Cobre Valley Comprehensive Transportation Study

Final Report

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Prepared by:

JACOBS

101 N. 1ST Ave., Suite 3100 • Phoenix, AZ 85003
P: 602.253.1200 • F: 602.253.1202 • www.jacobs.com

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1.0 INTRODUCTION

PURPOSE OF THE STUDY

The Cobre Valley Comprehensive Transportation Study is a joint effort by the City of Globe, Town of Miami, the Arizona Department of Transportation (ADOT), Gila County, and the Central Arizona Governments (CAG). The purpose of the study is to develop a long-range multimodal transportation plan that addresses the most critical current and future transportation needs of the Cobre Valley region. The study was funded by the Federal Highway Administration's (FHWA) State Planning and Research Program and administered through ADOT's Multimodal Planning Division.

Located approximately 80 miles east of Phoenix, Arizona, Cobre Valley is an important copper mining center in central Arizona. The Cobre Valley study area consists of approximately 160 square miles in Gila County, and includes the communities of Globe and Miami, which were originally established as mining camps for the area's abundant copper mines. The study area is within the CAG planning area. CAG is one of the six Council of Governments (COGs) established by the Governor's Executive Order 70-4 (1970) in an effort to create regional groupings for effective regional planning. Figure 1.2 shows the Cobre Valley study area boundary, which represents the limits of the Transportation Improvements Plan.

STUDY OBJECTIVES

The principal focus of this study is to develop a Transportation Plan that addresses safety and growth issues specific to the Cobre Valley area. With guidance from the municipal General Plans, interviews with members of the Technical Advisory Committee (TAC) and other local stakeholders, the following objectives were identified for this study:

- Identify projects to preserve existing transportation infrastructure
  - Pavement preservation
  - Address structural and functional deficiencies of bridges
  - For existing critical intersections, recommend operational improvements
  - Identify safety improvements for intersections and roadways that have high crashes
- Identify low cost improvements
- Group projects when possible to reduce costs
- Identify pedestrian, bicycle, and trails needs
- Coordinate closely with the proposed Cobre Valley Transit Study
- Enhance traffic circulation
- Enhance connectivity between modes – vehicles, transit, pedestrian, bicycle, and trails
- Identify impacts of potential new roadways
- Prepare access management guidelines
- Identify funding sources and strategies
- Conduct a GIS Needs Assessment for the City of Globe
- Identify preliminary alignment and prepare schematic drawings for the Pinal Creek Corridor
- Communicate with TAC, stakeholders, and public

STUDY PROCESS

The study was guided by a TAC that included representatives from:

- City of Globe/Town of Miami
- Gila County
- ADOT – Multimodal Planning Division (MPD)
- ADOT – Globe District
- ADOT – Environmental Group
- ADOT – Communication and Community Partnerships (CCP)
- Central Arizona Governments (CAG)

The role of the TAC was to provide guidance, support, advice, suggestions, recommendations, and to perform document reviews throughout the study process. The study's process included developing two working papers to document study findings and conducting two public open houses to garner community input. Figure 1.1 illustrates the overall study process.

Working Paper 1: Existing and Future Conditions inventoried and analyzed the existing and future conditions in the study area, including existing transportation system deficiencies, issues, and needs. The first public open house was conducted in December 2011 to present existing and projected transportation conditions and issues. *Working Paper 2: Draft Transportation Plan* identified and prioritized improvement projects to address the needs and deficiencies identified in Working Paper 1. The second of two public open houses was held in September 2012 to present proposed roadway and multimodal transportation improvements.

FIGURE 1.1: STUDY PROCESS

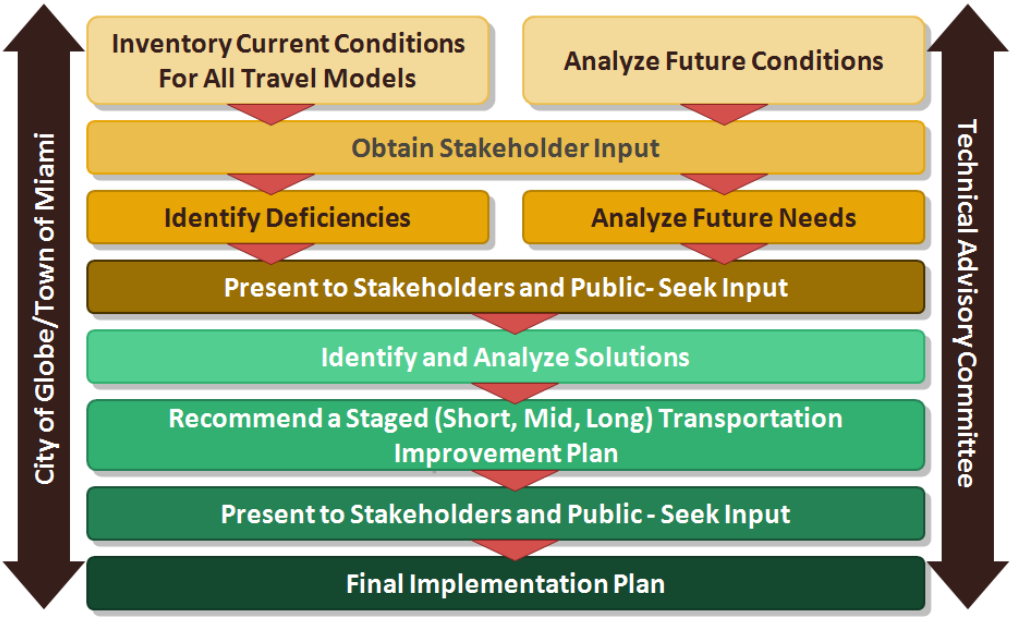
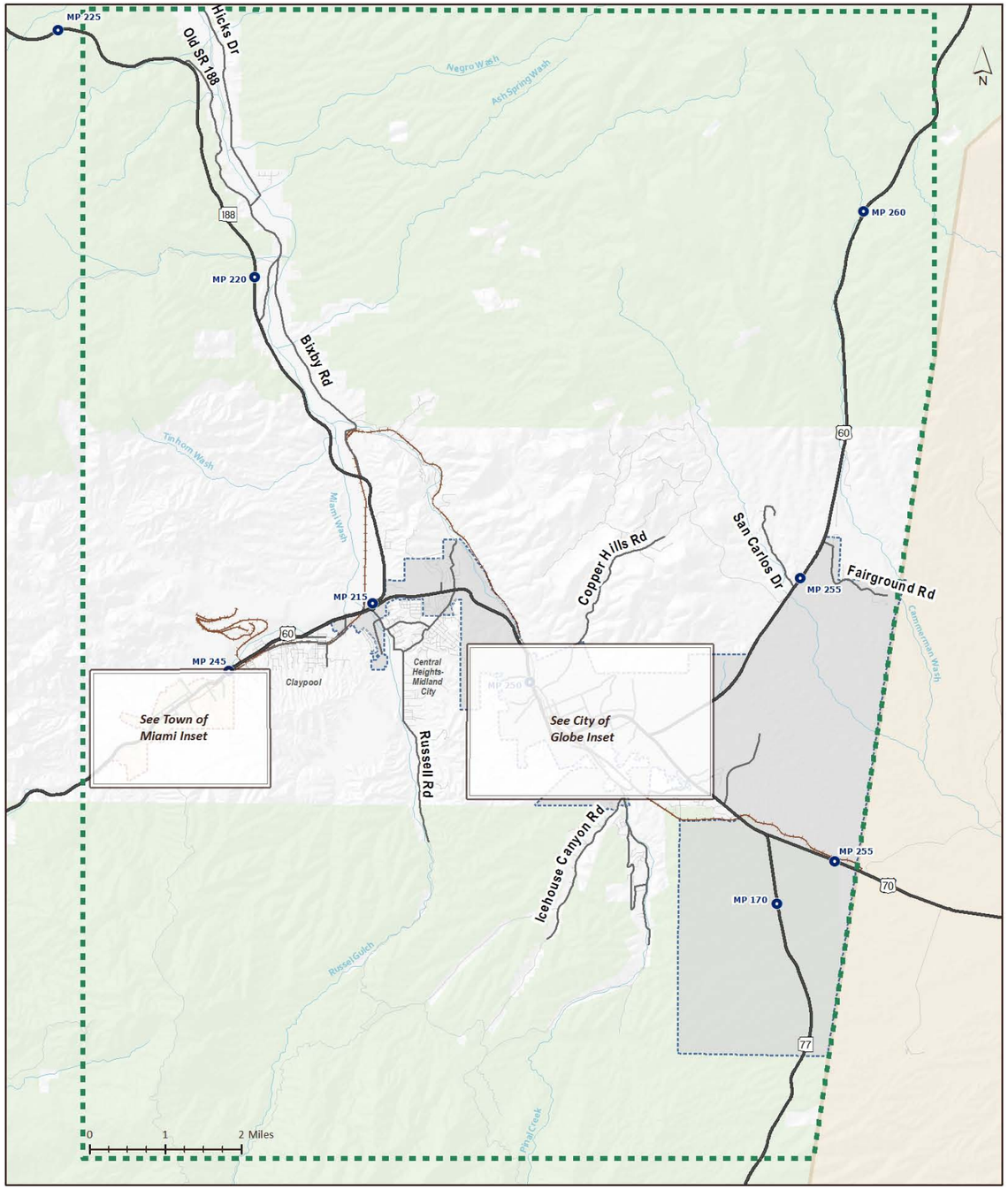
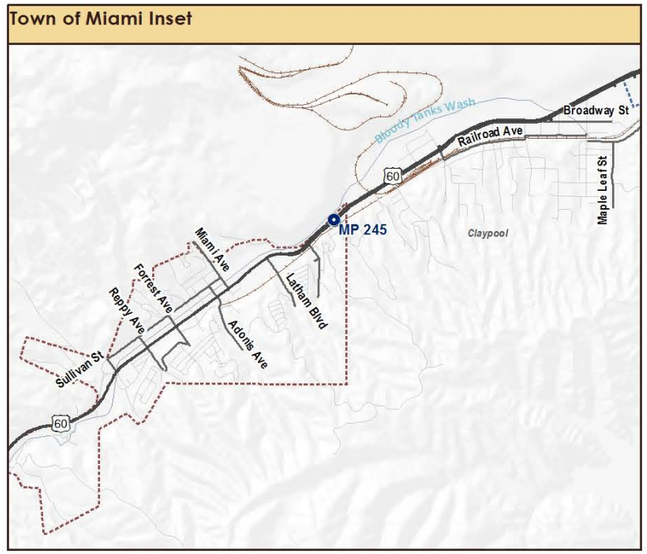
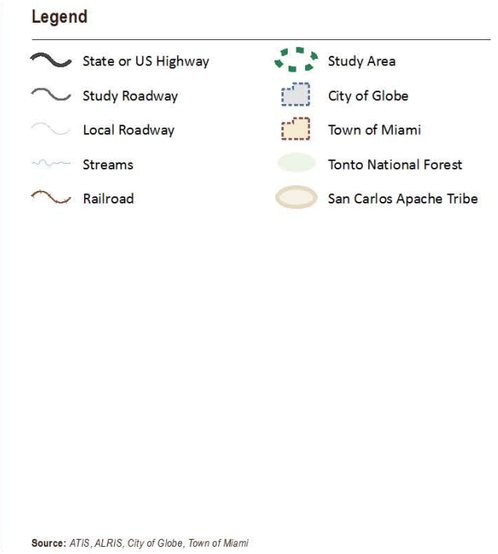


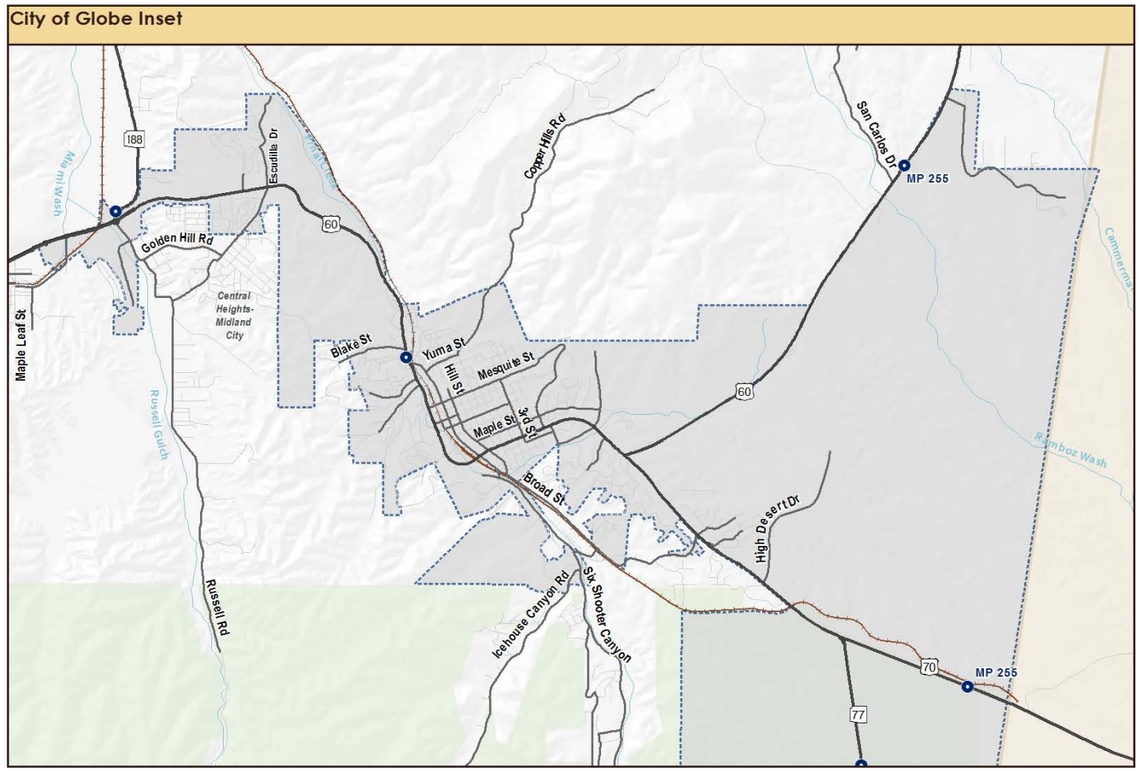
FIGURE 1.2: STUDY AREA







Source: ATiS, ALRIS, City of Globe, Town of Miami



2.0 EXISTING AND FUTURE CONDITIONS

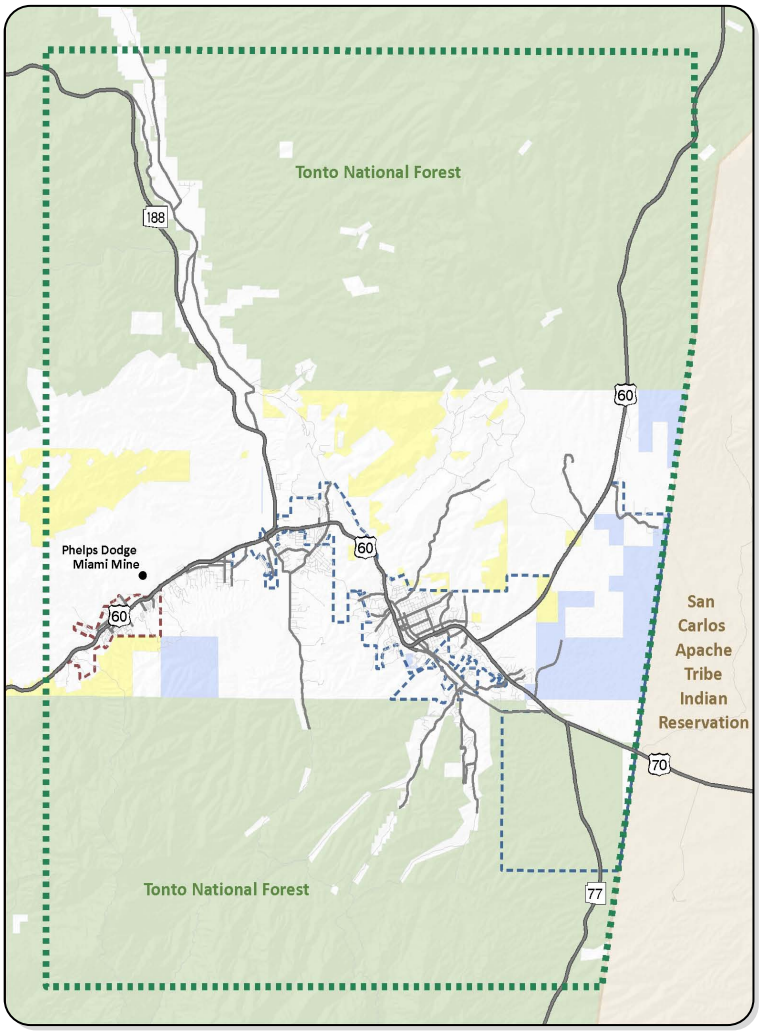
EXISTING LAND USE AND SOCIOECONOMIC CONDITIONS

This section summarizes current land use, socioeconomic conditions, characteristics of the physical and natural environments, environmental justice population review (Title VI), and cultural resources within the study area.

Land Ownership Status

Privately owned land accounts for more than a third of all land within the study area. Other major landowners within the study area include:

- Arizona State Land Department (ASLD), shown in blue on the right, covers three percent of the study area.
- Bureau of Land Management (BLM), shown in yellow on the right, covers four percent of the study area.
- Tonto National Forest, shown in green on the right, covers approximately 62 percent of the study area.



Socioeconomic Conditions

Creating an inventory of the study area's socioeconomic characteristics and understanding this data is a critical element for any transportation planning study. Socioeconomic data is one of the primary inputs to the travel demand modeling process used to forecast traffic volumes in the study area.

Population and Housing Unit Growth Trends

According to the 2010 U.S. Census, the study area had a population of approximately 17,537 people. Since 2000, the study area has experienced a decrease in population (-4 percent); however, the total number of housing units has slightly increased from 8,000 to 8,294. The U.S. Census estimated that approximately 90 people left the Town of Miami while the City of Globe gained 90 residents. Table 2.1 lists the population and housing trends from 2000 to 2010.

COBRE VALLEY AREA SOCIOECONOMIC CONDITIONS

- Land Area: 160.2 square miles
- Population (Year 2010): 17,537
- Total Housing Units (Year 2010): 8,294
- Occupied Housing Units (Year 2010): 6,938
- Median Age: 45.5
- Principal Economic Activities: Mining and production of copper

* *Source: 2010 U.S. Census Bureau*

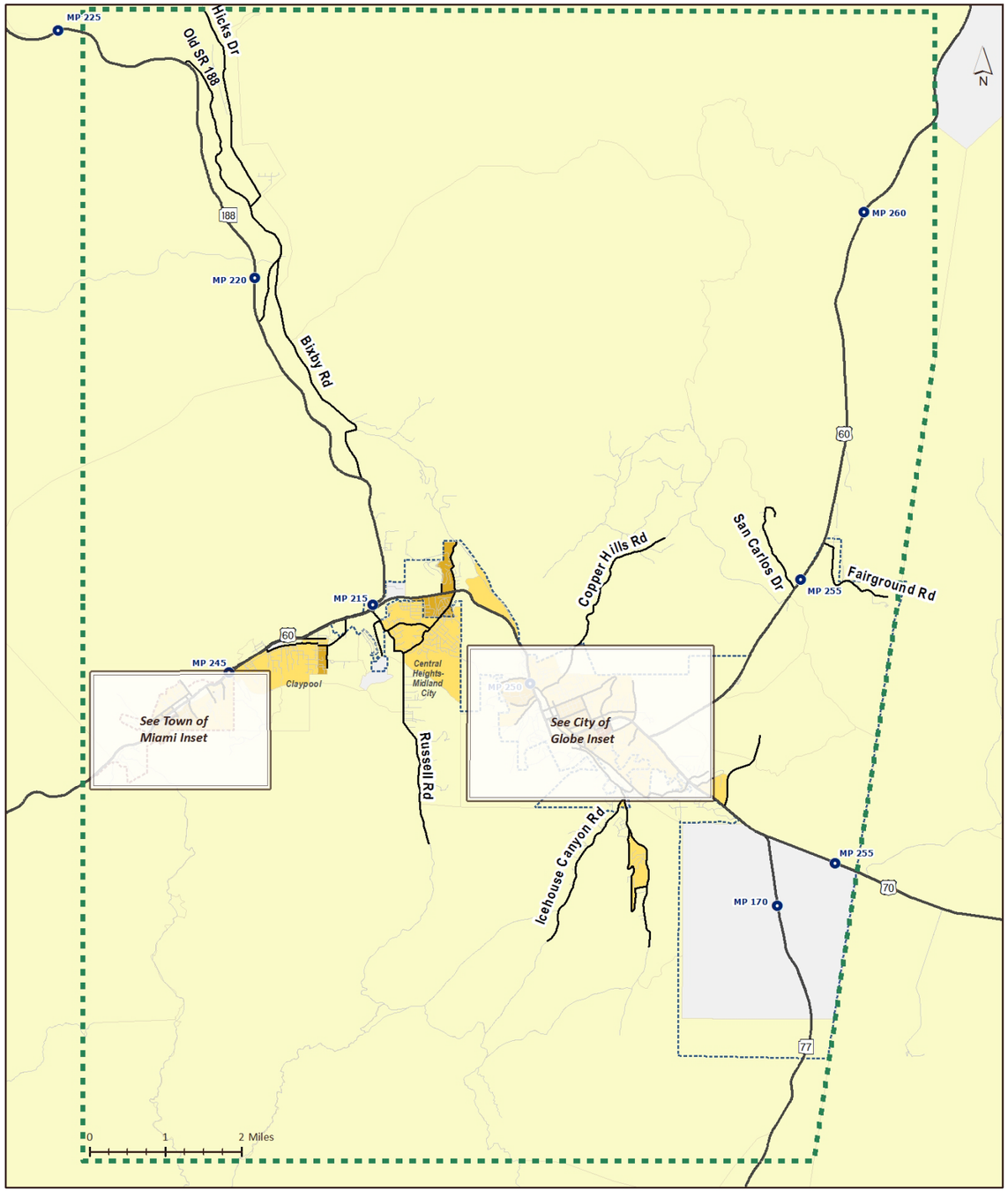
TABLE 2.1: POPULATION AND HOUSING UNIT GROWTH TRENDS

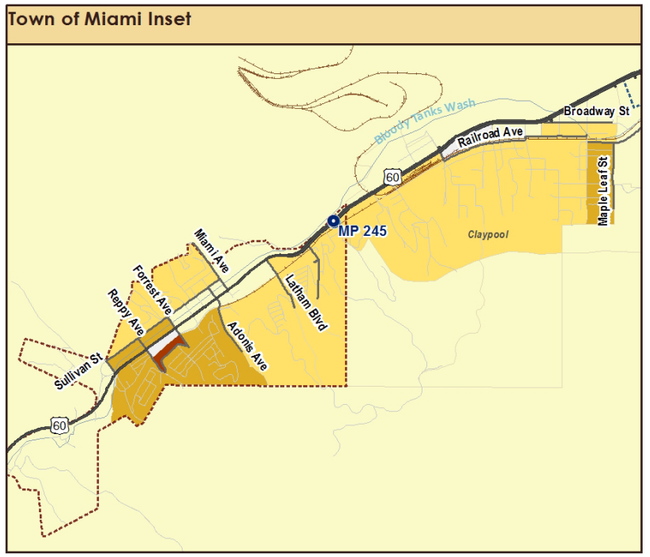
Geographic Area	Population		Population Growth	Housing Units		Housing Units Growth
	2000	2010		2000	2010	
Study Area	**18,322**	**17,537**	***-4.3%***	**8,003**	**8,294**	**3.6%**
Gila County	51,335	53,597	*4.4%*	28,189	32,514	*15.3%*
State of Arizona	5,130,632	6,392,017	*24.6%*	2,189,189	2,844,526	29.9%

Source: 2000 U.S. Census Bureau, 2010 U.S. Census Bureau, Arizona Department of Commerce

As illustrated in Figure 2.1, the study area's population is concentrated along US 60 in the Globe-Miami area. The Town of Miami's population is largely located south of US 60, while the downtown core area has the highest population concentrations in Globe. Population is also highly concentrated in the Central Heights-Midland City area.

FIGURE 2.1: POPULATION DENSITY BY TRAFFIC ANALYSIS ZONE (TAZ)





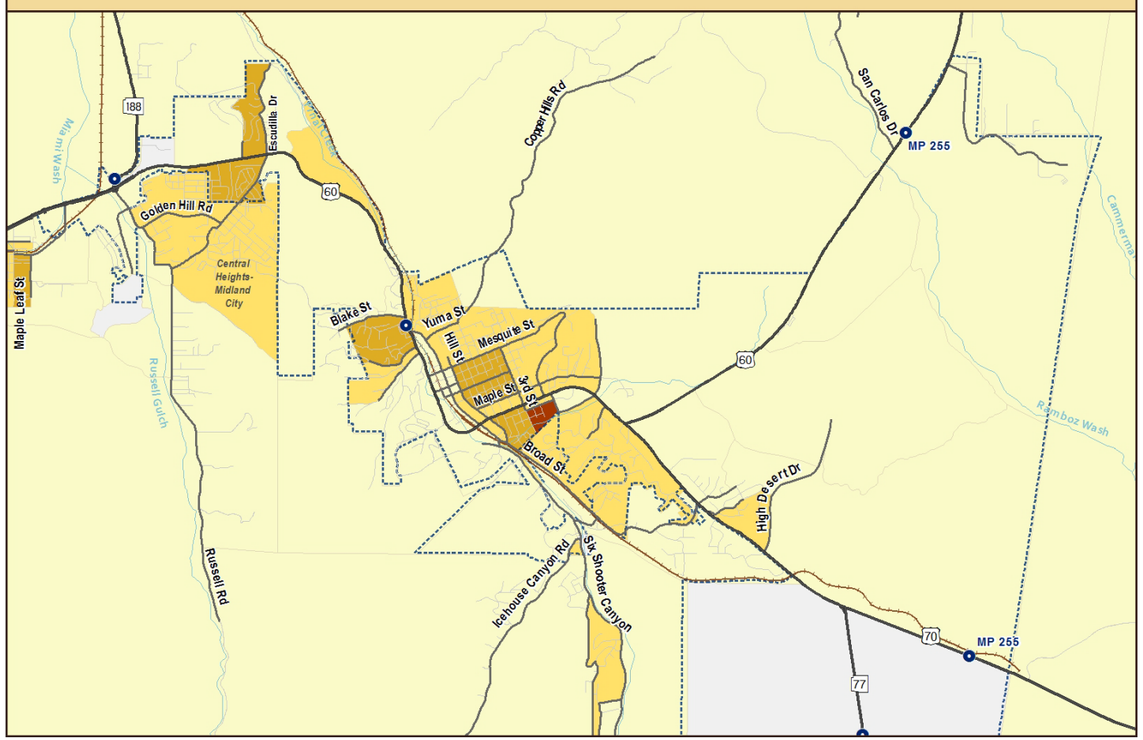
Legend

Population Density per Square Mile

- 0
- 1 - 1,500
- 1,501 - 3,000
- 3,001 - 6,000
- 6,001 - 11,563

- State or US Highway
- Study Roadway
- Local Roadway
- Study Area
- City of Globe
- Town of Miami

Source: *Census 2010 Summary File 1, ATIS, ALRIS, City of Globe, Town of Miami*



Employment Overview

Mining, production of copper, health care, correctional institutions, retail, and tourism are the primary economic drivers of the Cobre Valley area. The largest employment center within the region is the Miami mine, located north of US 60 near the Town of Miami. In addition, within the study area there are 12 schools and a community college: one preschool, three elementary schools, two intermediate schools, two high schools, two charter schools, one private school, one vocational or accommodation school, and one community college. Table 2.2 lists the schools and student enrollment within the study area.

COBRE VALLEY EMPLOYMENT OVERVIEW

Approximate Employment: 6,124
Major Employers (*total employees*):

- Freeport-McMoran Copper & Gold (*638*)
- BHP Copper Inc. (*300*)
- Cobre Valley Community Hospital (*245*)
- Wal-Mart (*230*)
- B J Cecil Trucking Inc (*200*)
- Gila County Sheriff (*150*)
- Heritage Health Care Center (*125*)
- Gila County Jail (*110*)
- Globe High School (*100*)
- State Prison (*100*)

* *Source: InfoUSA database*

TABLE 2.2: STUDY AREA SCHOOLS AND COLLEGES

School	Students
Globe Unified School District	**2,022**
- Copper Rim Elementary School	762
- High Desert Middle School	516
- Globe High School	655
- Globe Education Center	89
Miami Unified School District	**1,219**
- Miami Preschool	46
- Las Lomas Elementary School	275
- Dr. Charles A. Bejarano Elementary School	369
- Miami Junior High School	190
- Miami High School	339
Destiny Charter School	246
Holy Angels School	159
Liberty High School	55
Gila County Community College	165

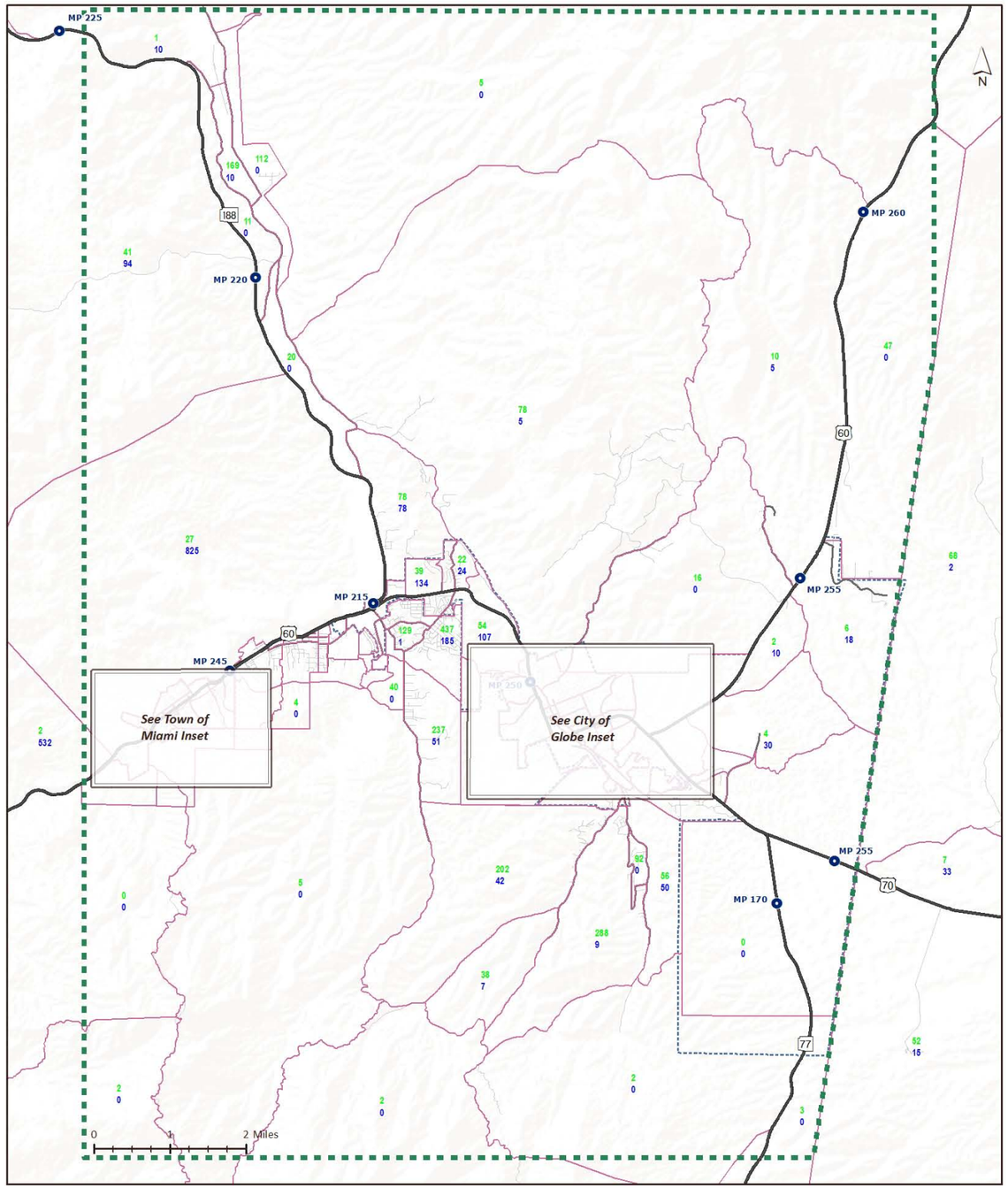
Traffic Analysis Zones

Population, housing units, and various types of employment categories were inventoried for each Traffic Analysis Zone (TAZ) in the study area. TAZs are geographic subdivisions of the study area bounded by roads, political boundaries, and natural or man-made geographical constraints (such as rivers, washes, etc.). For this study, Jacobs developed a travel demand model that is used to estimate current and future traffic volumes on roadways in the study area. Table 2.3 summarizes the socioeconomic data utilized in the travel demand model. Figure 2.2 illustrates the occupied housing units along with employment estimates and distribution at the TAZ level. Furthermore, Appendix A in Working Paper 1 summarizes the population, housing units, and detailed employment information for each TAZ in the study area.

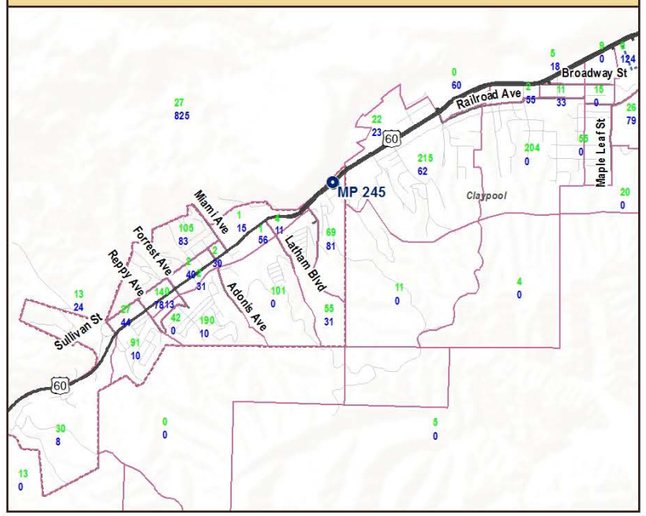
TABLE 2.3: STUDY AREA SOCIOECONOMIC DATA SUMMARY

Socioeconomic Data Variable	Units	Study Area Total
Population	Persons	17,537
Occupied Dwelling Units	Dwelling Units	6,915
Retail	Employees	1,586
Office	Employees	219
Service	Employees	1,586
Industrial	Employees	1,316
Public	Employees	950
Manufacturing	Employees	133
Elementary/Junior High School	Employees	180
High School	Employees	139

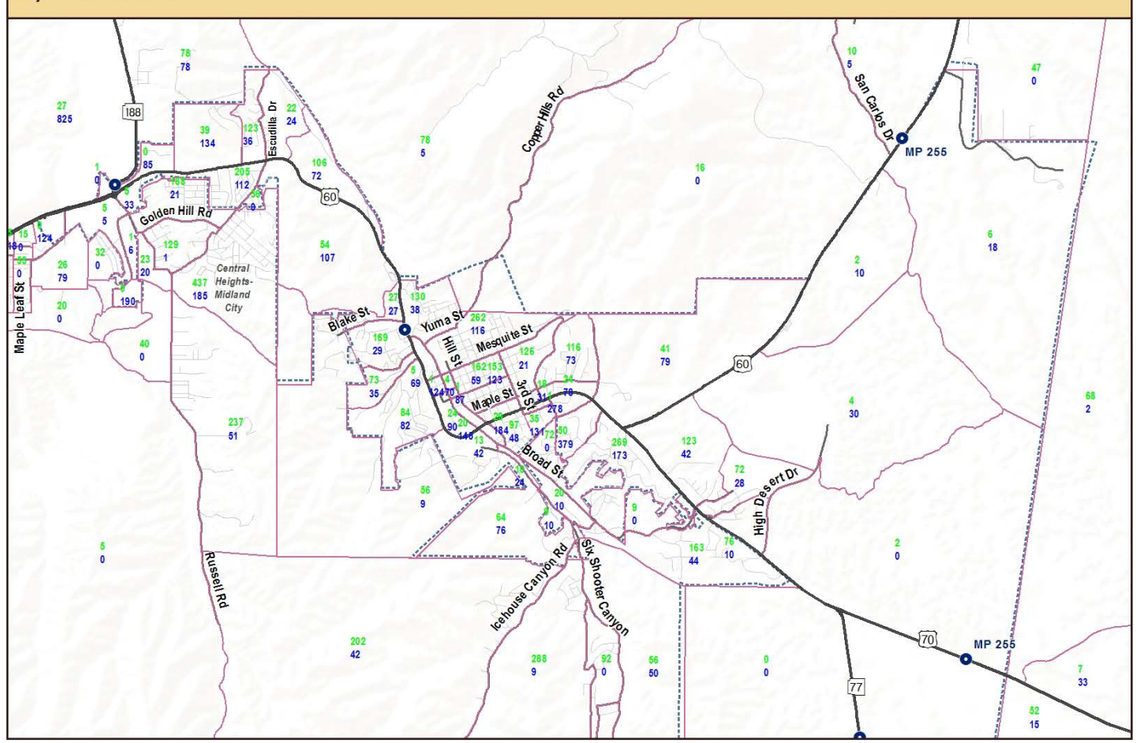
FIGURE 2.2: OCCUPIED DWELLING UNITS AND EMPLOYMENT BY TAZ



Town of Miami Inset



City of Globe Inset



Legend

- XX — Number of Occupied Dwelling Units in TAZ
- XX — Total Number of Employees in TAZ
- TAZ Boundary
- Study Area
- State or US Highway
- Study Roadway
- Local Roadway
- City of Globe
- Town of Miami

Source: *Census 2010 Summary File 1, CAAG, ATIS, ALRIS, City of Globe, Town of Miami*

Environmental Justice Review (Title VI)

Title VI of the Civil Rights Act of 1964 and related statutes require that individuals are not discriminated against based on race, color, national origin, age, sex, or disability. Executive Order 12898 of Environmental Justice dictates that any programs, policies, or activities to be implemented are not to have disproportionately high adverse human health and environmental effects on minority populations. Environmental justice principles and procedures are followed to assure that transportation improvements do not adversely impact different socioeconomic groups. To assure that these policies are adhered to, a variety of possible alternatives should be developed and considered in order to make sure all groups are fairly represented in the amount and type of transportation services provided.

ENVIRONMENTAL JUSTICE (TITLE VI) OVERVIEW

Percentage of Study Area Population:

Minority Population: 41.01%▲

Age 65 and Older Population: 18.57%▲

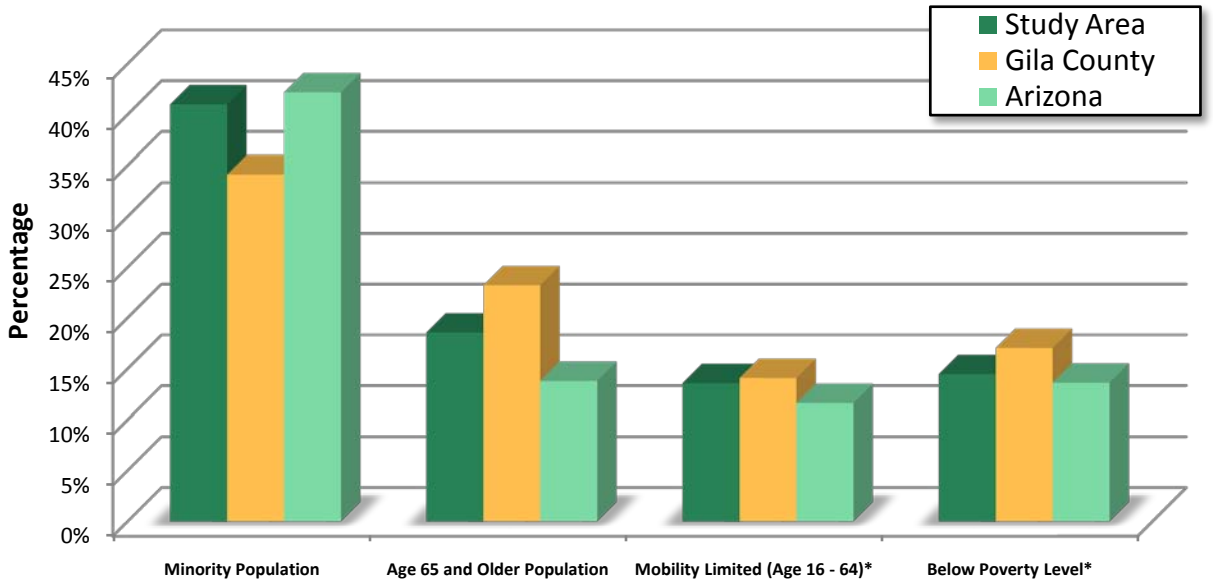
Mobility Limited: 13.58%*

Below Poverty: 14.47%*

Source: ▲ 2010 U.S. Census Bureau
**2000 U.S. Census Bureau*

Protected populations considered in this analysis include: minority, elderly, low-income, and disabled populations. Figure 2.3 shows a graphical comparison of these protected populations in the study area, Gila County, and in Arizona. Table 2.4 summarizes the percentage of protected populations within the Cobre Valley study area, Gila County, and Arizona based on the 2010 U.S. Census. Updated 2010 U.S. Census data was unavailable for select protected population; therefore 2000 U.S. estimates were used to identify mobility limited and below poverty level populations. Table 2.5 outlines the mobility limited and below poverty level populations within the Cobre Valley study area, Gila County, and Arizona based on the 2000 U.S. Census.

FIGURE 2.3: TITLE VI POPULATION GROUPS COMPARISON



*Source: 2010 U.S. Census, *2000 U.S. Census*

TABLE 2.4: MINORITY AND AGE 65 AND OLDER POPULATION PERCENTAGES

	Study Area		Gila County		State of Arizona	
	Total Pop	*% of Total Population*	Total Pop	*% of Total Population*	Total Pop	*% of Total Population*
Total Population *(Year 2010)*	**17,537**		**53,597**		**6,392,017**	
Minority Population	7,192	*41.01%*	18,229	*34.14%*	2,696,370	*42.18%*
Age 65 and Older Population	3,257	*18.57%*	12,450	*23.23%*	881,831	*13.80%*

Source: 2010 U.S. Census

TABLE 2.5: MOBILITY LIMITED AND BELOW POVERTY LEVEL POPULATION PERCENTAGES

	Study Area		Gila County		State of Arizona	
	Total Pop	*% of Total Population*	Total Pop	*% of Total Population*	Total Pop	*% of Total Population*
Total Population *(Year 2000)*	**18,322**		**51,335**		**5,130,632**	
Mobility Limited (age 16 - 64)	2,382	*13.58%*	7,231	14.09%	596,787	*11.63%*
Below Poverty Level	2,538	*14.47%*	8,752	17.05%	698,669	*13.62%*

Source: 2000 U.S. Census

Minority Population

Minority population consists of individuals who are members of the following population groups: Native American or Alaskan Native, Asian or Pacific Islander, Black, Hispanic, other race, or two or more races. The 2010 U.S. Census estimates that within the study area 41.01% of the population is minority, with Hispanics as the largest minority group. Figure 2.4 illustrates the concentration of minority populations within the Cobre Valley study area.

Population Age 65 and Over

Elderly populations, persons who are over the age of 65, need to be addressed by Title VI and Executive Order 12898, Environmental Justice. The percentage of population over the age of 65 is at 18.6% which is lower than the countywide estimate of 23.2% and higher than the statewide estimate of 13.8%. Figure 2.5 displays the elderly population concentrations.

Mobility-Limited Population

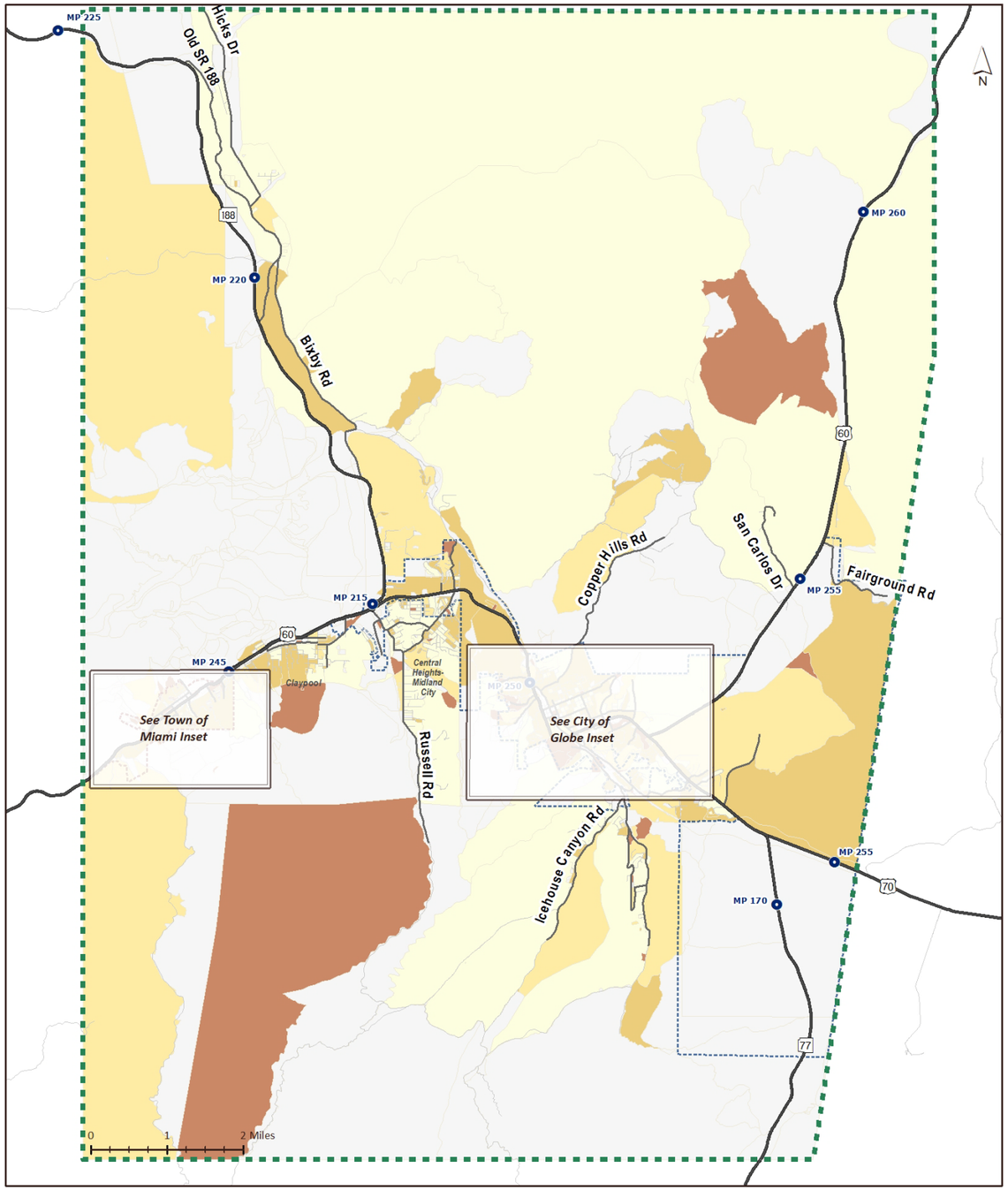
Mobility-limited population is made up of individuals who have a physical or mental disability that prohibits them from operating an automobile, and may require access to public transportation. According to the 2000 U.S. Census, 13.6% of the total population in the study area is mobility-

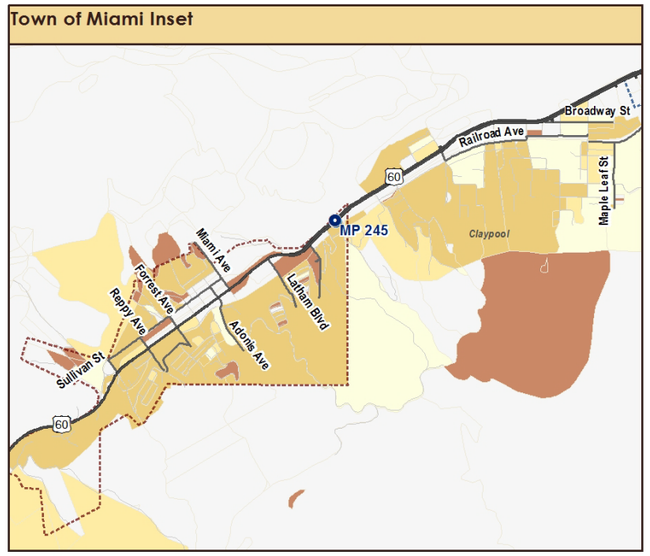
limited, which is higher than the statewide estimate of 11.6% but lower than the countywide estimate of 14.1%. Figure 2.6 shows the mobility-limited population concentrations in the study area.

Below Poverty Population

Below poverty populations is composed of individuals living in households that lie within a set of income thresholds which were established by the U.S. Census Bureau and vary by family size and composition. According to the 2000 U.S. Census, 14.5% of the total population in the study area is below poverty, which is higher than statewide estimate of 13.6% but lower than the countywide estimate of 17.1%. Low-income households may rely on public transportation and services more than the general population; therefore, recognition of this group's concentration centers is needed to determine transportation needs. Figure 2.7 illustrates the below poverty population concentrations.

FIGURE 2.4: MINORITY POPULATION (CENSUS BLOCK)





Legend

Below Study Area Average
- 0%
- 0.1% - 32%
- 32.1% - 41%

Above Study Area Average
- 41.1% - 78.4%
- 78.5% - 100%

- Study Area
- State or US Highway
- Study Roadway
- Local Roadway
- City of Globe
- Town of Miami

Percentage of Age 65 and Older Population in:
Study Area: 18.6%
Gila County: 23.2%
State of Arizona: 20.1%

A high percentage of elderly population does not necessarily mean that there is a lot of elderly population in the area. The map shows what percentage of people living in the census block are elderly.

