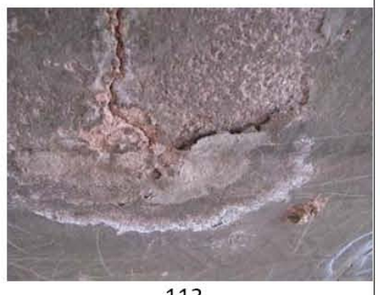
 190	 191	 192	 193	 194	 292
 293	 294	 295	 296	 297	 298
 299	 300	 301	 302	 303	 109
 110	 111	 112	 113	 114	 115

Exhibit 10A Stairway and Retaining Wall Map – Old Bisbee Downtown

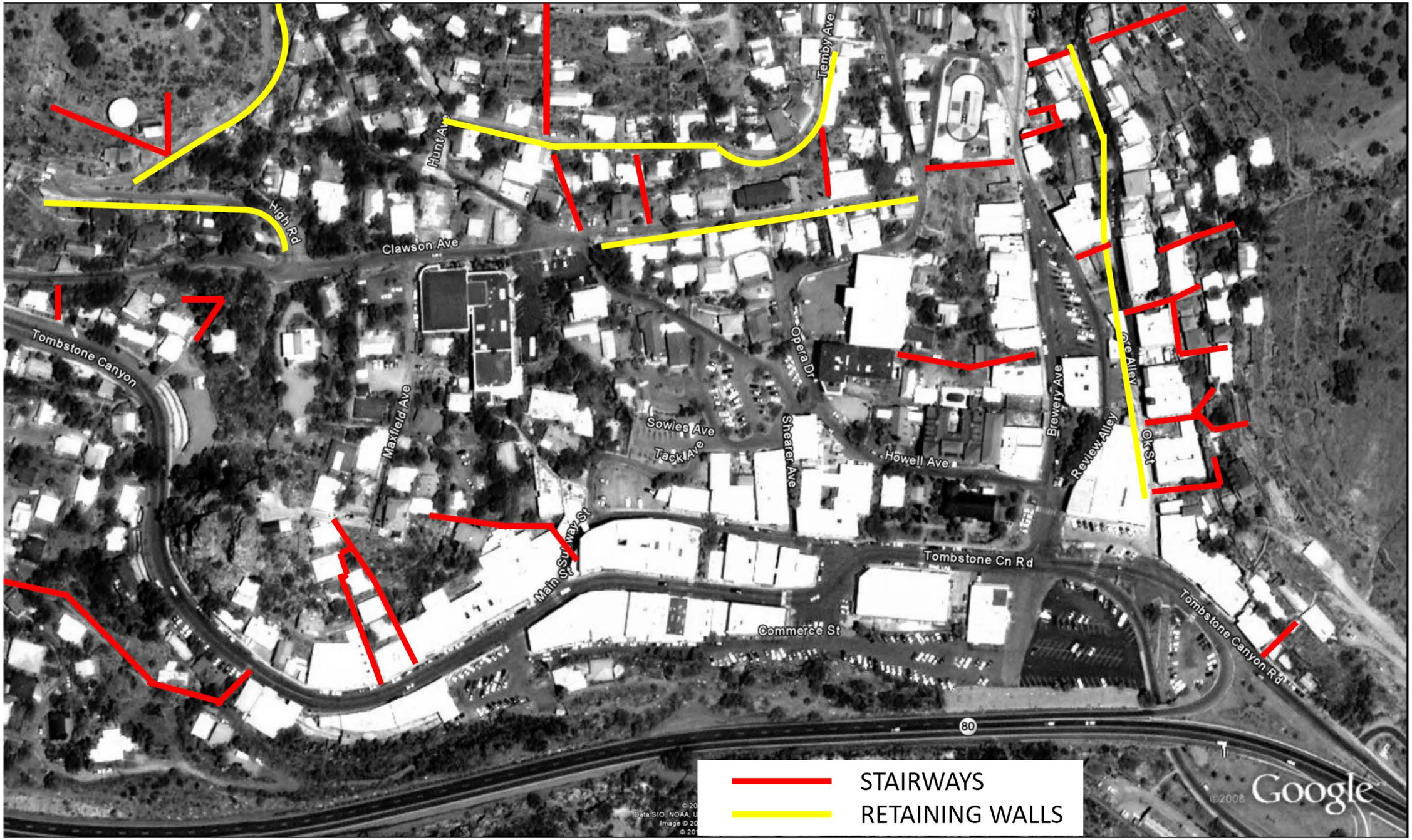


Exhibit 10B Stairway and Retaining Wall Map – Old Bisbee North

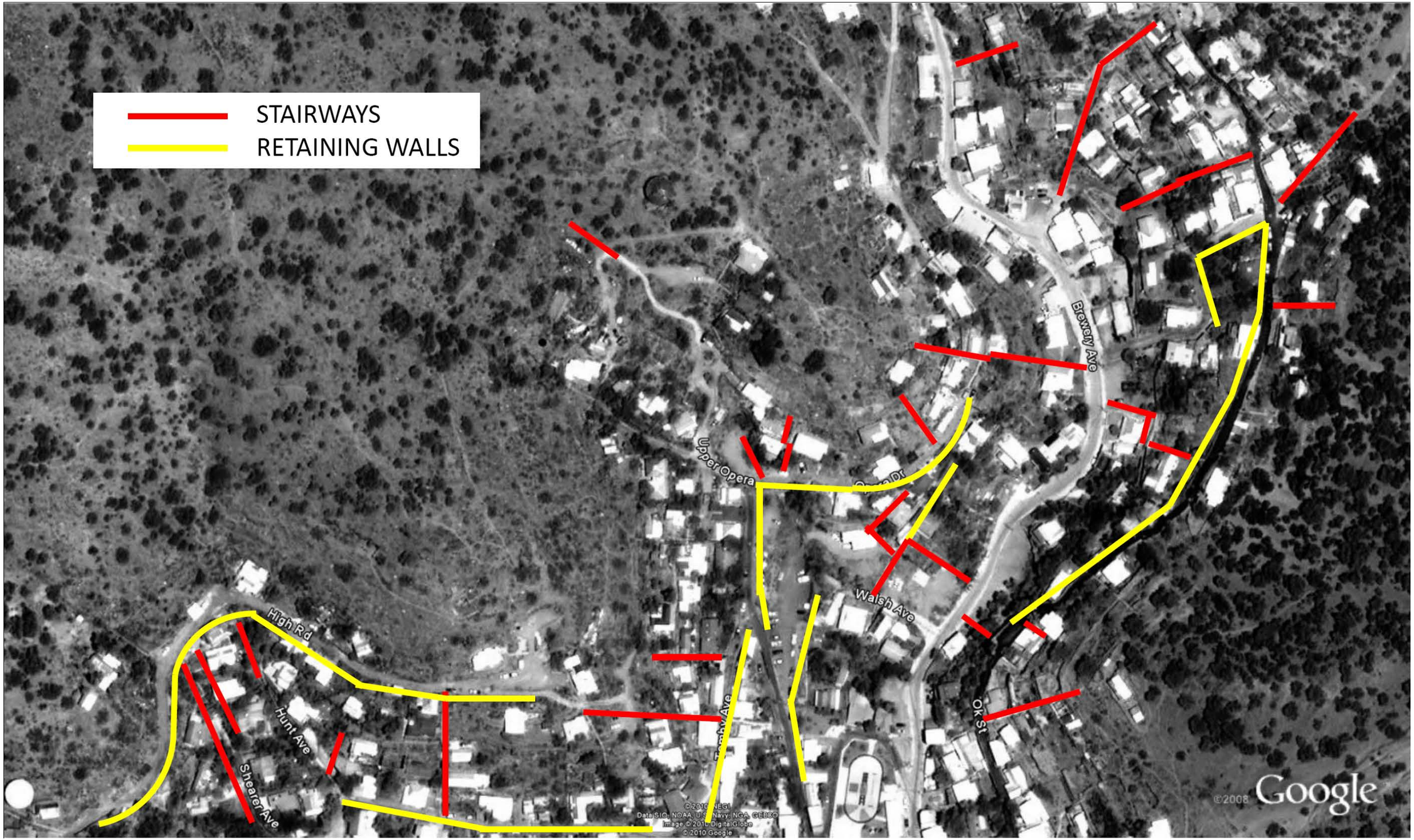


Exhibit 10C Stairway and Retaining Wall Map – Old Bisbee Central

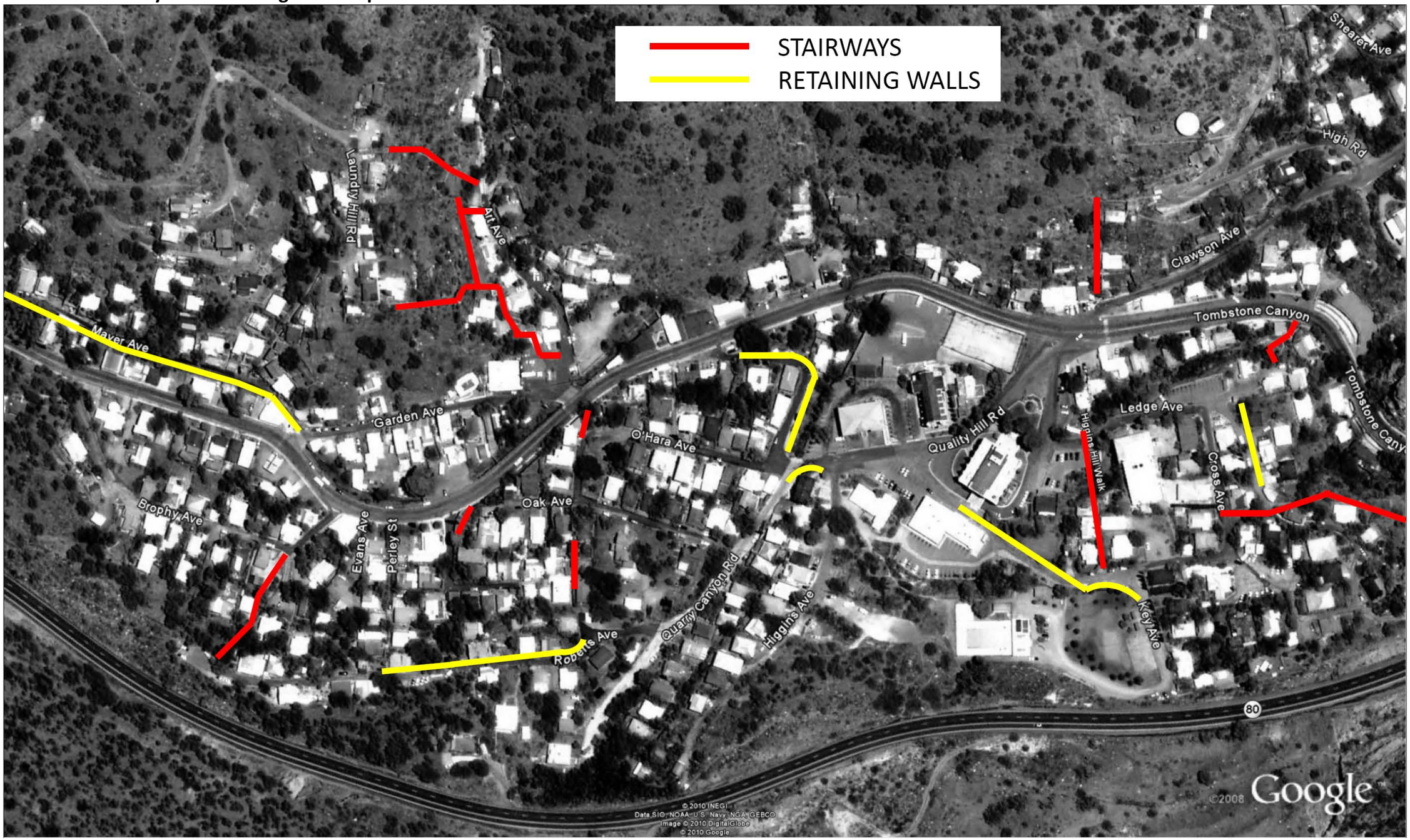


Exhibit 10D Stairway and Retaining Wall Map – Old Bisbee West

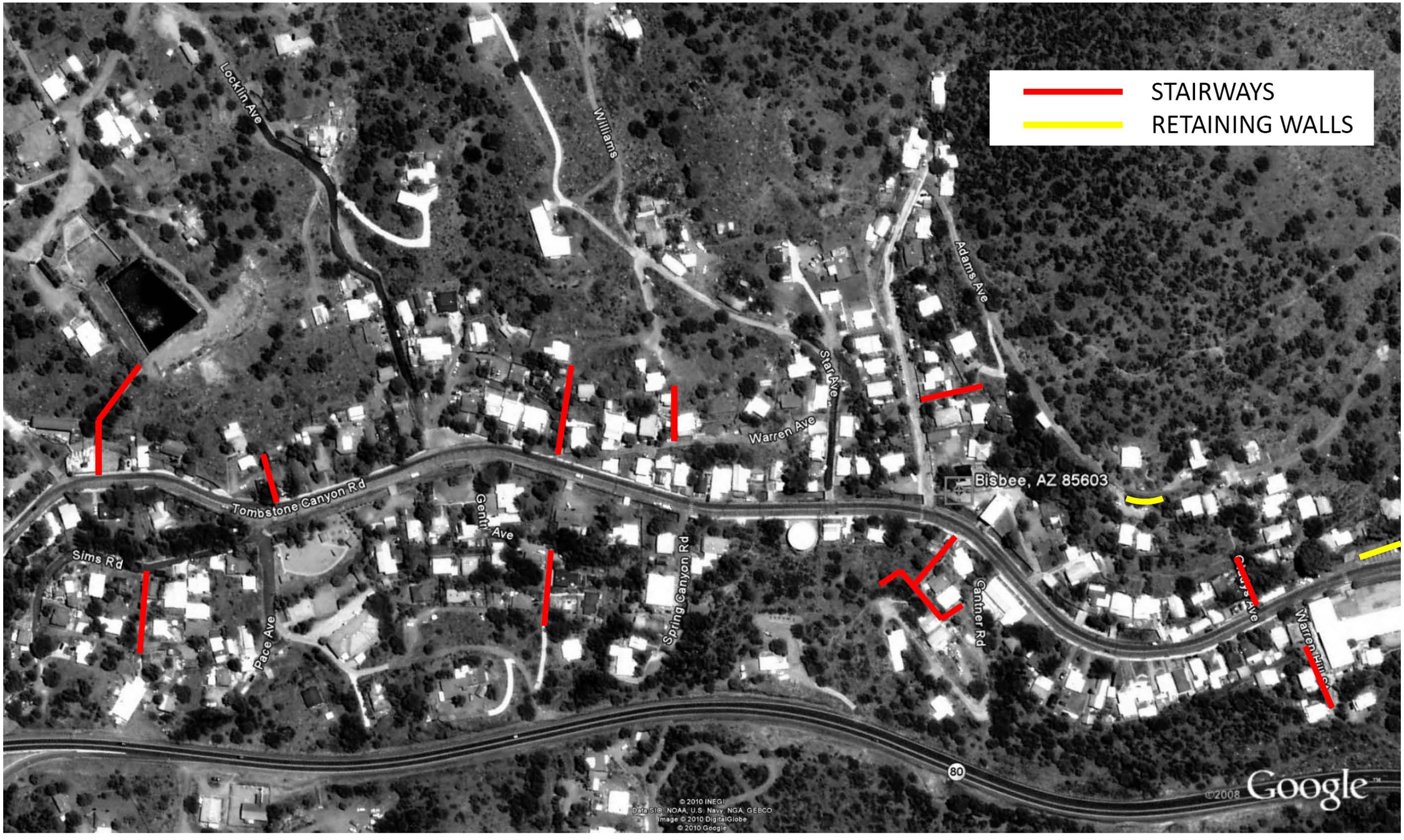


Exhibit 11 Condition Assessment Rating System

CONDITION ASSESSMENT RATING SYSTEM

5-Excellent - No visible distress, new construction. No maintenance required.

4-Good - Shows some traffic wear, very few cracks (open 1⁄4"), no patching or very few patches in good condition. First signs of aging. Recent repairs improvements. Sound structural condition. Little or no maintenance required.

3-Fair - Shows traffic wear and signs of aging, longitudinal and traverse cracks (open 1/2"), some spaced less than 10', patching in fair condition. Significant aging and first signs of need for strengthening. Would benefit from structural/surface repairs.

2-Poor - Closely spaced longitudinal and transverse cracks, erosion, patches in poor condition, potholes. Needs extensive reconstruction or repairs.

1-Failed - Severe distress with extensive loss of surface/structural integrity. Needs total reconstruction.

Arizona Department of Transportation and the City of Bisbee
COMPREHENSIVE TRANSPORTATION PLAN
Public Meeting Summary

Meeting Date:	Thursday, June 2, 2011
Meeting Locations & Times:	Bisbee Council Chambers, 118 Arizona Street, 9:00 a.m.-10:00 a.m. Copper Queen Library, 6 Main Street, 11:00 a.m.-12:00 p.m. Bisbee Senior Center, 300 Collins Road, 2:30 p.m.-3:30 p.m. Cochise County Complex, Board of Supervisors Hearing Room, 1415 Melody Lane, Building G, 5:00 p.m.-6:30 p.m.
Participants:	31 community members attended

Project Overview

The City of Bisbee, in conjunction with the Arizona Department of Transportation (ADOT), is conducting a comprehensive transportation plan study under the ADOT Planning Assistance for Rural Areas (PARA) program. The PARA program provides federal funds to non-metropolitan communities for the purpose of conducting transportation planning studies. The principle purpose of this study is to develop a Comprehensive Transportation Plan that addresses improvements to streets, bridges, sidewalks, public stairs, shared-use pathways, transit, public parking and transportation-related drainage facilities throughout the study area. The Comprehensive Transportation Plan will recommend improvement projects over five, ten and twenty-year planning periods.

