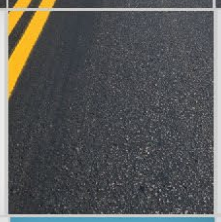
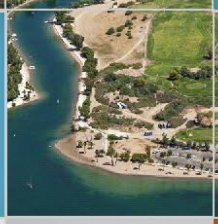
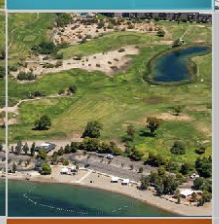








Lake Havasu Metropolitan Planning Organization

2045 REGIONAL TRANSPORTATION PLAN

FINAL REPORT

February 2022

Adopted by LHMPO Executive Board on February 8, 2022

LETTER FROM THE LAKE HAVASU MPO EXECUTIVE DIRECTOR

The Lake Havasu Metropolitan Planning Organization (LHMPO) is proud to present the 2020-2045 Regional Transportation Plan. The Regional Transportation Plan (RTP) is a shared vision created in partnership with Lake Havasu City, Mohave County, Arizona Department of Transportation (ADOT), Federal Highway Administration (FHWA), Federal Transit Administration (FTA) and the citizens of the Lake Havasu MPO region.

The sustainability and economic vitality of the Lake Havasu region depend on the efficiency and safety of our transportation infrastructure. The RTP is a strategic framework that addresses the development and growth of a transportation system that is safe, improves the movement of people and goods, supports the local economy, preserves and protects the environment, and continually enhances the quality of life for all who visit, work, and live in the Lake Havasu Community.

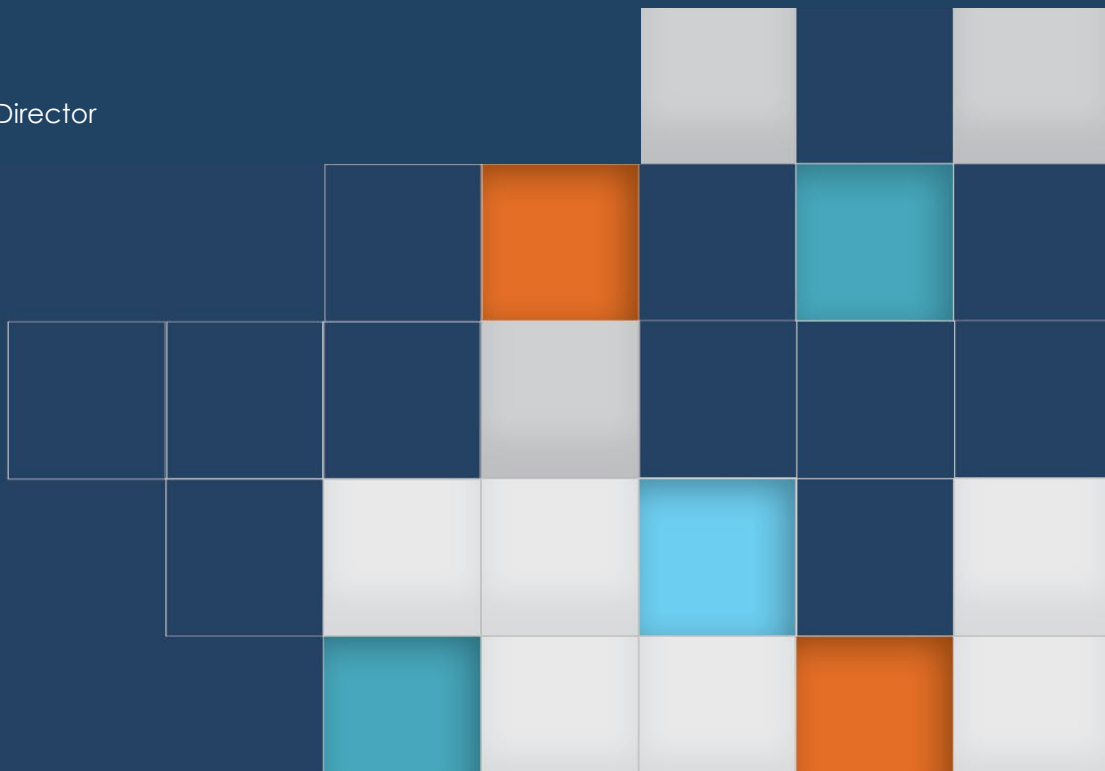
This long-range plan is a valuable resource for the public and policymakers and outlines recommended infrastructure improvements over the next 25 years. Considering limited federal funding available to the LHMPO and our member agencies, the RTP establishes processes to identify, prioritize, and implement projects that promote wise investment of regional LHMPO funds.

I am incredibly grateful to the LHMPO Executive Board, LHMPO Technical Advisory Committee, LHMPO admin staff, and citizens of the region for their valuable contributions to the development of this plan; The LHMPO looks forward to continual, comprehensive, and coordinated transportation planning efforts to improve multi-modal transportation options in the Lake Havasu MPO region.

Thank you!

Justin Hembree

Justin Hembree
LHMPO Executive Director



ACKNOWLEDGEMENTS

The Lake Havasu Metropolitan Planning Organization (LHMPO) would like to thank the thousands of people who participated in the 2045 Regional Transportation Plan planning process – in meetings, through social media, surveys, and countless conversations. Your suggestions, critical thinking, comments, and ideas contributed significantly to this plan, and to improving the future of transportation in the Lake Havasu region.

LHMPO Executive Board

Cal Sheehy – *Chairman*
Lake Havasu City Mayor

Buster Johnson – *Vice Chairman*
Mohave County Supervisor District III

David Lane – *Secretary/Treasurer*
Lake Havasu City Councilmember

Jeni Coke– *Member*
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Arizona State Transportation Board

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Lake Havasu City

Todd Steinberger - *Member*
Arizona Department of Transportation

Jason James - *Member*
Arizona Department of Transportation

Tim Walsh - *Member*
Mohave County

LHMPO Staff

Justin Hembree
Executive Director

Sarah Lojewski
Administrative Specialist

Study Partners

Thank you to the study partners for their commitment of time, information sharing, and technical guidance throughout the planning process.

Public Participants

Thank you to the residents of LHMPO region for their participation in this planning process and their passion for improving the place they call home.

KITTELSON & ASSOCIATES

Greenlight Traffic Engineering

AECOM

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1. REGIONAL TRANSPORTATION PLAN OVERVIEW

The Lake Havasu Metropolitan Planning Organization (LHMPO) is a federally recognized Metropolitan Planning Organization (MPO) for the Lake Havasu City region, located in western Arizona. Federal legislation designates that an MPO must be established to represent urbanized areas with populations exceeding 50,000, as determined by the United States Decennial Census. Lake Havasu was designated a Metropolitan Planning Organization in 2013 when their population reached over 50,000 in the 2010 Census. The purpose of LHMPO is to serve as a coordinating body for local, state, and federal agencies on traffic, transportation, multimodal, and related issues in the greater Lake Havasu City area.

What is the Regional Transportation Plan?

Every five years, the LHMPO updates the Regional Transportation Plan (RTP). This plan provides a common vision for the region's future transportation needs and guides the investment of public funds in transportation facilities, over the next 25 years. It includes short-, mid-, and long-term transportation strategies and addresses all modes of transportation, including automobile, bicycle, pedestrian, transit, truck, air, and rail movements. The LHMPO RTP addresses all modes, evaluates roadway improvements and funding scenarios, and establishes a path toward not only meeting the region's transportation needs, but ensuring performance targets are met. The primary objectives of the RTP are to:

- Comprehensively assess regional transportation performance and needs;
- Develop an achievable improvement and implementation plan; and
- Establish policies to prioritize and systematically implement projects to address mobility, safety, pavement, bridge, and freight needs.

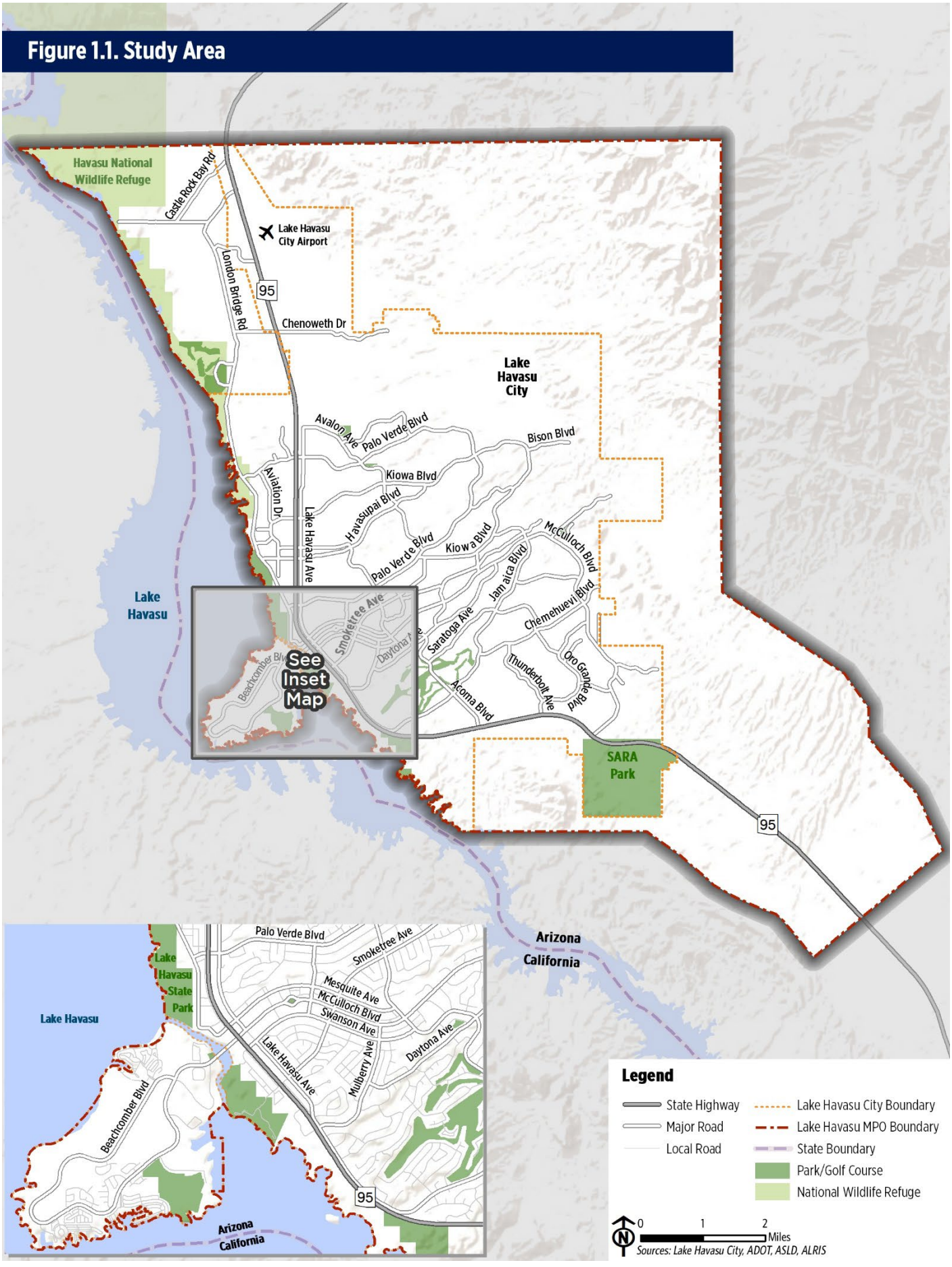
LHMPO Planning Area

The LHMPO's planning area encompasses a small urban area covering approximately 100 square miles in Mohave County. **(see Figure 1.1)**. The LHMPO is responsible for the continuous, cooperative and comprehensive transportation planning process for Lake Havasu City, the Mohave County area north of the City limits known as Desert Hills, Havasu Gardens, Crystal Beach and the Mohave County area southeast of the City known as Horizon Six. The MPO's mission is to provide planning and programming services for the safe and efficient movement of people and goods consistent with the region's overall land use, economic, social, and environmental goals. Special emphasis is placed on providing equal access to a variety of transportation mode choices (transit, bicycling, walking, automobile, carpool, etc.) and ensuring effective public involvement throughout the planning process. The MPO performs its mission through three related activities and documents—the Regional Transportation Plan (RTP), the Transportation Improvement Program (TIP), and the Unified Planning Work Program (UPWP).

Study Network

Streets are the physical backbone of the region's transportation network and one of the largest public assets. Developing a complete and connected multimodal network begins with identifying a wider transportation network of local and regional roadways called the "Study Network." The Study Network served as the basis for analyzing the performance and function of the region's transportation network. **Figure 1.1** illustrates the LHMPO Regional Transportation Plan study network.

Figure 1.1. Study Area



Why this Plan is Important

The LHMPO region is changing - we continue to grow, our transportation network is transforming, and the mobility needs of our residents are increasing. Some of these challenges are old, some new, some are global, and others are unique to our region. To provide our residents, visitors, and businesses with the transportation network that works with their unique needs, we need to face our transportation future head-on. Here is a snapshot of the challenges we are facing and why this Plan is so important.

The Region is Growing

People and businesses are increasingly choosing the Lake Havasu area as their home. By 2045 Lake Havasu City population is projected to increase by 6 percent and unincorporated portions of Mohave County by more than 31 percent! Employment in the LHMPO is also projected to grow by 14 percent by 2045! While this is great news for our economy, this growth increases stress and demand on our transportation system.

We Drive A Lot

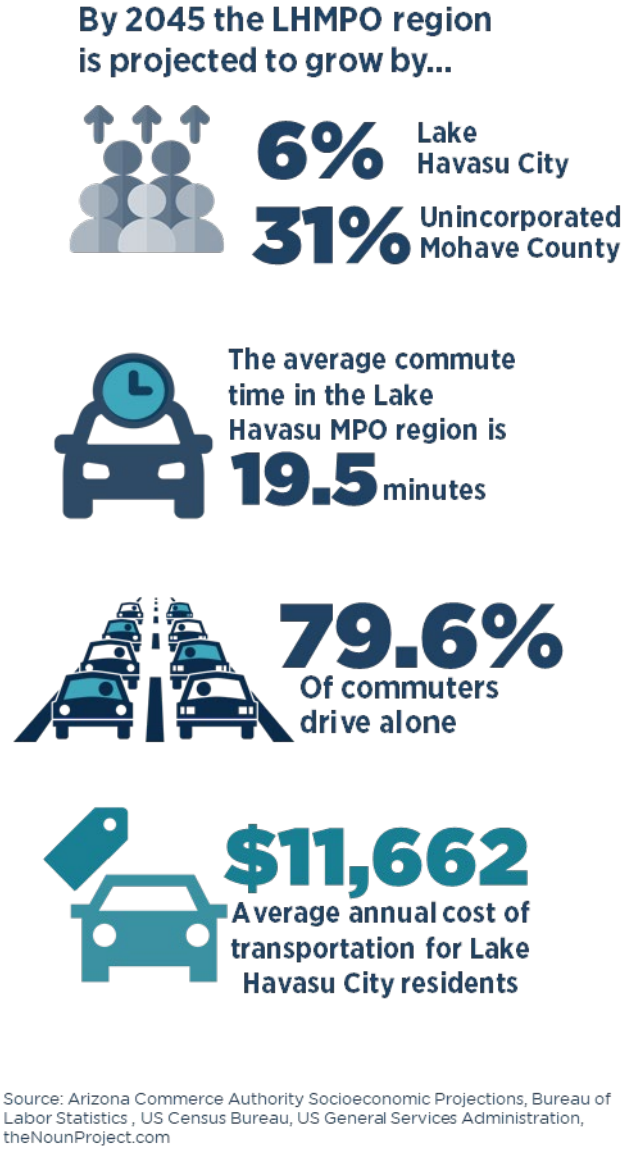
Like many of our peer areas, Lake Havasu residents drive more and walk, bike, and use transit less. The reasons for our vehicle-dependency are complex and related not only to infrastructure, but also to our geography and culture. One way of combating congestion is reducing our dependency on vehicles and shifting our mindset and priorities when it comes to transportation and density.

Designing for Safety

No matter how a person travels, safety is our top priority! Nationwide, the number of people struck and killed walking has increased by 35% in the past decade! In 2018 alone, one pedestrian was killed every 88 minutes in traffic crashes nationwide. Rethinking how we approach safety and the design of our streets, so our most vulnerable users are safe, improves safety for everyone!

Prioritizing Investments

Since the completion of the previous RTP, several changes have occurred. These include changes in the local and regional economy, additional Fixing America's Surface Transportation (FAST) Act requirements have been enacted, a global pandemic has occurred, and the region has begun to evaluate the viability of a dedicated local funding source. All these changes necessitate a fresh perspective on the region's current and future transportation needs. Prioritizing scarce funds to vital links in our transportation system helps us to focus on projects that achieve the biggest bang for our buck.



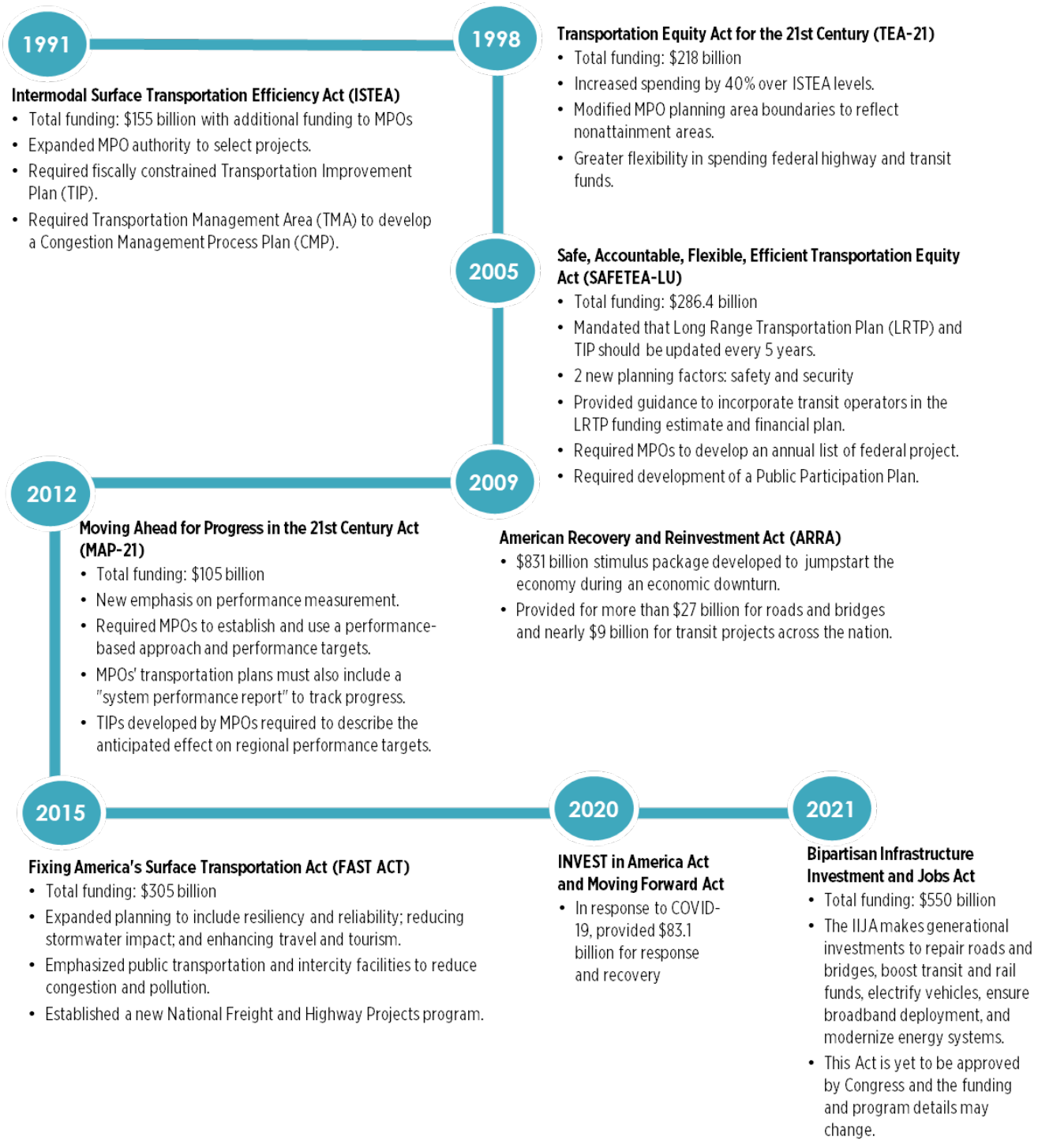
Source: Arizona Commerce Authority Socioeconomic Projections, Bureau of Labor Statistics , US Census Bureau, US General Services Administration, theNounProject.com

How We Got Here

This section provides a summary of legislative acts and previous transportation plans, studies, and reports that influence how the LHMPO region's transportation system looks and functions today.

Timeline of Legislative Acts

With significant legislative and policy changes occurring since the previous RTP, this RTP must account for and coincide with federal legislation changes and performance measurement targets initiated by the FAST Act. Under these new regulations, all regional agencies are required to establish performance targets to be eligible as a funding recipient. The following illustrates key transportation legislative acts and the impacts of the acts on MPOs.



Plan Process

The development of the LHMPO Regional Transportation Plan was a collaborative effort that brought together residents, the business community, regional and state partners, and local stakeholders to create a strategic transportation vision for the Lake Havasu City area. The Plan's process included listening, complex technical analysis, as well as coordination with concurrent planning initiatives and community partners. The multi-phased process included the following steps:

SETTING THE STAGE	The LHMPO Regional Transportation Plan assessed how people and goods are traveling in and through the region, as well as the performance, safety, and comfort of the region's existing transportation network. The process provided a base for understanding the region's transportation challenges and needs today and tomorrow.
ALTERNATIVES EVALUATION AND DRAFT RECOMMENDATIONS	A transportation network is only as good as its weakest link. Draft improvement strategies were identified and evaluated to address or mitigate issues, system gaps, and needs identified in the first step.
RECOMMENDED INVESTMENT PLAN	Draft candidate projects identified in the previous step were prioritized using a data-driven process and funding availability. The draft Investment Plan was developed to outline short-, mid-, and long-term prioritized project and investment recommendations.
FINAL REGIONAL TRANSPORTATION PLAN	This phase of the project included a collaborative process between LHMPO and its member agencies to recommend projects and priorities.

Regional Transportation Plan (RTP) Requirements

RTP is a federally mandated document for MPOs in order to establish and/or update long-term planning vision and goals, as well as reassess changes to the regional system and reprioritize regional investments. Every five years, LHMPO identifies the system's strengths and weaknesses; forecasts changes in population, employment, and land use; and creates a plan to address existing and future mobility needs. Pursuant to Title 23 U.S. Code § 134 and Title 49 U.S. Code § 5303, all metropolitan planning organizations which are not designated with air quality non-attainment are required to update their respective transportation plans at a frequency of no longer than every five years using a 20+ year planning horizon. In addition to federal requirements, Arizona executive order mandates that all MPO transportation plans are fiscally constrained and utilize the state demographer's population projections in all traffic model forecasting.

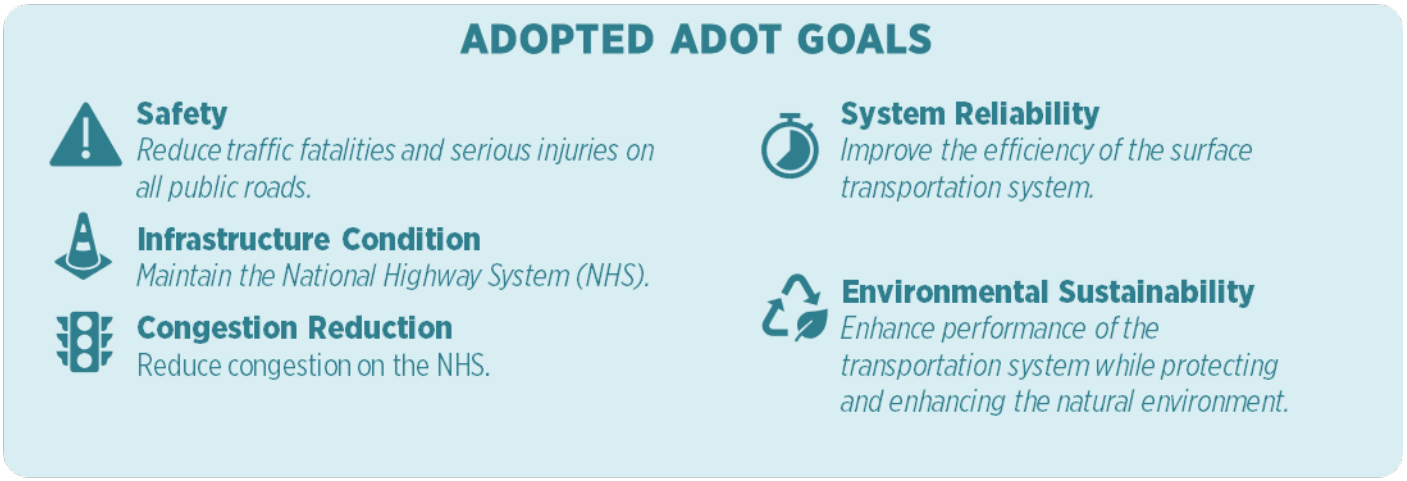
2. PLAN FRAMEWORK

This section outlines the region's vision for transportation, and the goals, objectives, and performance measures that lay the groundwork for the RTP's planning process. After Plan adoption, these goals, objectives, and performance measures are routinely reviewed and monitored through an annual process that reports on system performance.

LHMPO RTP Goals

The future of the transportation system in the Lake Havasu MPO region will be driven by the goals, objectives, and performance measures developed by the RTP. Since these goals, objectives, and performance measures set the foundation for the entire planning effort, it is important that they reflect the direction of the community. The LHMPO Executive Board previously elected to adopt and support ADOT's transportation goal areas and performance targets; however, additional regional goals areas and targets have also been identified as priority transportation areas for the region. **Figure 2.1** outlines the goal statements that will set a roadmap for the region while also meeting federal requirements.

Figure 2.1. LHMPO Adopted ADOT Transportation Goals and Additional LHMPO Regional Priority Transportation Goals



Objectives, Performance Measures, and Targets

The LHMPO RTP was developed to be consistent with the requirements of the Fixing America's Surface Transportation Act (FAST Act), which was signed into law on December 4, 2015. The FAST Act maintained a performance-driven, outcome-based approach to transportation planning first introduced with the Moving Ahead for Progress in the 21st Century Act (MAP-21), which was signed into law in 2012. Performance-based planning methods help to translate a long-range vision into a set of goals, priorities, and performance criteria that can be used to guide investment decisions.

Performance measures are quantifiable outcomes that help track progress toward accomplishing goals. Performance targets are intended to be realistic and achievable outcomes, given the funding constraints of the region. FHWA requires states (ADOT) to establish the goals/percentages for the categories defined by FHWA, as outlined in MAP-21 and the FAST Act. LHMPO also has elected to support ADOT's performance targets along with their goals. **Table 2.1** outlines the objectives, performance measures, and performance targets for the LHMPO RTP.

Table 2.1. Objectives, Performance Measures, and Targets

Objective	Performance Measure	Performance Target
ADOT Goal: Safety		
Reduce the number of fatalities and serious injuries on public roads in the region (Safety performance is measured using a 5-year rolling average).	Number of fatalities	1% or less increase in fatalities - Y2021 2% or less increase in fatalities - Y2022
	Rate of fatalities per 100 million vehicle miles traveled	0% or less increase in fatality rate - Y2021 2% or less increase in fatality rate - Y2022
	Number of serious injuries	4% or more decrease in serious injuries - Y2021 7% or more decrease in serious injuries - Y2022
	Rate of serious injuries per 100 million vehicle miles traveled	6% or more decrease in serious injury rate - Y2021 8% or more decrease in serious injury rate - Y2022
ADOT Goal: Infrastructure Condition		
Increase the percentage of roads in good condition. (Performance period: 2018-2022) ***	Percent of Interstate pavements in *good* condition*	4th year (Y2022) target of 44% or more of interstate pavements in *good* condition*
	Percent of Interstate pavements in *poor* condition*	4th year (Y2022) target of 2% or less of interstate pavements in *poor* condition*
	Percent of Non-Interstate NHS pavements in *good* condition	4th year (Y2022) target of 28% or more of non-interstate NHS pavements in *good* condition
	Percent of Non-Interstate NHS pavements in *poor* condition	4th year (Y2022) target of 6% or less of non-interstate NHS pavements in *poor* condition
Increase the percentage of bridges in good condition. (Performance period: 2018-2022)	Percent of NHS bridges classified in *good* condition based on deck area	4th year (Y2022) target of 52% or more of NHS bridges in *good* condition
	Percent of NHS Bridges classified in *poor* condition based on deck area	4th year (Y2022) target of 4% or less of NHS bridges in *poor* condition

** Not applicable, since LHMPO does not have any interstate highways*

*** Not applicable, since LHMPO does not include any EPA non-attainment areas*

**** Pavement condition ratings should follow guidelines outlined in the ADOT Transportation Asset Management Plan*

Table 2.1. Objectives, Performance Measures, and Targets (Continued)

Objective	Performance Measure	Performance Target
ADOT Goal: System Reliability		
Improve travel time reliability. (Performance period: 2018-2022)	Percent of person-miles on interstate with reliable travel times*	4th year (Y2022) target of 85.8% of person-miles on interstate have reliable travel times*
	Percent of person-miles on non-interstate NHS with reliable travel times	4th year (Y2022) target of 74.9% of person-miles on non-interstate NHS have reliable travel times
Maintain or improve freight reliability	Improve interstate truck travel time reliability index*	4th year (Y2022) target of 1.35 interstate truck travel time reliability index*
ADOT Goal: Environmental Sustainability		
Improve regional air quality	Reduce volatile organic compounds (VOC) emissions**	Reduce VOC emissions by 385 kg/day**
	Reduce carbon monoxide (CO) emissions**	Reduce CO emissions by 6,985 kg/day**
	Reduce nitrogen oxide (NOx) emissions**	Reduce NOx emissions by 761 kg/day**
	Reduce particulate matter (<10 microns) emissions**	Reduce PM10 emissions by 1,399 kg/day**
	Reduce particulate matter (<2.5 microns) emissions**	Reduce PM2.5 emissions by 112 kg/day**
Regional Priority Goal: Congestion Reduction		
Improve operation of signalized/unsignalized intersections	Improve/enhance signal infrastructure (replace outdated signal infrastructure, transition to adaptive signal timing technology, etc.)	3 intersections per year
	Convert top 10 unsignalized intersections to signal/roundabout control type	2 intersections per year
Reduce roadway segment miles with unacceptable LOS (LOS E or LOS F)	Miles of roadway segments that perform at LOS E or LOS F during peak periods	5% or more decrease in LOS E or LOS F mileage, year-over-year

** Not applicable, since LHMPO does not have any interstate highways*
*** Not applicable, since LHMPO does not include any EPA non-attainment areas*

Table 2.1. Objectives, Performance Measures, and Targets (Continued)

Objective	Performance Measure	Performance Target
Regional Priority Goal: Transit Mobility		
Design, implement, and maintain routes that are most responsive to the needs of the community	Implement transit service phasing recommended in the transit plan	
Increase/address the mobility needs of residents and visitors	Annual Lake Havasu Transit ridership	5%-10% increase in ridership, year-over-over
Operate transit system in a fiscally responsible and compliant manner that assures long-term sustainability	Spending per revenue service hour	Reduce $ per revenue service hour, year-over-year
	Develop 3-year operating budget	
	Apply for ADOT 5307 funding	
	Identify and apply for potential grants	
	Identify potential local partners (local businesses, colleges/universities, hospitals, etc.) and develop long-term partnerships	
	Spending per revenue service hour	
Regional Priority Goal: Bicycle and Pedestrian Mobility		
Increase percentage of roads with bicycle lanes or paved striped shoulders	Miles of bike facilities	5% or more increase mileage of bike facilities
Increase percentage of roads with safe sidewalk facilities	Miles of pedestrian facilities (sidewalks, trail paths, shared-use paths, etc)	5% or more increase mileage of pedestrian facilities

** Not applicable, since LHMPO does not have any interstate highways*
*** Not applicable, since LHMPO does not include any EPA non-attainment areas*

System Performance Report

The best laid plans often have unexpected outcomes. Therefore, plans need to be regularly evaluated to monitor progress and, if necessary, make adjustments to ensure undesired outcomes do not develop. To ensure that LHMPO 2045 RTP is successful in achieving the goals and objectives previously identified, **Table 2.2** outlines the baseline performance of the region's transportation system and current status regarding each of the performance targets shown in Table 2.1. All datasets contain the latest-available data as of December 2020. The safety statistics are based on five-year rolling averages per the Arizona Crash Information System (ACIS) database; the five-year averages of the years 2014-2018 and 2015-2019 were compared to determine progress toward the safety goals.

Table 2.2. LHMPO Performance Target Status

Performance Measure	Performance Target	Current LHMPO Status	Meets Target?
Safety			
Number of fatalities	2% or less increase in fatalities	12.5% increase	✗
Rate of fatalities per 100 million vehicle miles traveled	2% or less increase in fatality rate	10.6% increase	✗
Number of serious injuries	7% or more decrease in serious injuries	18% decrease	✓
Rate of serious injuries per 100 million vehicle miles traveled	8% or more decrease in serious injury rate	19.4% decrease	✓
Total number of non-motorized fatalities / suspected serious injuries	1% or more decrease in non-motorized fatalities / serious injuries	5.6% decrease	✓
Infrastructure Condition			
Percent of Interstate pavements in *good* condition*	4-year target of 44% or more of interstate pavements in *good* condition*	N/A	N/A
Percent of Interstate pavements in *poor* condition*	4-year target of 2% or less of interstate pavements in *poor* condition*	N/A	N/A
Percent of Non-Interstate NHS pavements in *good* condition	2- and 4-year target of 28% or more of non-interstate NHS pavements in good condition	75.2%	✓
Percent of Non-Interstate NHS pavements in *poor* condition	2- and 4-year target of 6% or less of non-interstate NHS pavements in poor condition	1.60%	✓
Percent of NHS bridges classified in *good* condition based on deck area	2- and 4-year target of 52% or more of NHS bridges in good condition	N/A	N/A
Percent of NHS Bridges classified in *poor* condition based on deck area	2- and 4-year target of 4% or less of NHS bridges in poor condition	N/A	N/A
System Reliability			
Percent of person-miles on interstate with reliable travel times*	4th year (Y2022) target of 85.8% of person-miles on interstate have reliable travel times*	N/A	N/A
Percent of person-miles on non-interstate NHS with reliable travel times	4th year (Y2022) target of 74.9% of person-miles on non-interstate NHS have reliable travel times	100%	✓
Improve interstate truck travel time reliability index*	4th year (Y2022) target of 1.35 interstate truck travel time reliability index*	N/A	N/A
Environmental Sustainability			
Reduce volatile organic compounds (VOC) emissions**	Reduce VOC emissions by 385 kg/day**	N/A	N/A
Reduce carbon monoxide (CO) emissions**	Reduce CO emissions by 6,985 kg/day**	N/A	N/A
Reduce nitrogen oxide (NOx) emissions**	Reduce NOx emissions by 761 kg/day**	N/A	N/A
Reduce particulate matter (<10 microns) emissions**	Reduce PM10 emissions by 1,399 kg/day**	N/A	N/A
Reduce particulate matter (<2.5 microns) emissions**	Reduce PM2.5 emissions by 112 kg/day**	N/A	N/A

** Not applicable, since LHMPO does not have any interstate highways*
*** Not applicable, since LHMPO does not include any EPA non-attainment areas*

3. THE LHMPO REGION TODAY

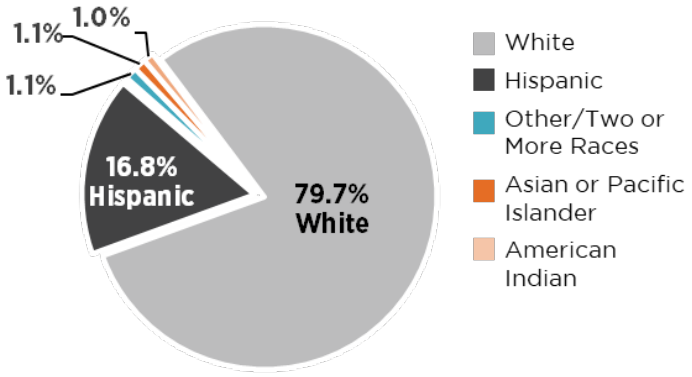
This section presents a summary of existing socioeconomics, land use patterns, and economic characteristics and trends that sets a baseline for evaluating the region's transportation system.

The LHMPO Region at a Glance

Located along the shores of the Colorado River, the Lake Havasu MPO region has transformed from a once sleepy desert town to a thriving diverse community that attracts millions of tourists a year. Known as Arizona's Playground, the region attracts a diverse socioeconomic, ethnic, and generational visitors and residents.

- **Total Population (Year 2020):** 60,364
- **Female Population:** 50.4%
- **Minority Population:** 20.3%
- **Total Housing Units:** 37,872
- **Occupied Housing Units:** 27,547
- **Average Commute Time:** 19.5 minutes

Population by Race

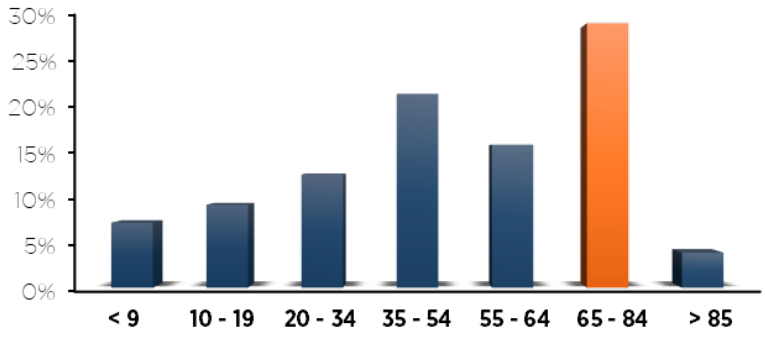


We are Changing…

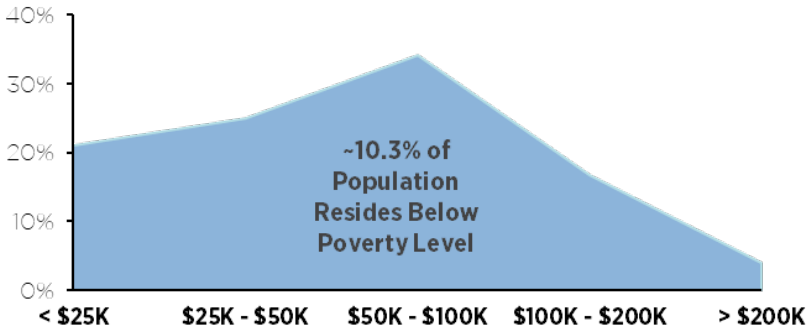
According to the 2019 US Census Bureau American Community Survey:

- **We are Getting Older:** Since 2010, our median age has increased from 47.5 to 54.6 years of age. Over 14 percent of residents in the LHMPO region, however, are under 21 years old today.
- **We Have More Money:** Since 2000, our median household income has increased by over 46.8 percent! Rising from $36,499 in 2000 to $53,605 in 2019.
- **Our Commute Is Changing:** Single driver commuters have increased to 79.6 percent from 78.5 percent in 2000. Our commute time has also increased from 16.9 minutes in 2000 to 19.5 minutes in 2019.

Population by Age



Household Income



Source: U.S. Census Bureau, ACS 2019 5-year Estimates

Where We Live

According to the US Census Bureau, LHMPO has steadily increased in population since 2000. This growth and maturing urban development, however, not only creates opportunities, but it poses challenges to our transportation network. Understanding where growth is greatest is imperative to creating a plan that manages the increased demands on our transportation system.

We are Growing

Since 2000, the region's population has increased by over 36 percent. As illustrated in **Figure 3.1 and 3.2**, much of this increased population is due to infill development and major developments in the urban fringe, particularly in the Foothills area east of Lake Havasu City. While Lake Havasu City is nearing buildout due to surrounding physical constraints, unincorporated Mohave County areas to the north are seeing a significant increase in population and housing. Understanding where new housing and employment growth occurs is useful for defining what types of transportation services will be necessary to support both quality of life and economic stability.