Source: *Census 2000 Summary File 3, ATIS, ALRIS, City of Globe, Town of Miami*

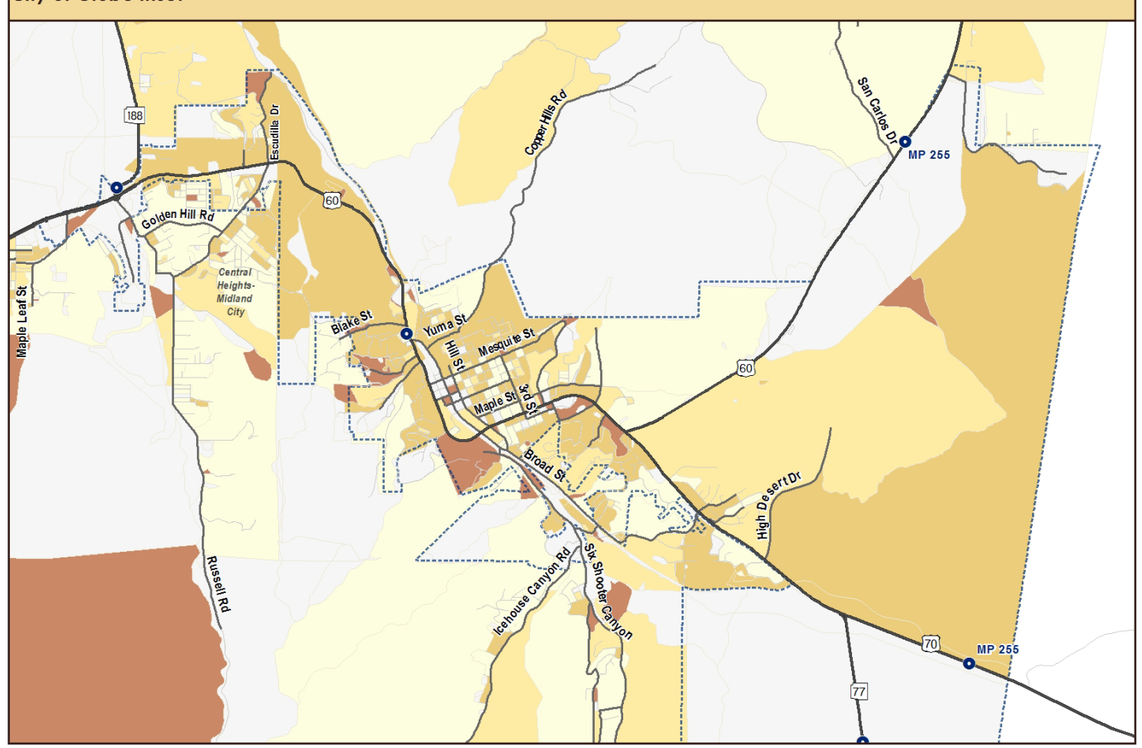
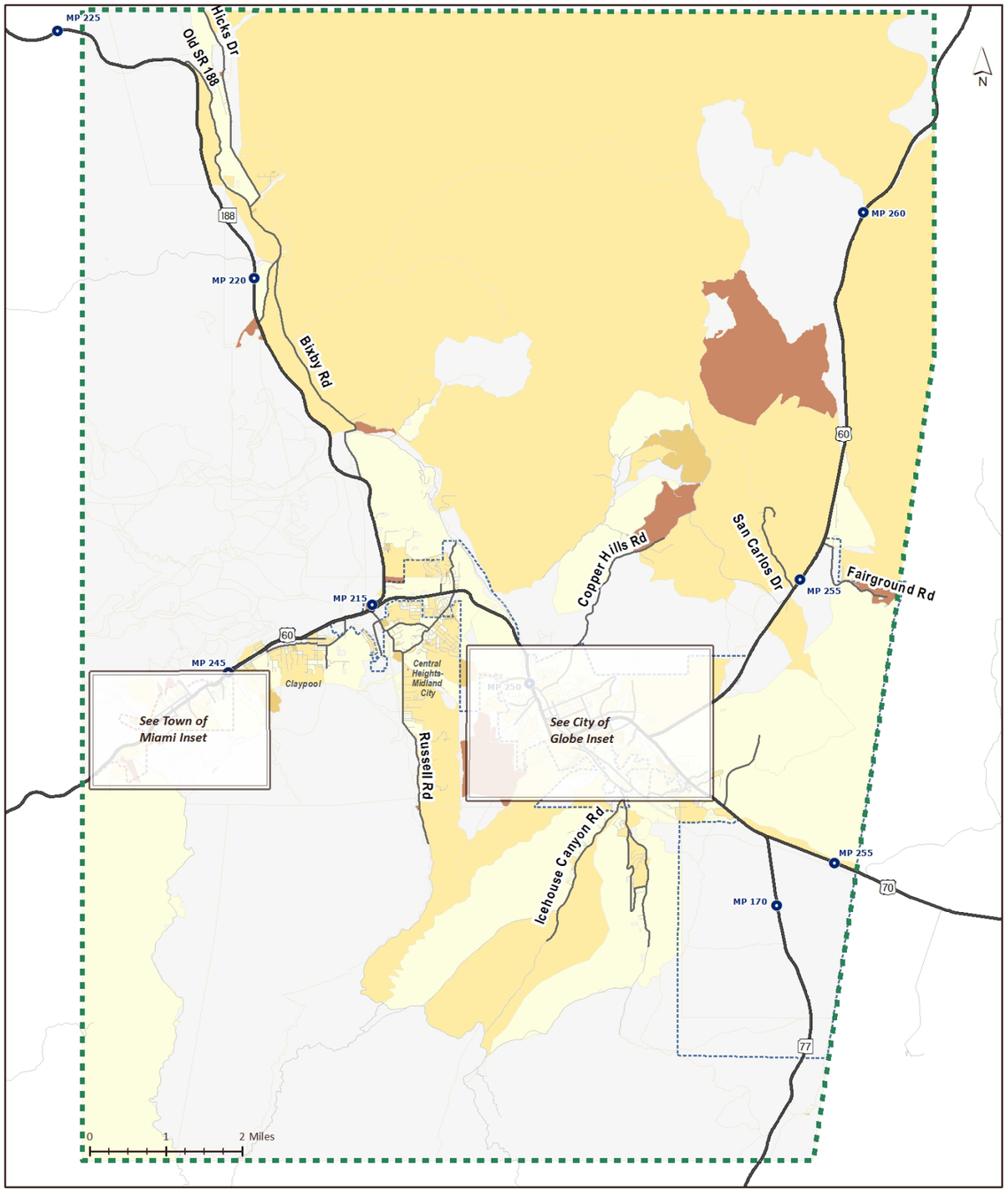
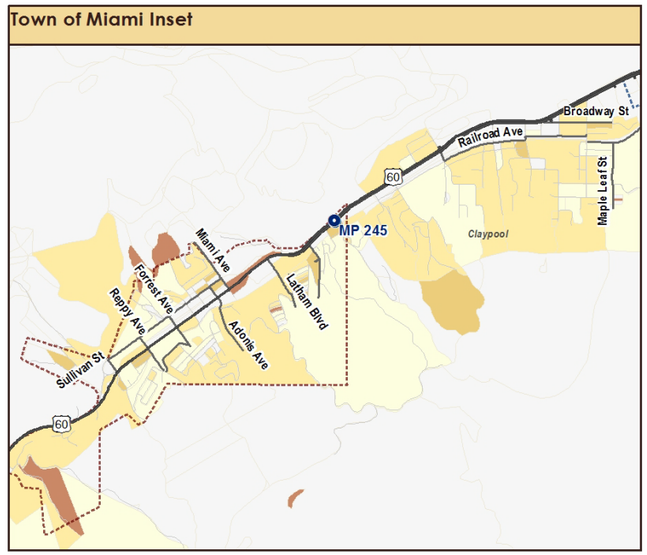
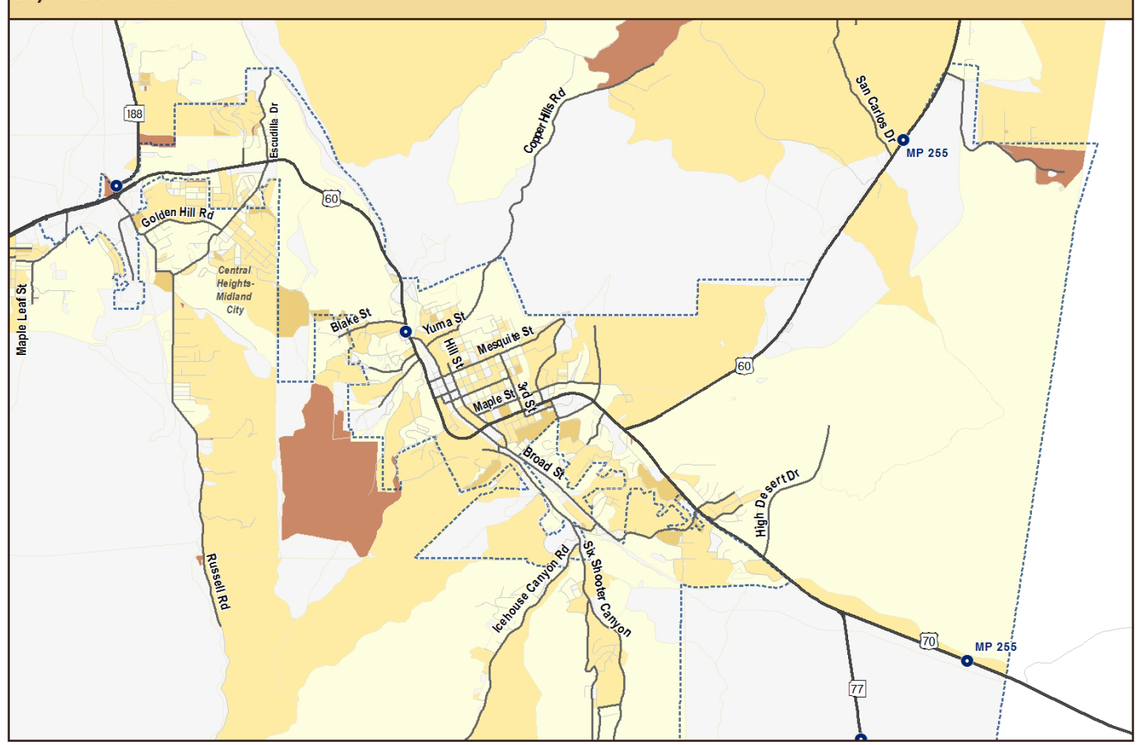


FIGURE 2.5: ELDERY POPULATION DENSITY (CENSUS BLOCK)







Legend

Below Study Area Average
- 0%
- 0.1% - 18.6%

Above Study Area Average
- 18.7% - 45.7%
- 45.8% - 72.9%
- 73% - 100%

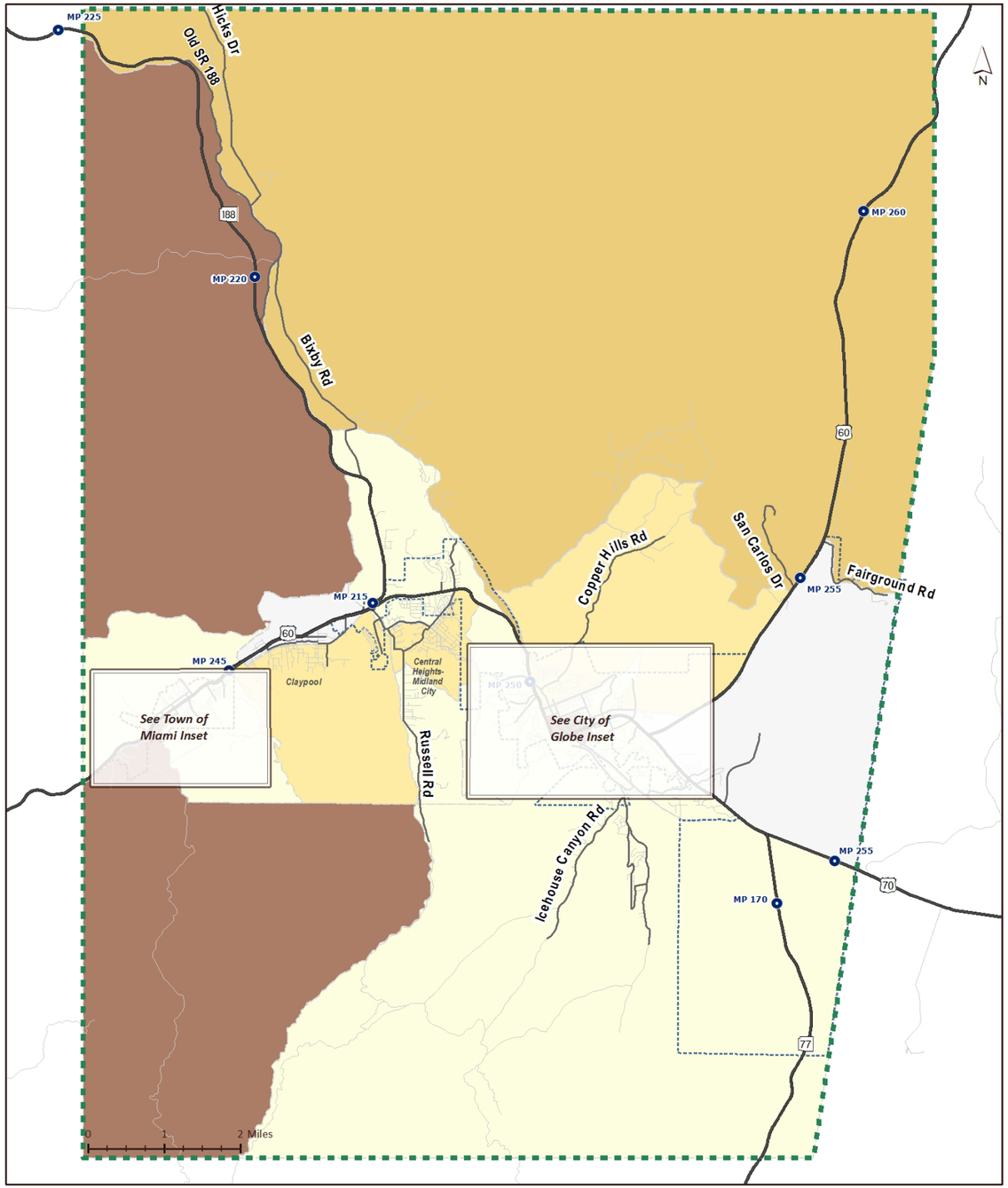
- Study Area
- State or US Highway
- Study Roadway
- Local Roadway
- City of Globe
- Town of Miami

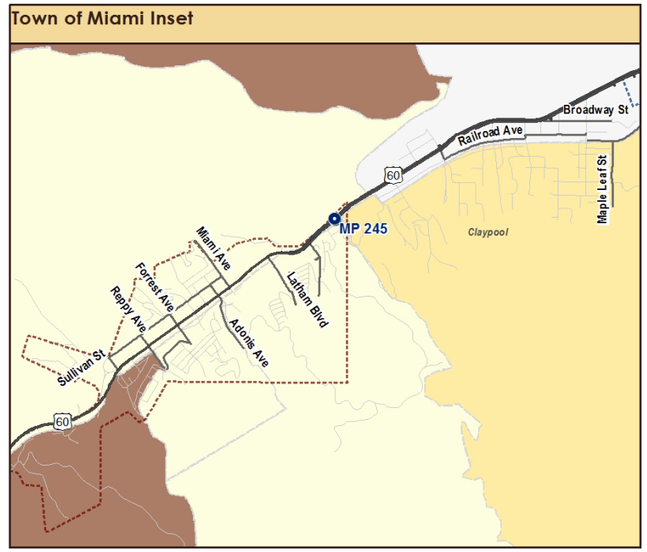
Percentage of Age 65 and Older Population in:
Study Area: 18.6%
Gila County: 23.2%
State of Arizona: 20.1%

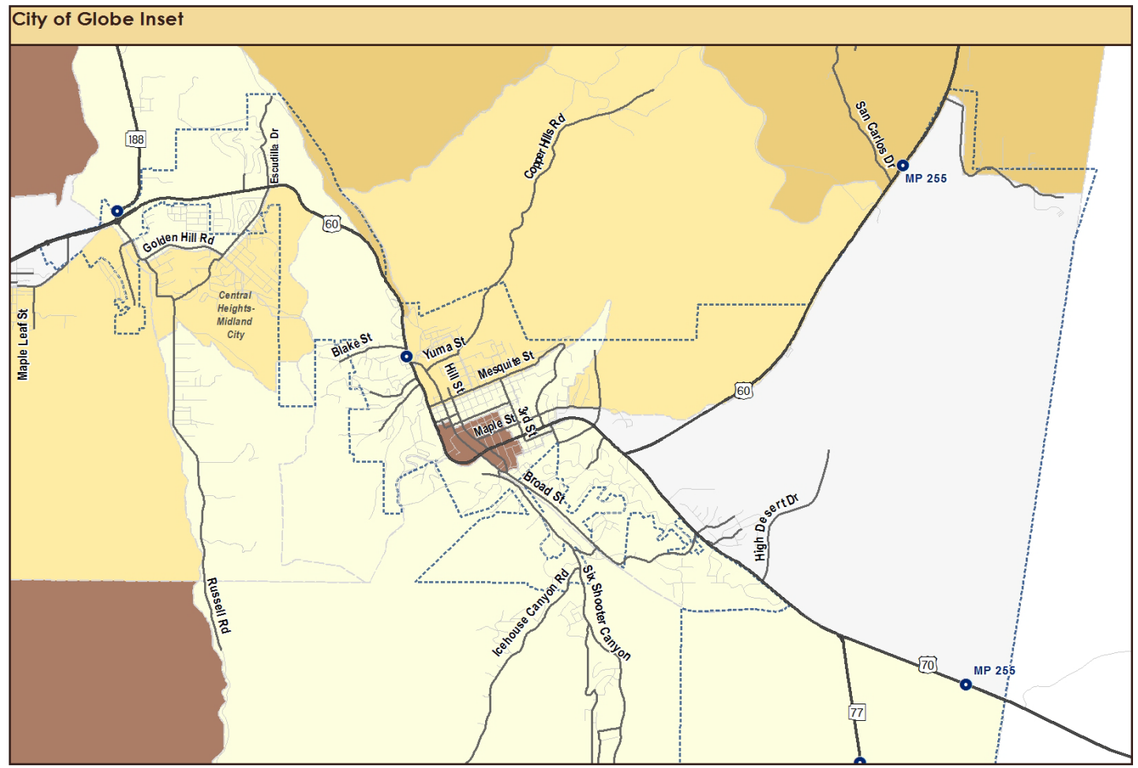
A high percentage of elderly population does not necessarily mean that there is a lot of elderly population in the area. The map shows what percentage of people living in the census block are elderly.

Source: *Census 2010 Summary File 1, ATIS, ALRIS, City of Globe, Town of Miami*

FIGURE 2.6: MOBILITY LIMITED POPULATION (CENSUS BLOCK GROUP)







Legend

Below Study Area Average
- 4% - 6.5%
- 6.6% - 12.9%

Above Study Area Average
- 13.0% - 18.0%
- 18.1% - 23.0%
- 23.1% - 28.9%

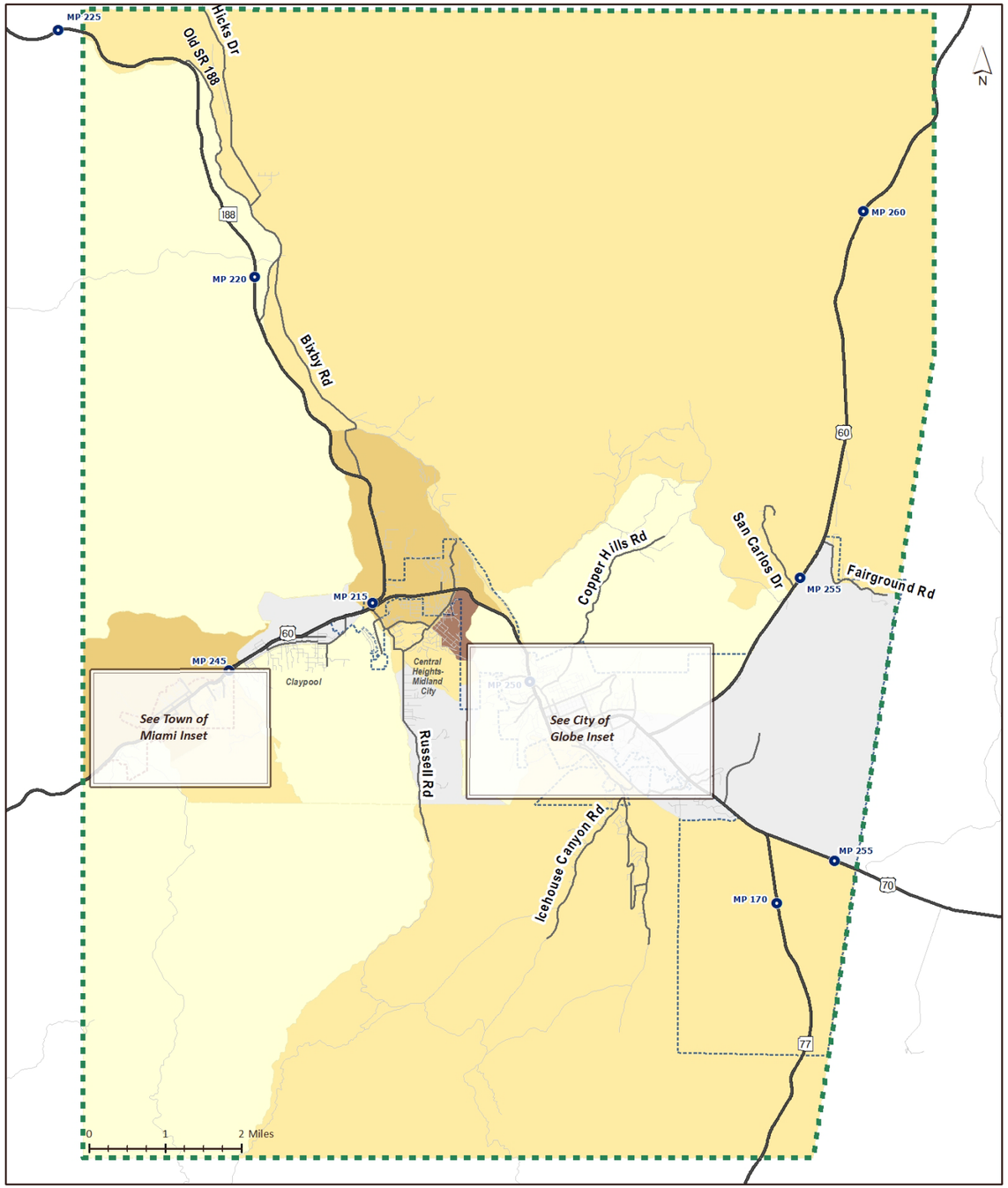
- State or US Highway
- Study Roadway
- Local Roadway
- Study Area
- City of Globe
- Town of Miami

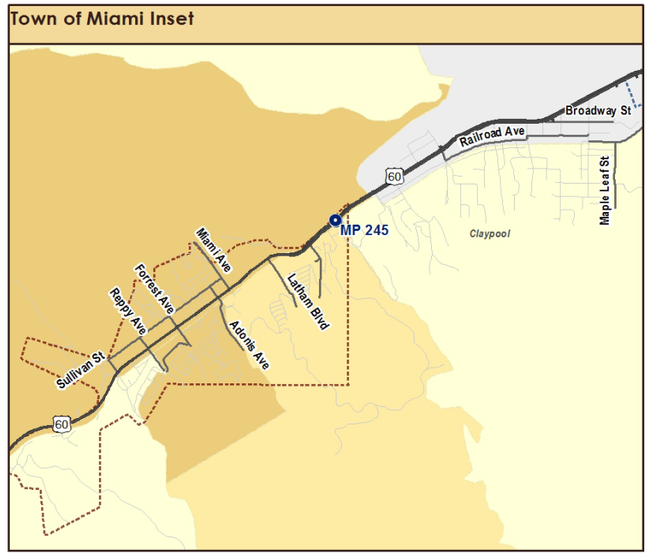
Percentage of Mobility Limited Population in:
Study Area: 13.6%
Gila County: 14.1%
State of Arizona: 11.6%

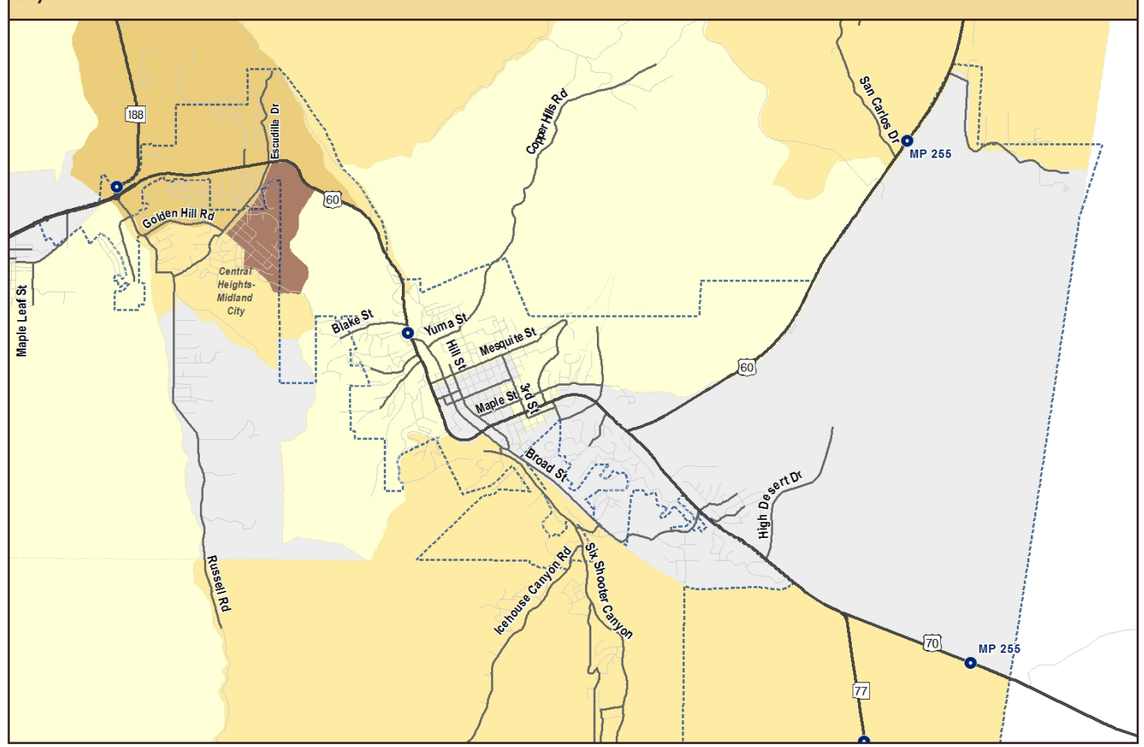
The mobility-limited population is made up of individuals who have a physical or mental disability that prohibits them from operating an automobile. A high percentage of mobility limited population does not necessarily mean that there is a lot of mobility limited population in the area. The map shows what percentage of people living in the census block are mobility limited.

Source: *Census 2000 Summary File 3, ATIS, ALRIS, City of Globe, Town of Miami*

FIGURE 2.7: BELOW POVERTY POPULATION (CENSUS BLOCK GROUP)







Legend

Below Study Area Average
- 2.3% - 6.9%
- 7% - 14.5%

Above Study Area Average
- 15.3% - 21.1%
- 21.2% - 27.8%
- 27.9% - 34.4%

- Study Area
- State or US Highway
- Study Roadway
- Local Roadway
- City of Globe
- Town of Miami

Percentage of Below Poverty Population in:
Study Area: 14.5%
Gila County: 17.1%
State of Arizona: 13.6%

The Census Bureau uses a set of income thresholds that vary by family size and composition to determine below poverty population. A high percentage of poverty population does not necessarily mean that there is a lot of poverty population in the area. The map shows what percentage of people living in the census block are below poverty.

Source: *Census 2000 Summary File 3, ATIS, ALRIS, City of Globe, Town of Miami*

Environmental and Cultural Resources Overview

Inventory of the physical, natural, and cultural environment is an important component of the transportation planning process. When environmental conditions and concerns are reviewed in the early stages, transportation solutions can be developed to lessen the negative impacts on the natural environment. Figure 2.8 presents an environmental overview of the study area and Figure 2.9 illustrates environmental issues within the study area.

Environmental Overview

Vegetation: Several types of vegetation exist within the study area; the most predominant vegetation types found are the Interior Chaparral and the Semidesert Grassland.

Water Features: Major hydrological features in the area include the Miami Wash, Pinal Creek, Russell Gulch, and Bloody Tanks Wash. Additional minor hydrological features are located through the study area.

Wildlife: The Arizona Wildlife Linkages Workgroup (AWLW) is a collaborative effort between ADOT and nine public and nonprofit organizations to identify large blocks of protected habitat, potential wildlife movement corridors, and factors that may disrupt these linkage zones. The AWLW developed the Arizona Wildlife Linkages Assessment, which identified wildlife habitat blocks and linkage zones that allow land managers and transportation planners to integrate wildlife needs into developments and land use plans. Wildlife habitat blocks are defined as large, contiguous areas of natural woodland with little or no human disturbance and are essential for maintaining a diverse and healthy population of wildlife. Wildlife linkage zones are areas of wildlife movement between habitat blocks. Approximately 65% of the study area is located within a habitat block, while linkage zones occupy 18% of the study area and follow the US 60 and SR 188 corridors.

Areas of Concern

Leaking Underground Storage Tanks: Environmental Protection Agency (EPA) defines underground storage tanks as any tank and any underground piping connected to the tank that stores petroleum or hazardous substances. The Arizona Department of Environmental Quality (ADEQ) has identified 10 priority-one leaking and 66 underground storage tanks in the study area. Priority leaking storage tanks are defined by the ADEQ as leaking underground storage tanks where leaks have been identified as impacting groundwater.

Impaired Waters: According to the *2006/2008 303(d) Impaired Waters Report* released by ADEQ, Pinto Creek which is located in the southwestern portion of the study area was deemed impaired under Section 303(d) of the Clean Water Act for non-attainment of the water quality standard for dissolved copper.

Mines: The Globe-Miami area has historically been one of Arizona's premier mining districts, with 137 mines located within the study area. These mines consist of active and inactive mines, and include the Miami mine, the largest copper producer in the Globe-Miami mining area. Currently, an extensive reclamation program is underway among the mining companies in the area to remediate contaminated ground water downstream of the historic production sites.

Large Quantity Generators (LQG) of Waste: As defined by the EPA, large quantity generators (LQG) generate more than 1,000 kilograms of hazardous waste per month. Currently there are two LQG's located within the study area, the Miami Mine and the Qwest-Globe Central Office.

Active Municipal Solid Waste Landfill: The Russell Gulch Landfill is located south of the City of Globe along Russell Road. The Russell Gulch Landfill occupies approximately 87 acres between Globe and Miami and actively collects solid waste and recycles green waste, metal, batteries, oil, and tires.

Superfund: The Pinal Creek Water Quality Assurance Revolving Fund (WQARF) Site occupies approximately 37.6 sq. miles, or 24%, of the study area. Currently, ADEQ is reviewing source control remedial investigations (RIs) and feasibility studies (FSs) at the copper mining facilities. In addition, source control remedial actions are being implemented at the copper mining facilities and a site-wide soils investigation is currently under review.

Air Quality: Approximately 68% of the study area is located within a Sulfur Dioxide (SO2) Maintenance area, with the primary source of sulfur dioxide pollution in the area being the Freeport-McMoRan Miami copper smelter. In addition, approximately 49% of the study area is within a Particle Matter (PM10) Nonattainment area, which is largely attributed to emissions from nearby copper mines and fugitive emissions from vehicular traffic.

High Risk Flood Prone Areas: Flood zones are geographic areas that FEMA has defined according to varying levels of flood risk. Within the Cobre Valley study area, several areas are part of the FEMA defined "High Risk Flooding Areas", which range from areas with a 1% annual chance of flooding to a 26% chance of flooding over the life of a 30-year mortgage.

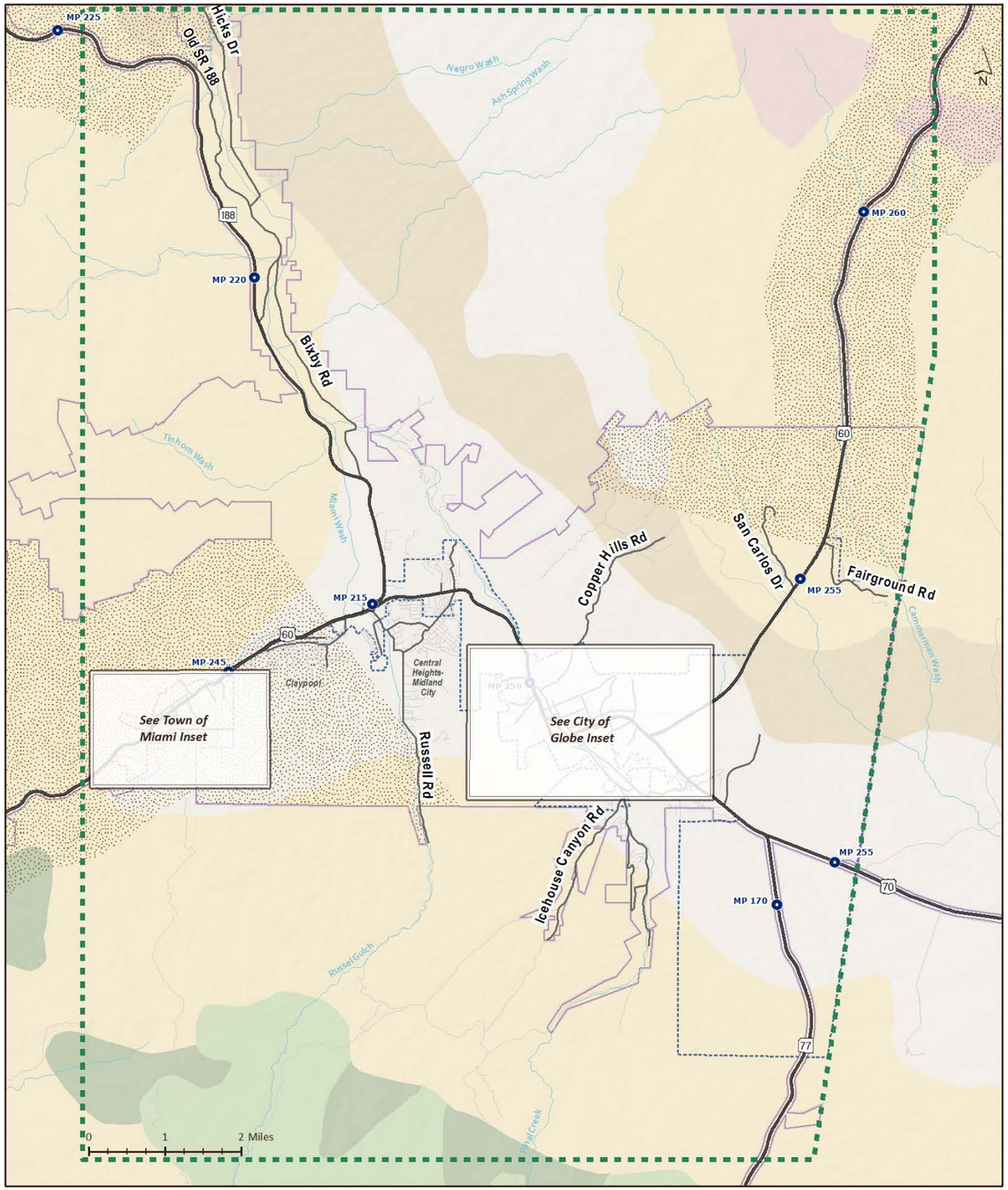
Endangered Species: The Arizona Game and Fish Department (AZGFD) has identified several endangered species within the proximity of the planning area. Endangered and threatened species within the study area include the Arizona Hedgehog Cactus, Bald Eagles, Golden Eagles, Mexican Spotted Owls, and the Southwestern Willow Flycatcher. The study area also includes approximately 37.6 sq miles of critical habitat for the Mexican Spotted Owl, which may require special management consideration since this specific geographic area may be essential for the conservation of this threatened species. A full listing of endangered species within the study area is listed in Table 2.6.

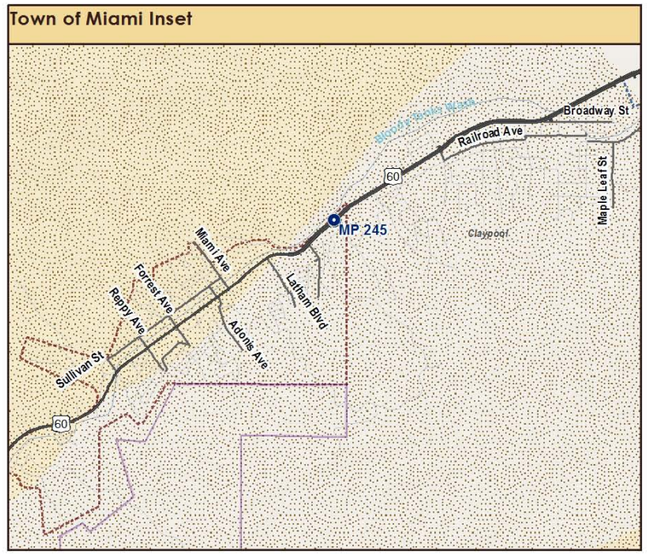
TABLE 2.6: ARIZONA GAME AND FISH ENDANGERED AND THREATENED SPECIES

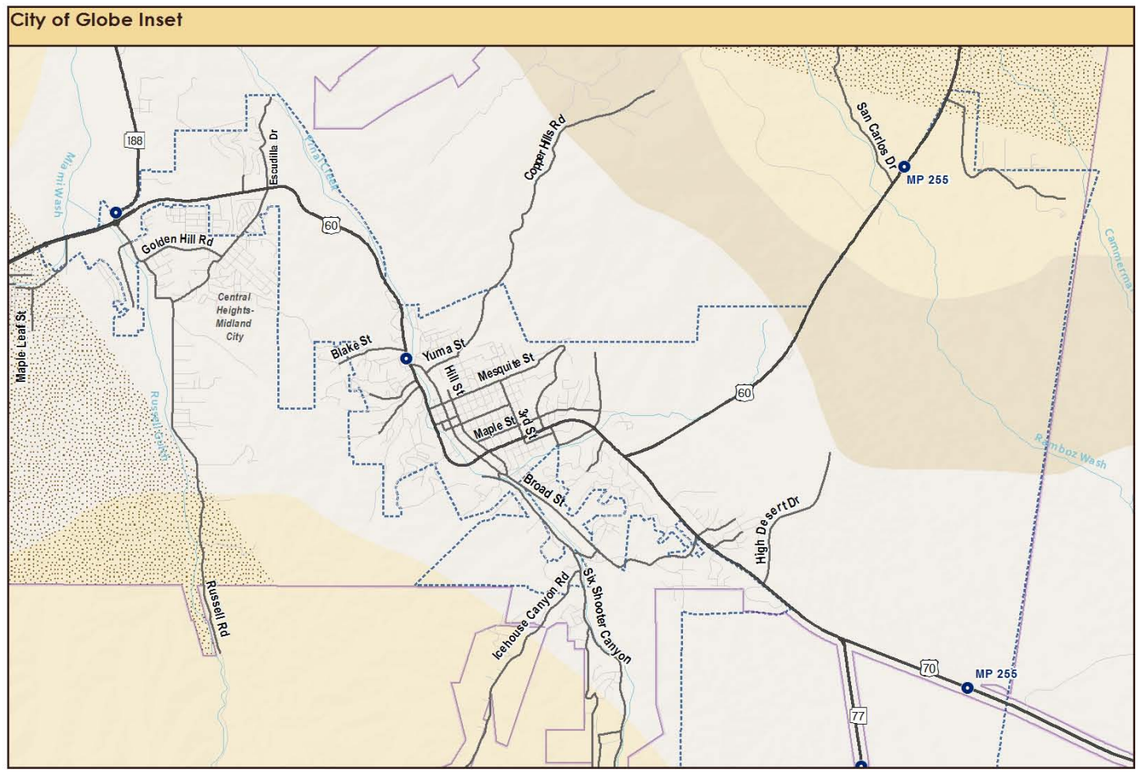
AZ Game & Fish Identified Species and Habitats within the Study Area	
American Peregrine Falcon (SC)	Mexican Spotted Owl (T)
Arizona Alum Root (U)	Northern Gray Hawk (SC)
Arizona Hedgehog Cactus (E)	Pale Townsend's Big-Eared Bat (SC)
Arizona Myotis (SC)	Reticulate Gila Monster (U)
Bald Eagle - Sonoran Desert Population (T) (BGA)	San Carlos Wild-buckwheat (SC)
Bald Eagle - Winter Population (T) (BGA)	Sonoran Desert Tortoise (C)
Cave Myotis (SC)	Southwestern Willow Flycatcher (E)
Golden Eagle (BGA)	Tonto Basin Agave (SC)
Lowland Leopard Frog (SC)	Yellow-billed Cuckoo (PS)

BGA = Included in the Bald and Golden Eagle Protection Act
T= Threatened under the Endangered Species Act
PS = Partial Status under the Endangered Species Act
S = BLM Sensitive Species
E = Endangered under the Endangered Species Act
C = Candidate under the Endangered Species Act
U = USFS Sensitive Species
SC= Species of Concern to the US Fish and Wildlife Service

FIGURE 2.8: ENVIRONMENTAL OVERVIEW







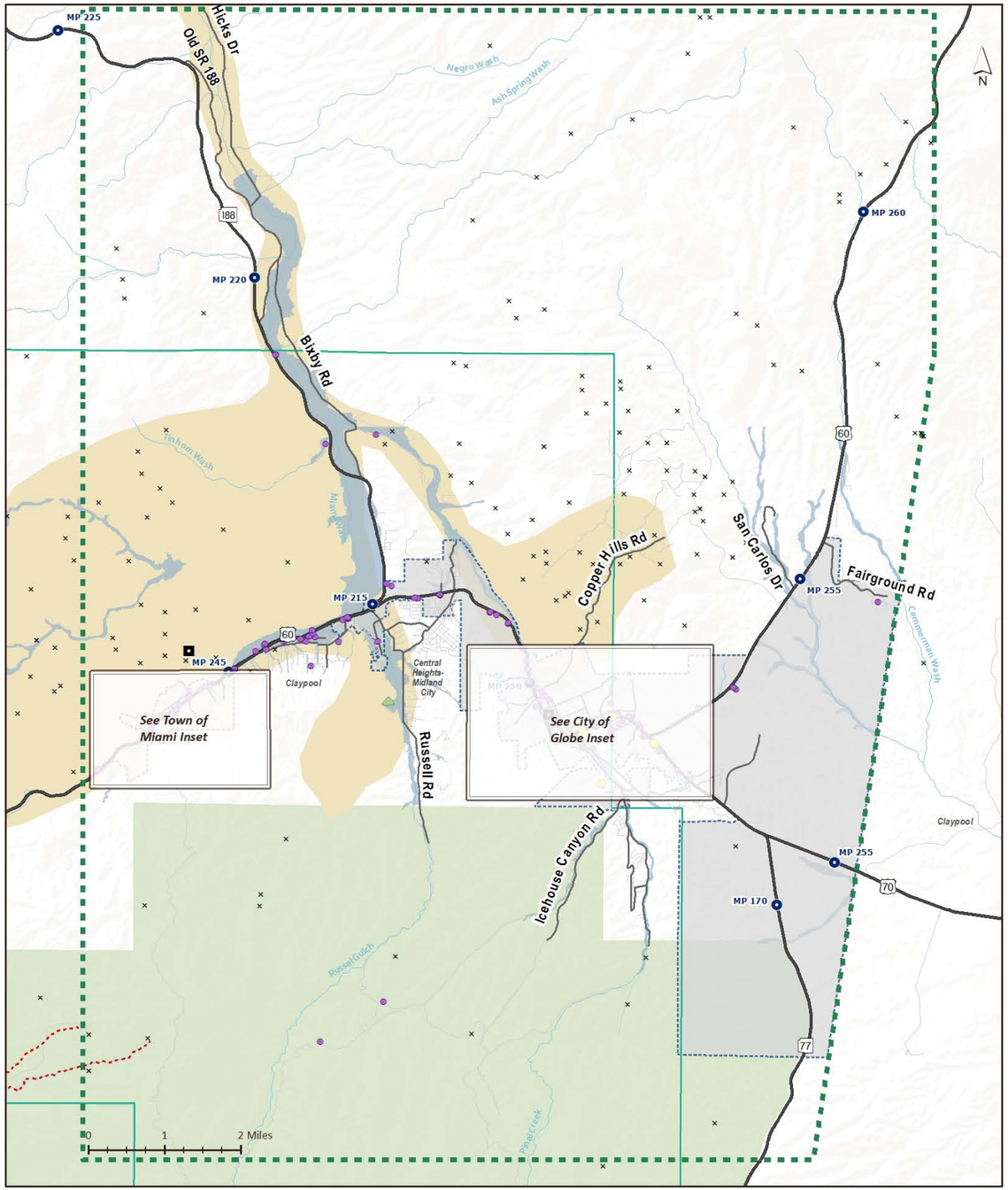
Legend

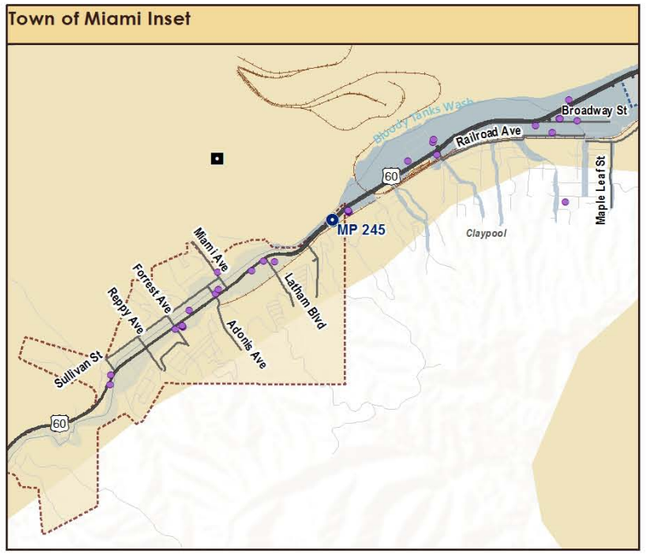
- AZ Upland Subdivison - Sonoran Desertscrub
- Great Basin Conifer Woodland
- Interior Chapparal
- Madrean Evergreen Woodland
- Petran Montane Conifer Forest
- Semidesrt Gassland
- Potential Wildlife Linkage Zone*
- Wildlife Habitat Blocks*
- State or US Highway
- Study Roadway
- Local Roadway
- Streams
- Study Area
- City of Globe
- Town of Miami

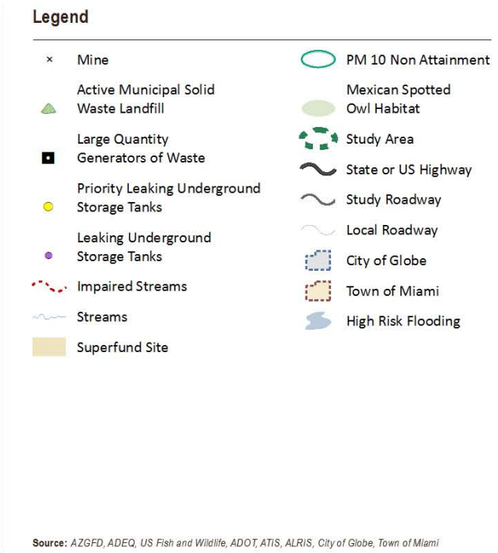
**Wildlife habitat blocks are defined as large, contiguous areas of natural woodland with little or no human disturbance and are essential for maintaining a diverse and healthy population of wildlife. Wildlife linkage zones are areas of wildlife movement between wildlife blocks.*

Source: *ADOT, ATIS, ALRIS, City of Globe, City of Miami*

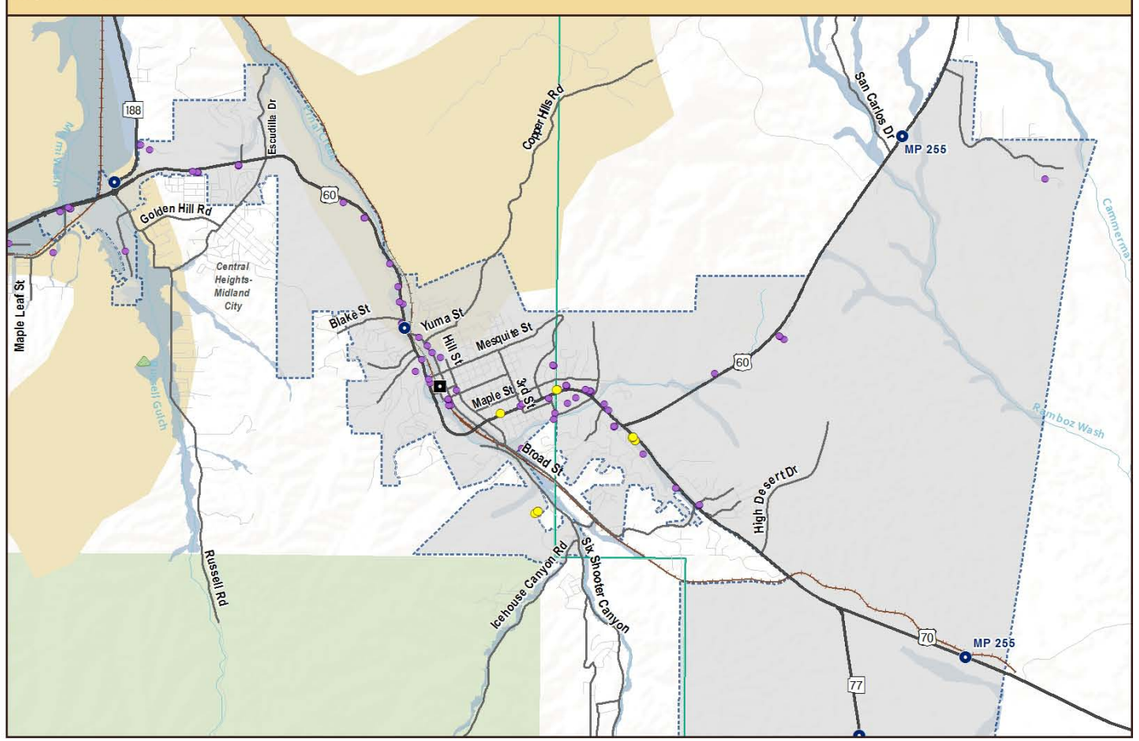
FIGURE 2.9: ENVIRONMENTAL CONCERNS







Source: *AZGFD, ADEQ, US Fish and Wildlife, ADOT, ATIS, ALRIS, City of Globe, Town of Miami*



EXISTING TRANSPORTATION CONDITIONS

This section inventories major elements of the existing transportation system and documents the status/condition of each element. Major elements inventoried include bridges, pavement conditions, crashes, traffic conditions, roadway performance, and other modes of transportation in the study area.

Existing Roadway System

Major Roadways

The study area is comprised of a network of major arterial, collector, and local roadways. The following is a summary of characteristics of the major roadways that transverse the study area:

US 60:
- ADOT owned east-west highway that serves as a connection to the Phoenix metropolitan area in the west and to the White Mountains and New Mexico in the east.
- Provides local access to businesses and residential areas.
- Predominantly four-lane (two lanes in each direction) with one center turn lane or raised median through the study area. Road narrows to two-lanes (one in each direction) outside of the urban areas.
- From Plaza Avenue to Latham Boulevard in Miami, US 60 is four-lanes (two lanes in each direction) with on street parking available.
- Speeds range from 30 mph to 55 mph.
- Four traffic signals are located in the Town of Miami and nine traffic signals are located within the City of Globe.

SR 188:
- ADOT owned north-south minor arterial that serves local traffic and as a regional connection to Apache Trail, Theodore Roosevelt Lake, and SR 87.
- Two-lane (one lane in each direction) highway that transitions to four lanes with one turn lane north of Globe.
- Speeds range from 35 mph to 55 mph.

US 70:
- East-west arterial that provides connectivity between the City of Globe and the San Carlos Indian Reservation.
- Four-lane (two lanes in each direction) with a center turn lane highway that transitions to a two-lane highway at the SR 77 intersection.
- One traffic signal located at the intersection of Montecito Drive.

Broad Street (Globe):
- Two-lane (one lane in each direction) minor arterial that provides connectivity between US 60 and Downtown Globe.
- Commences at US 60 with a traffic signal and ends at the two-way stop sign at the intersection of Walliman Road.
- On street parking is available along most of the roadway.

Walliman Road(Globe):
- Two-lane (one lane in each direction) collector that serves local traffic.
- The Union Pacific Railroad is located parallel to the roadway.

Jesse Hayes Road(Globe):
- East-West two-lane (one lane in each direction) minor arterial that provides local access to the Globe Community Center, Globe Public Works Office, and to Ice House Canyon Road and Six Shooter Canyon Road.

Sullivan Street (Miami):
- East-West two-lane (one lane in each direction) collector that provides local access to businesses located in Downtown Miami.

Roadway Functional Classification

Functional Classification is the grouping of streets and highways by the character of service they intend to provide. Defining a street's functional classification, serves as a basis for establishing speed limits, design standards, and access controls. Approved FHWA functional classifications for the Cobre Valley study area are presented in Figure 2.10. The figure also illustrates local roadways that do not have a FHWA functional classification, which makes them ineligible for federal funding.

Number of Lanes and Posted Speed Limits

A field review was conducted to inventory the number of lanes and posted speed limits for major roadways in the study area. In addition, traffic control type (signals, roundabouts, stop signs, etc.) at major intersections was also inventoried. Figure 2.11 displays the number of lanes for each roadway while Figure 2.12 displays posted speed limits and traffic signal locations. The following are key observations noted during the field review:

Number of Lanes:
- US 60 from Latham Boulevard in Miami to east of US 70 in Globe is four lanes (two lanes in each direction) with a center turn lane or raised median.
- US 70 transitions from four lanes (two lanes in each direction) with a center turn lane at US 60 to a two-lane road (one lane in each direction) at SR 77.
- SR 188 is four lanes (two lanes in each direction) plus a center turn lane from US 60 to Bixby Road.
- Copper Road has four lanes (two lanes in each direction).
- Elmwood Avenue and Mesquite Street are one-lane, one-way local roadways.
- Walliman Road, Jesse Hayes Road, and Sullivan Street are two-lanes (one lane in each direction).

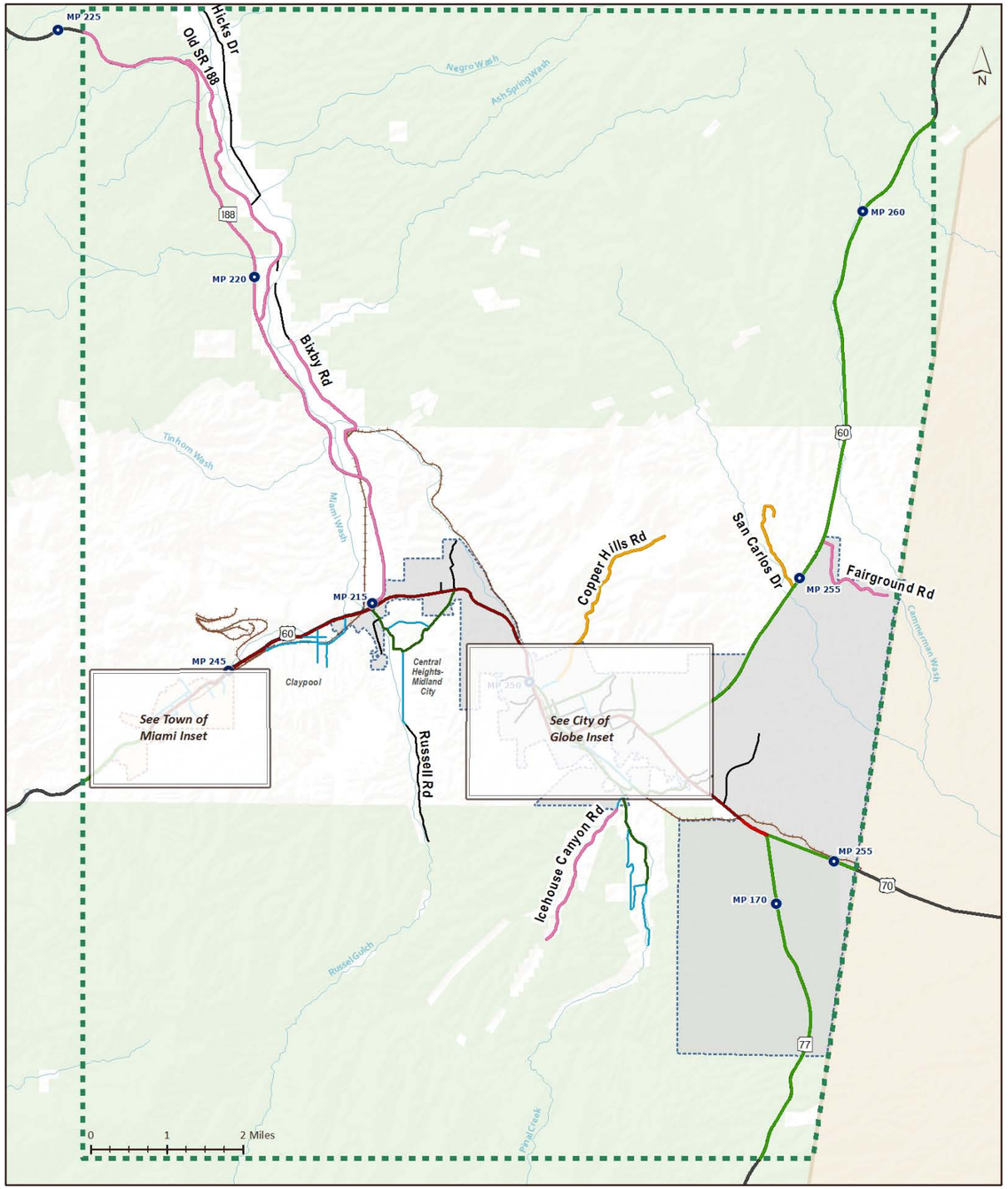
Speed Limits:

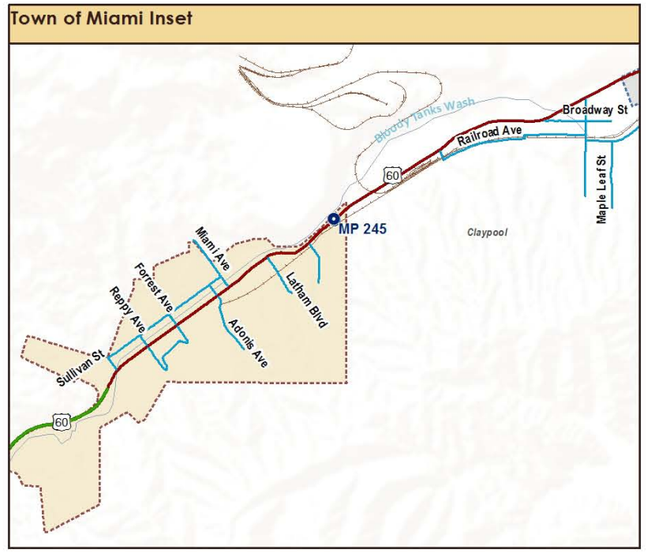
- US 60 ranges from 35 mph to 55 mph
- SR 188 ranges from 35 mph to 55 mph
- US 70 ranges from 45 mph to 55 mph
- SR 77 ranges from 45 mph to 55 mph
- Icehouse Canyon Road and portions of Six Shooter Canyon Road are 35 mph
- Majority of streets in the study area are 25 mph or less

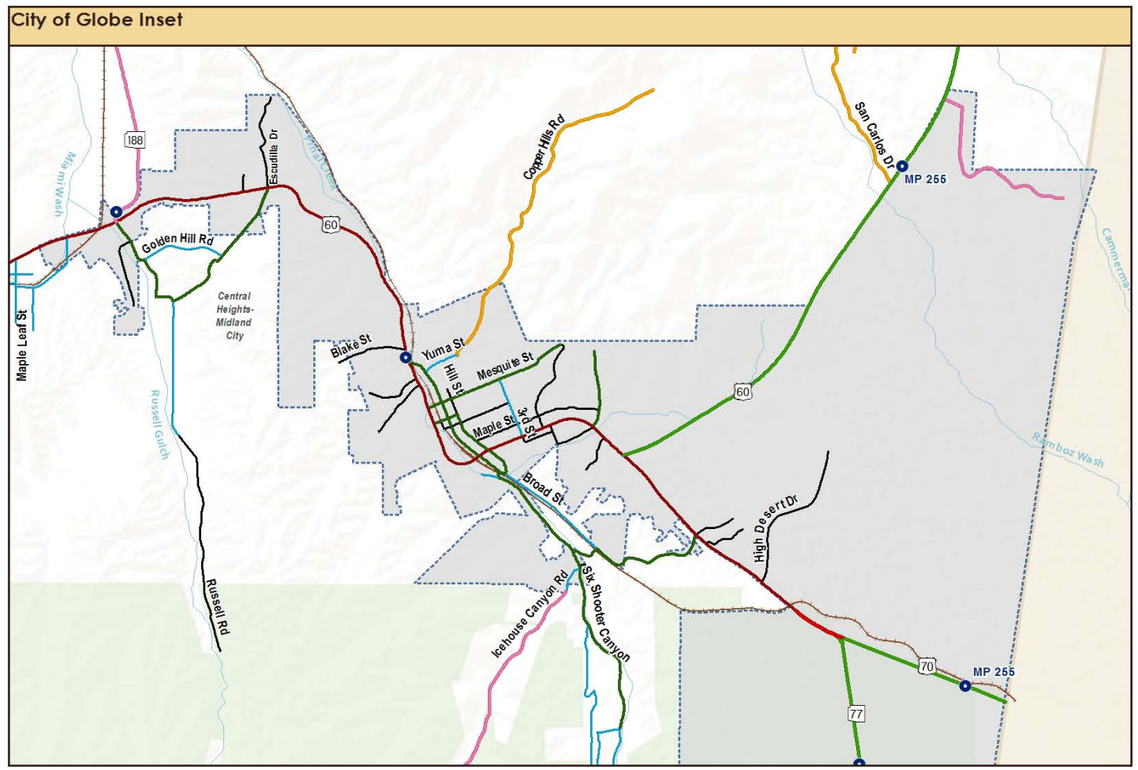
Traffic Signals:

- US 60/Reppy Avenue (Miami)
- US 60/Forrest Avenue (Miami)
- US 60/Keystone Avenue (Miami)
- US 60/Miami Avenue (Miami)
- US 60/New Street (Claypool)
- US 60/Wal-Mart Shopping Center (Globe)
- US 60/SR 188 (Globe)
- US 60/Fry's Shopping Center (Globe)
- US 60/Escudilla Drive (Globe)
- US 60/Broad Street (Globe)
- US 60/Hill Street (Globe)
- US 60/3rd Street (Globe)
- US 60/US 70 (Globe)
- US 70/Montecito Drive (Globe)