Public Meeting Notification

The City of Bisbee and ADOT held four public meetings on June 2, 2011, at the locations noted above. The following methods were implemented to notify the Bisbee community of the public meetings:

- Printed newspaper advertising on May 26, 2011 in the *Bisbee Review/Sierra Vista Herald*
- Provided 25 notification posters to the City of Bisbee on May 27, 2011 to post at community gathering places
- Distributed information to the media the week of May 23, 2011

Public Meeting Overview

At each meeting, C.T. Revere, ADOT Communication and Community Partnerships, welcomed meeting participants, recognized elected officials in attendance, and introduced the study team. C.T. explained the format of the meeting and the methods to provide comments. Randy Overmyer, Wilbur Smith Associates, provided a presentation at each meeting. Other ADOT study team members in attendance included Mark Hoffman, Paki Rico and Kathy Boyle. Below is a summary of the question and answer sessions held following each presentation:

Question and Answer Session Summary

9:00 – 10:00 am meeting
City of Bisbee
Council Chambers
118 Arizona Street
Bisbee, Arizona

Question: Can you please talk about crash and incident reports and how they compare to state statistics?

Response: Data for State Route (SR) 80 and SR 92 is higher than the state average. This is due to turning vehicles, and vehicle-to-vehicle conflict. The data from ADOT and the Department of Public Safety for SR 80 was puzzling. There were a significant number of single vehicle accidents with fixed objects (e.g., curb or light pole, etc.). We don't know the cause of these incidences and whether they were due to driver impairment. There aren't as many turning movements on SR 80. Recommend enforcement and signage to help address these problems. Crash rates are provided in volumes (including actual counts) and as a percent. There is a need for better information and access management. It is recommended that ADOT completes a safety study on SR 92.

Question: Would that study look at commercial versus non-commercial vehicle accidents?

Response: We haven't looked at that breakdown, but did conduct a traffic count with classification. There is not a tremendous amount of commercial traffic

Question: Does the PARA study look at roundabouts (examples: Wilson Road and Naco Highway)?

Response: We can look at roundabouts as options but the study does not get that detailed (in terms of design). Traffic volumes may not justify roundabouts. In addition, a significant amount of land needs to be available for right-of-way for a roundabout, especially for one large enough for commercial traffic (i.e., trucks). Design of a roundabout would need to accommodate commercial traffic.