Population Through the Years

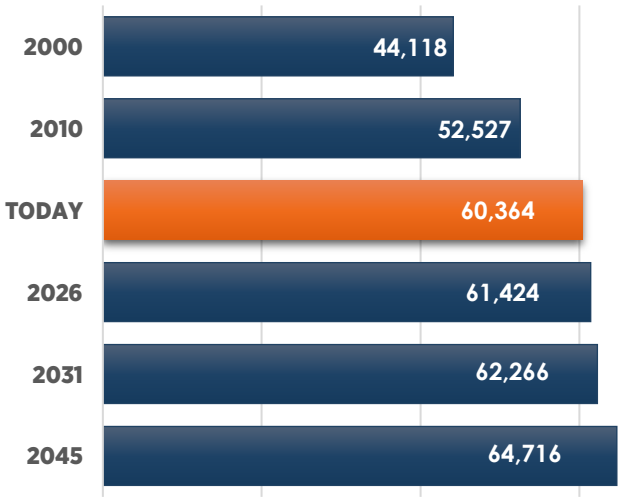
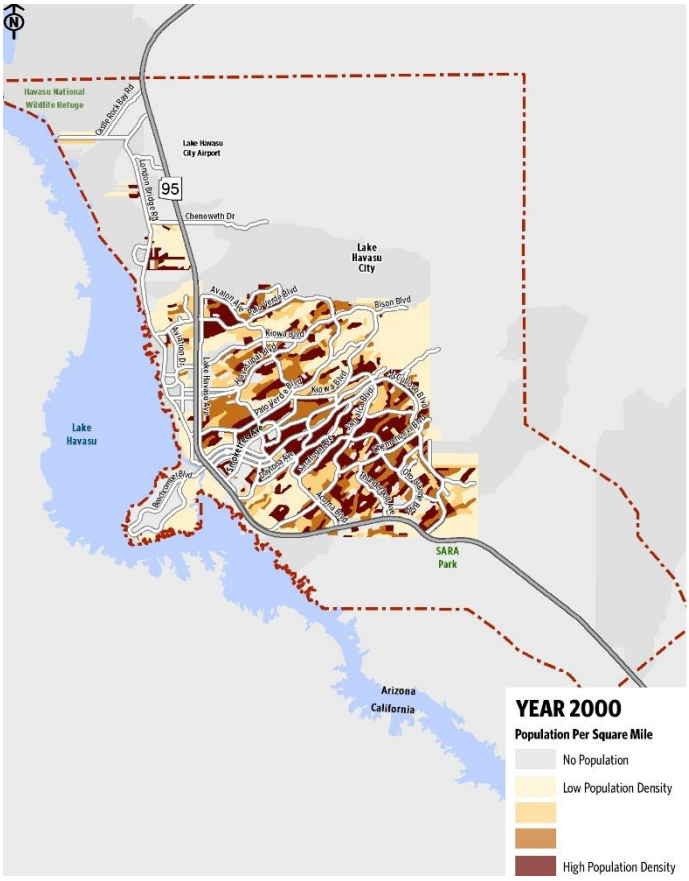


Figure 3.1. Population Growth (Census 2000 – 2010) by Census Block



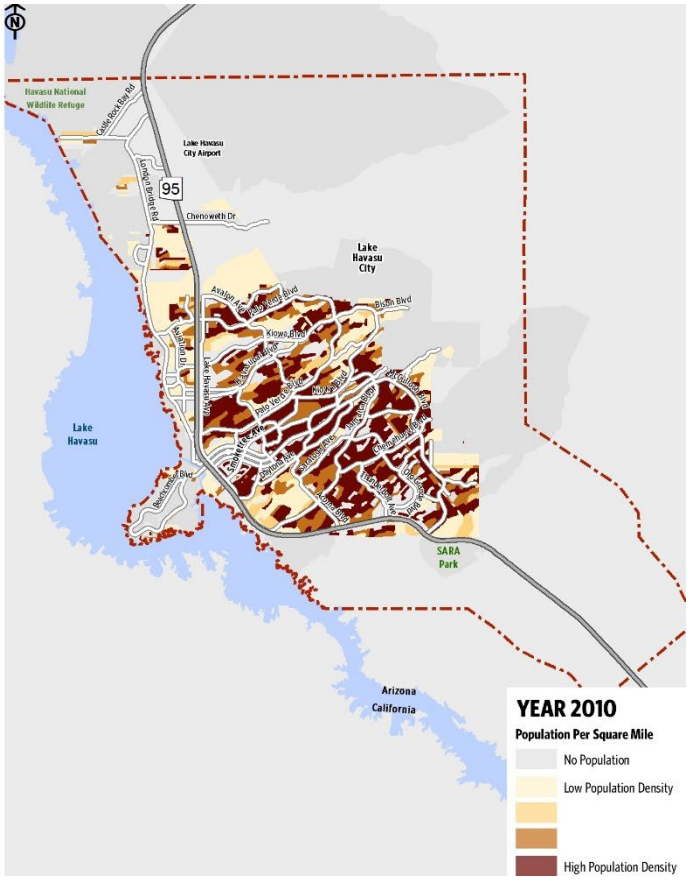
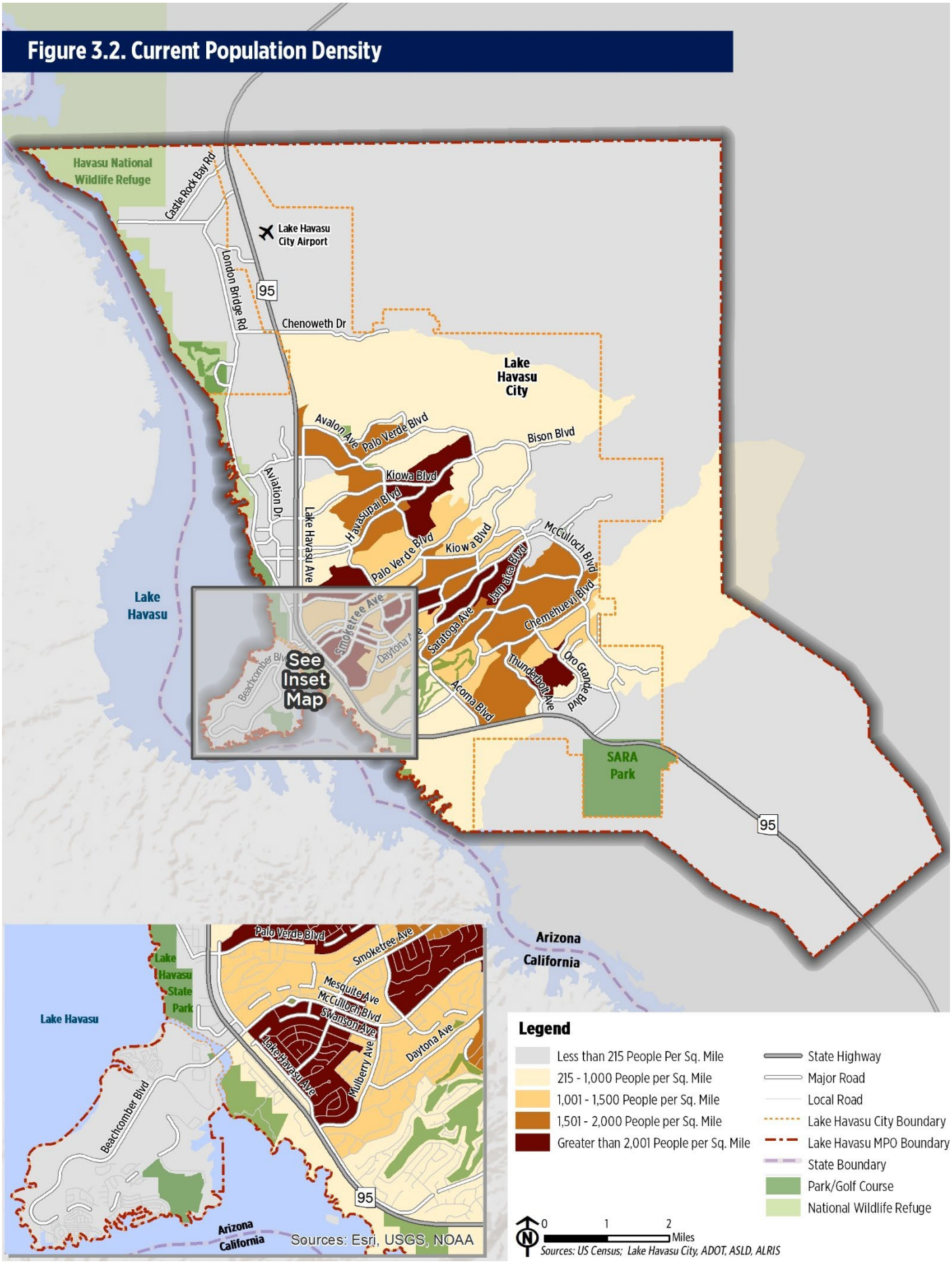


Figure 3.2. Current Population Density



Where We Work

As the region's transportation system is developed, and as projects are identified and prioritized for funding, access to major employment centers should be considered. Employment centers' access to safe and reliable transportation systems will enable and encourage these employers to expand and new employers to relocate to the LHMPO region. As illustrated in **Figure 3.3,** employment opportunities can be found throughout the region. In total, there are over 860 employers that employ over 20,373 people. **Table 3.1** outlines the top employers within the region. Tourism, retail, accommodation and food service, and health care and social services are the primary drivers of the LHMPO economy.

Table 3.1. Top Employers in the LHMPO Region Today

Employer	Activity	Number of Employees
Havasu Regional Medical Center	Health Care	650
Lake Havasu City	Government	570
Lake Havasu Unified School District 1	Education	520
Sterlite Corporation	Manufacturing	300
Wal-Mart	Retail	270
London Bridge Resort, LLC	Hospitality	250

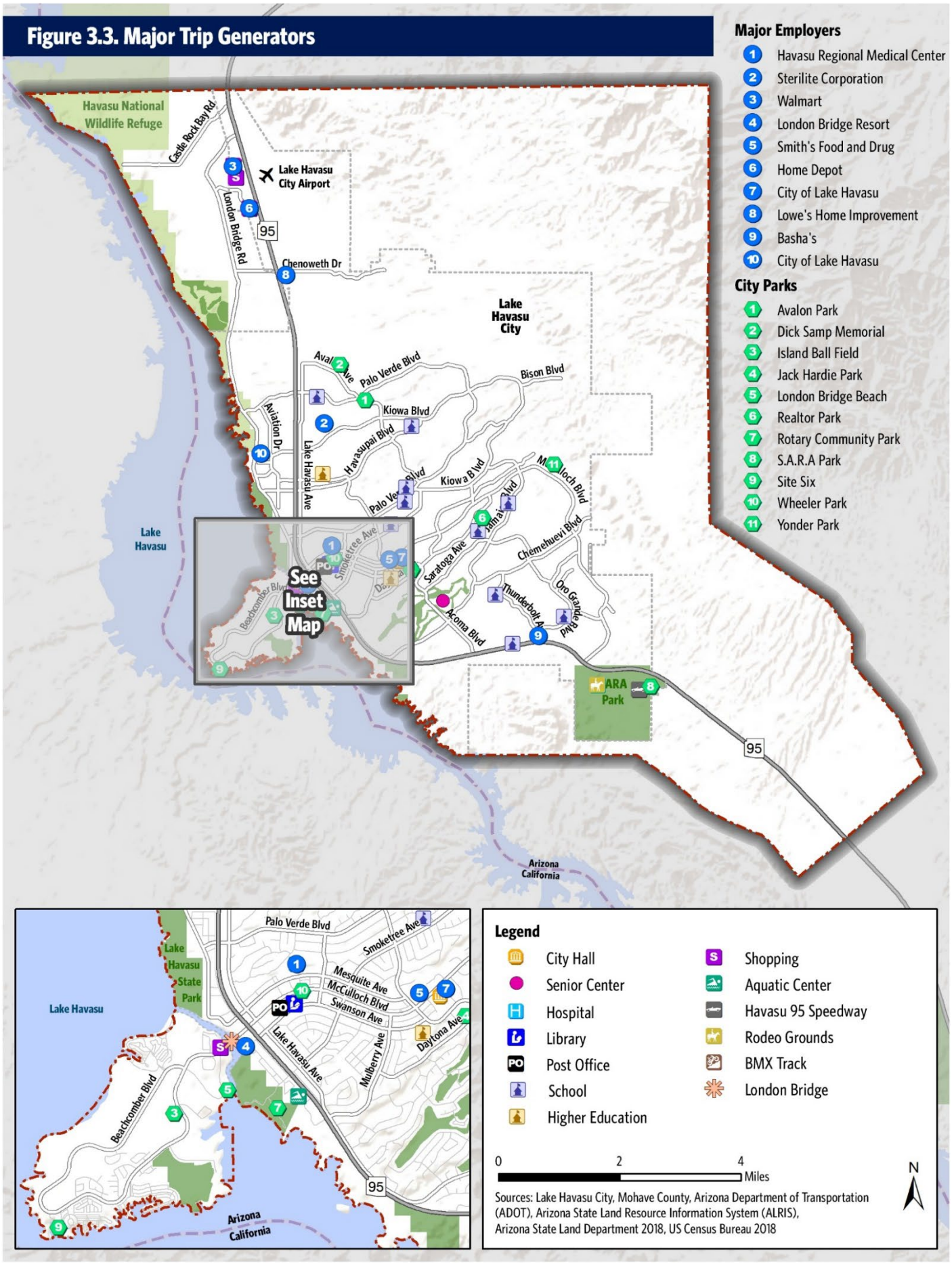
Source: MAG 2019 Arizona COG/MPO Employer Database

Where We Shop, Play, and Learn

Activity centers are vibrant community hubs and key destinations and transportation generators for people to work, play, live, and learn. Activity centers generally include a wide variety of land uses including shopping/retail areas, commercial, hospital, and education centers. Many of these key destinations are clustered together to form larger community hubs. Understanding where key activity centers are located is imperative to developing a transportation system that conveniently connects major transportation generators through a variety of modes. **Figure 3.3** illustrates major activity centers and transportation generators in the region, including:

- **K-12 Schools.** In total, there are 10 public K-12 schools in the region. Providing comfortable walking and biking facilities to these schools is critical since many children are likely to have short commutes that could be converted to walking or biking trips.
- **Higher Education.** Arizona State University Lake Havasu Campus, with over 150 students a semester, in Lake Havasu is increasing in popularity. Mohave County Community College (MCC) is a thriving campus that serves over 1,400 students from Lake Havasu and surrounding communities.
- **Health Care Facilities.** Havasu Regional Medical Center is one of the largest healthcare facilities in the County and also one of the largest employers in the region.
- **Commercial Centers.** Major retail centers are located near most major subdivisions and along major roadways. Grocery stores or big-box retailers are typically the anchor store for these centers. Providing direct and convenient multimodal transportation connections between major residential communities and key activity centers can create opportunities to connect a large number of residents to the places they need to travel.
- **Tourist and Recreation Sites.** The LHMPO region has a plethora of tourist and recreational opportunities, including the English Village, downtown Lake Havasu, the Aquatic Center, S.A.R.A Park, and the Lake Havasu State Park (the busiest state park in Arizona).

Figure 3.3. Major Trip Generators



Our Social Needs

Often, transportation and land use decisions place unfair burdens on disadvantaged communities. Conducting an analysis of traditionally underserved populations helps identify locations with high concentrations of people or groups who may not be physically or financially capable of owning or driving a vehicle and rely on walking, riding bicycles, and transit to meet their daily travel needs.

Disadvantaged Population Groups in the LHMPO Region

Table 3.2. Disadvantaged Population Groups in the LHMPO Region

Area	Age 18 and Under	Age 65 and Older	Minority	Population with a Disability	Population Living Below Poverty	Household with No Vehicles Available
Arizona Statewide	**23.2%**	**17.1%**	**45.3%**	**13.0%**	**15.1%**	**6.2%**
Lake Havasu City	29.0%	33.1%	20.3%	19.6%	10.3%	4.0%
Desert Hills CDP	33.5%	38.8%	20.8%	27.2%	7.8%	9.6%
Crystal Beach CDP	0%	48.9%	16.1%	48.2%	10.2%	0%

Source: US Census Bureau, American Community Survey 2015 – 2019 5 Year Estimates

As shown in Table 3.2, the LHMPO region has a significant higher rate of elderly and population with a disability in comparison to statewide averages. Desert Hills CDP also has a much higher percentage of households without access to vehicles that the statewide average. Several grant programs, including FTA grants and the RAISE grant, the USDOT classifies "areas of persistent poverty" that identify areas that have historically experienced significant poverty levels. The LHMPO region does not qualify as an area of persistent poverty.

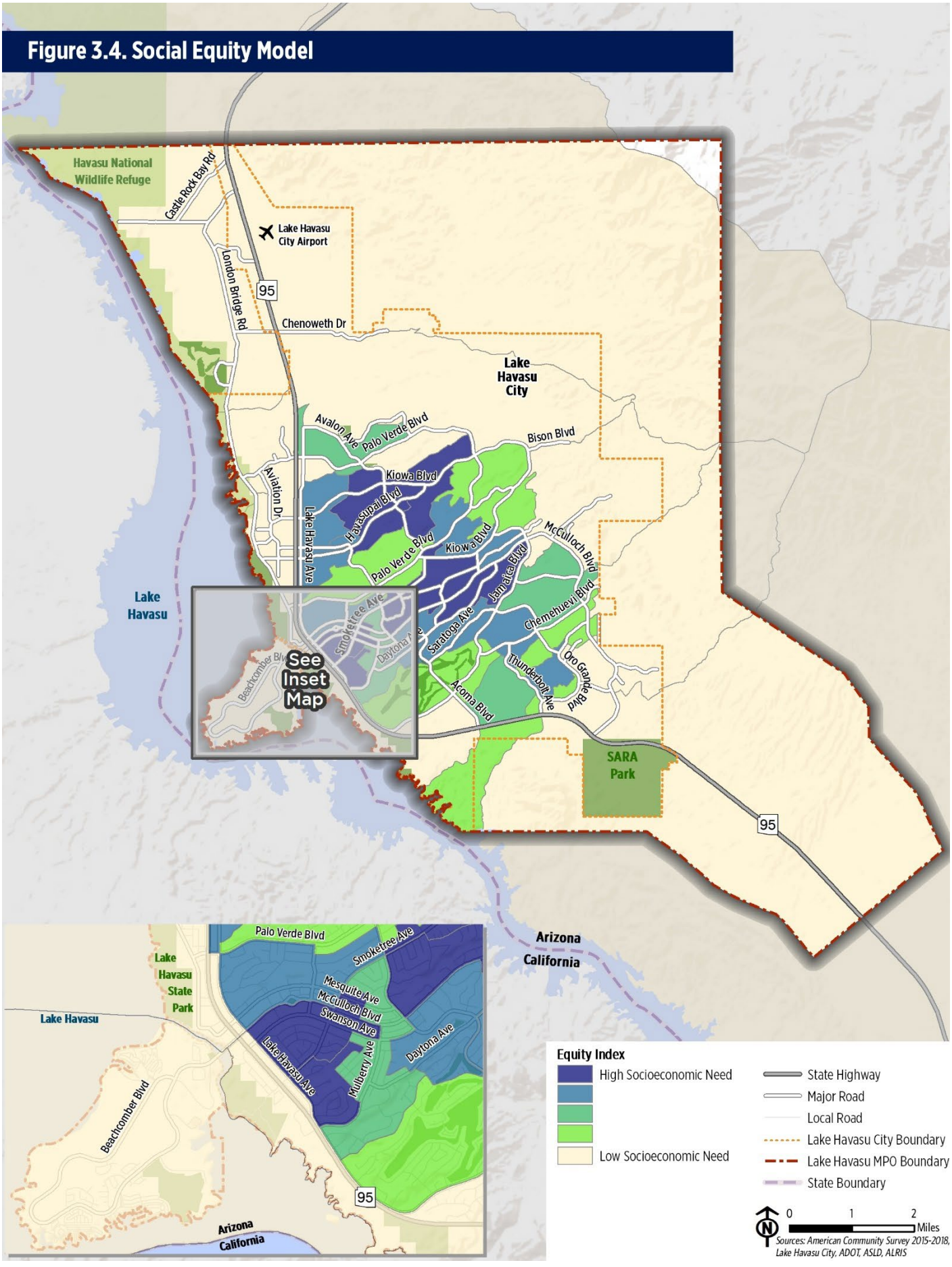
Socioeconomic Equity Model

A socioeconomic equity model was developed to identify areas with high percentages of population groups that traditionally rely on walking, riding bicycles, and using transit as their primary means of transportation. The socioeconomic equity model identified levels of socioeconomic need based on combined densities of the following indicators:

- **Age:** children and elderly populations
- **Communities of Color:** minority populations
- **Disabled Populations:** persons that have cognitive, visual, and physical disabilities
- **Low-Income:** households that are financially less likely to own a vehicle
- **Vehicle Ownership:** households with limited or no access to a vehicle

To create the index score, each Census block group was assigned a score between 1 to 5 based on the level of density of each transit dependent population group. For example, a block group with a high density of older adults will receive a score of 5, whereas, if the block group has a low density of youth, it would receive a score of 1. After assigning each block group a score, the score for each characteristic is summed, resulting in a number from 6 to 30, called the "Social Equity Index." **Figure 3.4** illustrates the results of the social equity model.

Figure 3.4. Social Equity Model



4. DRIVING IN THE LHMPO REGION

This section outlines existing roadway characteristics and conditions in the Lake Havasu MPO region. This analysis sets a baseline for comparing how potential roadway improvements will address existing and future transportation needs and issues.

The LHMPO Street System

Functional Classification

Functional classification is the process by which streets and highways are grouped into classes or systems according to the character of service they are intended to provide. All vehicle trips include two distinct functions: mobility and land access. Functional classification is a hierarchy of roadway classes based on their role in providing access and mobility. The region uses five primary classifications: principal arterial, arterial, major collector, minor collector, and local roads. To access federal funding, roads must be federally functionally classified as collector or higher. Local streets are not eligible for federal funding.

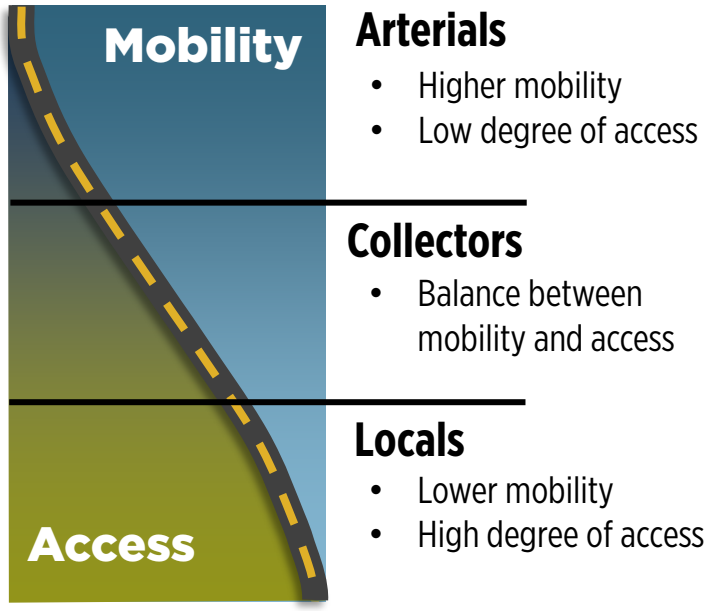


Figure 4.1 illustrates the functional classification of the street system in the LHMPO region per the Arizona Department of Transportation (ADOT). **Table 4.1** summarizes how much of the region's system is in each functional class. As shown in the figure, the LHMPO planning area is comprised of a network of arterials, collectors, and local roadways that intercross SR-95, the backbone of the LHMPO transportation system.

Table 4.1. Functional Classification of Study Network

Functional Classification	Mileage	Percentage
Principal Arterial	19.0	15.7%
Minor Arterial	9.2	7.6%
Major Collector	53.0	43.8%
Minor Collector	32.1	26.5%
Local*	7.8	6.4%

** In the table above, only local roads that are part of the Regionally Significant Routes (RSR) network are included. Overall mileage of all local roads is significantly higher than 7.8 miles.*

Travel Lanes

Figure 4.2 illustrates the number of lanes of the LHMPO region's street system. The figure represents the general number of through lanes, and there may be short sections with more lanes where development has occurred or fewer lanes due to development patterns. The number of lanes provided at individual intersections also varies. There are locations where additional through and/or turn lanes exist to improve intersection capacity. Key findings include:

- Two-lane roadways account for 79.4 percent of the study network.
- Arterial roadways are primarily 4 lanes and collectors are largely 2 lanes.
- Center turn lanes are located on major collectors throughout the study area.
- Majority of roadways include a wide paved shoulder that doubles up as a bike lane (undesignated) and parking area.

Figure 4.1. Functional Classification

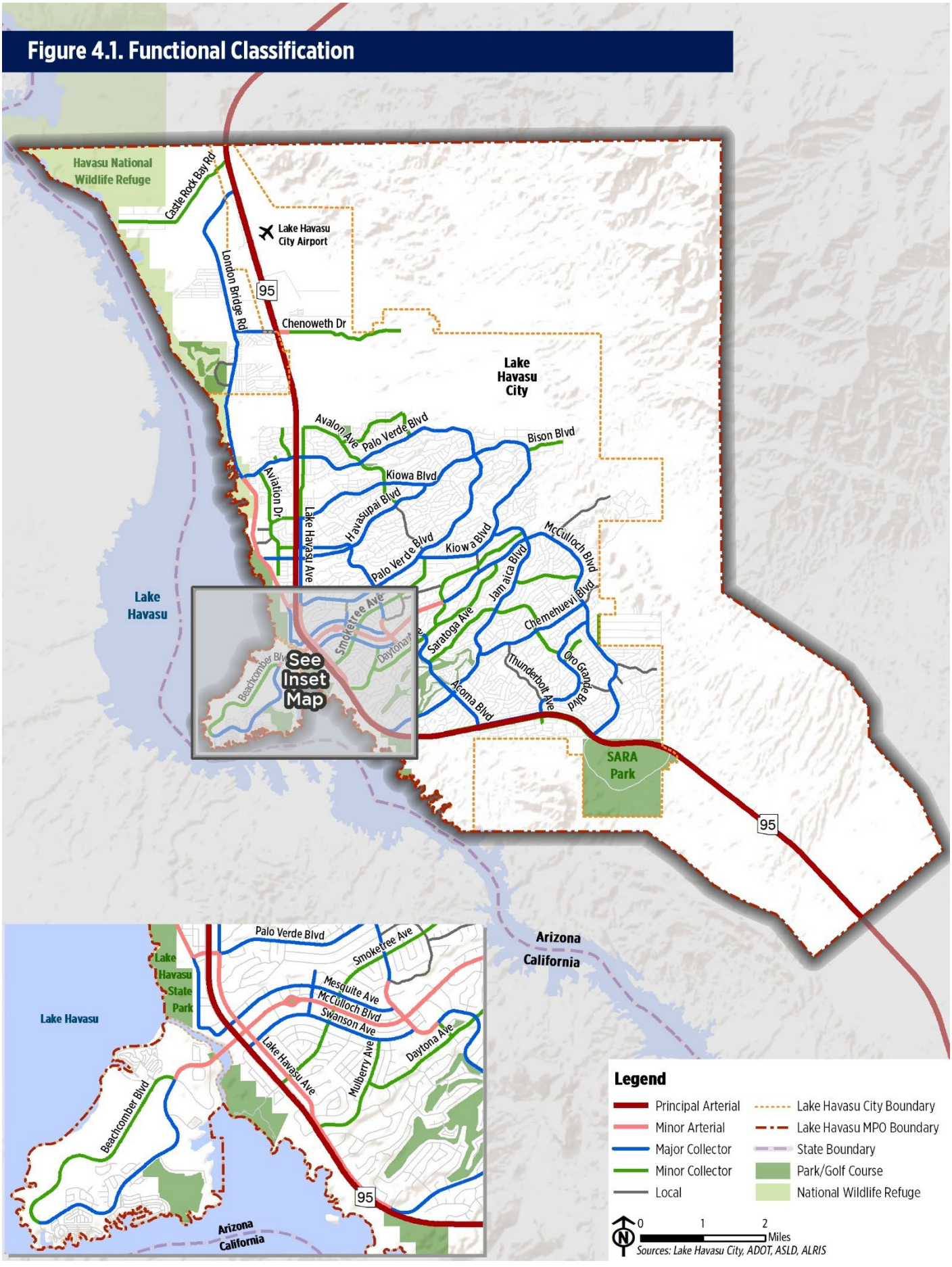
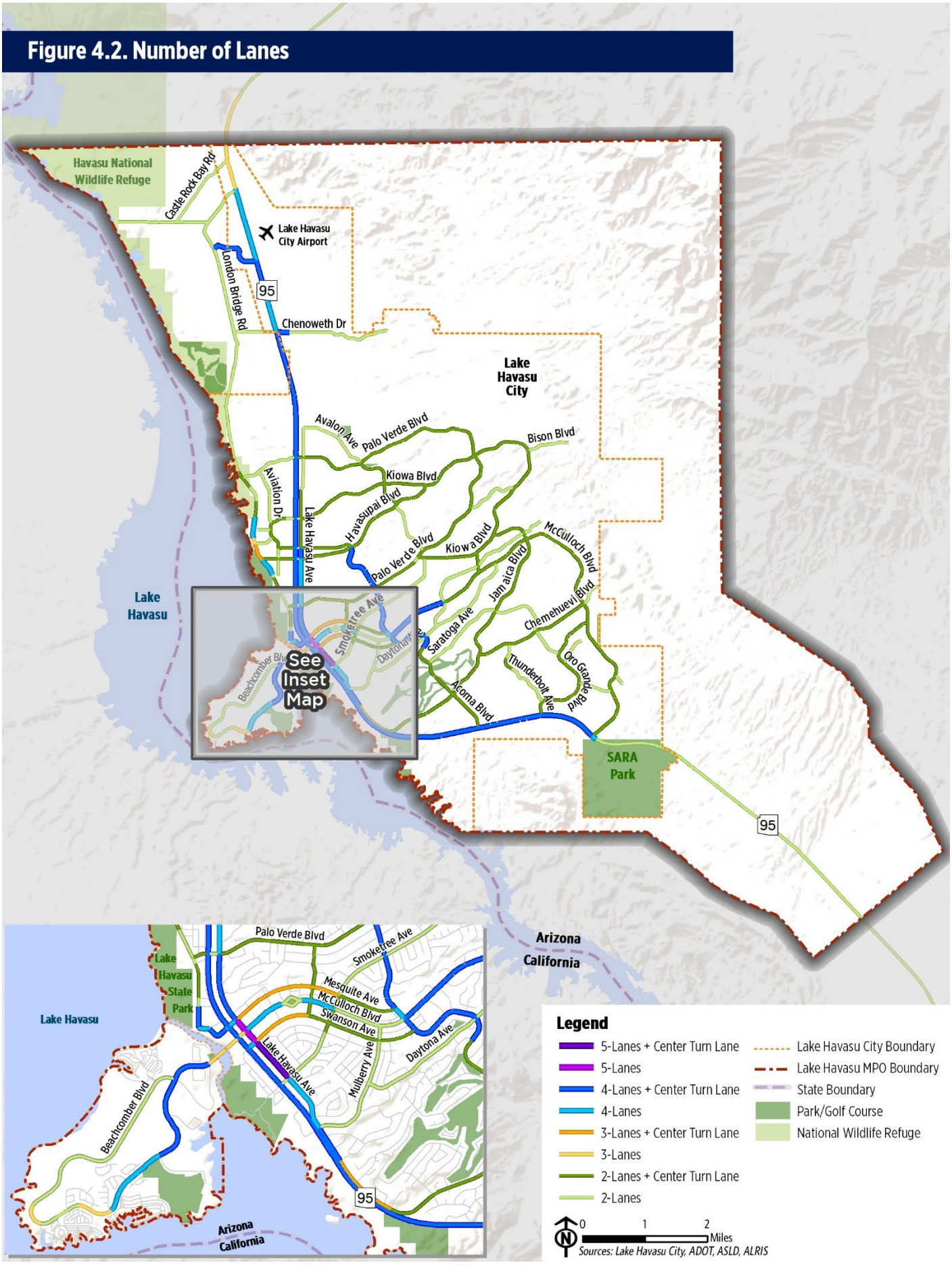


Figure 4.2. Number of Lanes



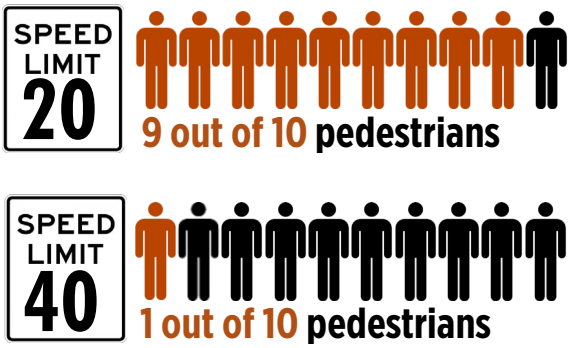
Posted Speed Limit

The speed limit of a corridor not only impacts traffic flows, but it also can be a critical factor in the number and severity of crashes. Speed impacts crash severity in many ways. At higher speeds, a driver's peripheral vision is reduced, and a car's stopping distance is greater. As shown on the right, the likelihood that a pedestrian hit by a vehicle will survive sharply decreases when speeds increase.

To determine the posted speed limits of study corridors, speed limits were compiled from readily available GIS data from the LHMPO and via a Google Street View review of conditions. **Figure 4.3** and **Table 4.2** outlines current posted speed limits. Findings show:

- Posted speed limits vary from 25 to 55 MPH and 65 MPH after the airport
- Due to the nature of corridors, the majority of streets in the region have a posted speed limit of 35 MPH or less.

Impact of Speed on Pedestrian Survival



Source: Dangerous by Design

Table 4.2. Posted Speed Limits

Posted Speed Limit	Mileage	Percent of System
25 MPH	37.4	30.9%
30 – 35 MPH	58.9	48.6%
40 – 45 MPH	5.8	4.8%
50 MPH or Higher	19.0	15.7%

Traffic Control

Together, traffic control devices help manage the movement of people and goods in an efficient manner. Traffic control devices include:

- **Traffic Signals:** Controls the flow of vehicles on the roadway network. Improving traffic signal timing can increase mobility and reduce overall congestion.
- **Traffic Signs:** A STOP or YIELD sign alerts drivers to come to a complete stop or yield at intersections.

Figure 4.4 illustrates the location of traffic signals on the study network. Understanding access points to the study network helps to identify corridors that may benefit from access management.

Regionally Significant Routes

To assess the LHMPO region in greater detail than the traditional approach of only assessing core high-capacity roadways, a set of regionally significant routes were identified. These routes represent corridors that provide important regional mobility and connectivity in and through the LHMPO region. The regionally significant routes were determined through the following assessment criteria:

- **Functional Classification**—A regionally significant route needs to meet a minimum threshold of a collector route. Small segments of local roads may be included if they help connect key roadways.
- **Route Continuity**—A regionally significant route needs to provide longitudinal access to the region. Routes with frequent termini and/or short end-to-end lengths were disqualified from consideration.
- **Criteria Access/Destination Points**—A regionally significant route needs to provide critical access to one or more regional destinations within the LHMPO region, including employment centers, tourist sites, recreational sites, prominent residential locations, and commercial activity zones.

Following the identification of regionally significant routes using the assessment criteria, the core Technical Advisory Committee (TAC) was given an opportunity to provide feedback to ensure that each member agency's regional routes were reflected accordingly. Following TAC approval, individual corridors were selected as regionally significant routes, as shown in **Figure 4.5**.