FIGURE 2.10: FUNCTIONAL CLASSIFICATION







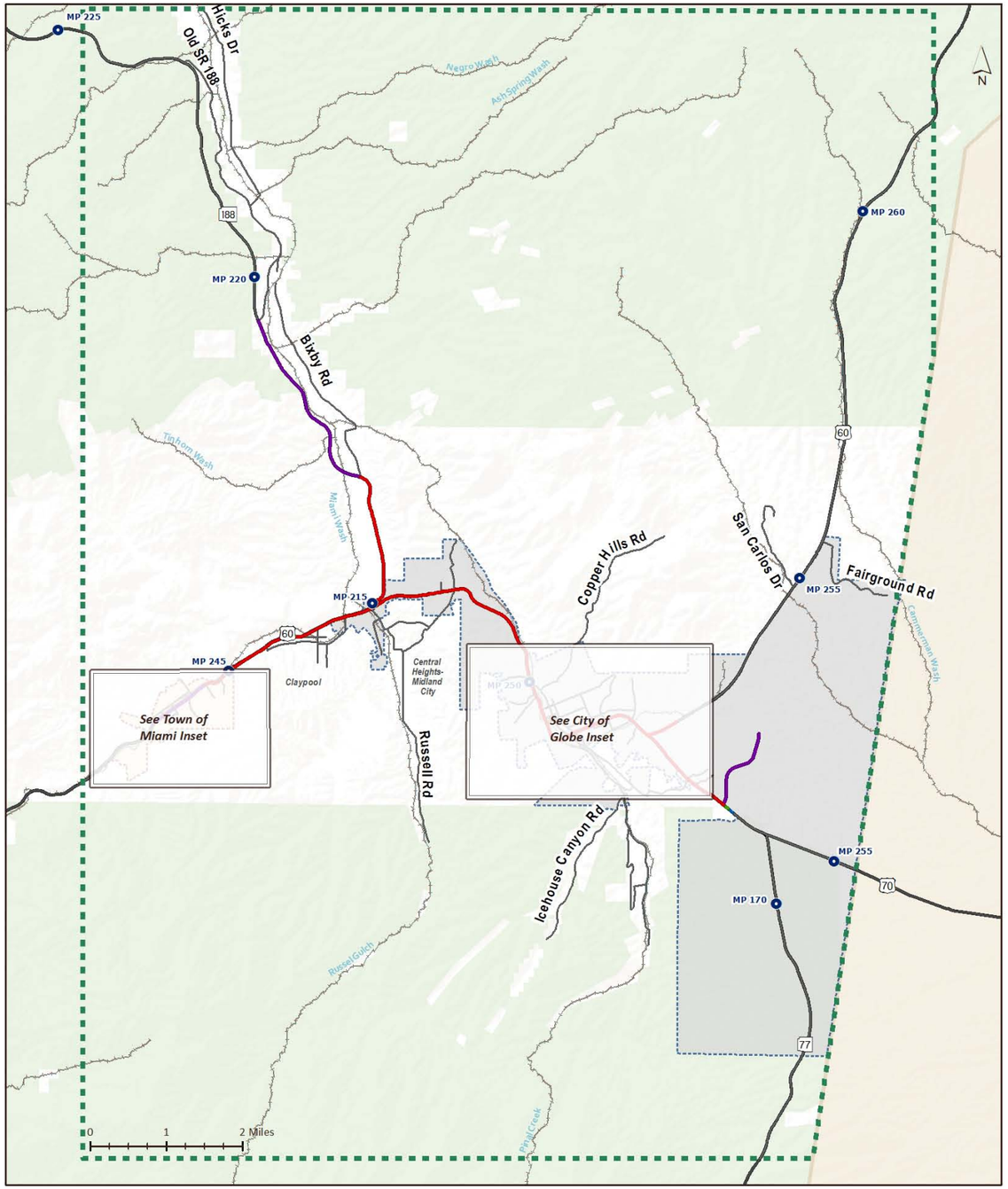
Legend

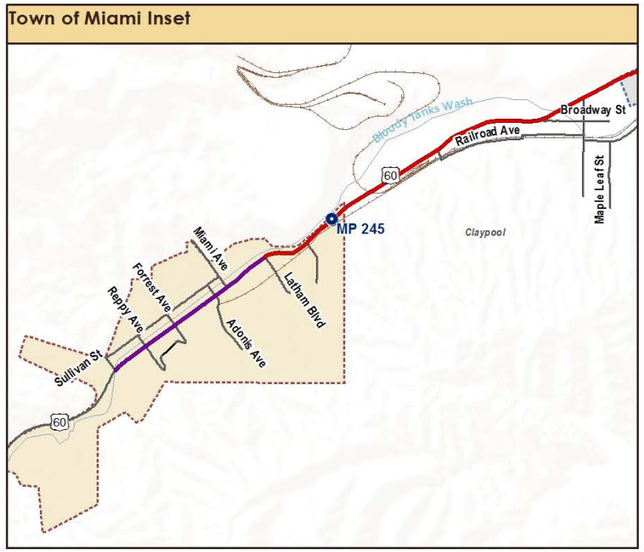
- Rural Principal Arterial
- Rural Minor Arterial
- Rural Major Collector
- Rural Minor Collector
- Urban Principal Arterial
- Urban Minor Arterial
- Urban Collector
- Not Federally Classified
- Tonto National Forest
- San Carlos Apache Tribe
- Streams
- Railroad
- Study Area
- City of Globe
- Town of Miami
- World Terrain Base

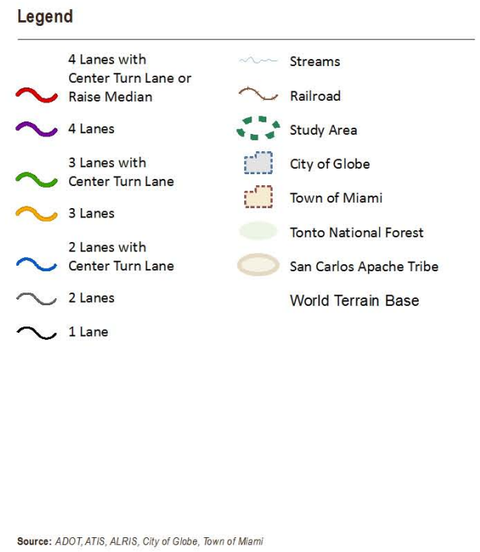
**Functional classification shown is based on the federally approved functional classification. The functional classification may not be the same as the City of Globe or Town of Miami functional classification.*

Source: *ADOT, ATIS, ALRIS, City of Globe, Town of Miami*

FIGURE 2.11: NUMBER OF LANES







Source: *ADOT, ATIS, ALRIS, City of Globe, Town of Miami*

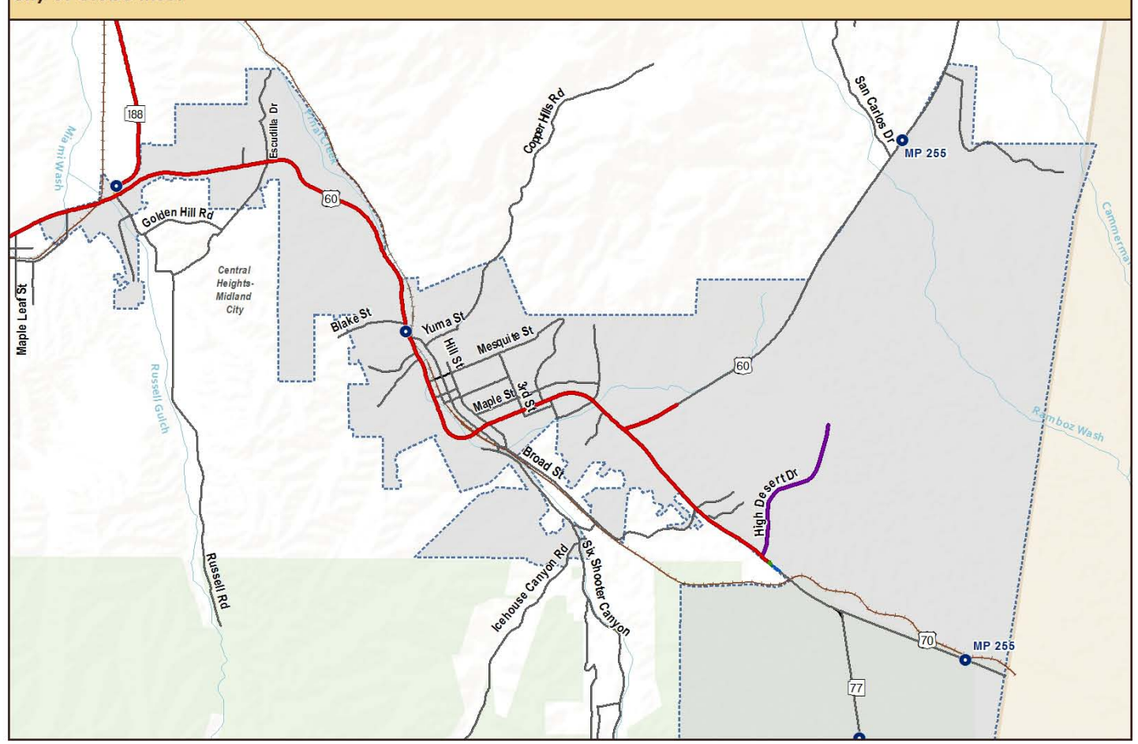
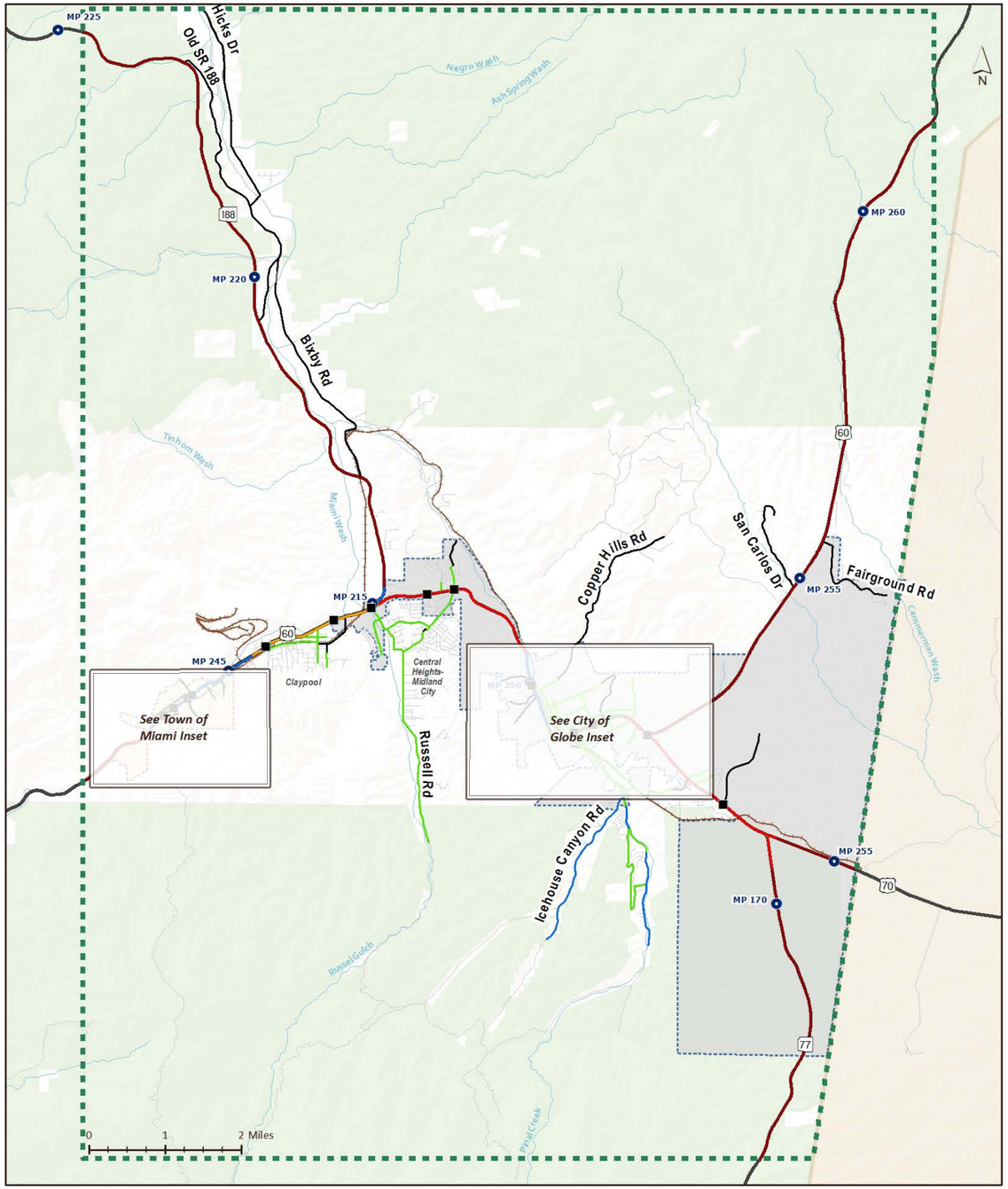
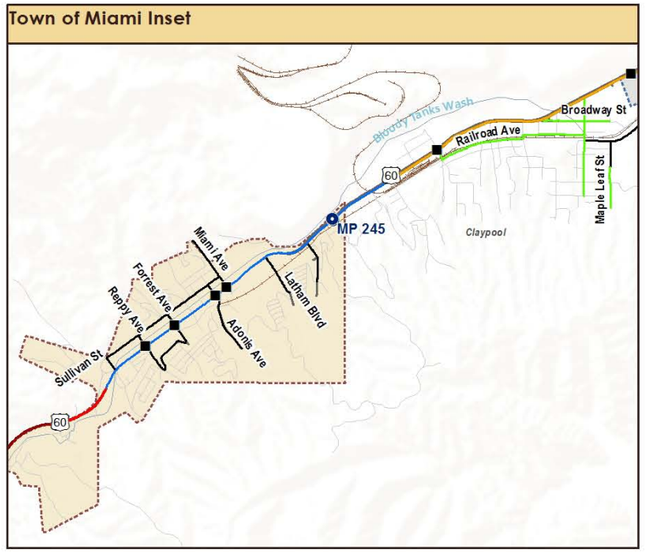
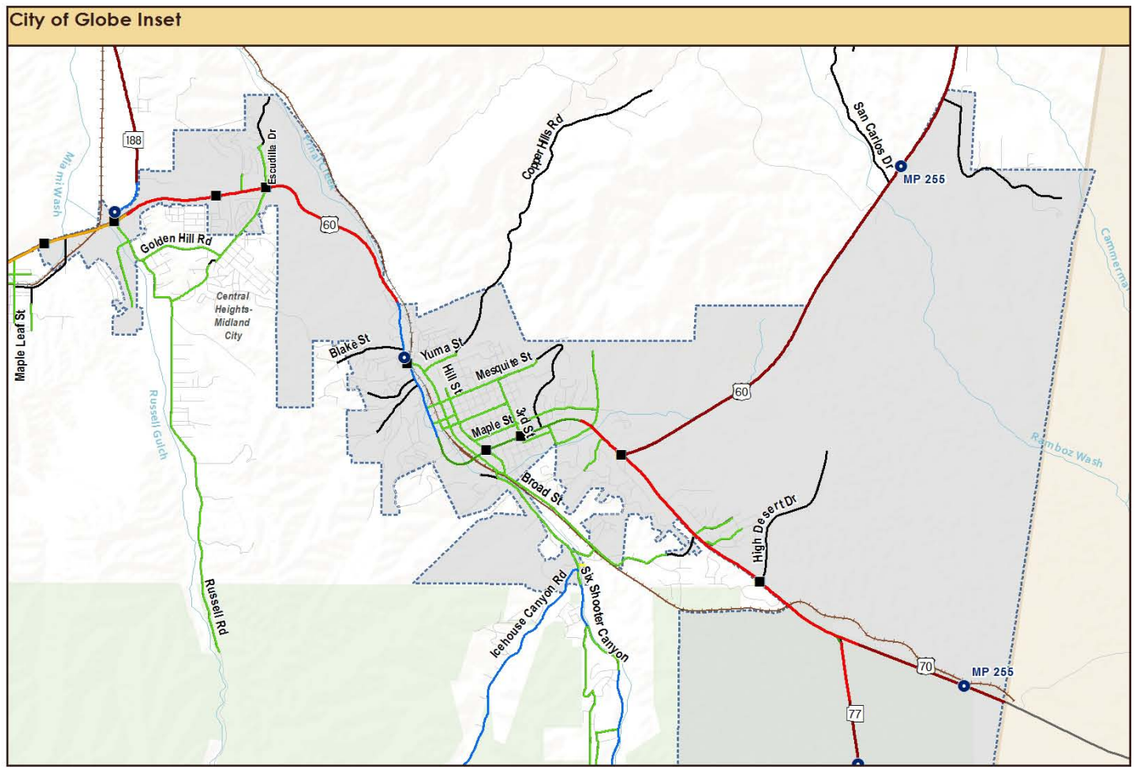


FIGURE 2.12: SPEED LIMITS AND TRAFFIC SIGNAL LOCATIONS







Legend

- Traffic Signal
- 15 MPH or Less
- 25 MPH
- 30 MPH
- 35 MPH
- 40 MPH
- 45 MPH
- 55 MPH
- Streams
- Railroad
- Study Area
- City of Globe
- Town of Miami
- Tonto National Forest
- San Carlos Apache Tribe
- World Terrain Base

Source: *ADOT, ATIS, ALRIS, City of Globe, Town of Miami*

Pavement Condition

Pavement condition information for ADOT owned facilities was obtained from the ADOT Pavement Management System. Remaining study roadway pavement conditions were determined through visual inspection during the field review. Input on local roadway conditions was also obtained from Town and City staff and TAC members. The study area consists of 85.49 miles of roadway, of which 5.55 miles were determined to be in poor pavement condition, 29.68 miles in fair condition, and 3.50 miles unpaved. Roadways that were identified as poor condition are in need of major maintenance, such as chip seal, flush coat, micro seal, or major crack sealing within three years. Table 2.7 lists the poor pavement and unpaved roadways located within the study area and Figure 2.13 presents an illustration of these road segments.

TABLE 2.7: STUDY AREA PAVEMENT CONDITIONS

Street Name	Beginning	Ending	Length (miles)	Condition
3rd Street	Mesquite Street	Maple Street	0.35	Poor - Portions are overdue for maintenance
3rd Street	US 60	Monroe Street	0.05	Poor
6th Street	School	Sycamore Street	0.42	Poor
Adonis Avenue	US 60	Pavement Ending	0.29	Poor
Beer Tree Crossing	Jesse Hayes Road	Saguaro Drive	0.21	Poor - Portions are overdue for maintenance
Blake Street	Omega Road	End	0.16	Poor - Portions are overdue for maintenance
Broad Street	Mesquite Street	Sycamore Street	0.18	Poor
Copper Hills Road	High Street	0.14 Mile East	0.14	Poor
Escudilla Drive	US 60	Pinaleno Pass	0.3	Poor
Euclid Avenue	US 60	Euclid Loop	0.4	Poor - Portions are overdue for maintenance
Hackney Avenue	US 60	Pavement Ending	0.45	Poor
High Street	Yuma Road	Copper Hills Road	0.02	Poor
Hill Street	North of Hill Street	Cedar Street	0.34	Poor
Keystone Avenue	Sullivan Street	US 60	0.06	Poor
Latham Boulevard	US 60	Hardy Road	0.2	Poor
Loomis Avenue	US 60	Hardy Road	0.03	Poor
Maple Street	East Street	1st Street	0.05	Poor
Maple Street	6th Street	11th Street	0.31	Poor
Mesquite Street	Bailey Street	School	0.17	Poor
Miami Avenue	McKenzie Street	Pavement Ending	0.1	Poor

TABLE 2.7: STUDY AREA PAVEMENT CONDITIONS (CONTINUED)

Street Name	Beginning	Ending	Length (miles)	Condition
Pine Street	Oak Street	Sullivan Street	0.07	Poor
Plaza Avenue	Sullivan Street	US 60	0.07	Poor
Prickly Pear Drive	US 60	Agave Drive	0.28	Poor
Reppy Avenue	Sullivan Street	Elwood Avenue	0.19	Poor
Rose Road	Elwood Avenue	Forrest Avenue	0.21	Poor
South Street	7th Street	Maple Street	0.41	Poor - Portions are overdue for maintenance
Sycamore Street	Broad Street	Sutherland Street	0.13	Poor
Yuma Street	Broad Street	High Street	0.27	Poor - Portions are overdue for maintenance
Copper Hills Road	Pavement Ending	~0.35 miles east of Copper Canyon Road	1.96	Unpaved
Pinaleno Pass Road	Pavement Ending	Pinal Creek Road	0.25	Unpaved
Round Mountain Park Road	Maple Street	Pavement Ending	0.42	Unpaved
Russell Road	Quail Run Road	~0.8 miles south of Quail Run Road	0.86	Unpaved

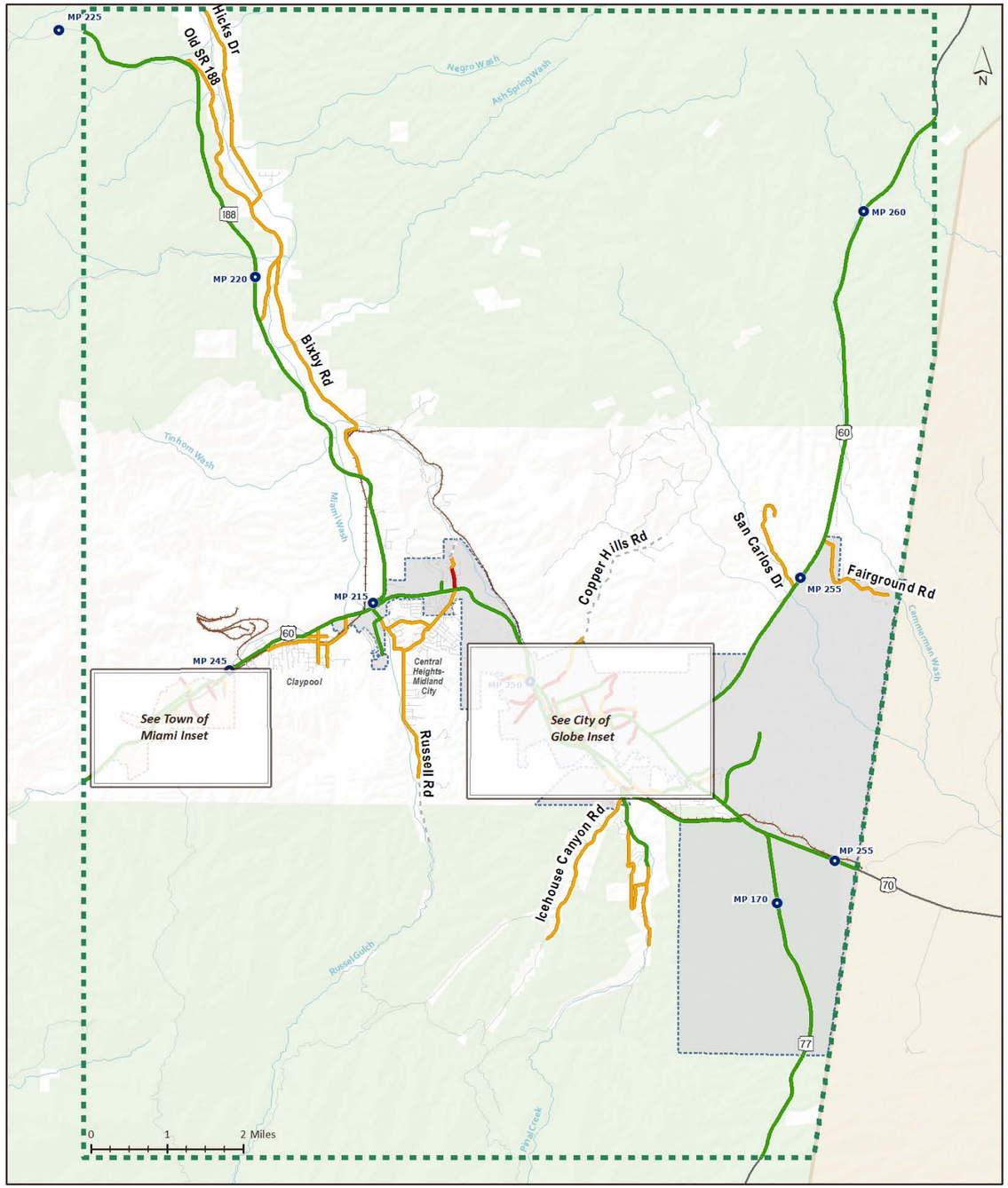
Bridges and Culverts

FHWA's National Bridge Inventory database was used to identify the locations of all bridges in the study area. A total of 51 bridges were identified within the study area, of which seven were deemed eligible for replacement and 19 were deemed eligible for rehabilitation. In addition, nine bridges were classified as functionally obsolete and three were deemed structurally obsolete. Table 2.8 lists the ADOT sufficiency rating and condition of bridges within the study area. Bridge location and conditions are further illustrated in Figure 2.14.

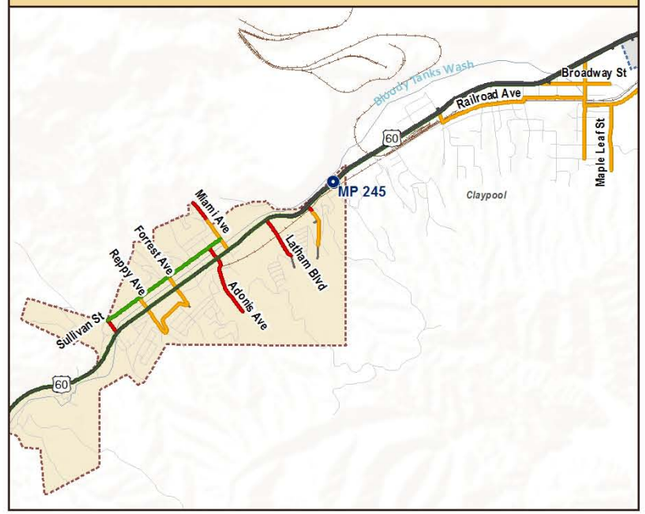
At-Grade Railroad Crossings

At-grade railroad crossings occur where a railway line is intersected by a road or path without a bridge or a tunnel. These crossings present possible dangers to motorists and train crews when laws are violated. Utilizing the United States Department of Transportation National Highway-Rail Crossing Inventory, 41 at-grade railroad crossings were located within the study area. The majority of crossings occur along the Arizona Eastern Railway between Miami and Globe and in Downtown Globe. Figure 2.15 illustrates the locations of the at-grade railroad crossings.

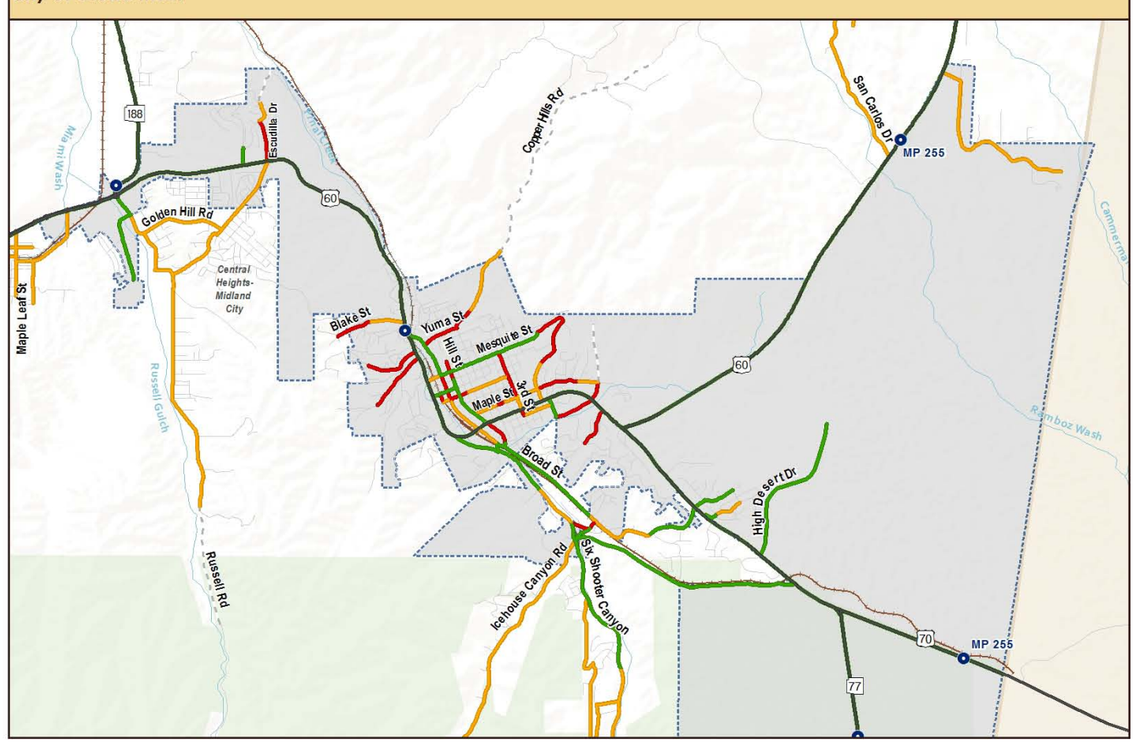
FIGURE 2.13: PAVEMENT CONDITIONS



Town of Miami Inset



City of Globe Inset



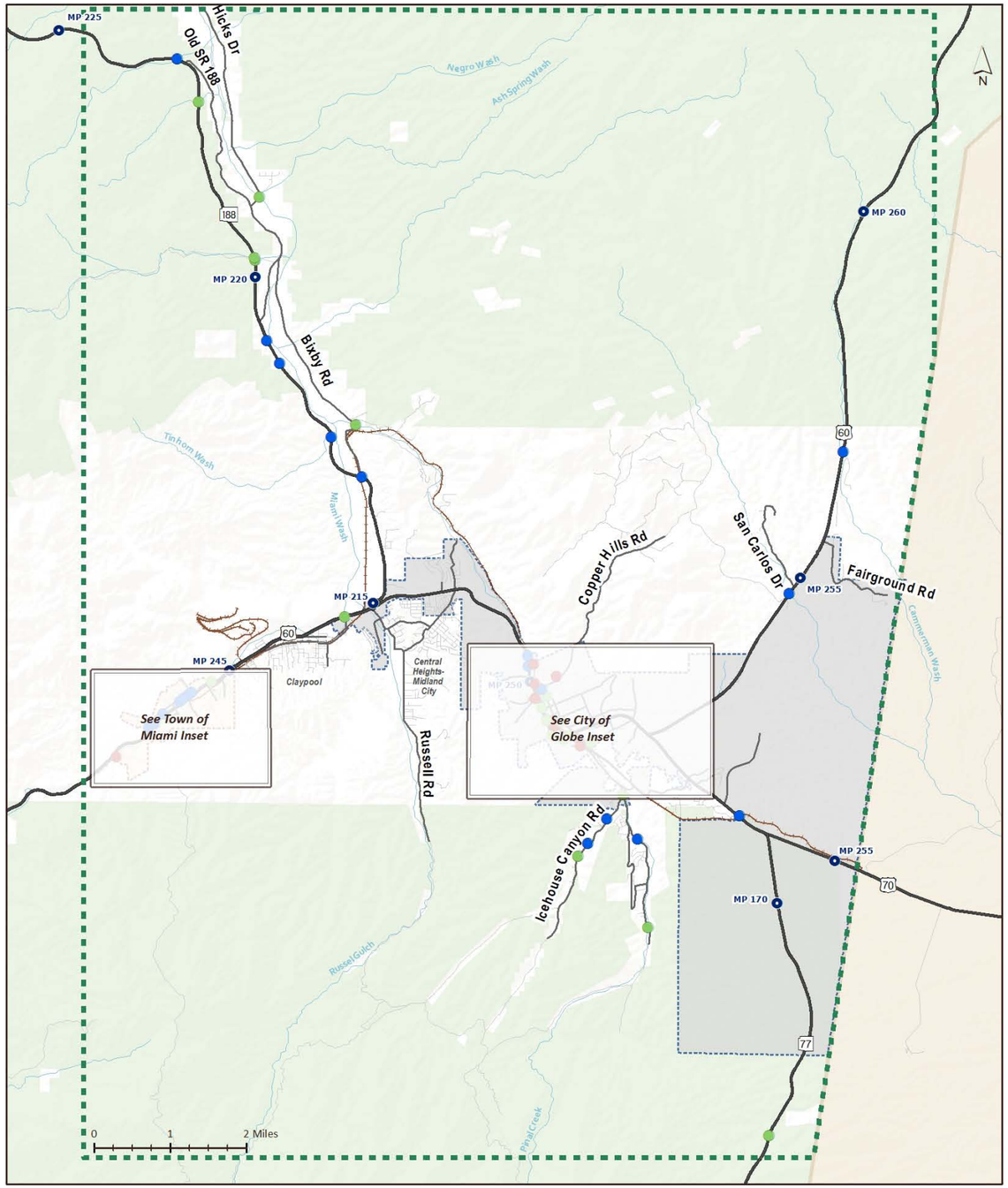
Legend

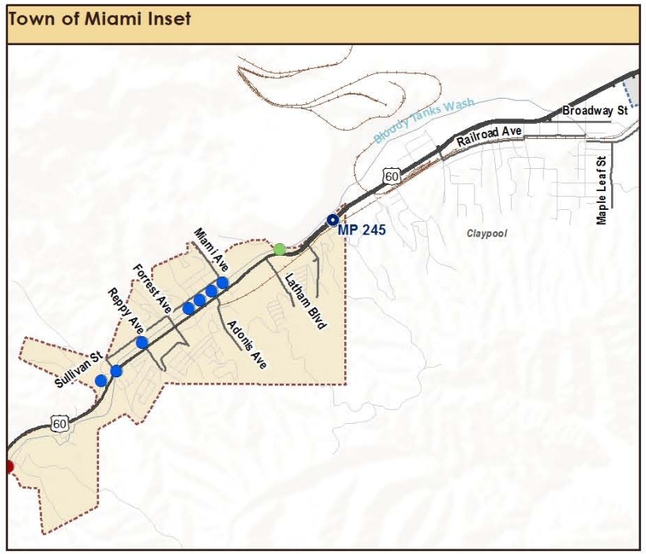
- Good Condition
- Fair Condition
- Poor Condition
- Unpaved
- Study Roadway
- Local Roadway
- Study Area
- Streams
- Railroad
- City of Globe
- Town of Miami
- Tonto National Forest
- San Carlos Apache Tribe
- World Terrain Base

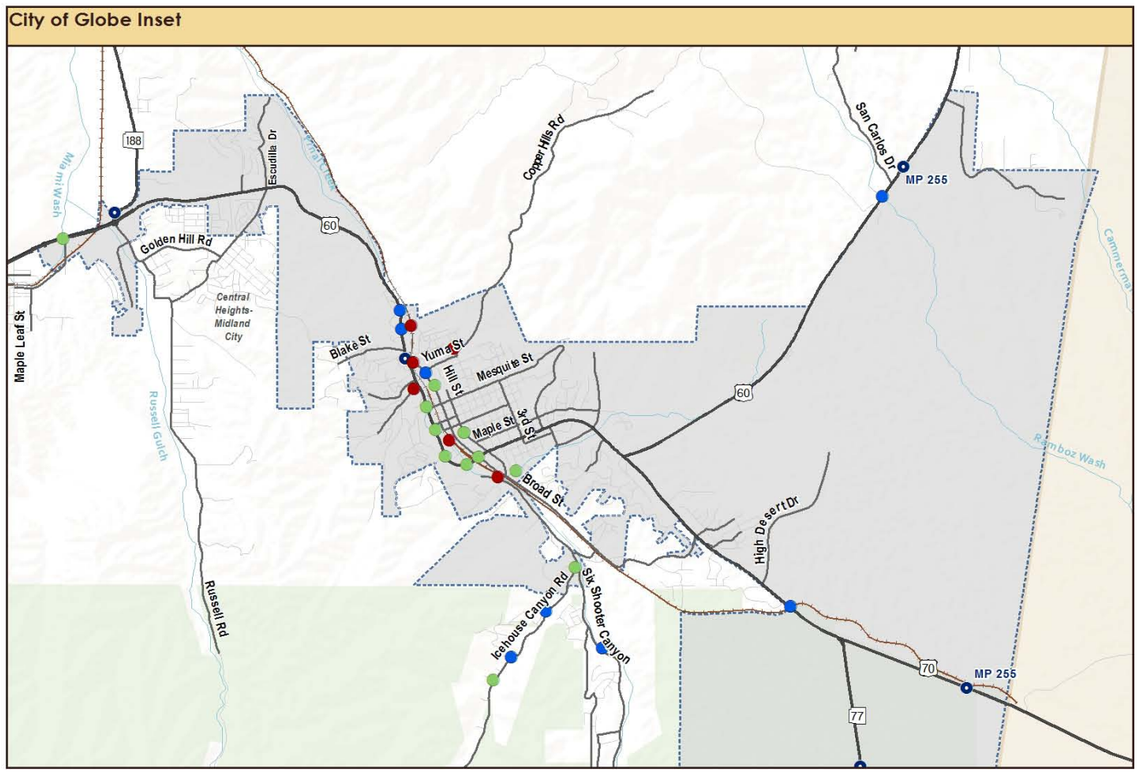
Pavement conditions are based on visual inspections collected during field review of the study area on August 17, 2011 and from input from local jurisdiction leaders.

Source: *ATIS, ALRIS, City of Globe, Town of Miami*

FIGURE 2.14: BRIDGE CONDITIONS





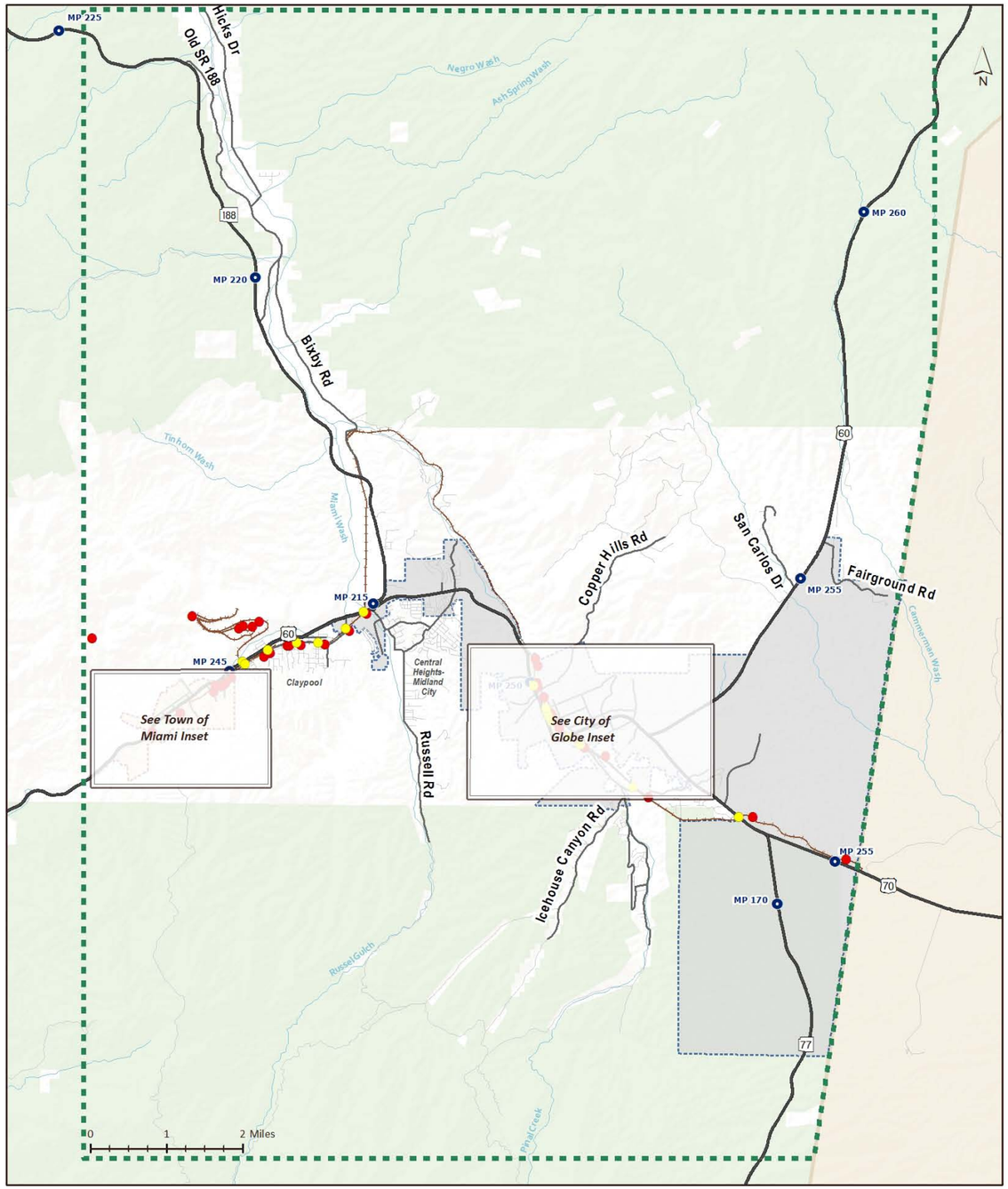


Legend

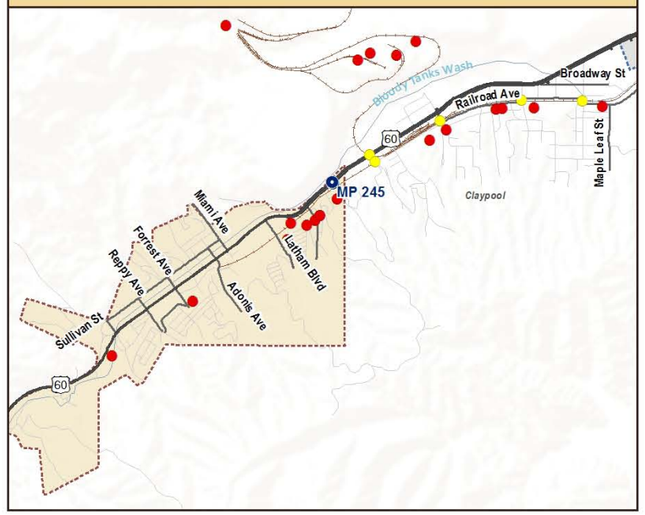
- Good Condition
- Eligible for Rehabilitation
- Eligible for Replacement
- Study Area
- State or US Highway
- Study Roadway
- Local Roadway
- Streams
- Railroad
- City of Globe
- Town of Miami
- Tonto National Forest
- San Carlos Apache Tribe
- World Terrain Base

Source: *ATIS, ALRIS, City of Globe, Town of Miami, ADOT 1999 Status and Condition Report; ADOT*

FIGURE 2.15: AT-GRADE RAILROAD CROSSINGS



Town of Miami Inset



Legend

- At-Grade Railroad Crossing With No Gate Present
- At-Grade Railroad Crossing
- State or US Highway
- Study Roadway
- Local Roadway
- Railroad
- Streams
- Study Area
- City of Globe
- Town of Miami
- Tonto National Forest
- San Carlos Apache Tribe

World Terrain Base

<BOL>Source:</BOL> <ITA> ATIS, ALRIS, City of Globe, Town of Miami, US DOT National Highway-Rail Crossing Inventory

City of Globe Inset

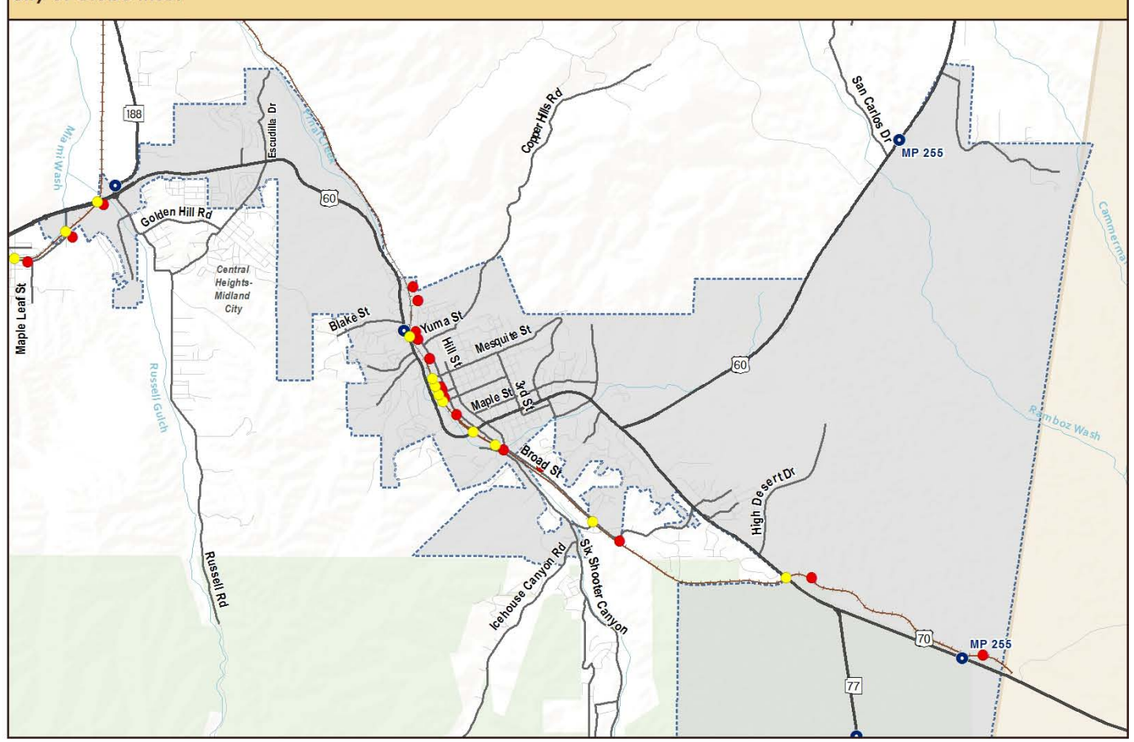


TABLE 2.8: STUDY AREA BRIDGE CONDITIONS

Road Name	Crossing Feature	Sufficiency Rating	Condition	Deficiency Classification	Comments
Albany Drive	Icehouse Canyon	70.5	Good Condition	Functionally Obsolete	
Broad Street	Pinal Creek	42.15	Eligible for Replacement	Structurally Obsolete	
Cordova Avenue	Bloody Tanks Wash	76.47	Eligible for Rehabilitation		Historic
Cottonwood Street	Pinal Creek	28.83	Eligible for Replacement	Structurally Obsolete	
Dickison Drive	Pinal Creek	56.0	Eligible for Rehabilitation		
Globe Street	Southern Pacific Railroad	18.5	Eligible for Replacement	Structurally Obsolete	Recently Closed to Traffic
Hackney Avenue	Graveyard Wash	47.92	Eligible for Replacement	Functionally Obsolete	
Haskins Road	Pinal Creek	48.19	Eligible for Replacement	Functionally Obsolete	
High Street	Copper Gulch	49.3	Eligible for Replacement	Functionally Obsolete	
Highland Drive	McMillen Wash	86.96	Good Condition	Functionally Obsolete	
Hill Street	Cottonwood Street	92.13	Good Condition	Functionally Obsolete	
Inspiration Avenue	Bloody Tanks Wash	76.49	Eligible for Rehabilitation		Historic
IRR US 60	Quartzite Wash	72.5	Eligible for Rehabilitation		
IRR US 70	Wash	69.18	Eligible for Rehabilitation		
Keystone Avenue	Bloody Tanks Wash	66.46	Eligible for Rehabilitation		Historic
Mackey Camp Road	Bloody Tanks Wash	0.0	Eligible for Replacement		Pending Replacement by FEMA
Miami Avenue	Bloody Tanks Wash	76.45	Eligible for Rehabilitation		Historic
Pinal View Drive	Icehouse Canyon	56.1	Eligible for Rehabilitation		
Reppy Avenue	Bloody Tanks Wash	76.51	Eligible for Rehabilitation		Historic
SR 188	Wash	69.18	Eligible for Rehabilitation		
SR 188	Wash	69.18	Eligible for Rehabilitation		
SR 188	Hicks Wash	69.18	Eligible for Rehabilitation		
SR 188	Tinhorn Wash	78.25	Eligible for Rehabilitation		
SR 188	Wash	78.25	Eligible for Rehabilitation		
Turner Street	Live Oak Canyon	76.49	Eligible for Rehabilitation		
US 60	Pinal Creek	53.45	Eligible for Rehabilitation		
US 60	Pinal Creek	59.86	Eligible for Rehabilitation		
US 60	Bloody Tanks Wash	72.76	Eligible for Rehabilitation	Functionally Obsolete	
US 60	Wash	80.0	Eligible for Rehabilitation		
US 60	Maple Street	91.07	Good Condition	Functionally Obsolete	
Yuma Street	Pinal Creek	60.26	Eligible for Rehabilitation		

* Bridge Sufficient Rating:
<50 = Eligible for Replacement
50 - 80 = Eligible for Rehabilitation
>80 = Good Condition

Source: Arizona Department of Transportation 1999 Status and Condition Report

Crash Data Analysis

Crash analysis was conducted for major roadways in the study area to identify trends, patterns, predominant crash reasons, and high crash rate intersections and corridors. The purpose of the crash analysis is to identify safety hazard locations that need to be addressed to improve area safety. Data for crashes occurring between October 2006 and October 2011 was obtained from ADOT's Accident Location Identification Surveillance System (ALISS) database. As shown in Figure 2.16, the total number of crashes within the study area peaked in 2007, and since has steadily declined.

COBRE VALLEY CRASH ANALYSIS

Total Crashes (5 year period): 1,405

Percentage of Accidents:

Collision with Fixed Object: 19.9%

Rear-End/Angle Collisions: 40.0%

Fatal: 0.9%

Pedestrian/Pedal cyclist: 2.1%

Intersection Related: 28.5%.

Driveway Access Related: 10.1%

Railroad Grade Crossing: 1.1%

FIGURE 2.16: CRASH TRENDS FROM OCTOBER 2006 - OCTOBER 2011

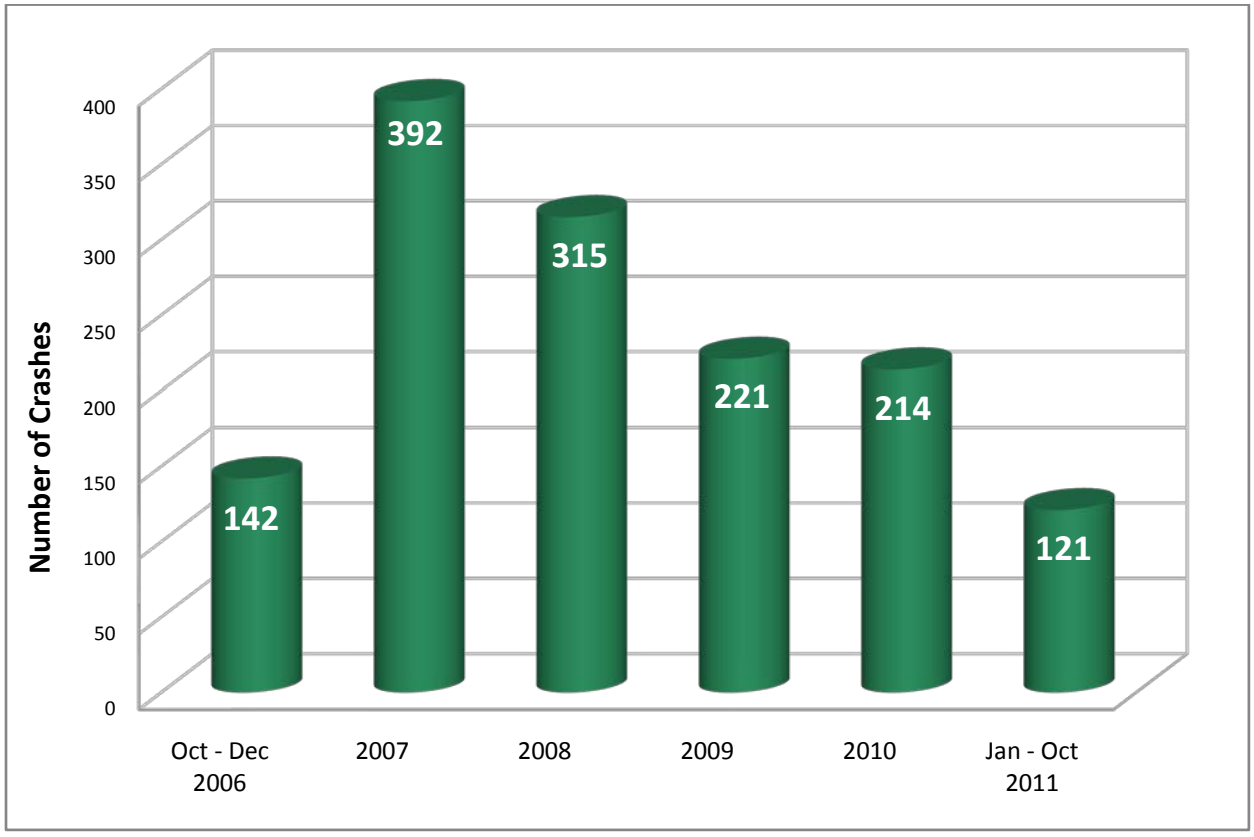
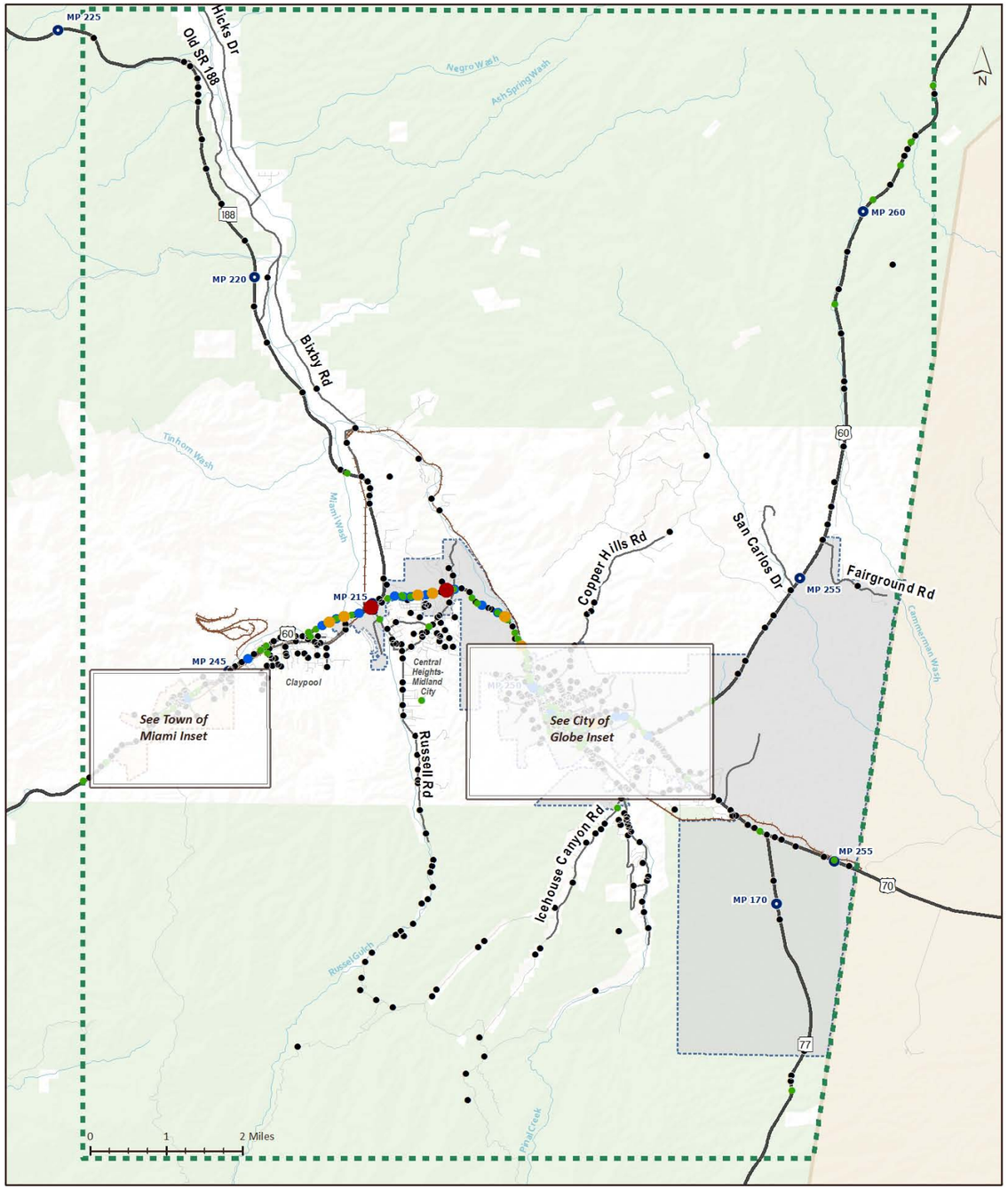


Figure 2.17 illustrates the location and number of collisions at each site during the analysis period, while Figure 2.18 illustrates the overall density of crashes and the location of collisions with pedal cyclist/pedestrians and fatal crashes. A review of the two figures identifies the following issues:

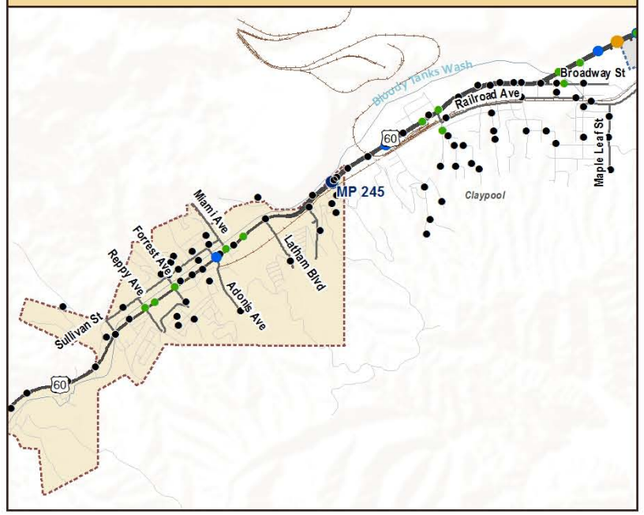
- The highest concentrations of collisions within the study area occurred along US 60, Broad Street, US 70, SR 188, Hill Street, Sycamore Street, Six Shooter Road, and Russell Road.
- A large number of collisions occurred along US 60 in the Claypool area. Collisions within this area were predominantly rear-end or angle collisions. These collisions were also largely cited as being caused by no improper action, inattention, or failure to yield to right of way.
- A significant number of rear-end and angle collisions also occurred on US 60 between MP 250 and US 70 (44 rear-end and 42 angle collisions total). These collisions were largely cited as being caused by no improper action, inattention, or failure to yield right-of-way.
- Significant number of intersection related crashes occurred along US 60, particularly at the SR 188, Escudilla Drive, 3rd Street, and US 70 intersections. The intersection related crashes along US 60 were largely cited as occurring due to inattention, no improper action, failure to yield right-of-way, and disregard for traffic signal.
- Pedestrian or pedal cyclist related crashes accounted for 2.1% of all study area crashes, with the majority occurring within Globe's downtown area. The intersections of Ash Street and East Street and US 60 and Hackney Avenue both had two separate pedestrian collisions, while Sycamore Street and Hill Street had four separate pedestrian collisions. Pedestrian and pedal cyclist involved crashes were primarily cited by either the driver or pedestrian/pedal cyclist failing to yield right-of-way.
- There were 12 fatal crashes that occurred within the study area, two of which were pedestrian collisions and four were collisions with a fixed object.