Question: What are the recent traffic counts for the existing roundabout?

Response: We can provide this information, as it was contained in Working Paper #1. The city was also interested in seeing these numbers as part of Working Paper #1.

Question: What about new Arizona Road street improvement project that is supposed to provide significant calming affect. What are the impacts and routing options?

Response: Improvement projects slow driving speeds, encourage pedestrian/ bicycle traffic, and discourage vehicle traffic. Commercial vehicles take the path of least resistance. The improvement project encourages traffic to use the highway. Also want to look at development opportunities at the airport and surrounding area. This development may contribute to a higher level of traffic.

Question: During your local stakeholder conversations, what was said about the necessity of Old Divide Road?

Response: We heard that local stakeholders were interested in opening Old Divide Road. Based on the technical input we have received, it would be extremely difficult to fix with possible fatal flaws. The cost of a safe facility is high and will need outside money to fund.

Comment: The road needs to be fixed. ADOT started the fire; they should pay for improvement.

Response: The study team will take that comment to John Halokowski, ADOT's Director. We can look at federal, ear-marked funding.

Comment: This is a political issue. Bisbee community members feel that ADOT does not consider this an important issue. We need a bypass.

Comment: Naco Highway should be included in the plan. The expectation is that the County should address; however, the County needs to beg for money. Please include as part of the plan. Naco Highway should become a state highway.

Response: Yes, this is possible. ADOT has a State Route Transfer program. The Naco Port-of-Entry (POE) is the only POE in Arizona not served by a State Highway. The study team may research this issue further, and examine a possible alternate route. Cochise County is also looking at Davis Road, between US 191 to SR 80. Davis Road might be a good alternate route/bypass.

Comment: Concerns expressed regarding the closure of the tunnel and issues with trucks. There is no other good alternative. ADOT needs to improve the two-lane road.

Response: Thank you for your comments.

Comment: Both Naco Highway and Old Divide Road are five-star issues. What about the Bureau of Land Management not managing the land. This is a federal issue also involving U.S. Fish and Wildlife Service and Homeland Security. It takes decades to implement improvements.

Response: Thank you for your comments.

Question: How do you balance business development on Naco Highway with the need to relieve traffic and provide an alternative route?

Response: We need to balance needs. We know traffic at the Naco POE is passing through Bisbee with no destination in Bisbee. Businesses would slow traffic down. More alternatives would help de-pressurize existing Naco Highway while still allowing business development to occur. This will be refined during further studies.

Question: With Naco Highway, was expansion of residential growth considered?

Response: Yes, population projections were taken into consideration.

Question: What is the proximity of signage to ADOT's right-of-way?

Response: Would need to survey, but in some areas it's very close.

11:00 a.m.-12:00 p.m.
Cooper Queen Library
Conference Room
6 Main Street
Bisbee, Arizona

Question: The crosswalk was removed about 100 feet up Main Street (from library). Someone said lines indistinct, and the lines were painted black. I was also told that the crosswalk was not ADA [Americans with Disability Act] compliant. Is this correct?

Response (by Tom Klimek, City of Bisbee)**:** At that particular crossing, there were no ramps at the sidewalk. The State Historic Preservation Office (SHPO) did not allow for mid-block crossings. The sidewalk project was on-going for 10 years, and we had a difficult time with SHPO during this process. SHPO only saw 20 percent plans and they did not renew final plans. We also needed to identify proper sight distances.

Question: So, it's Illegal to have crosswalk at that location? People have crossed there for years and will continue. It's more dangerous now than before. Seems the City is more concerned about litigation.

Response: The City's first concern is public safety, not litigation. ADA compliance is a federal issue.

Comment: You could add a crossing.

Response: This is a federal issue. Structures are also historic, not just buildings.

Question: Why isn't a crosswalk historic? Who do I send a letter to? SHPO?

Response: You can send a letter to the Federal Highway Administration (FHWA). SHPO wants crossings at the end of blocks. This is considered a legal crossing, and the safest place to cross. ADA compliant means the crossing and connecting sidewalk has ramps.

Comment: The top issues I see are:

- Pedestrian/bike access
- SR 80 – Arizona Highway is one lane. Concerned about ability to merge, but nice to have two vehicular lanes.
- Few people going 45 mph
- SR 92 – turning lane – don't remove bike lanes
- Between pit turn off and Lowell, no crosswalk between existing sidewalk
- Would like Old Divide Road back in service

Question: Traffic circle improvements disregarded bikes. The traffic circle is quite wide – could segment circle for bikes?

Response: Two lanes of traffic currently exist through the traffic circle. Speed in traffic circle can be a problem with adding a bike lane.

Comment: Enforce the speed limit at the traffic circle

Response: City and County put TIGER grant together for a bike and pedestrian plan for the entire area. This would need to be wrapped into a large bike transportation study.

Comment: SR 80 and SR 92 was chip sealed to the edge of the shoulder. This road is now unusable because of 3 inches of gravel; resulting in no place for bikes.

Comment: Pit into Old Bisbee, there is only one sign for exit only. There is only a short distance for lane change. There needs to be additional signage in this area.

Comment: See restriction of jake brakes in other communities. These communities use signs restricting their use.

Response: There is a sign outside of the tunnel.

Comment: Must be a small sign. Need a bigger sign. Rubberized asphalt has also helped reduce noise in a number of communities.

Response: Additional signage would be part of the wayfinding/information recommendation. For example, additional signage could be placed before the traffic circle.

Comment: On the steep grade, it's hard to not use jake brake. The driver would need to shift down several gears.

Response: This issue has come up in several other communities. Other communities are also concerned with signage. Trucks don't brake due to sign. ADOT has unlimited liability on state highway system. Drivers could sue ADOT if non-breakaway items in State right-of-way.

Comment: I appreciate your efforts. You have captured my issues, including: parking, pedestrian/bicycle, sidewalks, crossings, bus to Sierra Vista, and reopening Old Divide Road.

Question: What is the condition of the tunnel? It was built in 1958.

Response: Will need to check of the status of the tunnel's inspection. ADOT's bridge inspection process happens every two years. The tunnel would be part of this inspection process. Technically, the tunnel is outside the study area for this project.

2:30 p.m.-3:30 p.m.
Bisbee Senior Center
300 Collins Road
Bisbee, Arizona

Comment: Concerned about safety around pit area on sidewalk. People in vehicles cannot see pedestrians. Hard to walk through Lowell to Old Bisbee.

Comment: Freeport-McMoRan's improvement project limits lanes. It hasn't been too bad. Perhaps we can reduce number of lanes and expand sidewalks? Would like to see Old Divide Road reopen. There is no access without tunnel. Rain will erode land.

Comment: In Bisbee the stairs are like trails. Some trails are on private property (e.g., Freeport-McMoRan). For visitors, we need stairs improved and marked more clearly.

Question: Will you be recommending eliminating driveways?

Response: Access management is a balancing act. One of our recommendations will be to conduct a safety study. Roads haul traffic but also provide property owners legal access to homes and businesses. This is a difficult subject, especially for businesses. As redevelopment occurs and growth happens, property gets redeveloped. City can make sure to improve access.

Question: What can ADOT do about the community's roads and trails?

Response: Federal surface transportation and enhancement funding can be used through the SouthEastern Arizona Governments Organization's. ADOT works with regional partners and municipal planning organizations to share revenues and taxes, such as Highway User Revenue Funds [HURF]. Local projects can receive funding if classified appropriately for federal/FHWA funding.

Question: From the bottom up?

Response: Yes, Bisbee applied for this study.

Question: I've lived in Phoenix and am familiar with rail. On the Bisbee bus pamphlet from 2009 – the bus stop locations in the brochure aren't available. Why not show them on the brochure? Need to update brochure.

Response: Cuts were made to services and routes due to financial cuts. Money was moved back under the general fund. The Bisbee bus is one example of cuts.

Comment: No higher learning opportunities in Bisbee. Higher learning is not available if I do not drive. Can this be addressed as part of this study?

Response: Yes, we looked at this as part of the Working Papers. Transit is subsidized, and an expensive service to operate.

Question: Who financed the bus to Sierra Vista?

Response: This was a collective effort between the Community College, Bisbee, and Sierra Vista. The service was funded under the Section 5311 program for rural transportation.

Comment: Bisbee is a good place to retire. Take bus to Social Security, etc. Gary and Richard are great drivers but both got written up on the same day. Drivers very upset.

Comment: Want to know more about Bisbee Bus. Bus can stop if waved down, before only designated stops.

Response: I'm not officially associated with the bus but it is an important social and community asset.

Comment: Concerned about office politics and bureaucracy. What is the status of the purple bus?

Response: The purple bus, also known as the Cochise Commuter, was funded through a federal transit program that required a local funding match. State transit funding (LTAF) was eliminated reducing available local match dollars and as a result the local jurisdictions decided to terminate the commuter service.

5:00 p.m.-6:30 p.m.
Cochise County Complex
Board of Supervisors Hearing Room
1415 Melody Lane Building G
Bisbee, Arizona

Comment: Why put a road at the back of Safeway while people up on mountain have to pullout on SR 80. There is speeding on SR 80. There is also an area where you need to make a 360 degree turn on the road. SR 80 is also heavily used by truckers. It seems you are not concerned about us – more concerned about Naco Highway.

Comment: There were icicles in the tunnel this winter. There is no alternative to the tunnel. The tunnel should have been closed, and this is a dangerous situation. ADOT says there is no water in the tunnel but there is. Black ice also exists in the tunnel. Many people have been killed. ADOT will get sued. Need to open Old Divide Road.

Comment: Suggest a sidewalk in the tunnel.

Answer: Study is for the City of Bisbee

Comment: ADOT does a bad job on work adjacent to the highway. No weed wacking should occur prior to welding work. ADOT crews don't work safely and I don't like it.

Response: We will incorporate into the plan the **c**omments heard through stakeholder interviews and all four public meetings held today.

Comment: Need to put Old Divide Road as a top priority.