Figure 4.4. Traffic Control

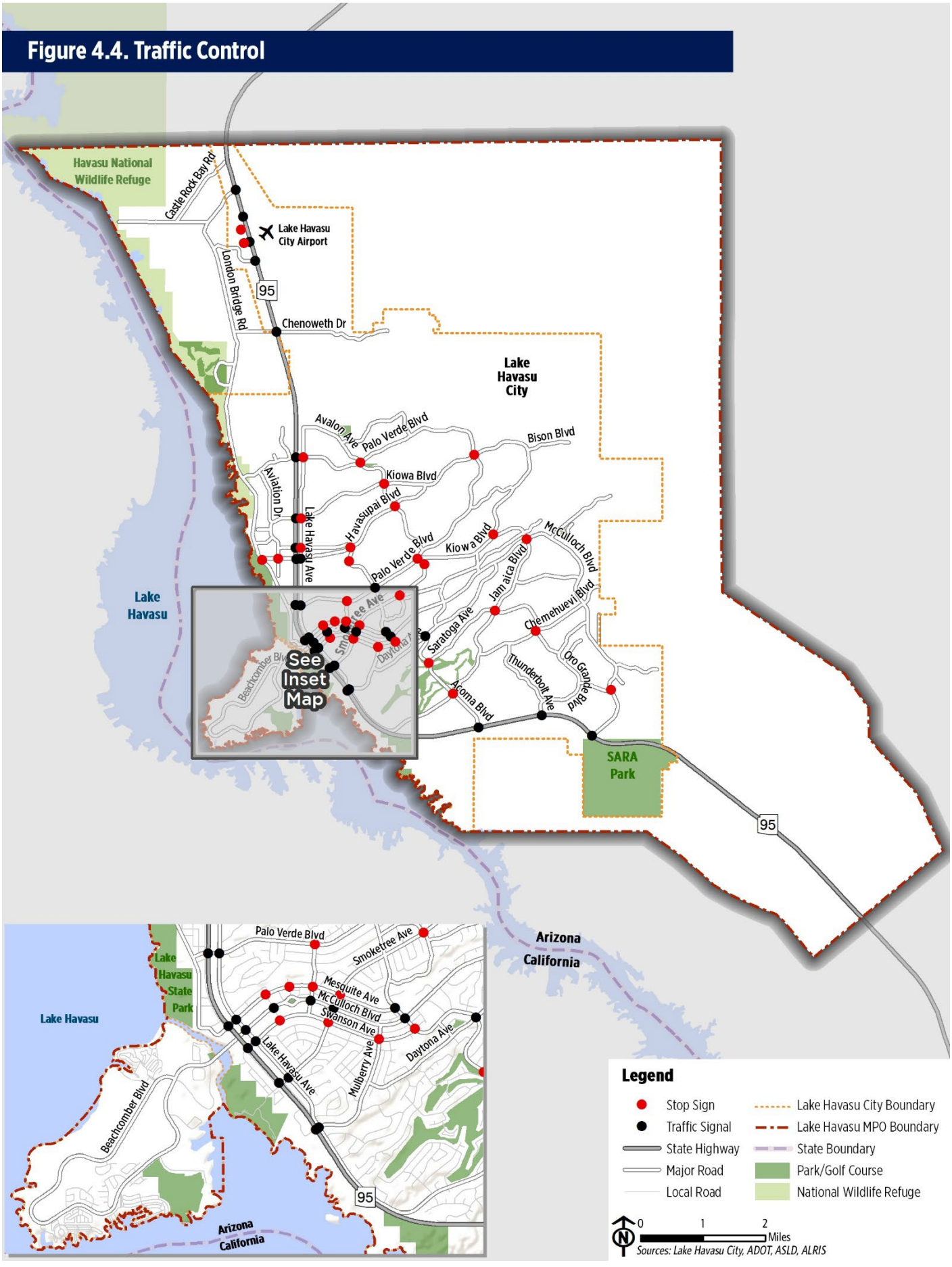


Figure 4.4. Traffic Control

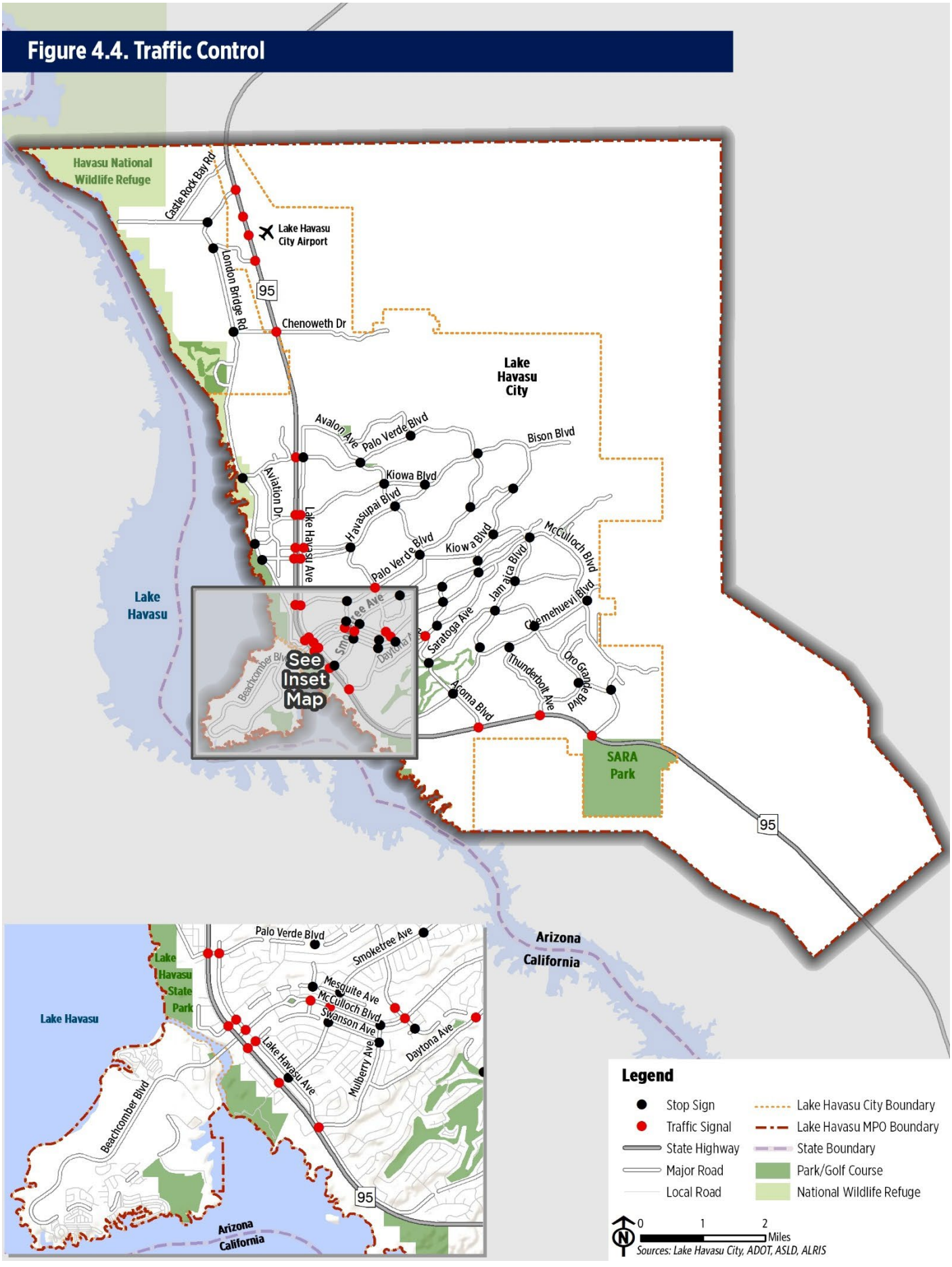
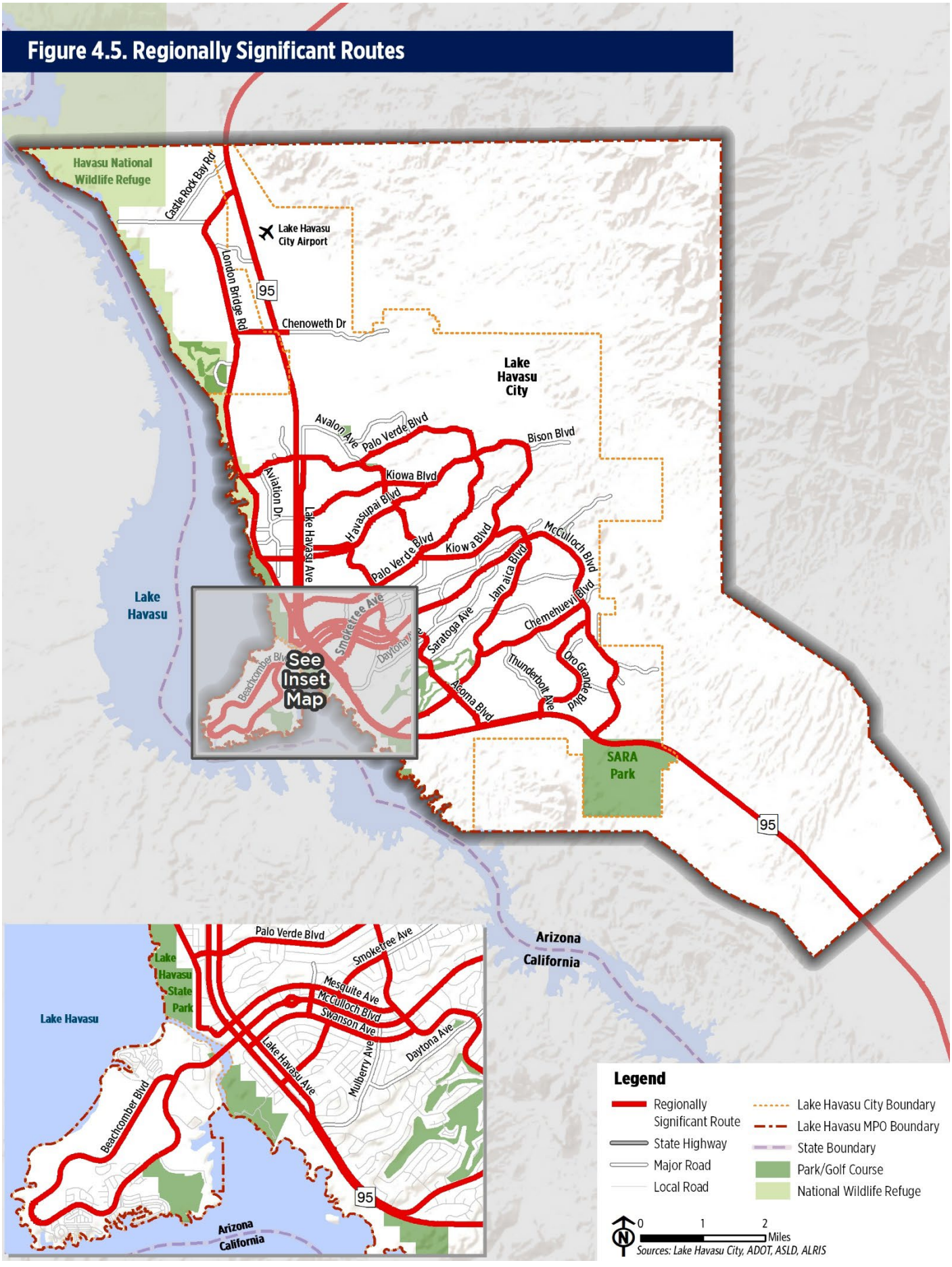


Figure 4.5. Regionally Significant Routes



System Management

The region has made a tremendous investment in our transportation network, and maintaining these facilities in good working order is no small task. This essential maintenance not only provides the public with safe infrastructure, but it also reduces costly repairs.

Pavement Condition

Pavement quality is a fundamental element of identifying transportation asset condition. Since pavement deteriorates over time, and can be exacerbated by higher traffic volumes, weather, and heavy truck usage, it is important to note that pavement condition represents a snapshot of time when the condition of the pavement was assessed. Given that the LHMPO's study network crosses multiple jurisdictions, a variety of pavement condition assessments have taken place. Pavement data collected for this plan included:

- ADOT collects a series of pavement rating data, including the international roughness index (IRI), which measures the rutting and cracking percentage. For this pavement assessment, the 2019 collected IRI values were used to determine the pavement quality on SR-95.
- Lake Havasu City has captured pavement condition index (PCI) to assess the quality of pavement on their maintained roadways.
- Mohave County recently completed a Pavement Management System Study, which used an automated distress survey to assess the PCI of Mohave County maintained roadways.

In order to standardize the different reporting methodologies, a good, fair, and poor range was applied to each standard. **Figure 4.6** illustrates the current pavement conditions. As illustrated in the figure, a majority of the regionally significant roads are in good to fair condition.

Structures

Maintaining bridges and culverts in a state of good repair is essential for preserving mobility and connectivity. Weight limits or closures on structurally deficient bridges negatively impacts freight and traffic movement. ADOT performs all bridge and culvert inspections across the entire state, regardless of route ownership or classification through the structure inventory and appraisal process. There are currently 77 structures in the LHMPO region, which includes bridges, culverts, overpasses, and underpasses. **Figure 4.7** illustrates the location and condition of structures along the study network. It is important to note that the construction year and/or age of the structure does not reflect more recent reconstructions or bridge improvements. It's important to note that any structures in the National Bridge Inventory are subject to inspection.

Figure 4.6. Pavement Conditions

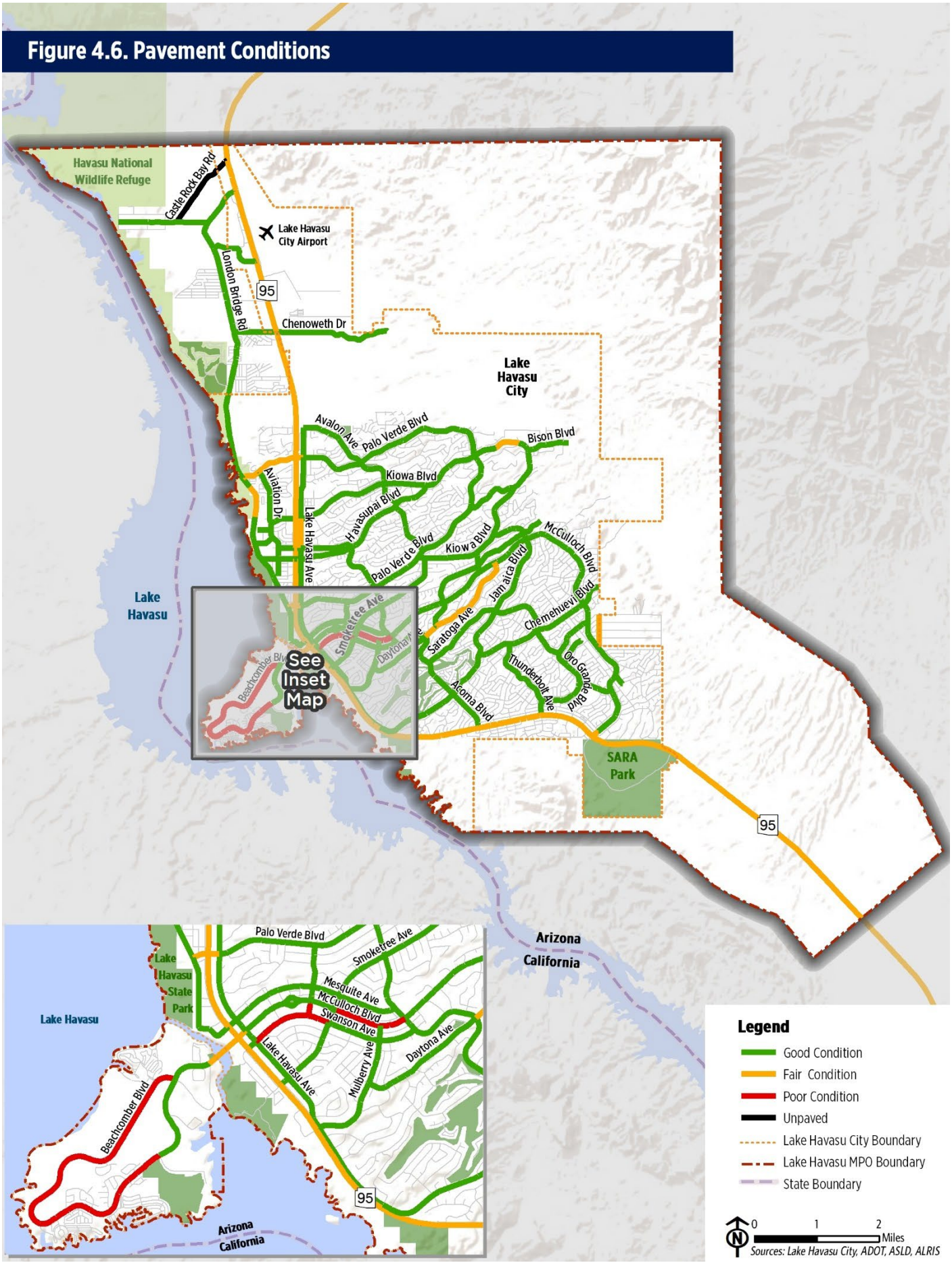
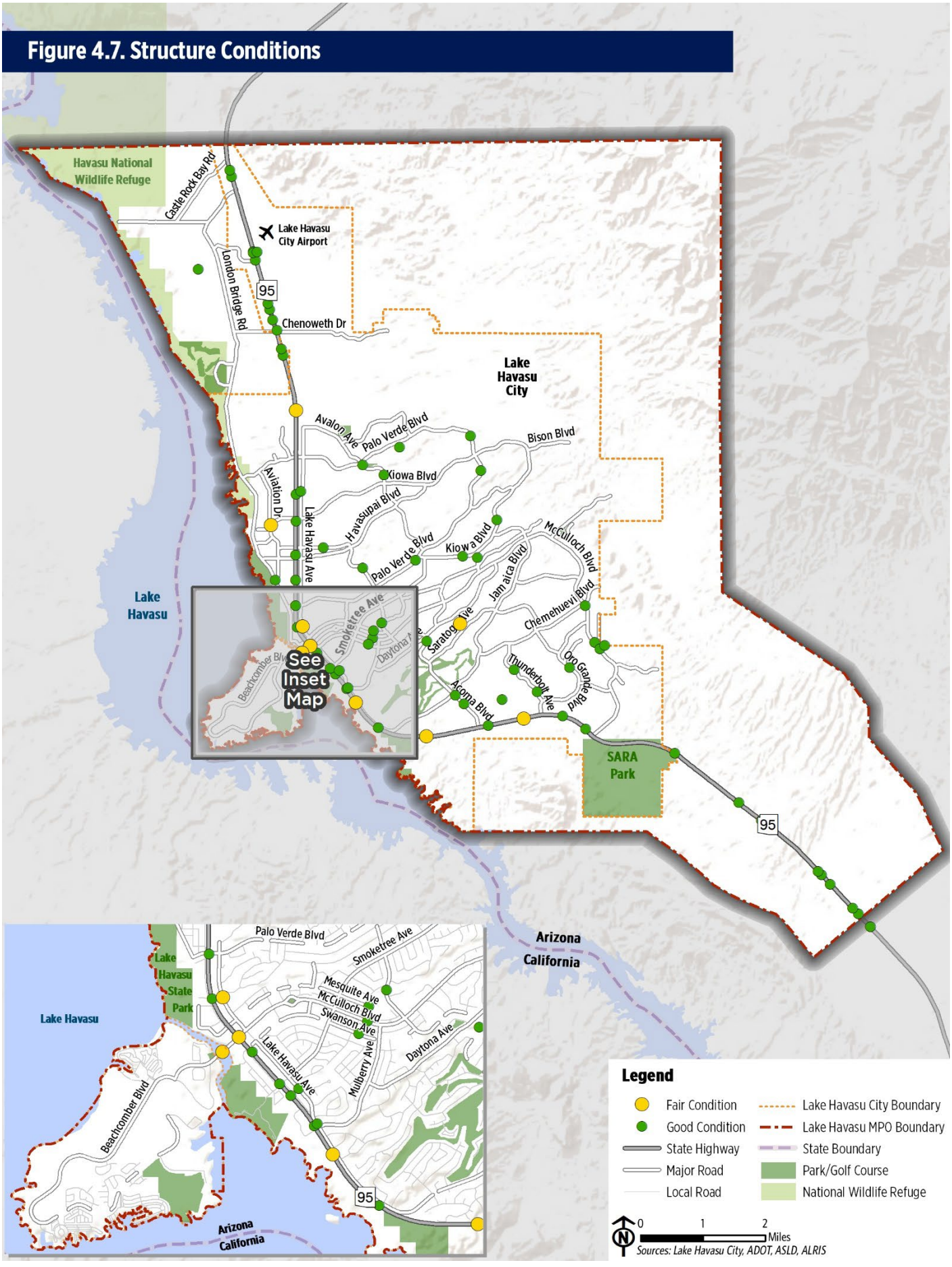


Figure 4.7. Structure Conditions



System Performance

A road's performance is often evaluated using a level of service (LOS) methodology, a traditional metric used by transportation professionals and agencies for several decades. LOS, however, is only reflective of relative vehicular traffic flow and is not an accurate predictor of how motorists feel when traveling on streets. For instance, a collector road with an active street environment surrounded by dense mixed use naturally attracts traffic, creating a poor LOS rating; a local roadway within an area with closed businesses and blight conditions may score a good LOS rating. This section reviews roadway performance using LOS and additional metrics that are reflective of user experience.

Traffic Volumes

Traffic volumes are an important variable in understanding the function of a corridor. Current daily traffic volumes were obtained from LHMPO and ADOT where available. A countywide LHMPO regional travel demand model was developed, calibrated, and validated as part of this plan. **Figure 4.8** illustrates existing traffic volumes in the LHMPO region today based on the travel demand model. Findings show that the highest traffic volumes are located primarily on segments of SR 95, Acoma Boulevard, Palo Verde Boulevard, Mesquite Avenue, McCulloch Boulevard, Lake Havasu Avenue, and Swanson Avenue. Higher volume doesn't necessarily mean higher congestion. Most high-volume roadways have higher number of travel lanes.

Level of Service

Level of Service (LOS) is a term used to describe traffic operations. Level of Service can be calculated for the various elements of a street system including road segments, signalized intersections, and unsignalized intersections. The various levels of service range from LOS A (free flowing traffic) to LOS F (forced flow, or very congested), and are described as:

- **LOS A:** free flow with low volumes and no delays.
- **LOS B:** stable flow with speeds restricted by travel conditions and with minor delays.
- **LOS C:** stable flow with speeds and maneuverability controlled because of higher volumes. Speed and maneuverability are severly restricted and the driver or pedestrian's experience is generally a poor level of comfort or convenience.
- **LOS E:** operating conditions at or near the capacity level. All speeds are reduced to a low but relatively uniform value. LOS E is unstable and can quickly deteriorate to LOS F.
- **LOS F:** forced flow with very low speeds caused by traffic volumes exceeding the capacity of the corridor. Users experience long delays with stop-and-go traffic.

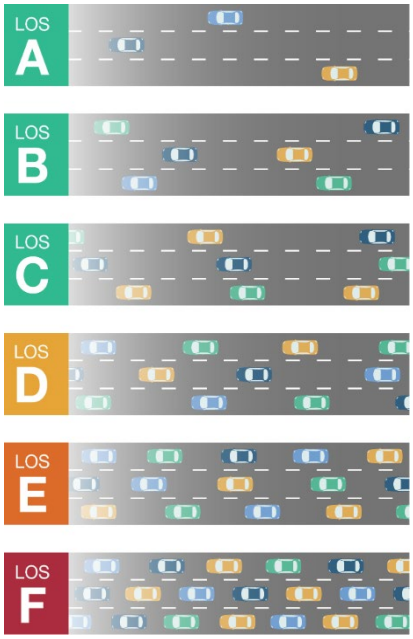


Figure 4.9 illustrates existing LOS in the LHMPO region today. As illustrated in the figure, some corridor segments operate at a LOS D or worse, including portions of Acoma Boulevard and McCulloch Boulevard.

Figure 4.8. Daily Traffic Volumes

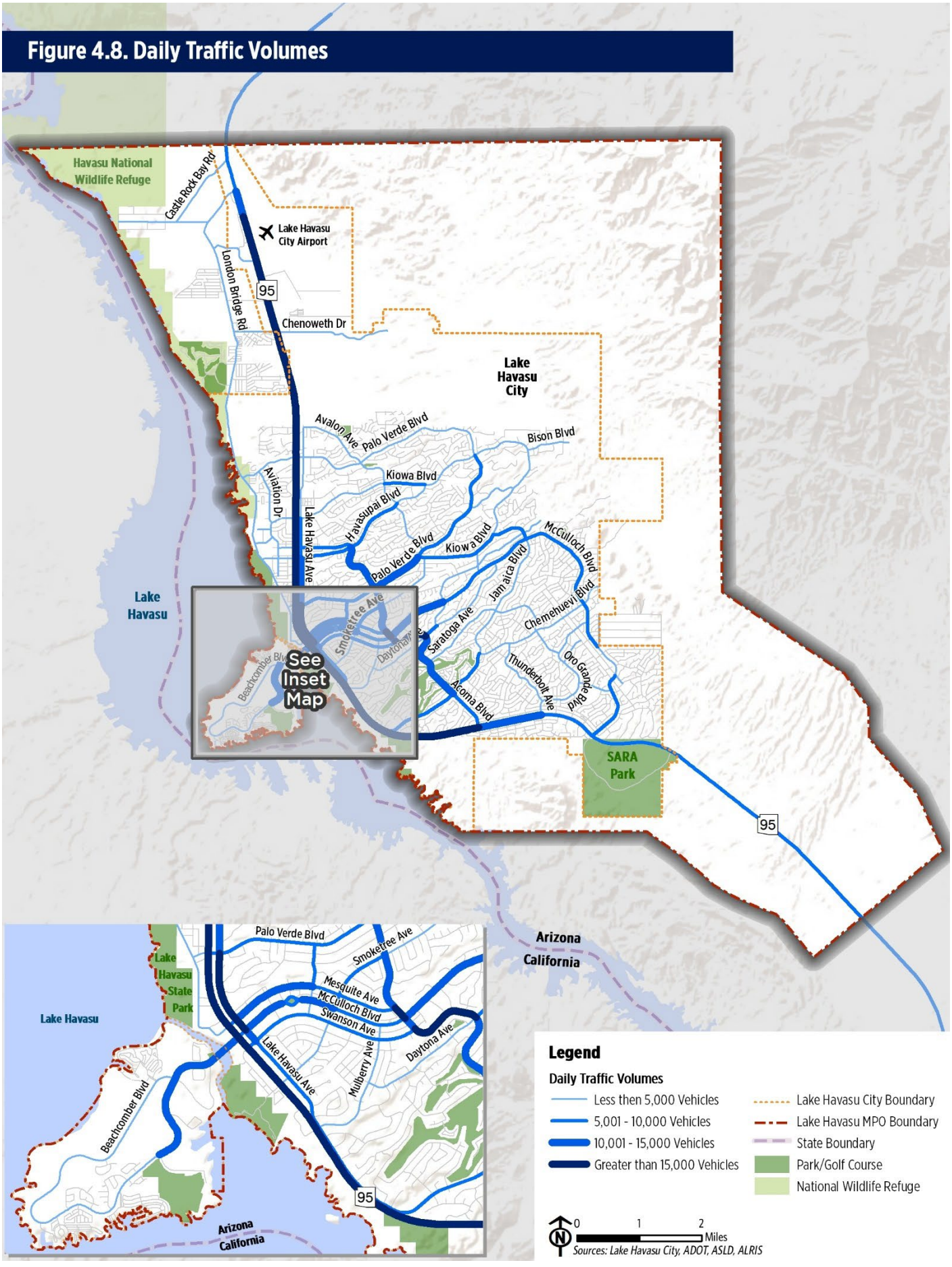
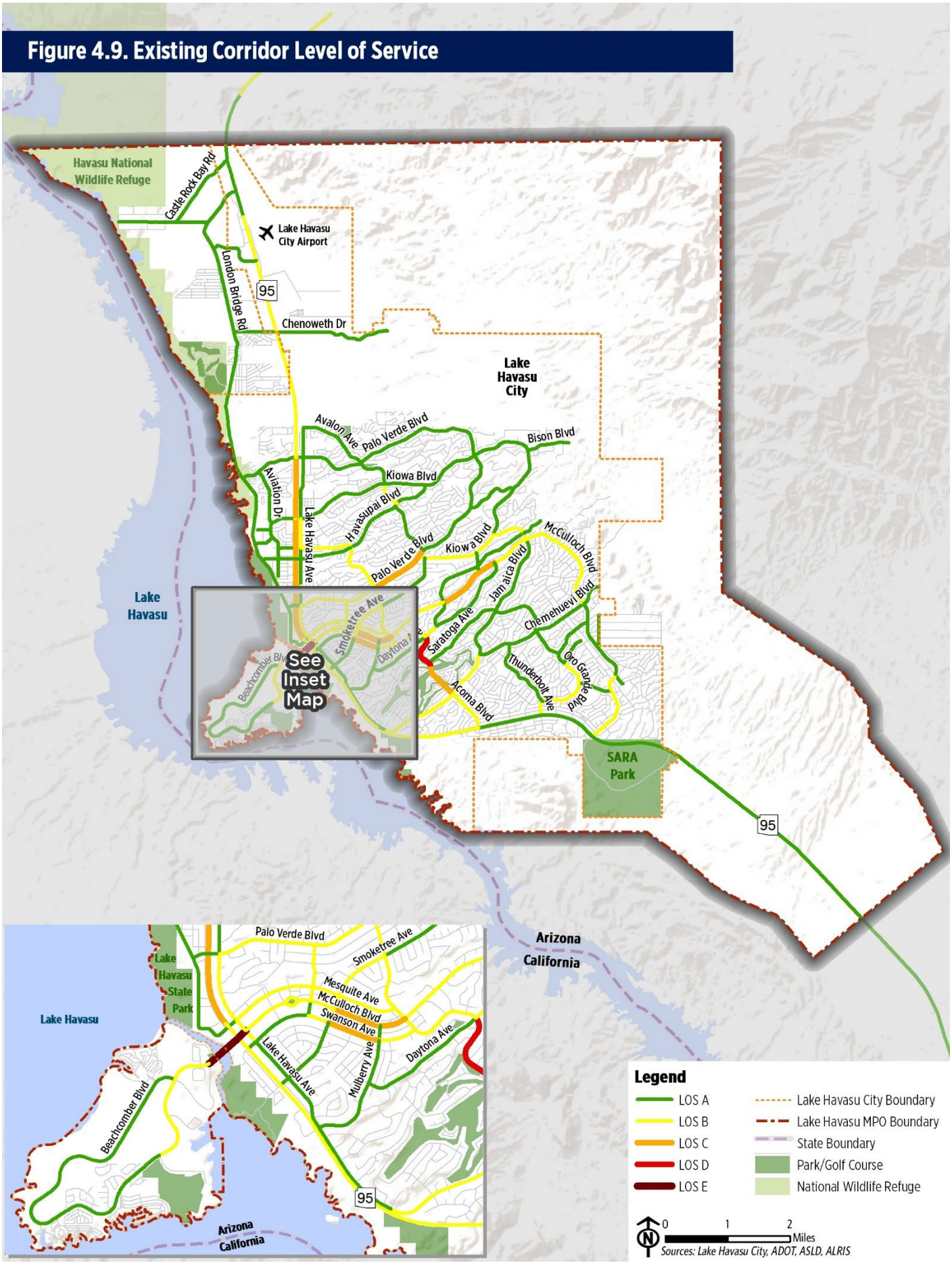


Figure 4.9. Existing Corridor Level of Service

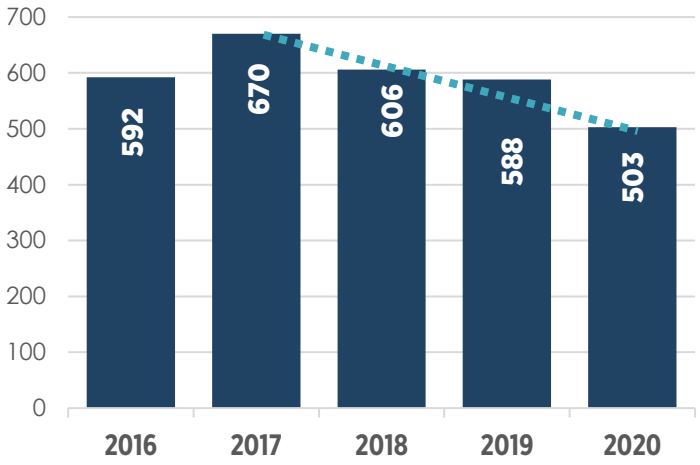


How Safe Are Our Streets?

Crash data analysis helps identify trends, patterns, predominant crash types, and high-crash-rate corridors and intersections. This analysis also helps identify potential safety improvements to reduce the frequency and severity of crashes. Crash analysis presented in this section is based on data obtained from ADOT for the five-year period of 2016–2020.

Between 2016 and 2020, a total of 2,959 crashes were reported within the Lake Havasu MPO region. As the chart on the right illustrates, the total number of crashes in the region have slightly decreased over the five-year period. The following section outlines key crash characteristics to help better understand the "who," "what," "when," "where,", and "how" of transportation safety in the Lake Havasu region. **Figure 4.10** illustrates locations with the highest density of crashes. As the figure shows, crashes occur throughout the Lake Havasu MPO, but are largely located at major intersections.

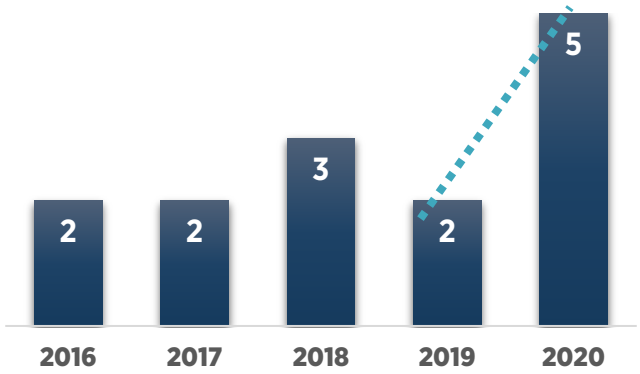
Total Crashes (2016-2020)



How Severe are the Crashes?

Figure 4.11 illustrates locations of fatal and serious injury crashes in the LHMPO region. As the figure shows, fatal and serious injury crashes occur throughout the region, but are largely located along major corridors. Since 2016, the LHMPO region has experienced an increase in fatal and a decrease in serious injury crashes. According to the Arizona Highway Safety Plan FFY 2021, the statewide 5-year rolling average of fatalities per vehicle miles traveled is 1.458. In comparison, the LHMPO's 5-year rolling average of fatalities per vehicle miles traveled is 0.772. In 2020, however, the LHMPO region has 1.66 fatalities per vehicle miles traveled.

Fatal Crashes (2016-2020)



Severe Injury Crashes (2016-2020)

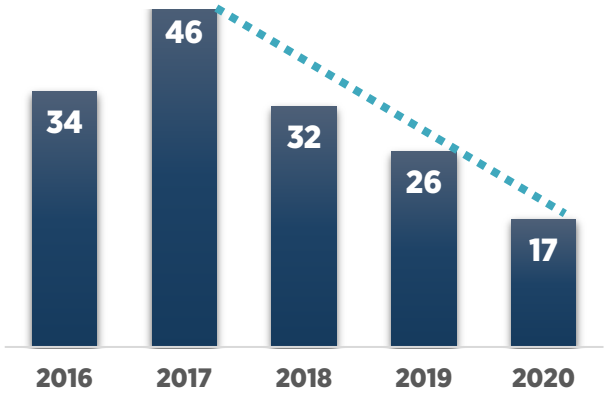


Figure 4.10. Crash Density (2016 - 2020)

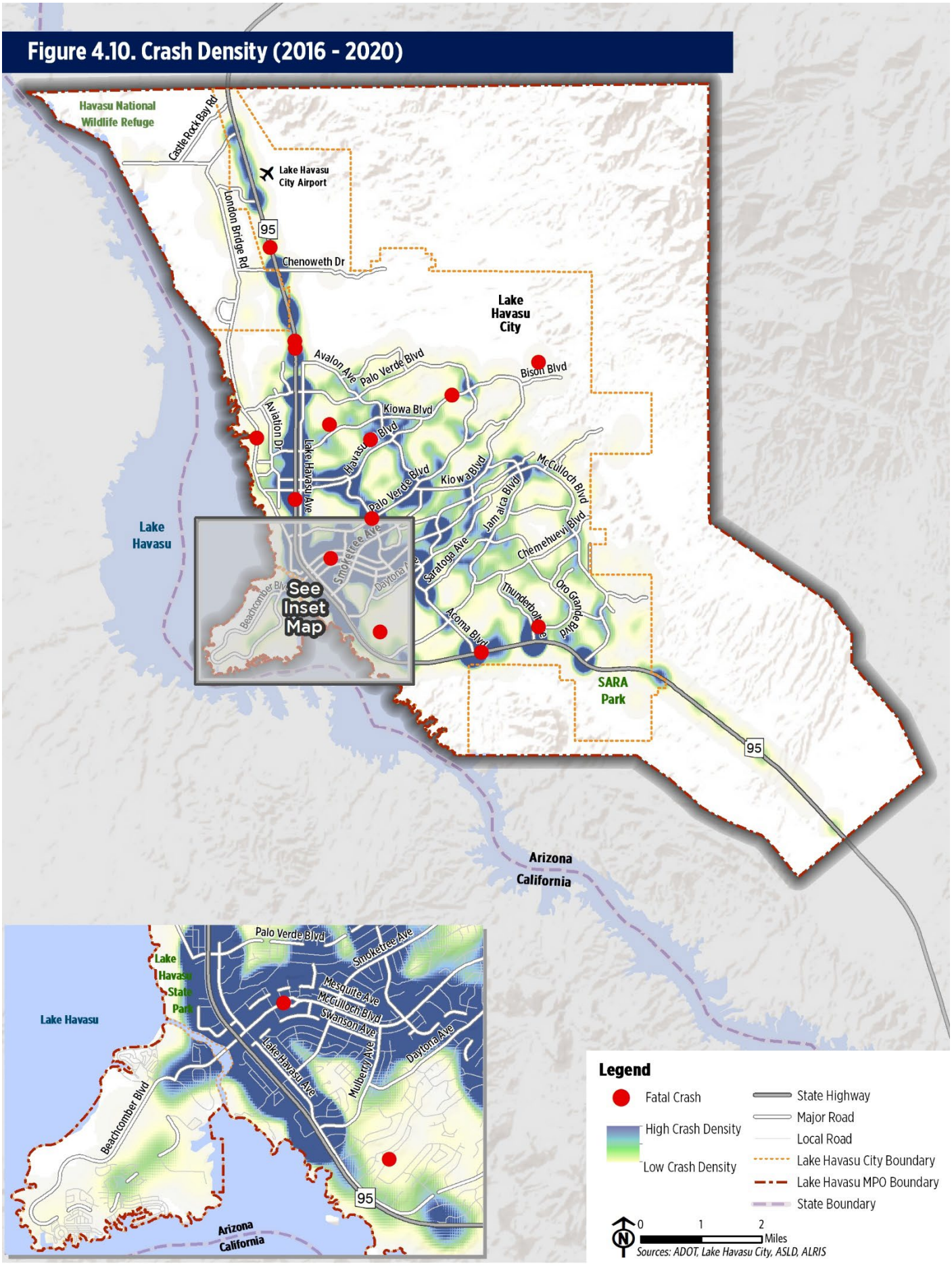
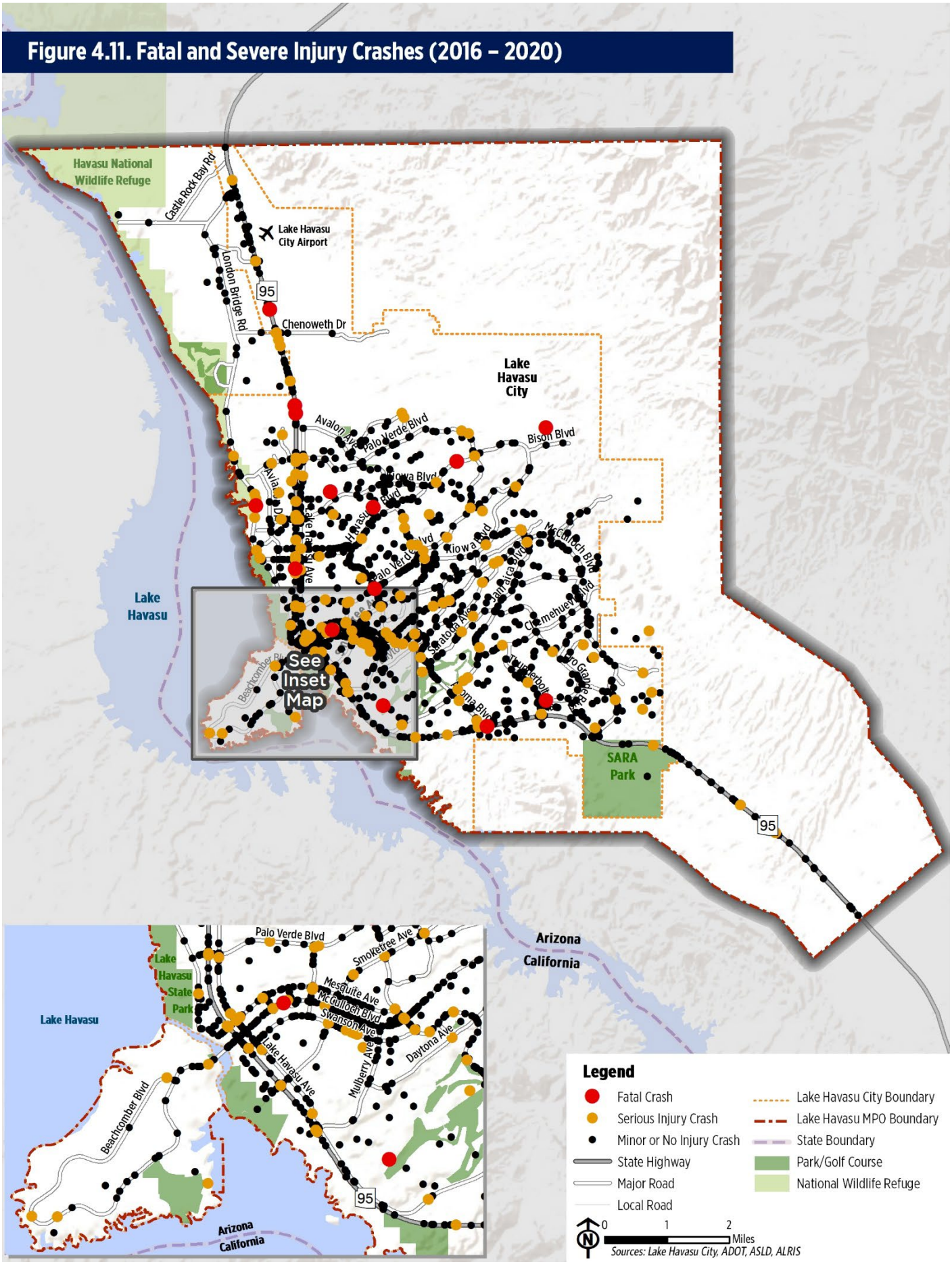


Figure 4.11. Fatal and Severe Injury Crashes (2016 – 2020)



Where did the Crashes Occur?

As shown in the Figure 4.11, fatal crashes primarily occurred throughout the region, with the highest number occurring on Regionally Significant Routes. **Tables 4.3–4.5** outline corridors and intersections with a significant number of total crashes, serious injury crashes, and fatal crashes. The road names listed are representative of the entire extent of the corridor through the LHMPO region. The corridor crashes shown exclude the crashes that occur at signalized or unsignalized intersections along the route.