Table 2.9 lists the location of fatal, pedestrian, and pedal cyclist crashes in the study area. Figure 2.19 summarizes study area crashes by intersection type, collision type (first harmful definition), collision manner, and injury severity. The Cobre Valley study area had a high percentage of intersection and driveway related crashes, totaling 38% of all crashes in the study area. The study area also had a significant number of collisions with fixed objects, which make up approximately 19.9% of all study area crashes.

FIGURE 2.17: CRASH LOCATIONS



Town of Miami Inset



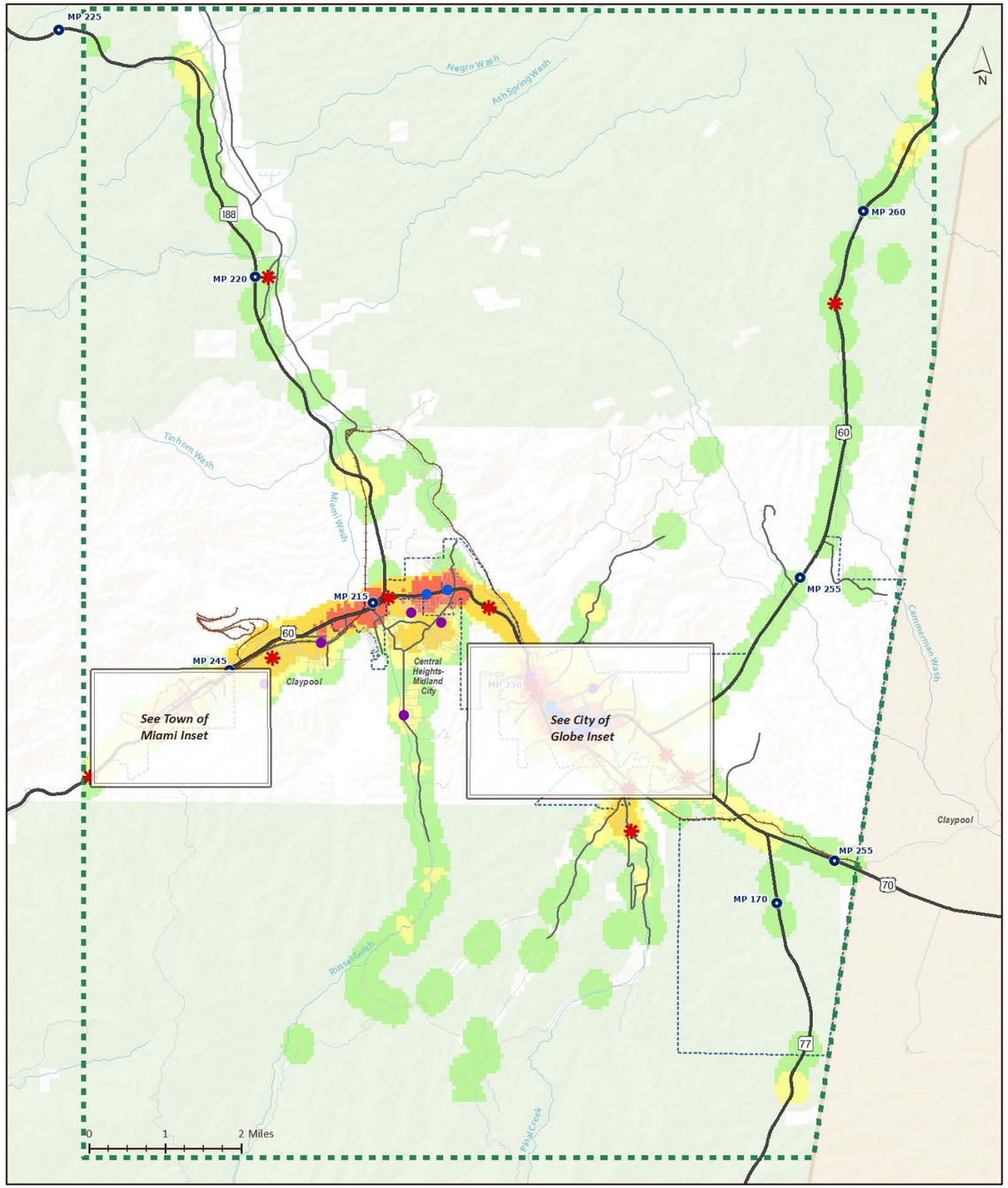
City of Globe Inset

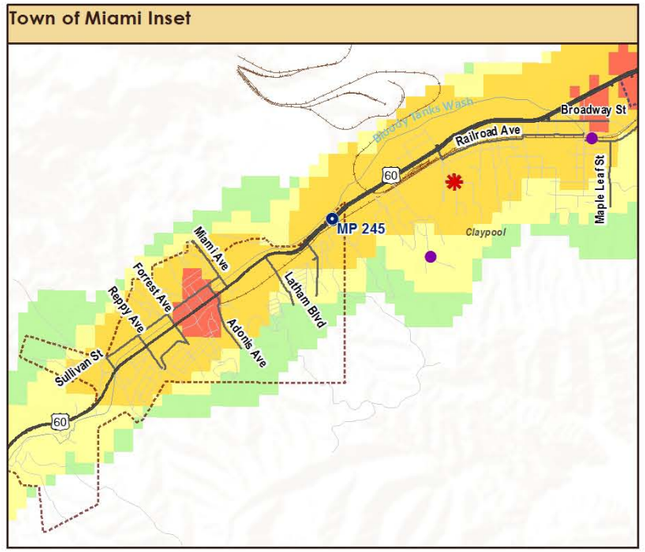
Legend

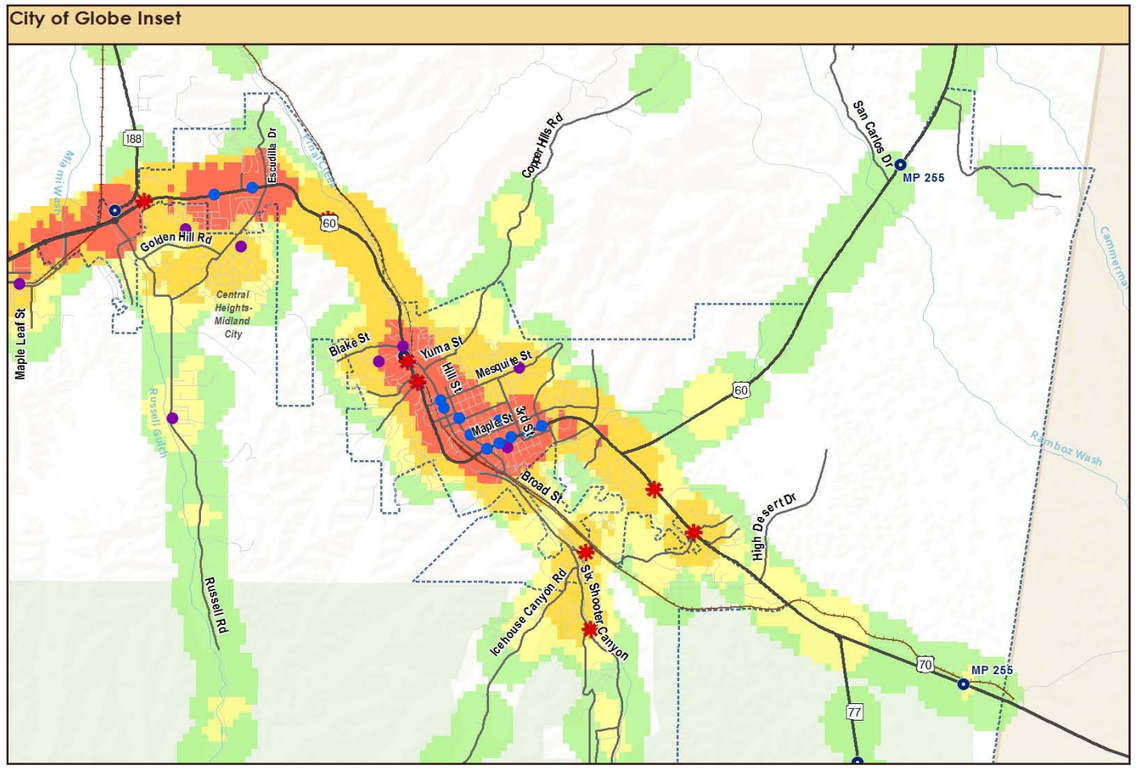
- 1 crash
- 2 - 3 crashes
- 4 - 6 crashes
- 7 - 10 crashes
- 10 or more crashes
- Study Area
- State or US Highway
- Study Roadway
- Local Roadway
- Streams
- Railroad
- City of Globe
- Town of Miami
- Tonto National Forest
- San Carlos Apache Tribe
- World Terrain Base

Source: *Accident Location Identification Surveillance System Database October 2006 - October 2011), Gila County, ATIS, ALRIS, City of Globe, Town of Miami*

FIGURE 2.18: CRASH DENSITY







Legend

Crash Density

- Low
- High

- Fatal Crash
- Pedalcycle Crash
- Pedestrian Crash

- Study Area
- Study Roadway
- Local Roadway
- Streams
- Railroad
- City of Globe
- Town of Miami

Source: *Accident Location Identification Surveillance System Database October 2006 - October 2011), Gila County, ATIS, ALRIS, City of Globe, Town of Miami*

FIGURE 2.19: CRASH SUMMARY

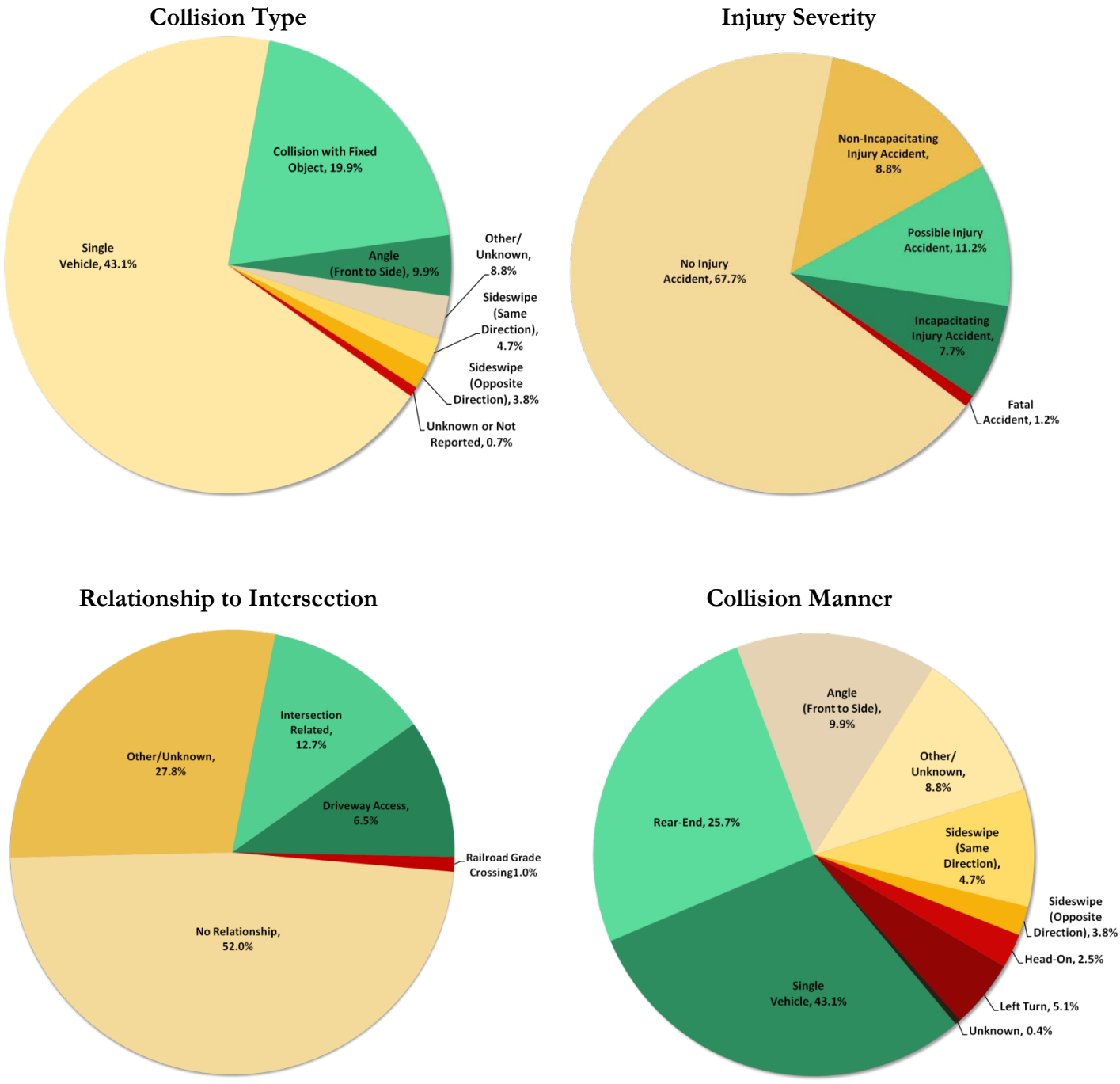


TABLE 2.9: FATAL, PEDESTRIAN, AND PEDAL CYCLIST CRASHES

Fatal Crash Locations	
Beer Tree Crossing South of US 60	US 60 West of Country Club
Morrow Avenue South of Van Winkle Avenue	US Highway 60 at Broad Street
Old SR 188 North of SR 188	US Highway 60 at Hackney Avenue
Six Shooter Canyon Road South of Ice Canyon Road	US Highway 60 East of Eastern Study Boundary
US 60 East of MP 249	US Highway 70 at Hunter Drive
US 60 South of MP 259	US Highway 70 West of US 60
Pedestrian/Pedal cyclist Crash Locations	
1st Street South of Cottonwood Street	Railroad Avenue at Old Oak Street
6th Street at Ash Street	Russell Road at Pinal Canyon Road
Apache Street at Bradley Street	Side Street at Santee Street
Ash Street at East Street (2 separate crashes)	Sycamore Street at Hill Street (4 separate crashes)
Ash Street at 4th Street	US 60 at Hill Street
Broad Street at Mesquite Street	US 60 East of Parker Street
Calle De Loma South of Jefferson Street	US 60 at Hackney Avenue (2 separate crashes)
Cedar Street at Broad Street	US 60 at Broad Street
Hill Street North of Maple Street	US 60 North of Blake Street
Mesquite Street at 6th Street	US 60 West of Radanovich Boulevard
Monroe Street West of 6th Street	US 60 at MP 248
4th Avenue West of Cherry Avenue	US 60 South of MP 258

Table 2.10 lists the top seven predominant violation types for all crashes in the study area. As shown in Table 2.10 "Unknown", "No Improper Action", and "Inattention" were the most cited violation types within the past five years.

TABLE 2.10: CRASHES - TOP SEVEN PREDOMINANT VIOLATION TYPES

Violation Type	Crashes	Percent
Unknown	342	24.34%
No Improper Action	324	23.06%
Inattention	267	19.00%
Failed to Yield to Right-of-Way	118	8.40%
Speed too Fast for Conditions	94	6.69%
Other	91	6.48%
Followed Too Closely	33	2.35%
Disregarded Traffic Signal	29	2.06%
Drove/Rode In Opposing Traffic	24	1.71%

Crash rates were estimated along multiple corridors to determine high crash locations creating potential safety hazards within the study area. Crash rates for the roadway segments are expressed in terms of crashes per million vehicle miles traveled. Crash rate is a function of the number of vehicles utilizing a roadway or entering an intersection; therefore, a higher total number of crashes do not always result in a high crash rate. The highest crash rates occurred at:

- Hill Street (Kline Street to US 60): 17 crashes (*10.72 crash rate)*
- Mesquite Street (US 60 to the Copper Rim Elementary School): 14 crashes (*10.47 crash rate)*
- Broad Street (US 60 to Jesse Hayes Road): 41 crashes (*4.30 crash rate)*
- Russell Road (Roberts Drive to the USFS Boundary): 10 crashes (*3.64 crash rate)*
- US 60 (MP 260 to Study Boundary): 19 crashes (*3.09 crash rate*)

Over 70% of collisions on Hill Street (Kline Street to US 60) were due to rear-end, sideswipes, or rear-to-side collisions. Collisions with fixed objects (fence, sights, utility poles, and parked cars) were the leading collision manner for accidents along Mesquite Street (US 60 to the Copper Rim Elementary School). Broad Street (US 60 to Jesse Hayes Road) experienced a significantly high number of rear-to-side and sideswipe collisions (58% of all collisions on the corridor).

In addition, the intersection of SR 188 and US 60 and the intersection of US 60 and Escudilla Drive had the highest total number of intersection related collisions in the study area. Rear-end collisions were cited as the leading collision manner within the study area; however, the intersection of US 60 and Ragus Avenue experienced a significant number of angle (front to side) collisions. In addition, crashes at the intersection of Broad Street and Oak Street were predominately cited as rear-to-side collisions and Hill Street and Sycamore Street had four separate pedestrian related collisions.

Existing Traffic Conditions

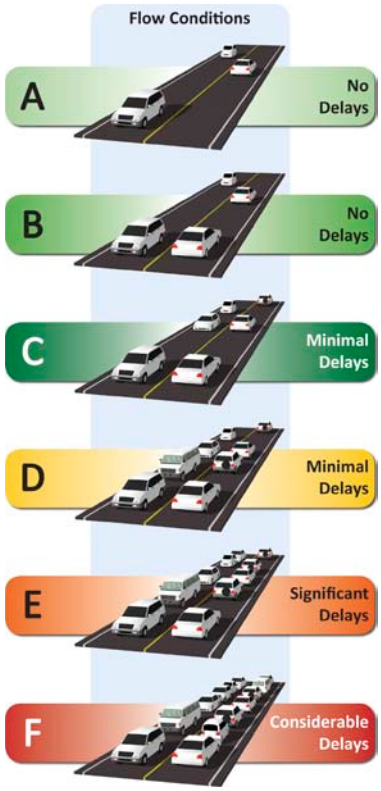
Existing daily traffic count data was obtained from the Town of Miami, City of Globe, CAG, and ADOT. To account for the seasonal increase of tourists to the region, seasonal factors were applied to existing traffic counts and then modeled for annual average daily traffic (AADT). Figure 2.21 displays the existing daily traffic volumes. Key observations noted in Figure 2.21 include:

- US 60 has the highest amount of traffic, particularly from Latham Boulevard to Round Mountain Park Road.
- US 70 has a significant amount of traffic traveling to the Apache-Gold Casino.
- Jesse Hayes Road, Broad Street, Roberts Drive, and Golden Hill Road carry a significant amount of local traffic.

Level of Service

Traffic congestion levels of major roadways within the study were estimated using existing traffic count data. The degree of traffic congestion is commonly expressed in terms of Level of Service (LOS). LOS is a measurement of traffic congestion conditions defined by the Transportation Research Board's (TRB) Highway Capacity Manual (HCM). For a planning level analysis, the roadway LOS is determined based on the ratio of traffic volume on the road to capacity of the road. Capacity of the road is a function of the number of lanes, functional classification, speed, and roadway geometrics and provides thresholds for the maximum number of cars allowed to travel on a lane for the peak or daily conditions. Each level of service is given a letter grade based on its level of congestion, ranging from "A" through "F", with LOS A representing free flowing traffic conditions where vehicles experience minimal delays, and LOS F represents failing conditions where vehicles experience long delays. Figure 2.20 is an illustration of the LOS types. Road segment LOS is characterized by the HCM as follows:

FIGURE 2.20: LEVEL OF SERVICE



LOS A: Best, free flow operations (on uninterrupted flow facilities) and very low delay (on interrupted flow facilities). Freedom to select desired speeds and to maneuver within traffic is extremely high.

LOS B: Flow is stable, but presence of other users is noticeable. Freedom to select desired speeds is relatively unaffected, but there is a slight decline in the freedom to maneuver within traffic.

LOS C: Flow is stable, but the operation of users is becoming affected by the presence of other users.

Maneuvering within traffic requires substantial vigilance on the part of the user.

LOS D: High density but stable flow. Speed and freedom to maneuver are severely restricted. The driver is experiencing a generally poor level of comfort and convenience.

LOS E: Flow is at or near capacity. All speeds are reduced to a low, but relatively uniform value. Freedom to maneuver within traffic is extremely difficult. Comfort and convenience levels are extremely poor.

LOS F: Worse, facility has failed, or a breakdown has occurred.

In general for rural areas, LOS A and B represent no congestion, LOS C represents moderate congestion, and LOS D, E, and F represent severe congestion.

Current Roadway Level of Service

Figure 2.22 displays the existing LOS for the study roadways. Currently, all roads located within the Cobre Valley study area operate at a LOS A and B, except for the following:

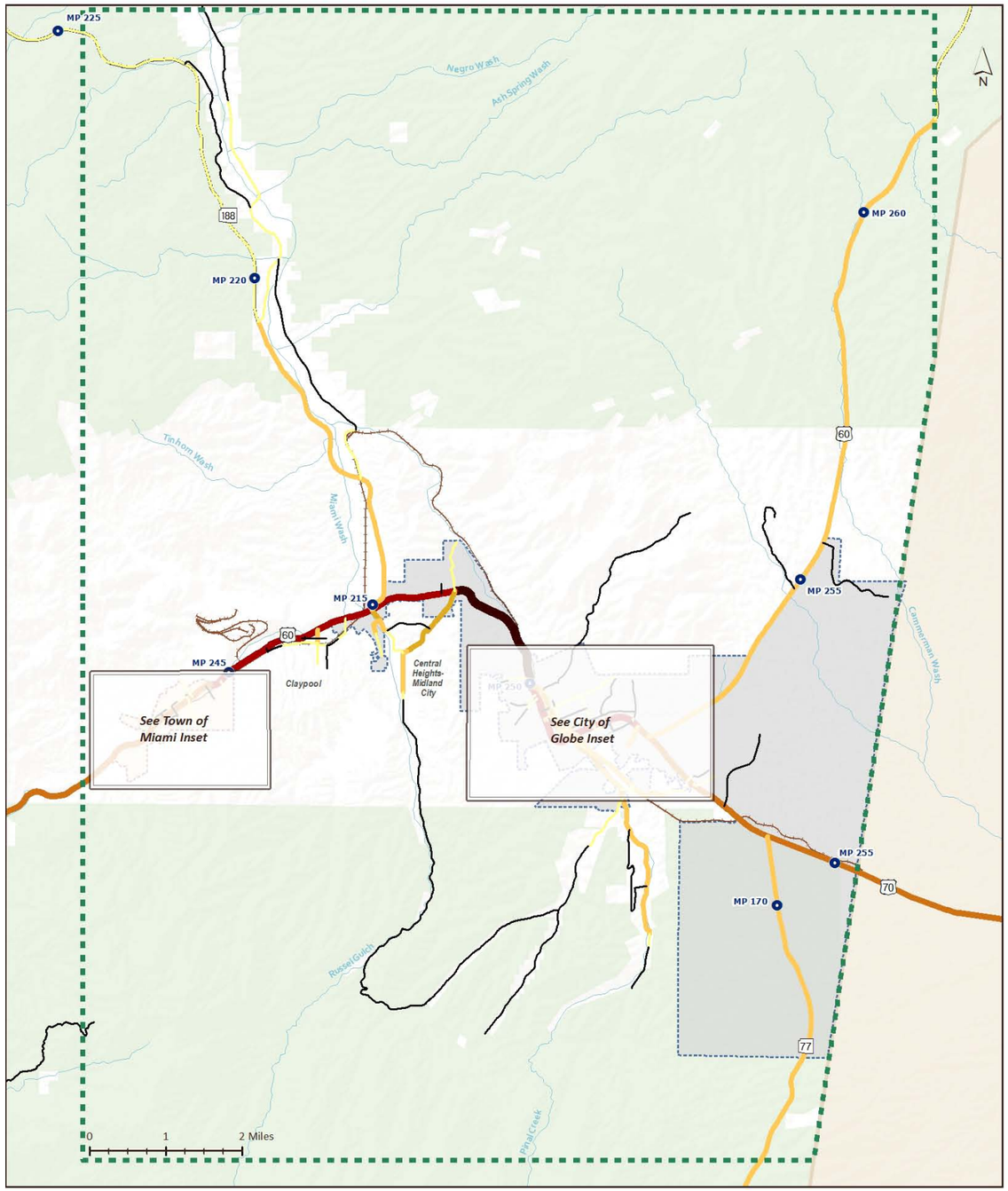
LOS D

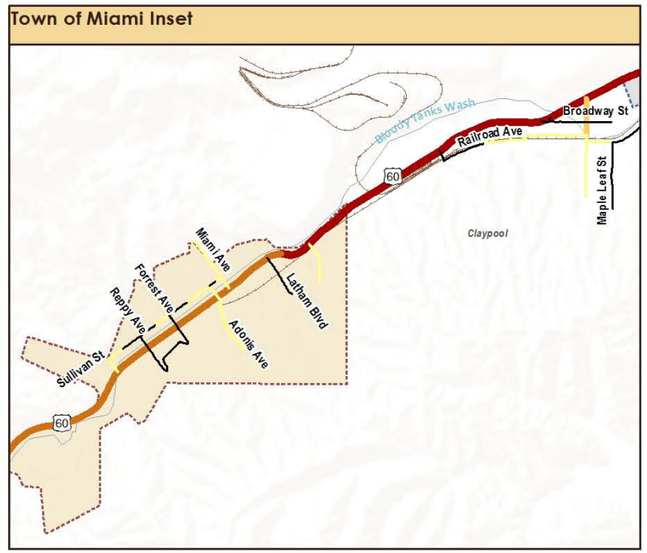
- US 60: Escudilla Drive to Lane Street

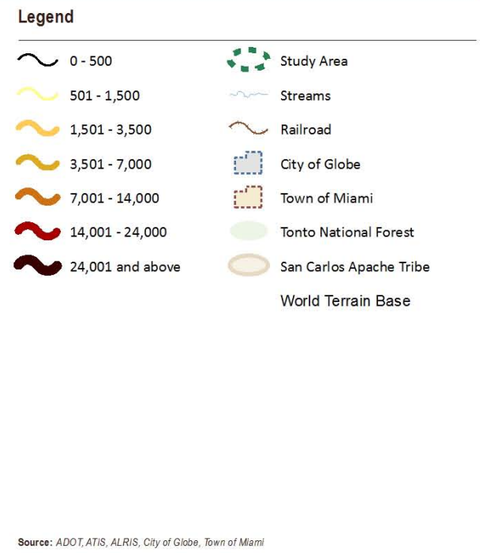
LOS C

- US 60: Western study area boundary to 0.10 mile west of Plaza Avenue
- US 60: SR 188 to 0.07 mile west of Country Club Terrace
- US 60: Lane Street to Broad Street
- Prickly Pear Drive: US 60 to Agave Drive
- US 70: 0.03 mile west of Basham Road to eastern study area boundary

FIGURE 2.21: EXISTING DAILY TRAFFIC VOLUMES







Source: *ADOT, ATIS, ALRIS, City of Globe, Town of Miami*

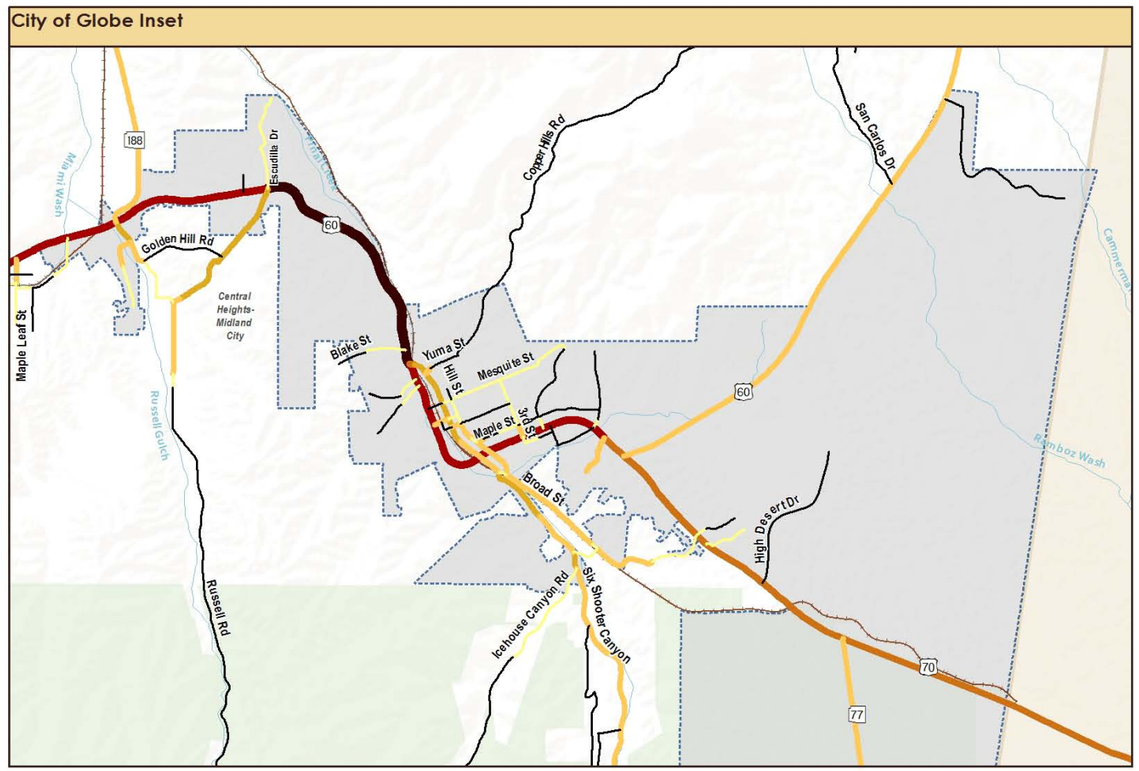
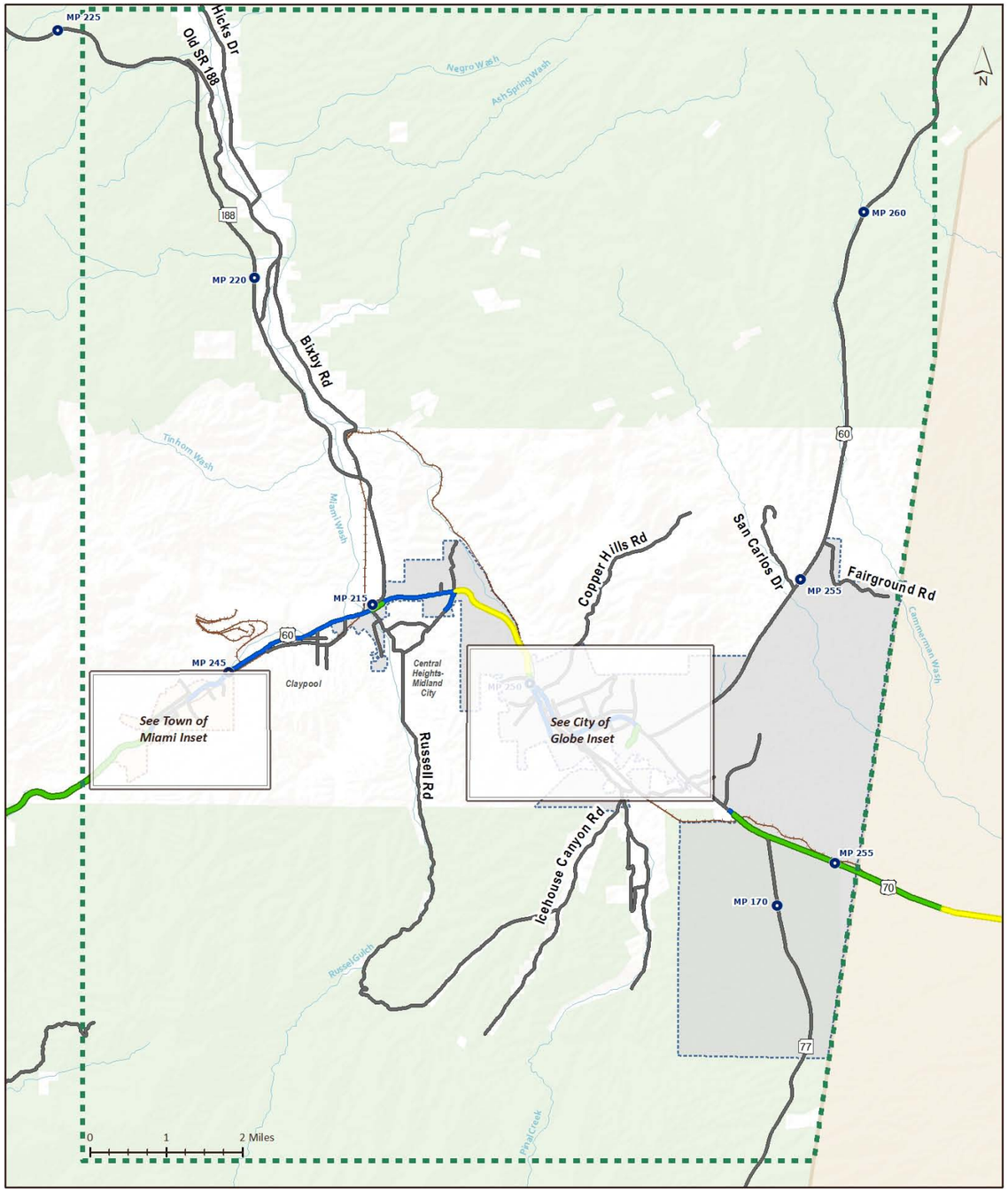
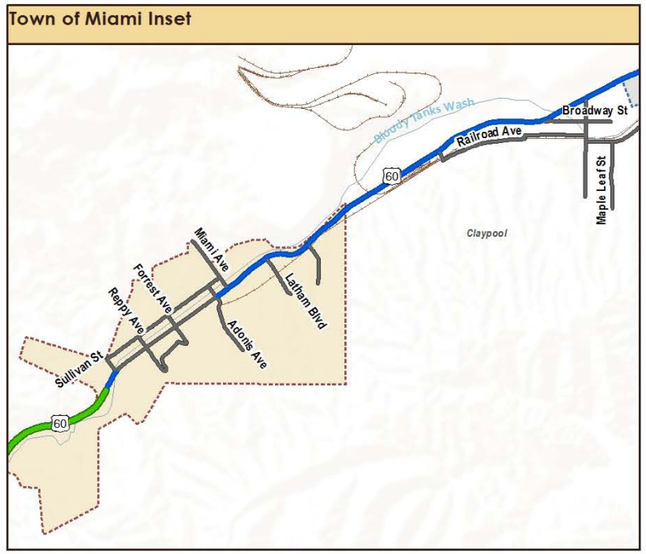
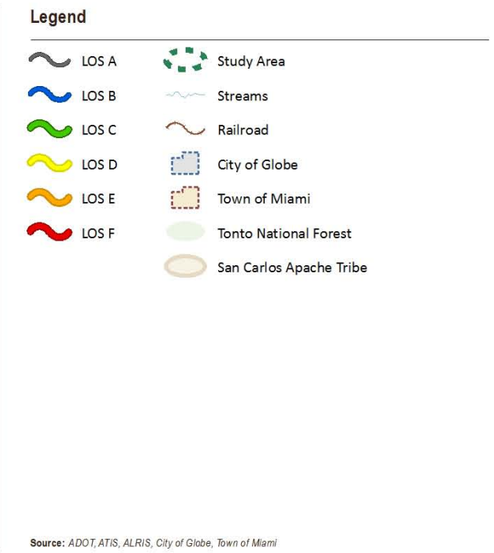


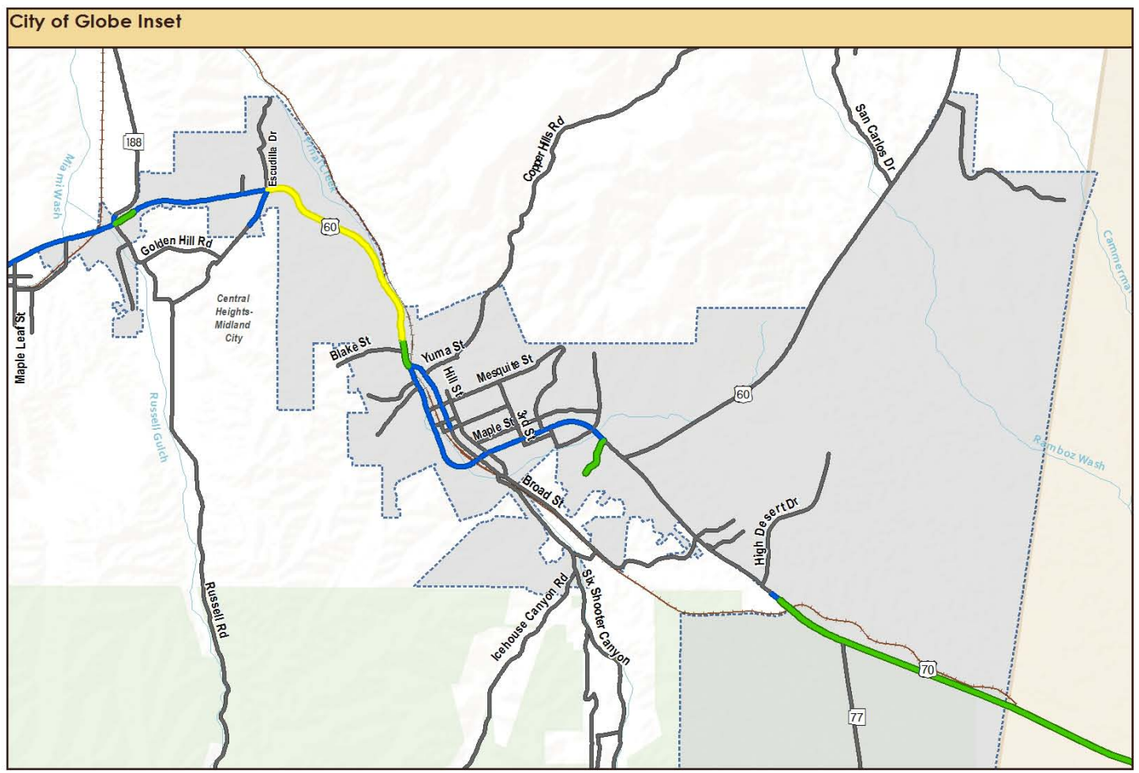
FIGURE 2.22: EXISTING LEVEL OF SERVICE







Source: *ADOT, ATIS, ALRIS, City of Globe, Town of Miami*



Other Modes of Transportation

Alternative modes of transportation are an important aspect of the multimodal transportation network as they provide mobility for those not able to operate a vehicle or may not have access to one. Figure 2.23 illustrates the existing trails and pedestrian facilities in Cobre Valley.

Pedestrian and Trail Facilities

Cobre Valley's scenic landscape encourages outdoor recreational opportunities. Current facilities include:

- Sidewalks, although not continuous, are located throughout the Town of Miami and City of Globe. Additionally, sidewalks are generally in poor conditions and are not routinely maintained.
- There are no bicycle lanes or designated bike routes in the study area.
- The Old Dominion Hiking Park in Globe offers residents and visitors strenuous hiking trails at the Old Dominion mining site.
- Round Mountain Park provides four, easy hiking trails conveniently located from Downtown Globe.
- Tonto National Forest provides numerous trails in the southern section of the study area. These trails, particularly Six Shooter Trail, Icehouse Trail, and Telephone Trail, are highly utilized trails by both local residents and visitors to the area.

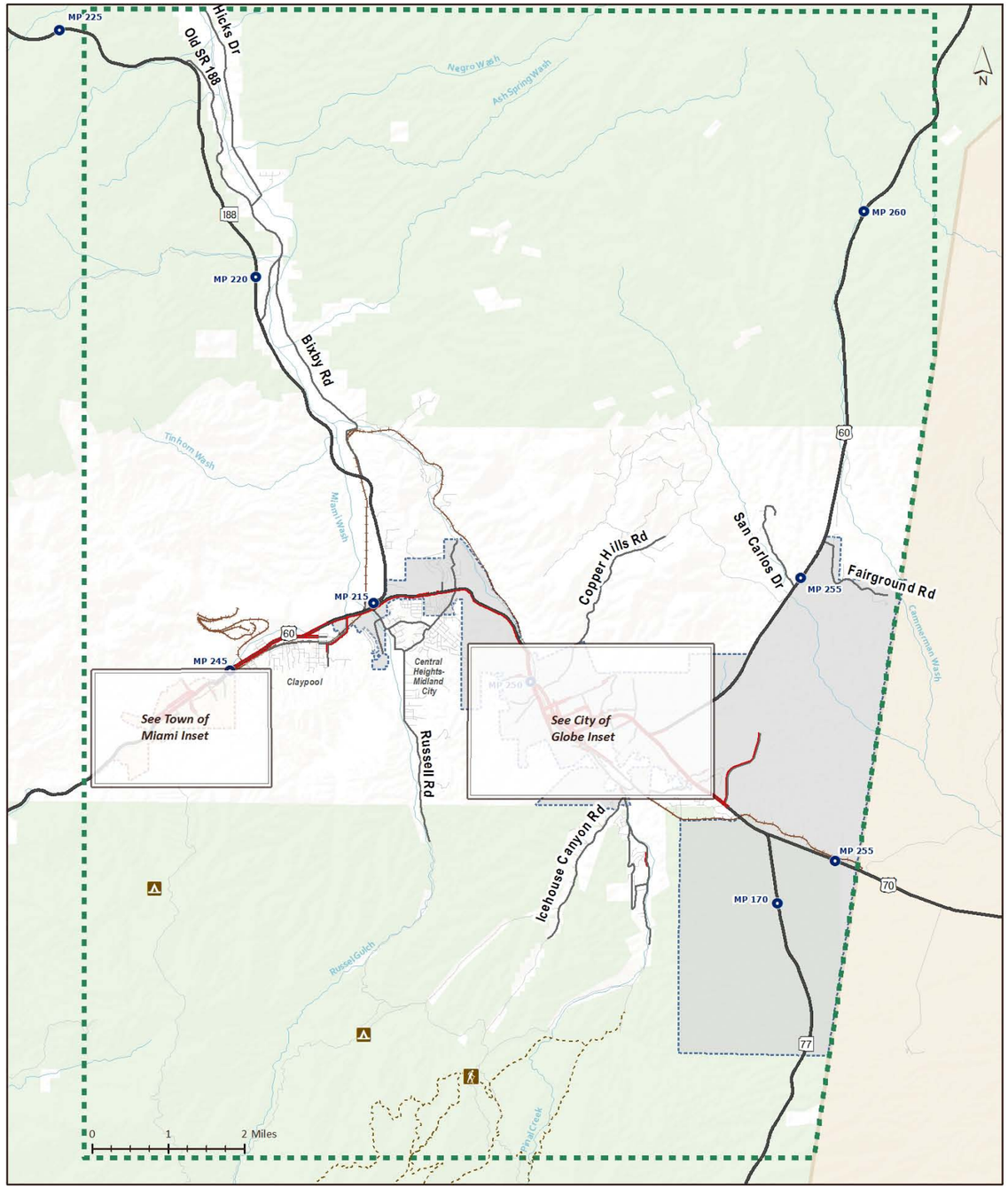
Transit

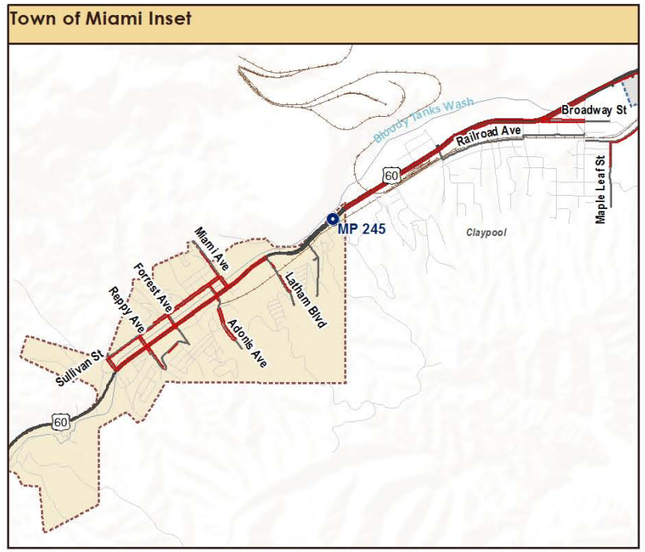
ADOT has initiated a separate transit study to assess the feasibility of linking the Town of Miami, City of Globe, and the San Carlos Indian Reservation with a unified transit system. This study is currently underway and will document the existing and future transit conditions within the region. Results from the transit study will be incorporated into the final transportation improvements plan that will be developed at the end of this study.

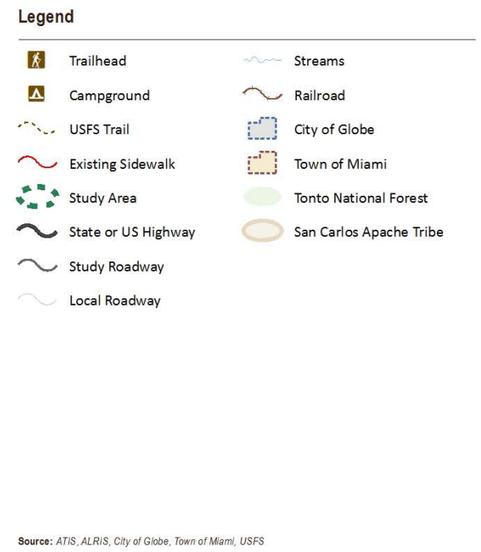
Access Management

The Town of Miami and City of Globe currently do not have an access management policy in place. Access to the state highway system is managed through Arizona Administrative Rule R17-3-502, Highway Encroachment and Permits. Permits for driveways are granted by ADOT's Engineering Districts in accordance with Rule R17-3-502, if the request meets all engineering and safety standards.

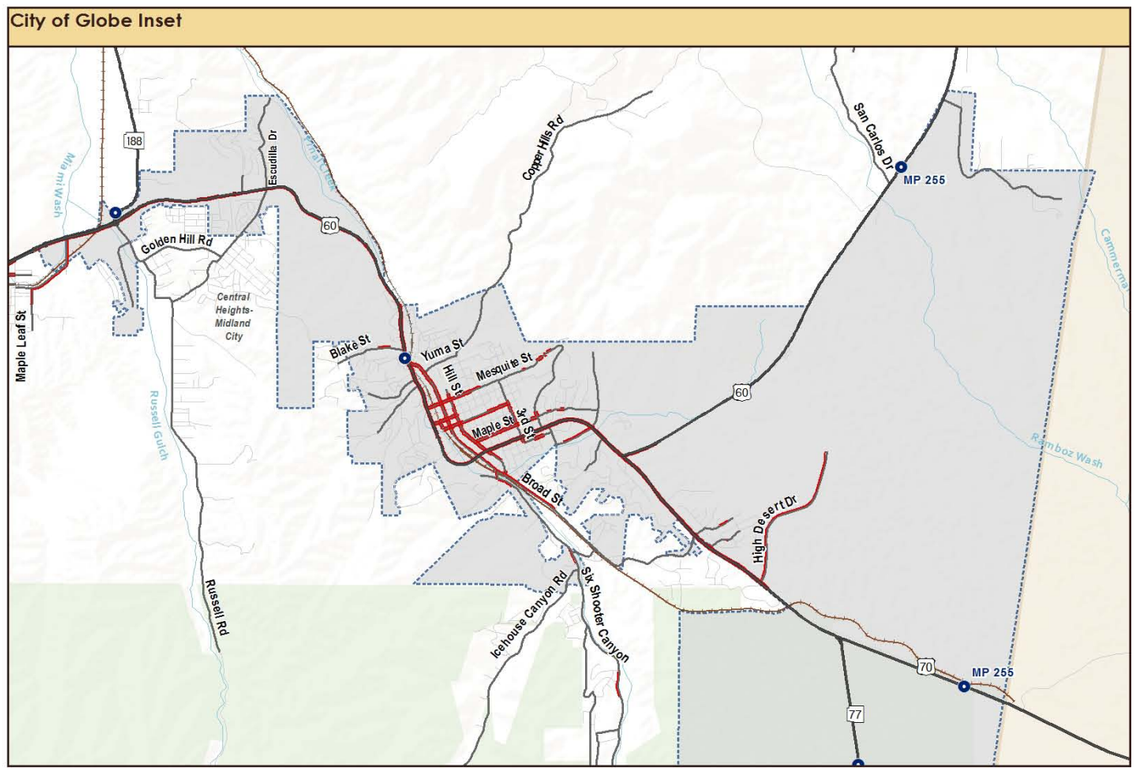
FIGURE 2.23: EXISITING TRAIL, BICYCLE, AND PEDESTRIAN FACILITIES







Source: *ATIS, ALRIS, City of Globe, Town of Miami, USFS*



FUTURE SOCIOECONOMIC CONDITIONS

Forecasting socioeconomic conditions allows us to anticipate changes in future travel demand and to envision potential solutions. Development of rational projections for population, housing units, and employment for each horizon year is vital to the process of forecasting realistic traffic volumes.

Population and Housing Unit Forecasts

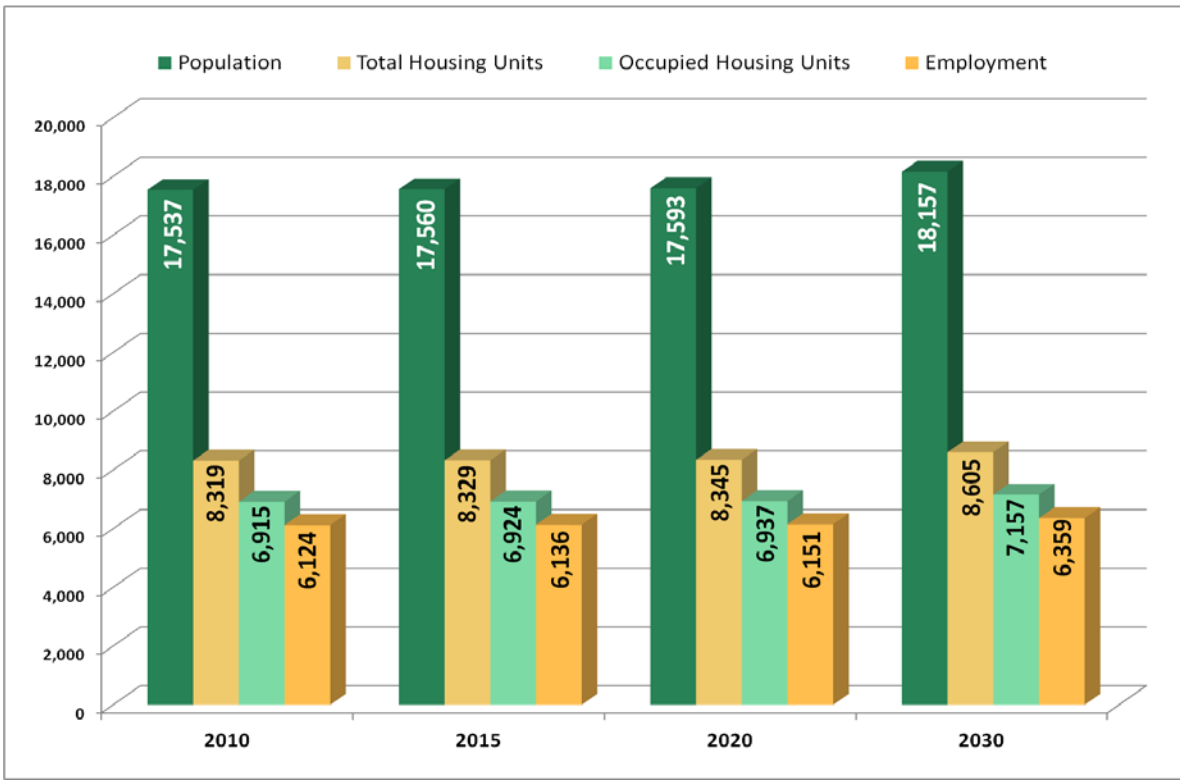
Populations were determined using the last decade growth trends for sub-areas in the study area boundary. The study area will have a population of 17,560 by 2015, a population of 17,583 by 2020, and a population of 18,157 by 2030.

Since there is no forecast for housing units, it is assumed that the current population to occupied housing unit ratio in the study area will continue for future horizon years. Based on this assumption, it is estimated that the study area will have 6,924 occupied housing units in 2015, 6,937 occupied housing units in 2020, and 7,157 occupied housing units in 2030. Table 2.11 shows a tabular summary of the projected population along with the number of occupied housing units in the study area. Figure 2.24 is a graphical illustration of the population and occupied housing unit growth trends.

TABLE 2.11: PROJECTED POPULATION AND OCCUPIED HOUSING UNITS

		2010	2015	2020	2030
Study Area	**Population**	**17,537**	**17,560**	**17,593**	**18,157**
	Total Housing Units	8,319	8,329	8,345	8,605
	Occupied Dwelling Units	6,915	6,924	6,937	7,157
	Population/Occupied DU Ratio	*2.54*	*2.54*	*2.54*	*2.54*
Gila County	**Population**	**53,597**	**54,778**	**55,959**	**58,320**
	Total Housing Units	32,698	33,418	34,139	35,580
	Occupied Dwelling Units	22,000	22,485	22,969	23,939
	Population/Occupied DU Ratio	*2.44*	*2.44*	*2.44*	*2.44*

FIGURE 2.24: PROJECTED POPULATION AND OCCUPIED HOUSING UNITS



Employment Forecasts

There is no known source for future employment projections. However, future employment estimates were developed through the coordination with the Town of Miami and City of Globe. For this study, it was assumed that the current employment to population ratio will remain constant for all future horizon years. Table 2.12 summarizes the projected employment along with the employment to population ratio in the study area. Based on this assumption, the study area will have approximately 6,136 employees in 2015, 6,151 employees in 2020, and 6,359 employees in 2030. The location of future economic growth areas was also sought from local officials and stakeholders in the Towns of Miami and City of Globe.

TABLE 2.12: PROJECTED EMPLOYMENT

		2010	2015	2020	2030
Study Area	**Population**	**17,537**	**17,560**	**17,593**	**18,157**
	Total Employment	6,124	6,136	6,151	6,359
	Population/Occupied DU Ratio	*2.86*	*2.86*	*2.86*	*2.86*
Gila County	**Population**	**53,597**	**54,778**	**55,959**	**58,320**
	Total Employment	9,274	19,699	20,123	20,973
	Employment/Population Ratio	*2.78*	*2.78*	*2.78*	*2.78*

Socioeconomic Data for Travel Demand Model

A travel demand model was developed using TransCAD software to estimate current traffic volumes and to forecast traffic volumes for horizon years 2015, 2020, and 2030. Future socioeconomic data (population, housing units, and employment) was disaggregated into the travel model's TAZs. With input from the Town and City staff, housing units and employment data were placed in appropriate TAZs. Furthermore, the Town and City staff identified several locations within the study area that may be potential employment and/or residential growth areas. Areas identified include:

Town of Miami:
- Annex portions of Claypool which is east of current town limits by 2015.

City of Globe:
- Areas northeast and southeast of the US 60/US 70 intersection are potential residential growth areas.
- Employment growth area will be located southeast of the US 60/US 70 intersection along US 60.
- Broad Street Corridor, where current businesses are located, will continue to be an employment growth area.

Appendix A in Working Paper provides a detailed breakdown of the number of employees in each employment category by TAZ for 2015, 2020, and 2030 respectively.

FUTURE TRANSPORTATION CONDITIONS

The primary purpose of forecasting traffic volumes is to estimate the additional travel demand added to existing roadways and to determine congestion levels due to projected growth in population and employment. In addition, this analysis provides valuable insight into potential transportation solutions. As previously discussed, a travel demand model was developed to obtain traffic volumes for 2015, 2020, and 2030 using socioeconomic data developed in the preceding sections. Similar to existing traffic analysis, the degree of traffic congestion is expressed in terms of LOS.