Comment: The SR 80 right turn bay has an uneven surface and a short distance/length at West Boulevard coming down toward the bottom. Cars are lucky to get out. The off-ramp/on-ramp needs to be examined at the Old Bisbee Road/Pit Area. The posted speed limit is 45 mph with people going 60 mph and with no speed enforcement.

Comment: Why did the state get rid of the speed radar vehicle?

Response: This was a local enforcement option. We can include a recommendation in the report to reinstate. We can also recommend the tunnel be closed during winter weather events by the local jurisdiction. Photo radar can be controversial in a tourist community. Star Valley has four in 1.5 mile area. They are currently unsure if they are covering their costs. The issue revolves around revenue versus speed control.

Response (Tom Klimek): The photo radar in Star Valley was done for safety reasons, and to try to slow cars down. Lighted traffic speed signs showing "your speed is…." Also helps wake people up and advise them of their speed. Is it possible to use in Old Bisbee area, where there are pedestrian safety issues. Need to consider passive versus active signage. A wake-up call is beneficial for drivers, especially in down hill areas. We could also possibly consider the use of rumble bars. The City is currently considering rumble strips on Arizona Street near Warren bypass.

Question: How dangerous are rumble strips to bikes?

Response: Rumble strips are not suitable for bikes and motorcycles. Pavement grooves are fine on motorcycles. We are looking for ways to alert drivers when entering communities. SR 87 has pavement grooves. Tom Klimek expressed that he does not like the domes painted black (outside Sierra Vista). Tom stated that he prefers colored domes.

Comment: Please ask the Police and Sheriff to stop speeding. The Border Patrol has also been seen driving at 40 mph around the pit.

Question (Tom Klimek)**:** Has this come out of other PARAs?

Response: Yes, speeding has been an issue identified on other PARA projects. Not aware of police speeding identified as an issue on other PARAs. Neighborhood block watch can help implement speed limits. The City of Phoenix has a program for neighborhoods to request speed bumps for cut-thru traffic minimization. The City teams with neighborhood associations for implementation. Lights and paint reflective devices can also help.

Comment: Eloy is known for their speed traps.

Comment: Cars are sliding off the road to the right and hitting the light pole at the first off-ramp after the tunnel. SR 80 is super elevated.

Comment: This is how the fire was started – repairing the light pole.

Question: Concern regarding the proximity to hospitals. You can either go to Tucson, or take the shuttle from Douglas to Phoenix. Can they partner and show times the bus is coming to the Lyric. Need to have a phone number to call and have stops in Tucson, Phoenix, and Bisbee. There used to be a shuttle that was very nice that went through One World Travel. Unfamiliar with current bus times.

Written Comments

Twenty-three comment forms were received following the public meetings. The tables below summarize the input received. In addition, three e-mails were received regarding the study.

What are your top three transportation issues in and around the Bisbee area?

Issue	Comment
Number 1 Transportation Issues	
Old Divide Road	Repair Old Divide Road – safety issue
	Repair Old Divide Road, Upper West Boulevard. This road needs to exist. If the tunnel had problems it is an alternative. For me to go through the tunnel and come back is longer and more dangerous. Willy Enriquez died because of the road closure.
	Old Divide Road is also the scenic drive into town
	Need another access out of Bisbee
Maintenance	Repair of Warren Street intersecting Arizona Street
	Retaining walls in poor condition, they support streets
	General condition (poor) of street bridge infrastructure

Issue	Comment
	Deteriorating streets
Pedestrian and Bicycle Improvements	More pedestrian and bike path facilities/lanes
	Accommodate bike and pedestrian needs
	Sidewalk and/or bike lanes around the pit (Highway 80)
	Trails
	Stairs in Old Bisbee need repair, and are "streets" to residents
Safety	Speed control on Highway 92 – by the police station – around the pit
	Safety – my family lives on Juniper Flats Road (above the tunnel) and we are now forced to enter and exit Highway 80, west of tunnel. It is a very unsafe turn.
	Pedestrian/bike safety between Old Bisbee and Lowel on Highway 80
	Repair Moon canyon to Adams to Laundry Hill Road needs railing for safety and walking
Other	Transportation to Tucson and/or Phoenix
	Lack of funding for road repairs
Number 2 Transportation Issues	
Naco Highway and SR 92	Establish left turn access on SR 92 and Naco Highway
	Work is needed. It is light enough for pedestrian to get to the bus
	Naco Highway should be a state highway to border crossing
Signage	Old Bisbee signage
	Better signage at traffic circle. People still don't know to yield. Put up bigger yield signs. The pedestrian signage is more prominent than the yield.
Other	Evacuation of Old Divide/Bisbee
Number 3 Transportation Issues	
Transit	Regional transit connectivity
	Bus service maintains very nice bus drivers. Too many chiefs, not enough Indians.
	Bus service to Sierra Vista and Douglas
	Get a better way of talking to the bus drivers by the front office. Provide the bus drivers with more information on upcoming changes instead of calling them while on route.
Traffic/Speeding	Old Downtown Bisbee traffic routing
	Routing regional traffic through AZ Street/Warren
	Speed in Old Bisbee and around Lavender Pit
Other	Coordinate driveways at roundabout, Highway 92 and Naco Highway
	Parking in downtown (old) Bisbee

Issue	Comment
	Airport Road

What type of pedestrian facilities would you like to see in your community? These include facilities used for non-motorized transportation such as walking and biking, and new shared-use pathways, trails, sidewalks, public stairs, etc.

Issue	Comment
Safety	At the present time it is unsafe to ride a bicycle or walk around the pit
	Protect bike lanes between parking and sidewalk, i.e. parked cars
	Protect bikes from traffic
	Ability to safely walk and bike between Bisbee, Warren, and San Jose
Parking	Parking information for tourists and residents in both Old Bisbee and Warren Districts
	More handicapped parking marked on Brewery Gulch
Maintenance	Our stairs are in horrible shape. Some are the only access people have to homes. More sidewalks repairs and biking paths.
	Yes – Laundry Hill stairs need lights, work, and cleaning
	Repair sidewalks and stairways
Pedestrian and Bicycle Improvements	Well marked pedestrian lanes – in Lowell on Highway 92 and Naco Highway
	Bike paths – there are none now
	Need sidewalks in San Jose – only one is at Ace Hardware
	Shared bike and pedestrian walks throughout Bisbee, San Jose
	Well marked pedestrian lanes – in Lowell on Highway 92 and Naco Highway
	Need more ways to walk or bike in Old Bisbee and Greater Bisbee
	Improved walkways along highway
	Trails interconnecting major neighborhoods
	Make a pedestrian walk up West Boulevard to the Divide. This is a favorite Bisbee walk; it's very beautiful!
	Bike and walking path around pit to connect Old Bisbee with Lowell, Warren and San Jose
	Make tunnel into Bisbee 2-lane, put in bicycle paths

What is the number one transportation problem in the community that you feel needs to be addressed?

Issue	Comment
Multimodal Options	Continued support for Bisbee Bus
	Pedestrian/bike safety between Old Bisbee and Lowel on Highway 80
	Getting to Naco, Douglas and Sierra Vista without a car
	Getting around Bisbee and down to Naco or to Palominas without using a car
	Bus to Sierra Vista
	Lack of public transportation to Sierra Vista and Douglas. One or two times a day to each way would be nice.
Safety	Speed control on Highway 92 – by the police station – around the pit
Old Divide Road	Repair Old Divide Road (What would have happened if the propane truck accident had occurred in the tunnel, instead of 1 mile west?)
	Old Divide Road – pulling off 80 beyond tunnel is a 360 degree turn with traffic going way too fast
	Access to Old Divide Road
Funding	"Funding" for local streets, retaining walls, staircases and tourist parking areas
	Lack of funding for regular road repairs
	Not enough HURF to maintain, much less improve
Maintenance	Pavement maintenance and repair
	Failing streets throughout the community and old retaining walls
Parking	Parking in Old Bisbee. How about using vacant lots?
Laundry Hill	Laundry Hill stairs and road
Naco Highway	Naco Highway #1 problem
Regional connections	Transportation to Tucson and/or Phoenix

Do you think that public transportation options, such as local or regional bus service, are important to you and your community? What local or regional destinations would you like to see served by public transit?

Issue	Comment
Transit to Sierra Vista, Douglas, and/or Naco	I would like to take a bus to Sierra Vista – but it isn't mandatory – a good option for disabled and elderly
	Naco, Douglas, Sierra Vista
	Nearby cities
	Bus is important. Transportation at least two days or two a week to Sierra Vista would be great. Going to Douglas not as important.
	Continue Bisbee Bus and re-establish Cochise Commuter
Transit to Phoenix/Tucson	Day trip to Tucson
	Regional transit NEEDS to come back to Bisbee
	There is a shuttle with regular schedule from Douglas to Phoenix. I would like to see a bus stop in Bisbee from this shuttle with a time schedule and a phone number with stops in Tucson and Phoenix.
	Yes – Tucson and Phoenix airports
Multimodal Options	Public transportation needs to include bicycles
Additional Bus Stops	Yes, very much so. Would like to see this expanded to intra-city.
	Bus stop at Tin Town for the shelter – need a designated stop there, move from less needed stops
	Laundry Hill Road
General Comment	Will become more important with rising gas prices and aging population
	The bus is great!
	Bus service is very good
	Transit is vital for citizens who have no other means. There is a pretty large number of these folks.
	No direct interest – I live on top of tunnel where it is not practical for bus service – especially with Old Divide Road is closed

Additional comments

Issue	Comment
Bicycle Lanes	Do not degrade existing bike lanes when improving Highway 92 turn lane
Transit	Bisbee bus needs to be extended up to the Old Bisbee High School for access to HUD (Housing Authority) Program and Probation Office. The walk is very steep and almost impossible for some people. Current bus drivers are outstanding and deserve commendations.
	Please help us get out of town with a regularly scheduled bus, like the shuttle from Douglas. We can get on the shuttle but need to call and no regular place to board and get off.
Eliminate Lanes/Access	Eliminate two lanes when entering Highway 80 from downtown Bisbee
	Eliminate driveways on SR 92 and Naco Highway
Parking	More parking downtown would encourage more area residents to come downtown
	Parking, parking, parking
Connections to Old Town	I don't feel connected to Old Town
	Your "connectivity" ideas are fine but not high priority EXCEPT in our (those living on Old Divide Road and Juniper Flats) case. Our only access to downtown and from downtown is the very dangerous egress and ingress to and from Highway 80 coming out of tunnel to the northwest.
Safety	People drive too fast and there is no local enforcements of speeds
	Speed bumps in Old Bisbee to slow down traffic would be helpful
	Fix our road. It is the only way around the tunnel when it is unsafe – accident/mudslide/black ice/icicles.
	Need lighting at traffic circle to find turn-off to the Safeway – very dark in San Jose
	I've almost been hit several times by people not yielding to the circle. The gas station does not open directly onto the circle. It's right after the circle.
	It appears the cross grade or Highway 80 is off east of tunnel. Vehicles are constantly going off road to the south, into light poles, etc. This was the ultimate cause for the fire which led to the flooding which closed Old Divide Road.
Funding	We all need more funding and appreciate your hard work and study.
Meeting Request	Please come to CODI meeting – Bisbee – 2nd Wednesday of month, Tuesday – Lisa Marra for information

Issue	Comment
General Comment	An old town with old habits – this meeting discussed possible solutions
	Both ADOT and WilburSmith are doing an excellent job on this project
Other	ADOT is trying to duck out of responsibility for repairing Upper West Boulevard. How long is the court going to take? It has been two years already.
	Appreciate you sharing the study findings.