Table 4.3. Corridors with the Highest Number of Total Crashes

Corridor	No Injury	Possible Injury	Minor Injury	Serious Injury	Fatal	Total
SR 95	160	30	41	17	5	**253**
McCulloch Boulevard	53	6	8	4	0	**71**
Lake Havasu Avenue	27	4	4	3	0	**38**
London Bridge Road	21	6	1	6	1	**35**
Acoma Boulevard	21	4	2	2	0	**29**
Mesquite Avenue	19	3	5	1	0	**28**
Kiowa Boulevard	18	1	5	1	0	**25**
Palo Verde Boulevard	15	2	5	1	0	**23**
Jamaica Boulevard	8	2	1	5	0	**16**
Industrial Drive	10	0	1	1	0	**12**

Table 4.4. Signalized Intersections with the Highest Number of Total Crashes

Intersection	No Injury	Possible Injury	Minor Injury	Serious Injury	Fatal	Total
Lake Havasu Ave & Mesquite Ave	52	8	1	2	0	**63**
SR 95 & Kiowa Ave	42	11	7	2	0	**62**
Lake Havasu Ave & McCulloch Blvd	49	10	2	0	0	**61**
SR 95 & Mesquite Ave / London Bridge Rd	38	10	6	2	0	**56**
Acoma Blvd & McCulloch Blvd	36	7	3	2	0	**48**
SR 95 & Palo Verde Blvd South	35	5	3	2	0	**45**
SR 95 & Mulberry Ave	26	8	3	2	0	**39**
SR 95 & Palo Verde Blvd North	26	3	3	3	0	**35**
SR 95 & Acoma Blvd West	24	4	5	0	0	**33**
SR 95 & Swanson Ave	20	3	7	1	0	**31**

Table 4.5. Unsignalized Intersections with the Highest Number of Total Crashes

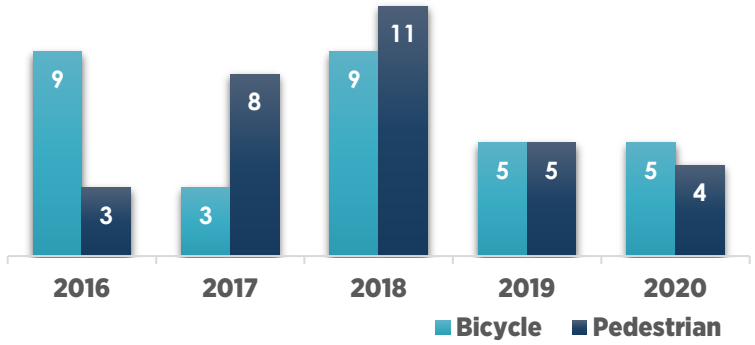
Intersection	No Injury	Possible Injury	Minor Injury	Serious Injury	Fatal	Total
Acoma Blvd W & Lake Havasu Ave	20	8	4	3	0	**35**
Acoma Blvd W & Havasupai Blvd	16	1	6	0	0	**23**
Oro Grande Blvd & Maricopa Ave	16	3	1	2	0	**22**
Lake Havasu Ave & Sunflower Dr	17	0	3	1	0	**21**
Mesquite Ave & Riviera Blvd	16	1	0	3	0	**20**
Acoma Blvd S & Swanson Ave	11	3	4	1	0	**19**
Mesquite Ave & Smoketree Ave N	14	3	2	0	0	**19**
Acoma Blvd S & Daytona Ave	15	0	3	0	0	**18**
Lake Havasu Ave N & Kiowa Blvd N	13	2	2	1	0	**18**
Swanson Ave & Smoketree Ave S	11	2	1	1	0	**15**

Who is Involved?

In a traditional crash data report, passenger vehicles and freight vehicles are grouped together in the crash database as vehicles. Key findings shows:

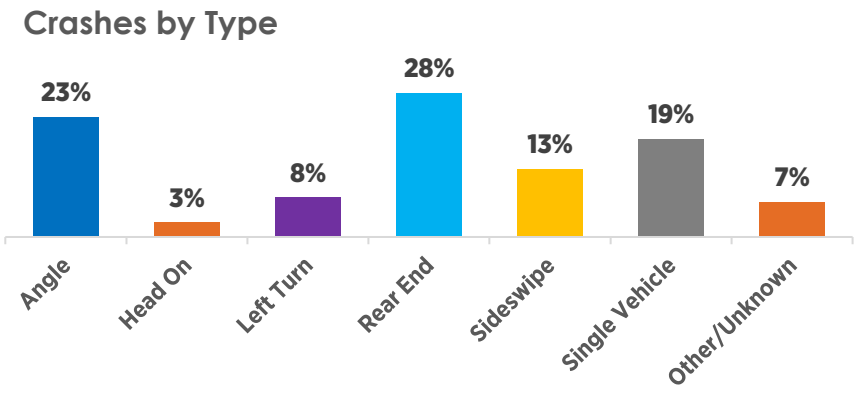
- Vehicles make up the largest percentage of user types involved in crashes in the LHMPO region.
- Since 2016, 2.1 percent of all crashes involved a bicyclist or a pedestrian.
- Bicyclist-and pedestrian-involved crashes have decreased since 2018.

Bicycle and Pedestrian Involved Crashes (2016-2020)



What Types of Crashes are Occurring?

While every crash is unique, they are often categorized according to the circumstances of the crash. Each vehicle crash can be grouped into different collision types, including rear-end crashes, angle crashes, left- or right-hand turn crashes, and head-on crashes. Each crash type can indicate a particular problem that may be addressed through a targeted engineering, enforcement, or behavioral countermeasure. As illustrated on the right, rear-end and angle crashes make up over 28 percent of all crashes in the LHMPO region historically.



What are the Causes of the Crashes?

Understanding the causes behind a crash is an important step in understanding human behavior factors that may be addressed through a targeted engineering, enforcement, or behavioral countermeasure.

Crashes by Violation (2015-2019)

Violation	No Injury	Possible Injury	Minor Injury	Serious Injury	Fatal	Grand Total
Speed Too Fast For Conditions	795	197	189	73	6	1,260
Failed To Yield Right Of Way	394	58	93	28	2	575
No Improper Action	160	11	41	10	1	223
Failed To Keep In Proper Lane	134	11	22	14	1	182
Unsafe Lane Change	138	7	5	0	0	150
Followed Too Closely	59	7	8	2	0	76
Exceeded Lawful Speed	21	3	10	7	1	42
Ran Stop Sign	17	12	6	7	0	42
Unknown	166	15	6	4	0	191
Other	169	18	17	10	3	217

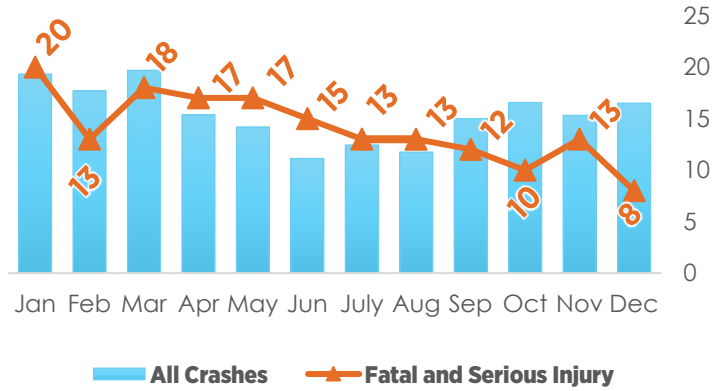
When do Crashes Occur?

Evaluating the time, day of the week, and month of crashes can help identify contributing factors such as motor vehicle volumes and street lighting. The following section outlines when crashes occurred during the period of 2015–2019.

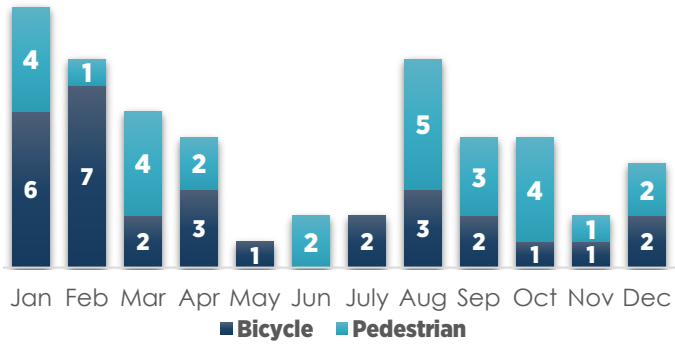
Time of Year

While there was a slight decrease in crashes during the summer months, the total number of crashes stayed largely consistent throughout the year. Fatal and serious crashes decreased during fall and early winter months between September and December. Bicycle- and pedestrian-related crashes historically spike in January, February, and August. These fluctuations in January and February may be due in part to winter visitors during Lake Havasu's warm winter months.

Total Crashes By Month



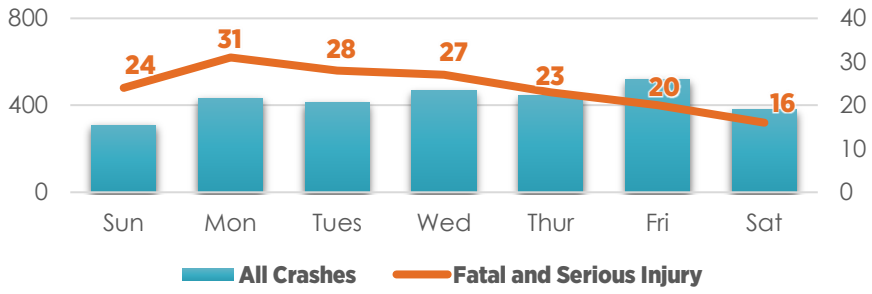
Pedestrian and Bicycle Related Crashes by Month



Day of Week

As shown on the right, Sunday historically has experienced the lowest number of crashes. Typically, fatal and serious injury crashes are highest on Monday and Tuesdays. Historically, 35 percent of all fatal and serious injury crashes occurred on Mondays and Tuesdays.

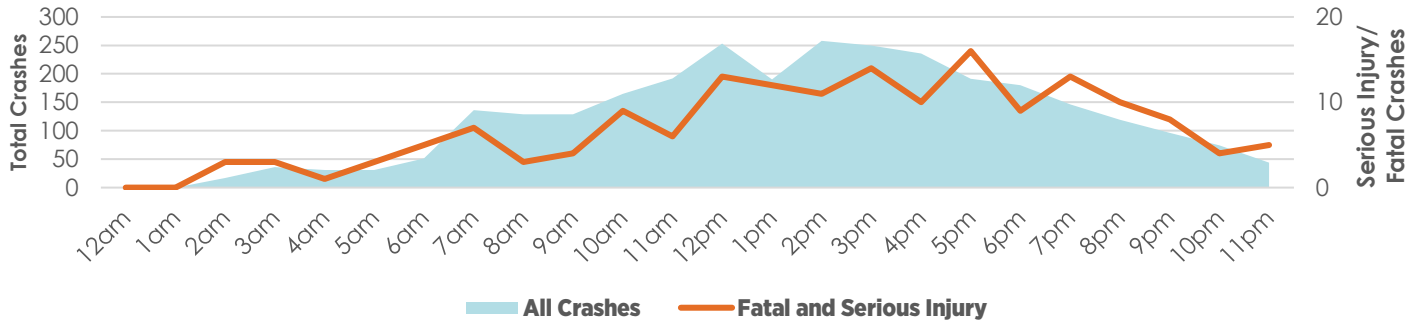
Total Crashes by Day of the Week



Time of Week

As shown below, crashes have largely occurred from 10:00 a. pm to 6:00 p.m. Fatal and serious injury crashes largely occurred during the hours of 12:00 p.m. – 5:00 p.m.

Total Crashes by Time of Day



Goods Movement

Another major function of the transportation system is to move goods and services for commercial purposes. The efficient movement of freight, goods, and packages is extremely important for the region's economic prosperity. The region is located on the border with California and along the north-south SR 95 corridor.

Truck Freight

Major commercial and industrial trucking activity is limited to designated truck routes built to standards accommodating heavy vehicles. Key commercial and truck routes in the region include:

- SR 95 is a nationally designated truck route that connects I-40 to I-8 through the Lake Havasu region. The corridor is also designated as a FHWA Critical Rural Freight Corridor (CRFC).
- Lake Havasu Boulevard, London Bridge Road, Kiowa Boulevard, and Industrial Boulevard all serve as major local truck routes that connect industrial areas to the SR-95 corridor.

Arizona State Freight Plan

ADOT is currently updating the Arizona State Freight Plan (2017), which identifies short- and long-range freight related transportation investments. The 2017 Plan identified SR 95 as a key commerce corridor that experiences heavy congestion causing truck delay; mid-day peak congestions; and above average crashes.

Aviation

Lake Havasu City Municipal Airport, is a city-owned public-use airport located near the Shops of Lake Havasu in the northern portion of Lake Havasu City. The airport was opened in 1991, replacing the original airport built in 1944 on Pittsburg Point, near the present-day city center and London Bridge. Today the airport hosts more than 100 aircrafts, two full-service Fixed Based Operators (FBOs), and on-site car rental with AVIS and Budget. Jet A and AVGas/100LL are available for purchase through the FBOs.

No commercial airline services are offered; however, transient, short-term and long-term aircraft come here to visit, stay and play. The closest full-service airports are Las Vegas/McCarran or Phoenix/Sky Harbor. The Hangar 24 Brewery and Grill is a restaurant open seven days a week and located on airport property.

In 2021, the airport was awarded a $7,145,060 grant that allows the reconstruction of the airport's taxiway—a much needed investment to ensure the safety and functionality of the runway and taxiway system at the airport in the long term.

The airport can be accessed from SR 95 and Airport Centre Boulevard. Whelan Drive within the airport complex provides local access various facilities in the airport area.

5. MULTIMODAL TRANSPORTATION

While trips taken by walking, bicycling, or using public transportation make up a modest share of the total commuting trips in the region, multimodal transportation is an important component to the overall mobility of a community and region. Investments in walking, biking, public transportation, and other forms of multimodal infrastructure not only result in a more balanced and accessible transportation network, but they also aid in alleviating socioeconomic and health disparities, support economic prosperity, and help create a more livable and sustainable community.

Active Transportation

Active transportation includes any self-propelled, human-powered modes of transportation that engage people in active participation, including walking, biking, jogging, skateboarding, inline skating, and the use of assistive mobility devices. This section summarizes existing active transportation facility locations and conditions.

Pedestrian Network

Walking is the most common form of transportation, as every trip begins and ends on foot. At some point in the day, everyone is a pedestrian. Pedestrians are highly diverse and range from joggers, groups enjoying a leisurely stroll, parents with children, skateboarders, rollerbladers, people with pets on a leash, and people using mobility aids. Sidewalks are the backbone of the pedestrian network, as they provide a designated space for people to walk along a roadway. Sidewalks are supported by a collection of facilities to create a more visible, navigable, and enjoyable walking experience.

Walking in the LHMPO Region Today

The conditions of sidewalks affect all pedestrians, particularly individuals with disabilities. Sidewalk gaps, uneven surfaces, obstructions, or poor sidewalk conditions create deterrents or barriers to pedestrian travel. LHMPO member agencies have invested significantly in constructing pedestrian facilities. Current walking conditions in the LHMPO region include:

- Sidewalks are generally present in urbanized cores; however, there are limited sidewalks in rural areas.
- Many corridors have sidewalk gaps due to sporadic corridor and business development, forcing pedestrians to walk in unpaved areas in the roadway's shoulder.
- SR 95, washes, and major roadways have created physical barriers to crossing.
- Existing sidewalks are generally in fair to good condition.

Figure 5.1 illustrates locations of existing sidewalks and trails available within the LHMPO region.

Bicycle and Trail Network

Bicycling is an essential component of any transportation system, and it provides numerous benefits to communities and residents. Despite the region's general dependency on single-occupancy vehicles, the region has a strong and thriving bicycle community of recreational cyclists who bike primarily for leisure or physical activity. These riders prefer long-distance, continuous routes and often ride on the weekend or early morning hours. To meet the needs of these riders, as well as to provide biking opportunities for commuting or personal purposes (such as shopping), the region is increasingly supporting and investing in bicycle infrastructure.

Biking in the LHMPO Region Today

The majority of the existing bicycle network system within the LHMPO region is composed of dedicated bicycle lanes, shared-use paths, and shared roadways or wide roadway shoulders. The Lake Havasu MPO Bicycle and Pedestrian Implementation Plan recommended optimal context-sensitive pedestrian and bicycle facilities for people of all ages and abilities who live, work, play, go to school, and vacation in the LHMPO area. As part of the plan, a network of bike lanes, bike paths, shared-use paths, and crossings create a network that connects to schools and activity centers to encourage bicyclists of all ages and abilities to routinely use bicycling to get to and from work, school, and other activities. **Figure 5.2** illustrates the location of existing and proposed bicycle facilities within the LHMPO region.

Off-Street Paths and Trails

When bicycle and pedestrian facilities are connected to recreational areas, they act as an extension of the transportation system. Connecting parks and other recreational facilities via bicycle and pedestrian facilities is a way to make parks more accessible and provide a safe and convenient means for residents to explore the recreational system. Off-street paths and trails are open to cyclists, walkers, hikers, runners, and often equestrians. Currently, Lake Havasu City does not have a comprehensive inventory of trails and equestrian paths, making it difficult for residents and visitors to know where they can comfortably travel.

Multimodal Safety Conditions

Analysis of pedestrian- and bicycle-related crash data provides LHMPO and partner agencies with important safety information to help make informed decisions on safety improvements. The following provides a summary of safety conditions as they related to pedestrian and bicyclists in the LHMPO region. The analysis was performed using ADOT's Arizona Crash Information System (ACIS) database for 2015 to 2019.

Where did they Occur?

Figure 5.2 illustrates the locations of pedestrian- and bicycle- related crashes. Pedestrian and bicycle crashes account for approximately 2% of the region's total crashes and 10% of the region's fatal and serious injury crashes. Roads with multiple pedestrian crashes include:

- SR 95 (6 crashes)
- Swanson Avenue (5)
- Palo Verde Boulevard (4)
- Acoma Boulevard (2)

Roads with multiple bicycle crashes include:

- McCulloch Boulevard (2)
- Mesquite Avenue (2)
- Smoketree Avenue (2)

Tables 5.2–5.3 outline corridors and intersections with a significant number of pedestrian- and bicycle-related crashes.

Table 5.2. Corridors with One or More Pedestrian-Related Crashes by Severity

Corridor	No Injury	Possible Injury	Minor Injury	Serious Injury	Fatal	Total
SR 95	1	0	3	1	1	**6**
Swanson Avenue	1	0	0	4	0	**5**
Palo Verde Boulevard	0	0	3	1	0	**4**
Acoma Boulevard	0	0	0	1	1	**2**

Table 5.3. Corridors with One or More Bicycle-Related Crashes by Severity

Corridor	No Injury	Possible Injury	Minor Injury	Serious Injury	Fatal	Total
McCulloch Boulevard	0	0	1	1	0	**2**
Mesquite Avenue	0	0	1	1	0	**2**
Smoketree Avenue	0	0	0	2	0	**2**

Figure 5.1. Sidewalks and Trails

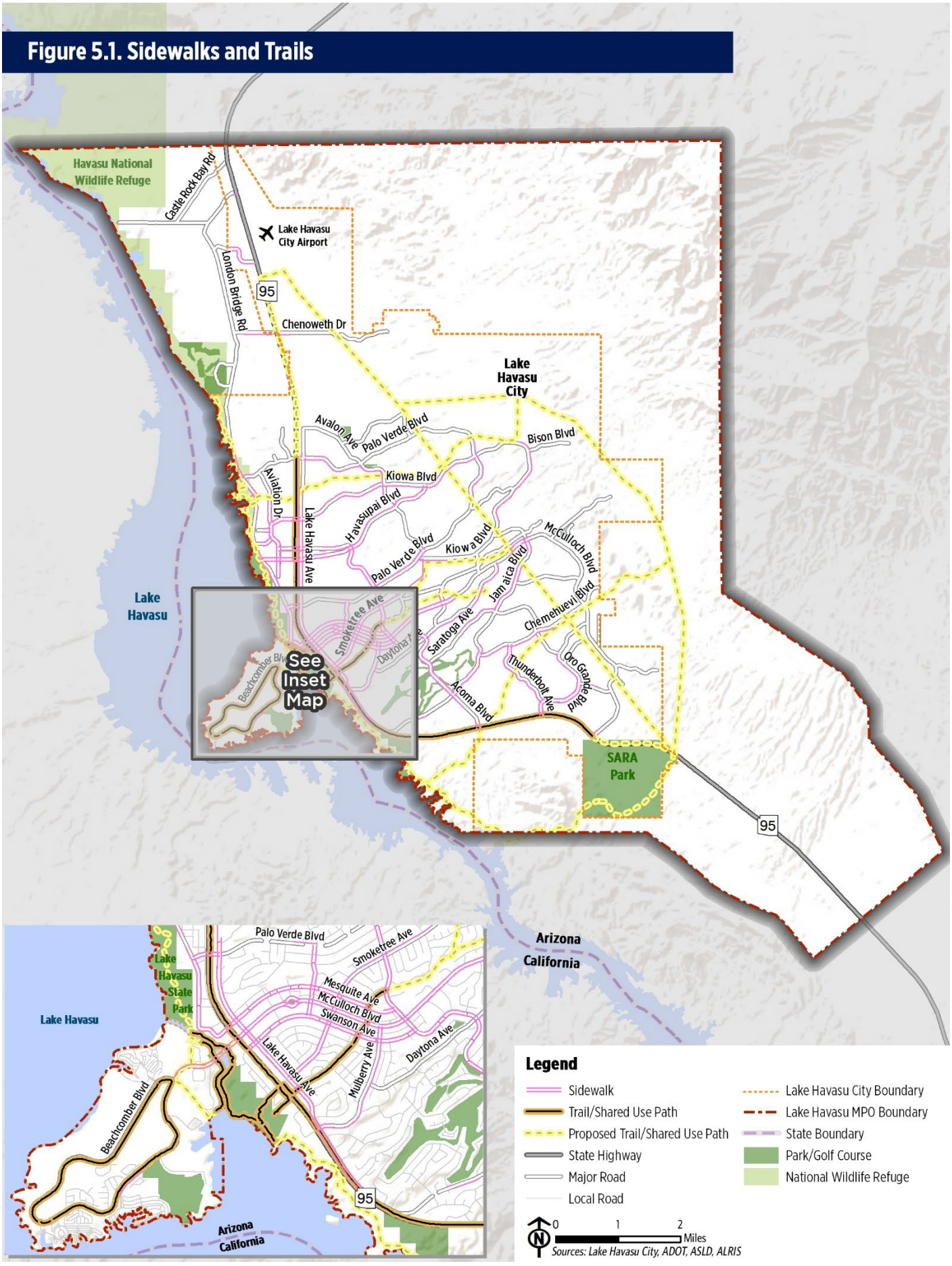


Figure 5.2. Bicycle Facilities

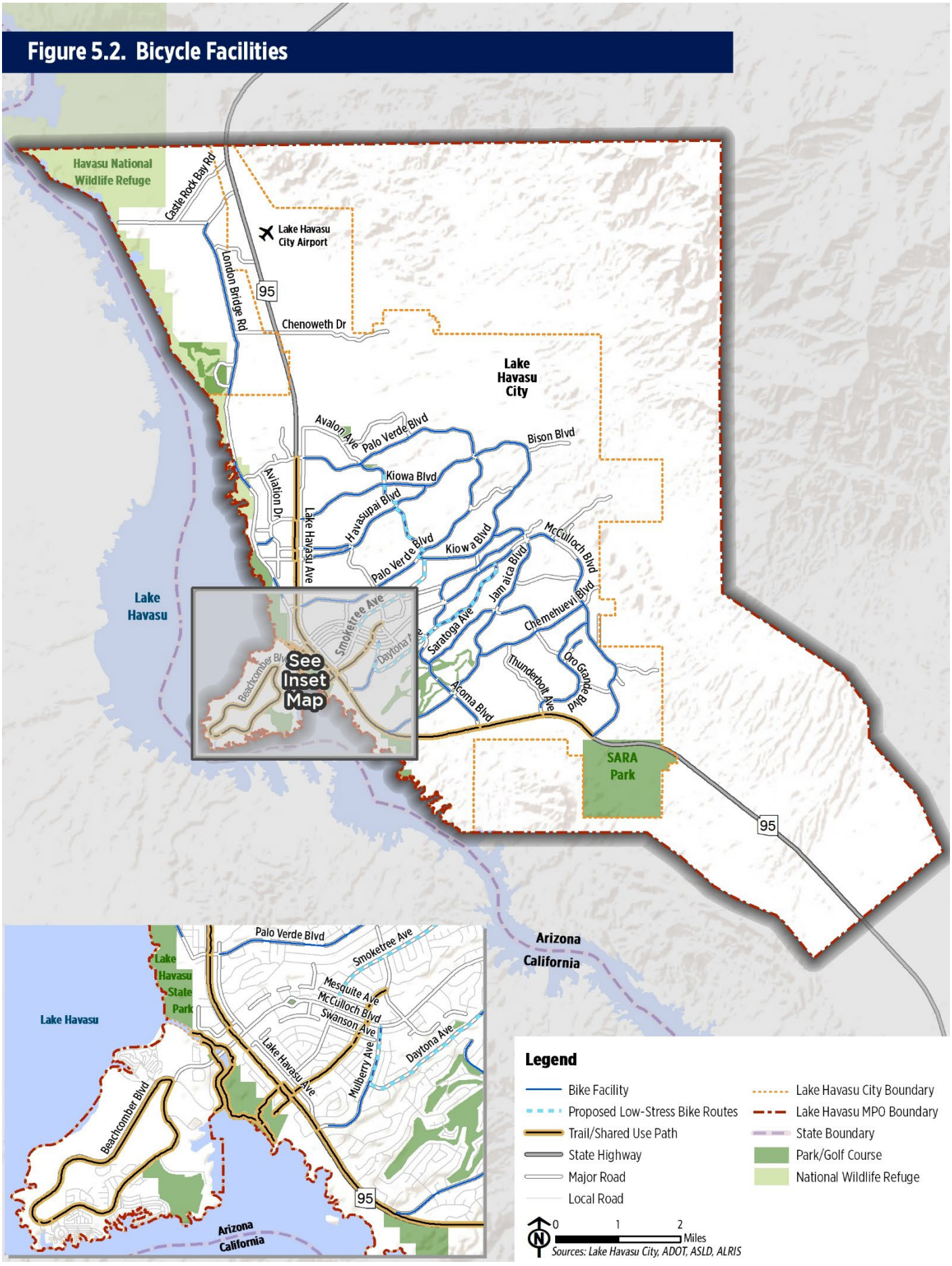
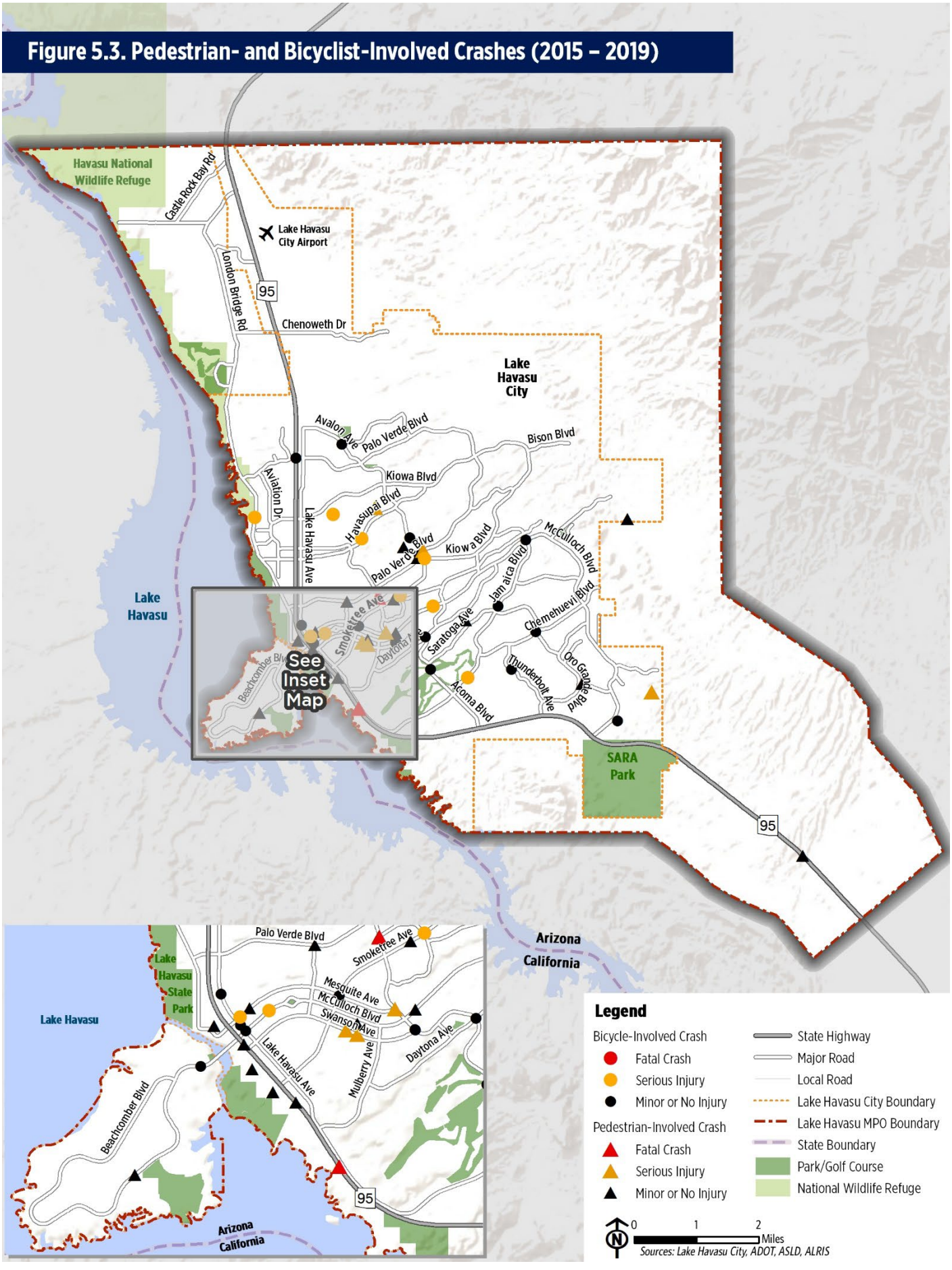


Figure 5.3. Pedestrian- and Bicyclist-Involved Crashes (2015 – 2019)



Public Transportation

A strong public transportation network is a key component of a great transportation network. Public transportation provides important access and connectivity to key destinations as well as regional access to employment, education, shopping, and services. The following section outlines existing and planned public transportation services in the LHMPO region.

History of Public Transportation in the Region

The region's public transportation has taken many forms since the mid-1990s. Beginning with a dial-a-ride system, public transportation eventually morphed into a fixed-route bus service, called the Havasu Area Transit (HAT) in the 2000s. By 2014, however, reduction in grant revenue led to the elimination of public transportation in Lake Havasu. A timeline of public transportation services is illustrated below.

1986 City Transit, a small demand response (curb-to-curb) system is started by Lake Havasu City. Riders were picked-up within 30-minutes of their call and rides cost $3.00. The service was funded through federal grants and local general fund subsidy.

2004 City Transit ridership reached an all-time high of 140,000 annual trips making City Transit was one of the largest rural systems in the state. Local subsidies, however, were approaching $800,000 a year so the service area was reduced to reduce costs.

2006 Through a Lake Havasu City Council vote, City Transit was transformed into a traditional fixed route service called Havasu Area Transit (HAT).

2010 The State of Arizona's budget rebalancing significantly reduces funding for transit in Lake Havasu, forcing the City to pick-up the funding shortfall.

2012 Due to higher fuel prices and an aging bus fleet, Havasu Area Transit eliminates one of its five routes to reduce costs.

2013 Federal Transit Administration directs that HAT transition to the Section 5307 grant program further reducing grant revenues.

2014 With the reduction of grant revenue and a potential general fund subsidy in excess of $900,000, the Lake Havasu City Council made the difficult decision to eliminate public transit service. The Council directs HAT to reopen as a curb-to-curb service to seniors and persons with disabilities for grocery, medical and employment rides, known today as Havasu Mobility.

2019 Lake Havasu MPO initiates the *Regional Transit Feasibility and Implementation Plan* to determine the demand for transit and to outline feasible steps to increase public transportation in the region. The objective of the transit feasibility study was to determine what type of public transportation services are needed for the LHMPO area. The plan was adopted by the LHMPO board in January 2020.

2020 Lake Havasu City successfully becomes a direct recipient of 5307 Federal Transit Administration apportionments. With the award, Lake Havasu City Transit is formed and begins the implementation for a new public transportation system.

Lake Havasu City Transit Service Today

In 2020, Lake Havasu City Transit Department began the preparation and implementation for launching a new public transportation system in the Lake Havasu MPO region. The development of the region's public transportation system is an incremental approach to help gain community support, ridership, and local enthusiasm for public transportation while staying within fiscal constraints. To meet the unique and growing needs of the region's residents and visitors, the planned public transportation system uses a variety of service options, including:

Flex

Flex continues Havasu Mobility's purpose of providing paratransit service for people in wheelchairs, walkers, or who otherwise have difficulty riding in a regular vehicle. This includes transportation to essential services such as medical appointments, pharmacies, and grocery stores. One of the most notable changes with the new system is that it uses a cashless fare system for all rides. Hours of operation are Monday through Friday 8:00 am to 5:00 pm. Fare is $3.00 each way.

DIRECT

In the Fall 2021, Lake Havasu City transit began the soft launch of their second public transit service named DIRECT. DIRECT serves as an on-demand transportation option that connects riders within designated zones to the destination of their choice. Ultimately, DIRECT will provide on-demand service within three designated zones covering the majority of the LHMPO region. Ride fare for DIRECT is $3.00 per person in-zone. If your ride takes you to another zone $5.00 is the maximum fare. This service can be requested and paid for using the Uber app on your smartphone and riders who would like to use DIRECT would choose "Lake Havasu City Transit" when choosing their ride option in the app.

Bridge

Bridge is a more traditional fixed-route transit service that is expected to incrementally build into a multi-route system. In 2021, a pilot program will commence for circulator route designed to provide transit service to major activity and shopping centers in the Downtown area. In early 2022, Bridge is expected to expand with a new route within the core of Lake Havasu City and one to the Shops at Lake Havasu. Rides on Bridge will cost $1.50 per person per ride, but seniors 60 and older and those with a student ID will receive a 50% discount.

Lake Havasu City also approved the design and construction for a transit hub near the Pima Wash parking lot that will serve as the transit center for the public transportation system and all of its vehicles. The transit hub will also include ADA accessible bathrooms, a shaded area for people to wait for a ride, and parking. Construction for the transit hub is expected in FY 2023-2024

6. THE LHMPO REGION TOMORROW

Understanding the impacts of projected growth and development is critical to developing a transportation plan that addresses not only current issues, but future transportation needs and issues. This section outlines projected population and employment in the LHMPO region and evaluates the impact of this development on the region's transportation system.

Future Population and Employment Conditions

In accordance with Executive Order 2011-04, population and employment estimates and forecasts developed by the Arizona Office of Economic Opportunity (AOEO) should be utilized by all government agencies for planning purposes. The State Demographer's Office, a part of AOEO, develops yearly population and employment estimates and 25-year population forecasts for the State of Arizona. A Council of Technical Solutions, comprising representatives from state universities, regional councils, and state agencies, provides technical guidance on the quality, methodology, and standards of analytical techniques.

Planned developments and potential timeframes were identified based on previous planning documents, local jurisdictions, general plans, and input received from local officials. Socioeconomic projections developed by the State Demographer's Office for the 2030 and 2045 horizon years were disaggregated at the traffic analysis zone (TAZ) level to reflect planned residential, commercial, and employment developments. TAZs are used to divide large regions, like the LHMPO region, into smaller geographies to group socioeconomic data particularly for use of traffic modeling purposes. TAZ boundaries often, but not always, align with major streets or physical boundaries, such as municipal boundaries, waterways, or political boundaries.

Population Projections

The LHMPO region will have a population of 64,716 by 2045, a 6 percent increase from today's population. **Table 6.1** shows a tabular summary of the historical and projected population and housing units in the study area, whereas **Figure 6.1 and Figure 6.2** illustrate current and projected number of housing units by TAZ in the LHMPO region.

Table 6.1. Population and Housing Unit Projections

Jurisdiction	Population			Occupied Housing Unit		
	Current	2045	Percent Change	Current	2045	Percent Change
Lake Havasu City*	57,144	60,481	5.8%	26,018	27,537	5.8%
Unincorporated Mohave County	3,220	4,235	31.5%	1,529	2,011	31.5%
Lake Havasu MPO (Total)	**60,364**	**64,716**	**7.2%**	**27,547**	**29,549**	**7.3%**

Source: Arizona Office of Economic Opportunity
** Census 2020 population for Lake Havasu City was higher than the Y2026 AOEO population projections. The population increase between AOEO Y2020 to Y2026 projections was applied to the 2020 Census estimate. Similar adjustments were made to determine Y2031 and Y2045 population projections.*

Employment Projections

The LHMPO region will have over 23,200 employees by 2045, a 29.4 percent increase from today's population. **Table 6.2** shows a tabular summary of the current and projected employment in the study area, whereas **Figure 6.3 and Figure 6.4** illustrates the current and projected employment by TAZ in the LHMPO region.

Table 6.2. Employment Projections

Jurisdiction	Employment		
	Current	2045	Percent Change
Lake Havasu City	20,035	22,832	14%
Unincorporated Mohave County	338	385	14%
Lake Havasu MPO (Total)	**20,373**	**23,217**	**14%**

Source: Maricopa Association of Governments (MAG) Statewide Employer Database; ReferenceUSA
Current employment totals were obtained from MAG and verified using ReferenceUSA data.
2045 employment projections for each jurisdiction were based on 2019 employment to population ratios.