Projected 2015 Traffic Conditions

Figure 2.26 displays the projected 2015 traffic volumes and Figure 2.27 illustrates the LOS for the current roadway network with projected 2015 socioeconomic conditions *if no roadway improvements are made (No-Build)*. Traffic volumes and LOS results in this section represent average annual daily traffic conditions. All roads located within the Cobre Valley study area operate at a LOS A and B, except for the following:

LOS D

- US 60: Escudilla Drive to Blake Street

LOS C

- US 60: Western study area boundary to 0.10 mile west of Plaza Avenue
- US 60: SR 188 to 0.07 mile west of Country Club Terrace
- US 60: Blake Street to Broad Street
- Prickly Pear Drive: US 60 to Agave Drive
- US 70: 0.03 mile west of Basham Road to eastern study area boundary

Projected 2020 Traffic Conditions

Figure 2.27 displays the projected 2020 traffic volumes and Figure 2.28 illustrates the LOS for the current roadway network with projected 2020 socioeconomic conditions *if no roadway improvements are made (No-Build)*. Traffic volumes and LOS results in this section represent average annual daily traffic conditions. All roads located within the Cobre Valley study area operate at a LOS A and B, except for the following:

LOS D

- US 60: Escudilla Drive to Blake Street
- US 60: Robertson Park to 0.10 mile west of Plaza Avenue

LOS C

- US 60: Western study area boundary to Robertson Park
- US 60: Ragus Road to 0.07 mile west of Country Club Terrace
- US 60: Blake Street to Broad Street
- Prickly Pear Drive: US 60 to Agave Drive
- US 70: 0.03 mile west of Basham Road to eastern study area boundary

Projected 2030 Traffic Conditions

Figure 2.29 displays the projected 2030 traffic volumes and Figure 2.30 illustrates the LOS for the current roadway network with projected 2030 socioeconomic conditions *if no roadway improvements are made (No-Build)*. Traffic volumes and LOS results in this section represent average annual daily traffic conditions. All roads located within the Cobre Valley study area operate at a LOS A and B, except for the following:

LOS D

- US 60: Western study area boundary to 0.10 mile west of Plaza Avenue
- US 60: Escudilla Drive to Broad Street

LOS C

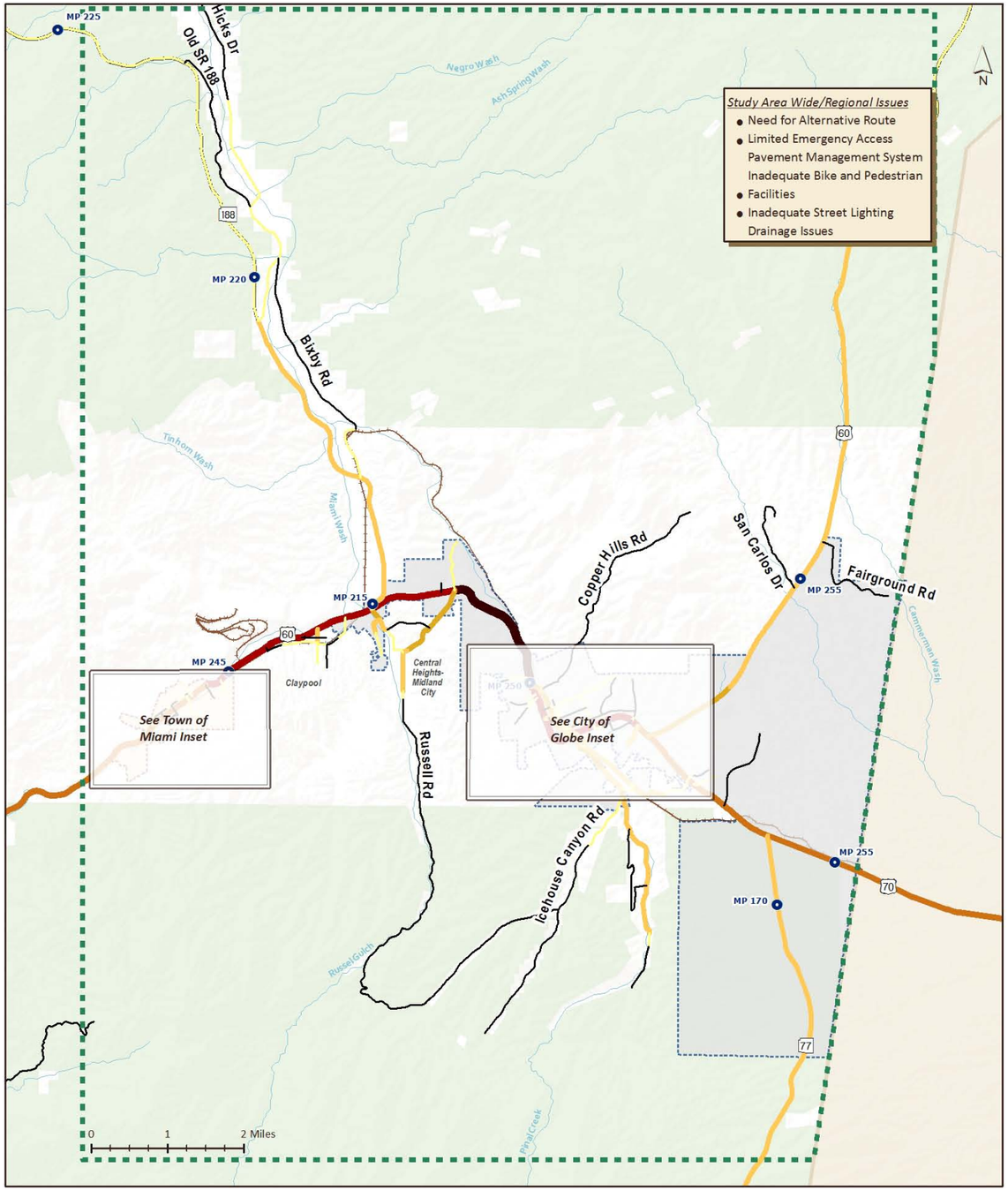
- US 60: 0.10 mile West of Plaza Avenue to Plaza Avenue
- US 60: 0.16 mile west of Ragus Road to 0.07 mile west of Country Club Terrace
- US 60: Manor Drive to Chaparral Loop
- US 60: 0.09 miles east of Chaparral Loop to Escudilla Drive
- US 60: Pinal Street to Euclid Avenue
- Prickly Pear Drive: US 60 to Agave Drive
- US 70: 0.10 mile west of Basham Road to eastern study area boundary

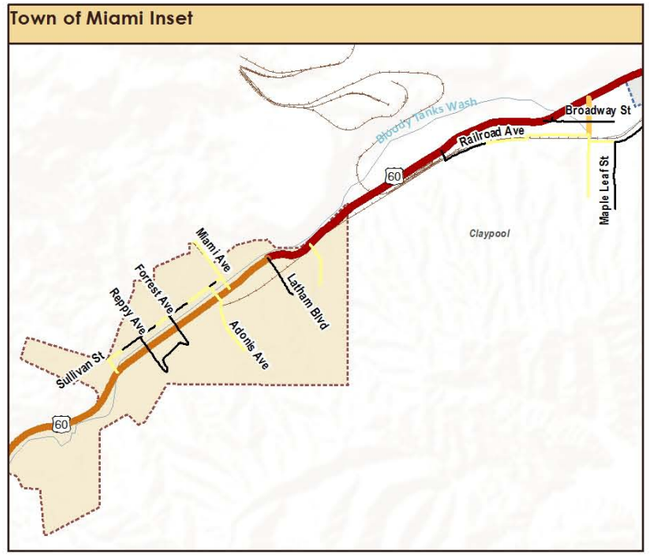
Summary of Future Conditions

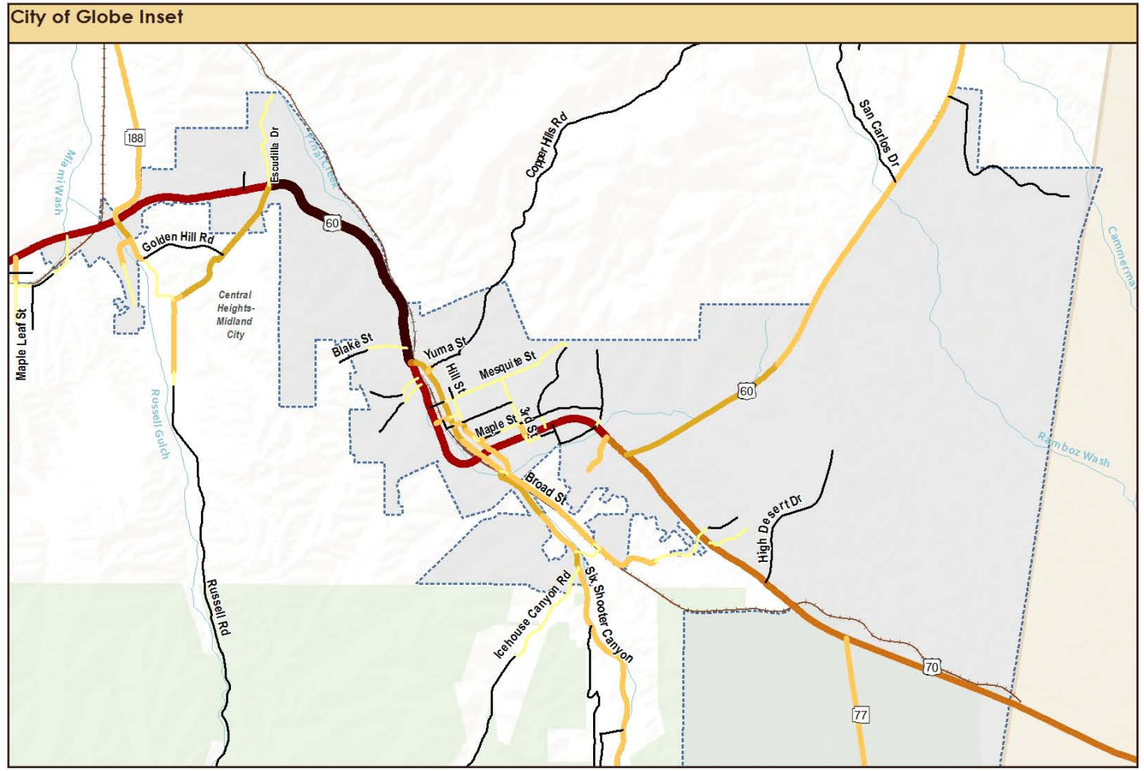
Following is a summary of findings from the future conditions analysis:

- Population and employment growth between now and the year 2030 is anticipated to be minute resulting in a very small increase in traffic volumes on local roadways. However, the State Highways such as US 60 and US 70 will experience a significant increase in traffic volume by year 2030 due to a rise in regional traffic.
- Although traffic volume growth on local roads is small, internal traffic circulation options need to be enhanced to improve mobility and safety for local traffic.
- US 60 is the only major east-west route through the study area. As regional traffic increases, there are almost no alternative options to travel in the east-west direction when access or flow on the US 60 is restricted. An alternate route to US 60 is needed to enhance safety and accommodate traffic volumes that are on the rise.
- Increased traffic volumes on US 60 will result in more intense congestion and delay at existing signalized intersections.
- Public transit options need to be enhanced to connect the communities of Miami, Globe, and the San Carlos Indian Reservation.

FIGURE 2.25: 2015 NO BUILD DAILY TRAFFIC VOLUMES





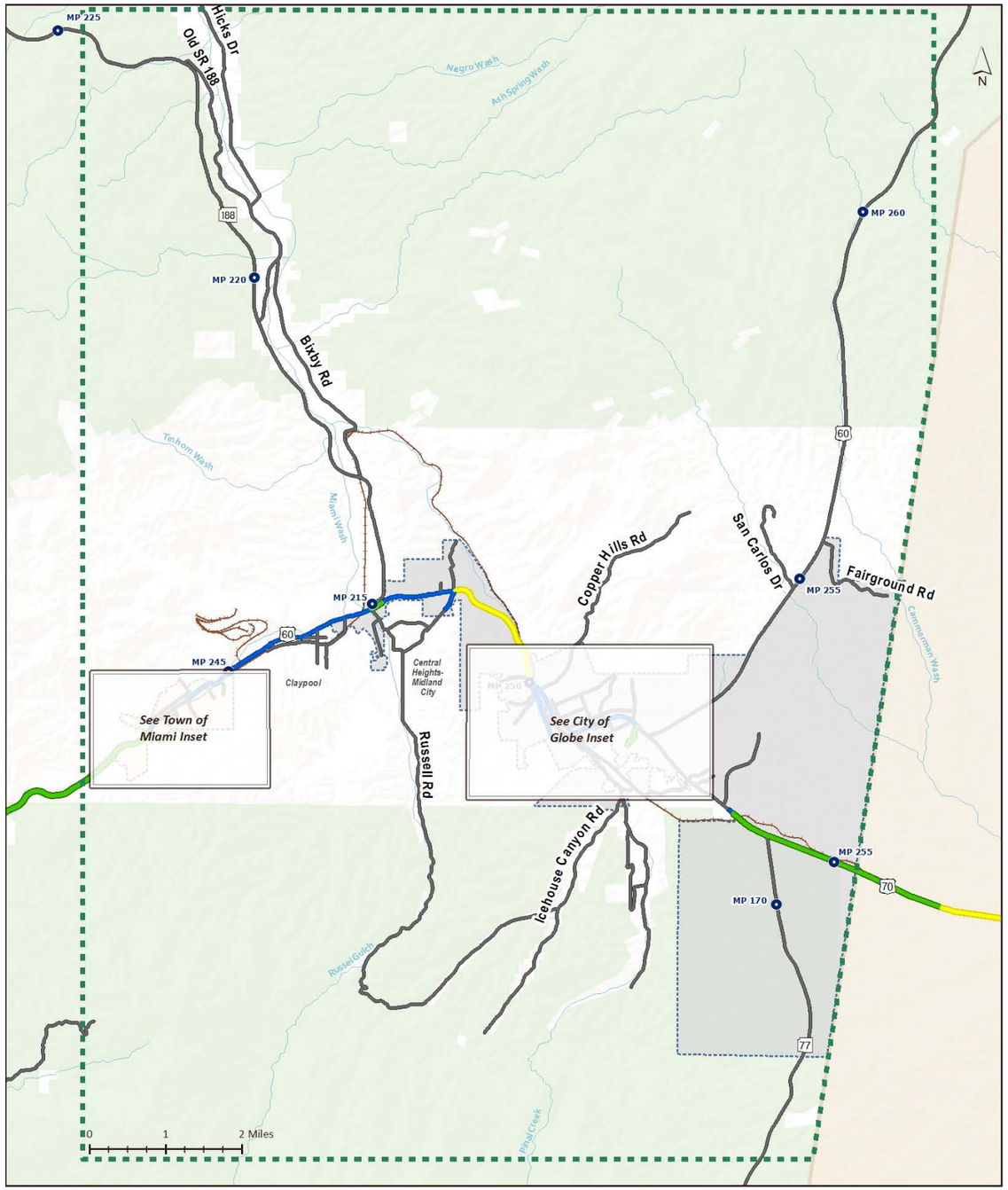


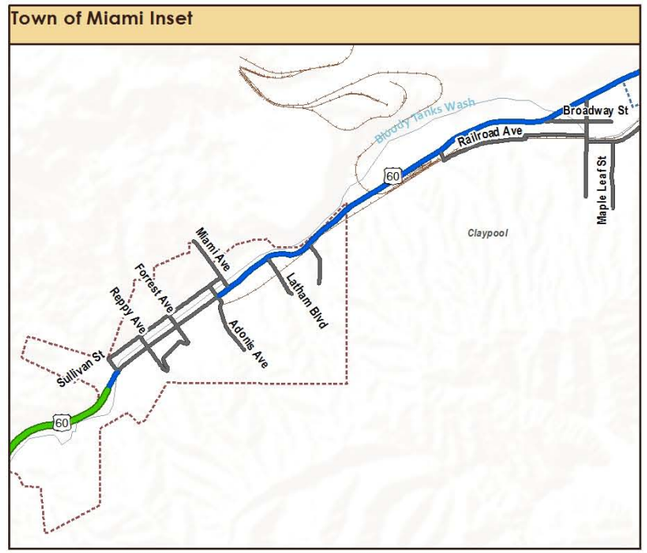
Legend

- 0 - 500
- 501 - 1,500
- 1,501 - 3,500
- 3,501 - 7,000
- 7,001 - 14,000
- 14,001 - 24,000
- 24,001 and above
- Study Area
- Streams
- Railroad
- City of Globe
- Town of Miami
- Tonto National Forest
- San Carlos Apache Tribe

Source: *ADOT, ATIS, ALRIS, City of Globe, Town of Miami*

FIGURE 2.26: 2015 NO BUILD LEVEL OF SERVICE





Source: *ADOT, ATIS, ALRIS, City of Globe, Town of Miami*

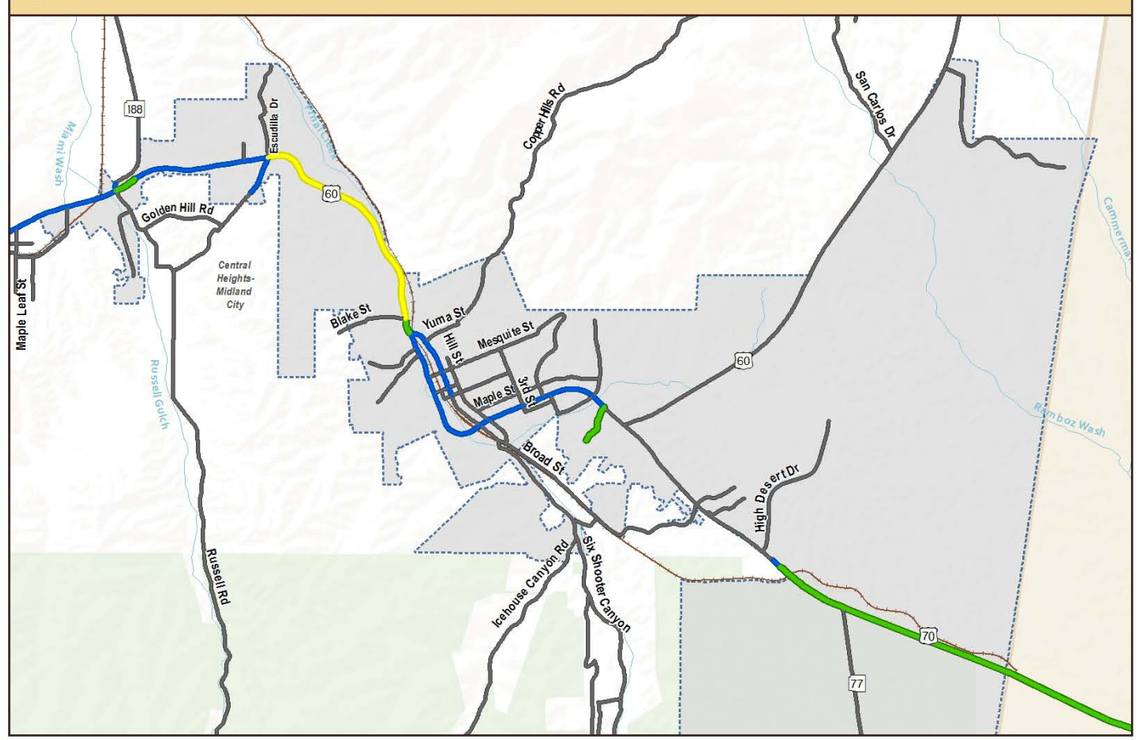
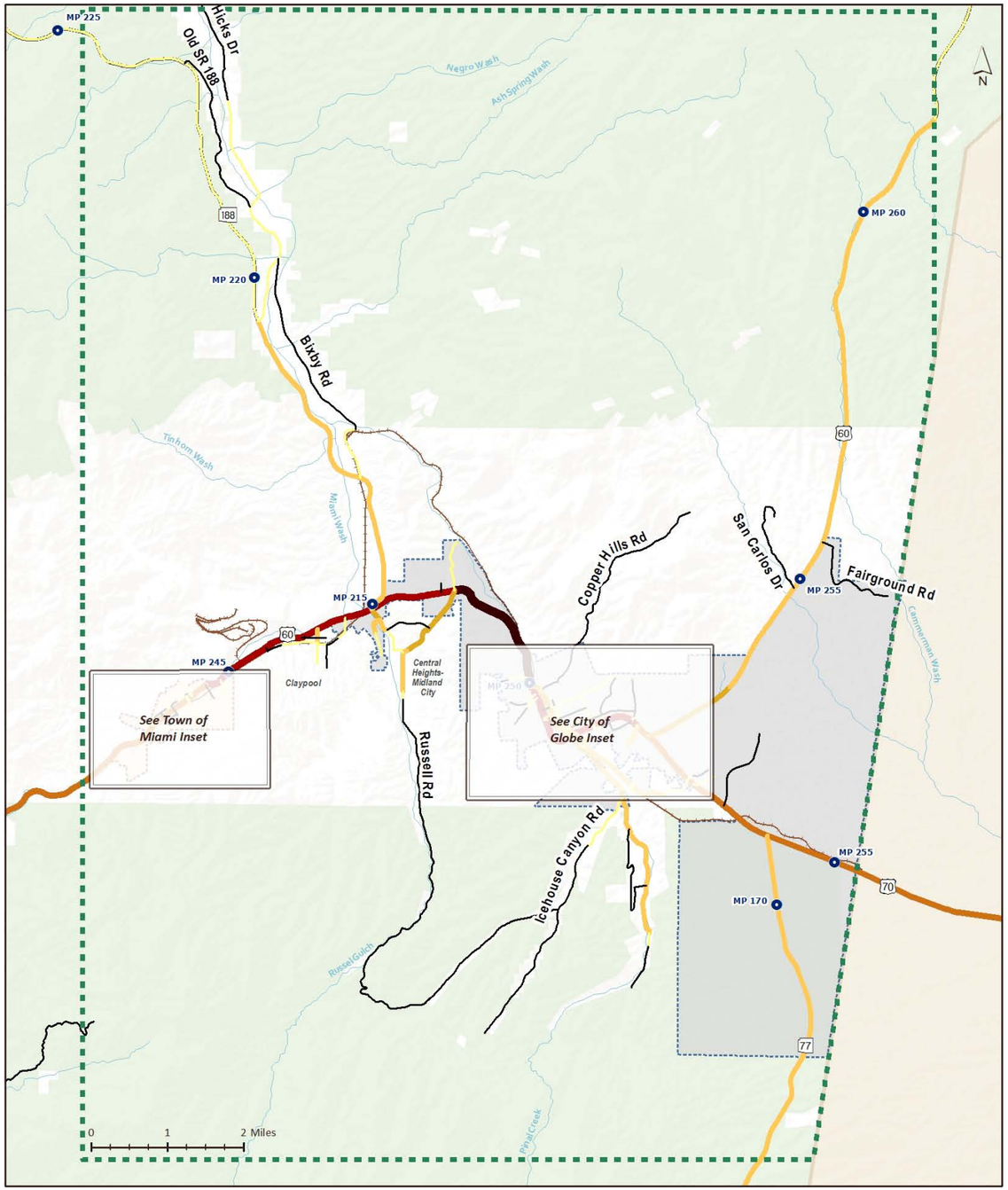
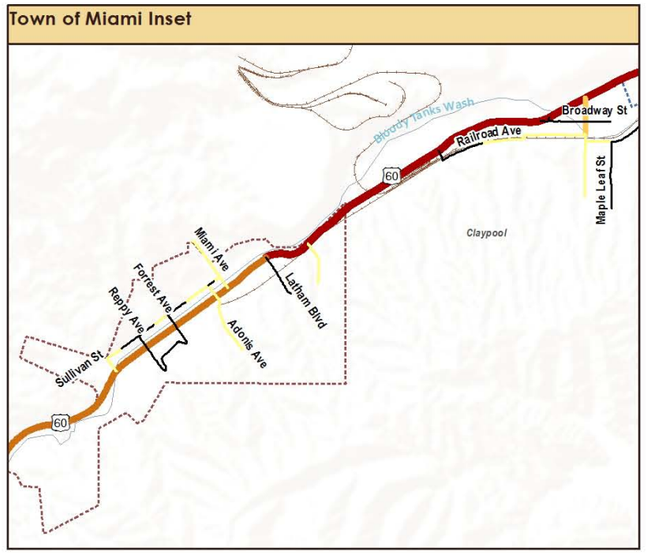
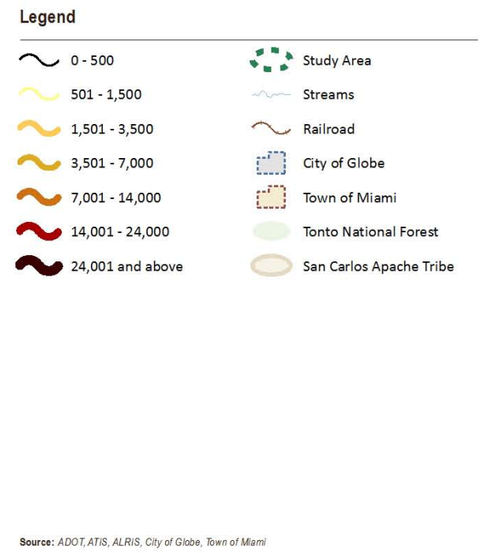


FIGURE 2.27: 2020 NO BUILD DAILY TRAFFIC VOLUMES







Source: *ADOT, ATIS, ALRIS, City of Globe, Town of Miami*

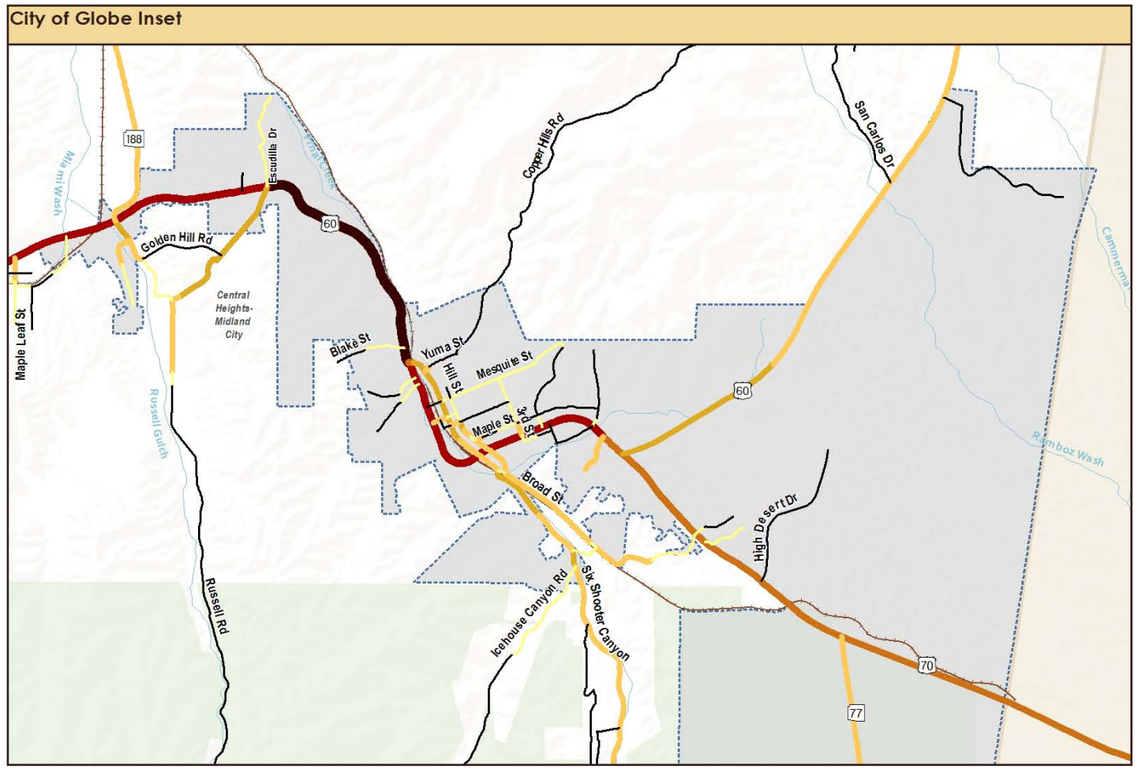
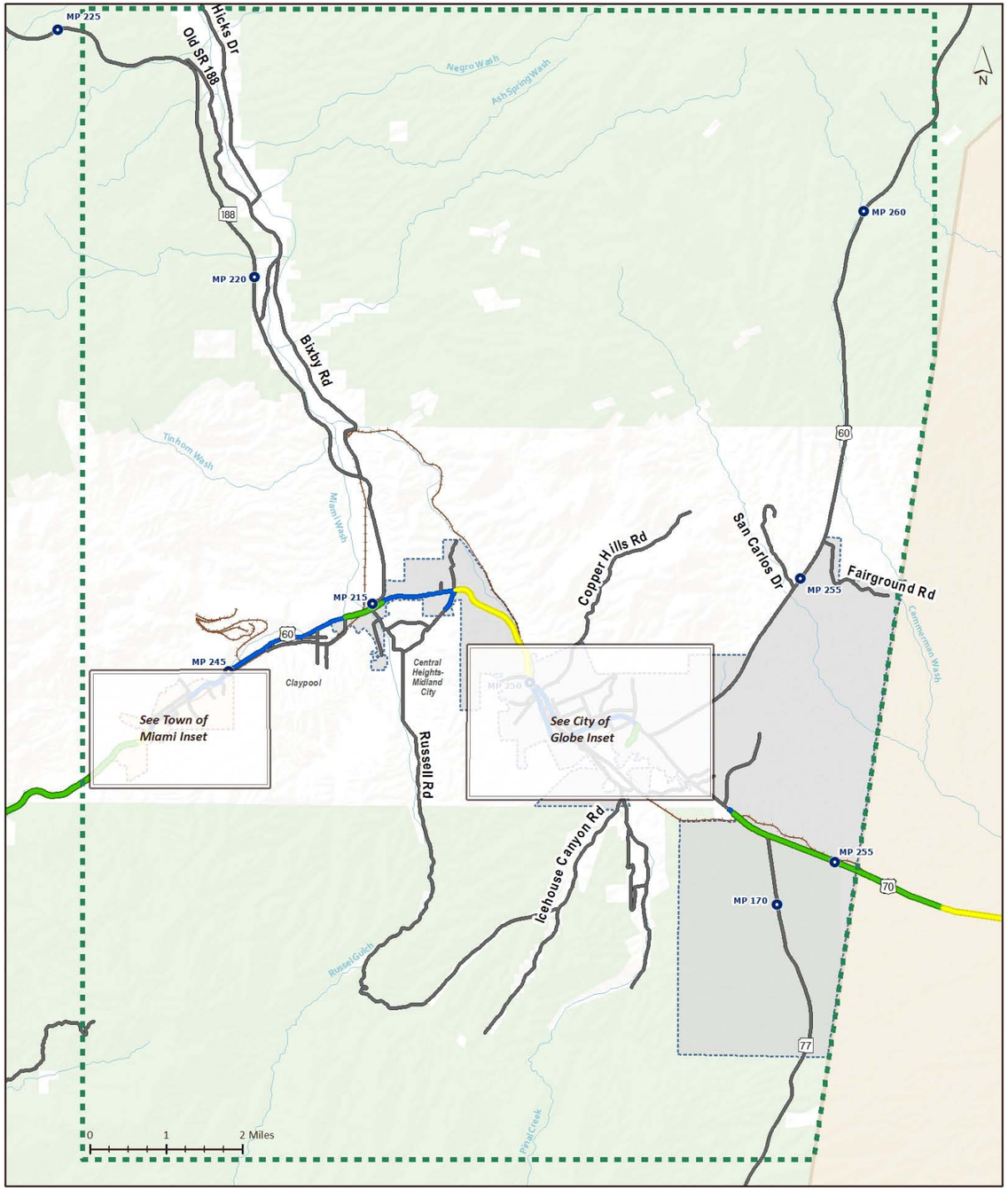
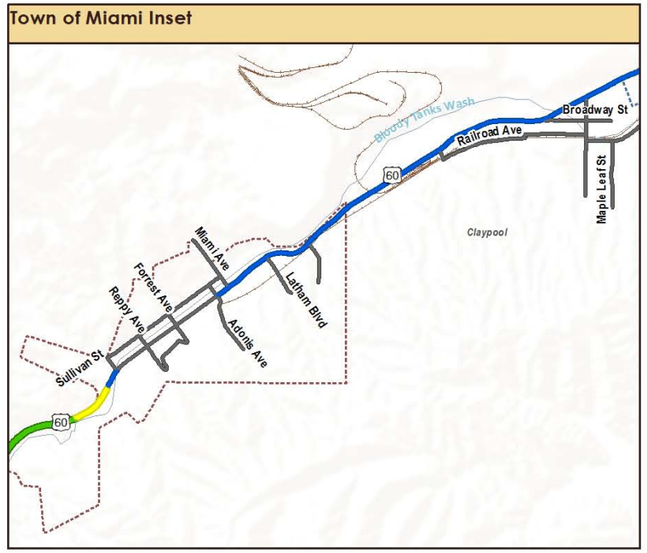
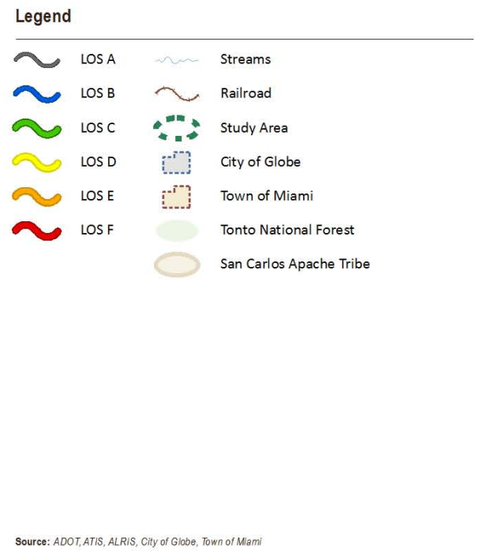


FIGURE 2.28: 2020 NO BUILD LEVEL OF SERVICE







Source: *ADOT, ATIS, ALRIS, City of Globe, Town of Miami*

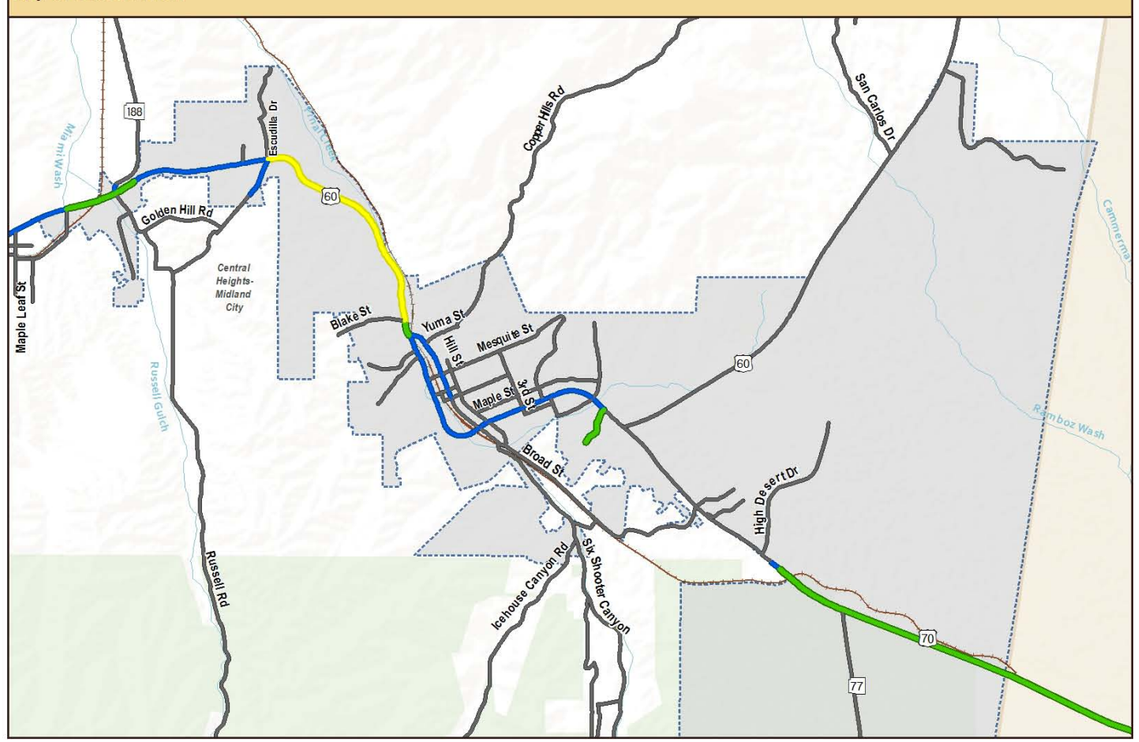
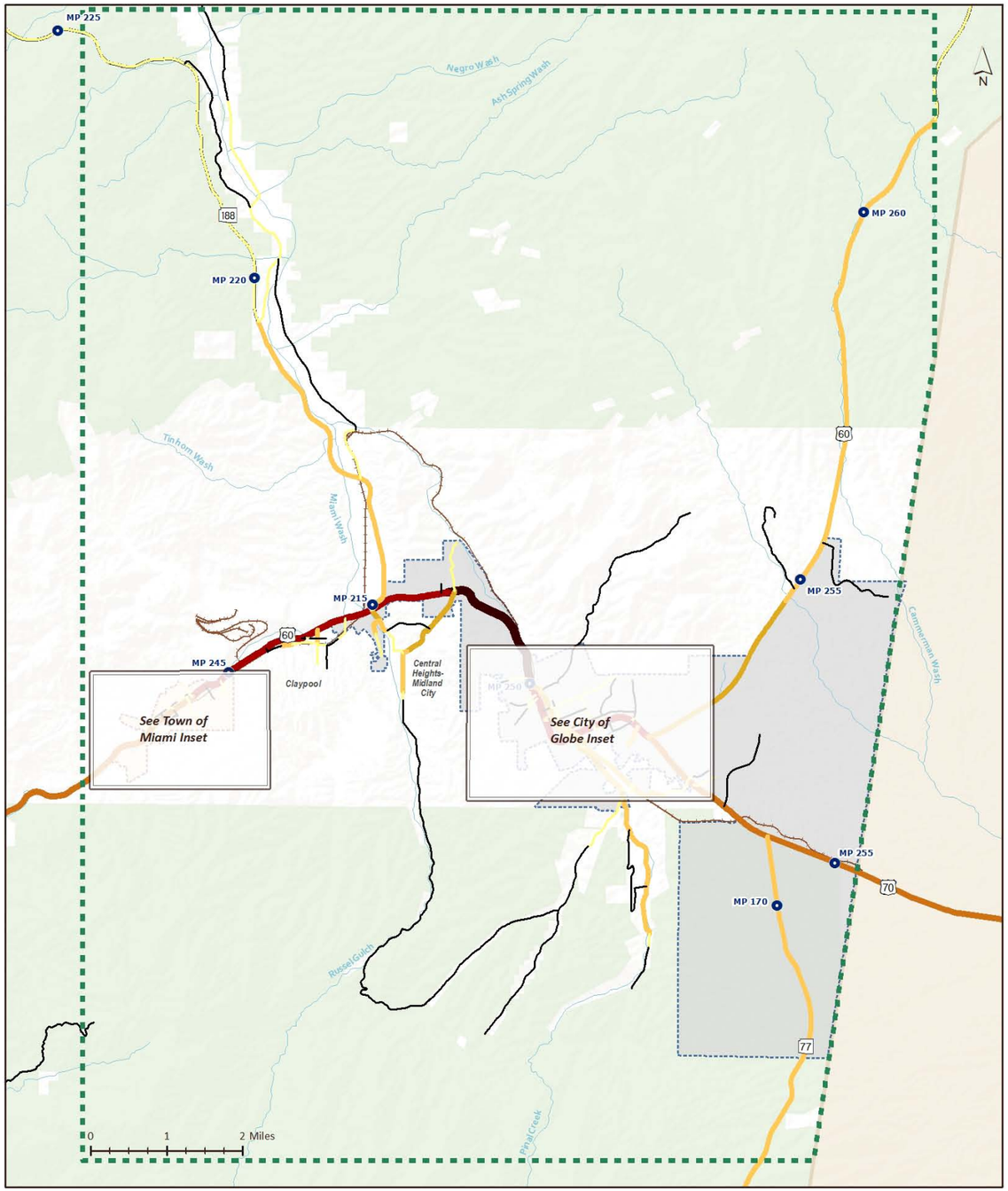
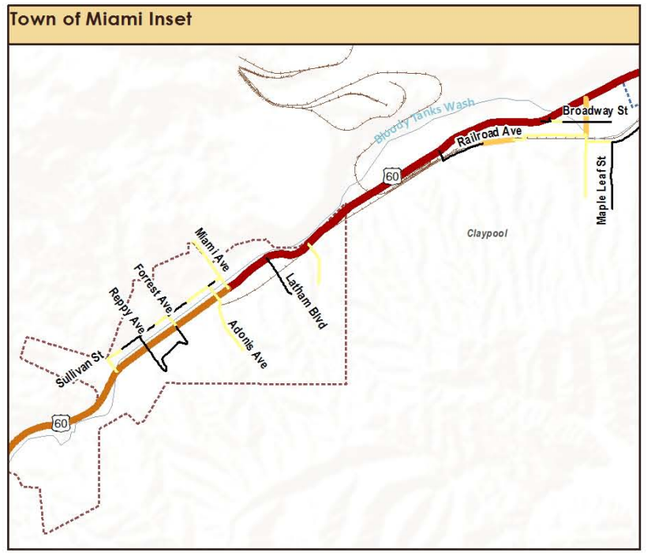
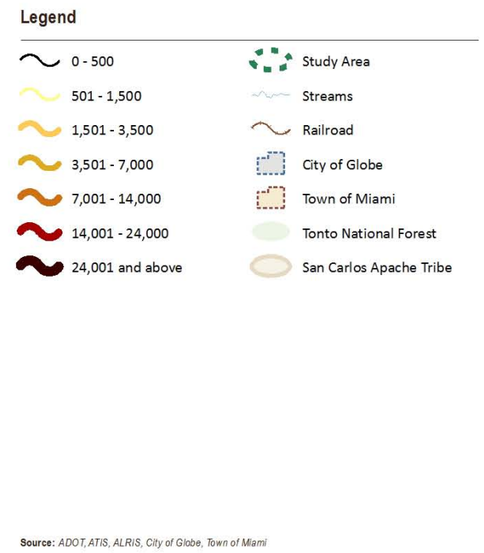


FIGURE 2.29: 2030 NO BUILD DAILY TRAFFIC VOLUMES







Source: *ADOT, ATIS, ALRIS, City of Globe, Town of Miami*

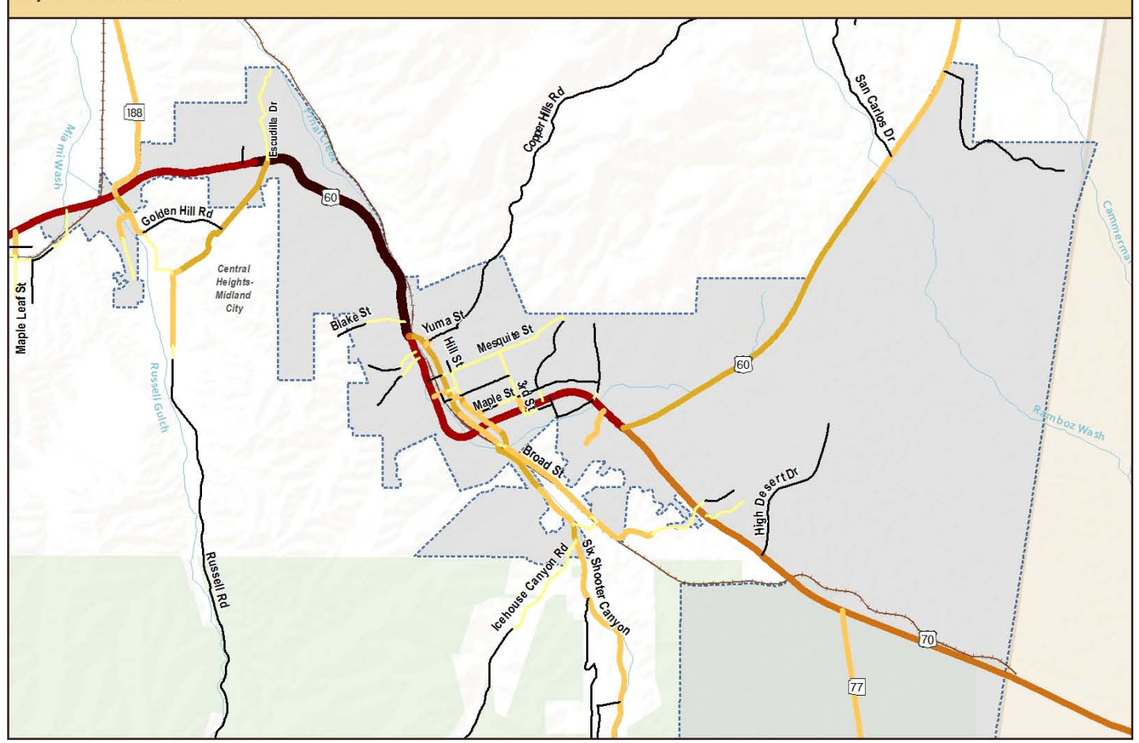
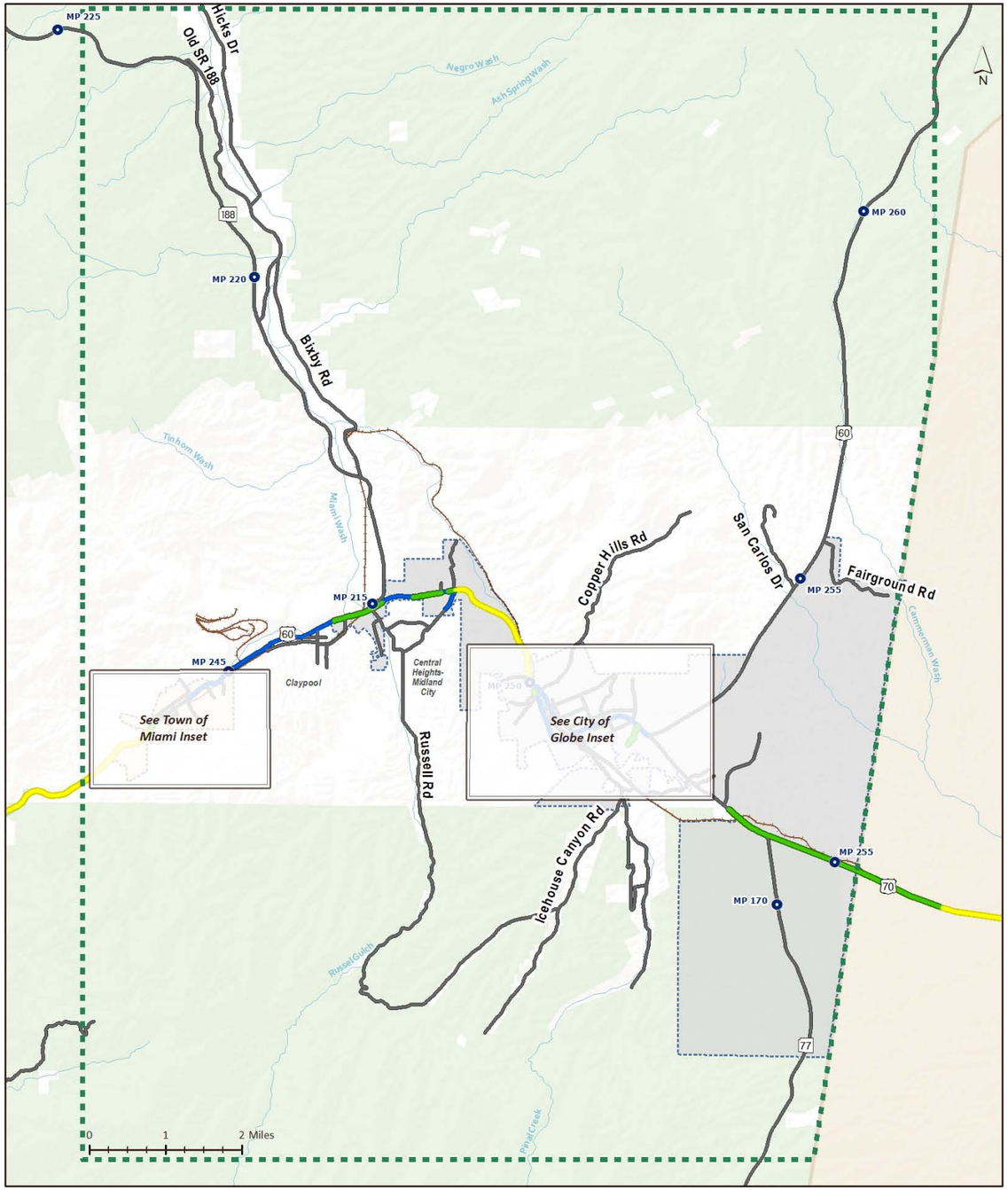
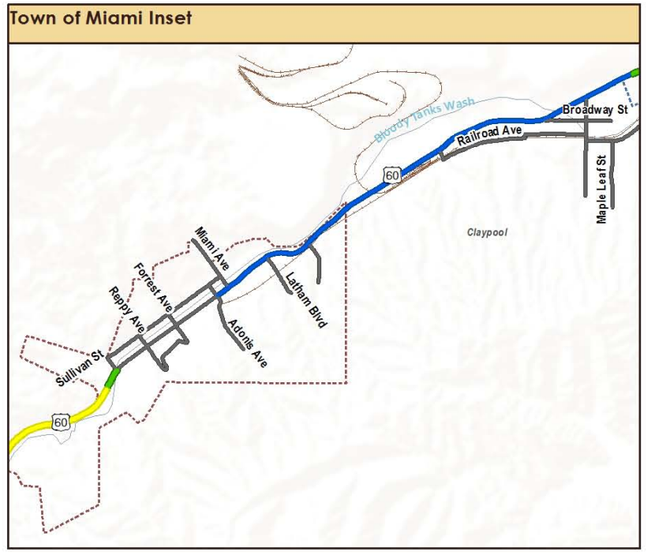
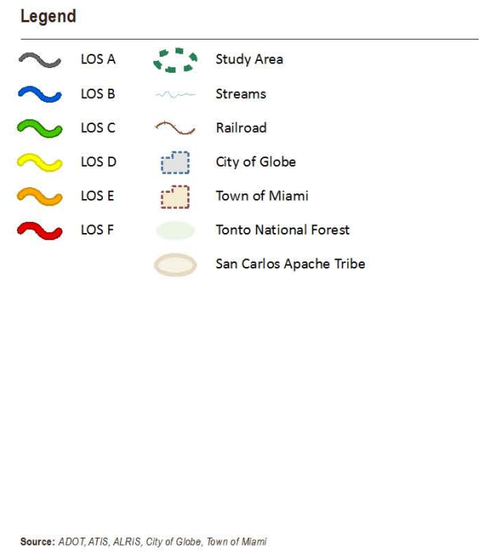


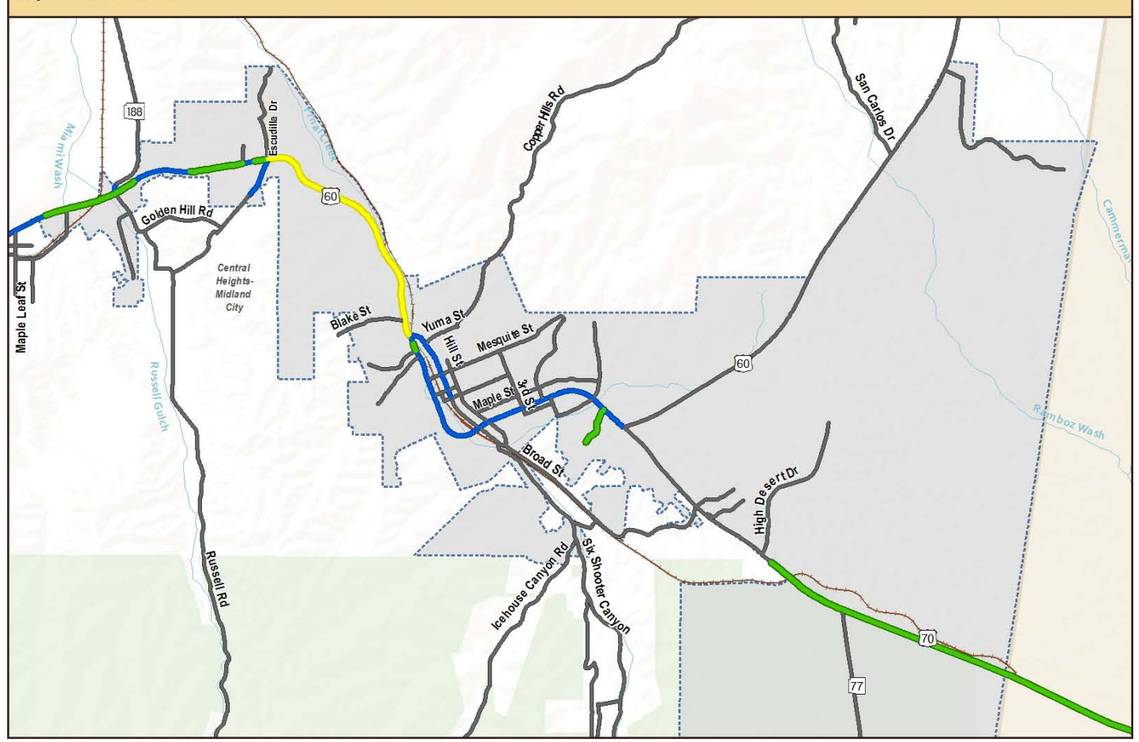
FIGURE 2.30: 2030 NO BUILD LEVEL OF SERVICE







Source: *ADOT, ATIS, ALRIS, City of Globe, Town of Miami*



3.0 EVALUATION OF TRANSPORTATION IMPROVEMENTS

TRANSPORTATION ISSUES SUMMARY

Transportation system deficiencies and issues were identified based on an inventory and analysis of existing conditions. These issues and deficiencies formed the basis for the next phase of the study which was the development of the comprehensive transportation plan. Figure 3.1 displays the current major transportation issues in the study area.

EVALUATION CRITERIA AND PROCESS

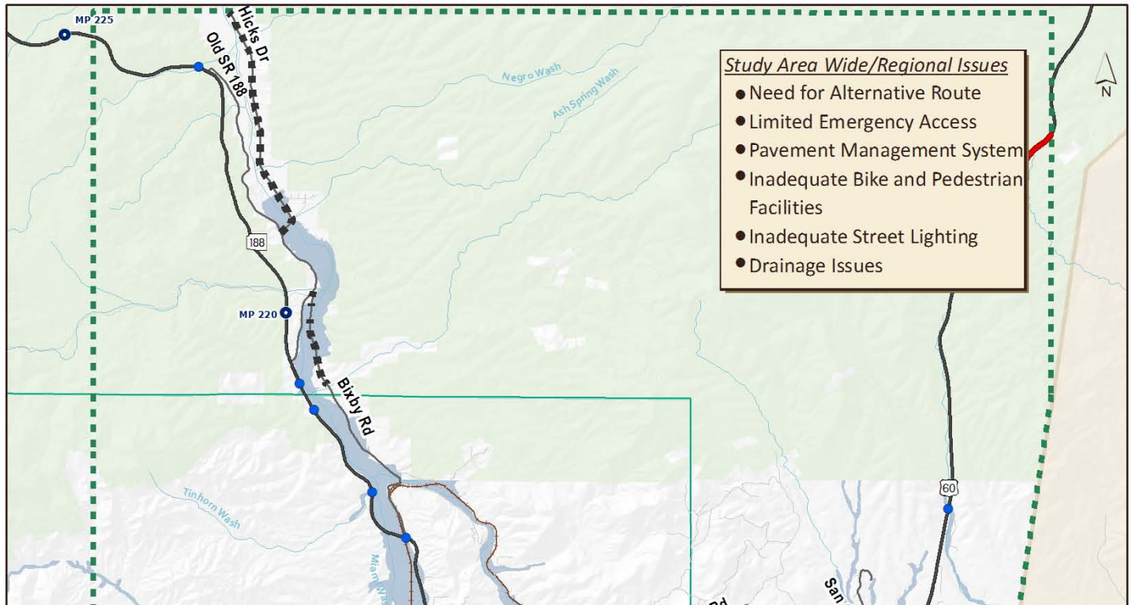
Transportation system deficiency analysis and input from the public, various stakeholders, and TAC resulted in a comprehensive list of potential transportation improvement options. These options were carefully evaluated using both quantitative and qualitative criteria to identify projects/improvements that best serve the needs of the Cobre Valley. Table 3.1 summarizes the criteria used in evaluating potential transportation improvement options.

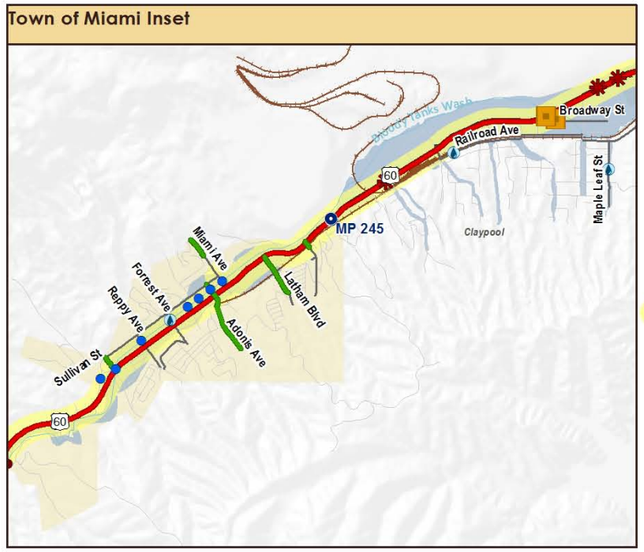
TABLE 3.1: TRANSPORTATION IMPROVEMENTS EVALUATION CRITERIA

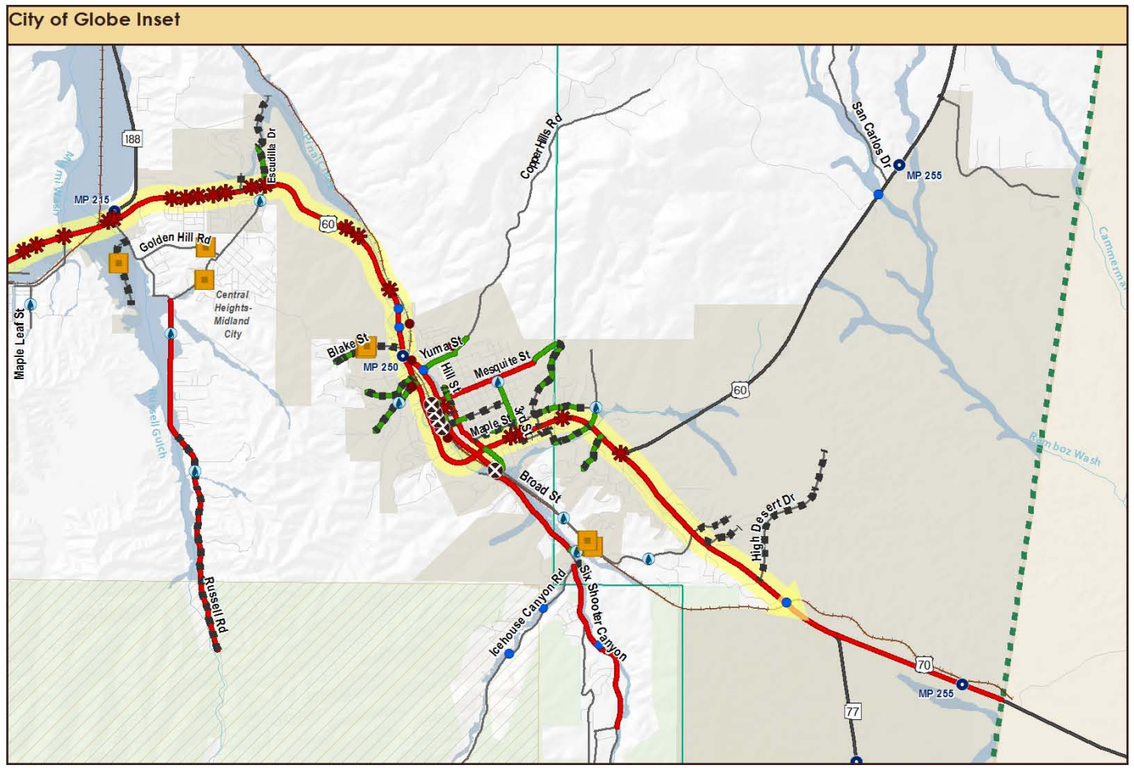
Evaluation Criteria	Objectives
Safety and Security	■ Reduce vehicle, pedestrian, and bicycle collisions. ■ Enhance alternate emergency routes. ■ Reduce emergency response times.
Congestion/Level of Service	■ Reduce congestion, bottlenecks, and travel times for all modes.
Mobility and Access	■ Improve linkages between transportation modes. ■ Facilitate efficient internal traffic circulation options within the study area. ■ Maintain travel reliability.
Economic Development Opportunity	■ Promote transportation choices that support economic growth.
Environmental Impacts	■ Protect and enhance natural, historical, and cultural environment by minimizing potential adverse impacts associated with transportation system development.
Infrastructure Preservation/Maintenance	■ Preserve and maintain existing transportation infrastructure.
Cost Efficiency and Implementation Feasibility	■ Minimize capital cost of transportation facilities, including preservation of ROW. ■ Obtain additional ROW.
Regional Connectivity	■ Enhance connectivity between the study area and nearby communities.
Transportation choices	■ Promote use of alternate transportation infrastructure such as pedestrian sidewalks, bicycle ways, multi-use paths, and transit.