E-mail Comments

Date Received	Comments
June 12, 2011	• Lives in the San Jose district, and has been pressing unsuccessfully for years to get the city and/or ADOT to address the complete lack of pedestrian access to the Safeway complex from the residential districts to the north; in particular the Don Luis district directly north of Safeway, which is inhabited mainly by Hispanic families who are not inclined to complain (in marked contrast to Old Bisbee). • At present, only one legal, and no safe way, for non-vehicular traffic to cross Highway 92. Period. • The only legal way to cross is at the stop light/crosswalks at the corner of 92 and Naco Hwys; but the light is so short that it turns red and traffic begins before a pedestrian can get more than halfway across. • At the least, there should be a traffic island at the halfway point, so pedestrians can make the crossing in two segments. • There really needs to be another crosswalk at the exit from Safeway onto 92, which is where pedestrians, wheelchair people, etc. generally attempt to cross. • Having lived in Old Bisbee for a dozen years, and San Jose for eight, I can say that this is THE most serious transportation issue in Bisbee • Highway 92 is 4 lanes, no shoulder and no sidewalks, with an additional center/left turn lane, with traffic coming in from all sides. • Concern expressed regarding pedestrian safety • The posted speed limit is 45 [mph], but people routinely go faster. I have spoken at length with city councilmembers, who feel completely stymied by ADOT, which owns the highway. • So at the Charrette a few years in San Jose, I met an official

Date Received	Comments
	from ADOT and explained my take on this issue. He agreed it was important, but was of the opinion that it would be addressed when they widened the entire highway to the Traffic Circle in Lowell (!) o Given current budgetary problems in this state, this may be many years or never. o We don't need a wider highway; indeed, the Charrette was mostly run by professional city planners telling us we should narrow the highway, which in my mind would be ideal. Then traffic could be slowed down, 92 would be safer and much more attractive, and businesses along that stretch of highway would prosper. As it is now, this section of 92 has more fatalities than the rest of Bisbee put together. • Sidewalks on Main St. in Old Bisbee are important, but we're talking about two narrow lanes, with traffic moving at 15 mph. In San Jose we have 5 lanes to cross, no way of crossing it that is both legal and safe, with vehicles routinely going in excess of 45. Please ask ADOT to address this issue before more people are killed!
June 12, 2011	• I would like to draw attention to Naco Highway, which connects Highway 92 to Naco and the border. • It is a wide 4 lanes, has thin traffic (moving in excess of 45 mph) with plenty of room for a shoulder, but no shoulder demarcated, no sidewalk -- it really is a hazard to the pedestrians, bicyclists and wheelchair people who use it. • A fix would be extremely cheap and easy. Where the highway leaves the city and enters County jurisdiction, there is a painted line marking out the shoulder. • The city and/or county could merely continue this line along the roadway inside city limits, marking where the paved shoulder is. Once lines are painted to mark the shoulders, non-vehicular traffic would feel much safer and more confident in using Naco Highway as a byway.
June 16, 2011	• The only way to get from one part of Bisbee to another is to get on Hwy 80 or 92. • A lot of people walk or bicycle. • People in electric wheel chairs and scooters -there is currently no place for these people to travel on major sections of the road and, because they have no alternate routes, there are dangerous situations. • Need joint use paths. There are some old RR beds that could be incorporated with some trails and used for this purpose. • Significant amount of international traffic through the traffic circle.

Date Received	Comments
	• Hwy 92 has two lanes of traffic feeding into a single lane in the circle. This is ill-considered and extremely dangerous. • Signs at the circle cause confusion for residents • There are a lot of near misses because of the lane and sign issues. Surprised there hasn't been more accidents.

Response to Meeting Survey

Thirteen meeting surveys were received following the public meetings. The table below summarizes the input received:

Question 1				
	Newspaper notice	**Word of mouth**	**Poster**	**Other**
How did you hear about this public information meeting?	0	3	2	• Neighbor • PARA grant team member • E-mail (Clerk, Chamber of Commerce) • Web site (Chamber of Commerce) • BINGO

Question 2	
	Responses
Are there any other ways that you would like to be notified of the meetings?	• Through the city • Newspaper (Bisbee Observer) • Social Media (Facebook) • News at Safeway Market • Email • Bisbee radio

Question 3	
	Responses
Did you have any problems hearing the presentation or understanding the material?	• No (10 responses) • Yes (1 response)

Question 4					
	Responses				
On a scale of 1 to 5, did this meeting help you understand the study?	**1 – not helpful**	**2 – some-what helpful**	**3-helpful**	**4 – very helpful**	**5 – extremely helpful**
	0	2	1	6	1

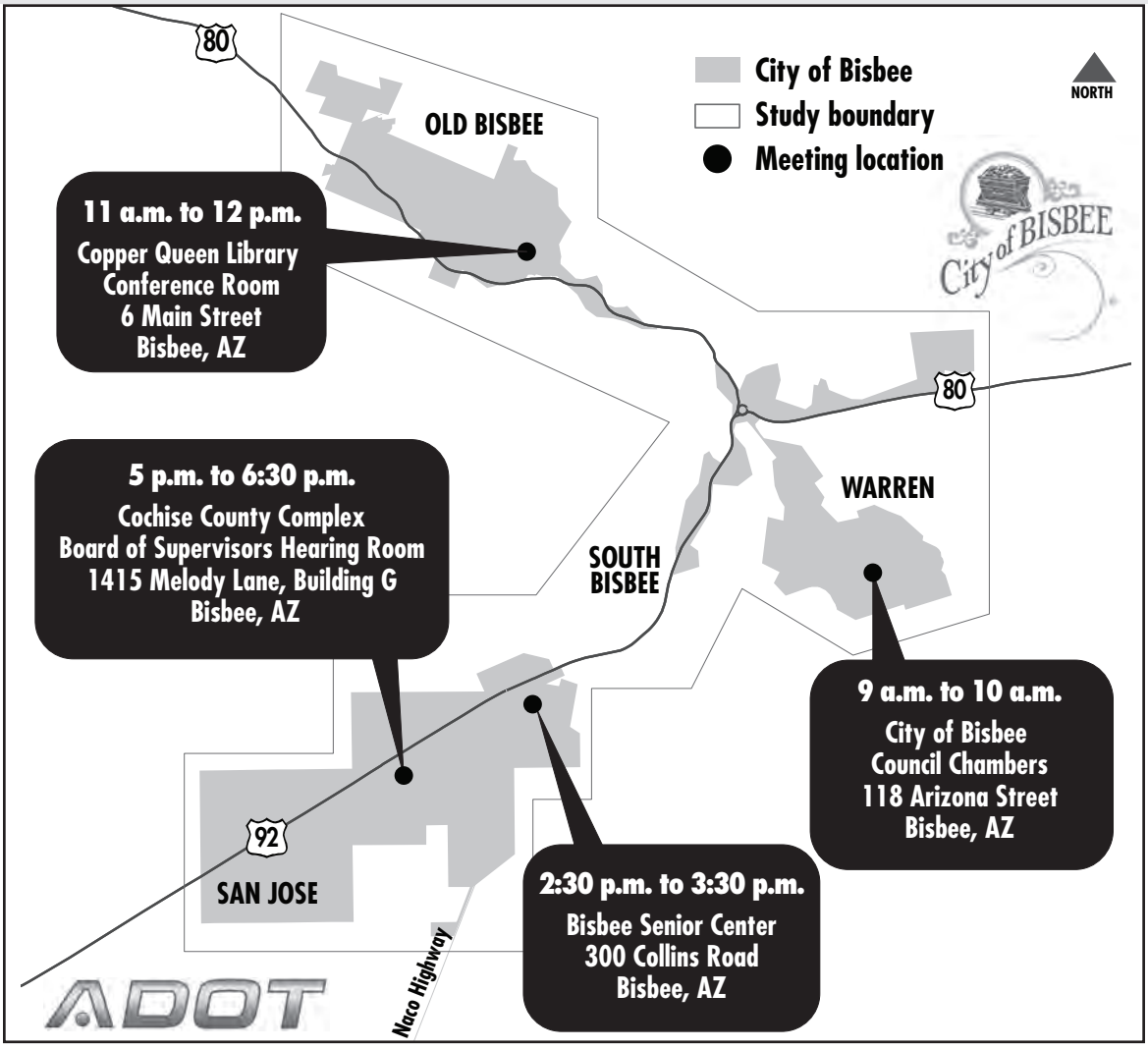
Appendix: Publicity and Meeting Materials

WE WANT YOUR INPUT

on the

City of Bisbee Comprehensive Transportation Plan

Join us at one of our meetings Thursday, June 2, 2011



The Arizona Department of Transportation and the City of Bisbee are working to develop a Comprehensive Transportation Plan that addresses improvements to streets, bridges, sidewalks, public stairs, shared-use pathways, transit, public parking and transportation-related drainage facilities throughout the study area. The purpose of this study is to create a planning document that recommends improvement projects over five, ten and twenty-year planning periods.