Figure 6.1. Current Occupied Housing Units by Traffic Analysis Zone

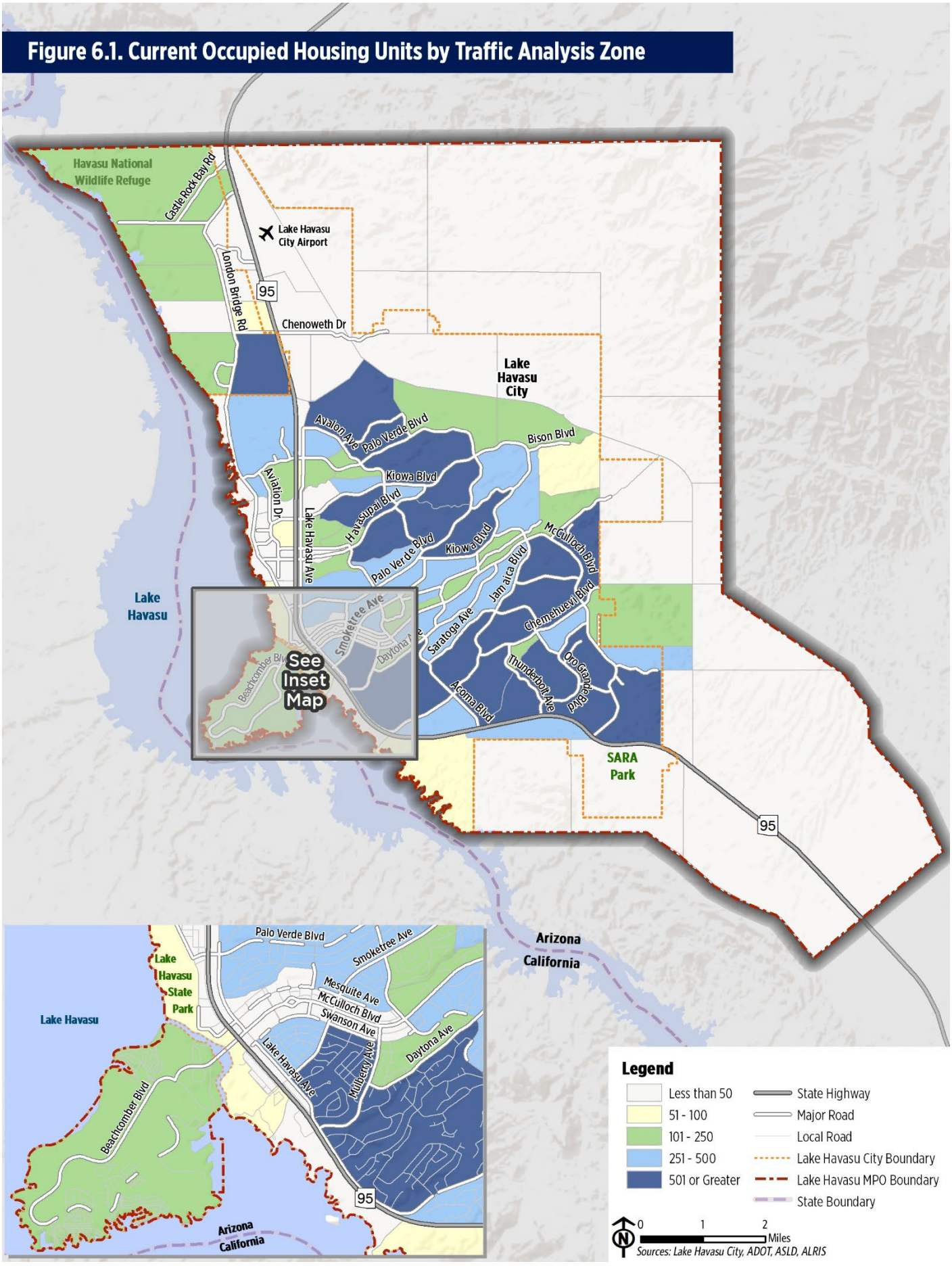


Figure 6.2. Projected 2045 Dwelling Units by Traffic Analysis Zone

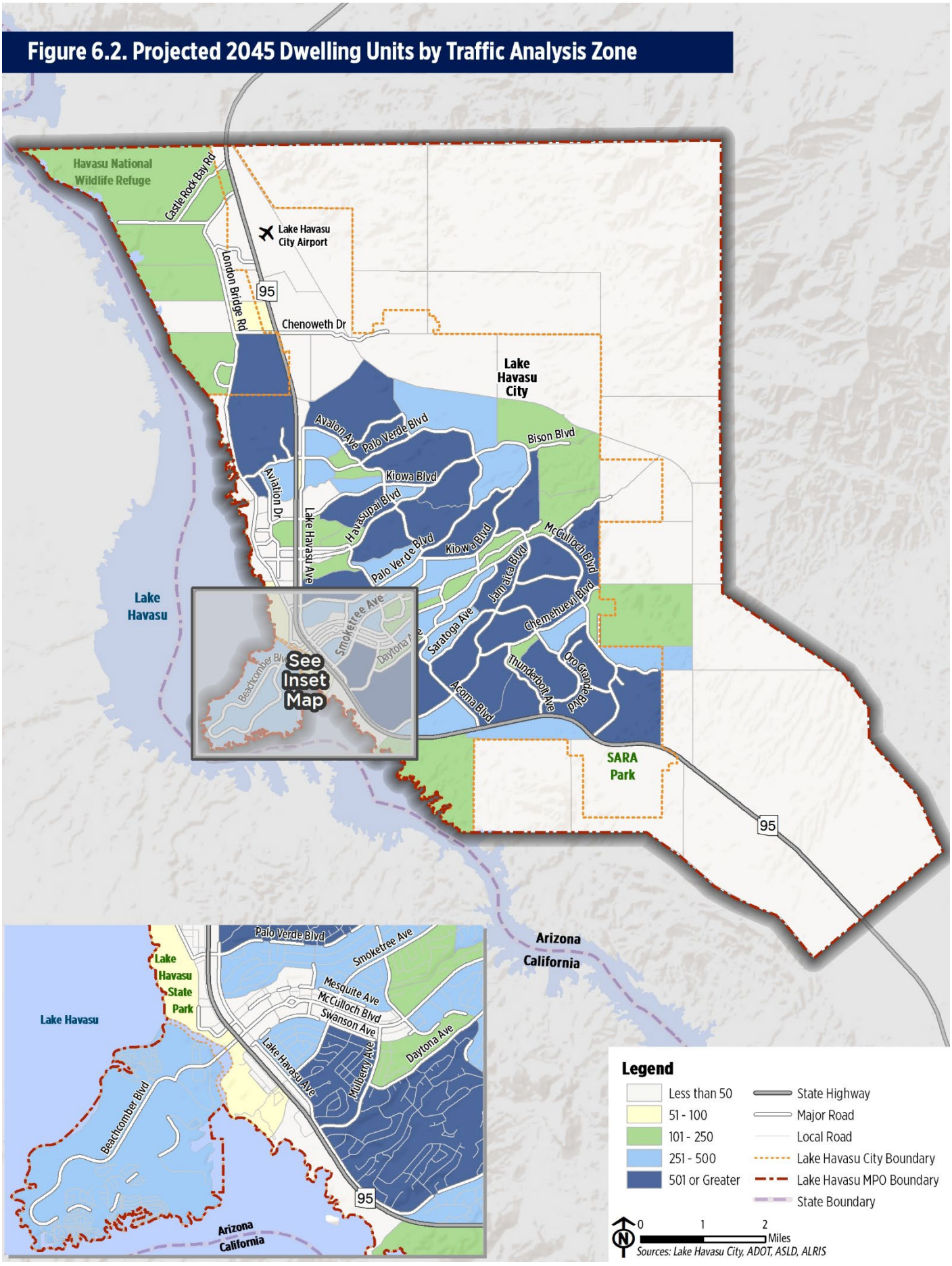


Figure 6.3. Current Employment by Traffic Analysis Zone

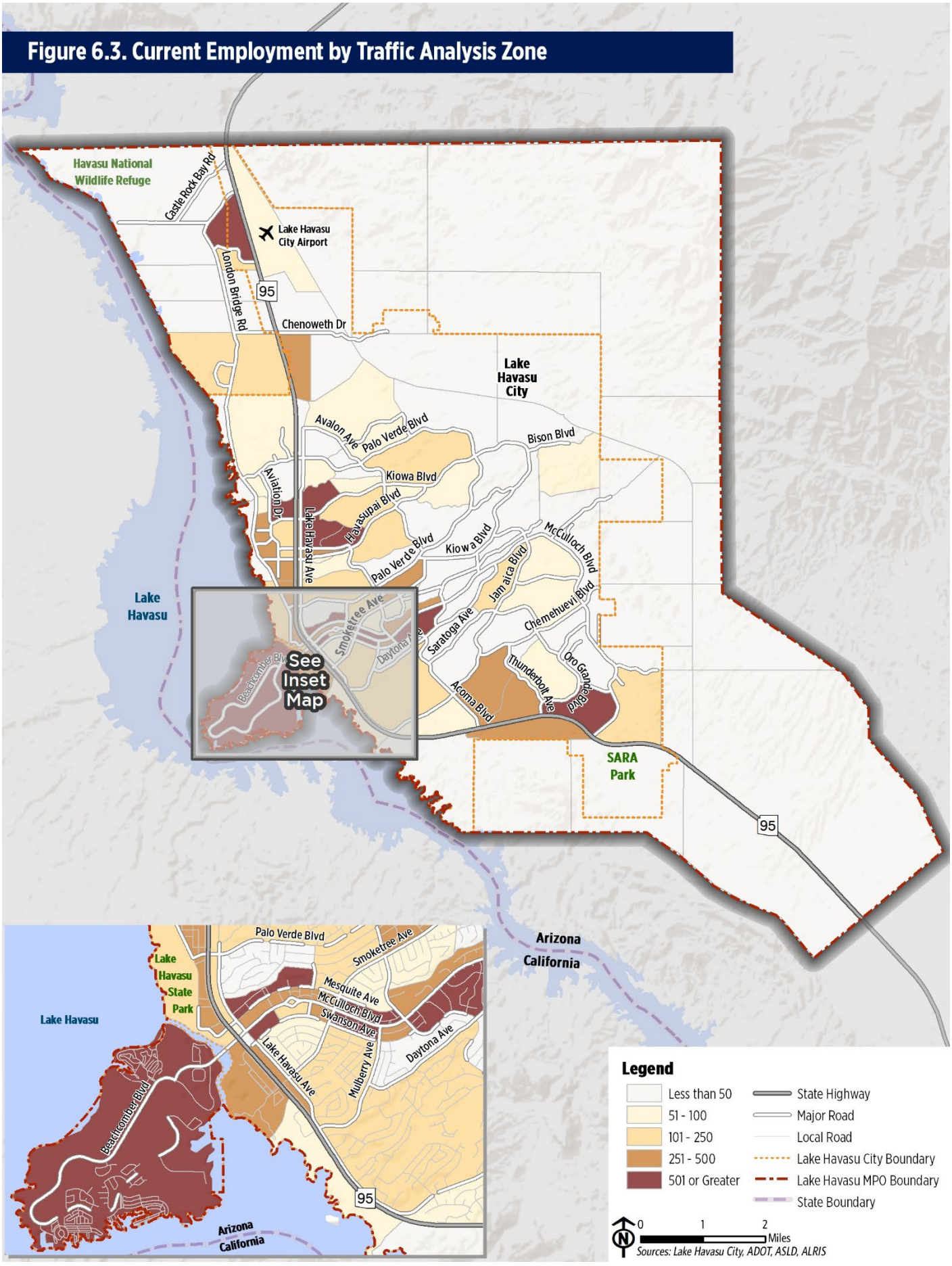
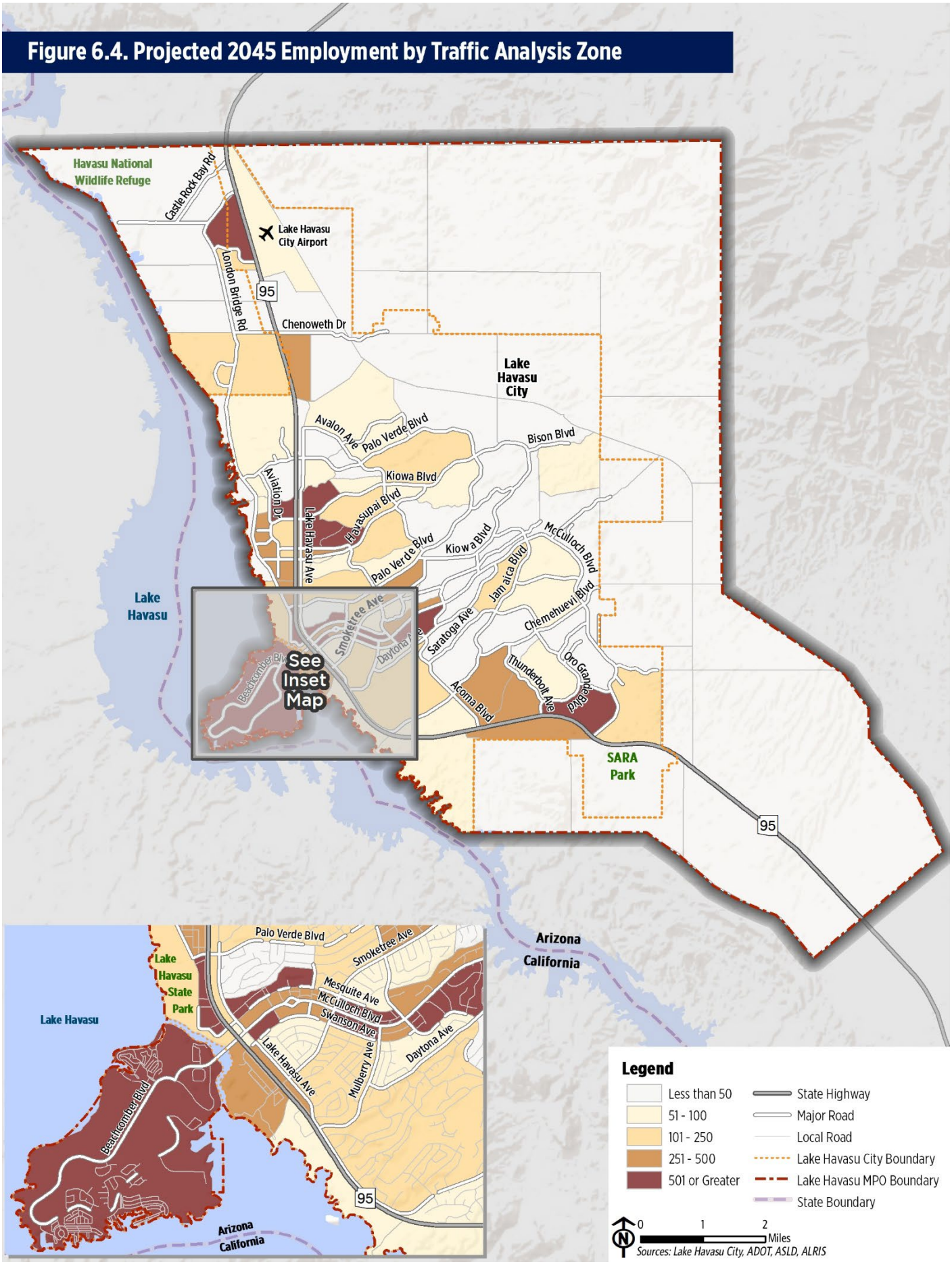


Figure 6.4. Projected 2045 Employment by Traffic Analysis Zone



Future Transportation Performance

Travel demand models are utilized to estimate travel conditions based on population, employment, and roadway network characteristics. These travel demand models utilize trip generations to estimate how many trips are created and attracted between homes and activity centers. Steps to develop a travel demand model include:

- Developing a roadway network of committed improvements (network includes characteristics such as the number of lanes, posted speed limits, functional classification, etc.).
- Allocating projected socioeconomic conditions and land use categories to specific TAZs.
- Generating existing vehicle trips based on land use conditions.
- Distributing vehicle trips between TAZs.
- Assigning the vehicle trips to the street network.
- Validating model utilizing existing traffic count data.

In addition, this analysis provides valuable insight into potential transportation solutions. For this study, a regional travel demand model was utilized to estimate future traffic conditions.

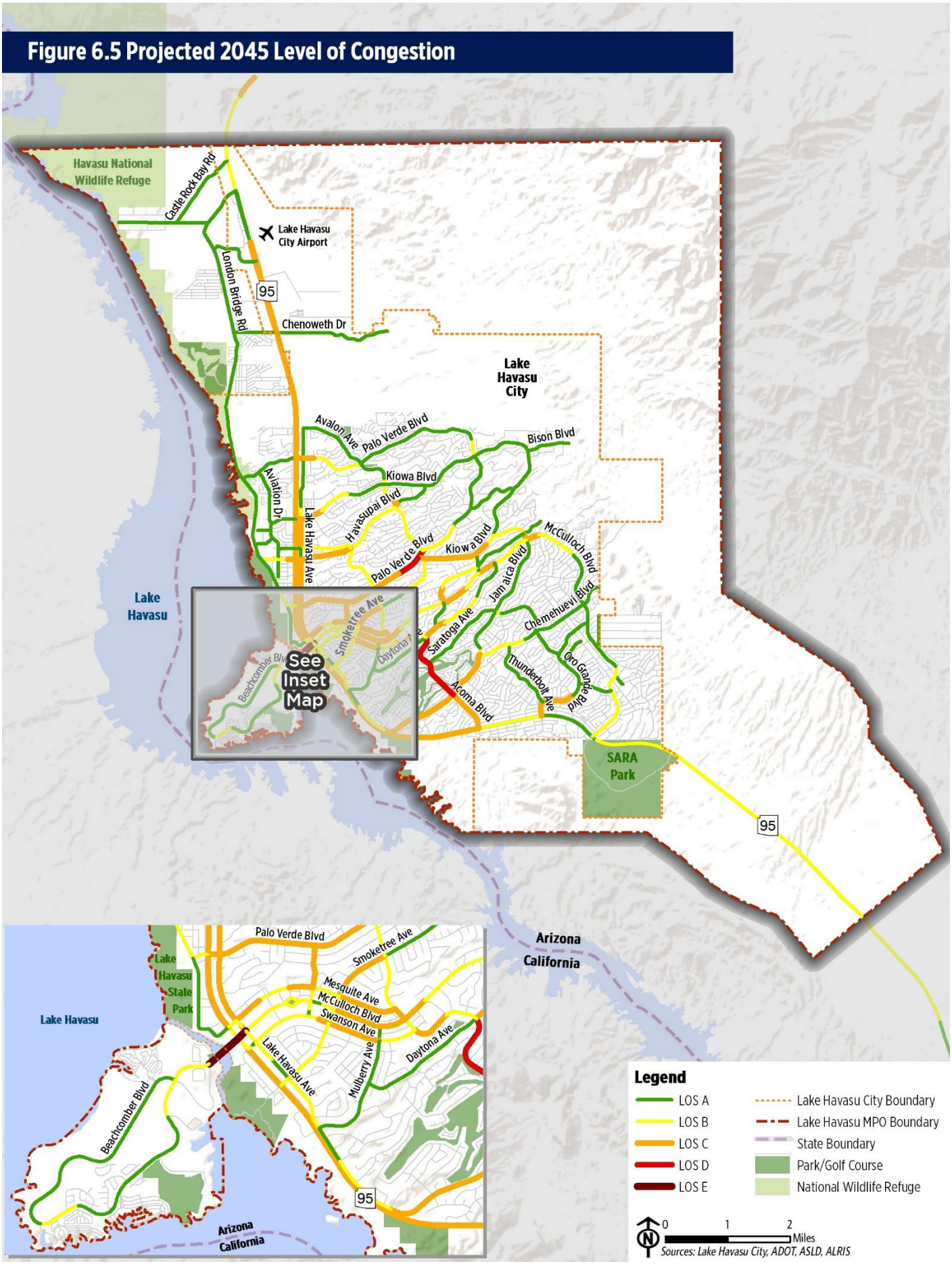
Projected 2045 Traffic Conditions

No-Build Scenario

Traffic projections were developed for 2045 to determine how the region's transportation system would function if no improvements (beyond normal maintenance) were made during that time period. This scenario is referred to as the no-build scenario. The no-build scenario provides a snapshot of future traffic conditions, highlighting expected problems and deficiencies. It also provides a baseline for developing and evaluating possible build alternatives. **Figure 6.5** displays the projected 2045 congestion levels for the committed roadway network if no other roadway improvements are made (No-Build). Roadways that are reaching capacity levels and may experience congestion include:

- **At or Above Capacity (LOS E & LOS F)**
  - McCulloch Boulevard: west of Lake Havasu Boulevard
- **Near Capacity (LOS D):**
  - Acoma Boulevard: Dayton Avenue to Jamaica Boulevard
  - Palo Verde Boulevard: west of Kiowa Boulevard

Figure 6.5 Projected 2045 Level of Congestion



7. WHAT WE HEARD

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 input, and to create a process to build consensus in support of the study recommendations. For this study, phase 1 of the outreach focused on current transportation issues, problem areas, and needs; phase 2 focused on improvement recommendations for the problem areas identified in the first phase. This chapter presents public and stakeholder outreach conducted during both phases of public involvement.

Phase 1 Outreach

The purpose of the first phase of community outreach was to seek input from the public regarding the existing and future deficiencies and needs of the area. For the existing and future conditions milestone, various public involvement approaches and strategies were conducted in coordination with the LHMPO to increase project awareness, to solicit input from the public and key stakeholders, and to inform the development of draft RTP alternatives. The key public involvement approaches and strategies used are described below.

LHMPO Board Presentations

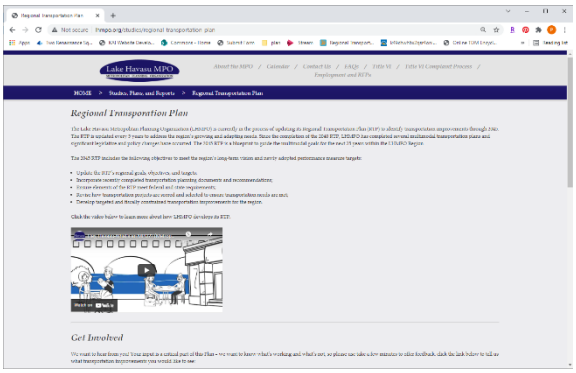
Presentations to inform and share updates about the RTP process were made to the LHMPO Technical Advisory Committee (TAC) and Executive Board throughout the planning process. The presentations provided an opportunity for member agencies and elected officials to hear directly from the study team on the findings of the RTP as well as to address any known issues or concerns. Presentations to the boards were held at key project milestones.

Agency/Stakeholder Coordination

To hear directly from LHMPO member agencies and planning partners, one-on-one meetings were held to discuss preliminary issues, ideas, and challenges to multimodal transportation conditions in the LHMPO region. These meetings provided an opportunity for the study team to talk directly to key decision-makers and staff who will help to carry forward recommendations made in the LHMPO RTP. Stakeholder meetings included key staff from Lake Havasu City, Mohave County, and the Arizona Department of Transportation.

Online Website

A project website was developed and launched in fall 2020, allowing the public easy access to important information about the RTP. The website included key project information, a survey, and an interactive online mapping tool to allow participants to pin areas of concerns. A comment form was also provided to allow the public to submit a question or concern directly to the study team.



Advertisement and Promotion

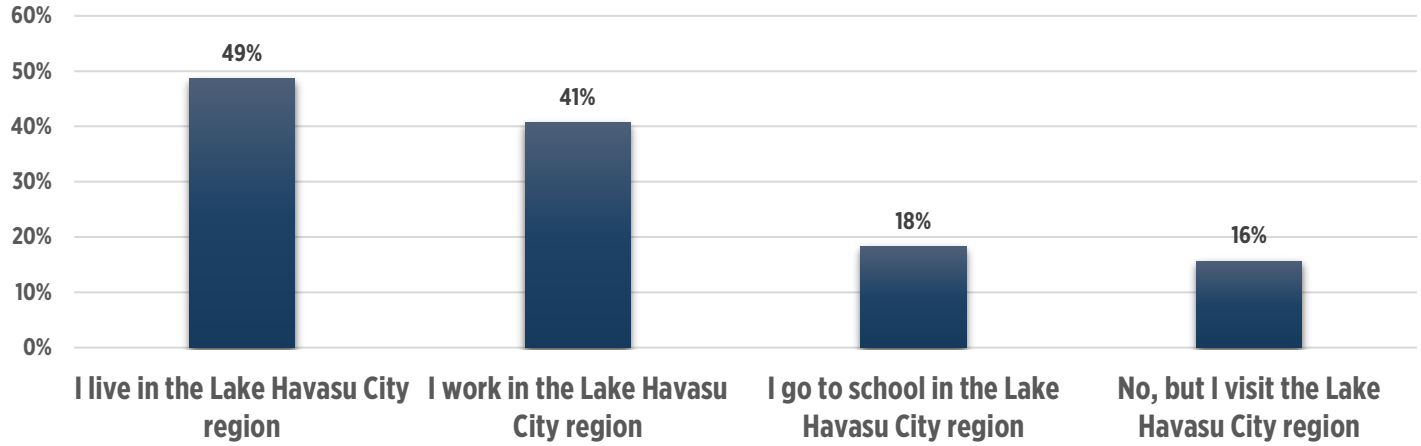
To make the public aware of the purpose of the LHMPO RTP and to invite them to participate in an online survey and mapping exercise, the study team advertised and promoted the plan on various platforms. Advertisements and promotions completed to-date include:

- Social media posts on the LHMPO's Facebook feed. This post was also shared by Lake Havasu City and local agencies/organizations.
- A promotional video was developed to advertise the RTP for distribution to local media outlets and for use on social media sites.

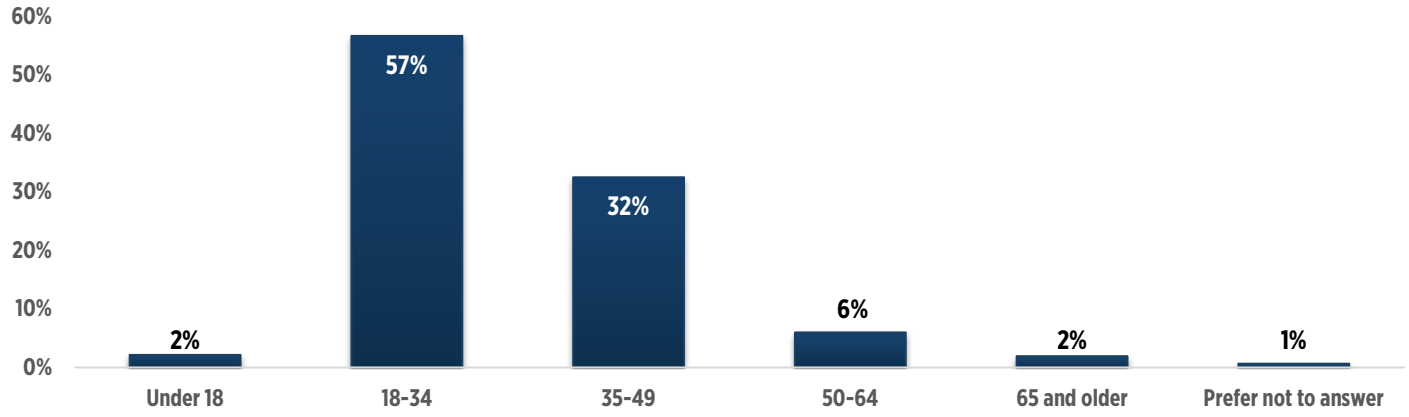
Phase 1 Outreach Results

The official public comment period for public involvement phase 1 opened May 2021 and closed in August 2021. 467 comments were received through email, social media, and the questionnaire and interactive map featured in the online virtual guide. Listed below are the results of the phase 1 public survey.

Question 1. Do you Live, Work, or Go to School in Lake Havasu?

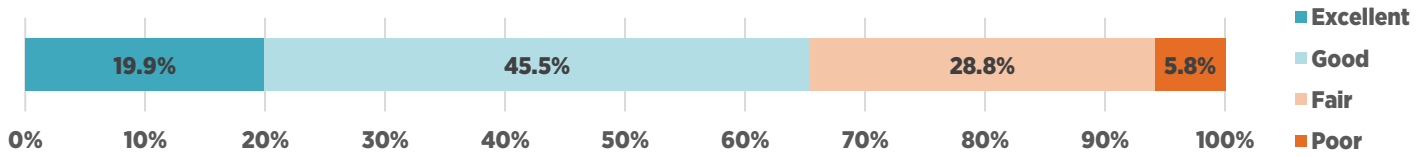


Question 2. What is your age range?



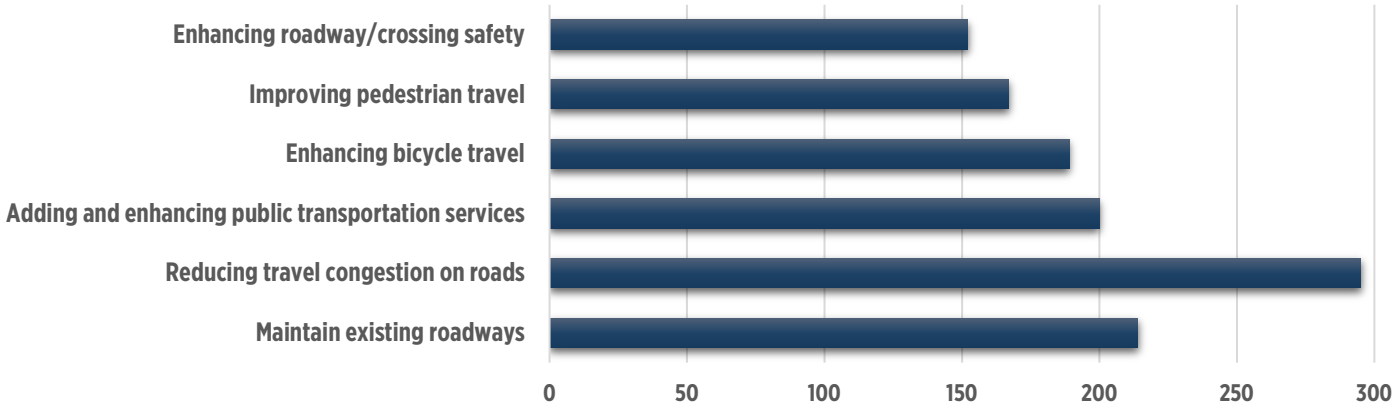
Question 3. How would you rate the transportation system (including roads, bicycle and pedestrian facilities, public transit, etc.) in the Lake Havasu region?

Respondents largely commented that the existing transportation system in the LHMPO region is in good condition (45.5 percent) or fair condition (28.8 percent). An additional 19.9 percent commented that the transportation system is in excellent condition.



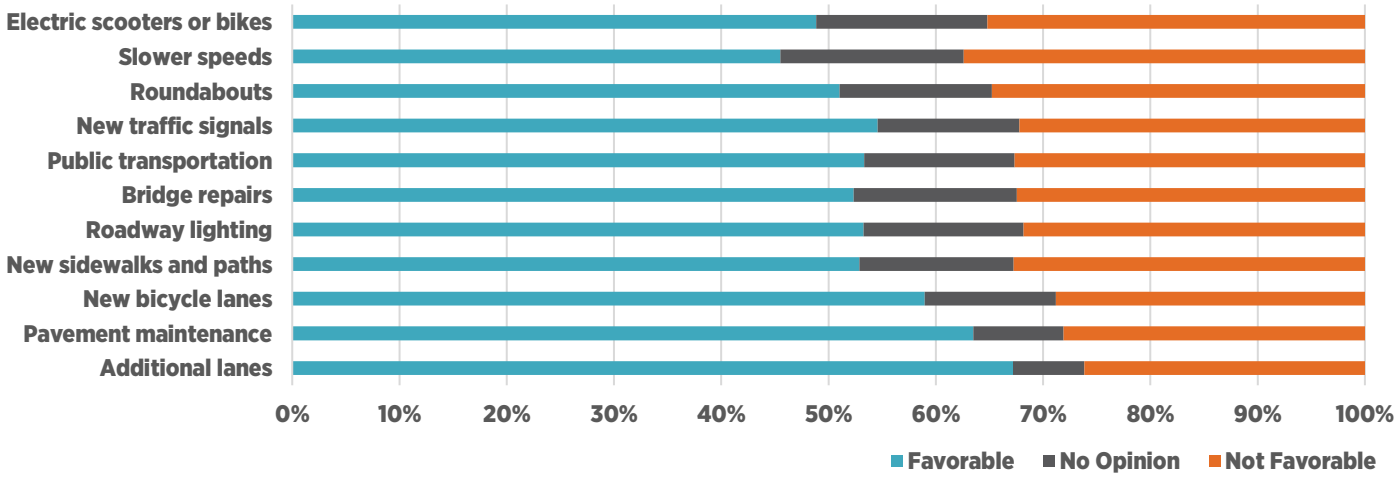
Question 4. What do you think is the greatest transportation need in the Lake Havasu region today? Select your top 3 choices.

Respondents largely commented "reducing travel congestion on roads" is the greatest transportation need, with 63 percent. An additional 46 percent chose "maintain existing roadways" and 36 percent chose "adding and enhancing public transportation services."



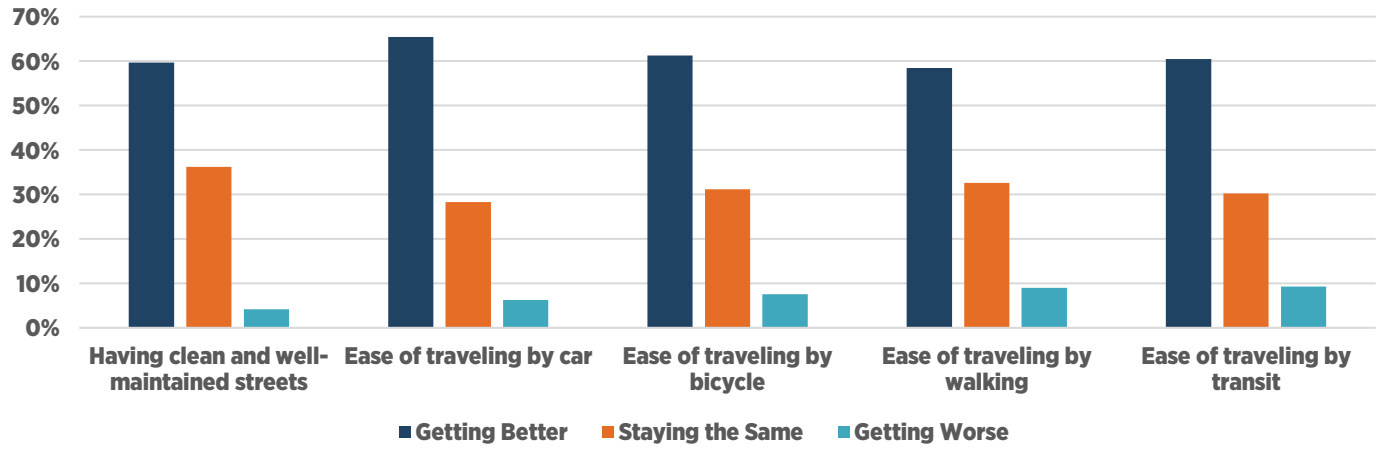
Question 5. What transportation improvements are you in favor of?

Respondents were largely in favor of all potential transportation improvements provided. Slower speeds, roundabouts, and electric scooters, however, had the highest "no favorable" rating with 37 and 35 percent, respectfully.



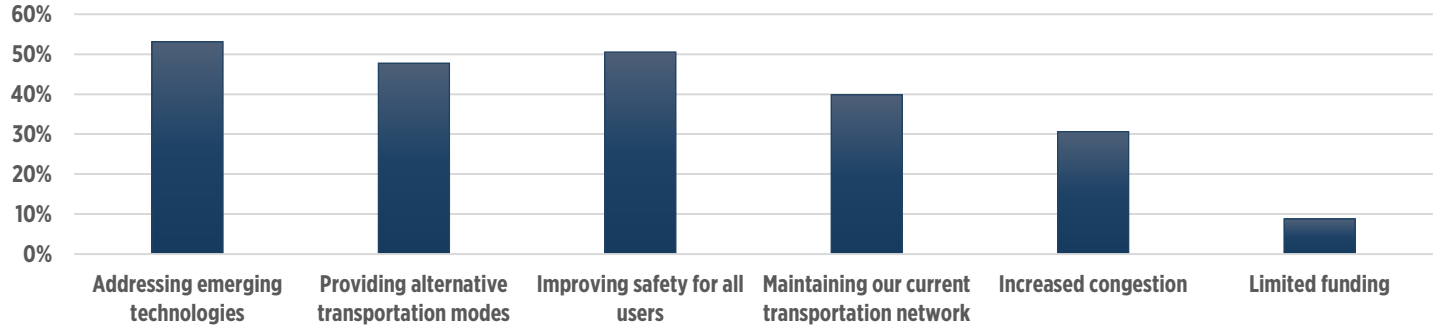
Question 6. In the future, how do you see the region's transportation network?

Respondents were largely positive about the future of transportation conditions in the Lake Havasu region, largely commenting that they saw facility conditions getting better in the future.



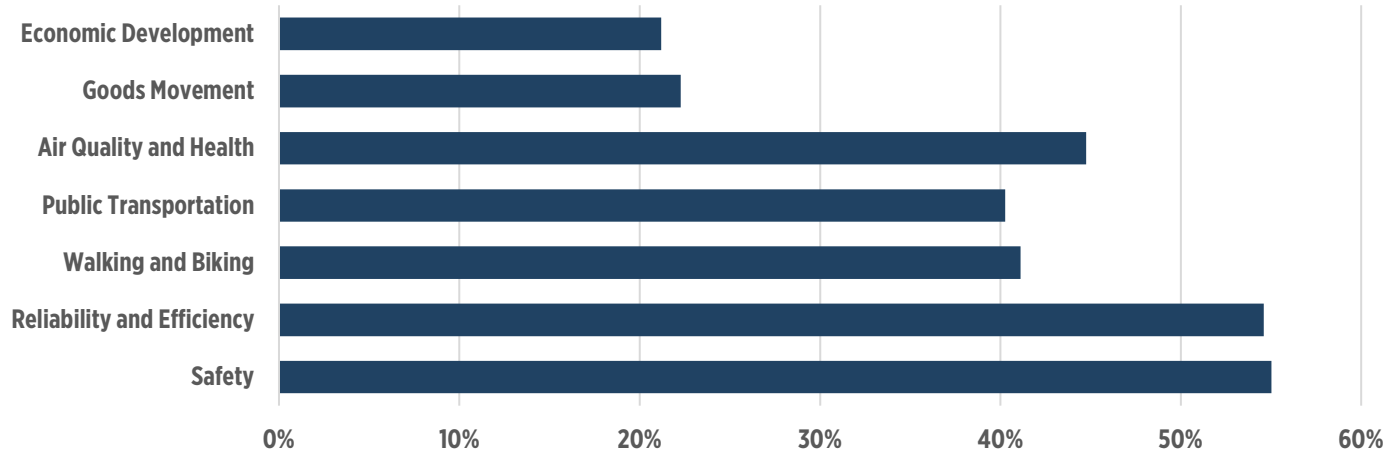
Question 7. In 20 years, what do you think our greatest transportation challenge will be?

53 percent of respondents commented that addressing emerging technologies will be the region's great transportation challenge in 20 years. 51 percent also commented that improving safety for all users will be a challenge.



Question 8. Which transportation goals should we prioritize through 2045?

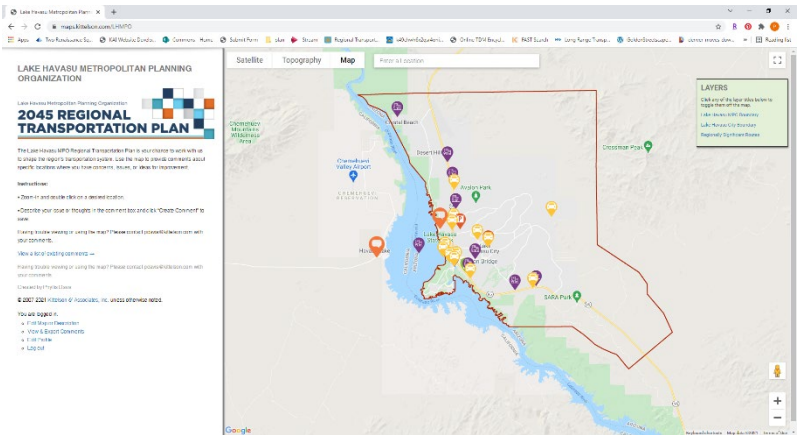
55 percent of respondents identified safety and reliability and efficiency as transportation goals that the region should prioritize.



Online Mapping Tool

An online public survey tool was developed to gather input on existing transportation conditions, issues, and needs. The tool allows users to enter improvements they would like to see for each of the following:

- Safety issues
- Vehicle issues and concers
- Public transportation needs
- Pedestrian and bicycle improvement needs
- Other comments



In addition, users are able to agree, disagree, or comment on previously submitted comments.

The web map was launched in May 2021 and remained open until August 2021. A total of 40 comments and an additional 50 likes and secondary comments were received. As illustrated in the Figure 7.1, a high number of comments were received in the downtown Lake Havasu City core area. Highlights of the comments received, include:

"We need to be flexible with the orientation of the lanes. Sometimes we need two lanes to get off the island and sometimes we need two lanes to access the island. " – 7 likes

"SR 95/Mulberry Ave: This is the worst intersection in the city - it's a bottleneck. A new design is needed to better accommodate traffic flows. " –5 likes

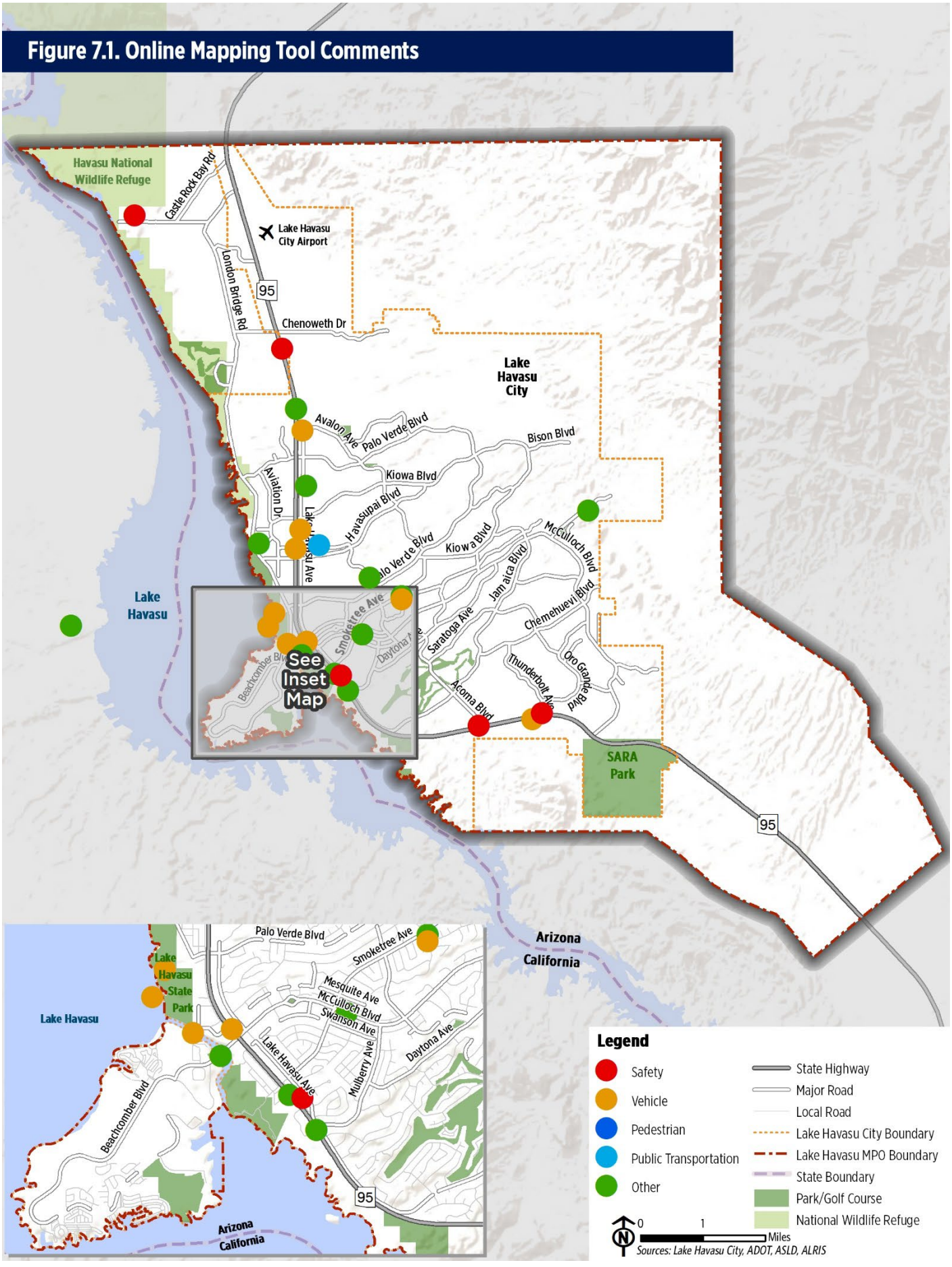
"McCulloch Boulevard/Smoketree Ave: Safer pedestrian crossings, having an option similar to the bridge crossing area, having lights that flash when pedestrians are crossing the street." –5 likes

"Medians are needed to prevent head-on collisions." –2 likes

"There needs to be more than one way to get in and out of the Foothills area. There will be 1,000 homes in the Foothills in a few years and they are all using one road to get in and out of the area." –2 likes

"A pedestrian bridge or tunnel would allow kids and other pedestrians to safely cross HWY 95 and reach the aquatic center, Rotary park, skate park, and other amenities in the area.." –2 likes

Figure 7.1. Online Mapping Tool Comments



Phase 2 Outreach

The purpose of the second phase of community outreach was to seek input from the public regarding the draft recommended improvement projects. To support the draft final RTP phase, various public involvement approaches and strategies were conducted in coordination with the LHMPO to increase project awareness and solicit input from the public and key stakeholders. The key public involvement approaches and strategies that were used are described below.