Cobre Valley Comprehensive Transportation Study

FIGURE 3.1:TRANSPORTATION ISSUES







Legend

Safety and Congestion Issues

- Intersections with Potential Configuration, Sight Distance, Etc. Issues
- At-Grade Railroad Crossing Issues
- Bridge Eligible for Rehabilitation
- Bridge Eligible for Replacement
- High Crash Location
- Poor Pavement Conditions
- High Crash Rate Corridor
- CV_Issues
- Not Federally Classified

Environmental Issues

- Potential Roadway Flooding
- Potential High Risk Flooding
- Impaired Streams
- Mexican Spotted Owl Habitat
- PM 10 Non Attainment

- Study Area
- State or US Highway
- Study Roadway
- Local Roadway
- Streams
- City of Globe
- Town of Miami
- Railroad
- Tonto National Forest
- San Carlos Apache Tribe

Source: *AZGFD, ADEQ, US Fish and Wildlife, ADOT, ATIS, ALRIS, ADOT ALISS, City of Globe, Town of Miami, USDOT*

ROADWAY IMPROVEMENT OPTIONS

Roadway improvement options for the short-, mid-, and long-term phases were identified using the criteria presented in Table 3.1. Roadway improvement projects were differentiated by two different categories: capacity related improvement projects and non-capacity roadway improvement projects. Capacity related improvement projects include widening existing roadways and constructing new roadways. Non-capacity related improvements address safety concerns, intersection improvements, and the need to conduct additional planning studies. Capacity-related projects were evaluated using the Countywide TransCAD travel demand model developed for this study.

Potential Roadway Improvements for the Short-Term Phase

Transportation Improvement Programs (TIPs) and Capital Improvement Programs (CIPs) for City of Globe, Town of Miami, Gila County, CAG, and ADOT were reviewed to identify transportation projects scheduled for implementation. In addition, potential new improvement projects were identified to meet the traffic demand for the year 2015. Below is a list of potential capacity and non-capacity roadway improvements that were evaluated for the short-term phase:

Capacity Related Roadway Improvements

New Bridge	■ Mackey Camp Bridge

Non-Capacity Related Roadway Improvements

Bridge Replacement	■ Broad Street at Pinal Creek ■ Globe Street at Southern Pacific Railroad (SPRR)
Safety Improvements (pavement preservation, install low water crossing signs, rehabilitate signage)	■ City of Globe pavement preservation ■ Town of Miami pavement preservation ■ Forrest Avenue: Sullivan Street to US 60 ■ Beer Tree Crossing: Jesse Hayes Road to Walliman Road ■ City of Globe sign inventory and rehabilitation ■ Town of Miami sign inventory and rehabilitation
Intersection Improvements	■ Jesse Hayes Road/Broad Street - Install railroad crossing gate ■ Saguaro Drive/Daybreak Drive - Install advanced low water crossing signs with Flood Warning Signs
Additional Safety and Planning Studies	■ US 60: Town of Miami to Junction SR 77 - Identify appropriate and safe speed limit zones ■ US 70/SR 77 Intersection - Conduct Intersection Traffic Study to evaluate the need for a traffic signal or roundabout ■ US 60: Ragus Road to Old Oak Street - Conduct a Traffic Study to evaluate the ingress and egress along the corridor for operational and safety improvements

Potential Roadway Improvements for the Mid-Term Phase

As the study area reaches the mid-term phase (year 2020), additional transportation improvements are required to meet the higher traffic demand resulting from the increase in both local and regional travel. Below is a list of potential capacity and non-capacity roadway improvements that were evaluated for the mid-term phase.

Capacity Related Roadway Improvements

New Roadway
- Rim School Drive to 6th Street

Widening to Four Lanes
- US 70: Railroad Bridge to SR 77 Intersection (Preliminary engineering has already been completed)

Intersection Improvement
- Mine Entrance/US 60 - Add exclusive turn lanes on cross-street to US 60

Non-Capacity Related Roadway Improvements

Bridge Replacement
- Cottonwood Street at Pinal Creek
- Hackney Avenue at Graveyard Wash
- Haskins Road at Pinal Creek
- High Street at Copper Gulch
- Highland Drive at McMillen Wash
- Hill Street at Cottonwood Street
- US 60 at Maple Street

Bridge Rehabilitation
- Yuma Street at Pinal Creek
- Cordova Avenue at Bloody Tanks Wash
- Turner Street at Live Oak Canyon
- Abiquiu Trail at Six Shooter Canyon Road
- Albany Drive at Icehouse Canyon Road
- Dickison Drive at Pinal Creek
- Pinal View Drive at Icehouse Canyon Road
- Southern Pacific Railroad at US 70
- SR 188 at Hicks Wash (0.20 mile north of MP 223)
- SR 188 at Tinhorn Wash (0.43 mile south of MP 218)
- SR 188 at Wash (0.22 mile south of MP 219)
- SR 188 at Wash (0.13 mile north of MP 219)
- SR 188 at Wash (0.20 mile south of MP 217)
- US 60 at Pinal Creek (2.6 miles E of SR 88 Junction)
- US 60 at Pinal Creek (2.7 miles E of SR 88 Junction)
- US 60 at Quartzite Wash (0.22 mile south of MP 257)
- US 60 at Wash (0.26 mile south of MP 255)
- US 60 at Bloody Tanks Wash

Safety Improvements (Enhance streetscape, reconstruct, install railroad crossing gates, restripe, reconstruct)	■ Round Mountain Park Road: Maple Street to Trailhead ■ Pine Street: Sycamore Street to Bailey Street ■ US 60: Reppy Avenue to Miami Avenue ■ Latham Boulevard ■ Sullivan Street: Plaza Avenue to Miami Avenue
Intersection Improvements	■ Skyline Drive/Walliman Road - Realign ■ US 60/Plaza Avenue/Canyon Avenue - Redesign and realign ■ Broadway Street/El Camino Road - Construct curb, gutter, and delineate the intersection with striping.

Potential Roadway Improvements for the Long-Term Phase

As the study area reaches the long-term phase (year 2030), additional transportation improvements are required to meet the higher traffic demand. Below is a list of potential capacity and non-capacity roadway improvements that were evaluated for the long-term phase.

Capacity Related Roadway Improvements

New Roadway	■ Round Mountain Road to Rim School Drive ■ Extension of Railroad Avenue: Marion Street to Mill Street (Miami) ■ Construct alternate access route to US 60 ■ New Connector Roadway: Six Shooter Road to SR 77 ■ Pinal Creek Corridor: Beer Tree Crossing to US 70 ■ High Desert Drive: Current End to US 60
New Bridge	■ Pinal Creek Pedestrian Bridge ■ Icehouse Canyon Road: Jesse Hayes Road to Pinal Creek Road

Non-Capacity Related Roadway Improvements

Intersection Improvements	■ Broad Street/Jesse Hayes Road - Reconfigure ■ Carico Street/Highland Drive - Reconfigure ■ Maple Street/Terrace Drive - Adjust intersection profile and improve drainage ■ US 60/Bluebird Mine Entrance - Realign
Safety Improvements (Drainage, retaining walls, access management)	■ Roosevelt Street: Keystone Avenue to Chisholm Avenue - Construct retaining walls and address drainage issues ■ Entrance to Town of Miami - Implement access management

EVALUATION OF TRANSIT AND NON-MOTORIZED MODES

Transit

Cobre Valley Community Transit (CVCT) system is a collaborative effort between the Town of Miami, the City of Globe, and Gila County to provide public transit services to the residents of the two communities and nearby unincorporated areas within Gila County. The demand response service model allows clients to call and schedule rides to access various services on an "as-needed basis". Recently, CVCT has opted to modify their operational practices by expanding service to serve a broader segment of the local population and to improve operational efficiencies. A CVCT transit review evaluation was conducted concurrently to this study to review existing conditions, identify deficiencies, and recommend improvements in the operation of the system. The core recommendation from the study is the establishment of a deviated fixed route system with demand response support. Current system analysis, marketing analysis, and future transit conditions are outlined in detail in the *Cobre Valley Community Transit Study*.

Non-Motorized Modes of Transportation

Alternative modes of transportation such as sidewalks, bicycle paths/routes, and trails (including equestrian) are an important aspect of the multimodal transportation network as they provide mobility for recreational use and those not able to operate or without access to a vehicle. Within the study area, limited pedestrian sidewalks and paths are located in the Globe and Miami's downtowns, along portions of US 60, and intermittently along local roadways. An extensive trail system maintained by the Tonto National Forest resides in the southern portion of the study area; while a network of smaller trail systems is located at the Round Mountain Park and Old Dominion Mine Park in the City of Globe.

Needs Analysis

Cobre Valley's existing sidewalks, bicycle lanes, and trails were reviewed in relation to:

- The location of activity centers such as schools, large retail establishments, libraries, hospitals, recreation activity centers, and;
- Existing and future roadway alignments.

Analyzing the study area's existing pedestrian and bicycle facilities helped to identify locations that would benefit from these amenities and that would be closely integrated with the area's roadway system.

4.0 COMPREHENSIVE TRANSPORTATION PLAN

This section presents the Multimodal Transportation Plan for the short-, mid-, and long-term phases. This transportation plan is the result of the deficiency analysis from Working Paper 1, Public Open House Input, and Working Paper 2. It is a multimodal plan that includes roadway, transit, pedestrian, bicycle, and trail improvements. Each project is assigned a unique project number that the City/Town/County can use to track project progress. Unless otherwise noted, the recommended projects are not yet funded.

SHORT-TERM ROADWAY RECOMMENDATIONS

Short-term phase projects are recommended to be completed as the study area reaches year 2015. Table 4.1 presents a comprehensive list of the transportation recommendations for this phase, as well as the project number, location, description, and estimated costs for each project. Figures 4.1, 4.2, and 4.3 provide graphical representations of the short-term transportation recommendations for the Cobre Valley study area, City of Globe, and Town of Miami, respectively.

Estimated costs for each project are expressed in 2012 dollars and are general estimates. Actual costs for projects could vary at the time of implementation; therefore, a detailed analysis should be performed on a case-by-case basis to determine actual costs.

TABLE 4.1: SHORT-TERM ROADWAY RECOMMENDATIONS

ID	Project Location and Description	Cost	Agency
City of Globe			
ST-1	**Copper Rim School Drive to Round Mountain Park Road** Construct new sidewalk and bike lane with safety railing	$125,000	Globe
ST-2	**Broad Street at Pinal Creek** Replace bridge	$1,500,000	Globe
ST-3	**Globe Street and Southern Pacific Railroad (SPRR) Intersection** Replace bridge	$600,000	Globe
ST-4	**City of Globe Pavement Preservation** Rehabilitate pavement		Globe
ST-5	**Jesse Hayes Road and Broad Street Intersection** Install railroad crossing gate	$75,000	Globe/Arizona Eastern Railway (AZER)
Town of Miami			
ST-6	**Town of Miami Pavement Preservation** Rehabilitate pavement		Miami
ST-7	**Along Bloody Tanks Wash from Bullion Plaza to Mine Entrance** Construct walking path along Bloody Tanks Wash from Bullion Plaza to Mine Entrance	$250,000	Miami

TABLE 4.1: SHORT-TERM ROADWAY RECOMMENDATIONS (continued)

ID	Project Location and Description	Cost	Agency
Town of Miami			
ST-8	**Forrest Avenue: Sullivan Street to US 60** Install advanced low water crossing signs in conjunction with Flood Warning Signs to warn motorists of crossings	$35,000	Miami
Gila County			
ST-9	**Beer Tree Crossing: Jesse Hayes Road to Walliman Road** Install advanced low water crossing signs in conjunction with Flood Warning Signs to warn motorists of crossings	$35,000	Gila County
ST-10	**Saguaro Drive and Daybreak Drive Intersection** Install advanced low water crossing signs in conjunction with Flood Warning Signs to warn motorists of crossings	$35,000	Gila County
ADOT			
ST-11	**US 60: Town of Miami to Junction SR 77** Evaluate the US 60 corridor to identify appropriate and safe speed limit zones between the Town of Miami and SR 77	$25,000	ADOT
ST-12	**US 70 and SR 77 Intersection** Evaluate the need for a traffic signal or roundabout	$700,000	ADOT
Multiple Jurisdictions			
ST-13	**City of Globe Sign Inventory and Rehabilitation** Through CAG, utilize Highway Safety Improvement Program (HSIP) funds to conduct a sign inventory and replace existing signs with new signs that have retro reflectivity readings	$80,000	Globe/ CAG
ST-14	**Town of Miami Sign Inventory and Rehabilitation** Through CAG, utilize Highway Safety Improvement Program (HSIP) funds to conduct a sign inventory and replace existing signs with new signs that have retro reflectivity readings	$40,000	Miami/ CAG
ST-15	**Globe - Miami: Transit Service** Implement new fixed route transit service based on recommendations presented in the Cobre Valley Community Transit Study		Globe/ Miami/Gila County/ PPP
ST-16	**US 60: Ragus Road to Old Oak Street** Conduct a traffic study to evaluate the ingress and egress along the corridor for operational and safety improvements	$30,000	ADOT/ Globe
ST-17	**Mackey Camp Bridge Replacement** Construct new bridge on Mackey Camp Road over Bloody Tanks Wash	$500,000	Miami/Gila County

FIGURE 4.1: COBRE VALLEY SHORT-TERM IMPROVEMENTS

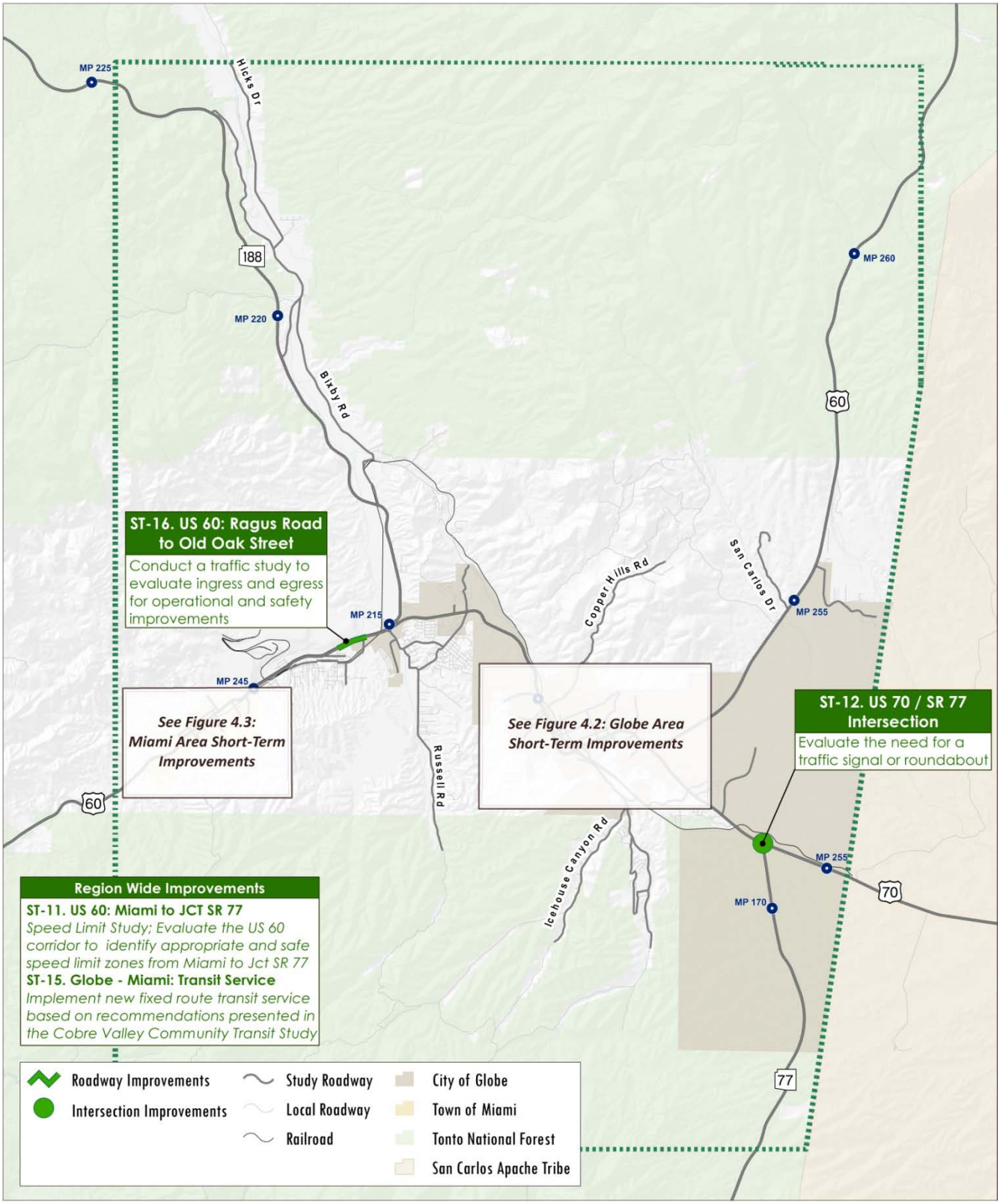


FIGURE 4.2: GLOBE AREA SHORT-TERM IMPROVEMENTS

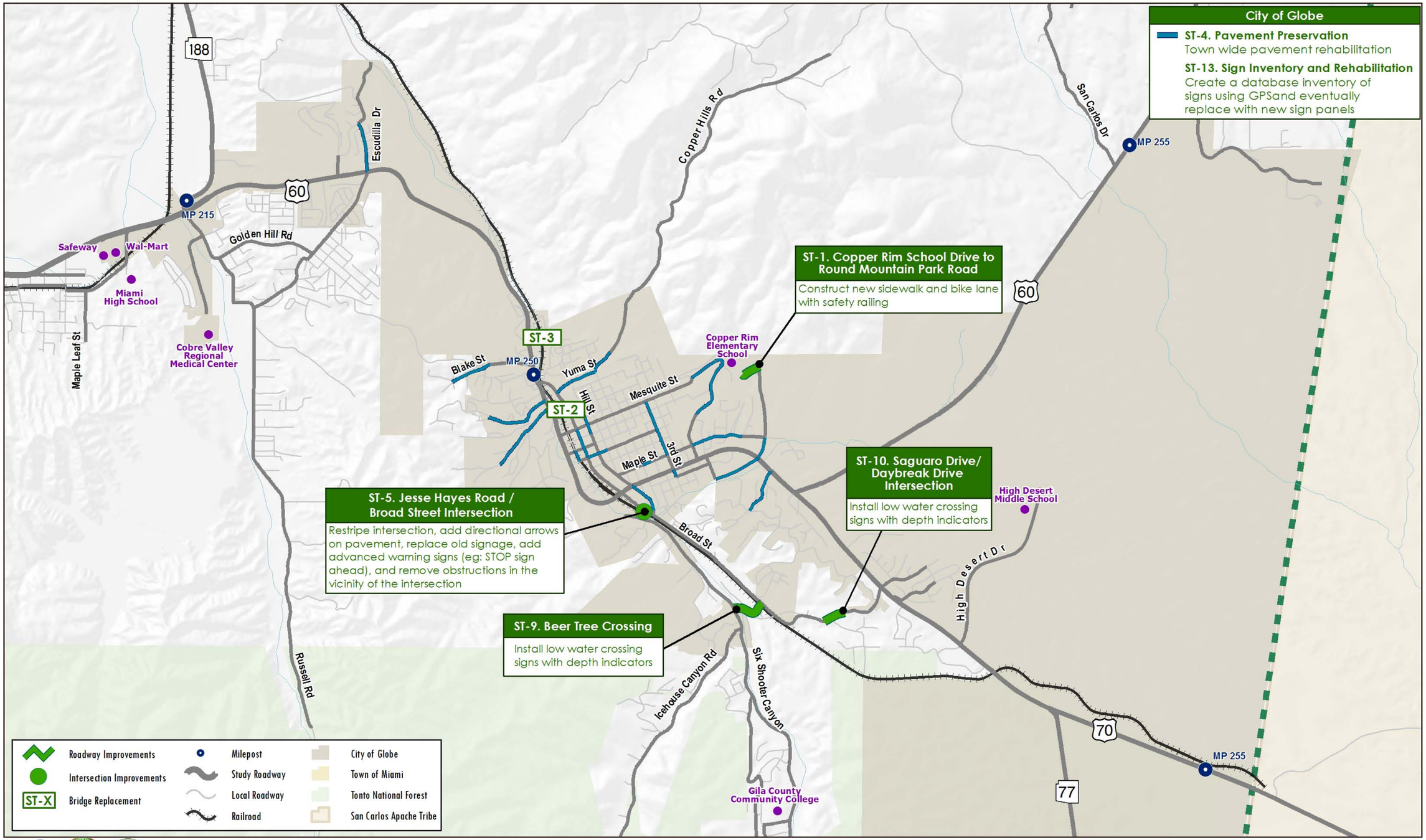
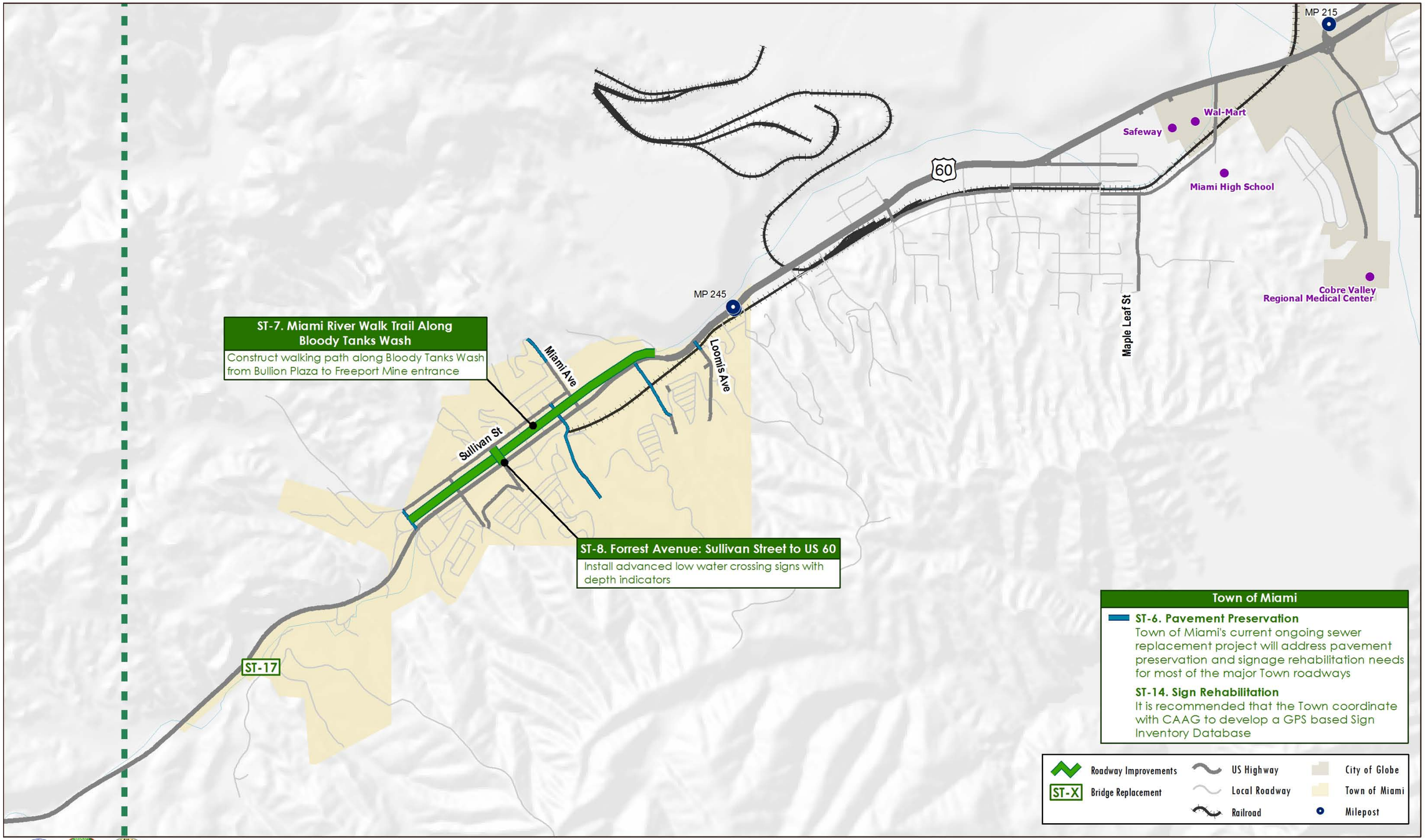


FIGURE 4.3: MIAMI AREA SHORT-TERM IMPROVEMENTS



Project Descriptions for Short-Term Improvements

The following projects were identified for the short-term implementation phase. ***The Project Identification Number (i.e. ST- 1) does not represent the priority of the project, rather is an identification number to track project progress in the future. The responsible agency will prioritize the projects once the study is complete.***

Copper Rim Elementary School to Round Mountain Park Road (0.16 mile) — **Project Number: ST-1**

Responsible Agency: City of Globe
Project Type: Pedestrian/Bicycle Access

Project Description: Construct new sidewalk and bike lane with safety railing.

Project Length: 593 feet

Estimated Cost: $125,000

Project Location: Copper Rim Elementary School to Round Mountain Park Road (0.11 mile).

Issue Addressed: Access from Copper Rim Elementary School to park.

Community Benefit: Provides safe and easy way for kids to access the park.

Comment: Sidewalks and a bike lane are needed to connect the Copper Rim Elementary School with the trail system at Round Mountain Park. The school parking lot could be used by citizens for parking for special events and hiking at the park. The City applied for Safe Routes to School funding for this project. This project is separate from LT-1.

Broad Street at Pinal Creek	Project Number: ST-2

Responsible Agency: City of Globe

Project Type: Bridge Replacement

Project Description: Replace bridge.

Project Length: N/A

Estimated Cost: $1,500,000

Project Location: Broad Street at Pinal Creek.

Issue Addressed: Poor bridge condition.

Community Benefit: Improved safety.

Comment: Bridge inspection report rated this bridge to have a poor sufficiency rating and eligible for replacement.

Globe Street and Southern Pacific Railroad (SPRR) Intersection	Project Number: ST-3

Responsible Agency: City of Globe

Project Type: Bridge Replacement

Project Description: Replace bridge.

Project Length: N/A

Estimated Cost: $600,000

Project Location: Globe Street at Southern Pacific Railroad.

Issue Addressed: Poor bridge condition.

Community Benefit: Improved safety.

Comment: Bridge inspection report rated this bridge to have a poor sufficiency rating and eligible for replacement.

City of Globe Pavement Preservation	Project Number: ST-4

Responsible Agency: City of Globe
Project Type: Pavement Preservation
Project Description: Rehabilitate pavement.
Project Length: Determined based on available funding.
Estimated Cost: Cost varies by the pavement type
Project Location: City of Globe - Pavement Preservation.
Issue Addressed: Deteriorated pavement.
Community Benefit: Extend the life of the pavement and also provide a smoother travel experience for motorists.
Comment: Figure 4.2 displays the streets that require pavement preservation. The City of Globe will determine the segment and length of pavement preservation based on available funding.

Jesse Hayes Road and Broad Street Intersection	Project Number: ST-5

Responsible Agency: City of Globe, Arizona Eastern Railway (AZER)
Project Type: Install Railroad Crossing Gate
Project Description: Install railroad crossing gate.
Project Length: Determined based on available funding.
Estimated Cost: $75,000
Project Location: Jesse Hayes Road and Broad Street intersection.

Issue Addressed: Safety.
Community Benefit: Improved safety.
Comment: The active rail line crossing is currently not gated.

Town of Miami Pavement Preservation	Project Number: ST-6

Responsible Agency: Town of Miami
Project Type: Pavement Preservation
Project Description: Rehabilitate pavement.
Project Length: N/A
Estimated Cost: Cost varies by pavement type
Project Location: Town of Miami.
Issue Addressed: Deteriorated pavement.
Community Benefit: Extend the life of the pavement and also provide a smoother travel experience for motorists.
Comment: The majority of these roads will be restructured as part of the large Town of Miami sewer project. Town of Miami will prioritize the remaining roadways based on available funding.

Miami River Walk Trail Along Bloody Tanks Wash	Project Number: ST-7

Responsible Agency: Town of Miami
Project Type: Construct Trail
Project Description: Construct walking path along Bloody Tanks Wash from Bullion Plaza to Freeport Mine entrance.
Project Length: 0.94 mile
Estimated Cost: $250,000
Project Location: Along Bloody Tanks Wash from Bullion Plaza to Freeport Mine entrance.

Issue Addressed: Safe pedestrian walking facilities.
Community Benefit: Pedestrian greenbelt path.

Forrest Avenue: Sullivan Street to US 60	Project Number: ST-8

Responsible Agency: Town of Miami

Project Type: Sign Installation

Project Description: Install advanced low water crossing signs in conjunction with Flood Warning Signs to warn motorists of crossings.

Project Length: N/A

Estimated Cost: $35,000

Project Location: Forrest Avenue: Sullivan Street to US 60.

Issue Addressed: Low water crossings.

Community Benefit: Improved safety.

Comment: Low water crossings can result in unsafe travel conditions for motorists when the washes are running. Need advance warning signs.

Beer Tree Crossing: Jesse Hayes Road to Walliman Road	Project Number: ST-9

Responsible Agency: Gila County

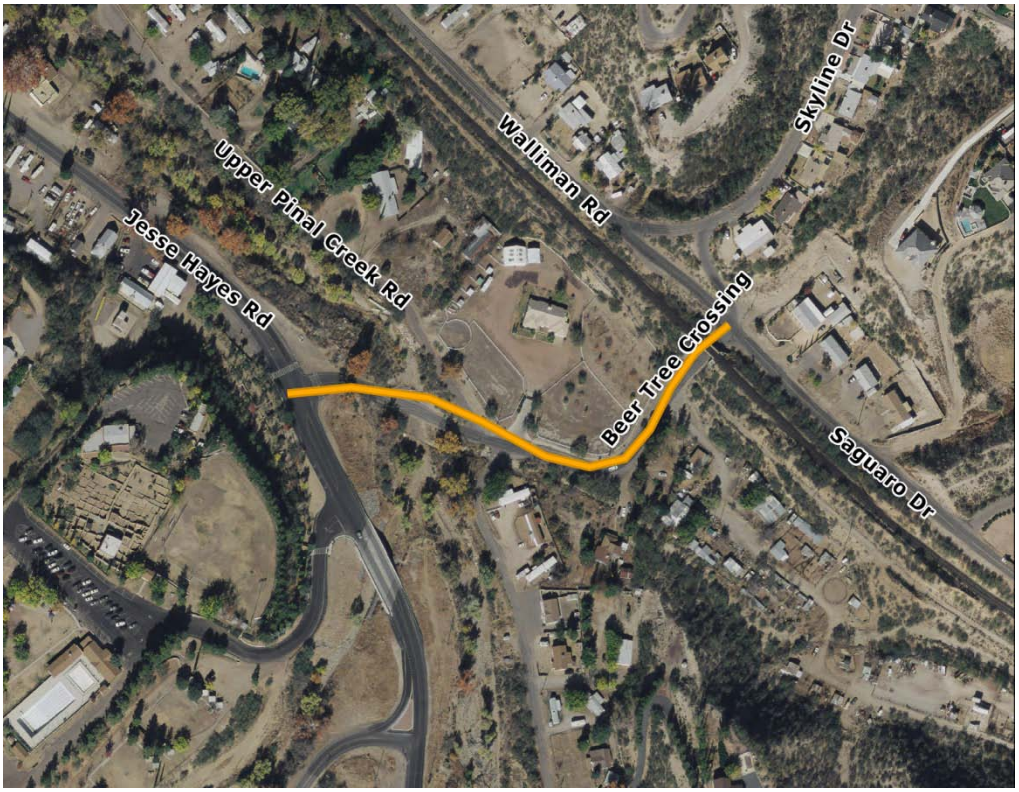
Project Type: Sign Installation

Project Description: Install advanced low water crossing signs in conjunction with Flood Warning Signs to warn motorists of crossings.

Project Length: N/A

Estimated Cost: $35,000

Project Location: Beer Tree Crossing from Jesse Hayes Road to Walliman Road.



Issue Addressed: Low water crossings.

Community Benefit: Improved safety.

Comment: Low water crossings can result in unsafe travel conditions for motorists when water is present. Need advance warning signs.

Saguaro Drive and Daybreak Drive Intersection	Project Number: ST-10

Responsible Agency: Gila County

Project Type: Sign Installation

Project Description: Install advanced low water crossing signs in conjunction with Flood Warning Signs to warn motorists of crossings.

Project Length: N/A

Estimated Cost: $35,000

Project Location: Saguaro Drive and Daybreak Drive intersection.

Issue Addressed: Low water crossings.

Community Benefit: Improved safety.

Comment: Low water crossings can result in unsafe travel conditions for motorists when the washes are running. Need advance warning signs.

US 60 Speed Limit Study			Project Number: ST-11
Responsible Agency:	Arizona Department of Transportation	Project Type:	Traffic Study
Project Description:	Evaluate the US 60 corridor to identify appropriate and safe speed limits zones between the Town of Miami to SR 77.		
Project Length:	N/A		
Estimated Cost:	$25,000		
Project Location:	US 60: Town of Miami to Junction SR 77.		
Issue Addressed:	Multiple speed zone changes.		
Community Benefit:	Improved safety.		
Comment:	During the public meeting and in the newspaper, several people discussed the concern for the number of speed limit changes on US 60. The Public would like to see only one or two speed limits for the corridor.		

US 70 and SR 77 Intersection	Project Number: ST-12

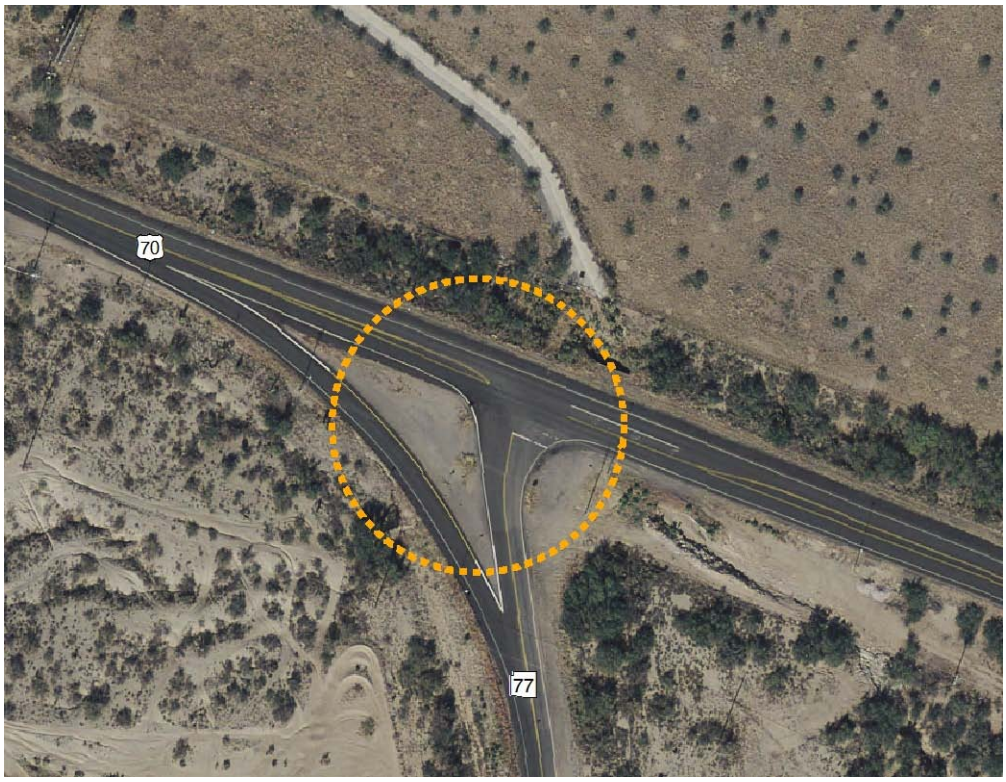
Responsible Agency: Arizona Department of Transportation Project Type: Intersection Traffic Study

Project Description: Evaluate the need for a traffic signal or roundabout.

Project Length: N/A

Estimated Cost: $700,000

Project Location: Intersection of US 70 and SR 77.



Issue Addressed: Improved safety.

Community Benefit: Safety and traffic calming.

Comment: Intersection has a high number of crashes. Should consider a roundabout or traffic signal for safety and traffic calming.

City of Globe Sign Inventory and Rehabilitation	Project Number: ST-13

Responsible Agency: City of Globe, Central Arizona Association of Goverments
Project Type: Sign Rehabilitation
Project Description: Using a GPS, create a database inventory of signs and eventually replace with new sign panels.
Project Length: N/A
Estimated Cost: $80,000
Project Location: City of Globe.
Issue Addressed: Faded signs and compliance with MUTCD standards.
Community Benefit: Safety.
Comment: Partner with CAG to conduct the sign inventory and to replace existing signs with new signs with retro reflectivity readings.

Town of Miami Sign Inventory and Rehabilitation	Project Number: ST-14

Responsible Agency: Town of Miami, Central Arizona Association of Goverments
Project Type: Sign Rehabilitation
Project Description: Using a GPS, create a database inventory of signs and eventually replace with new sign panels.
Project Length: N/A
Estimated Cost: $80,000
Project Location: Town of Miami.
Issue Addressed: Faded signs and compliance with FHWA standards.
Community Benefit: Safety.
Comment: Partner with CAG to conduct the sign inventory and to replace existing signs with new signs with retro reflectivity readings.

Globe - Miami Transit Service	Project Number: ST-15

Responsible Agency: City of Globe, Town of Miami, Gila County, Public-Private Partnership
Project Type: Transit Service
Project Description: Implement new fixed route transit service based on recommendations presented in the Cobre Valley Community Transit Study.
Project Length: N/A
Estimated Cost: Cost varies by service type
Project Location: Please refere to Figure 4.10 for recommended service routes.
Issue Addressed: Lack of transit options.
Community Benefit: Transit service between the City of Miami and the Town of Miami.
Comment: The current ongoing Cobre Valley Community Transit Study recommends a new fixed route between Miami and Globe.

US 60 Traffic Study	Project Number: ST-16

Responsible Agency: City of Globe, Arizona Department of Transportation

Project Type: Traffic Study

Project Description: Conduct a Traffic Study to evaluate the ingress and egress along the corridor for operational and safety improvements.

Project Length: 2278 feet

Estimated Cost: $30,000

Project Location: US 60 from Old Oak Street to east of Ragus Road.

Issue Addressed: Safety and access control issues for local commercial businesses.

Community Benefit: Improved safety for access to commercial properties and Miami high school.

Comment: Conduct detailed traffic study to evaluate current ingress and egress to the commercial properties/Miami High School and develop recommendations for operational and safety improvements.

Mackey Camp Bridge Replacement	Project Number: ST-17

Responsible Agency: Town of Miami, Gila County Project Type: Bridge

Project Description: Construct new bridge on Mackey Camp Road over Bloody Tanks Wash.

Project Length: N/A

Estimated Cost: $500,000

Project Location: Mackey Camp Bridge over Bloody Tanks Wash.

Issue Addressed: Deficient bridge.

Community Benefit: Safe access to homes located east of the existing bridge from US 60.

Comment: Project funding has already been requested through FEMA.

MID-TERM ROADWAY RECOMMENDATIONS

Mid-term phase projects are recommended to be completed as the study area reaches year 2020. Table 4.2 presents a comprehensive list of the transportation recommendations for this phase, as well as the project number, location, description, and estimated costs for each project. Figures 4.4, 4.5, and 4.6 provide graphical representations of the mid-term transportation recommendations for the Cobre Valley area, City of Globe, and Town of Miami, respectively.

Estimated costs for each project are expressed in 2012 dollars and are general estimates. Actual costs for projects could vary at the time of implementation; therefore, a detailed analysis should be performed on a case-by-case basis to determine actual costs.

TABLE 4.2: MID-TERM ROADWAY RECOMMENDATIONS

ID	Project Location and Description	Cost	Agency
City of Globe			
MT-1	**Round Mountain Park Road: Maple Street to Trailhead** Reconstruct, pave, and add sidewalks to existing roadway	$900,000	Globe
MT-2	**Skyline Drive and Walliman Road Intersection** Re-align intersection	$250,000	Globe
MT-3	**Pine Street: Sycamore Street to Bailey Street** Redesign the corridor by enhancing the streetscape with pavers, shading trees, walking paths, etc. Also install railroad crossing gates at Cedar Street, Oak Street, Mesquite Street, and Sycamore Street	$480,000	Globe
MT-4	**Cottonwood Street at Pinal Creek** Replace bridge	$600,000	Globe
MT-5	**Yuma Street at Pinal Creek** Rehabilitate bridge to restore the structural integrity and correct any major safety defects	$250,000	Globe
MT-6	**Hackney Avenue at Graveyard Wash** Replace bridge	$600,000	Globe
MT-7	**Haskins Road at Pinal Creek** Replace bridge	$600,000	Globe
MT-8	**High Street at Copper Gulch** Replace bridge	$600,000	Globe
MT-9	**Highland Drive at McMillen Wash** Replace bridge	$600,000	Globe
MT-10	**Hill Street at Cottonwood Street** Replace bridge	$600,000	Globe
MT-11	**New Roadway: Rim School Drive to 6th Street** Construct new connector roadway	$500,000	Globe

TABLE 4.2: MID-TERM ROADWAY RECOMMENDATIONS (Continued)

ID	Project Location and Description	Cost	Agency
Town of Miami			
MT-12	**US 60/Plaza Avenue/Canyon Avenue Intersection** Re-design and re-align intersection to improve sight distance and other geometrics	$500,000	Miami
MT-13	**Sullivan Street: Plaza Avenue to Miami Avenue** Redesign the corridor by enhancing the streetscape with pavers, shading trees, walking paths, etc.	$200,000	Miami
MT-14	**Cordova Avenue at Bloody Tanks Wash** Rehabilitate bridge to restore the structural integrity and correct major safety defects	$250,000	Miami
MT-15	**Turner Street at Live Oak Canyon** Rehabilitate bridge to restore the structural integrity and correct any major safety defects	$250,000	Miami
Gila County			
MT-16	**Broadway Street/El Camino Road Intersection (Claypool)** Construct curb, gutter, and delineate the intersection with striping	$250,000	Gila County
MT-17	**Abiquiu Trail at Six Shooter Canyon Road** Rehabilitate bridge to restore the structural integrity and correct any major safety defects	$250,000	Gila County
MT-18	**Dickison Drive at Pinal Creek** Rehabilitate bridge to restore the structural integrity and correct any major safety defects	$250,000	Gila County
MT-19	**Pinal View Drive at Icehouse Canyon Road** Rehabilitate bridge to restore the structural integrity and correct any major safety defects	$250,000	Gila County
ADOT			
MT-20	**US 60: Reppy Avenue to Miami Avenue** Restripe US 60 to a five-lane section with a center left turn lane and exclusive left turn lanes at intersections	$120,000	ADOT
MT-21	**US 60: Miami to Globe Sidewalk** Construct new sidewalks along the north side of US 60 between Globe and Miami	$400,000	ADOT
MT-22	**Southern Pacific Railroad at US 70** Rehabilitate bridge to restore the structural integrity and correct any major safety defects	$250,000	ADOT

TABLE 4.2: MID-TERM ROADWAY RECOMMENDATIONS (Continued)

ID	Project Location and Description	Cost	Agency
ADOT			
MT-23	**SR 188 at Hicks Wash (0.20 mile north of MP 223)** Rehabilitate bridge to restore the structural integrity and correct any major safety defects	$250,000	ADOT
MT-27	**SR 188 at Tinhorn Wash (0.43 mile south of MP 218)** Rehabilitate bridge to restore the structural integrity and correct any major safety defects	$250,000	ADOT
MT-28	**SR 188 at Wash (0.22 mile south of MP 219)** Rehabilitate bridge to restore the structural integrity and correct any major safety defects	$250,000	ADOT
MT-26	**SR 188 at Wash (0.13 mile north of MP 219)** Rehabilitate bridge to restore the structural integrity and correct any major safety defects	$250,000	ADOT
MT-27	**SR 188 at Wash (0.20 mile south of MP 217)** Rehabilitate bridge to restore the structural integrity and correct any major safety defects	$250,000	ADOT
MT-28	**US 60 at Pinal Creek (2.6 miles E of SR 88 Junction)** Rehabilitate bridge to restore the structural integrity and correct any major safety defects	$250,000	ADOT
MT-29	**US 60 at Pinal Creek (2.7 miles E of SR 88 Junction)** Rehabilitate bridge to restore the structural integrity and correct any major safety defects	$250,000	ADOT
MT-30	**US 60 at Quartzite Wash (0.22 mile south of MP 257)** Rehabilitate bridge to restore the structural integrity and correct any major safety defects	$250,000	ADOT
MT-31	**US 60 at Wash (0.26 mile south of MP 255)** Rehabilitate bridge to restore the structural integrity and correct any major safety defects	$250,000	ADOT
MT-32	**US 60 at Bloody Tanks Wash** Rehabilitate bridge to restore the structural integrity, correct any major safety defects, and bring it up current standards for load carrying capacity	$250,000	ADOT
MT-33	**US 60 at Maple Street** Replace bridge	$1,600,000	ADOT

TABLE 4.2: MID-TERM ROADWAY RECOMMENDATIONS (Continued)

ID	Project Location and Description	Cost	Agency
Multiple Jurisdictions			
MT-34	**Mine Entrance/US 60 Intersection (Miami)** Add exclusive turn lanes on cross-street to US 60	$450,000	ADOT/ Miami/ Mine
MT-35	**Latham Boulevard** Reconstruct roadway and fix sight distance issues with US 60. Also address drainage issues	$800,000	ADOT/ Miami
MT-36	**US 70: High Desert Drive to SR 77 Intersection** Widen roadway to four-lanes (two-lanes in each direction); Preliminary engineering has already been completed		ADOT

FIGURE 4.4: COBRE VALLEY MID-TERM/BRIDGE REHABILITATION IMPROVEMENTS

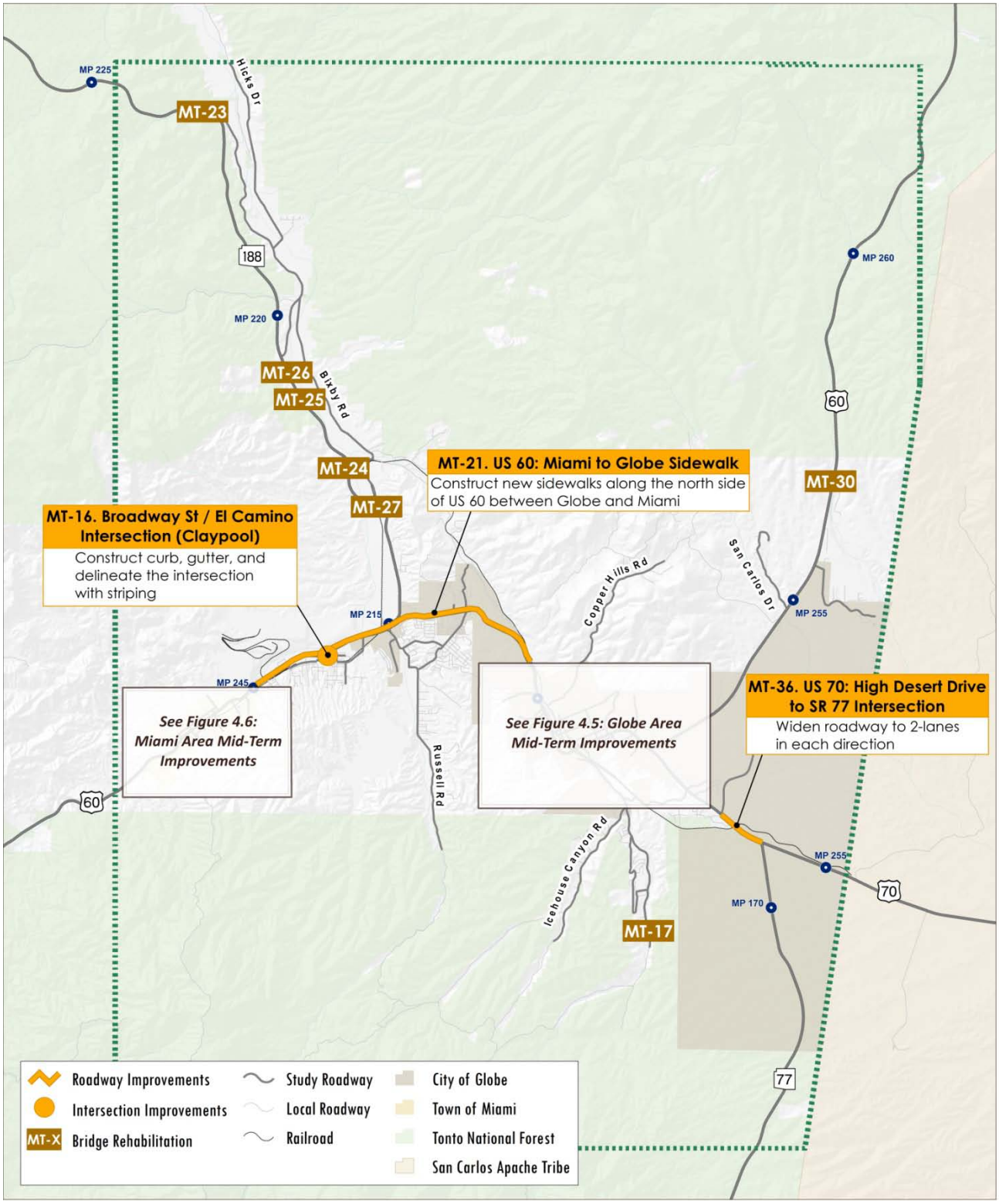


FIGURE 4.5: GLOBE AREA MID-TERM IMPROVEMENTS

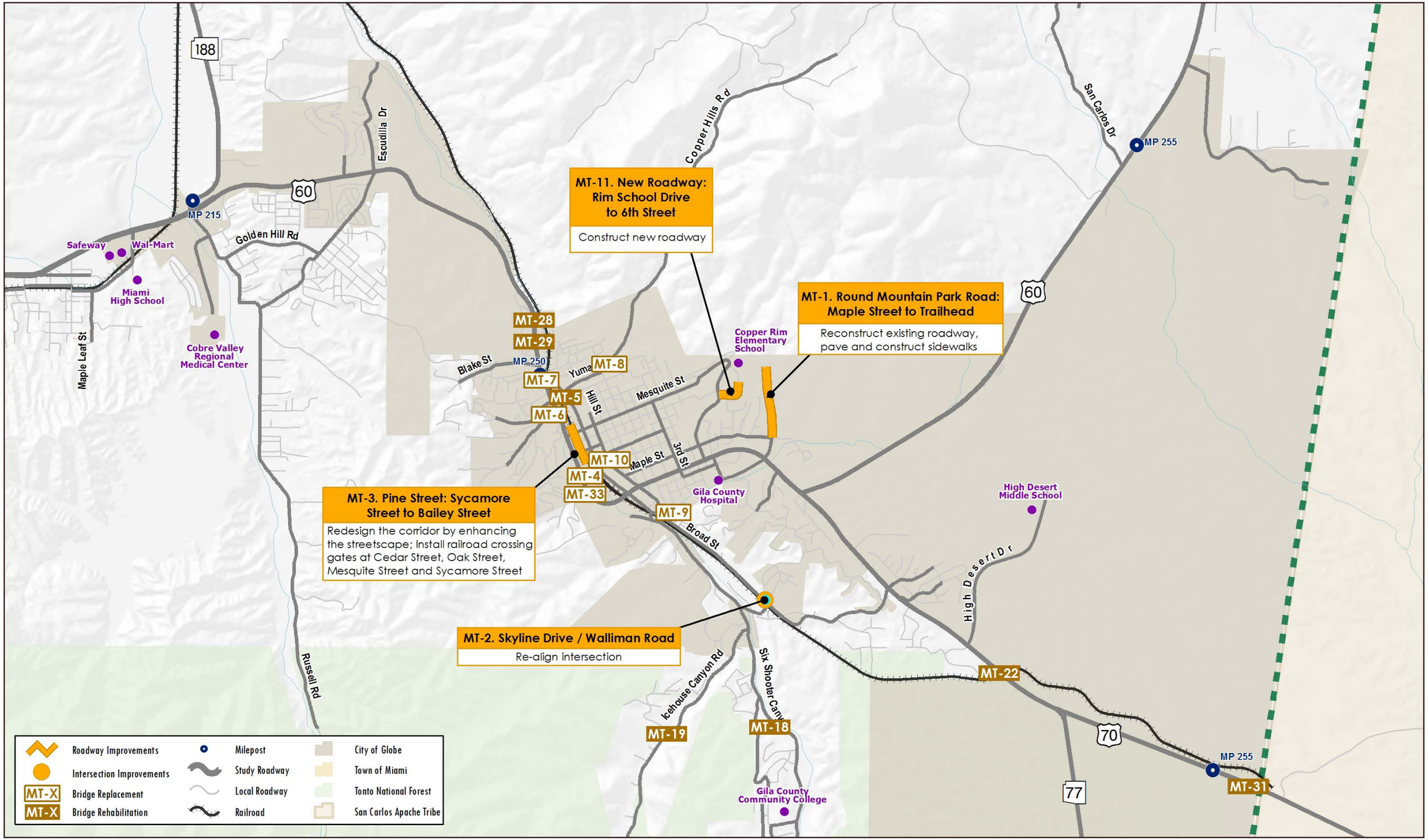
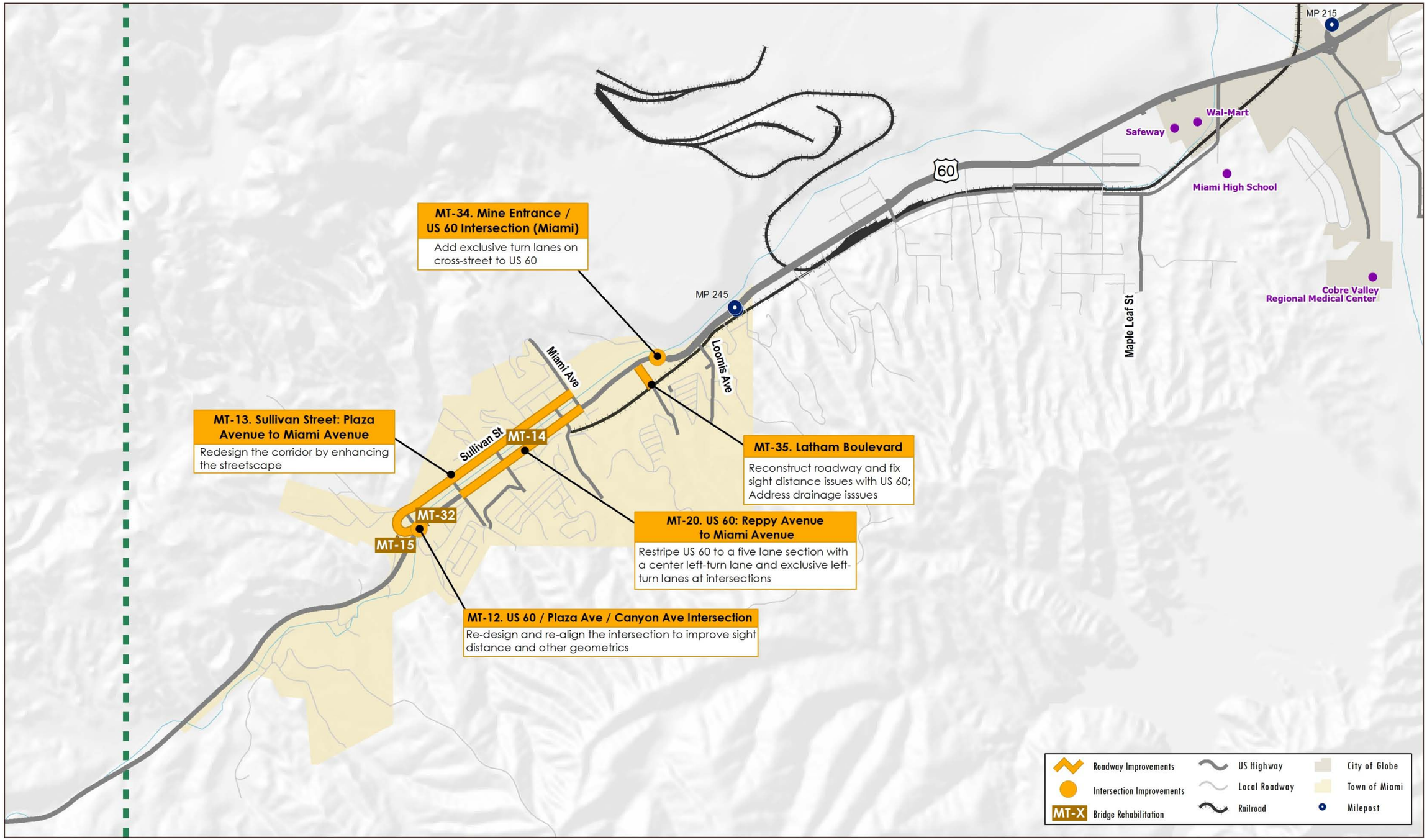


FIGURE 4.6: MIAMI AREA MID-TERM IMPROVEMENTS



Project Descriptions for Mid-Term Improvements

The following projects were identified for the mid-term implementation phase. ***The Project Identification Number (i.e. MT- 1) does not represent the priority of the project, rather is an identification number to track project progress in the future. The responsible agency will prioritize the projects once the study is complete.***

Round Mountain Park Road: Maple Street to Trailhead — **Project Number: MT-1**

Responsible Agency: City of Globe — Project Type: Roadway Reconstruction

Project Description: Reconstruct, pave, and add sidewalks to existing roadway.