Please join us at one of the public meetings where you can learn about the study and help identify areas where improvements are most desired and needed. Your input will help develop the plan and shape the future of transportation in your community.

A presentation will be provided at each meeting, in addition to study maps and information. The study team will also be available before and after the presentation to answer any questions.

Persons with a disability may request accommodations, such as a sign language interpreter or alternative document formats, by calling 602.522.4346 or by faxing to 602.522.7707. Requests should be made as early as possible to allow time to arrange the accommodations.

For more information contact: C.T. Revere, ADOT Communication and Community Partnerships, at crevere@azdot.gov, or 520.705.3574, or visit http://mpd.azdot.gov/MPD/Systems_Planning/bisbee.asp

If you wish to comment on the study, please send your comments to Heather.Honsberger@hdrinc.com or call 602.522.4346. Please provide comments by June 16, 2011.

WE WANT YOUR INPUT

on the City of BISBEE

Comprehensive Transportation Plan

The Arizona Department of Transportation and the City of Bisbee are working to develop a Comprehensive Transportation Plan that addresses improvements to:

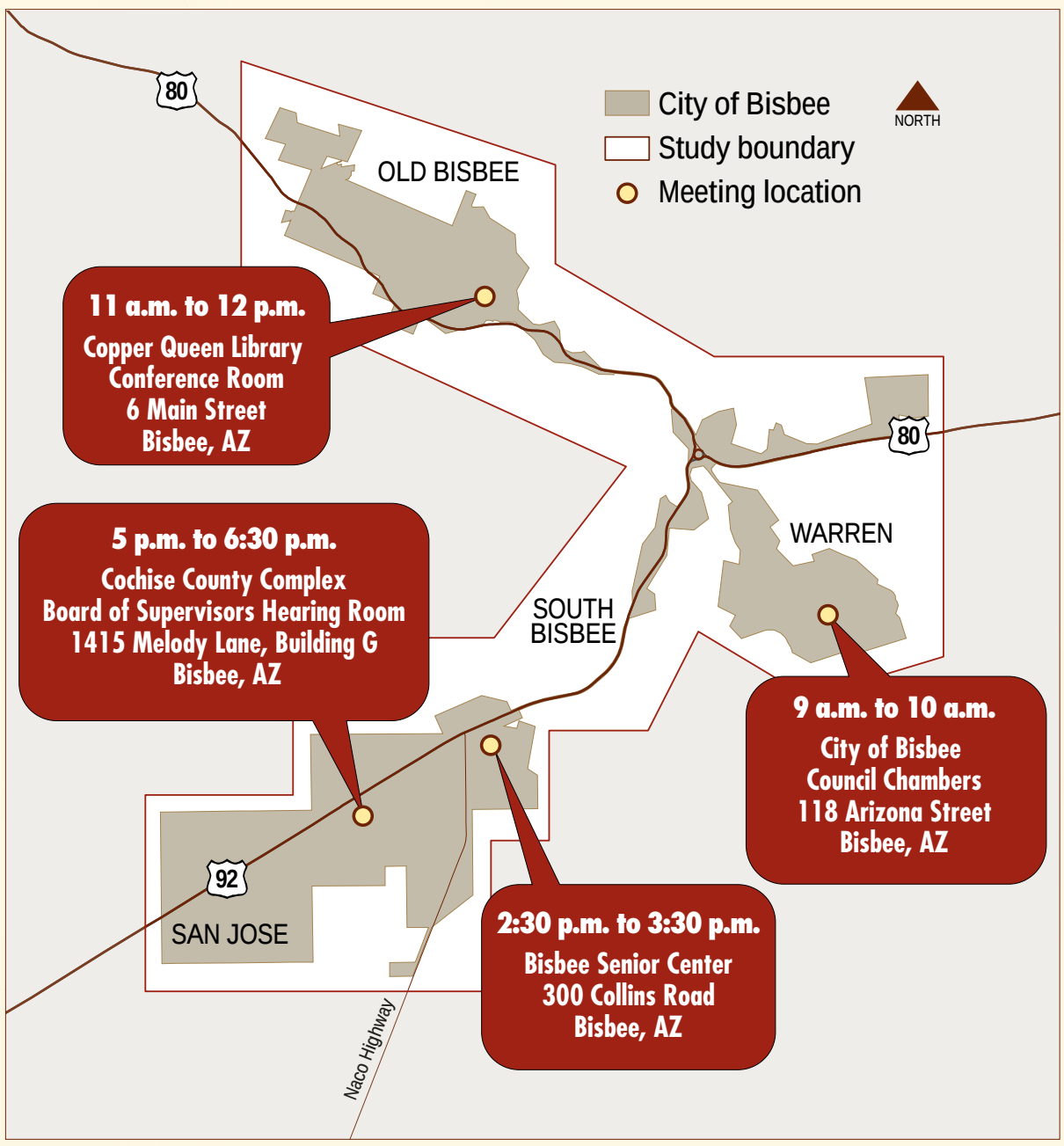
- streets
- bridges
- sidewalks
- public stairs
- shared-use pathways
- transit
- public parking
- transportation-related drainage facilities

The purpose of this study is to create a planning document that recommends improvement projects over five, ten and twenty-year planning periods.

JOIN US

THURSDAY, JUNE 2, 2011

A presentation and study information will be provided at each meeting.



The study team will be available before and after the presentation to answer any questions. Your input will help develop the plan and shape the future of transportation in your community.

ADOT

For more information contact:

C.T. Revere | ADOT Communication and Community Partnerships

Email: crevere@azdot.gov

Phone: 520.705.3574

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Arizona Department of Transportation and the City of Bisbee
COMPREHENSIVE TRANSPORTATION PLAN
Public Meeting Summary

Meeting Date: Thursday, October 27, 2011

Meeting Locations & Times: Bisbee Council Chambers, 118 Arizona Street, 5:30 p.m.-7:30 p.m.

Participants: 18 community members attended

Project Overview

The City of Bisbee, in conjunction with the Arizona Department of Transportation (ADOT), is conducting a comprehensive transportation plan study under the ADOT Planning Assistance for Rural Areas (PARA) program. The PARA program provides federal funds to non-metropolitan communities for the purpose of conducting transportation planning studies. The principle purpose of this study is to develop a Comprehensive Transportation Plan that addresses improvements to streets, bridges, sidewalks, public stairs, shared-use pathways, transit, public parking and transportation-related drainage facilities throughout the study area. The Comprehensive Transportation Plan will recommend improvement projects over five, ten and twenty-year planning periods.

Public Meeting Notification

The City of Bisbee and ADOT held a public meeting on October 27, 2011, at the location noted above. The following methods were implemented to notify the Bisbee community of the public meetings:

- Printed newspaper advertising on October 13, 2011 in the *Bisbee Review/Sierra Vista Herald* and on October 20, 2011 in the *Bisbee Observer*
- Provided 30 notification posters to the City of Bisbee on October 14, 2011 to post at community gathering places
- Distributed information to elected officials and the media on October 14, 2011

Public Meeting Overview

At the start of the meeting, C.T. Revere, ADOT Communication and Community Partnerships, welcomed meeting participants, recognized elected officials in attendance, and introduced the study team. C.T. explained the format of the meeting and the methods to provide comments. Randy Overmyer, Wilbur Smith Associates, provided a presentation regarding proposed improvements. Other ADOT study team members in attendance included Mark Hoffman, Paki Rico and Kathy Boyle. Below is a summary of the question and answer sessions held following the presentation:

Question and Answer Session Summary

Question(Q): Can you explain what “failed roadway” means?

Answer (A): A failed roadway can't be fixed via bandaid. We would need to take the road down to the subsurface, remove the blacktop, and start over. Essentially, the road would need to be reengineered and can not be patched.

Q: The $2.2 million for regional transit, is this Bisbee's portion of the cost estimate or the total?

A: This is the total cost, and includes the operational cost.

Q: Have you analyzed both private and public walls in Old Bisbee?

A: The team inventoried public walls as part of this study.

Q: Are you looking at alternative modes, such as multi-modal paths?

A: Yes. Transit is also included, as its own category. We have proposed sidewalks, bike paths, and shared-use facilities. These facilities are easier to build correctly the first time. Unfortunately, Bisbee doesn't have a lot of room on existing roads.

Q: The largest percentage of failed roads is in Old Bisbee. How do we improve these with the aging retaining walls? Concern expressed regarding the use of heavy equipment in Old Bisbee.

A: A menu of projects will be recommended in the final report. This menu will contain a variety of projects. We may not know everything under the roads today. ADOT programs specific projects that will need to go through the Preliminary Design and Final Design process. We realize the need to complete projects together – roads and staircases together (as an example).

Q: The cost factors are unknown?

A: Yes, these are grouped costs. We have not individualized specific project costs. Engineering costs will be significant and critical to refining cost estimates.

Q: Question regarding parking in Old Bisbee. At the interchange with State Route (SR) 80, there is a large amount of space from the highway near the Queen Mine tour. Property might belong to the City. Could we site the parking in the right-of-way?

A: That is a possibility. We look at the interconnection between projects, such as the relationship between parking and public transit. As retail and employment expands, we may need additional parking and interconnections with bus service (e.g., shuttle service). There's not a lot of empty acreage in Old Bisbee. We may find out-of-the box opportunities. Bisbee is popular place. Our preliminary focus may be on retail areas, to capture the economic development opportunities.

Q: $12 million has been identified as the estimated cost to widen SR 92, is there a serious growth projection causing an increase in traffic? Suggest the initial priority should be median beautification and landscaping along SR 80 around the pit. Do not widen to four lanes.

A: Traffic models show growth in the future, not catastrophic, but more than 7,000 vehicles per day. Currently, there are no right turn lanes, median or center turn lanes. Turns are stopping thru-traffic.

Comment (C): Safety would be the main priority.

A: There's growth in Douglas, Sierra Vista, and south along SR 92. Widening may not need to occur in next 5-10 years, but let's watch it.

C: Cochise County carries a higher percentage of freight trucks than other counties in the state due to the proximity of the two port-of-entries.