Agency/Stakeholder Coordination

To hear directly from LHMPO member agencies and planning partners, one-on-one meetings were held to discuss potential project needs and their priority in the LHMPO region. These meetings provided an opportunity for the study team to talk directly to key decision-makers and staff that will help to carry forward recommendations made in the LHMPO RTP.

Advertisement and Promotion

To make the public aware of the purpose of the LHMPO RTP and to invite them to comment on the draft RTP, the study team advertised and promoted the plan utilizing various platforms. Advertisements and promotions completed to-date include:

- Social media posts on the LHMPO's Facebook. This post was also shared by many of the LHMPO's member agencies to further aid in expanding outreach.
- Email notices were shared with federal, state, local, and private stakeholders to inform them about the availability of the draft final RTP and the comment period.

Phase 1 Outreach Results

The official public comment period for public involvement phase 2 opened November 2021 and closed in December 2021. Comments received included:

"A shuttle service to/from the HII airport is greatly needed. "

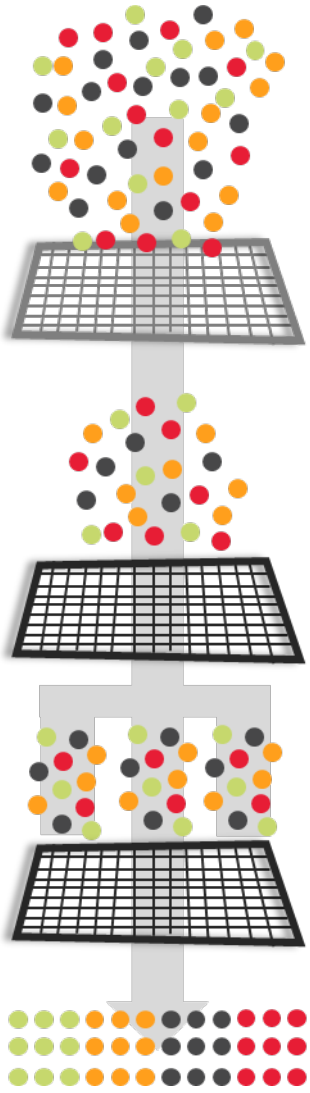
8. NEEDS ASSESSMENT

The goals described in chapter 3 informed a five-step evaluation process that shaped the LHMO 2045 RTP recommendations. This process used public input and region-wide data analysis to screen, score, and prioritize a long list of projects that came from previous plans, conversations with the community, and local and national expertise in multimodal transportation systems.

Project Identification Process

A needs assessment identifies the multimodal transportation projects needed to address existing and future transportation network deficiencies within the LHMPO's planning boundary without considering funding limitations. Developing the needs plan is the starting point for understanding and prioritizing the region's overall transportation needs. However, once the applicable transportation revenues available to the LHMPO are applied, the number of projects that can be constructed to address the needs becomes significantly reduced. As illustrated below in the overall project identification and prioritization process, projects identified as a need are evaluated by scoring each project using defined goals and objectives, which are described later in this chapter. The highest-ranking projects are prioritized when selecting which projects to include in the cost feasible plan.

Figure 8.1. Project Identification and Prioritization Process Overview



STEP 1: COLLECT PROJECTS AND PROGRAMS

The study team gathered more than 90 project and program ideas, including recommendations from the 2040 RTP, new suggestions from LHMPO member agencies, and from residents across the region.

STEP 2: SCREENED AND EVALUATED PROJECTS

The study team screened and evaluated recommended projects for validity, feasibility, and need.

STEP 3: SCORE PROJECTS

Projects were scored based on a set of qualitative prioritization criteria to identify projects that best meet LHMPO RTP goals and objectives. Based on results, projects were grouped into high-, mid-, and low-need

STEP 4: FUNDING ANALYSIS AND PROJECT FEASIBILITY

Projects were then evaluated against available funding and reviewed for feasibility to determine phasing of implementation.

STEP 6: PRIORITIZE AND RECOMMEND

Based on results from previous steps, projects were assigned to implementation timeframes based on need and funding availability.

Regional Needs Assessment

The following outlines the identification and screening of potential improvement projects in the LHMPO region. The results of this needs assessment creates a universe of needs to be scored and prioritized.

Pavement Preservation Needs

Figure 8.2 illustrates the locations in need of pavement rehabilitation to replace segments of pavements that are near or exceeded their useful life. As a regional assessment, the current and future pavement performance was identified using a broad regional approach. Degradation interval criteria were established as determined by facility type (highway vs. non-highway) and average traffic volumes. In accordance with ADOT design expectations and standards, an ADOT highway facility's pavement design lifespan is 25 years. Alternatively, literature supports that other, less-intensive, lower-speed facilities may be designed to a shorter design lifespan of approximately 20 years. Therefore, all LHMPO area highway facilities are assumed a 25-year total pavement lifespan. All other regionally significant routes were assumed a 20-year total pavement lifespan. Beyond the facility type, the intensity of use along the corridor determines the rate of degradation, with increased load and volume across a roadway implying a more quickly deteriorating facility. In addition to the total lifespan, roadways with volumes greater than 10,000 AADT were assigned a steeper degradation rate earlier in the pavement lifespan, whereas roadway segments with volumes less than 10,000 AADT were assigned a shallower degradation rate.

Roadway Needs

To best capture both existing projects as well as identify new projects, the comprehensive list of projects was developed by 1) referencing previously completed studies, plans and reports; 2) existing and future conditions evaluation; 3) direct TAC input; 4) public comment and 5) project team identification of high-need location solutions.

Previously Completed Studies, Plans, and Reports

The initial approach to developing the list of roadway project needs included a review of the previous plans, transportation improvements plans, and capital improvements plans. Projects identified in these plans were refined based on programming/construction status, changes to roadway and/or traffic conditions, and TAC input on the current significance of these project recommendations.

Existing and Future Conditions Evaluation

Needs and deficiencies identified in the existing and future conditions evaluation chapters formed the primary basis to identify potential project ideas.

Direct Input from the LHMPO Member Agencies

The study team met one-on-one with LHMPO TAC members to discuss project ideas for their respective jurisdiction's facilities. These project ideas were vetted by the full TAC representation and plan development team prior to confirmation as a project recommendation.

Public Input

The online public engagement process facilitated various opportunities for the public to post comments and pose specific transportation-related questions. The plan development team reviewed frequently occurring comments, specifically identifying locations or systemic concerns and cross-referencing needs. Multiple public concerns were adopted as project recommendations, corresponding directly with elevated needs and/or an existing project recommendation.

Universe of Needs

Figure 8.3 illustrates the universe of roadway needs identified through this five-step process. The needs include intersection, safety, and capacity related projects. In addition, new roadways to better connect and circulate traffic were identified. Example projects in the final list includes:

- Coordinating and optimizing signals on key corridors
- Conducting traffic warrant studies at key unsignalized intersections
- Evaluating traffic circulation needs at key SR 95 intersections (i.e., SR 95/Kiowa Boulevard, SR 95/Oro Grande Avenue, and SR 95/Mulberry Avenue)
- Installing raised medians on SR 95

- Widening roadways to accommodate traffic
- Identifying an alternative route to Cherry Tree Boulevard from the Foothills area
- Developing a corridor-wide vision for Acoma Boulevard

Evaluation of Performance

Capacity related improvement projects, such as widening existing roadways and constructing new roadways, were evaluated to identity potential projects to alleviate existing or projected traffic congestion. **Figure 8.4** displays the projected congestion levels if the roadway improvement projects are constructed. As shown in the figures, the level of congestion throughout the LHMPO region significantly improves based on the no-build future traffic conditions. As shown in figure 8.4, if roadway projects are built, only a small handful of corridors may experience congestion levels, including:

- **At or Above Capacity (LOS E & LOS F)**
  - McCulloch Boulevard: west of Lake Havasu Boulevard
- **Near Capacity (LOS D):**
  - Acoma Boulevard: Saratoga Avenue to Jamaica Boulevard
  - Palo Verde Boulevard: west of Kiowa Boulevard

Pedestrian Network Needs

The approach to identifying pedestrian network needs was to concentrate resources in areas where improvements are most needed and where people are most likely to walk. Proposed pedestrian needs aim to close sidewalk gaps and provide a safe and comfortable experience for users of all ages and abilities. Combined with the existing pedestrian network, the identified needs create a more robust, connected, and comfortable walking environment. **Figure 8.5** illustrates pedestrian improvement needs in the LHMPO region.

Bicycle Network Needs

A comprehensive bicycle network improves bicyclists' level of comfort, convenience, and access to key destinations. For this study, a complete, regional bicycle network was developed that connects local and regional community destinations safely and efficiently. Planning a regional bicycle network enables LHMPO member agencies to prioritize and seek funding to construct bicycle facilities where they will provide the greatest benefit to bicyclists and the community-at-large. Bicycle network solutions were identified to logically connect existing facilities to improve local and regional mobility as well as to determine potential upgrades to existing facilities to improve overall roadway safety and comfort. **Figure 8.5** illustrates the recommended complete bicycle network for the LHMPO region. For all identified needs, an engineering assessment should occur to determine the feasibility of construction.

Figure 8.2 Pavement Preservation Needs

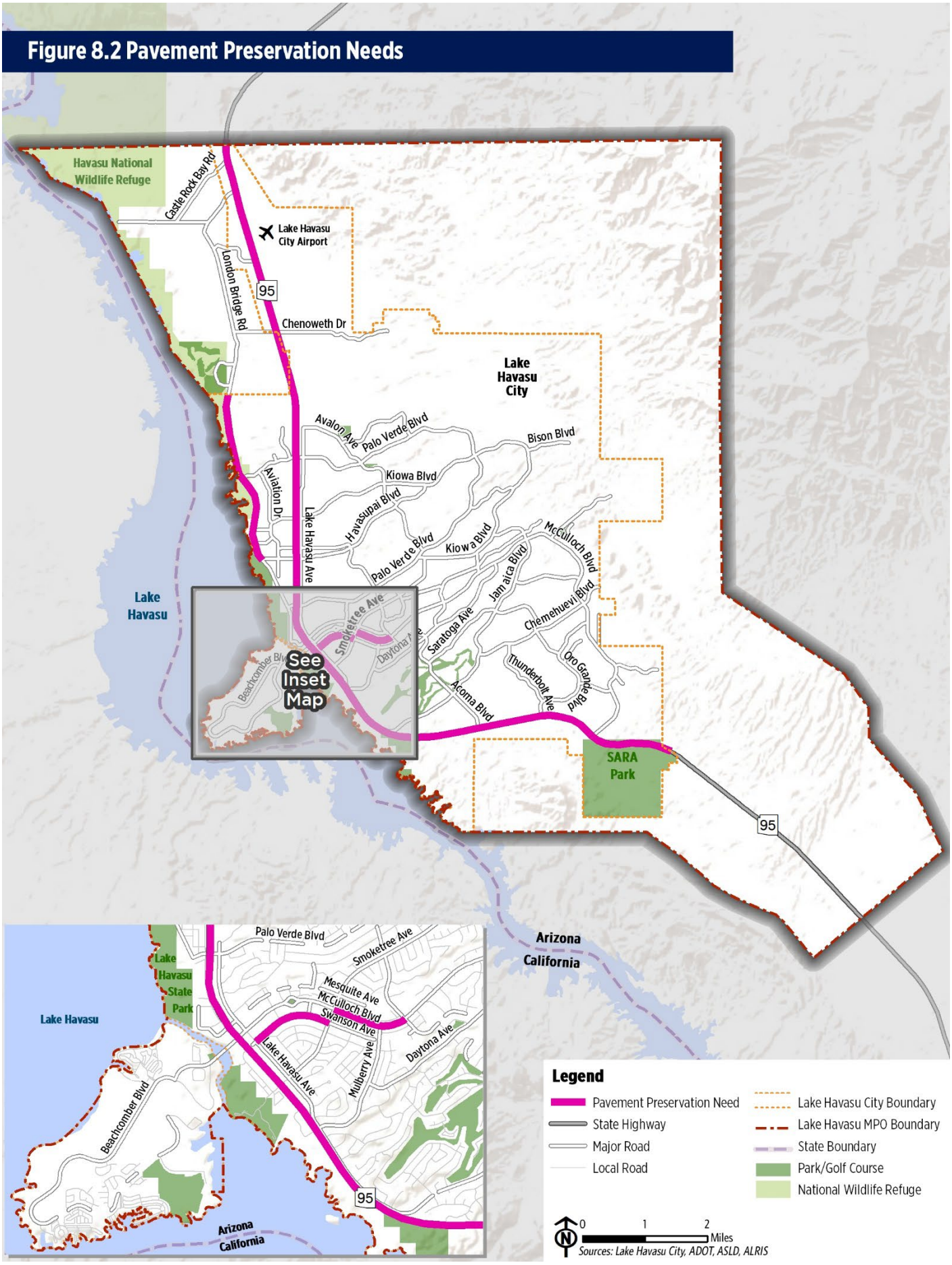


Figure 8.3. Roadway Improvement Needs

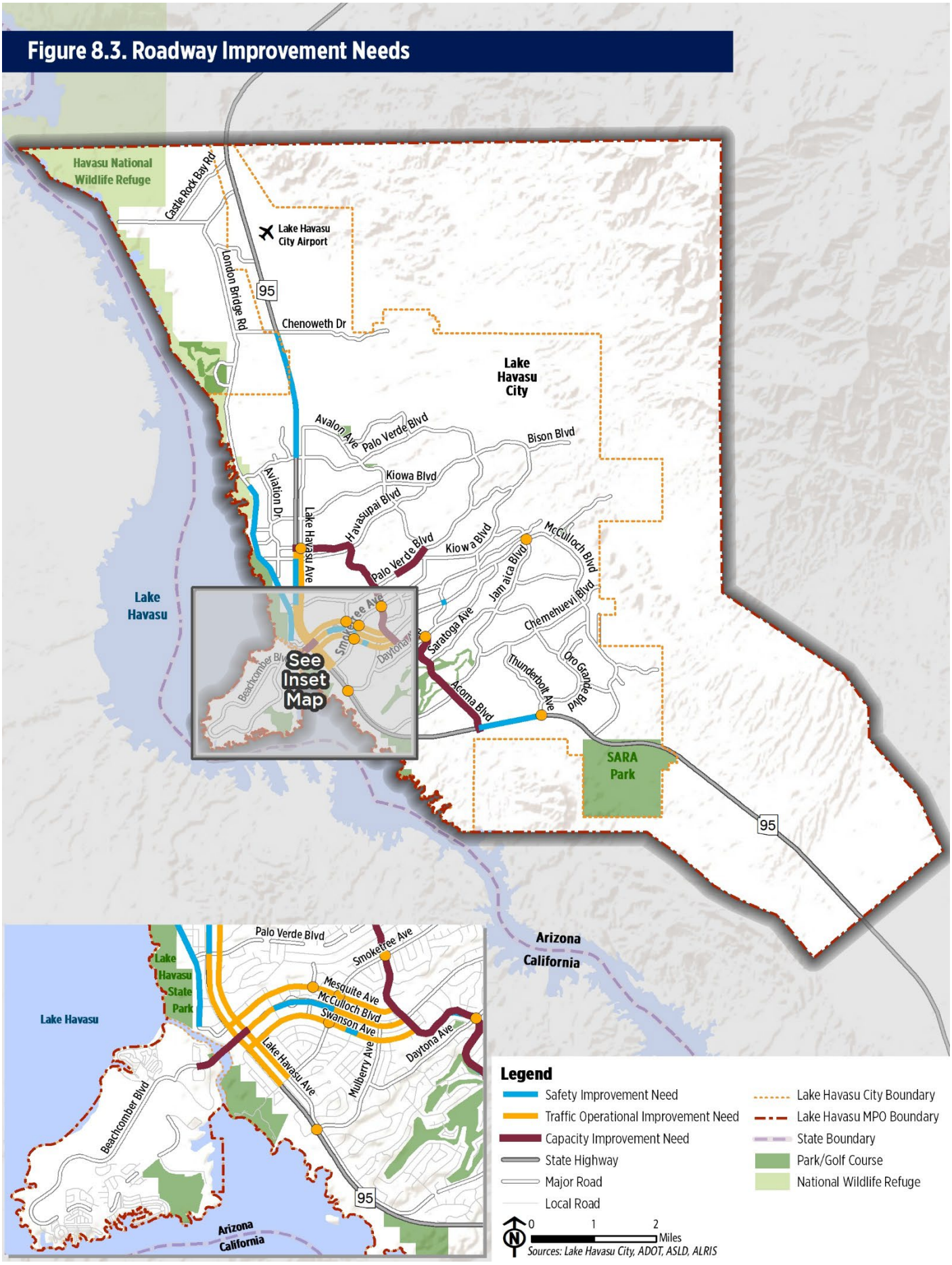


Figure 8.4. Projected 2045 Level of Congestion with Roadway Improvements

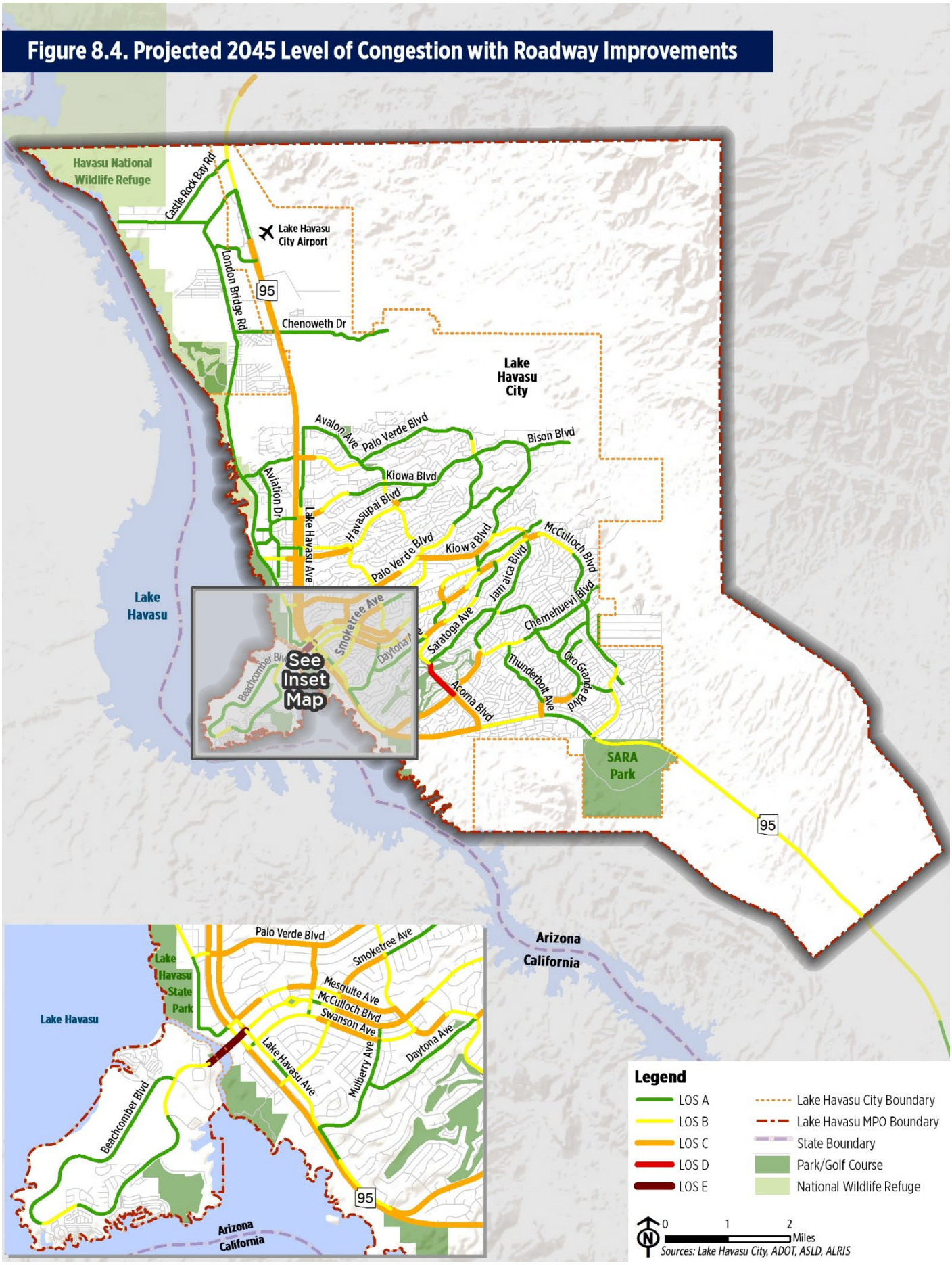
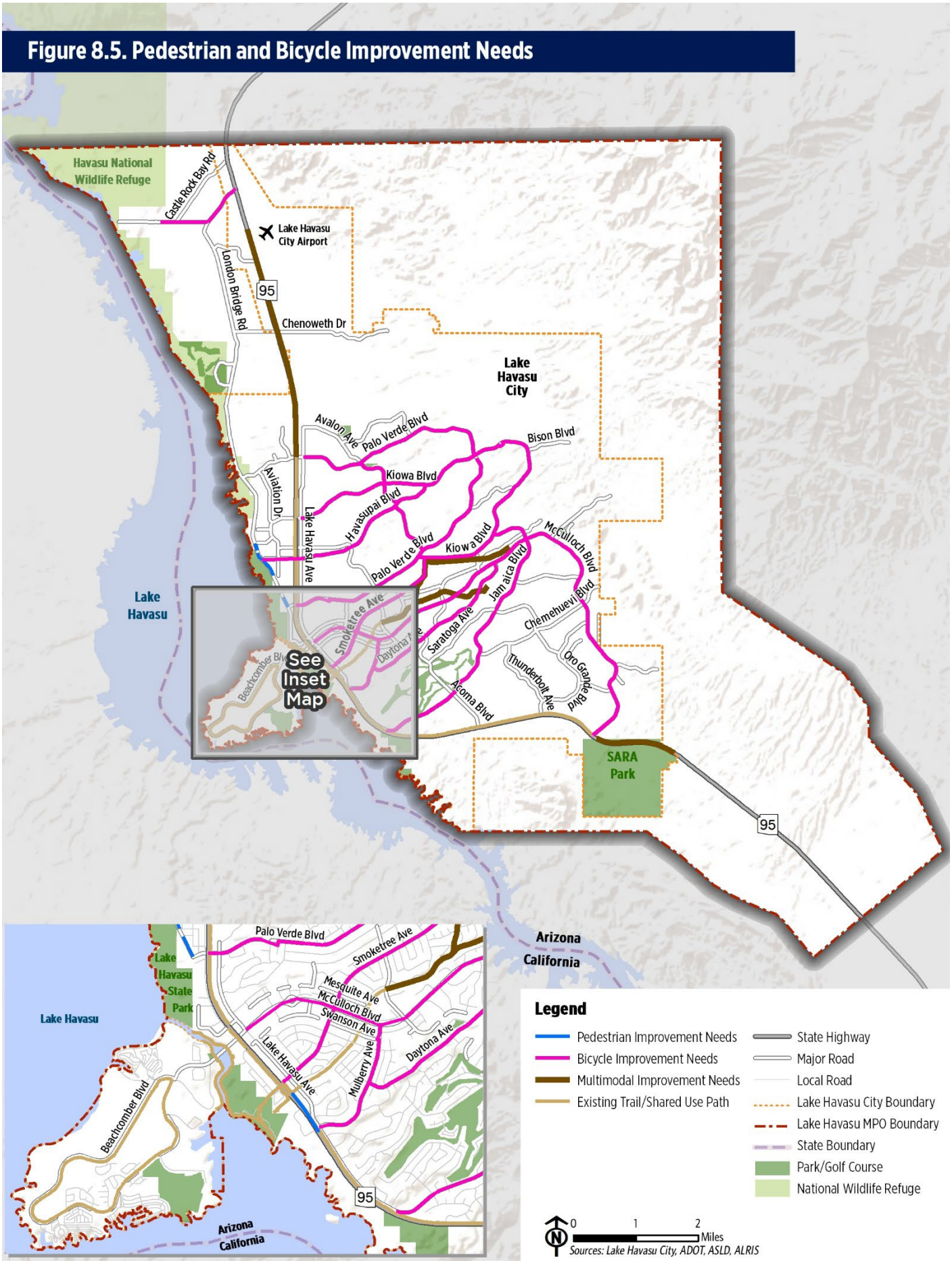


Figure 8.5. Pedestrian and Bicycle Improvement Needs



Project Prioritization

Once the needs list was finalized, a prioritization methodology was developed and used to prioritize projects for the cost feasible plan. Project prioritization is an essential part of the development of the LRTP as results from this process aid regional decision-makers in selecting transportation projects that will benefit the region while maximizing the use of scarce financial resources. The prioritization process uses a flexible approach intended to provide clear direction for proactively seeking project funds and completing the design and engineering of the most critical projects, while still allowing for opportunistic implementation of projects.

Project Prioritization Framework

Evaluation criteria are used to evaluate and then compare how well potential transportation projects meet a plan's goals and objectives. Each project was assessed against each criterion to determine if the project will result in a positive impact that is in line with the LHMPO goals and performance areas. Ultimately, this type of evaluation is used to prioritize and develop recommendations for transportation projects. The evaluation criteria and performance measures listed in **Table 8.1 and Table 8.2** demonstrate the prioritization methodology for roadway and multimodal project evaluation and selection. This prioritization method creates an actionable way for the vision, goals, and objectives to shape project selection.

Table 8.1. Roadway Project Prioritization Framework

Evaluation Criteria	Score
Safety	
Project located on a high- suspected serious injury and fatal crash corridor or intersection	Yes/No
System Preservation	
Project improves pavement or bridge condition	Yes/No
Mobility	
Project improves composite V/C (existing and future V/C)	Yes/No
Project aids in improving circulation and operations	Yes/No
Project incorporates one or more multimodal improvements	Yes/No
Freight Movement and Economic Vitality	
Located within or providing direct access to identified economic development zones, employment hub, and/or other regionally significant locations or infrastructure	Yes/No
Regional Connectivity	
Project located on a regionally significant route	Yes/No
Sustainable Environment and Social Equity	
Project located in an area with high proportion of disadvantaged population groups	Yes/No

Table 8.2. Multimodal Project Prioritization Framework

Evaluation Criteria	Score
Safety	
Project located on a high- suspected serious injury and fatal bicycle- and pedestrian- related crash corridor or intersection	Yes/No
Access and Connectivity	
Project addresses system gap to create a continuous and interconnected ped/bike network	Yes/No
Project connects neighborhoods to recreational facilities, trails, transit stops, or key activity centers	Yes/No
Equity	
Provides transportation options for vulnerable population groups	Yes/No
Regional Connectivity	
Project located on a regionally significant route	Yes/No
Feasibility	
Project has limited physical constraints	Yes/No

9. COST FEASIBLE PLAN

This chapter summarizes the development of the 2045 RTP Cost Feasible Plan, which identifies the multimodal transportation projects that can be funded through 2045 taking into consideration estimated revenues. The cost feasible plan serves as the guide for how revenue available to the MPO and its member agencies could be used to achieve this vision through a list of short-, mid- and long-term projects between 2022 and 2045. To make the best use of limited dollars, the study team designed the cost feasible plan to identify and fund those projects that increase the performance of the transportation system based on identified MPO goals shown in chapter 2.

Process Overview

Five Step Approach

In developing the 2045 LHMPO RTP, the LHMPO established a new approach to identifying, prioritizing, and funding transportation improvements in the region. This new approach was conceived to ensure that the financial resources of the MPO are allocated in a manner that reflects the overall transportation vision and goals for the region. The five-step approach to developing this cost feasible plan included:

- **Step 1: Develop Revenue Forecasts**—Revenue forecasts for capital and operations/maintenance activities were developed based on a combination of historical revenues and anticipated future availability from the MPO, Lake Havasu City, and Mohave County.
- **Step 2: Identify Funding Programs and Forecast Potential Allocations**—Potential revenues from each fundng program were estimated according to eligible uses and policy direction from the programs.
- **Step 3: Assign Prioritized Projects to Funding Programs**—The prioritized roadway, safety, and multimodal projects were assigned to the appropriate funding programs and sources.
- **Step 4: Assign Funded Projects to Time Periods**—Based on revenue availability, funded projects were prioritized and assigned to a future planning horizon.
- **Step 3: Determine Year-of-Expenditure (YOE) Costs for Projects**—Costs for each project were converted from 2021 dollars to Year-of-Expenditure (YOE) dollars to account for future inflation.

Recommended Investment Strategy

A primary purpose of the RTP is to identify how federal funds will be expended over the next 20 years. Roadway improvements are categorized into three general categories of investments: preservation, modernization, and expansion, as defined below. These categories are consistent with the ADOT Long-Range Transportation Plan.

LHMPO Regional Transportation Plan		
PRESERVATION **Projects that preserve transportation infrastructure by mitigating asset deterioration and elongating asset service life**	**MODERNIZATION** **Projects that improve travel efficiency, functionality, and/or safety without physically adding roadway capacity**	**EXPANSION** **Projects that add roadway capacity through the addition of new facilities and/or services.**
• Pavement • Bridge	• Safety Countermeasures • Intersection Improvements • Technology Improvements	• Capacity Projects: Roadway Widening, New Roadways, and New Bridges

Based on the current and future needs and projected funding levels, the RTP recommends that federal funding be distributed with the following percentages:

Preservation	Modernization	Expansion
65%	20%	15%

Revenue Forecasts

Ensuring that the financial resources will be available to fund the multimodal transportation projects by 2045 is an important element of the LHMPO 2045 RTP. As shown in chapter 1, the premise of the long-range revenue forecast is rooted in federal regulation originally required by the Intermodal Surface Transportation Efficiency Act of 1991. This following summarizes transportation revenues potentially available to fund multimodal transportation projects within the LHMPO region through 2045.

Revenue projections include federal, state, city, and county sources. The LHMPO and its partner agencies have historically funded transportation projects using local sources, such as fuel taxes, impact fees, and general fund transfers (ad valorem) in addition to federal and state revenues. **Table 9.1, Table 9.2, and Table 9.3** summarizes the total projected revenues for capital, operations, maintenance, and planning activities that are anticipated to be available for the 2045 RTP.

Table 9.1. Projected Revenues for Capital Improvements

Revenue Source	2022-2026	2027-2031	2032-2045	Total 2022-2045
Highway User Revenue Fund (HURF)	$3,854,604	$4,481,463	$14,024,941	$22,361,008
Surface Transportation Block Grants (STBG)	$1,183,513	$1,189,540	$3,560,531	$5,933,584
Federal Highway Safety Improvement Program (HSIP)	$5,153,380	$4,135,000	$11,578,000	$20,866,380
ADOT Administered Federal/State Projects	$15,440,000	$0	$0	$15,440,000
Total Anticipated Revenue	**$25,631,497**	**$9,806,003**	**$29,163,472**	**$64,600,972**

Table 9.2. Projected Revenues for Operations and Maintenance

Revenue Source	2022-2026	2027-2031	2032-2045	Total 2022-2045
Highway User Revenue Fund (HURF)	$14,454,763	$16,805,487	$52,593,529	$83,853,780
Total Anticipated Revenue	**$14,454,763**	**$16,805,487**	**$52,593,529**	**$83,853,780**

Table 9.3. Projected Revenues for Planning Activities

Revenue Source	2022-2026	2027-2031	2032-2045	Total 2022-2045
Surface Transportation Block Grants (STBG)	$147,939	$148,693	$445,066	$741,698
Consolidated Planning Grant (CPG)	$923,224	$912,803	$2,732,200	$4,568,227
State Planning and Research (SPR) Program	$710,482	$613,884	$1,837,478	$3,161,845
Total Anticipated Revenue	**$1,781,645**	**$1,675,380**	**$5,014,745**	**$8,471,770**

Roadway Projects

Development of the cost-feasible roadway projects began by estimating the costs associated with each project in the roadway needs. The planning-level cost estimates for each project were based on typical per-mile/foot construction costs. Estimated costs for each project are expressed in 2021 dollars and in most cases do not include costs associated with right-of-way acquisition. Because actual costs for projects could vary at the time of implementation, a detailed analysis should be performed on a case-by-case basis to determine actual costs. Unless otherwise noted, the recommended projects are not yet funded. Projects were then prioritized based on the project prioritization process presented below as well as traffic modeling results, collaboration with LHMPO member agencies, and public input.

Pavement Preservation Projects

On-going, paved-road maintenance and pavement reconstruction is critical to the overall safety of the area's transportation network. Maintaining a road's pavement condition can lessen maintenance costs on vehicles, improve overall safety, and provide motorists with a smoother, more comfortable ride. Pavement improvement projects include:

- **Pavement Maintenance and Rehabilitation:** Minor rehabilitation consists of non-structural enhancements to eliminate age-related, top-down surface cracking that develops in flexible pavements due to environmental exposure. Major rehabilitation consists of structural enhancements that both extend the service life of an existing pavement and/or improve its load-carrying capability. Surface treatments include microsurfacing, chip seal, slurry seal, and crack seal.
- **Roadway Paving:** Paving roads has numerous benefits, including reduced vehicle maintenance, improved driving experience and safety, and reduced dust emissions.

Table 9.4 and Figure 9.1 illustrate planned major pavement rehabilitation or reconstruction projects on the study network. In addition to these, Lake Havasu City and Mohave County conduct regular pavement maintenance activities.

Safety Projects

As part of the LHMPO 2045 RTP, a safety analysis was performed to identify and prioritize locations to be further evaluated for possible safety solutions. **Table 9.5, and Figure 9.2** illustrate safety improvement projects by implementation phase for the LHMPO region. These projects include:

- **Developing corridor safety studies** to determine elements that pose a safety concern on the existing roadway and to identify mitigation measures to improve safety.
- **Constructing corridor and intersection improvements**, including widening corridors, installing raised medians, pavement markings, adding lighting, and other safety measures.

Traffic Operational Projects

Table 9.6, and Figure 9.3 illustrate traffic operational improvement projects by implementation phase for the LHMPO region. These projects include:

- **Developing corridor traffic evaluation studies** to develop coordinated and optimized signal timing plans to improve corridor and intersection operations.
- **Conducting intersection evaluation studies** to assess the need for a roundabout or traffic signal at the intersection.
- **Implementing adaptive traffic signal control** to improve operations on regionally significant routes.

Capacity Projects

Capacity related improvement projects, such as widening existing roadways and constructing new roadways, were evaluated to identity potential projects to alleviate existing or projected traffic congestion. Based on forecasted growth in the LHMPO region for the next 25 years, several of the current roadways will not be able to meet future demand. **Table 9.7 and Figure 9.4** illustrate capacity improvements by implementation phase in the LHMPO region. These projects are based on results of the project prioritization process presented in chapter 8 and currently funded projects.