Project Length: 2247 feet

Estimated Cost: $900,000

Project Location: Round Mountain Park Road from Maple Street to Trailhead.

Issue Addressed: Roadway in poor and deteriorated condition.

Community Benefit: Improved access to Copper Mountain Elementary School and Round Mountain Park.

Comment: The cost of lowering the grade is not included in the cost estimate.

Skyline Drive and Walliman Road Intersection	Project Number: MT-2

Responsible Agency: City of Globe

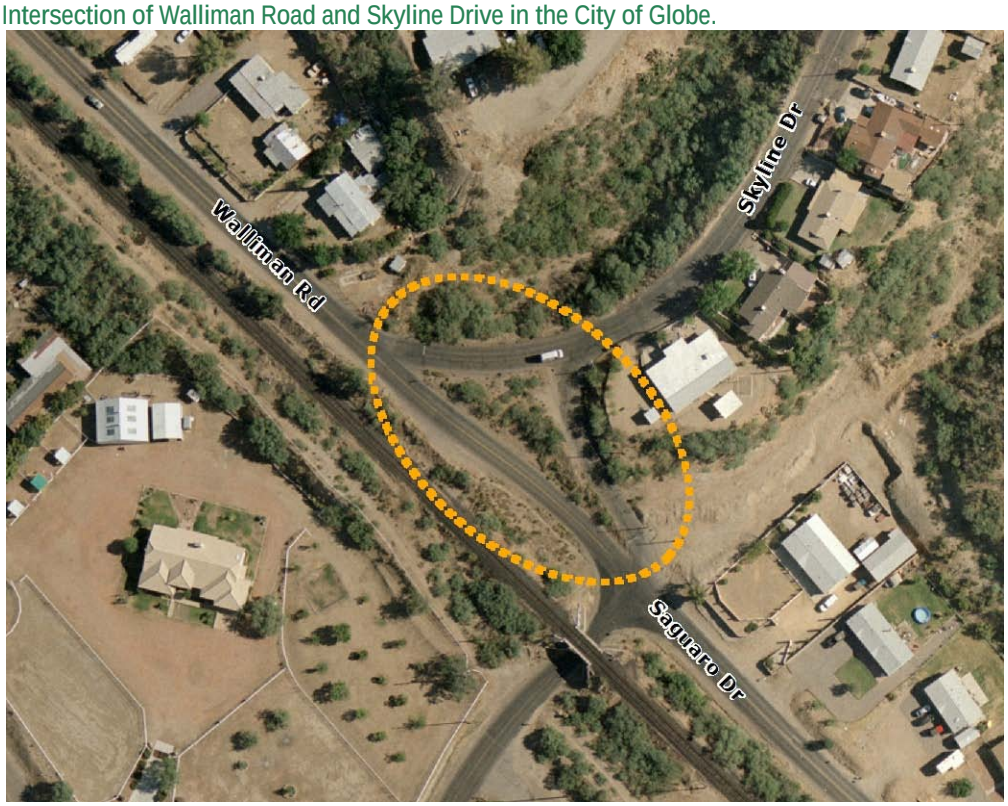
Project Type: Intersection Improvement

Project Description: Re-align intersection.

Project Length: N/A

Estimated Cost: $250,000

Project Location: Intersection of Walliman Road and Skyline Drive in the City of Globe.



Issue Addressed: Intersection safety.

Community Benefit: Increased safety.

Comment: Steep grades, sharp turns, narrow streets, and intersection geometry dictate the need for improvements.

Pine Street: Sycamore Street to Bailey Street	Project Number:MT-3

Responsible Agency: City of Globe

Project Type: Road Enhancement

Project Description: Redesign the corridor by enhancing the streetscape with pavers, shading trees, walking paths, etc. Also install railroad crossing gates at Cedar Street, Oak Street, Mesquite Street, and Sycamore Street.

Project Length: 1330 feet

Estimated Cost: $480,000

Project Location: Pine Street from Baily Street to Sycamore Street.

Issue Addressed: Enhance downtown's appeal and improve safety at railroad crossings.

Community Benefit: Street beautification, downtown revitalization, and safety enhancement.

Comment: Redesign the railroad corridor through downtown by enhancing the streetscape and make the corridor more inviting to the downtown area to promote tourism.

Cottonwood Street at Pinal Creek	Project Number: MT-4

Responsible Agency: City of Globe

Project Type: Bridge Replacement

Project Description: Replace bridge.

Project Length: N/A

Estimated Cost: $600,000

Project Location: Cottonwood Street at Pinal Creek.

Issue Addressed: Poor bridge condition.

Community Benefit: Improved safety.

Comment: Bridge inspection report rated this bridge to have a poor sufficiency rating and eligible for replacement.

Yuma Street at Pinal Creek	Project Number: MT-5

Responsible Agency: City of Globe

Project Type: Bridge Rehabilitation

Project Description: Rehabilitate bridge to restore the structural integrity and correct any major safety defects.

Project Length: N/A

Estimated Cost: $250,000

Project Location: Yuma Street at Pinal Creek.

Issue Addressed: Poor bridge condition.

Community Benefit: Improved safety.

Comment: Bridge inspection report rated this bridge to have a poor sufficiency rating and eligible for rehabilitation.

Hackney Avenue at Graveyard Wash	Project Number: MT-6

Responsible Agency: City of Globe

Project Type: Bridge Replacement

Project Description: Replace bridge.

Project Length: N/A

Estimated Cost: $600,000

Project Location: Hackney Avenue at Graveyard Wash.

Issue Addressed: Poor bridge condition.

Community Benefit: Improved safety.

Comment: Bridge inspection report rated this bridge to have a poor sufficiency rating and eligible for replacement.

Haskins Road at Pinal Creek	Project Number: MT-7

Responsible Agency: City of Globe

Project Type: Bridge Replacement

Project Description: Replace bridge.

Project Length: N/A

Estimated Cost: $600,000

Project Location: Haskins Road at Pinal Creek.

Issue Addressed: Poor bridge condition.

Community Benefit: Improved safety.

Comment: Bridge inspection report rated this bridge to have a poor sufficiency rating and eligible for replacement.

High Street at Copper Gulch	Project Number: MT-8

Responsible Agency: City of Globe

Project Type: Bridge Replacement

Project Description: Replace bridge.

Project Length: N/A

Estimated Cost: $600,000

Project Location: High Street at Copper Gulch.

Issue Addressed: Poor bridge condition.

Community Benefit: Safety.

Comment: Bridge inspection report rated this bridge to have a poor sufficiency rating and eligible for replacement.

Highland Drive at McMilen Wash	Project Number: MT-9

Responsible Agency: City of Globe

Project Type: Bridge Replacement

Project Description: Replace bridge.

Project Length: N/A

Estimated Cost: $600,000

Project Location: Highland Drive at McMilen Wash.

Issue Addressed: Poor bridge condition.

Community Benefit: Improved safety.

Comment: Bridge inspection report rated this bridge to have a poor sufficiency rating and eligible for replacement.

Hill Street at Cottonwood Street	Project Number: MT-10

Responsible Agency: City of Globe

Project Type: Bridge Replacement

Project Description: Replace bridge.

Project Length: N/A

Estimated Cost: $600,000

Project Location: Hill Street at Cottonwood Street.

Issue Addressed: Poor bridge condition.

Community Benefit: Improved safety.

Comment: Bridge inspection report rated this bridge to have a poor sufficiency rating and eligible for replacement.

New Roadway: Rim School Drive to 6th Street	Project Number: MT-11

Responsible Agency: City of Globe

Project Type: New Connector Road

Project Description: Construct new connector roadway.

Project Length: 643 feet

Estimated Cost: $500,000

Project Location: Rim School Drive to 6th Street.

Issue Addressed: Additional access to the elementary school.

Community Benefit: Safe access to school.

Comment: Construct a new 0.12 mile connector road from Copper Rim Elementary School to 6th Street. This project could be combined with MT-1 to reduce costs.

US 60/Plaza Avenue/Canyon Avenue Intersection	Project Number: MT-12

Responsible Agency: Town of Miami

Project Type: Intersection Improvement

Project Description: Re-design and re-align intersection to improve sight distance and other geometrics.

Project Length: N/A

Estimated Cost: $500,000

Project Location: US 60/Plaza Avenue/Canyon Avenue Intersection.

Issue Addressed: Intersection safety.

Community Benefit: Improved safety.

Comment: East leg of the intersection approaches and intersects US 60 at skewed angle resulting in sight distance issues. In additon, Plaza Avenue provides access to Bullion Plaza in the vicinity of the intersection.

Sullivan Street: Plaza Avenue to Miami Avenue	Project Number: MT-13

Responsible Agency: Town of Miami

Project Type: Roadway Enhancement

Project Description: Redesign the corridor by enhancing the streetscape with pavers, shading trees, walking paths, etc.

Project Length: 4111 feet

Estimated Cost: $200,000

Project Location: Sullivan Street: Plaza Avenue to Miami Avenue.

Issue Addressed: Enhance downtown's appeal.

Community Benefit: Street beautification and downtown revitalization.

Comment: Redevelop Sullivan Street corridor through downtown by enhancing the streetscape and making the corridor more inviting to the downtown area to promote tourism.

Cordova Avenue at Bloody Tanks Wash	Project Number: MT-14

Responsible Agency: Town of Miami

Project Type: Bridge Rehabilitation

Project Description: Rehabilitate bridge to restore the structural integrity and correct major safety defects.

Project Length: N/A

Estimated Cost: $250,000

Project Location: Cordova Avenue at Bloody Tanks Wash.

Issue Addressed: Poor bridge condition.

Community Benefit: Safety.

Comment: Bridge inspection report rated this bridge to have a poor sufficiency rating and eligible for rehabilitation.

Turner Street at Live Oak Canyon	Project Number: MT-15

Responsible Agency: Town of Miami

Project Type: Bridge Rehabilitation

Project Description: Rehabilitate bridge to restore the structural integrity and correct any major safety defects.

Project Length: N/A

Estimated Cost: $250,000

Project Location: Turner Street at Live Oak Canyon.

Issue Addressed: Poor bridge condition.

Community Benefit: Improved safety.

Comment: Bridge inspection report rated this bridge to have a poor sufficiency rating and eligible for rehabilitation.

Broadway Street/El Camino Road Intersection (Claypool)	Project Number: MT-16

Responsible Agency: Gila County

Project Type: Intersection Improvement

Project Description: Construct curb, gutter, and delineate the intersection with striping.

Project Length: N/A

Estimated Cost: $250,000

Project Location: Broadway Street/El Camino Road Intersection (Claypool).

Issue Addressed: Intersection safety.

Community Benefit: Improved safety.

Comment: The intersection provides access to a Post Office, Fire station, Circle K and a private business in each quadrant. The intersection needs to be better delineated, with curb, gutter, sidewalk, striping, cross walks, and signage.

Abiquiu Trail at Six Shooter Canyon Road	Project Number: MT-17

Responsible Agency: Gila County

Project Type: Bridge Rehabilitation

Project Description: Rehabilitate bridge to restore the structural integrity and any correct major safety defects.

Project Length: N/A

Estimated Cost: $250,000

Project Location: Abiquiu Trail at Six Shooter Canyon Road.

Issue Addressed: Poor bridge condition.

Community Benefit: Safety.

Comment: Bridge inspection report rated this bridge to have a poor sufficiency rating and eligible for rehabilitation.

Dickison Drive at Pinal Creek	Project Number: MT-18

Responsible Agency: Gila County

Project Type: Bridge Rehabilitation

Project Description: Rehabilitate bridge to restore the structural integrity and correct any major safety defects.

Project Length: N/A

Estimated Cost: $250,000

Project Location: Dickison Drive at Pinal Creek.

Issue Addressed: Poor bridge condition.

Community Benefit: Improved safety.

Comment: Bridge inspection report rated this bridge to have a poor sufficiency rating and eligible for rehabilitation.

Pinal View Drive at Icehouse Canyon Road	Project Number: MT-19

Responsible Agency: Gila County

Project Type: Bridge Rehabilitation

Project Description: Rehabilitate bridge to restore the structural integrity and correct any major safety defects.

Project Length: N/A

Estimated Cost: $250,000

Project Location: Pinal View Drive at Icehouse Canyon Road.

Issue Addressed: Poor bridge condition.

Community Benefit: Improved safety.

Comment: Bridge inspection report rated this bridge to have a poor sufficiency rating and eligible for rehabilitation.

US 60: Reppy Avenue to Miami Avenue	Project Number: MT-20

Responsible Agency: Arizona Department of Transportation

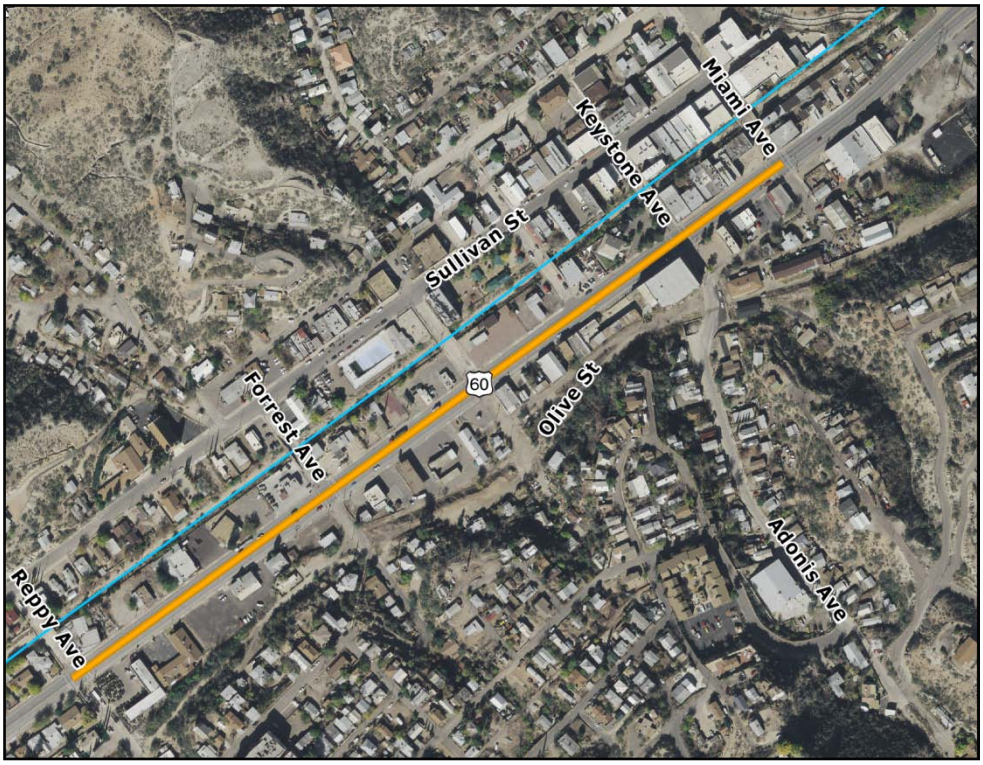
Project Type: Roadway Restriping

Project Description: Restripe US 60 to a five-lane section with a center left turn lane and exclusive left turn lanes at intersections.

Project Length: 2478 feet

Estimated Cost: $120,000

Project Location: US 60 from Reppy Avenue to Miami Avenue.



Issue Addressed: Left turning movements.

Community Benefit: Improved corridor safety.

Comment: Several accidents from left turning movements are made from the high-speed lane on US 60. Restripe US 60 for continuous left turn lane with dedicated lefts at the signalized.

US 60: Miami to Globe Sidewalk	Project Number: MT-21

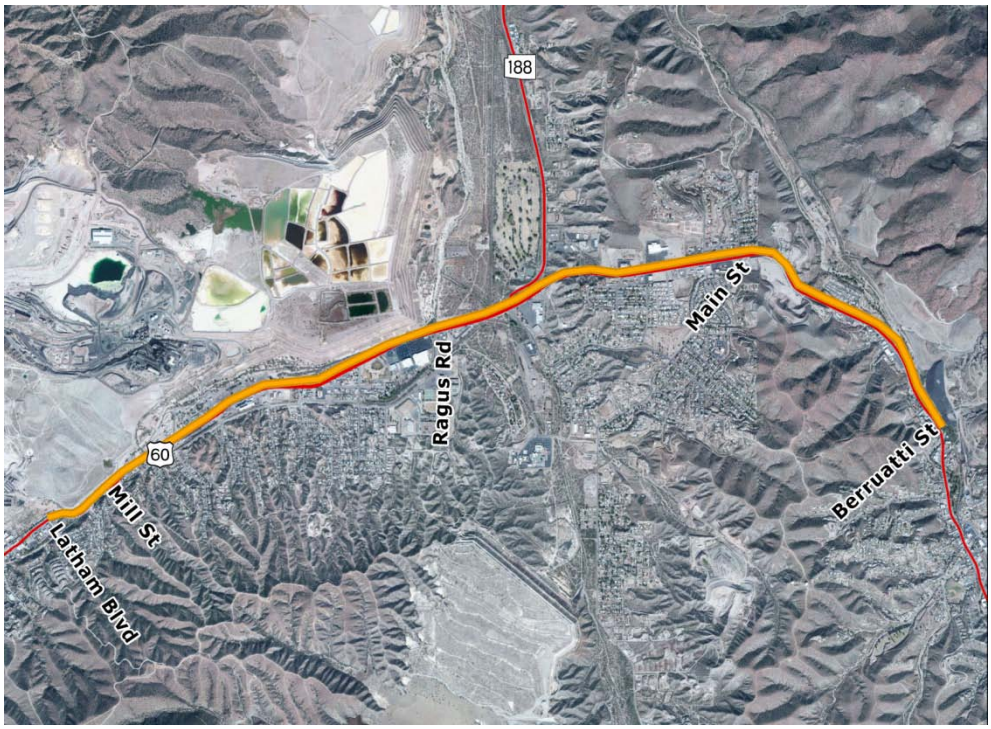
Responsible Agency: Arizona Department of Transportation Project Type: Sidewalks

Project Description: Construct new sidewalks along the north side of US 60 between Globe and Miami.

Project Length: N/A

Estimated Cost: $400,000

Project Location: North side of US 60 from Town of Miami to City of Globe.



Issue Addressed: Pedestrian safety.

Community Benefit: Improved safety for pedestrians.

Comment: To improve safety of pedestrians additional sidewalks along the north side of US 60 are needed.

Southern Pacific Railroad at US 70	Project Number: MT-22

Responsible Agency: Arizona Department of Transportation Project Type: Bridge Rehabilitation

Project Description: Rehabilitate bridge to restore the structural integrity and correct any major safety defects.

Project Length: N/A

Estimated Cost: $250,000

Project Location: Southern Pacific Railroad at US 70.

Issue Addressed: Poor bridge condition.

Community Benefit: Improved safety.

Comment: Bridge inspection report rated this bridge to have a poor sufficiency rating and eligible for rehabilitation.

SR 188 at Hicks Wash (0.20 mile north of MP 223)	Project Number: MT-23

Responsible Agency: Arizona Department of Transportation Project Type: Bridge Rehabilitation

Project Description: Rehabilitate bridge to restore the structural integrity and correct any major safety defects.

Project Length: N/A

Estimated Cost: $250,000

Project Location: SR 188 at Hicks Wash (0.20 mile north of MP 223).

Issue Addressed: Poor bridge condition.

Community Benefit: Improved safety.

Comment: Bridge inspection report rated this bridge to have a poor sufficiency rating and eligible for rehabilitation.

SR 188 at Tinhorn Wash (0.43 mile south of MP 218)	Project Number: MT-24

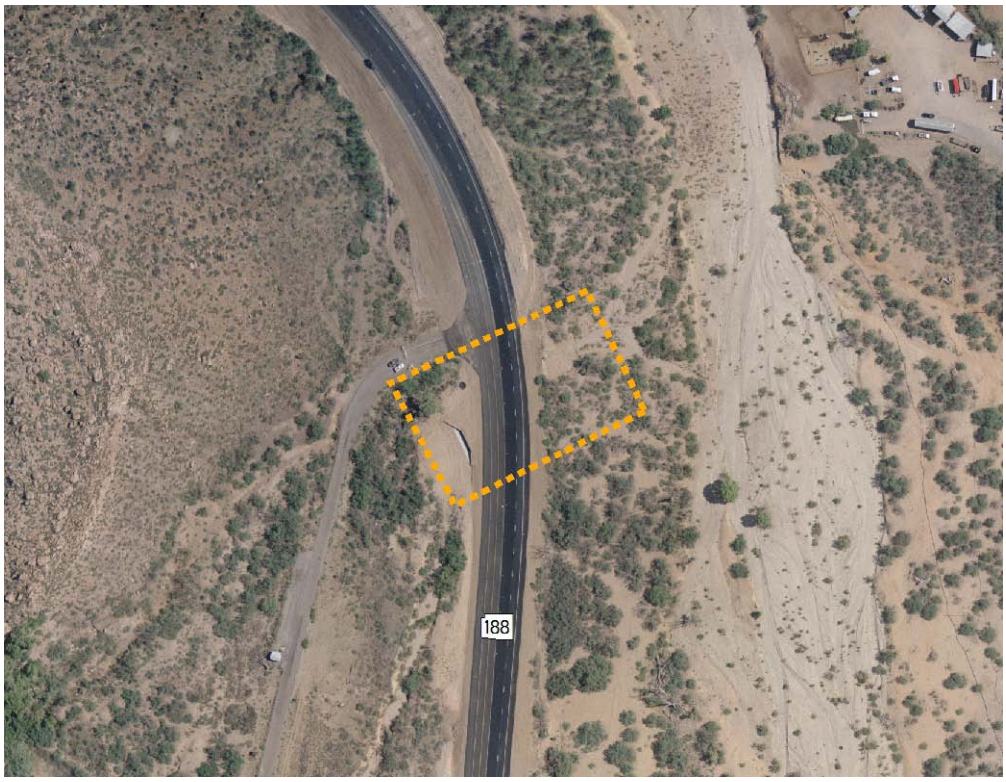
Responsible Agency: Arizona Department of Transportation Project Type: Bridge Rehabilitation

Project Description: Rehabilitate bridge to restore the structural integrity and correct any major safety defects.

Project Length: N/A

Estimated Cost: $250,000

Project Location: SR 188 at Tinhorn Wash (0.43 mile south of MP 218).



Issue Addressed: Poor bridge condition.

Community Benefit: Improved safety.

Comment: Bridge inspection report rated this bridge to have a poor sufficiency rating and eligible for rehabilitation.

SR 188 at Wash (0.22 mile south of MP 219)	Project Number: MT-25

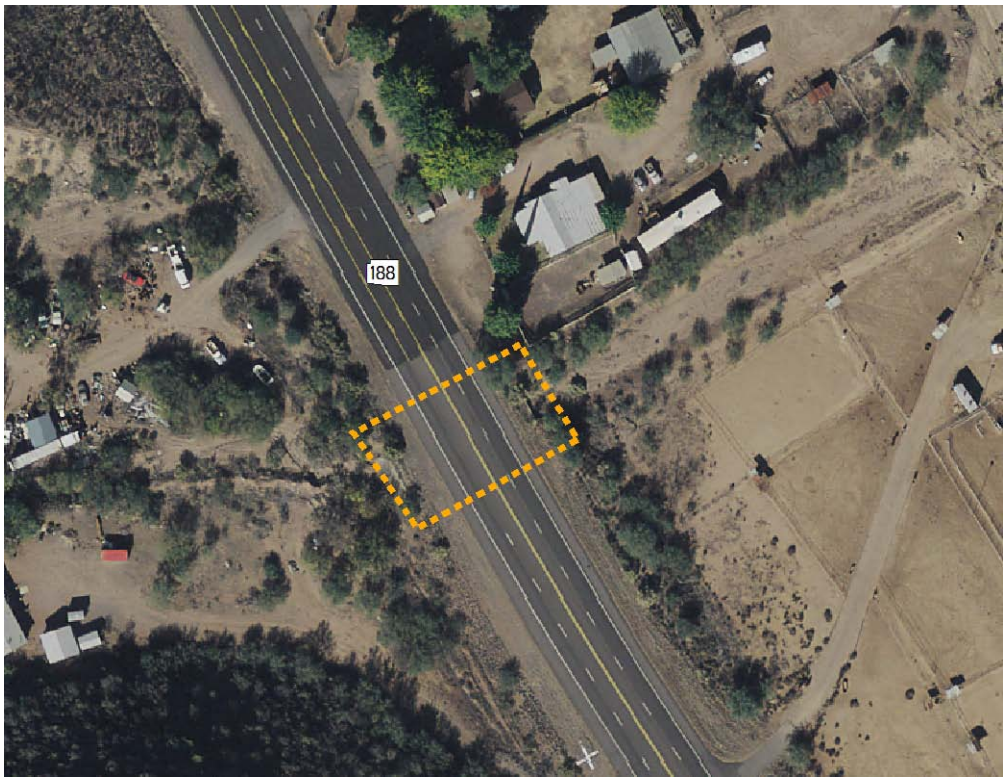
Responsible Agency: Arizona Department of Transportation Project Type: Bridge Rehabilitation

Project Description: Rehabilitate bridge to restore the structural integrity and correct any major safety defects.

Project Length: N/A

Estimated Cost: $250,000

Project Location: SR 188 at Wash (0.22 mile south of MP 219).



Issue Addressed: Poor bridge condition.

Community Benefit: Improved safety.

Comment: Bridge inspection report rated this bridge to have a poor sufficiency rating and eligible for rehabilitation.

SR 188 at Wash (0.13 mile north of MP 219)	Project Number: MT-26

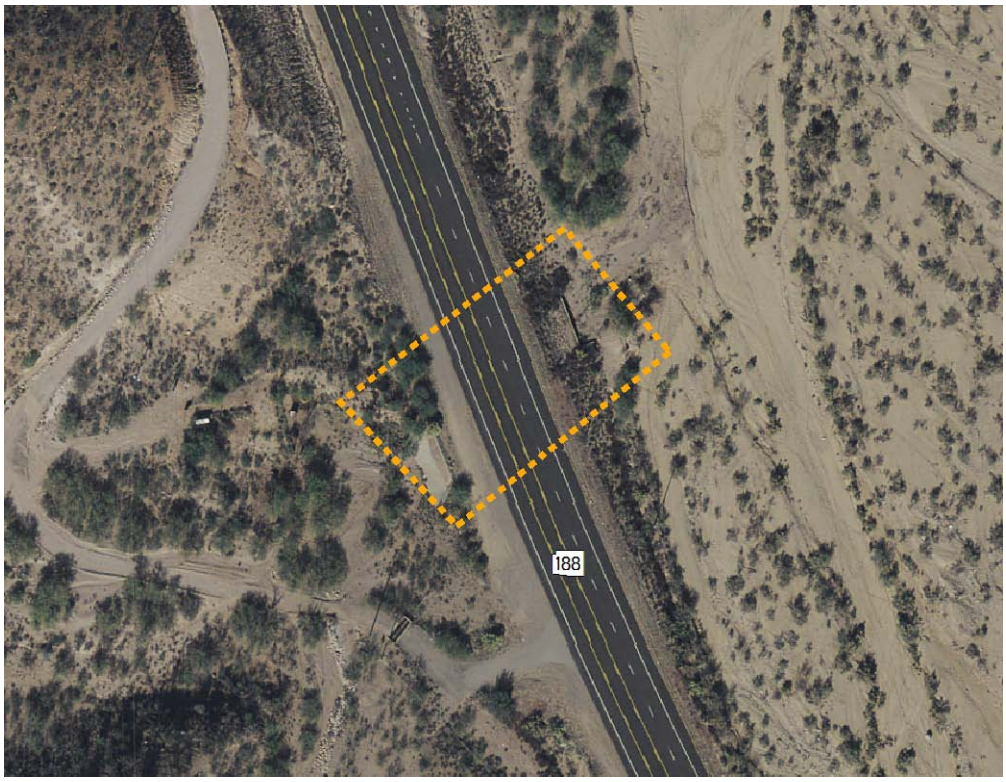
Responsible Agency: Arizona Department of Transportation Project Type: Bridge Rehabilitation

Project Description: Rehabilitate bridge to restore the structural integrity and correct any major safety defects.

Project Length: N/A

Estimated Cost: $250,000

Project Location: SR 188 at Wash (0.13 mile north of MP 219).



Issue Addressed: Poor bridge condition.

Community Benefit: Improved safety.

Comment: Bridge inspection report rated this bridge to have a poor sufficiency rating and eligible for rehabilitation.

SR 188 at Wash (0.20 mile south of MP 217)	Project Number: MT-27

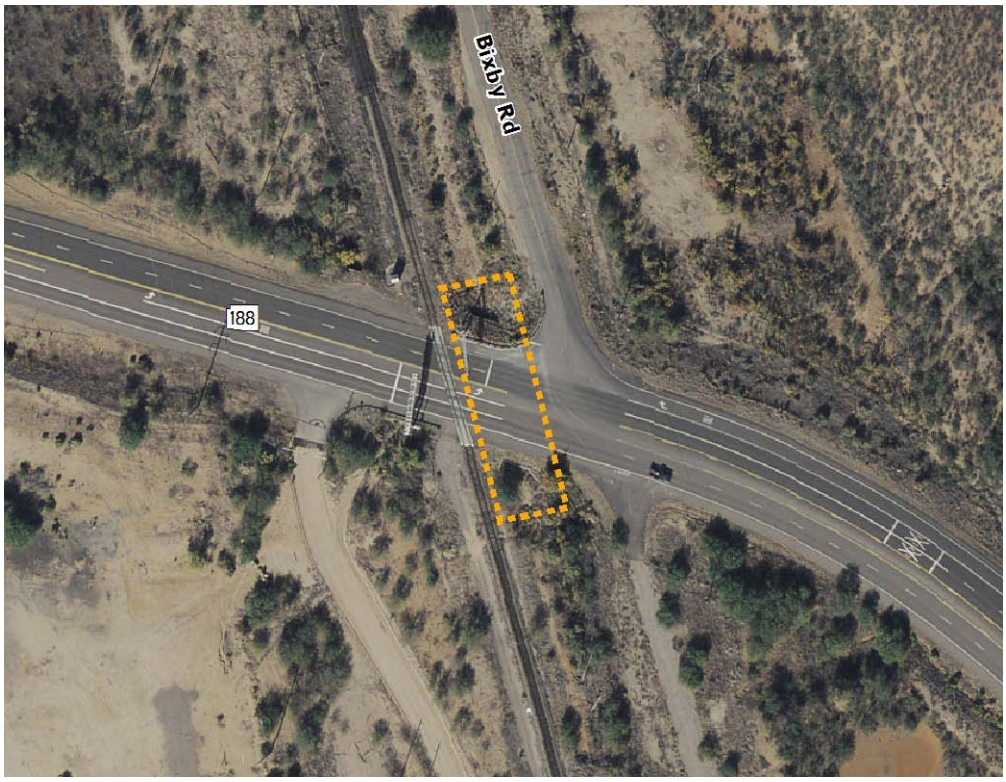
Responsible Agency: Arizona Department of Transportation Project Type: Bridge Rehabilitation

Project Description: Rehabilitate bridge to restore the structural integrity and correct any major safety defects.

Project Length: N/A

Estimated Cost: $250,000

Project Location: SR 188 at Wash (0.20 mile south of MP 217).



Issue Addressed: Poor bridge condition.

Community Benefit: Improved safety.

Comment: Bridge inspection report rated this bridge to have a poor sufficiency rating and eligible for rehabilitation.

US 60 at Pinal Creek (2.6 miles E of SR 88 Junction)	Project Number: MT-28

Responsible Agency: Arizona Department of Transportation Project Type: Bridge Rehabilitation

Project Description: Rehabilitate bridge to restore the structural integrity and correct any major safety defects.

Project Length: N/A

Estimated Cost: $250,000

Project Location: US 60 at Pinal Creek (2.6 miles east of SR 88 Junction).

Issue Addressed: Poor bridge condition.

Community Benefit: Improved safety.

Comment: Bridge inspection report rated this bridge to have a poor sufficiency rating and eligible for rehabilitation.

US 60 at Pinal Creek (2.7 miles E of SR 88 Junction)	Project Number: MT-29

Responsible Agency: Arizona Department of Transportation Project Type: Bridge Rehabilitation

Project Description: Rehabilitate bridge to restore the structural integrity and correct any major safety defects.

Project Length: N/A

Estimated Cost: $250,000

Project Location: US 60 at Pinal Creek (2.7 miles E of SR 88 Junction).

Issue Addressed: Poor bridge condition.

Community Benefit: Improved safety.

Comment: Bridge inspection report rated this bridge to have a poor sufficiency rating and eligible for rehabilitation.

US 60 at Quartzite Wash (0.22 mile south of MP 257)	Project Number: MT-30

Responsible Agency: Arizona Department of Transportation Project Type: Bridge Rehabilitation

Project Description: Rehabilitate bridge to restore the structural integrity and correct any major safety defects.

Project Length: N/A

Estimated Cost: $250,000

Project Location: US 60 at Quartzite Wash (0.22 mile south of MP 257).

Issue Addressed: Poor bridge condition.

Community Benefit: Improved safety.

Comment: Bridge inspection report rated this bridge to have a poor sufficiency rating and eligible for rehabilitation.

US 60 at Wash (0.26 mile south of MP 255)	Project Number: MT-31

Responsible Agency: Arizona Department of Transportation Project Type: Bridge Rehabilitation

Project Description: Rehabilitate bridge to restore the structural integrity and correct any major safety defects.

Project Length: N/A

Estimated Cost: $250,000

Project Location: US 60 at Wash (0.26 mile south of MP 255).

Issue Addressed: Poor bridge condition.

Community Benefit: Improved safety.

Comment: Bridge inspection report rated this bridge to have a poor sufficiency rating and eligible for rehabilitation.

US 60 at Bloody Tanks Wash	Project Number: MT-32

Responsible Agency: Arizona Department of Transportation Project Type: Bridge Rehabilitation

Project Description: Rehabilitate bridge to restore the structural integrity, correct any major safety defects, and bring it up current standards for load carrying capacity.

Project Length: N/A

Estimated Cost: $250,000

Project Location: US 60 at Bloody Tanks Wash.

Issue Addressed: Poor bridge condition.

Community Benefit: Improved safety.

Comment: Bridge inspection report rated this bridge to have a poor sufficiency rating and eligible for rehabilitation.

US 60 at Maple Street	Project Number: MT-33

Responsible Agency: Arizona Department of Transportation

Project Type: Bridge Replacement

Project Description: Replace bridge.

Project Length: N/A

Estimated Cost: $1,600,000

Project Location: US 60 at Maple Street.

Issue Addressed: Poor bridge condition.

Community Benefit: Improved safety.

Comment: Bridge inspection report rated this bridge to have a poor sufficiency rating and eligible for replacement.

Freeport Mine Enterance/US 60 Intersection (Miami)	Project Number: MT-34

Responsible Agency: Arizona Department of Transportation, Town of Miami, Freeport Mine

Project Type: Intersection Improvement

Project Description: Add exclusive turn lanes on cross-street to US 60.

Project Length: N/A

Estimated Cost: $450,000

Project Location: On US 60 at the enterance to the Freeport Mine.

Issue Addressed: Intersection safety.

Community Benefit: Improved safety.

Comment: Add exclusive turn lanes on cross-street to US 60.

Latham Boulevard Improvements	Project Number: MT-35

Responsible Agency: Arizona Department of Transportation, Town of Miami

Project Type: Roadway Reconstruction

Project Description: Reconstruct roadway and and fix sight distance issues with US 60. Also address drainage issues.

Project Length: 418 feet

Estimated Cost: $500,000

Project Location: Latham Boulevard from US 60 to Cactus Alley.

Issue Addressed: Access to the Town of Miami Public Works Yard.

Community Benefit: Improved safety.

Comment: Improve roadway access to Miami public works yard to accommodate trucks and other large vehicles. Address drainage issues.

US 70: High Desert Drive to SR 77 Intersection	Project Number: MT-36

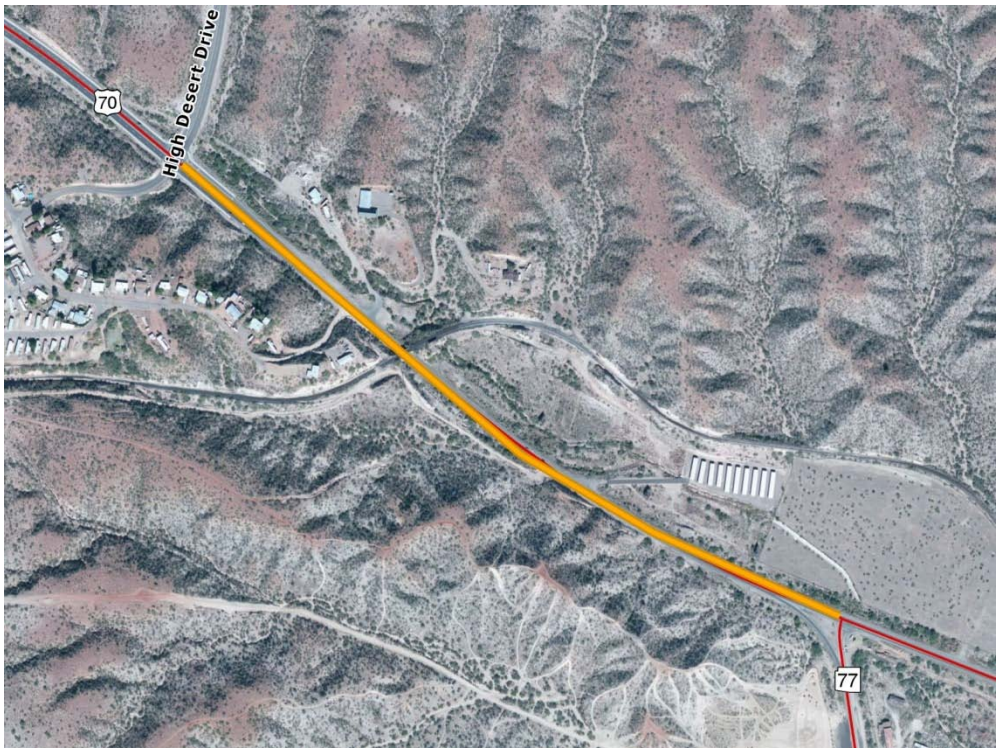
Responsible Agency: Arizona Department of Transportation Project Type: Roadway Widening

Project Description: Widen roadway to four-lanes from two-lanes in each direction.

Project Length: 3658 feet

Estimated Cost:

Project Location: US 70 from High Desert Drive to SR 77 Intersection.



Issue Addressed: Capacity.

Community Benefit: Reduced congestion.

Comment: Widen existing roadway to four lanes. Preliminary engineering has already been completed.

LONG-TERM ROADWAY RECOMMENDATIONS

Long-term phase projects are recommended to be completed as the study area reaches year 2030. Table 4.3 presents a comprehensive list of the transportation recommendations for this phase, as well as the project number, location, description, and estimated costs for each project. Figures 4.7, 4.8, and 4.9 provide graphical representations of the long-term transportation recommendations for the Cobre Valley area, City of Globe, and Town of Miami, respectively.

Estimated costs for each project are expressed in 2012 dollars and are general estimates. Actual costs for projects could vary at the time of implementation; therefore, a detailed analysis should be performed on a case-by-case basis to determine actual costs.

TABLE 4.3: LONG-TERM ROADWAY RECOMMENDATIONS

ID	Project Location and Description	Cost	Agency
City of Globe			
LT-1	**New Roadway: Round Mountain Road to Rim School Drive** Construct new connector roadway	$700,000	Globe
LT-2	**Pinal Creek Pedestrian Bridge** Construct new pedestrian bridge	$300,000	Globe
LT-3	**Globe High School to Copper Rim Elementary School** Construct new sidewalks	$200,000	Globe
LT-4	**Broad Street/Jesse Hayes Road Intersection** Reconfigure intersection	$600,000	Globe
LT-5	**Carico Street/Highland Drive Intersection** Reconfigure intersection	$250,000	Globe
LT-6	**Maple Street/Terrace Drive Intersection** Adjust intersection profile and improve drainage	$500,000	Globe
Town of Miami			
LT-7	**Roosevelt Street: Keystone Avenue to Chisholm Avenue** Construct retaining walls and address drainage issues to protect roadway from damage. The cost is an estimate for preliminary engineering only	$250,000	Miami
Gila County			
LT-8	**Extension of Railroad Avenue: Marion Street to Mill Street (Miami)** Construct new roadway	$250,000	Globe
Private			
LT-9	**Re-establish Commercial Bus Service** Establish commercial bus service to Phoenix and Tucson		Private

TABLE 4.3: LONG-TERM ROADWAY RECOMMENDATIONS (CONTINUED)

ID	Project Location and Description	Cost	Agency
ADOT			
LT-10	**US 60 Alternate Alignment** Construct new limited access roadway; A DCR is in progress to determine the recommended location of the alternate route and associated costs		ADOT
Multiple Jurisdictions			
LT-11	**Miami-Globe-Cutter-Peridot** Re-establish passenger rail or excursion rail service from Miami - Globe to Peridot	Cost varies based on type of service and route.	Globe/ Miami/ Gila County/ AERR/PPP
LT-12	**New Connector Road: Six Shooter to SR 77*** Construct a new 3.2 mile connector road from Six Shooter Canyon Road to SR 77; * This corridor is only required if the proposed US 60 alternate route is not in place by year 2030	$3,500,000	Gila County/ Tonto Forest
LT-13	**Entrance to Town of Miami** Evaluate and implement access management along US 60 corridor, and review the need of left turn lanes on cross-streets and US 60	$30,000	ADOT/ Miami
LT-14	**US 60/Bluebird Mine Entrance** Re-align intersection to improve sight distance	$400,000	ADOT/ Mine
LT-15	**Icehouse Canyon Road: Jesse Hayes Road to Pinal Creek Road** Construct new bridge crossing over Pinal Creek that would provide additional emergency access	$900,000	Globe/ Gila County
LT-16	**Pinal Creek Corridor: Beer Tree Crossing to US 70*** A DCR was completed several years ago, recommending the 1.75 mile new corridor parallel to the railroad; * This corridor is only required if the proposed US 60 alternate route is not in place by year 2030	$6,000,000	Globe/ Gila County
LT-17	**High Desert Drive: Current end point on High Desert Drive to US 60*** Extend High Desert Drive up to US 60 to improve connectivity and serve as an alternate access route; * This corridor is only required if the proposed US 60 alternate route is not in place by year 2030	$1,300,000	Gila County

FIGURE 4.7: COBRE VALLEY LONG-TERM IMPROVEMENTS

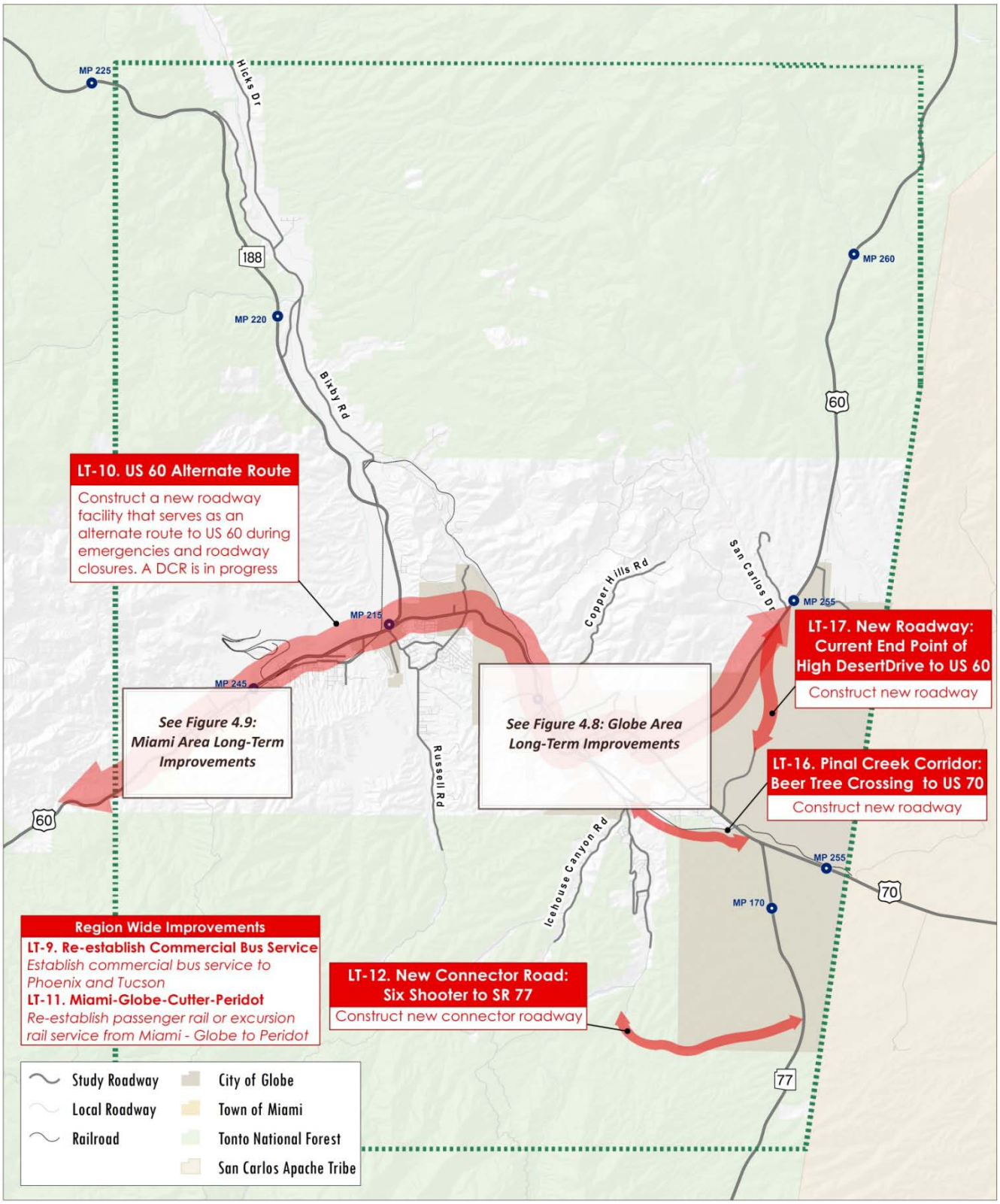


FIGURE 4.8: GLOBE AREA LONG-TERM IMPROVEMENTS

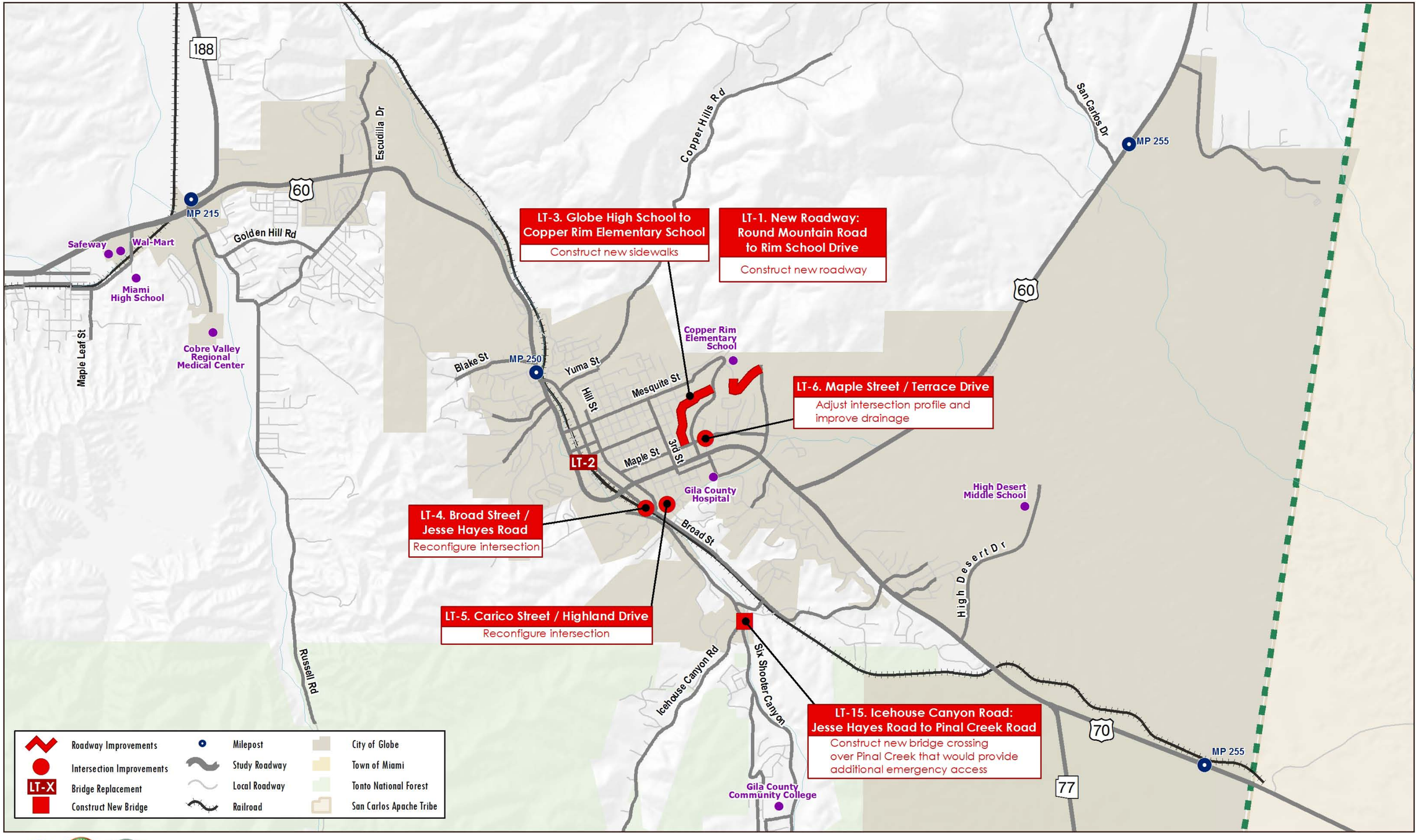
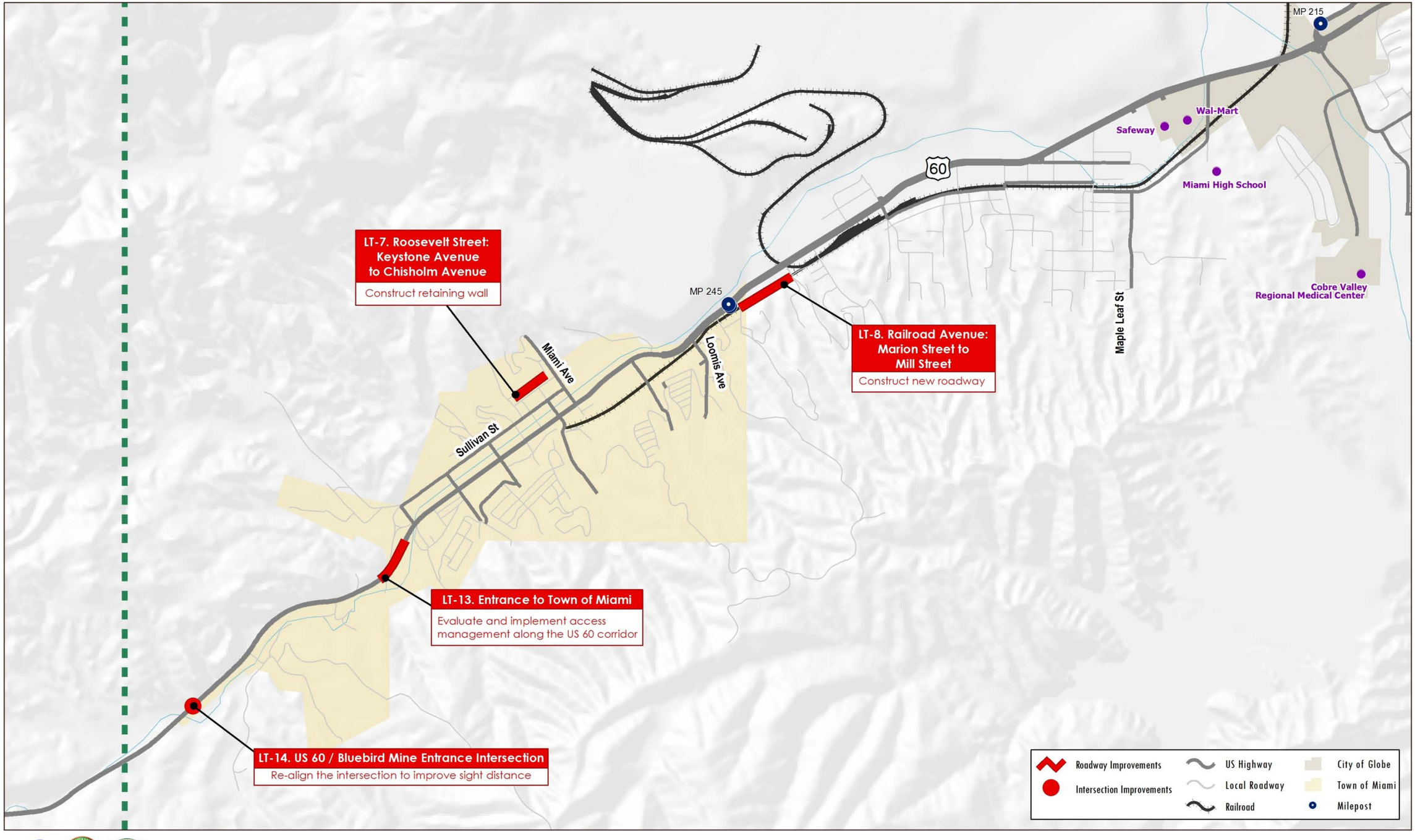


FIGURE 4.9: MIAMI AREA LONG-TERM IMPROVEMENTS



Project Descriptions for Long-Term Improvements

The following projects were identified for the long-term implementation phase. ***The Project Identification Number (i.e. LT- 1) does not represent the priority of the project, rather is an identification number to track project progress in the future. The responsible agency will prioritize the projects once the study is complete.***

New Roadway: Round Mountain Road to Rim School Drive	Project Number: LT-1

Responsible Agency: City of Globe

Project Type: New Roadway

Project Description: Construct new connector roadway.

Project Length: 1503 feet

Estimated Cost: $700,000

Project Location: New roadway connecting Round Mountain Road to Rim School Drive.

Issue Addressed: Additional access to the elementary school.

Community Benefit: Safe access to school.

Comment: Construct a new 0.28 mile connector road from Round Mountain Park Road to Copper Rim School Drive.

Pinal Creek Pedestrian Bridge	Project Number: LT-2

Responsible Agency: City of Globe

Project Type: Bridge Replacement

Project Description: Construct new pedestrian bridge.

Project Length: N/A

Estimated Cost: $300,000

Project Location: Pinal Creek and Sycamore Street.

Issue Addressed: Pedestrian safety.

Community Benefit: Improve pedestrian safety and enhance pedestrian mode connectivity.

Comment: This bridge connects Globe Railroad Depot with the Globe Mobile Park. The existing structure cannot be salvaged and a new pedestrian bridge is recommended.