Q: SR 92 at School Terrace Road is a race track. Turn lanes at Taylor Drive all the way to Safeway. Requests a median in that section of road.

A: Recommending a safety and management access study of SR 92, with oversight from ADOT. We need to look at the long-term issues.

C: Would like to see bike lane (in asphalt) from Safeway to the traffic circle. Get bikes off the sidewalk in this area.

Q: How do future studies for state highways get started?

A: Strongly suggest locals take initiative. These are tough economic times. The City, County and ADOT do not have the money. But they are completing the planning process and identifying projects, so in the future they can request funding to meet the identified needs.

SouthEastern Arizona Governments Organization (SEAGO) meetings are held on a monthly basis. The City has also identified their needs. We will use this study to bring projects forward. The Statewide Transportation Improvement Plan (STIP) is a five-year program that is federally required capital improvements program. SEAGO develops the TIP for region, and ADOT prepares the state-wide program. Funding for projects can also come from:

- federal money that comes back from other states (unused)
- other Arizona projects that "hit the skids" and can't move forward
- alternate projects that are moved forward

Overall, it's good to have projects identified in case funding becomes available.

Q: Like the idea of a road from Arizona Street to Safeway, since there are under-used buildings in the area.

C: There was a road, but the mining company shut it down.

C: Need to examine multimodal opportunities for safety reasons, and separate commercial traffic. This would improve our quality of life. There are multimodal paths in Sierra Vista. I see more people moving/walking around. In addition, the costs you have for walls might not be correct. We need more advocates for multimodal transportation.

A: Two retaining walls are failing. The rest of the walls have 8 to 10 years left. We can't do a patchwork job. Interconnected projects need to be completed together.

Q: Visitors that come from the east don't get a good impression. It doesn't look good to see the pit. Visitors don't get the effect until they reach Old Bisbee. We need beautification on SR 80 to improve the visitors' experience.

A: We could possibly add an aesthetics category. Would need to talk to City of Bisbee and ADOT.

C: Does the report address the concerns and issues regarding the tunnel/Old Divide Road? Don't want this forgotten.

A: Yes, we have mentioned it.

County Supervisor Response: The State has removed this project from their agenda. They provided a check, but it isn't enough to return the road to two-lanes. Individual discussions have taken place with the County Board of Supervisors. We may possibly need to install a lock-gate with a one-lane road. There is not enough money for a two-lane road. Perhaps a multimodal path with gates is an alternate solution, if there's an emergency in the tunnel. The intention is to bring it back to one-lane for pedestrians, bikers and emergency vehicles.

C: We need public transportation from Douglas every day. Bisbee should connect to this system. Need schedule or bus stop.

A: Bridgewater Bus used to run buses between Douglas and other cities. Private for-profit buses can go out and run a bus. The State doesn't regulate these buses. We hear this from other communities. Is it possible to have shuttles leaving Douglas every 30 minutes? If they could pick up people, they would. They want to make a profit. Recommend contacting bus companies and express your interest.

C: There are lots of pedestrians on the highways. Highways are the only way to get from one part of town to the next. People start walking at 7 AM. There is more growth on Naco Highway, since there are three shifts a day at the port-of-entry. County yard is also in this area. There are too many pedestrians on road with no where to walk. The white stripe [shoulder] isn't enough, pedestrian are still on the road in the travel lane. The roads are fairly unsafe due to the number of pedestrians.

A: Thank you all for your comments. We appreciate your participation and input.

Written Comments

Nine comment forms were received during the public meeting. The tables below summarize the input received.

What specific improvements would you like to see completed in the next 5 years (short term)? These would be the projects you feel as most important.

Short-term improvement projects
• Naco Highway/SR 92 intersection • Melody Lane • Wayfinding, clarity of signs including at the interstate to Bisbee, the County seat • Consider a historic roadway design cross section • Consider a dirt road standard. Chip seal is not the only pavement surface out there. • Signs at both entrances of the tunnel approaches warning motorists to turn their lights on upon entering • Pave and repair streets that are not visible to tourists and passersby. Some [streets] are not, and never have been paved. Others like Hazzard Street are less than 8' wide. • Quality of life for residents to get to Tucson or Phoenix to hospitals and airport • Partner with the shuttle from Douglas with an English-speaking phone number, schedule, and bus stops • Local roadways (2) • Retaining walls/stairs/rails/structures (2) • Parking structures • Traffic study on SR 92 • Street repairs and improvements (2) • Engineering for some failed roadways or retaining walls • Walkway on SR 92 • Parking • State highways • Alternate modes • All streets rated fair or poor • All infrastructure (walls, stairs, and drainage) • Signage

What improvements would you like to see completed in the next 10 years (medium term)?

Medium-term improvements
• Highway 92 and 80 improvements • Transit program • Retaining walls and stairs in Old Bisbee rebuilt • Local and regional transit service, parking, inter-modal transportion • Plan for reconstruction of public stairs, get the artists involved in the railings • Acquisition of rights-of-way, especially higher level roadways

What improvements would you like to see completed in the next 20 years (long term)?

Long-term improvements
• As listed in meeting • Cell infrastructure projects completed • State highway, alternate modes, new roadways • Check cost on your retaining wall estimates, $3,000/ft.?

Response to Meeting Survey

Eight meeting surveys were received following the public meeting. The table below summarizes the input received:

Question 1					
How did you hear about this public information meeting?	**Newspaper notice**	**Word of mouth**	**Poster**	**Other**	
	1	0	1	• S&I Committee Meeting • Box checked, but undefined • Email notice • Council Meeting • Email from ADOT • Posting in City Hall, Public Works Department • TAC and ADOT email public notice	
Question 2					
Are there any other ways that you would like to be notified of the meetings?	**Responses**				
	• No (2) • Email • Works for me. Did you post on the Post Offices in Bisbee?				
Question 3					
Did you have any problems hearing the presentation or understanding the material?	**Responses**				
	• No (6 responses) • As a person with hearing difficulties, I heard the presentation perfectly. I enjoyed the presenter. He was able to speak at our level. • I understand the part that we don't have enough money to do what the public wants!				
Question 4					
On a scale of 1 to 5, did this meeting help you understand the study?	**Responses**				
	1 – not helpful	**2 – some-what helpful**	**3-helpful**	**4 – very helpful**	**5 – extremely helpful**
	0		4	3	

Appendix: Publicity and Meeting Materials

WE WANT YOUR INPUT

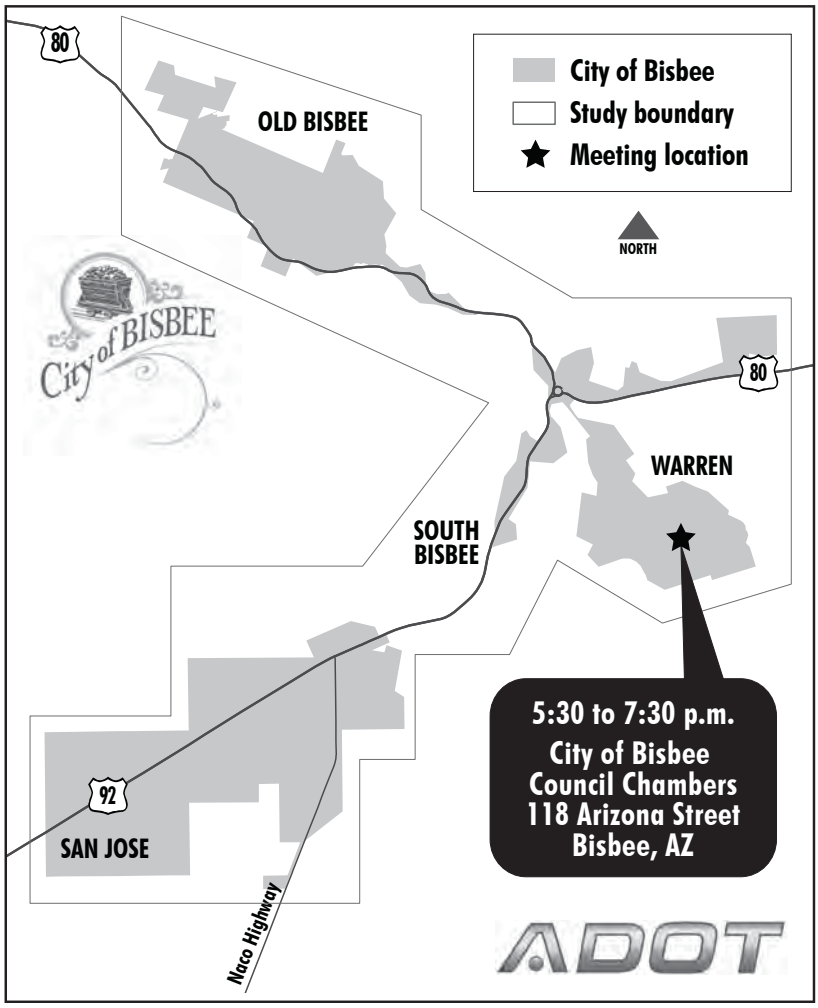
on the

City of Bisbee Comprehensive Transportation Plan

JOIN US ON
Thursday, October 27, 2011
5:30 to 7:30 p.m. | Presentation at 5:45 p.m.

The City of Bisbee and the Arizona Department of Transportation are working to develop a Comprehensive Transportation Plan that addresses improvements to:

- streets
- bridges
- sidewalks
- public stairs
- shared-use pathways
- transit
- public parking



The purpose of this study is to create a planning document that recommends improvement projects over five, ten and twenty-year planning periods.

A formal presentation will be given at 5:45 p.m. to provide an update on the study and an overview of the proposed improvements. The study team will be available before and after the presentation to answer any questions. Your input on project needs and priorities will help develop the plan and shape the future of transportation in your community.

Persons with a disability may request accommodations, such as a sign language interpreter or alternative document formats, by calling 602.522.4346 or by faxing to 602.522.7707. Requests should be made as early as possible to allow time to arrange the accommodations.