Figure 9.1. Major Pavement Rehabilitation Projects by Implementation Phase

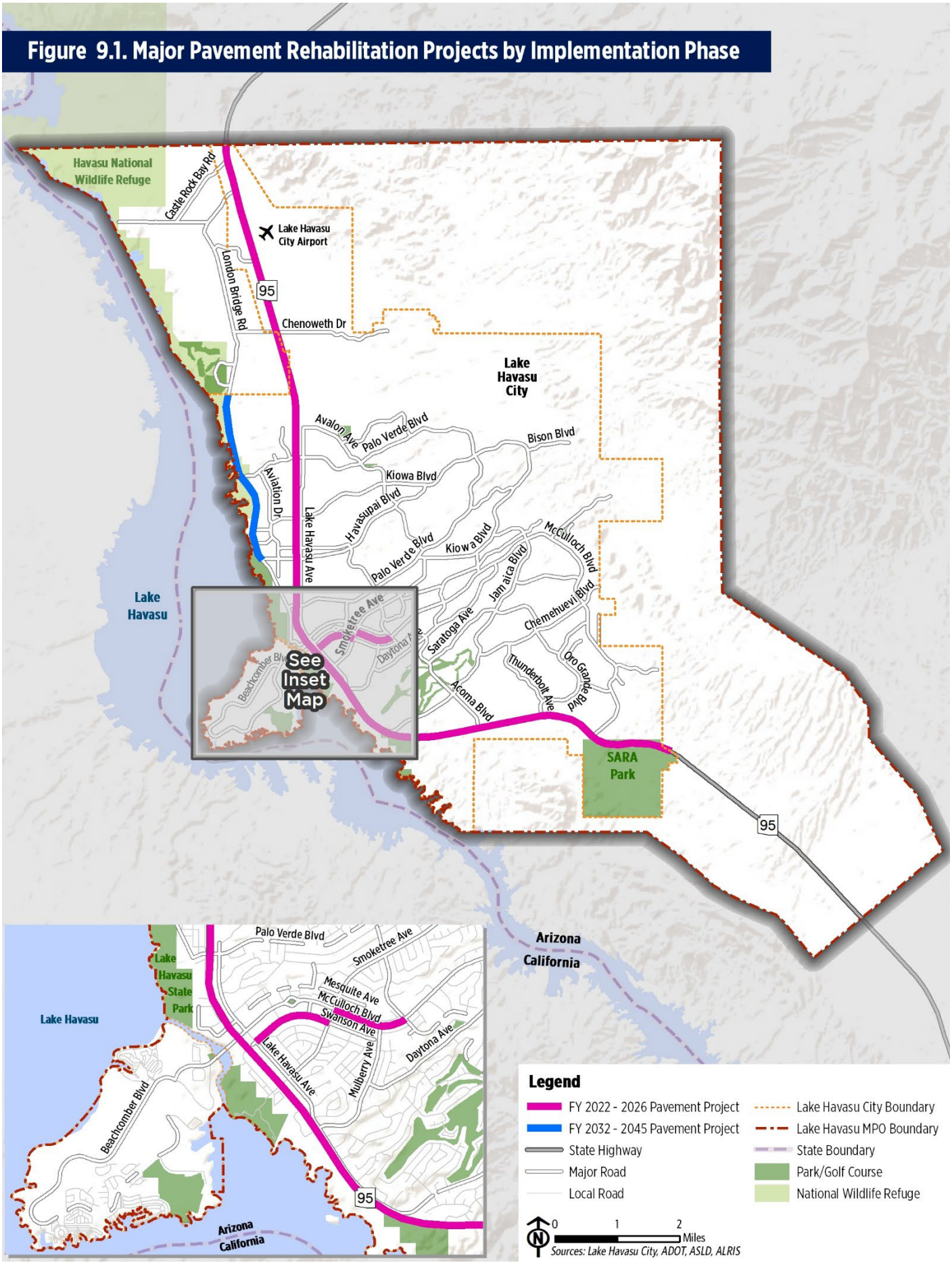


Figure 9.2. Safety Projects by Implementation Phase

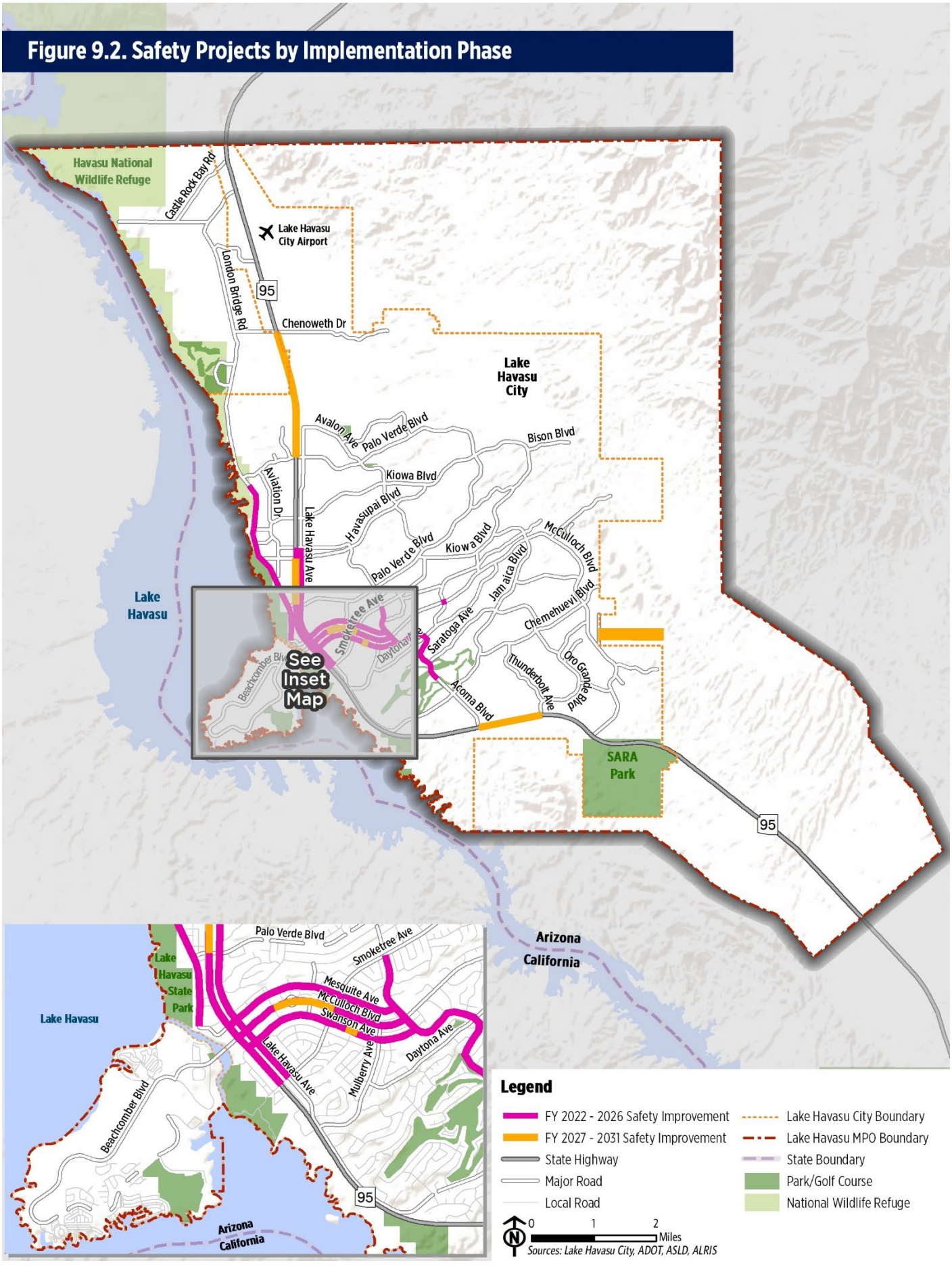


Figure 9.3. Traffic Operational Projects by Implementation Phase

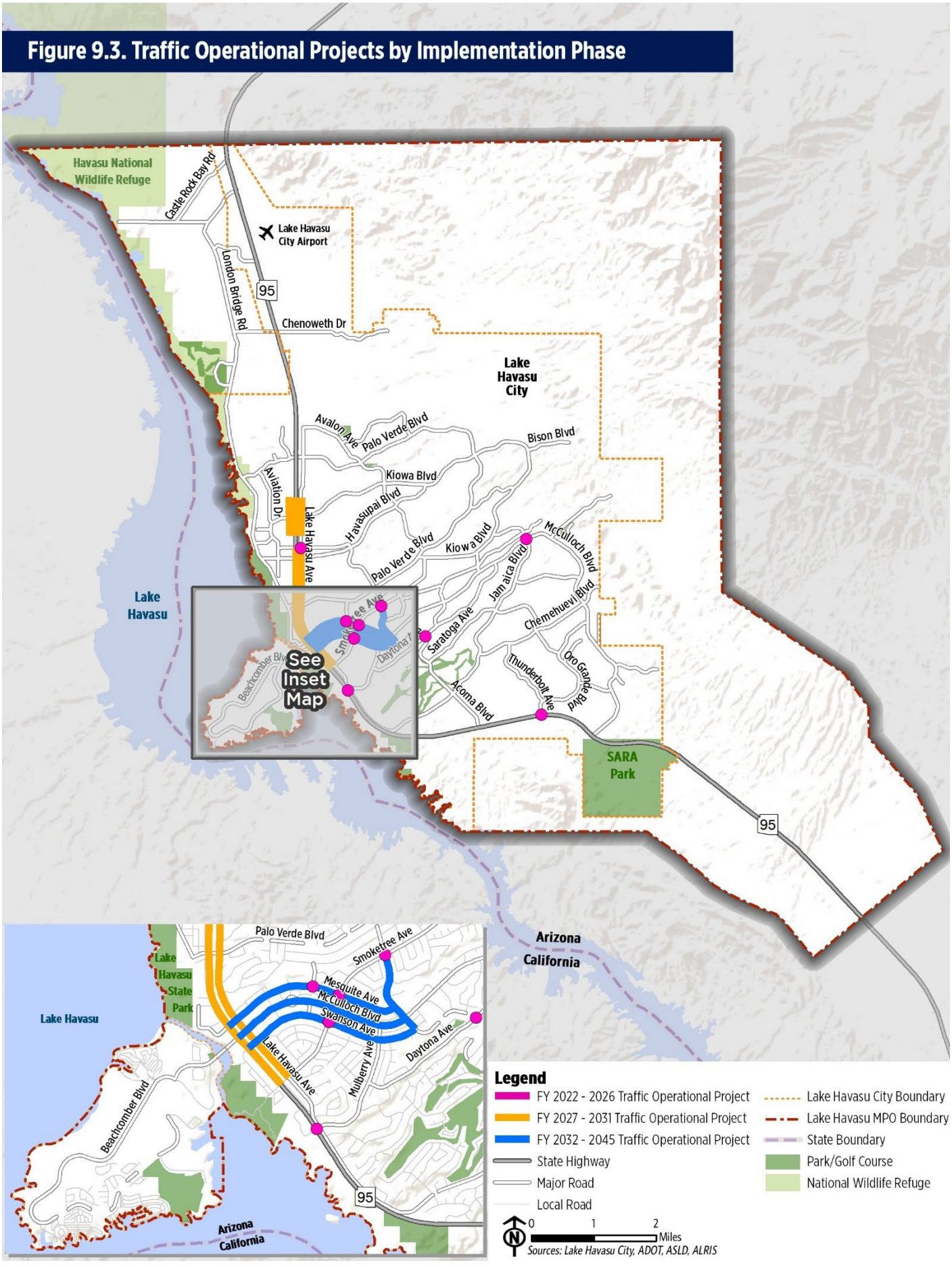


Figure 9.3. Capacity Improvement Projects by Implementation Phase

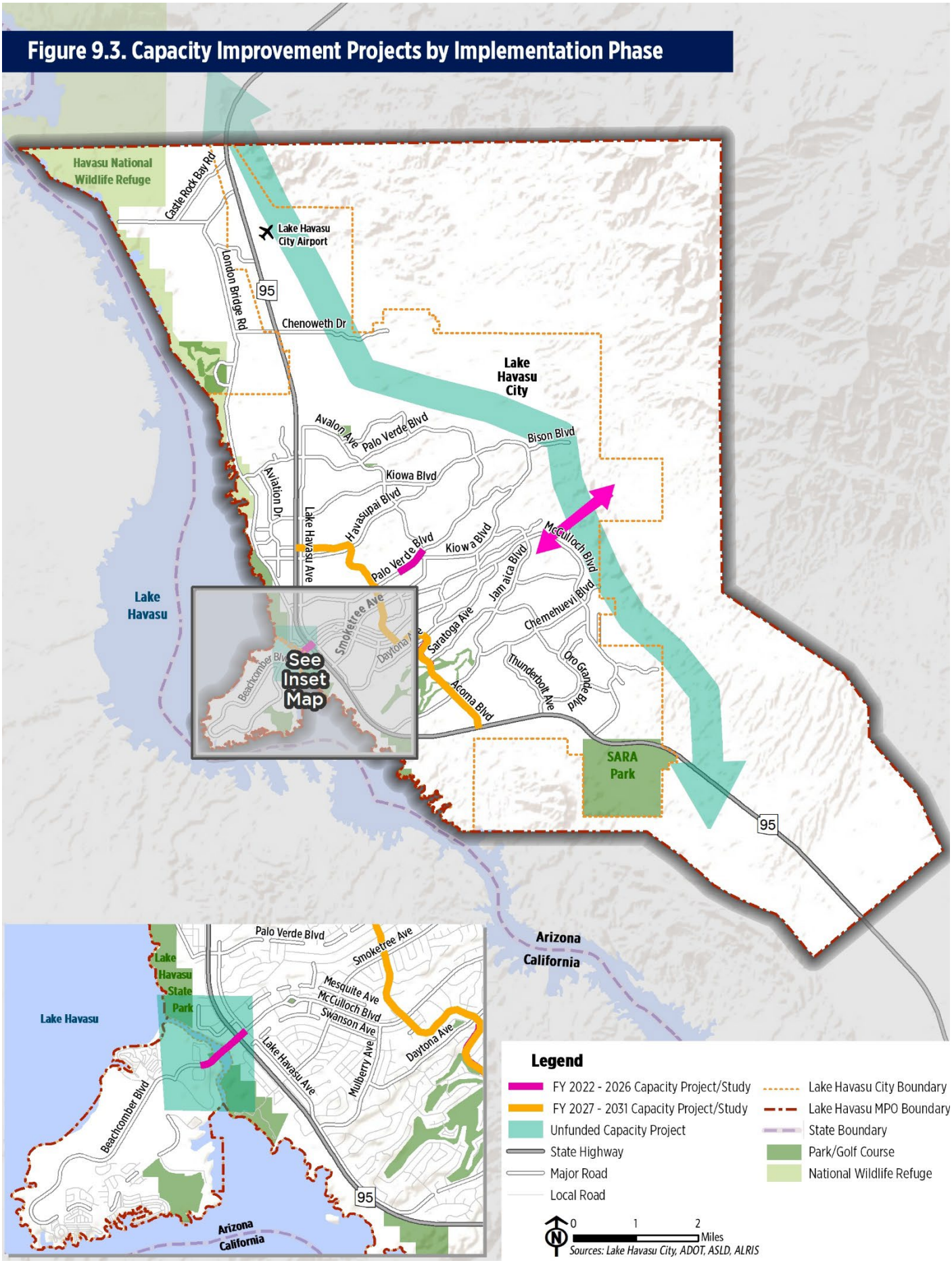


Table 9.4. Pavement Projects by Type and Implementation Phase

ID	Project	Length (Miles)	Description	Issues/Needs Addressed	Lead Agency	Cost	Cost at Year of Expenditure (YOE)	Project Notes/Actions
FY 2022 - FY 2026								
P14	McCulloch Boulevard Pavement Rehabilitation: Smoketree Avenue to Acoma Boulevard	0.6	1) Mill and overlay roadway. 2) Restripe roadway to one travel lane each direction, striped median, bike lane each direction, and parallel parking (where appropriate). 3) Replace angled parking with parallel parking to accommodate bike lanes.	• Pavement Rehabilitation: McCulloch Boulevard between Smoketree Avenue to Acoma Boulevard has PCI rating of 36 and has reached the end of its useful life. This project will mill the existing pavement and repave the roadway. • Multimodal Needs: Restriping the roadway to add bike lanes in each direction will allow bicyclists to access activity centers along McCulloch Boulevard and expand bike network in the downtown area.	LHC	$1,200,000	$1,200,000	1) Funding has been secured by Lake Havasu City to complete this project. 2) City staff should consider revising the project's striping plan before construction to accommodate the bike lanes or add shared lane markings. Angled parking may be replaced with parallel parking where appropriate to accommodate the bike lanes or create wider outer travel lanes with sharrow markings to accommodate bicyclists. Funding Source: City HURF
P15	Swanson Avenue - Pavement Rehabilitation: Lake Havasu Avenue to Smoketree Avenue	0.6	Mill and overlay roadway. Restripe roadway to include bike lane in WB direction and 10' shared-use path in EB direction. Replace ADA ramps to meet current standards.	• Pavement Rehabilitation, ADA, and Multimodal Needs: This segment of roadway is heavily traveled, provides access to key destinations in the downtown area. Roadway was last reconstructed in early 1990s an emergency chip seal was applied approximately 5 years ago to prevent further deterioration. The roadway currently has severe underlying cracking, rutting, and raveling. This project will bring the pavement to standard and also provides an opportunity to add multimodal facilities and address ADA needs.	LHC	$1,688,000	$1,688,000	1) State general funds, if approved, may be used to fund this project. MPO and the City have initiated discussions with Rural Transportation Advocacy Council (RTAC) to obtain state general funds for this project. 2) City staff should consider revising the project's striping plan before construction to accommodate the bike lanes or add shared lane markings. Angled parking may be replaced with parallel parking where appropriate to accommodate the bike lanes or create wider outer travel lanes with sharrow markings to accommodate bicyclists. Funding Source: State General Fund (Potential)
P16	SR 95 Pavement Rehabilitation: North end of MPO Boundary to Sara Parks	15	Repave roadway from north end of MPO boundary to Sara Parks (15 miles). Actual project limits are I-40 to Sara Park (26 miles)	• Pavement Rehabilitation: SR 95 is the main roadway through Lake Havasu City and provides access to critical amenities, key destinations, and recreational areas. This project will help maintain the pavement in good condition.	ADOT	13,500,000	$13,500,000	1) State general funds have been procured to complete this project. 2) Actual project limits are I-40 to Sara Parks for a cost of $23,350,000. Cost in the Cost column is a prorated version based on miles of roadway within MPO. 3) City and MPO should coordinate with ADOT to leverage this project to accommodate additional safety enhancements along the corridor. Potential enhancements to consider include HAWK crossing at the Aquatic Center, ADA improvements along the corridor, and optimization and coordination of signal timing with Lake Havasu Avenue signals. Funding Source: State General Fund
FY 2027 - FY 2031								
Incorporate findings from pending Lake Havasu City pavement condition assessment								
FY 2032 - FY 2045								
P17*	London Bridge Road - Pavement Rehabilitation: Northern City Limits to Industrial Avenue	2.8	Mill and overlay roadway.	• Pavement Rehabilitation: This segment of roadway averages a PCI rating of 55. This project will bring the pavement to standard.	LHC	$1,960,000	$2,795,000	1) City HURF funds with support from MPO STBG funds may be allocated to complete this project.
						18,348,000	**$19,183,000**	

**For the London Bridge Road segment north of the City limits, Mohave County should continue regular pavement preservation activities as needed and also consider complete pavement rehabilitation if the PCI rating falls below acceptable thresholds*

Table 9.5. Safety Improvements by Implementation Phase

ID	Project	Length (Miles)	Description	Issues/Needs Addressed	Lead Agency	Cost	Cost at Year of Expenditure (YOE)	Project Notes/Actions
FY 2022 - FY 2026								
P6	Key Corridors Access Management Study - Lake Havasu Avenue, SR 95, Mesquite Avenue, McCulloch Boulevard, Swanson Avenue, Acoma Boulevard	8.25	Conduct an access management evaluation of six key corridors - 1) Lake Havasu Avenue: Acoma Boulevard to Smoketree Avenue 2) SR 95: Acoma Boulevard to Smoketree Avenue 3) Mesquite Avenue: SR 95 to Acoma Boulevard 4) McCulloch Boulevard: SR 95 to Acoma Boulevard 5) Swanson Avenue: SR 95 to Acoma Boulevard 6) Acoma Boulevard: Smoketree Avenue to Swanson Avenue Project outcomes - 1) Identify specific locations for consolidating driveways. 2) Develop recommendations for median changes - median type, turn pockets, etc 3) Recommend changes to current on-street parking, if warranted	• Safety: Portions of Lake Havasu Avenue, SR 95, Mesquite Avenue, McCulloch Boulevard, Swanson Avenue, Acoma Boulevard have excessive number of driveways resulting in traffic conflicts and unsafe conditions and reduced roadway capacity. This project will identify driveways that can be consolidated to improve overall safety and reduce congestion.	LHC	$100,000	$100,000	1) Potentially set aside MPO's STBG funds to conduct this study in coordination with the City of Lake Havasu.
P7	Acoma Boulevard, Swanson to Wood Ln; McCulloch Boulevard at El Dorado Avenue - Safety Improvements	N/A	1) Traffic signal at Acoma Blvd/Swanson Ave 2) Rectangular Rapid Flash Beacons at existing crosswalks on Acoma Blvd at Clubhouse Dr and at Wood Ln 3) Speed Feedback signs (2) on Acoma Blvd between Green Dr and Wood Ln 4) Speed feedback signs (2) on McCulloch Blvd approaching El Dorado Ave 5) City staff should leverage this project to coordinate and optimize signal timing for the three intersections on Acoma Boulevard at Mesquite Avenue, McCulloch Boulevard, and Swanson Avenue.	• Congestion: Acoma Boulevard between Mesquite Avenue and Swanson Avenue experiences congestion during peak periods. • Safety: Acoma Boulevard between Swanson Avenue and Wood Lane; and McCulloch Boulevard /El Dorado Avenue were identified as crash hot spots based on most recent five-year crash data. • ADA Needs: Installation of signal at Acoma Boulevard/Swanson Avenue will also address ADA needs at the intersection.	LHC	$1,050,000	$1,050,000	1) HSIP funding secured to complete this project. 2) City staff should leverage this project to coordinate and optimize signal timing for the three intersections on Acoma Boulevard at Mesquite Avenue, McCulloch Boulevard, and Swanson Avenue. This task has not been budgeted as part of the HSIP award.
P8	London Bridge Road - Safety Improvements: 255' North of Reimer Drive to 1,750' west of SR 95 South End	2.7	Restripe London Bridge Road to include one travel lane and bike lane in each direction and a center turn lane.	• Safety and Multimodal Needs: London Bridge Road is a popular corridor for bicyclists. To ensure safety of bicyclists, this project would restripe the roadway to add a bike lane in each direction. Existing pavement width is expected to be sufficient to accommodate the new bike lanes without the need for additional ROW acquisition.	LHC	$605,000	$605,000	1) HSIP funding secured to complete this project.
FY 2027 - FY 2031								
P9	Blue Canyon Road: 1,800 feet west of Red Rock Road and Gold Springs Road: 1,050 feet west of Red Rock Road - Safety Improvements @ Horizon 6 Equestrian Trail	1.1	1) Widen 2 to 3 feet total, from the existing 23-foot cross section to a 25 or 26-foot section. 2) Restripe with thermoplastic striping to provide 10-foot travel lanes and 2.5- to 3-foot shoulders. 3) Widened pavement section will comprise 3-inch HMA over subgrade.	• Safety: This project will enhance safety in this area and address recent crashes.	LHC	$250,000	$308,000	1) This project may be a good candidate for the next round of HSIP grant application. MPO/Mohave County should submit for HSIP funding.

Table 9.5. Safety Improvements by Implementation Phase (Continued)

ID	Project	Length (Miles)	Description	Issues/Needs Addressed	Lead Agency	Cost	Cost at Year of Expenditure (YOE)	Project Notes/Actions
FY 2027 - FY 2031								
P10	McCulloch Boulevard Safety Improvement: Capri Boulevard to Smoketree Avenue	0.5	Resurface roadway, restripe with wider markings, install speed feedback signs	• Safety and Pavement Rehabilitation: This project will enhance safety along McCulloch Boulevard to address recent crashes along the corridor. The project will also enhance the pavement condition of the roadway.	LHC	$500,000	$615,000	1) This project may be a good candidate for the next round of HSIP grant application. MPO/Lake Havasu City should submit for HSIP funding.
P11	SR 95 Raised Median: S. Palo Verde Boulevard to Industrial Boulevard; N. Palo Verde Boulevard to North of Chenoweth Road; S. Acoma Boulevard to Oro Grande Avenue	4	Install raised medians	• Safety: This project will enhance safety along SR 95 to address recent and historical crashes along the corridor.	ADOT	$4,000,000	$4,919,495	1) This project may be a good candidate for the next round of HSIP grant application. MPO/ADOT/Lake Havasu City should submit for HSIP funding.
P12	Swanson Avenue corridor intersection improvements	N/A	1) Install RRFBs and high visibilty crosswalks at Mariposa Drive. 2) Install RRFBs and high visibility crosswalks at west Wing Loop Road. 3) Install RRFBs at east Wing Loop Road.	• Safety: Portions of Lake Havasu Avenue, SR 95, Mesquite Avenue, McCulloch Boulevard, Swanson Avenue, Acoma Boulevard have excessive number of driveways resulting in traffic conflicts and unsafe conditions and reduced roadway capacity. This project will identify driveways that can be consolidated to improve overall safety and reduce congestion.	LHC	$250,000	$307,468	1) This project may be a good candidate for the next round of HSIP grant application. MPO/Lake Havasu City should submit for HSIP funding.
P13	Update LHMPO Strategic Transportation Safety Plan	N/A	Update 2016 LHMPO Strategic Transportation Safety Plan	• Safety: This study will update the 2016 STSP and identify safety needs throughout the region based on new methodologies (crash predictive methodologies) currently being researched by ADOT.	LHMPO	$325,000	$325,000	1) This study could be funded using HSIP grants. MPO/Lake Havasu City should submit for HSIP funding.
						$7,080,000	**$8,229,963**	

Table 9.6. Traffic Operational Improvements by Implementation Phase

ID	Project	Length (Miles)	Description	Issues/Needs Addressed	Lead Agency	Cost	Cost at Year of Expenditure (YOE)	Project Notes/Actions
FY 2022 - FY 2026								
P1	Key Corridors Traffic Operations Evaluation Study - Lake Havasu Avenue, SR 95, Mesquite Avenue, McCulloch Boulevard, Swanson Avenue, Acoma Boulevard	8.25	Evaluate traffic operations on six key corridors - 1) Lake Havasu Avenue: Acoma Boulevard to Smoketree Avenue 2) SR 95: Acoma Boulevard to Smoketree Avenue 3) Mesquite Avenue: SR 95 to Acoma Boulevard 4) McCulloch Boulevard: SR 95 to Acoma Boulevard 5) Swanson Avenue: SR 95 to Acoma Boulevard 6) Acoma Boulevard: Smoketree Avenue to Swanson Avenue Project outcomes - 1) Develop a coordinated and optimized signal timing plan for AM/PM/mid-day periods for the six corridors together based on existing signal hardware/software. 2) Prepare recommendations and cost estimates for traffic signal upgrades (hardware/software) and adaptive signals implementation to enhance signal coordination.	• Congestion: Portions of Lake Havasu Avenue, SR 95, Mesquite Avenue, McCulloch Boulevard, Swanson Avenue, Acoma Boulevard are the most congested segments in Lake Havasu City with little or no room for widening. This study will evaluate all corridors as a system to identify a near-term signal timing plan for each peak period and develop a strategy to implement adaptive signal control to improve each roadway's capacity.	LHC	$180,000	$180,000	1) MPO's STBG funds could be set aside to conduct this study in coordination with the City of Lake Havasu. 2) If the City is able to conduct turn movement traffic counts internally, the overall cost could be reduced by $25K-$30K.
P2	Conduct Signal Warrant Studies	N/A	Conduct Signal Warrant Studies for: 1) Acoma Boulevard / Lake Havasu Avenue 2) McCulloch Boulevard / Jamaica Avenue 3) Swanson Avenue / Smoketree Avenue 4) Mesquite Avenue / Smoketree Avenue 5) Mesquite Avenue / Riviera Boulevard 6) Smoketree Avenue / Acoma Boulevard 7) Daytona Avenue / Acoma Boulevard Identify need for signal or roundabout and prioritize list of improvements.	• Congestion and Safety: These intersections are currently unsignalized and may warrant a traffic signal or roundabout. This project will evaluate these unsignalized intersections and prioritize improvements.	LHC	$120,000	$120,000	1) MPO's STBG funds could be set aside to conduct this study in coordination with the City of Lake Havasu. 2) The City may be able to conduct this project internally if required resources are available.
P3A	SR 95 / Mulberry Avenue / Lake Havasu Avenue - Intersection Study	N/A	Evaluate traffic circulation at SR 95/ Mulberry / Lake Havasu Avenue to determine the need for traffic signal at Lake Havasu Avenue.	• Congestion: This intersection experiences significant backups during peak periods which could be addressed by installing a traffic signal at Lake Havasu Avenue and coordinating the signal timing with the signal at SR 95.	LHC	$30,000	$30,000	1) MPO's STBG funds could be set aside to conduct this study in coordination with the City of Lake Havasu. 2) Project P3A, P3B, P3C may be conducted individually or grouped together as a single project which may result in additional cost savings.
P3B	SR 95 / North Kiowa Boulevard / Lake Havasu Avenue - Circulation Study	N/A	Assess traffic circulation around the SR 95 / North Kiowa Boulevard / Lake Havasu Avenue intersection and access points to surrounding businesses to determine signal and turn lane needs.	• Congestion: Kiowa Boulevard / SR 95 intersection experiences significant backups related to adjacent business access and closely spaced intersections. This signal will determine the need for a signal north of Kiowa Boulevard on SR 95 to provide access to adjacent businesses and recommended any turn lanes to ease congestion.	LHC	$30,000	$30,000	1) MPO's STBG funds could be set aside to conduct this study in coordination with the City of Lake Havasu. 2) Project P3A, P3B, P3C may be conducted individually or grouped together as a single project which may result in additional cost savings.

Table 9.6. Intersection Improvements by Implementation Phase (Continued)

ID	Project	Length (Miles)	Description	Issues/Needs Addressed	Lead Agency	Cost	Cost at Year of Expenditure (YOE)	Project Notes/Actions
FY 2022 - FY 2026								
P3C	SR 95 / Oro Grande Avenue / Maricopa Avenue / Sweetwater Avenue - Intersection Study	N/A	Evaluate traffic circulation at SR 95 / Oro Grande Avenue / Maricopa Avenue / Sweetwater Avenue to determine the need for traffic signal at Maricopa Avenue and Sweetwater Avenue.	• Congestion: This intersection experiences significant backups during peak periods which could be addressed by installing a traffic signal at Maricopa Avenue and Sweetwater Avenue and coordinating the signal timing with the signal at SR 95.	LHC	$30,000	$30,000	1) MPO's STBG funds could be set aside to conduct this study in coordination with the City of Lake Havasu. 2) Project P3A, P3B, P3C may be conducted individually or grouped together as a single project which may result in additional cost savings.
FY 2027 - FY 2031								
P4	Adaptive Signals Implementation - Lake Havasu Avenue, SR 95	3.5	Implement adaptive traffic signal control along 1) Lake Havasu Avenue: Acoma Boulevard to Smoketree Avenue 2) SR 95: Acoma Boulevard to Smoketree Avenue	• Congestion: This project will be a follow-up to project #P1 and will implement adaptive signal control for SR 95 and Lake Havasu Avenue. Cost estimates may need to be revised based on findings from project #P1.	LHC	$480,000	$591,000	1) Cost estimates should be revised based on results from project #P1. 2) Project may be funded using City or MPO funds. MPO may also consider applying for TSMO/ITS grants.
FY 2032 - FY 2045								
P5	Adaptive Signals Implementation - Mesquite Avenue, McCulloch Boulevard, Swanson Avenue, Acoma Boulevard	4.75	Implement adaptive traffic signal control along 1) Mesquite Avenue: SR 95 to Acoma Boulevard 2) McCulloch Boulevard: SR 95 to Acoma Boulevard 3) Swanson Avenue: SR 95 to Acoma Boulevard 4) Acoma Boulevard: Smoketree Avenue to Swanson Avenue	• Congestion: This project will be a follow-up to project #P1 and will implement adaptive signal control for Mesquite Avenue, McCulloch Boulevard, Swanson Avenue, and Acoma Boulevard. Cost estimates may need to be revised based on findings from project #P1.	LHC	$240,000	$343,000	1) Cost estimates should be revised based on results from project #P1. 2) Project may be funded using City or MPO funds. MPO may also consider applying for TSMO/ITS grants.
						$1,110,000	**$1,324,000**	

Table 9.7. Capacity and New Roadway Improvements by Implementation Phase

ID	Project	Length (Miles)	Description	Issues/Needs Addressed	Lead Agency	Cost	Cost at Year of Expenditure (YOE)	Project Notes/Actions
FY 2022 - FY 2026								
P18	Acoma Boulevard Widening: Daytona Avenue to Saratoga Avenue	0.5	Restripe roadway to two lanes each direction with a center turn lane.	• Congestion: Acoma Boulevard south of Dayton Avenue narrows from a two through lanes each direction to a one through lane each direction resulting in a traffic bottleneck at this transition especially during peak hours. Per City staff, curb-to-curb width may be wide enough to achieve the widening to four lanes by restriping. No new construction or ROW acquisition is anticipated.	LHC	$30,000	$30,000	1) MPO's STBG funds or City HURF funds could be set aside to conduct this study in coordination with the City of Lake Havasu.
P19	Palo Verde Boulevard South - Widening: Constellation Drive to Rainbow Avenue	0.5	Restripe roadway to two lanes each direction with a center turn lane.	• Congestion and Safety: Palo Verde Boulevard segment between Constellation Drive and Rainbow Avenue is in the vicinity of Lake Havasu High School and a Charter School - both of which generate high traffic during morning and evening peak periods. This project will widen the roadway to four through lanes to improve circulation and capacity. Curb-to-curb width may be wide enough to achieve the widening to four lanes by restriping. No new construction or ROW acquisition is anticipated.	LHC	$30,000	$30,000	1) MPO's STBG funds or City HURF funds could be set aside to conduct this study in coordination with the City of Lake Havasu.
P20	McCulloch Boulevard - Reversible lanes Demonstration Pilot: Lake Havasu Avenue to Isle Circle Drive	0.5	Conduct a reversible lanes demonstration pilot project. Utilize tactical urbanism techniques and materials to mimic reversible lane conditions on McCulloch Boulevard between Lake Havasu Avenue and Isle Circle Drive along the London Bridge crossing. Leftmost travel lane in the eastbound direction should be converted to a reversible lane during peak periods and during special events.	• Congestion and Special Event Needs: London Bridge on McCulloch is a three-lane roadway - two lanes eastbound and one lane westbound. During peak periods, westbound direction is congested and widening of the bridge is not feasible since it is a historical bridge and the high cost of adding an additional access point to the Island. This project will test the reversible lane concept for at least one month period using temporary signs and materials and the changes could be made permanent if the pilot is successful. Project may address near-term congestion concerns	LHC	$50,000	$50,000	1) MPO's STBG funds or City HURF funds could be set aside to conduct this study in coordination with the City of Lake Havasu.
P21	Foothills Area Alternate Route Study	N/A	Conduct a feasibility study to determine an alternate route alignment to Cherry Tree Boulevard from the Foothills area.	• Capacity and Safety: Cherry Tree Boulevard is currently the only road that serves the Foothills area. This area is expected to grow further, and an alternate route is needed to address capacity and safety needs.	LHC	$50,000	$50,000	1) MPO's STBG funds or City HURF funds could be set aside to conduct this study in coordination with the City of Lake Havasu.
FY 2027 - FY 2031								
P22	Acoma Boulevard Corridor Study: SR 95 North End to SR 95 South End	5.2	Conduct a comprehensive corridor study - develop corridor vision for mobility for all modes; identify specific improvements; and potential funding sources	• Congestion, Safety, and Multimodal Needs: Acoma Boulevard has the potential to serve as an alternate route to SR 95 during emergencies and closures on SR 95 as it provides a continuous connection from the south end to the north of the city. The corridor could be developed as a key multimodal corridor providing bicyclists and pedestrians access to key destinations in Havasu. This study will develop a vision for this corridor and identify specific projects to address congestion, safety, and multimodal needs.	LHC	$200,000	$246,000	1) MPO's STBG funds or City HURF funds could be set aside to conduct this study in coordination with the City of Lake Havasu.
						$360,000	**$406,000**	
Unfunded*								
P23	Island Second Access Point (Bridge) Construction	TBD	Design and construct bridge.	• Congestion: A feasibility study was completed, and a route alignment was established. This project entails the construction of a new bridge to the Island.	LHC	**$22,000,000**	**$22,000,000**	1) The City/MPO may advocate for state general funds in future funding cycles. The City/MPO may also consider applying for RAISE or other similar federal grants to procure funding.
P24	SR 95 Alternate Route	TBD	Conduct a feasibility study to determine alternate routes to SR 95. Based on findings, design and construct new roadway that serves as an alternate route to SR 95 within Lake Havasu City.	• Congestion and Safety: This is a long-term solution to address congestion on SR 95. When constructed, this route serves regional traffic and serves as an evacuation route during emergencies. This is expected to be a high-cost project and funding needs to be secured.	ADOT	TBD	TBD	1) ADOT should continue discussions with the City and MPO to outline potential alignment options and funding sources.

**Note: To account for inflation and contingencies, it is recommended to increase cost estimates by 5% annually.*

Multimodal Projects

As noted in chapter 8, the LHMPO recognizes the need for developing a complete network of multimodal facilities and a policy framework for prioritizing and implementing bicycle and pedestrian projects in the region. The LHMPO 2045 RTP has committed to improving bicycle and pedestrian facilities throughout the region. **Table 9.8, and Figure 9.5** illustrate multimodal improvements by implementation phase. These projects include:

- Designating low stress corridors as bike routes by installing bike route signs to provide visual cues to motorists to expect to see bicyclists on the shoulder.
- Restriping corridors to incorporate bicycle facilities.
- Filling-in critical sidewalk infrastructure gaps.
- Extending existing trails and shared use paths to key activity centers.

Maintenance Considerations

In addition to providing new and enhanced facilities, it is imperative that the agencies maintain their existing pedestrian and bicycle facilities. Bicyclists and pedestrians are vulnerable to pavement/sidewalk irregularities such as cracks, potholes, broken glass, and sand. Unmaintained landscaping causes safety issues by obstructing bicycle lanes and sidewalks and blocking visibility. Major storms and motor vehicle crashes can leave hazardous debris, which must be picked up as soon as possible to preserve pedestrian and cyclist safety.

Maintenance needs are typically identified through one of three sources: the public reporting a problem, routine inspections, or special inspections after a storm, crash, or construction project. LHMPO member agencies should monitor scheduled maintenance programs to ensure bicycle- and pedestrian-facility maintenance. Buffered sidewalks and shared use paths often require more frequent and different maintenance practices (depending on the degree and type of physical separation). Maintenance needs and costs should be considered when the facility design is selected.

Integrating recommended improvements with agencies' pavement-management programs is a cost-effective strategy for installing on-street bicycle facilities during routine roadway maintenance and resurfacing projects. During roadway restriping and resurfacing, the existing pavement could be striped or additional pavement could be added to accommodate bike lanes and paved shoulders.

Figure 9.5. Active Transportation Improvement Projects by Implementation Phase

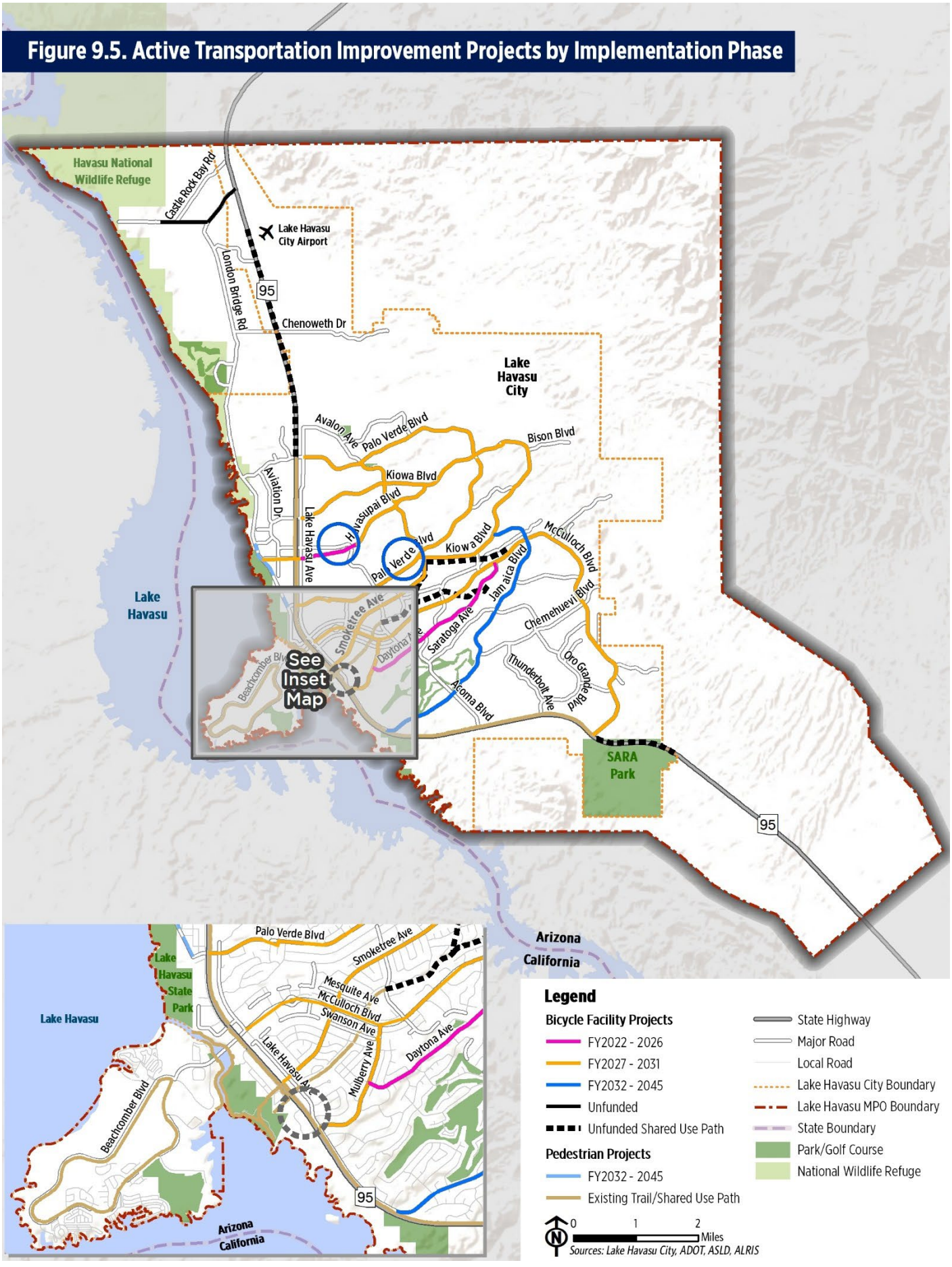


Table 9.8. Multimodal Improvements by Implementation Phase

ID	Project	Length (Miles)	Description	Issues/Needs Addressed	Cost	Cost at Year of Expenditure (YOE)	Project Notes/Actions
FY 2022 - FY 2026							
P25	Pedestrian Crossing @ Aquatic Center - Feasibility Study	N/A	Conduct a feasibility study to evaluate the need for a pedestrian crossing (HAWK, tunnel, or grade separated) across SR 95 in the vicinity of Park Avenue and Mulberry Avenue at the Aquatic Center.	• Safety and Multimodal Needs: This project will address the need for a pedestrian crossing at the Aquatic Center across SR 95 to connect the trail on the east side of SR 95 to the shoreline trail on the west of SR 95.	$35,000	$35,000	1) MPO's STBG funds or City HURF funds could be set aside to conduct this study in coordination with the City of Lake Havasu.
P39	Industrial Boulevard - Bike Route Signage: Lake Havasu Avenue to Acoma Boulevard	0.8	Designate as bike route; install directional bike route signs to provide additional visual cues to motorists to increase their expectancy of seeing bicyclists on the shoulder. Bike signs should be installed in accordance with MUTCD requirements.	• Multimodal: Formally designating this segment as a bike route (low stress) would expand the bike network in the city. The route would also provide a convenient way for bicyclists to commute to their work and provide access to the industrial area.	$4,000	$5,000	1) MPO/City should utilize STBG, HURF, or local general funds to complete this project.
P43	Daytona Avenue - Shared Lane Markings: Mulberry Avenue to McCulloch Boulevard	2.8	Add shared lane markings to provide additional visual cues to motorists to increase their expectancy of seeing bicyclists in the travel lanes. Shared lane markings should be installed in accordance with MUTCD requirements.	• Multimodal: This project extends the bike network providing access to the downtown area.	$11,000	$14,000	1) MPO/City should utilize STBG, HURF, or local general funds to complete this project.
FY 2027 - FY 2031							
P30	McCulloch Boulevard - Bike Lanes: Lake Havasu Avenue to Smoketree Avenue	0.8	Narrow the roadway by striping 11-foot travel lanes and adding 6-foot bicycle lanes.	• Multimodal: This segment of McCulloch is home to several key destinations and the existing lanes could be narrowed to accommodate a bike lane in each striping by restriping the roadway.	$30,000	$37,000	1) MPO/City should utilize STBG, HURF, or local general funds to complete this project.
P31	McCulloch Boulevard - Shared Lane Markings: Acoma Boulevard to El Dorado Avenue	1	Adjust roadway striping to create 10-foot inner lanes and 11–14-foot outer lanes based on available ROW. Add shared lane marking signs on pavement on the outer lanes to accommodate bike lanes.	• Multimodal: This project extends the bike network providing access to the downtown area	$4,000	$5,000	1) MPO/City should utilize STBG, HURF, or local general funds to complete this project.
P32	McCulloch Boulevard - Bike Route Signage: El Dorado Avenue to SR 95 South End	6	Designate as bike route; install directional bike route signs to provide additional visual cues to motorists to increase their expectancy of seeing bicyclists on the shoulder. Bike signs should be installed in accordance with MUTCD requirements.	• Multimodal: Formally designating this segment as a bike route (low stress) would expand the bike network in the city. The route would also provide a convenient way for bicyclists living in the residential areas to commute to their work and provide access to downtown and other key activity centers in the city.	$26,000	$32,000	1) MPO/City should utilize STBG, HURF, or local general funds to complete this project.
P33	North Palo Verde Boulevard - Bike Route Signage: Lake Havasu Avenue to North Kiowa Boulevard	3.4	Designate as bike route; install directional bike route signs to provide additional visual cues to motorists to increase their expectancy of seeing bicyclists on the shoulder. Bike signs should be installed in accordance with MUTCD requirements.	• Multimodal: Formally designating this segment as a bike route (low stress) would expand the bike network in the city. The route would also provide a convenient way for bicyclists living in the residential areas to commute to their work and provide access to activity centers in the north end of the city.	$15,000	$19,000	1) MPO/City should utilize STBG, HURF, or local general funds to complete this project.
P34	South Palo Verde Boulevard - Bike Route Signage: SR 95 to North Kiowa Boulevard	4.2	Designate as bike route; install directional bike route signs to provide additional visual cues to motorists to increase their expectancy of seeing bicyclists on the shoulder. Bike signs should be installed in accordance with MUTCD requirements.	• Multimodal: Formally designating this segment as a bike route (low stress) would expand the bike network in the city. The route would also provide a convenient way for bicyclists living in the residential areas to commute to their work and provide access to activity centers north of the downtown area. This route also provides access to the high school.	$18,000	$23,000	1) MPO/City should utilize STBG, HURF, or local general funds to complete this project.
P35A	Avalon Avenue - Bike Route Signage: North Palo Verde Boulevard to Havasupai Boulevard	1	Designate as bike route; install directional bike route signs to provide additional visual cues to motorists to increase their expectancy of seeing bicyclists on the shoulder. Bike signs should be installed in accordance with MUTCD requirements.	• Multimodal: Formally designating this segment as a bike route (low stress) would expand the bike network in the city. The north-south route would provide connectivity between key east-west bike routes.	$5,000	$7,000	1) MPO/City should utilize STBG, HURF, or local general funds to complete this project.