Multiuse Path: Globe High School to Copper Rim Elementary School — **Project Number: LT-3**

Responsible Agency: City of Globe

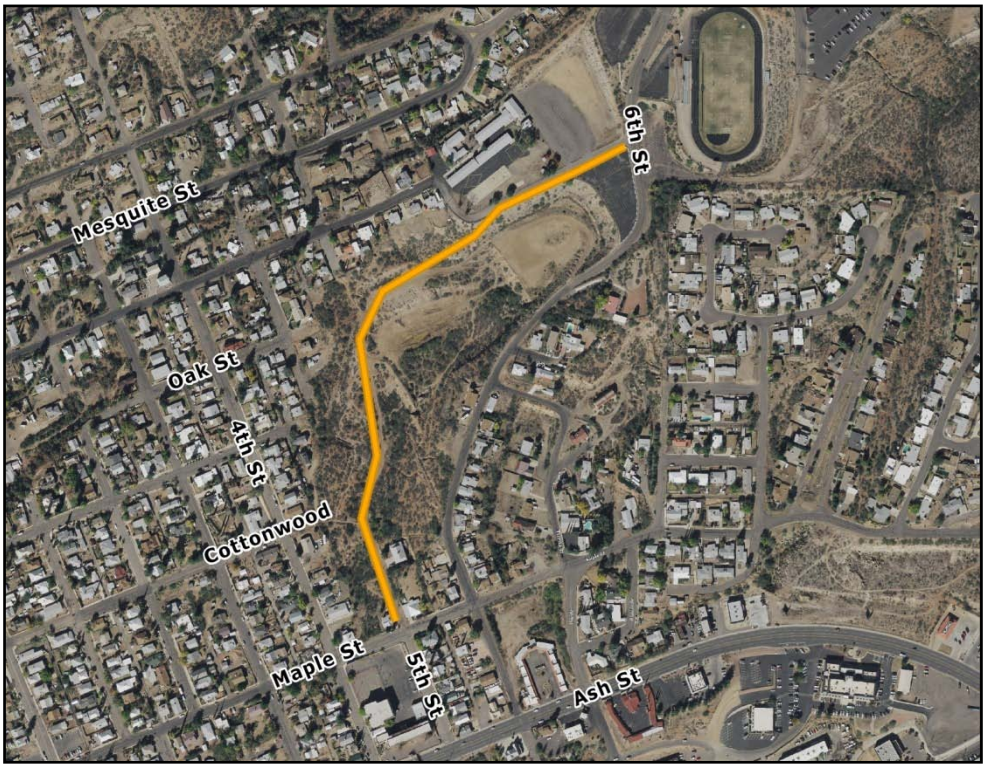
Project Type: Multiuse Path

Project Description: Construct new sidewalks.

Project Length: 2361 feet

Estimated Cost: $200,000

Project Location: Pinal Creek Pedestrian Bridge.



Issue Addressed: Pedestrian safety.

Community Benefit: Improved pedestrian safety.

Comment: New sidewalk is needed to provide a safe pedestrian path from Maple Street and 5th Street to the elementary school. Approximately 0.5 miles of new sidewalk is needed.

Broad Street/Jesse Hayes Road Intersection — Project Number: LT-4

Responsible Agency: City of Globe

Project Type: Intersection Improvement

Project Description: Reconfigure intersection.

Project Length: N/A

Estimated Cost: $600,000

Project Location: Broad Street and Jesse Hayes Road.

Issue Addressed: Intersection Safety.

Community Benefit: Improved safety.

Comment: Jesse Hayes Road approaches Broad Street at a skewed angle causing confusion to motorists.

Carico Street/Highland Drive Intersection	Project Number: LT-5

Responsible Agency: City of Globe

Project Type: Intersection Improvement

Project Description: Reconfigure intersection.

Project Length: N/A

Estimated Cost: $250,000

Project Location: Carico Street and Highland Drive.

Issue Addressed: Intersection safety.

Community Benefit: Improved safety.

Comment: Reconfigure intersection for improved sight distance and safety.

Maple Street/Terrace Drive Intersection	Project Number: LT-6

Responsible Agency: City of Globe

Project Type: Intersection Improvement

Project Description: Adjust intersection profile and improve drainage.

Project Length: N/A

Estimated Cost: $500,000

Project Location: Maple Street and Terrace Drive.

Issue Addressed: Safety.

Community Benefit: Improved safety.

Comment: The profile of East Maple Street needs to be adjusted and drainage issues addressed.

Roosevelt Street: Keystone Avenue to Chisholm Avenue	Project Number: LT-7

Responsible Agency: Town of Miami

Project Type: Roadway Enhancement

Project Description: Construct retaining wall.

Project Length: 659 feet

Estimated Cost: $250,000

Project Location: Roosevelt Street from Keystone Avenue to Chisholm Avenue.

Issue Addressed: Failing roadway slopes.

Community Benefit: Preserve roadway prism.

Comment: Construct retaining walls and address drainage issues to protect roadway from damage. The cost is an estimate for preliminary engineering only.

Extension of Railroad Avenue: Marion Street to Mill Street (Miami) — **Project Number: LT-8**

Responsible Agency: City of Globe

Project Type: New Roadway

Project Description: Construct new Roadway.

Project Length: 1015 feet

Estimated Cost: $250,000

Project Location: Railroad Avenue from Mill Street to Marion Street south of US 60.

Issue Addressed: Additional access to homes during emergency situations.

Community Benefit: Alternate emergency route.

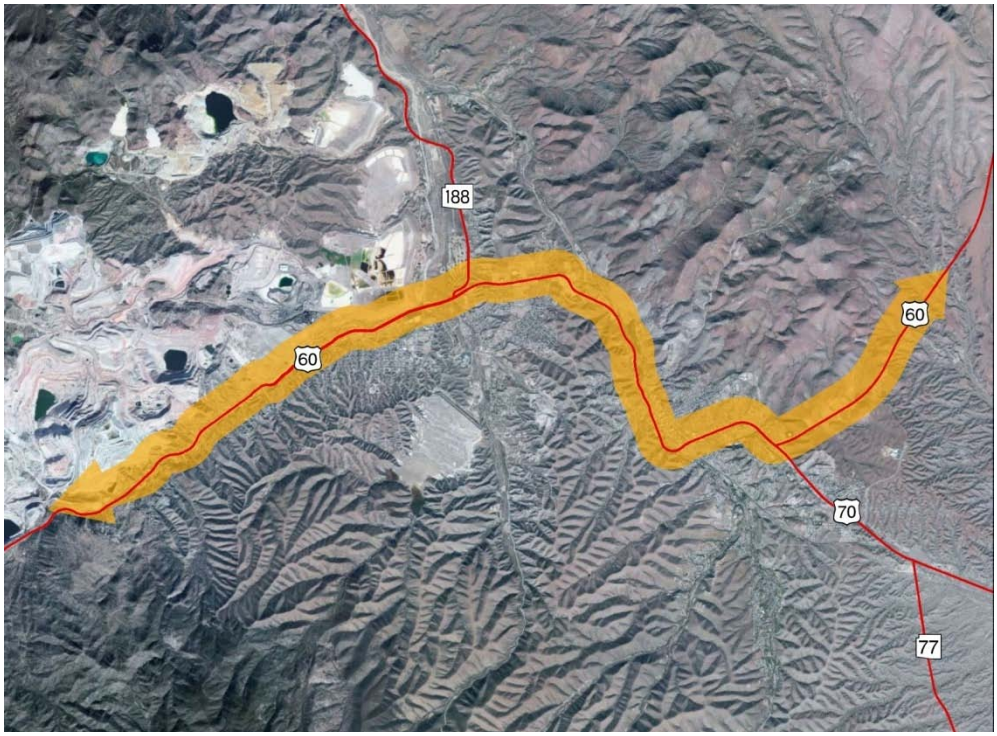
Comment: Extend Railroad Avenue (0.2 mile) from Mill Street to Marion Street.

Re-establish Commercial Bus Service	Project Number: LT-9

Responsible Agency: Private
Project Type: Transit
Project Description: Establish commercial bus service to Phoenix and Tucson.
Project Length: N/A
Estimated Cost: N/A
Project Location: Cobre Valley Region.
Issue Addressed: Mobility.
Community Benefit: Public Transportation.
Comment: Commercial bus service was discontinued in the area in the late 1990s. Several members of the public noted the need to re-establish the private bus line service such as Greyhound to the metro areas.

US 60 Alternate Alignment	Project Number: LT-10

Responsible Agency: Arizona Department of Transportation
Project Type: New Roadway
Project Description: Construct new limited access roadway.
Project Length: N/A
Estimated Cost: N/A
Project Location: Dividing from US 60 south of Town of Miami to City of Globe and US 70 then north to US 60.



Issue Addressed: Alternate access to current US 60 corridor.
Community Benefit: Improves safety and serves as also emergency route.
Comment: A DCR is in progress to determine the recommended location of the alternate route and associated costs.

Miami-Globe-Cutter-Peridot	Project Number: LT-11

Responsible Agency: City of Globe, Town of Miami, Gila County, AERR, PPP

Project Type: Transit

Project Description: Re-establish passenger rail or excursion rail service from Miami and Globe to Peridot.

Project Length: 16.22 miles

Estimated Cost: Cost varies based on type of service and route.

Project Location: US 60 at Town of Miami, north along SR 188, south to City of Globe, and southeast along US 70.

Issue Addressed: Rail service.

Community Benefit: Economic, tourism, and alternate mode for commuting.

Comment: Passenger rail excursion service terminated in the spring of 2011. AERR was sold to Genesee Wyoming from Iowa Pacific Holdings. The communities want the service re-established.

New Connector Road: Six Shooter to SR 77*	Project Number: LT-12

Responsible Agency: Gila County, Tonto Forest

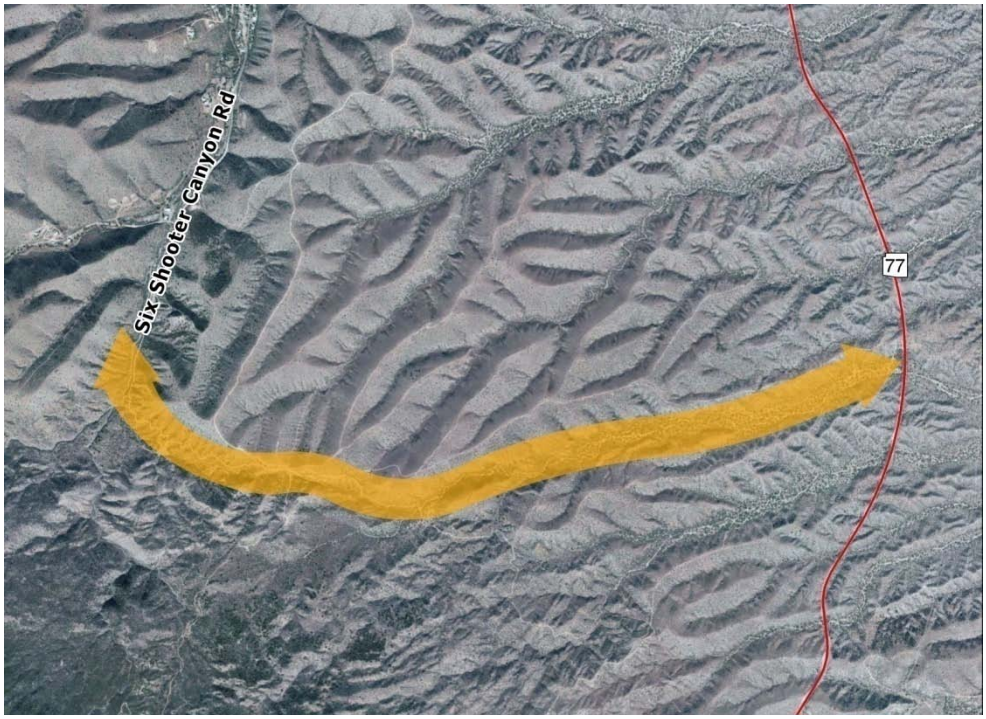
Project Type: New Roadway

Project Description: Construct new connector roadway.

Project Length: 2.85 miles

Estimated Cost: $3,500,000

Project Location: New Connector Road: Six Shooter to SR 77.



Issue Addressed: Alternative access.

Community Benefit: Alternate access.

Comment: Construct a new 3.2 mile connector road from Six Shooter Canyon Road to SR 77. * This corridor is only required if the proposed US 60 alternate route is not in place by year 2030.

Entrance to Town of Miami	Project Number: LT-13

Responsible Agency: Arizona Department of Transportation, Town of Miami

Project Type: Intersection Improvement

Project Description: Evaluate and implement access management along US 60 corridor.

Project Length: 792 feet

Estimated Cost: $30,000

Project Location: Entrance to Town of Miami.

Issue Addressed: Safety and enhancement.

Community Benefit: Improved safety.

Comment: Evaluate and implement access management along US 60 corridor. Review the need for left turn lanes on cross-streets and US 60.

US 60/Bluebird Mine Entrance	Project Number: LT-14

Responsible Agency: Arizona Department of Transrportation, Blue Bird Mine

Project Type: Intersection Improvement

Project Description: Realign intersection to improve sight distance.

Project Length: N/A

Estimated Cost: $400,000

Project Location: Bluebird Mine Entrance on US 60.

Issue Addressed: Safety.

Community Benefit: Improved safety.

Comment: The entrance to the mine is skewed aproaching US 60. Geometric improvements are needed.

Icehouse Canyon Road: Jesse Hayes Road to Pinal Creek Road	Project Number: LT-15

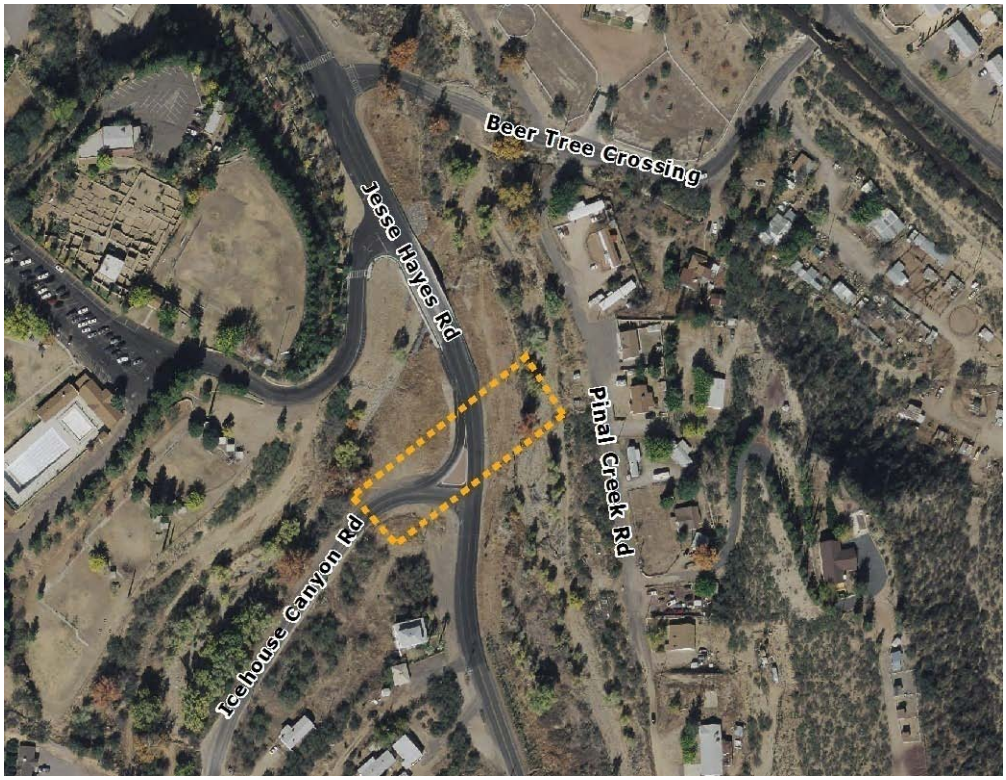
Responsible Agency: City of Globe, Gila County Project Type: New Bridge

Project Description: Construct new bridge crossing over Pinal Creek.

Project Length: N/A

Estimated Cost: $900,000

Project Location: Icehouse Canyon Road from Jesse Hayes Road to Pinal Creek Road.



Issue Addressed: Eliminate low-water crossing.

Community Benefit: Alternate access.

Comment: When Pinal creek floods, there is only one access out of the canyon areas in Globe. The new bridge would provide additional emergency access.

Pinal Creek Corridor: Beer Tree Crossing to US 70*	Project Number: LT-16

Responsible Agency: City of Globe, Gila County

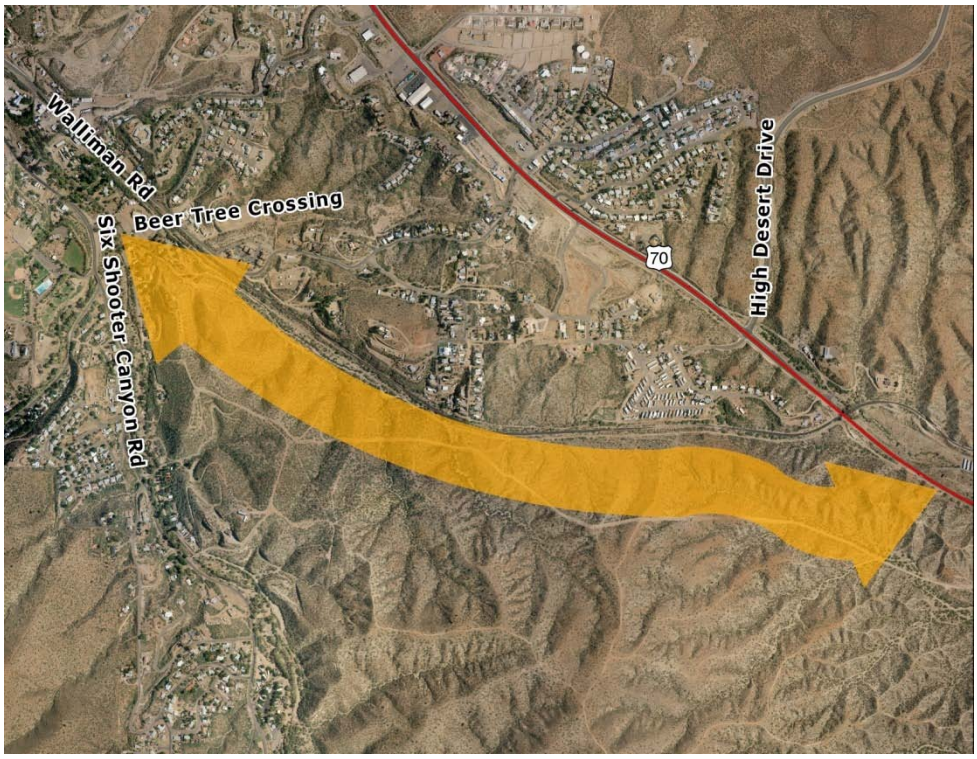
Project Type: New Roadway

Project Description: Construct new roadway.

Project Length: 1.7 mile

Estimated Cost: $6,000,000

Project Location: Pinal Creek Corridor from Beer Tree Crossing to US 70.



Issue Addressed: Alternate emergency route.

Community Benefit: Alternate access.

Comment: A DCR was completed several years ago, recommending the 1.75 mile new corridor parallel to the railroad. * This corridor is only required if the proposed US 60 alternate route is not in place by year 2030.

High Desert Drive: Current end point on High Desert Drive to US 60*	Project Number: LT-17

Responsible Agency: Gila County

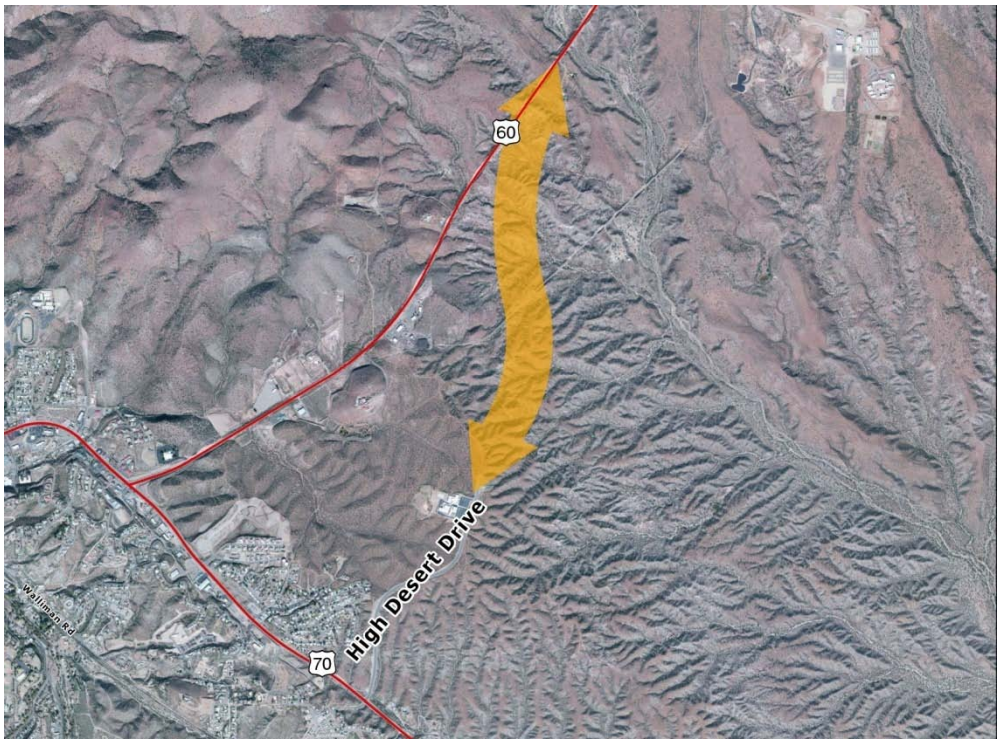
Project Type: New Roadway

Project Description: Construct new roadway.

Project Length: 1.8 miles

Estimated Cost: $1,300,000

Project Location: High Desert Drive from current end-point on High Desert Drive to US 60.



Issue Addressed: Connectivity and alternate access.

Community Benefit: Alternate access.

Comment: Extend High Desert Drive up to US 60 to improve connectivity and serve as an alternate access route. * This corridor is only required if the proposed US 60 alternate route is not in place by year 2030.

TRANSIT RECOMMENDATIONS

The *Cobre Valley Community Transit Study*, conducted concurrently with this study, outlines specific transit recommendations for the area. The core recommendation from that study is the establishment of a deviated fixed route system with demand response support. The new system will also interface with the San Carlos Transit system at designated transfer points. Table 4.4 outlines the recommended short-term improvements and Table 4.5 outlines the necessary capital needs to implement the recommendations per the *Cobre Valley Community Transit Study*. Figure 4.10 identifies the route, transfer locations, and stops along both of the newly identified deviated fixed routes.

TABLE 4.4: RECOMMENDED CVCT IMPROVEMENTS

Item	Description	Cost
Deviated fixed route system	Establish two new fixed routes with demand response support.	TBD
Enhance partnerships	Strengthen existing partnerships and seek to establish new support of the system.	TBD
Design and establish marketing strategy	A marketing strategy should be designed and started prior to the implementation of the new fixes route system.	$3,000
Policy, procedure, and management systems update	Establish management practices, record keeping protocols and filing systems for program compliance.	TBD

Source: Cobre Valley Community Transit Study

PEDESTRIAN, BICYCLE, AND TRAIL FACILITY RECOMMENDATIONS

Figure 4.11 illustrates the pedestrian, bicycle, and trail facility improvements recommended for the short-, mid-, and long-term phases.

Pedestrian and Bicycle Recommendations

For detailed descriptions and maps of the short-, mid-, and long-term pedestrian and bicycle improvement recommendations please refer to the recommended improvement projects presented at the beginning of this chapter.

Trail Recommendations

In conjunction with this study, the *Pinal Creek Trail Corridor Study* was conducted to develop a conceptual plan for the Pinal Creek Trail corridor to provide alternative modes of transportation to key educational and recreational areas in the vicinity of Globe. Recommendations from this study include developing/designating over seven miles of trail along Globe's local roadways, existing sidewalks, and through the Pinal Creek. When complete, the trail will provide access to residential neighborhoods, the Downtown area, recreational areas, and Globe Community College. For additional detailed information, please refer to the *Pinal Creek Trail Corridor Study*.

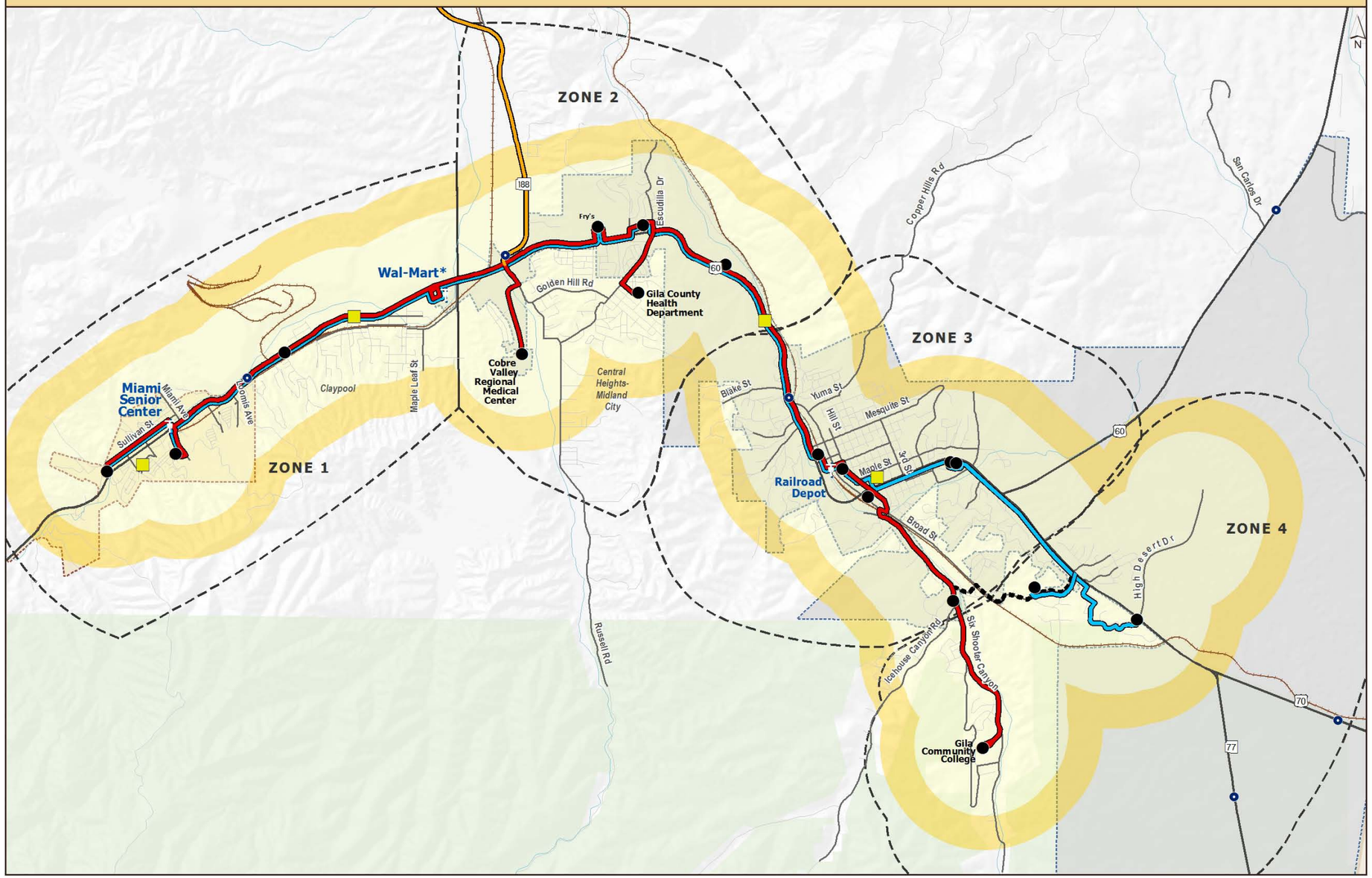
TABLE 4.5: CVCT CAPITAL NEEDS

Capital Purchase	Discretionary Funding Eligible	Year '12-'13	Year '13-'14	Year '14-'15	Year '15-'16	Year '16-'17	Year '17-'18
Buses	Yes	250,000	250,000		275,000	275,000	
Tire Machine		4,000					
Asphalt for Bus Parking Area		18,500					
Vehicle Lift		6,000					
Purchase and Installation Shelters (30)			180,000				
Purchase & Installation Signs (30)		15,000					
Rights of Way for Shelters and Signs		45,000					
Communications Equipment		3,000		3,000		3,000	
Computer Equipment and Software		2,000		2,500		3,000	
Training Facility Equipment		6,000					
Vans				32,000	33,000	35,000	36,000
Routing Software				15,000			
Card Reader - Rider Tracker System							80,000
Small Transfer Facilities (Three)							
Site Selection - Environmental/Scoping	Yes	15,000					
Right-of-Way Purchase	Yes		5,000	5,000	5,000		
Design	Yes		8,000				
Construction	Yes			45,000	45,000	45,000	
Bus Barn with Wash Station							
Environmental/Scoping	Yes						20,000
Design	Yes						45,000
Construction	Yes						300,000
	Total	**364,500**	**443,000**	**102,500**	**358,000**	**361,000**	**481,000**

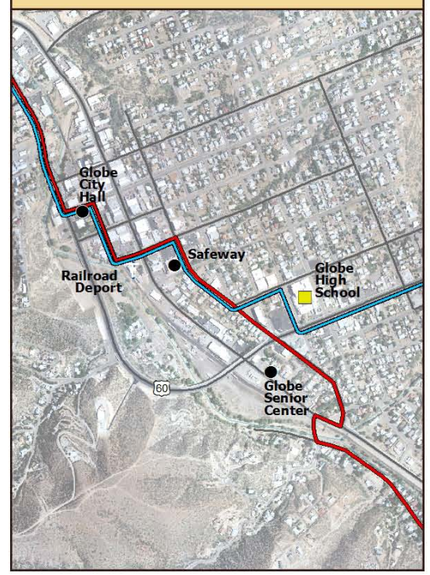
Source: Cobre Valley Community Transit Study

FIGURE 4.10: COBRE VALLEY TRANSIT SERVICES

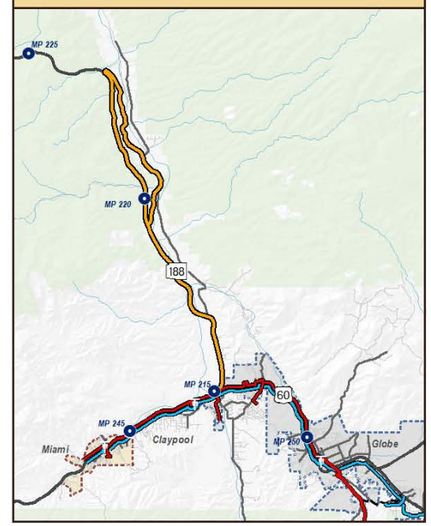
Deviated Fixed Route



Downtown Globe



Wheatfields Routes



Legend

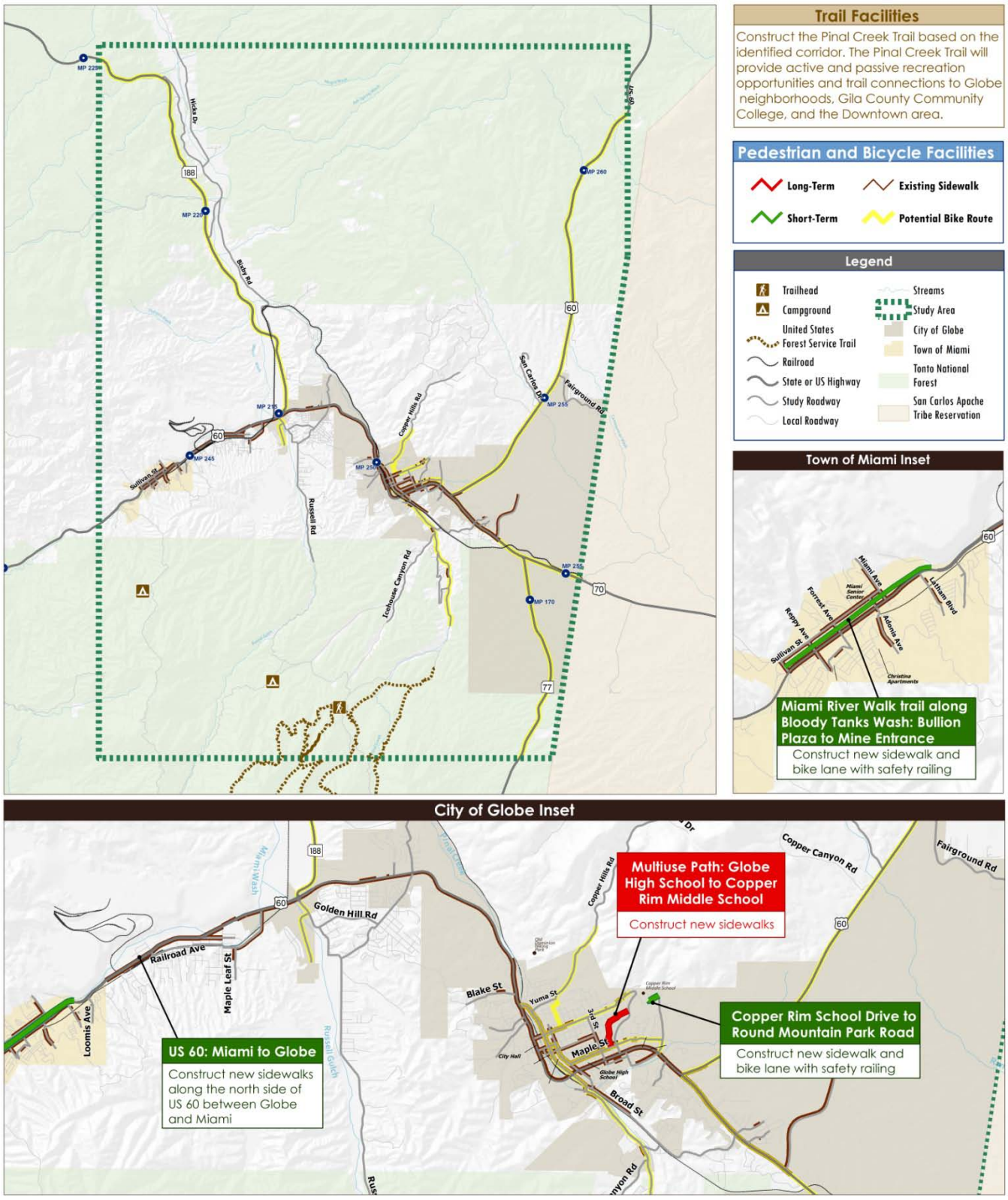
- Transfer Location *Used by SCAT
- Transit Stop
- Transit Stop (By Request)
- Proposed Route A
- Gila Community College Loop
- Proposed Route B
- Wheatfield Route
- Optional Route
- Transit Fare Zones
- 1/2 Mile Transit Deviation Zone
- 3/4 Miles Transit Deviation Zone
- State or US Highway
- Study Roadway
- Local Roadway
- Railroad
- City of Globe
- Town of Miami

Source: *ATIS, ALRIS, City of Globe, Town of Miami*

0 0.5 1 Mile

N

FIGURE 4.11: PEDESTRIAN, BICYCLE, AND TRAIL IMPROVEMENTS



TITLE VI ENVIRONMENTAL JUSTICE POPULATION IMPLICATIONS

In accordance to federal requirements, this study identified Title VI and Environmental Justice populations within the study area. Proposed transportation improvement projects recommended by this study may impact these populations differently than other residents. A preliminary review of the study's recommended projects indicates no potentially negative impacts to the Title VI population groups. Title VI review should be revisited during the design phase of each project when actual roadway alignments and design are established.

COMMUNITY OUTREACH

Public involvement is essential to the broad acceptance and successful implementation of any transportation improvement plan. The goal of community outreach is to educate stakeholders and the public about the study, provide opportunities for community input, and to create a process to build consensus in support of the study recommendations. For this study, community outreach was conducted in two phases; phase one focused on current transportation issues, problem areas, and future needs while phase two prioritized recommended improvements for the problem areas and needs identified in the first phase.

The objective of the first Public Open House, conducted in December 2011, was to provide interested residents and stakeholders an overview of the current conditions and deficiencies of the existing transportation system in the Cobre Valley area. Participants at this meeting were given the opportunity to mark maps to indicate where they would like to see improvements and complete a comment form to further provide feedback and comments. A total of eight community members attended the first phase public meeting and assisted in identifying current issues and potential improvements within the study area. Participants that attended the public open house stated the need to provide a detour route in the event of an accident, more pedestrian access, ADA compliant sidewalks, better access to businesses on US 60, and identify what improvement projects may be the easiest to fund.

The second phase of community outreach consisted of a Public Open House, conducted in September 2012, which was attended by 18 community members. The objective of the second Public Open House was to allow the community to preview the recommended improvement projects for motorized, non-motorized, and transit system improvements within the study area. Comment forms and display boards were provided to the attendees to solicit feedback and remarks. Input received from attendees during the second Public Open House focused on the transit needs of the community and the construction of the Pinal Creek Trail. Attendees commented on the need for additional fixed time transit routes for elderly populations, the need for transit service to Wheatfields and the Miami Senior Center, and concerns regarding the staging of the Pinal Creek Trail.

5.0 TRANSPORTATION PLAN IMPLEMENTATION

This section discusses available funding sources, roadway standards and policies, and implementation actions to help implement the Transportation Plan.

FUNDING SOURCES

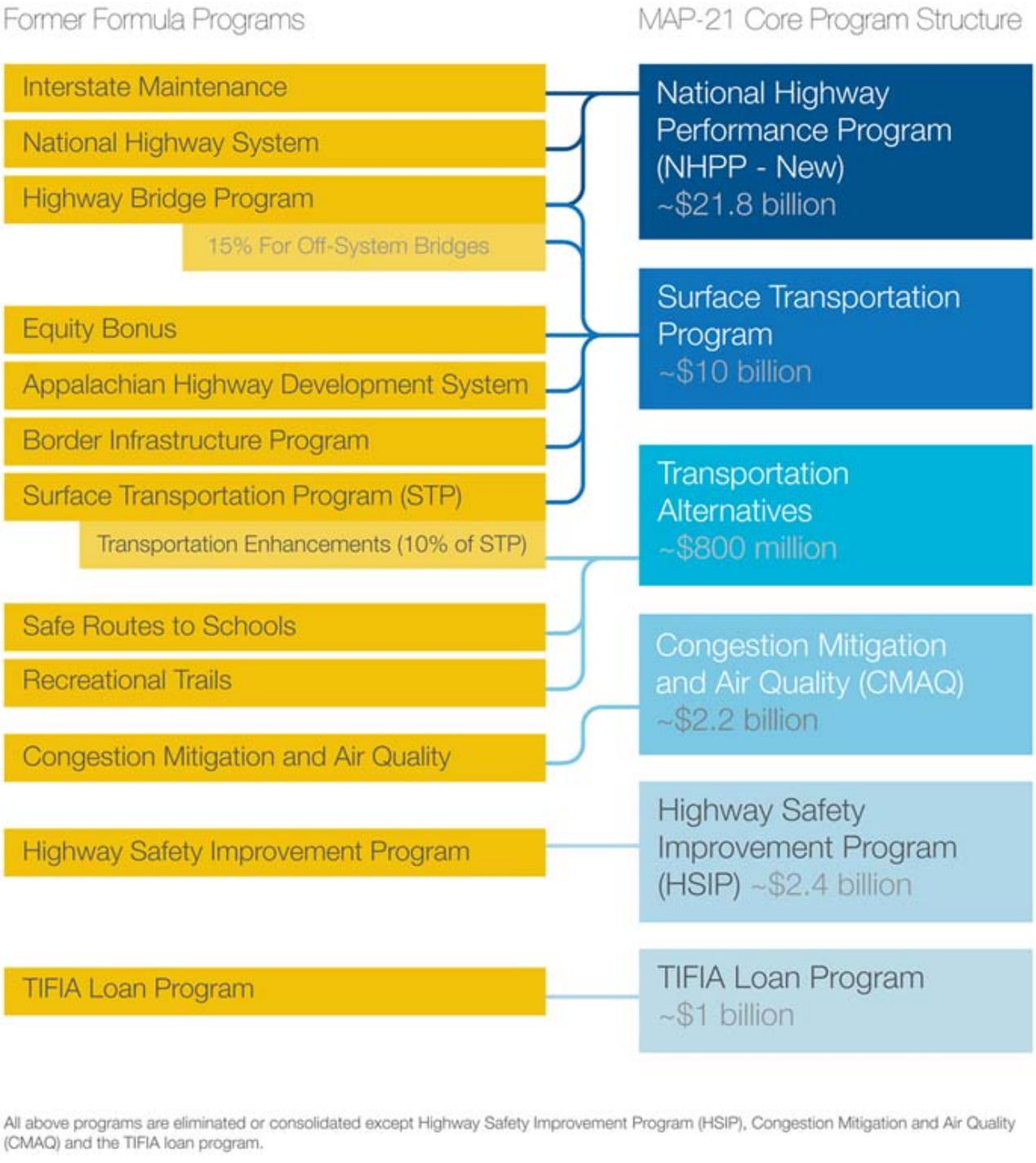
The successful implementation of the Cobre Valley Comprehensive Transportation Study is contingent upon the availability of funding for design and construction of the improvement projects. Primary funding sources for the area include Federal programs, ADOT, and other regional government agencies such as CAG. In July 2012, President Obama signed Moving Ahead for Progress in the 21st Century (MAP-21), reauthorizing surface transportation programs through fiscal year 2014. The program was enacted to create a streamlined, performance-based, and multimodal program to address the many challenges facing the Nation's transportation system. MAP-21 authorizes Federal-aid highway programs for the next two-years while maintaining current spending levels by consolidating core highway programs in the SAFETEA-LU. Figure 5.1 illustrates the restructured SAFETEA-LU programs under the new seven core groups of the MAP-21 as well as the apportioned funding for the next two fiscal years.

The six new core MAP-21 Programs includes:

- National Highway Performance Program (NHPP)
- Surface Transportation Program (STP)
- Transportation Alternatives
- Congestion Mitigation and Air Quality Improvement Program (CMAQ)
- Highway Safety Improvement Program (HSIP)
- Transportation Infrastructure Finance and Innovation Act (TIFIA) Loan Program

In addition, MAP-21 gives FTA significant new authority to strengthen the safety of public transportation systems throughout the United States. The Act aims to align Federal funding to progress towards the goals of restoring and replacing aged public transportation infrastructure, supporting development, and improving the efficiency of administering grant programs by consolidating and streamlining several programs. Table 5.1 is a comprehensive matrix of potential funding sources that the City of Globe, the Town of Miami, or Gila County can apply for funding of improvement projects identified in this study.

FIGURE 5.1: RESTRUCTURED SAFETEA-LU
PROGRAMS UNDER MAP-21



All above programs are eliminated or consolidated except Highway Safety Improvement Program (HSIP), Congestion Mitigation and Air Quality (CMAQ) and the TIFIA loan program.

TABLE 5.1: FUNDING SOURCES

Program	Description	Eligible Uses
Federal		
Congestion Mitigation and Air Quality Improvement Program (CMAQ)	The CMAQ program provides funding for projects that will relieve congestion and reduce pollution levels to help states and metro regions meet federal air quality standards.	Wide-range of projects, including: • Transit capital projects and improved transit services • Projects that improve traffic flow • Bicycle and pedestrian facilities • Fringe and corridor parking facilities • Projects that shift traffic demand to nonpeak hours or other transportation modes • Carpool and vanpool services
High Risk Rural Roads (HRRR)	MAP-21 legislation does not set aside funds for a high risk rural roads program. However, the Special Rule requires States with an increase in fatality rates on rural roads to obligate a specified amount of HSIP funds on HRRRs.	Variety of capital projects including: • Intersection safety improvements • Pavement and shoulder widening • Improving pedestrian and bicycle facilities • Improving highway signage and pavement markings • Traffic control devices • Installing guardrails and barriers • Construction of a traffic calming features • Railway-highway crossing safety features
Highway Research and Development Program	The Highway Research and Development Program funds strategic investment in research activities that address current and emerging highway transportation needs.	A broad range of research and development areas are eligible including: improving highway safety, infrastructure integrity, strengthening transportation planning and environmental decision making, reducing congestion, etc.
Highway Safety Improvement Program (HSIP)	The HSIP is a core Federal-aid program with the purpose of achieving a significant reduction in fatalities and serious injuries on all public roads, including non-State-owned public roads and roads on tribal lands.	Eligible projects include, but are not limited to: • Intersection improvements • Construction of shoulders • Traffic calming • Improvements for bicyclists, pedestrians, and individuals with disabilities. • Projects to maintain minimum standards of retro-reflectivity of traffic signs and pavement markings
National Highway Performance Program (NHPP)	The purpose of the NHPP is to provide support for the condition and performance of the National Highway System (NHS); to provide support for the construction of new facilities on the NHS; and to ensure that Federal-aid funds are directed to support progress toward the achievement of performance targets established in a State's asset management plan for the NHS.	Eligible projects include, but are not limited to: • Construction, reconstruction, resurfacing, restoration, rehabilitation, and preservation of highways and bridges • Bridge and tunnel inspection and evaluation • Safety projects • Transit capital projects (under certain conditions) • Federal aid highway improvements • Environmental restoration and mitigation • Intelligent transportation systems (ITS) • Bicycle and pedestrian infrastructure

TABLE 5.1: FUNDING SOURCES (Continued)

Program	Description	Eligible Uses
National Priority Safety Program	Under MAP-21, Section 405 was renamed the National Priority Safety Program, which combines the impaired driving, occupant protection, traffic records and motorcyclist safety programs authorized under SAFETEA-LU and adds two new incentive programs – one for distracted driving and one for graduated driver licensing.	Programs include: • Section 405(b): Occupant Protection • Section 405(c): State Traffic Safety Information System Improvements • Section 405(d): Impaired Driving Countermeasures • Section 405(e): Distracted Driving • Section 405(f): Motorcyclist Safety • Section 405(g): State Graduated Driver Licensing Laws
Projects of National and Regional Significance (PNRS)	Supports large-scale transportation projects of national significance	The projects must be eligible to receive federal highway or public transportation funds (including freight rail) or be for infrastructure improvements that facilitate access to intermodal facilities, including ports. Eligible project costs include; preconstruction activities; construction, reconstruction, rehabilitations, acquisition of property, environmental mitigation, acquisition of equipment to improve system performance; operational improvements; and financing costs, including TIFIA subsidy costs.
Railway-Highway Crossings Program	This program funds safety improvements to reduce the number of fatalities, injuries, and crashes at public grade crossings.	All previous eligibilities under 23 USC 130 continue.
Recreational Trails Program	The Recreational Trails Program (RTP) provides funds to the States to develop and maintain recreational trails and trail-related facilities for both non-motorized and motorized recreational trail uses.	Eligible projects include, but are not limited to: • Maintenance and restoration of existing recreational trails • Development and rehabilitation of trailside and trailhead facilities and trail linkages for recreational trails • Purchase and lease of recreational trail construction and maintenance equipment • Acquisition of easements for recreational trail corridors • Assessment of trail conditions
Surface Transportation Program (STP)	The Surface Transportation Program is the most flexible of all the highway programs and historically one of the largest single programs. States and metropolitan regions may use these funds for highway, bridge, transit (including intercity bus terminals), and pedestrian and bicycle infrastructure projects.	Eligible projects include, but are not limited to: • Highway and bridge construction and rehabilitation • De-icing of bridges and tunnels • Federal-aid bridge repair • Congestion pricing and travel demand management • Off-system bridge repair • Transit capital projects • Bicycle, pedestrian, and recreational trails

TABLE 5.1: FUNDING SOURCES (Continued)

Program	Description	Eligible Uses
Transportation Alternatives Program (TAP)	MAP-21 consolidated the Transportation Enhancements, Safe Routes to School (SRTS), and Recreational Trails into this new program. Instead of a state requirement to spend a percentage of funds, local applicants will compete for grants to fund a broad range of activities that provide transportation options, improve safety and enhance economic vitality.	Eligible projects include, but are not limited to: • Bicycle and pedestrian facilities • Safe routes projects for non-drivers • Construction of turnouts and overlooks • Community improvement activities including vegetation management, historic preservation, rails to trails, control of outdoor advertising • Archeological activities related to transportation projects • Environmental mitigation activity including NEPA compliance
Transportation Infrastructure Financing and Innovation Act (TIFIA)	The TIFIA program provides loans, loan guarantees, and standby lines of credit to highway, bridge, transit, and intermodal freight projects that have a dedicated source of revenue pledged toward repayment.	Eligible projects include, but are not limited to: • Highway, passenger rail, transit and certain intermodal projects • Certain freight rail facilities • Surface transportation infrastructure modifications necessary to facilitate direct intermodal transfer • Intelligent transportation systems • Intercity passenger bus or rail facilities and vehicles • Groups of related eligible transportation projects secured by a common pledge
State		
Community Development Block Grant Program (CDBG) - State Administered	States participating in the CDBG Program award grants only to units of general local government that carry out development activities.	Eligible projects include, but are not limited to: • Acquisition of property for public purposes • Construction or reconstruction of streets, water and sewer facilities, neighborhood centers, recreation facilities, and other public works • Rehabilitation of public and private buildings • Planning activities
Governor's Office of Highway Safety	Finances State and local government highway safety projects.	Inventories, need studies, engineering studies, system development, program implementation, or for purchasing equipment. Cannot be used for the construction, design, or maintenance of highways or for highway construction research papers.
Highway User Revenue Fund (HURF)	Funds derived from fuel taxes, vehicle license tax, registration fees and other fees.	Highway construction, improvements, and other related expenses

TABLE 5.1: FUNDING SOURCES (Continued)

Program	Description	Eligible Uses
State and Community Highway Safety Grant Program	The Section 402 program provides grants to states to improve driver behavior and reduce deaths and injuries from motor vehicle-related crashes.	Funds can be spent in accordance with national guidelines for programs such as reducing impaired driving; reducing speeding; encouraging the use of occupant protection; improving motorcycle safety; improving pedestrian and bicycle safety; improving enforcement of traffic safety laws; improving traffic records; and enhancing emergency services.
State Planning and Research Program	The funds are used to establish a cooperative, continuous, and comprehensive framework for making transportation investment decisions and to carry out transportation research activities throughout the State.	Eligible projects include, but are not limited to: • Engineering and economic surveys and investigations • Planning of future highway programs and local public transportation systems • Studies of the economy, safety, and convenience of surface transportation systems
Vehicle License Tax	Arizona tax paid by vehicle owners.	
Local and Private		
AAA Foundation for Traffic Safety	Funding for projects to discover the causes of traffic crashes, prevent them, and minimize injuries when they do occur.	Projects needed to evaluate new or existing traffic safety initiatives.
Development Impact Fees	Development impact fees are one-time charges applied to offset the additional public-service costs of new development. They are usually applied at the time a building permit is issued and are dedicated to provision of additional services, made necessary by the presence of new residents in the area.	
Development Stipulations	Developers dedicate appropriate ROW and build adjacent streets.	
Developer Exactions	Require developers to construct off-site facilities necessary to serve their development.	
Hotel Bed Tax	Tax added to hotel room charge that is paid to the state during tax returns and refunded to the local jurisdiction by the state of Arizona.	
Improvement or Road Districts	Improvement costs shared among residents and property owners within district.	
Regional Area Road Fund (RARF)	After voter approval, enacting a transportation excise tax.	Road construction improvements.
Sales Tax	Funds from a portion of a municipality's sales tax.	

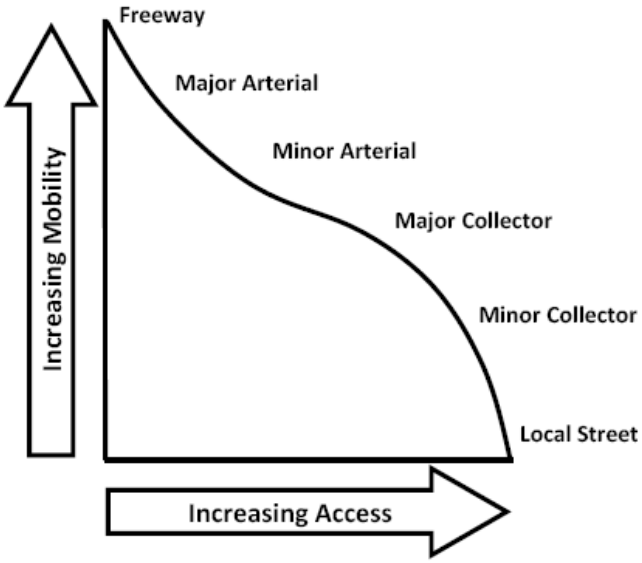
TABLE 5.1: FUNDING SOURCES (Continued)

Program	Description	Eligible Uses
Transit		
Section 5303, 5304, and 5305. Metropolitan, Statewide, and Non-Metropolitan Planning Program	Provides funding and procedural requirements for multimodal transportation planning that is cooperative, continuous, and comprehensive, resulting in long-range plans and short-range programs of transportation investment priorities.	
Section 5307. Urbanized Area Formula Grants	These funds constitute a core investment in the enhancement and revitalization of public transportation systems.	Eligible projects include, but are not limited to: • Capital projects • Planning • Job access and reverse commute projects • Operating costs in areas with fewer than 200,000 in population
Section 5310. Enhanced Mobility of Seniors and Individuals with Disabilities	This program is intended to enhance mobility for seniors and persons with disabilities by providing funds for programs to serve the special needs of transit-dependent populations beyond traditional public transportation services and complementary paratransit services.	
Section 5311. Non-Urbanized Area Program	This federal grant program provides funding for public transit in non-urbanized areas with a population under 50,000 as designated by the Bureau of the Census. FTA apportions funds to governors of each State annually.	Funds may be used for capital, operating, planning or technical assistance projects. With these funds the mobility needs of rural transit users can be both supported and enhanced. Section 5311 Program grants are intended to provide access to employment, education and health care, shopping and recreation.
Section 5311(b)(3). Rural Transportation Assistance Program	Section 5311(b)(3) is formula funding for states to provide research, technical assistance, and training to improve the delivery of transit services in non-urbanized areas.	States may use RTAP funds to support non-urbanized transit activities in four categories: training, technical assistance, research, and related support services.
Section 5337. State of Good Repair Program	FTA's first stand-alone initiative written into law that is dedicated to repairing and upgrading the nation's rail transit systems along with high-intensity motor bus systems that use high-occupancy vehicle lanes	Eligible projects include, but are not limited to: • Capital projects to maintain a system in a state of good repair • Transit Asset Management Plan development and implementation
Section 5339. Bus and Bus Facilities Program	Provides capital funding to replace, rehabilitate, and purchase buses and related equipment and to construct bus-related facilities.	Capital projects to replace, rehabilitate and purchase buses, vans, and related equipment, and to construct bus-related facilities

ACCESS MANAGEMENT

Access management enhances the flow of traffic on a corridor or roadway system by improving safety, capacity, and speed. Effective access management programs control the number of driveways and vehicular curb cuts, remove slower turning vehicles, and reduce the number of vehicular conflict points. It is important to implement these controls without overly restricting reasonable access to property. Controlling access improves mobility and is linked to the function of a particular roadway. Low volume, low speed facilities (such as local roads) serve to provide direct and frequent access to properties. Roadways with higher speeds and higher traffic volumes serve to provide mobility and restrict direct access to adjacent land uses, such as freeways, which are completely access controlled. The amount of appropriate access is related to the level of mobility and specific function of a road as illustrated in Figure 5.2.

FIGURE 5.2: ACCESS VERSUS MOBILITY



Benefits of Access Management

Improved traffic flow is one of the many benefits of applying access management techniques. Roadways utilizing access management techniques are likely to be safer and provide for better circulation while improving travel times. These techniques include increasing driveway spacing, utilizing turning lanes, grade-separating intersections, and installing medians. The frequency of intersections greatly influences the capacity and function of roadways. Roadways with more access points and intersections have more opportunities for conflicts, and significant friction to through-traffic, which contributes to congestion and crashes. Applying access management techniques can enhance the livability of a community. Access management has been shown to reduce crashes while also improving pedestrian/bicycle safety. The mobility benefits to a community include increases in roadway capacity and reductions in travel time. The potential economic benefits of access management include reserving the market area for businesses, improving customer safety and convenience, providing more efficient freight movement, and raising property values. Communities that have implemented access management have more area for landscaping,

while preserving community/scenic character and promoting more efficient land and site design. Additionally, access management can reduce emissions and fuel consumption due to improved traffic progression, and can help avoid substandard access to lot splits caused by excessive driveways.

Access Management Recommendations

The challenge of managing access is establishing a program of legal, administrative, and technical strategies with the appropriate balance between private property access rights and the need to control access to serve public need. Ideally, these strategies will be implemented through planning practices, rules, engineering standards, and procedures resulting in access decisions that successfully, fairly, and consistently determine access management for each unique situation. As a long-term undertaking, the City of Globe and the Town of Miami should work towards:

- Developing a comprehensive access management standards guidebook. This guidebook should categorize the roadway system by access management categories, provide specific guidelines for each category, and define the design criteria for each category.
- Implement an access management ordinance that provides the specific guidance for access to various land uses.

IMPLEMENTATION ACTIONS

The following action items are recommended for Cobre Valley region to successfully implement the Multimodal Transportation Plan presented in Chapter 4.

- Present the Transportation Plan to the City of Globe and the Town of Miami Councils for approval and adoption.
- Conduct traffic counts on all study roadways that are not functionally classified (see black lines in Figure 2.10). Identify roadways that meet the minimum requirements for reclassification to "collector" or a higher classification. Coordinate with CAG and ADOT to request change in functional classification of those roadways.
- Research and apply for funding sources for each project in the transportation plan.
- Include high-priority projects in the City/Town's Transportation Improvement Program (TIP).
- Develop policies and procedures to promote alternative modes of transportation. Review and update street design standards, develop comprehensive access management standards, and detailed traffic impact guidelines and procedures.
- Create aesthetically appealing gateways into the City/Town at key roadway entry points.
- Increase communication, cooperation, and collaboration with ADOT, CAG, City of Globe, Town of Miami, Gila County, and neighboring jurisdictions. Work in partnership with each agency to address transportation needs and implement the plan.
- Offer opportunities for public involvement throughout the plan implementation process.
- Promote Public-Private partnerships between the City/Town and the private sector.
- Monitor progress on the transportation plan on a quarterly basis.
- Update the transportation plan on a five-year cycle.