For more information contact: C.T. Revere, ADOT Communication and Community Partnerships, at crevere@azdot.gov, or 520.705.3574, or visit http://mpd.azdot.gov/MPD/Systems_Planning/bisbee.asp

If you wish to comment on the study, please send your comments to Heather.Honsberger@hdrinc.com or call 602.522.4346. Please provide comments by November 10, 2011.

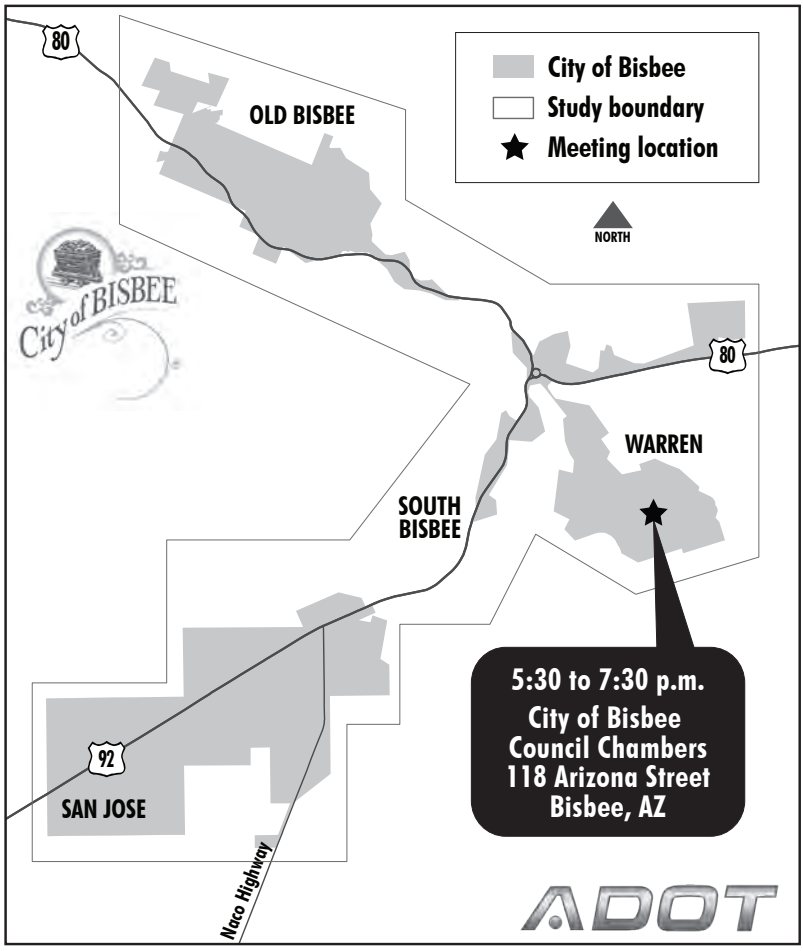
WE WANT YOUR INPUT

on the

City of Bisbee Comprehensive Transportation Plan

JOIN US ON
Thursday, October 27, 2011
5:30 to 7:30 p.m. | Presentation at 5:45 p.m.

The City of Bisbee and the Arizona Department of Transportation are working to develop a Comprehensive Transportation Plan that addresses improvements to streets, bridges, sidewalks, public stairs, shared-use pathways, transit, and public parking throughout the study area. The purpose of this study is to create a planning document that recommends improvement projects over five, ten and twenty-year planning periods.



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WE WANT YOUR INPUT

on the City of BISBEE

Comprehensive Transportation Plan

The City of Bisbee and the Arizona Department of Transportation are working to develop a Comprehensive Transportation Plan that addresses improvements to:

- streets
- bridges
- sidewalks
- public stairs
- shared-use pathways
- transit
- public parking

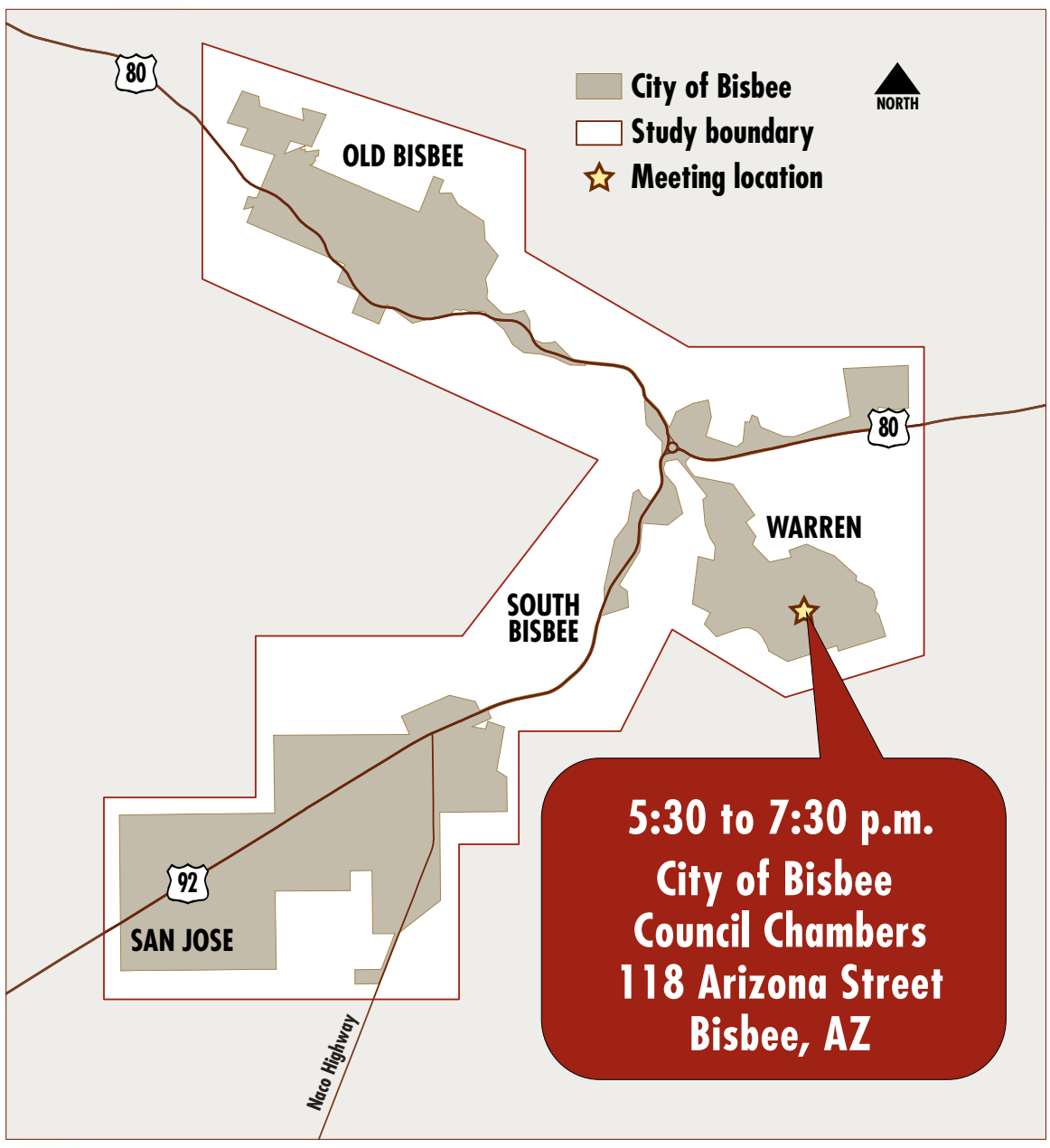
The purpose of this study is to create a planning document that recommends improvement projects over five, ten and twenty-year planning periods.

A formal presentation will be given at 5:45 p.m. to provide an update on the study and an overview of the proposed improvements. The study team will be available before and after the presentation to answer any questions. Your input on project needs and priorities will help develop the plan and shape the future of transportation in your community.

JOIN US

THURSDAY, OCTOBER 27, 2011

5:30 to 7:30 p.m. | Presentation at 5:45 p.m.



ADOT

For more information, contact:

C.T. Revere | ADOT Communication and Community Partnerships

Email: crevere@azdot.gov

Phone: 520.705.3574

Web site: http://www.azdot.gov/bisbee

Persons with a disability may request accommodations, such as a sign language interpreter or alternative document formats, by calling Heather Honsberger at 602.522.4346 or by faxing to 602.522.7707. Requests should be made as early as possible to allow time to arrange the accommodations.

From:	CT Revere
To:	Honsberger, Heather L.
Subject:	FW: Public meeting on Bisbee transportation study to be held Oct. 27
Date:	Friday, October 14, 2011 4:30:49 PM

From: Arizona Department of Transportation [mailto:adot@service.govdelivery.com]
Sent: Friday, October 14, 2011 12:24 PM
To: CT Revere
Subject: Public meeting on Bisbee transportation study to be held Oct. 27

Arizona Department of Transportation

Public meeting on Bisbee transportation study to be held Oct. 27

Bisbee area residents are invited to join the City of Bisbee and the Arizona Department of Transportation at an Oct. 27 public meeting to learn more about the on-going study to develop a Comprehensive Transportation Plan for the community.

The study, being conducted by ADOT through a federal Planning Assistance for Rural Areas (PARA) grant, is developing recommendations for short-, medium-, and long-term improvements to Bisbee's streets, bridges, sidewalks, public stairs, shared-use pathways, transit offerings and public parking.

The study addresses the transportation needs of the districts within the City of Bisbee – and the connections between the districts – over five-, 10- and 20-year periods.

The study team has conducted stakeholder interviews and assessed current conditions and future needs to develop a set of recommendations for the City of Bisbee to consider incorporating into future transportation plans.

The study also provides direction for potential sources of funding for projects.

The meeting will begin at 5:30 p.m. at the City of Bisbee Council Chambers, 118 Arizona Street, in the Warren District. A formal presentation is scheduled for 5:45 p.m. to provide an update on the study and an overview of proposed improvements.

The study team, including Bisbee officials, will be available before and after the presentation to answer questions. Public input will help to further develop the plan and shape the future of transportation in

Bisbee.

For more information on this study, please contact C.T. Revere, Senior Community Relations Officer with the Arizona Department of Transportations' Safford District, at 520-705-3574 or at crevere@azdot.gov.

Visit the project web page at www.azdot.gov/bisbee

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