Table 9.8. Multimodal Improvements by Implementation Phase (Continued)

ID	Project	Length (Miles)	Description	Issues/Needs Addressed	Cost	Cost at Year of Expenditure (YOE)	Project Notes/Actions
P35B	Kiowa Boulevard South - Bike Route Signage: Palo Verde Boulevard South to Bison Boulevard	3	Designate as bike route; install directional bike route signs to provide additional visual cues to motorists to increase their expectancy of seeing bicyclists on the shoulder. Bike signs should be installed in accordance with MUTCD requirements.	• Multimodal: Formally designating this segment as a bike route (low-stress) would expand the bike network in the City. The route would also provide a convenient way for bicyclists living in the residential areas to commute to their work and provide access to activity centers north of the downtown area. This route also provides access to the high school.	$13,000	$16,000	1) MPO/City should utilize STBG, HURF, or local general funds to complete this project.
P36	Kiowa Boulevard North - Bike Route Signage: Bison Boulevard to Lake Havasu Avenue	4	Designate as bike route; install directional bike route signs to provide additional visual cues to motorists to increase their expectancy of seeing bicyclists on the shoulder. Bike signs should be installed in accordance with MUTCD requirements.	• Multimodal: Formally designating this segment as a bike route (low-stress) would expand the bike network in the City. The route would also provide a convenient way for bicyclists living in the residential areas to commute to their work and provide access to the industrial area.	$17,000	$21,000	1) MPO/City should utilize STBG, HURF, or local general funds to complete this project.
P37	Havasupai Boulevard - Bike Route Signage: Acoma Boulevard to North Kiowa Boulevard	1.7	Designate as bike route; install directional bike route signs to provide additional visual cues to motorists to increase their expectancy of seeing bicyclists on the shoulder. Bike signs should be installed in accordance with MUTCD requirements.	• Multimodal: Formally designating this segment as a bike route (low-stress) would expand the bike network in the City. The route would also provide a convenient way for bicyclists living in the residential areas to commute to their work and provide access to the industrial area.	$8,000	$10,000	1) MPO/City should utilize STBG, HURF, or local general funds to complete this project.
P38	Industrial Boulevard - Bike Lanes: London Bridge Road to Lake Havasu Avenue	0.7	Restripe roadway to add 6-foot bike lanes in each direction.	• Multimodal: This project would provide a convenient way for bicyclists to access the areas west of SR 95 and connect to the London Bridge Road bike route.	$3,000	$4,000	1) MPO/City should utilize STBG, HURF, or local general funds to complete this project.
P40	Mulberry Avenue - Bike Route Signage: SR 95 to McCulloch Boulevard	1	Designate as bike route; install directional bike route signs to provide additional visual cues to motorists to increase their expectancy of seeing bicyclists on the shoulder. Bike signs should be installed in accordance with MUTCD requirements.	• Multimodal: Formally designating this segment as a bike route (low-stress) would expand the bike network in the City. The route would also provide a convenient way for bicyclists to access the Rotary Park area and the east part of downtown.	$5,000	$7,000	1) MPO/City should utilize STBG, HURF, or local general funds to complete this project.
P41	Smoketree Avenue - Bike Lanes: Rotary Park to Kiowa Boulevard South	3.3	Restripe roadway to add 6-foot bike lanes in each direction.	• Multimodal: This project would provide a convenient way for bicyclists to access key destinations including the Rotary Park, east downtown, the High School.	$35,000	$44,000	1) MPO/City should utilize STBG, HURF, or local general funds to complete this project.
P42	Kiowa Boulevard South - Bike Route Signage: Palo Verde Boulevard South to Bison Boulevard	3	Designate as bike route; install directional bike route signs to provide additional visual cues to motorists to increase their expectancy of seeing bicyclists on the shoulder. Bike signs should be installed in accordance with MUTCD requirements.	• Multimodal: Formally designating this segment as a bike route (low-stress) would expand the bike network in the City. The route would also provide a convenient way for bicyclists living in the residential areas to commute to their work and provide access to activity centers north of the downtown area. This route also provides access to the high school.	$13,000	$16,000	1) MPO/City should utilize STBG, HURF, or local general funds to complete this project.
FY 2032 - FY 2045							
P44	Jamaica Boulevard - Bike Route Signage: Lake Havasu Avenue to Kiowa Boulevard South	5	Designate as bike route; install directional bike route signs to provide additional visual cues to motorists to increase their expectancy of seeing bicyclists on the shoulder. Bike signs should be installed in accordance with MUTCD requirements.	• Multimodal: This project extends the bike network connecting the residential area in the east with the recreational facilities in the western portion of the city.	$22,000	$32,000	1) MPO/City should utilize STBG, HURF, or local general funds to complete this project.
P45	London Bridge Road - Sidewalk Gaps: Palo Verde Boulevard South to Dover Avenue	0.85	Construct sidewalk to fill gaps along London Bridge Road.	• Multimodal: This project would provide a continuous path for pedestrians to access the industrial facilities on the east side of London Bridge Road and the recreational facilities on the west side.	$149,000	$213,000	1) MPO/City should utilize STBG, HURF, or local general funds to complete this project.
					$403,000	**$528,000**	

Table 9.8. Multimodal Improvements by Implementation Phase (Continued)

ID	Project	Length (Miles)	Description	Issues/Needs Addressed	Cost	Cost at Year of Expenditure (YOE)	Project Notes/Actions
Unfunded*							
P26	London Bridge Road - Shoulder Widening: Fathom Drive to SR 95	0.7	Add shoulder to safely accommodate bicyclists and designate as bike route. Install bike route signs to provide additional visual cues to motorists to increase their expectancy of seeing bicyclists on the shoulder. Bike signs should be installed in accordance with MUTCD requirements.	• Multimodal: This project expands bike network in the County area providing County residents access to key shopping and recreation destinations	$350,000	$546,000	1) MPO/Mohave County/City should pursue grant or other local/state/federal funding opportunities.
P27	Fathom Drive - Shoulder Widening: London Bridge to Reef Drive	0.7	Add shoulder to safely accommodate bicyclists and designate as bike route. Install bike route signs to provide additional visual cues to motorists to increase their expectancy of seeing bicyclists on the shoulder. Bike signs should be installed in accordance with MUTCD requirements.	• Multimodal: This project expands bike network in the County area providing County residents access to key shopping and recreation destinations	$350,000	$546,000	1) MPO/Mohave County/City should pursue grant or other local/state/federal funding opportunities.
P28	SR 95 Trail Extension: North Palo Verde Boulevard to Walmart	4	Extend the SR 95 trail path that runs parallel to Highway 95.	• Multimodal: This project extends the existing trail providing pedestrians and bicyclists access to key destinations along the SR 95 corridor. The corridor would also serve tourists visiting the area for recreational purposes.	$1,300,000	$2,026,000	1) MPO/City should pursue grant or other local/state/federal funding opportunities.
P29	SR 95 Trail Extension: McCulloch Boulevard South End to Sara Parks	1.3	Extend the SR 95 trail path that runs parallel to Highway 95.	• Multimodal: This project extends the existing trail providing pedestrians and bicyclists access to key destinations along the SR 95 corridor and the recreational facilities in the vicinity of Sara Park. The corridor would also serve tourists visiting the area for recreational purposes.	$423,000	$660,000	1) MPO/City should pursue grant or other local/state/federal funding opportunities.
P46	Lake Havasu High School - Sidewalk Gaps: Half Mile Radius of School		Construct sidewalk to fill gaps along roadways in the vicinity of Lake Havasu High School.	• Multimodal: This project would provide a safe and convenient way for kids, parents, and residents in the vicinity to walk to the High School. Refer to the City's Bicycle and Pedestrian Implementation Plan for exact locations of the missing sidewalks.	$3,838,525	$5,473,000	1) MPO/City should pursue grant or other local/state/federal funding opportunities.
P47	NAU / MCC - Sidewalk Gaps: Half Mile Radius of College		Construct sidewalk to fill gaps along roadways in the vicinity of NAU/MCC.	• Multimodal: This project would provide a safe and convenient way for students and residents in the vicinity to walk to the college. Refer to the City's Bicycle and Pedestrian Implementation Plan for exact locations of the missing sidewalks.	$1,456,875	$2,078,000	1) MPO/City should pursue grant or other local/state/federal funding opportunities.
P48	ASU College - Sidewalk Gaps: Half Mile Radius of College		Construct sidewalk to fill gaps along roadways in the vicinity of ASU.	• Multimodal: This project would provide a safe and convenient way for students and residents in the vicinity to walk to the college. Refer to the City's Bicycle and Pedestrian Implementation Plan for exact locations of the missing sidewalks.	$2,228,750	$3,178,000	1) MPO/City should pursue grant or other local/state/federal funding opportunities.
P49	Pima Wash Trail Extension		Extend Pima Wash Trail from Downtown Lake Havasu City to Kiowa Boulevard and Jamaica Boulevard,	• Multimodal: This project would provide a low stress connection from downtown Lake Havasu City to residential neighborhoods, while providing additional access to the Lake Havasu High School. a safe and convenient way for students and residents in the vicinity to walk to the college.	TBD	TBD	1) MPO/City should pursue grant or other local/state/federal funding opportunities.

**Note: To account for inflation and contingencies, it is recommended to increase cost estimates by 5% annually.*

Transit Improvement Projects

In 2020, LHMPO completed the Lake Havasu Transit Feasibility and Implementation Plan that outlined a short- and long-range vision for public transportation in Lake Havasu. Upon completion of the Plan, Lake Havasu City successfully became a direct recipient of 5307 Federal Transit Administration apportionment and Lake Havasu City Transit was formed. In 2021, Lake Havasu City Transit began multiple pilot projects to evaluate service routing and operations and to build community support and enthusiasm. These pilot projects will serve as the basis for a regional public transportation system providing mobility options for the region's residents, employees, and visitors. As the system progresses, the following are cost-feasible projects included in Lake Havasu City's transit improvement plan:

- Continue Flex service that provides important transportation services for people in wheelchairs, walkers, or who otherwise have difficulty riding in a regular vehicle.
- Pending the results of the DIRECT pilot project, on-demand service zones can be expanded to three major zones covering the majority of the LHMPO region.
- Continue Fixed-Route Service and evaluate need to increase public transportation service routes, service times and days, and service frequencies. The incremental approach to building the region's public transportation system includes:
    - Phase 1) Downtown Circulator route that is currently in the pilot phase. Upon completion of the pilot, the route will be modified and adjusted to accommodate high demand stops and hours.
    - Phase 2) New Express route that will provide connection from the Downtown Circulator to the Shops at Lake Havasu.
    - Phase 3) As ridership increases, additional routes should be evaluated to determine the need and feasibility. These routes include a fixed-route service that connects Downtown Lake Havasu to the southern portion of Lake Havasu City and a Downtown Express route that provides 30-minute headways during peak periods.
- Construct Transit Center at the Pima Wash Parking lot in Downtown Lake Havasu City. The Transit Center can include restrooms, bus shelters with shade, and bike racks and serve as a hub for riders to transfer between routes.
- Within 5-years, Lake Havasu City and the LHMPO should Update the Transit Service Plan and adjust service routing, timing, and schedules to accommodate local growth and demand.

Currently, WACOG is developing the Western Arizona Intercity Regional Transit Plan that will identify a preferred transit plan for such regional transit system. As part of the plan, the following partnership opportunities will be evaluated:

- Developing a series of transit center/park-and-ride facilities coupled with regional transit service to allow users to seamlessly travel between transit systems in Lake Havasu City, Bullhead City, and Kingman.
- Creating opportunities to connect with national transportation providers, such as Greyhound and Flixbus.
- Expanding vanpool opportunities between communities.

It is recommended that Lake Havasu City and the LHMPO continue their role as planning partners during the plan development to help identify regional connection needs and help determine the best means to better connect Lake Havasu City to Bullhead City, Kingman, Parker, and Quartzite.

Aviation Improvement Projects

Planned improvements for the Lake Havasu Municipal Airport (HII) are based on information in the Airport Program section of the ADOT 2021-2025 Five-Year Transportation Facilities Construction Program. This short-term planning horizon covers items of the highest priority. These items are coordinated with ADOT on a yearly basis when the Five-Year Airport Capital Improvement Program (ACIP) information is updated, and potential funding sources and priorities are assigned to individual projects. Each year, Lake Havasu Municipal Airport re-examines funding priorities for the short-term period, bringing projects which were originally included in intermediate or long-term planning horizons onto the FAA's or ADOT's capital programming list. While some projects are demand-based, others are based on design standards, safety, or rehabilitation needs. Projects listed for the Lake Havasu Municipal Airport Capital Improvement Plan include:

The Lake Havasu City's annual Capital Improvement Plan, includes the following planned airport improvements:

- Design and construct airfield hazard markings in aircraft operations areas to comply with recommendations in the HII Runway Safety Action Plan. $143,000
- Design and construction for the removal of existing hydrants and installation of 6 flush mounted hydrates to eliminate safety hazards. $450,000
- Design, construct, and remove/replace soil cement on North Field. $500,000
- Design and reconstruct replace of runway that has reached end of design life. $345,000
- Design and construct runway strengthening and overlay to accommodate fleet mix and extend the life of the pavement $6,725,000
- Design and construct Taxiway Alpha pavement. $9,284,442.

In 2021, Lake Havasu Municipal Airport was also awarded a $7,145,060 grant for the design and construction of a new taxiway. The grant will allow for the design and construction of Taxiway Alpha.

LHMPO and Lake Havasu Municipal Airport should continue to coordinate and work closely together to seek opportunities to improve transportation to/from the airport to support personal and cargo travel. Together airport and transportation improvements can help support the local economy and attract new businesses and industries.

10. IMPLEMENTATION PLAN

The LHMPO 2045 RTP provides a 25-year vision for transportation in the Lake Havasu region and creates the framework that the LHMPO will use to set its priorities for future federally funded transportation planning studies and capital improvement projects. The RTP ultimately will aid LHMPO in achieving its goals of creating a transportation system that moves people and goods, creates jobs, and strengthens communities. Based on the needs assessment, performance-based project prioritization process, and forecast of available revenues for transportation, a 2045 Cost Feasible Plan was developed for the Lake Havasu region.

Policy and Project Implementation

The LHMPO preferred recommended investment choice (RIC) and prioritized list of projects provide both a programmatic framework and an action plan to drive future transportation regional investment prioritization. With adoption by the MPO, the RTP will guide the MPO in its decision making over the next 24 years. Each year, the MPO will identify priority studies and capital projects that support the RTP's goals and objectives and program those studies and projects in the MPO's Unified Planning Work Program (UPWP) and its Transportation Improvement Program (TIP), respectively. The RTP, UPWP, and the TIP make up the set of federally required certification documents produced by the MPO.

The Unified Planning Work Program (UPWP)

The UPWP is the planning element of the MPO's set of certification documents and is guided by the visions, goals, objectives, and investment framework established in the RTP. UPWP-funded task categories include:

- Core MPO functions, including preparation of the federally required certification documents LRTP, UPWP, and TIP); maintenance of the MPO's travel demand model; public outreach; and administrative functions.
- Transportation planning studies that will be managed by MPO staff.
- Technical assistance program.
- Support to the MPO, including administrative and logistical preparation for MPO meetings and preparation of the necessary materials and information.

The outputs of the work programmed in the UPWP assist with numerous aspects of the transportation planning process, as laid out in the vision of the RTP.

Transportation Improvement Program (TIP)

The TIP is the implementation arm of the RTP, and it prioritizes funding for transportation infrastructure projects throughout the metropolitan area. Each year, the MPO evaluates and selects projects that will receive federal dollars for construction over the next five years and programs them in the TIP. The development of the TIP is guided by the vision, goals, objectives, and investment framework established in the RTP.

Performance-Based Planning and Programming (PBPP)

As noted in chapter 8, the LHMPO has established a performance-based prioritization process. This process uses performance measures and targets to assess its progress in achieving its RTP-based vision, goals, and objectives. Moving forward, the MPO will establish and track additional performance measures that relate to its goals and objectives. As the MPO invests its funds, it will continually review and report on its progress with respect to its performance measures. The MPO will provide updates on its performance targets annually in its TIP, which will also describe how it expects TIP projects will support progress on performance measures and achieve performance targets. Collectively, these activities will help the MPO understand whether its investments are moving the region's transportation.

Links between the 2045 RTP, UPWP, TIP, and PBPP

As described above, the MPO's RTP, TIP, and UPWP direct funds to planning studies and multimodal improvement or design and construction projects aimed at improving the region's transportation system and meeting established goals and objectives. The MPO's new focus on PBPP will allow it to measure progress made toward regional transportation goals and to decide whether and how to modify its investment decisions in response to performance.

Other Projects/Studies

Some of the recommendations outlined in chapter 10 include additional planning and traffic studies that the LHMPO region and/or individual member agencies should pursue to supplement the RTP. These recommendations include:

Key Corridors Traffic Operations Evaluation Study

The Lake Havasu City downtown area is a uniquely different transportation environment from the rest of the LHMPO region, with a multitude of congested urban traffic, small blocks, and the unique grid system in the downtown core. Currently, portions of Lake Havasu Avenue, SR 95, Mesquite Avenue, McCulloch Boulevard, Swanson Avenue, and Acoma Boulevard are largely congested resulting in numerous challenges to efficiently circulate traffic, especially during peak periods. A dedicated downtown key corridors traffic operations study will allow for a localized, connected approach to be taken to address major operational concerns on these vital streets and transition towards the implementation of adaptive signal control technology.

SR 95/North Kiowa Boulevard/Lake Havasu Avenue Circulation Study

To understand the specific traffic circulation needs surrounding the SR 95/North Kiowa Boulevard/Lake Havasu Avenue intersection, a dedicated traffic circulation study is recommended. This study will allow for a more detailed, small area study approach to be taken to understand and address traffic circulation issues in the area. This study will also evaluate the impact of adding additional traffic signals or a roundabout, adding/extending/removing turning lanes to address congestion concerns into the shopping complex.

Acoma Boulevard Corridor Study

Acoma Boulevard serves as a major regional connection through the heart of Lake Havasu City. As congestion increases on SR 95 and Lake Havasu Avenue, Acoma Boulevard has the potential to serve as an alternative route from the southern end to the northern portion of the City. Additionally, if the corridor is developed correctly, it could serve as major pedestrian and bicycle route to key destination in Lake Havasu. This study will create a vision for the corridor, identifies short-term investment priorities and guides long-term improvements to address safety, mobility, access and multimodal needs.

Foothills Area Alternate Route Study

The Lake Havasu Foothills is one of the biggest developments in the region today; however, access to the development is only available through Cherry Tree Boulevard. As development continues, an additional route may be needed to accommodate growth, demand, and to improve safety.

Update LHMPO Strategic Transportation Safety Plan

The STSP is an important regional document that identifies safety needs throughout the region. It is recommended to update the Plan based on crash predictive methodologies currently utilized by ADOT to better determine what safety improvements are necessary in the long-term horizon.

Emerging Technologies Readiness Plan

A readiness plan will ultimately help the region plan for the future arrival of autonomous vehicles (AVs), connected vehicles (CVs), and other emerging technologies that may operate on the region's streets. The purpose of the readiness plan is to provide background on the status of emerging technologies, identify the potential effects on the region's transportation system, and propose potential ways to leverage the technologies while managing potential impacts.

Best Practices

Complete Streets

Complete streets is a term used to describe roads that are designed and operated to enable safe access for all users. People of all ages and abilities can safely move along and across streets in a complete-streets community, regardless of how they travel. Complete streets make it easy to cross the street, walk, and bicycle to destinations. A complete street in a rural area will look quite different from a complete street in a highly urban area, but both are designed to balance safety and convenience for everyone using the road. Within an urban area, a complete street may include sidewalks, bike lanes, median treatments, and frequent pedestrian crossing opportunities. Within a rural area, a complete street may simply include a wide paved shoulder for use by bicyclists and pedestrians. Both examples of complete streets respond to the needs of the roadway users along the corridor.

Travel Demand Management (TDM)

TDM is traditionally intended to decrease the number of single occupant vehicles (SOVs) that travel on roadways, with particular emphasis on reducing peak period congestion. This can be achieved through the implementation of various policies and strategies that replace vehicle trips with another mode of travel such as transit, carpooling or vanpooling, bicycling, or walking. For an individual or combination of TDM strategies to be successful, these alternative travel modes must be conveniently accessible and can also be benefited from incentives as well. Furthermore, FHWA has developed a more comprehensive approach towards TDM that looks beyond trip reduction to emphasize maximizing travel options to transportation system users. For the FHWA, managing demand is about providing travelers, regardless of whether they drive alone, with travel choices, such as work location, route, time of travel and mode. In the broadest sense, demand management is defined as providing travelers with effective choices to improve travel reliability.

Regional Needs and Projects

In conjunction with the FHWA guidance, transportation alternatives to SOV use should be provided through investments in bicycle, transit, and pedestrian infrastructure investments throughout the LHMPO region. Additionally, with changes in commuter patterns and recurring transportation demand, most recently experienced throughout 2020, TDM strategies may include passive strategies such as promotion of compressed work-week schedules, off-peak working hours, and commute schedules, and/or increased adoption of workforce telecommuting.

Intelligent Transportation Systems for Public Transportation

A pillar of the future of transportation is to ingrate ITS solutions and technology into all aspects of transportation. Incorporating ITS applications into public transportation can incentivize transit use by improving transit efficiencies, convenience, and overall ride experience, resulting in increased transit use and a decreasing SOV demand for both work and non-work trips.

Programs and Strategies to Reduce SOVs

Programs and strategies to deter SOV use should be considered at both regional and local jurisdictional levels of governments and by employers. Examples of strategies and programs include:

- Parking-pricing strategies encouraging non-SOV modes, such as demand parking pricing and reduction in parking minimums.
- Employer programs to encourage carpooling or transit use through employee reimbursement and by providing vanpool services or vehicles.
- Employer programs to encourage active transportation commuting by implementing secure bicycle parking, lockers, storage, and shower facilities.
- Employer incentive programs to encourage alternative work hour, compressed workweek schedules, and telecommuting options to reduce travel during peak periods of congestion.

Marketing Campaigns

Developing printed, audio, and/or digital messaging can help inform the public of available alternate travel-mode options and encourage their use. Use of social media campaigns, coordinated partnerships with print and digital publishers, radio, or cable providers are possible outreach and messaging approaches.

Intelligent Transportation System

ITS uses traffic and traveler information to integrate all components of a traditional transportation system into an interconnected network. ITS uses technologies, communications, and management strategies to increase the safety and efficiency of the surface transportation system. Traditional ITS devices that are used by LHMPO member jurisdictions include traffic signals, traffic detection, and communications between signals and a centralized management and operations system. Signal preemption for emergency vehicles is also utilized in the LHMPO region. The current focus of local jurisdictions is to manage the arterial street system to maximize the safety and efficiency of the arterial transportation system.

The Arizona Broadband Implementation

The State of Arizona Department of Administration (ADOA), led by Governor Douglas A. Ducey, partnered with Mission Critical Partners, LLC (MCP) to develop the Arizona Statewide Broadband Strategic Plan, published in 2018. The goal of this study was to effectively coordinate, manage, and collaborate on the resources required to deliver accessible, affordable, and reliable access to broadband services. Specifically, this plan was targeted to identify strategies and solutions to close the gap in broadband access to both rural and tribal communities—both of which are significantly less likely to have access to reliable broadband services. This plan identified six guiding goals:

- **Goal 1**: Broadband is accessible and affordable.
- **Goal 2**: Broadband expansion is strategically governed and implemented.
- **Goal 3**: Existing broadband infrastructure is identified, leveraged, and expanded.
- **Goal 4**: Funding opportunities are identified, leveraged, and expanded.
- **Goal 5**: Citizens understand the impact of broadband and promote adoption.
- **Goal 6**: Policies are implemented to incentivize provisioning of and/or reducing barriers to broadband.

In conjunction with this plan and the overall goal to improve affordable access to broadband, ADOT is specifically working to integrate the expansion of broadband infrastructure in conjunction with future transportation corridor investments.

Statewide ITS Architecture

The state of Arizona, ADOT specifically, is responsible for establishing a statewide ITS architecture in compliance that includes the necessary components needed to demonstrate conformity to federal regulations in 23 CFR Part 940 including, but not limited to: operational concept, list of agreements, system functional requirements, standards identification, and a maintenance plan.

The Arizona statewide ITS architecture provides a standard framework for planning, defining, and integrating ITS. Local agencies are encouraged to utilize this framework to better define local planned ITS projects, thereby ensuring consistency across jurisdictions, regional compatibility, and better integration in the future. The statewide ITS architecture was developed to establish a consistent framework and general project recommendations; however, it does not assess the statewide system's existing or needed ITS infrastructure or suggest direct project recommendations. The Arizona ITS architecture includes all ITS elements existing and planned in the state of Arizona. The ITS elements for the state of Arizona include:

- Archived data management systems
- Emergency management
- Traffic management
- Transit services
- Maintenance and construction operations
- Traveler information

Arterial ITS Program

Traffic signal synchronization/coordination along the region's major transportation corridors should be reassessed on a biennial basis to ensure traffic flow is optimized and consistent with changes experienced in travel patterns and volume growth or redistribution across that time. DMS and CCTV cameras do not exist along roadways in the LHMPO region and should be a planned investment as an ITS-specific project or included as part of future intersection improvements. The LHMPO region could benefit from investing in arterial DMS to provide traveler information to the local traveling public, such as closures and restrictions, special event

messages, and travel times. CCTV cameras can provide surveillance capabilities for monitoring incidents and congestion levels.

The integration of adaptive signal control technology has the potential to address congestion concerns with a cost-effective solution. This technology is also an appealing solution for corridors with limited available right of way as an alternative to extensive widening and expansion projects. Adaptive signal control technology has the capacity to provide the following as compared to conventional signal systems:

- Optimize green light time equitably to best accommodate all traffic movements.
- Improve travel time reliability by sequencing vehicle caravanning through consecutive green lights.
- Reduce congestion by creating smoother flow.
- Prolong the effectiveness of traffic signal timing.

New Technologies

Connected & Automated Vehicles

Automated vehicles and self-driving cars have undergone extraordinary advancements in the past decades, with advanced testing and development phases and multiple semi-autonomous vehicles in production. Additionally, numerous automated safety features are currently available:

- **Electronic stability control** slows individual wheels during a turn to keep a car on course.
- **Lane-Keep assist** detects lane departure and steers vehicle back into the correct lane.
- **Adaptive cruise control** monitors the driver-set speed and distance to the vehicle ahead.
- **Collision warning system** alerts the driver if a collision is imminent.
- **Automatic braking** automatically applies brakes to avoid a collision.
- **Adaptive headlights** provide a better view of the road around curves especially at night. The lights react to the steering, speed, and elevation of the car and make adjustments for better visibility
- **Back up cameras** improve visibility when backing up or parking.
- **Active parking assist** helps parallel park the vehicle with no steering from the driver.
- **Drowsiness alert** uses automobile or driver data to indicate when the driver needs a break.

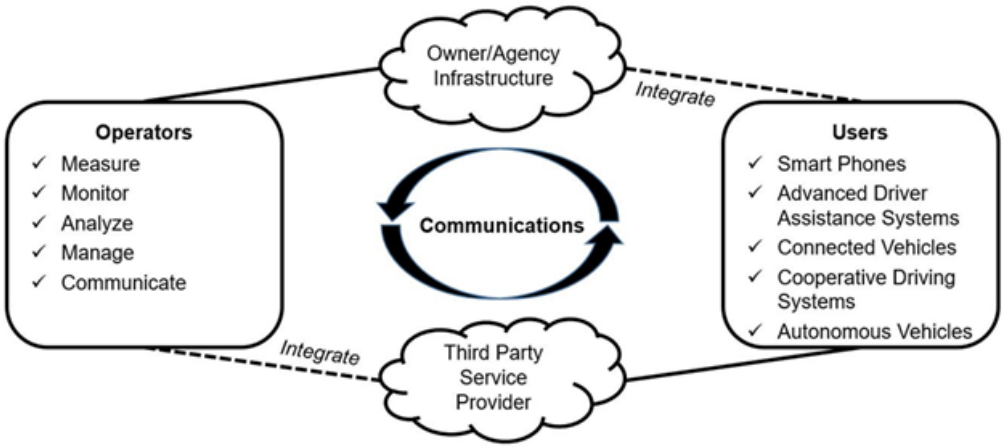
Automated vehicles have the potential to improve travel reliability, improve safety, reduce congestion, and reduce vehicle emissions. Many automobile manufacturers are advancing preparations for automated vehicle production for both passenger and commercial/freight vehicles. The secondary benefit to autonomous vehicles is the ability connect these vehicles to both other vehicles traveling in system corridors as well as the physical roadway system infrastructure. This technology has enormous potential to improve critical transportation goals, including significant safety improvements and reductions in traffic congestion—as well as optimizing driving decision-making to experience reduced fuel consumption, emissions, and other air quality and environmental benefits.

The U.S. Department of Transportation (USDOT) Intelligent Transportation Systems Joint Program Office (ITS JPO), Federal Highway Administration (FHWA), Federal Transit Administration (FTA), Federal Motor Carrier Safety Administration (FMCSA), and the National Highway Traffic Safety Administration (NHTSA) are collaborating to research and spur the deployment of connected vehicle technology. This commitment has exciting potential to make our roadways safer. The House Energy and Commerce Committee stated in 2018 that "self-driving cars are projected to reduce traffic deaths by 90%, saving 30,000 lives a year." Connected vehicle technology also could improve commutes and make trip-making less stressful and more efficient as well as help reduce mobile emissions.

Electric Vehicles and Charging Stations

In conjunction with autonomous vehicles, electronic vehicle technology is also advancing with an influx of fully electronic vehicles in production; these vehicles are increasingly accessible for personal, public transit, and commercial truck fleets. They may be fully electric vehicles or plug-in hybrids, which use a gasoline engine to extend the driving range when longer trips than the battery can provide are taken. Along with the expansion of manufactures producing electric vehicles, there has been additional public, employer-based, and business-partnership investments that have expanded the access of vehicle charging locations, continuing to reduce the barriers of vehicle range that limited early electronic vehicle technology. The LHMPO supports increased electric vehicle infrastructure and future initiatives may include outreach and education.

Smart Highways



Smart highways use technology enabled resources and processes that facilitate active management and control across instrumented and connected roads. The present-day dynamic includes road operators, third-party service providers, and in-vehicle computer platforms working independently and collaboratively to provide for road user safety, efficiency, and reliability of travel. Readiness in smart highways includes 6" longitudinal markings, vehicle-to-infrastructure systems such as in-vehicle communications with traffic signals and static traffic control warning signs.

Urban Air Mobility (UAM)

Urban air mobility, also known as Advanced Air Mobility, is a broad concept for transportation systems that enable people and goods to move via air transportation. UAM can include on-demand air mobility, cargo and package delivery, and as numerous applications for healthcare and emergency services. Currently, several companies, including Amazon, are testing UAM applications to deliver goods to consumers. Amazon Prime Air is a service that can deliver packages up to five pounds in 30 minutes or less using small drones. In 2021, Arizona passed the Nation's first legislation to develop a Urban air mobility study committee to evaluate anticipated transportation, economic, environmental and community impacts associated with UAM.

Appendix A.
Federal and State RTP Requirement Checklist

Requirement	Code of Federal Regulation (CFR) Reference	Where Addressed in the RTP
General Requirements		
Does the RTP address no less than a 20-year planning horizon?	23 CFR 450.324(a)	Chapter 1, Chapter 6, Chapter 9
Does the RTP include both long-range and short-range strategies/actions?	23 CFR 450.324(b)	Chapter 9
Identify the general location of uses, residential densities, and building intensities within the region?	Recommended Best Practice	Chapter 3, Chapter 6
Identify growth areas within the region and where net migration into the region, population growth, household formation, and employment growth will occur.	Recommended Best Practice	Chapter 6
Utilize the most recent planning assumptions, considering local general plans and other factors.	Recommended Best Practice	Chapter 6, Chapter 8
Does the RTP comply with the Federal Clean Air Act?	Section 176 of the Federal Clean Air Act (42 U.S.C Section 7506)	Yes, LHMPO is not designated with air quality non-attainment
Does the RTP include project intent, i.e. plan-level purpose and need statements?	Recommende d Best Practice	Chapter 2
Does the RTP specify how TDM methodology, results, and key assumptions were developed as part of the RTP process?	Recommende d Best Practice	Chapter 3, Chapter 6
Consultation/Cooperation Requirements		
Does the RTP contain a public involvement program that provides adequate public notice of public participation activities and time for public review and comment at key decision points, including a reasonable opportunity to comment on the proposed metropolitan transportation plan and the TIP?	23 CFR 450.316(a)	Chapter 7, Appendix B
Provision of timely notices and reasonable access to information about transportation issues and processes?	23 CFR 450.316(a)	Chapter 7, Appendix B
Utilization of visualization techniques to describe metropolitan transportation plans and TIPs?	23 CFR 450.316(a)	Chapter 7, Appendix B
Is public information (technical information and meeting notices) available in electronically accessible formats and means, such as the internet?	23 CFR 450.316(a)	Yes, the RTP is available at LHMPO.org Chapter 7
Public meetings held at convenient and accessible locations and times?	23 CFR 450.316(a)	Due to the COVID pandemic, online resources were used. Chapter 7.
Demonstration of explicit consideration and response to public input received during development of the RTP and the TIP?	23 CFR 450.316(a)	Chapter 7, Appendix B
Did the process seek out and consider the needs of those traditionally underserved by existing transportation systems, such as low-income and minority households, who may face challenges accessing employment and other services?	23 CFR 450.316(a)	Chapter 3, Chapter 7, Appendix B

Requirement	Code of Federal Regulation (CFR) Reference	Where Addressed in the LRTP
Did the process provide an additional opportunity for public comment, if the final RTP or TIP differs significantly from the version that was made available for public comment by the MPO and raises new material issues that interested parties could not reasonably have foreseen from the public involvement efforts?	23 CFR 450.316(a)	Not anticipated to differ significantly
Was the RTP coordinated with statewide transportation planning public involvement and consultation processes, and a periodic review of the effectiveness of the procedures and strategies contained in the public participation plan completed, to ensure a full and open participation process?	23 CFR 450.316(a)	ADOT is on the RTP TAC
Does the RTP contain a summary, analysis, and report on the disposition of significant written and oral comments received on the draft RTP as part of the final RTP and TIP?	23 CFR 450.316(a)	Chapter 7, Appendix B
Did the MPO consult with the appropriate State and local representatives including representatives from environmental and economic communities: airport; transit; freight during the preparation of the RTP?	23 CFR 450.316(b)	Chapter 7, Stakeholder Outreach
Did the MPO who has federal lands within its jurisdictional boundaries involve the federal land management agencies during the preparation of the RTP?	23 CFR 450.316(d)	N/A
Where does the RTP specify that the appropriate state and local agencies responsible for land use, natural resources, environmental protection, conservation, and historic preservation were consulted?	23 CFR 450.316(g)	Chapter 3
If the MPO has a federally recognized Native American Tribal Government(s) and/or historical and sacred sites or subsistence resources of these Tribal Governments within its jurisdictional boundaries, are tribal concerns addressed in the RTP through consultation with the Tribal Government(s)?	23 CFR 450.316(c)	N/A
Does the RTP address how the public and various specified groups were given a reasonable opportunity to comment on the plan using the public participation plan?	23 CFR 450.316(a)	Chapter 7, Appendix B
Does the RTP contain a discussion describing the private sector involvement efforts that were used during the development of the plan?	23 CFR 450.316(a)	Chapter 7, Appendix B
Does the RTP contain a discussion describing the coordination efforts with regional air quality planning authorities?	23 CFR 450.316(a)	N/A
Is the RTP coordinated and consistent with the Public Transit Human Services Transportation Plan?	23 CFR 450.306(h)	Chapter 9
Were the draft and adopted RTP posted on the internet?	23 CFR 450.324(k)	LHMPO website
Title VI and Environmental Justice Requirements		
Does the public participation plan describe how the MPO will seek out and consider the needs of those traditionally underserved by the existing transportation system, such as low-income minority households, who may face challenges accessing employment and other services?	23 CFR 450.316(a)	Chapter 7,
Planning Requirements		
Does the plan address the planning factors described in 23 C.F.R. 450.306(b)?	23 CFR 450.306(b)	Throughout RTP

Requirement	Code of Federal Regulation (CFR) Reference	Where Addressed in the LRTP
Does the plan include both long-range and shortrange strategies/actions that provide for the development of an integrated multimodal transportation system (including accessible pedestrian walkways and bicycle transportation facilities) to facilitate the safe and efficient movement of people and goods in addressing current and future transportation demand?	23 CFR 450.324(b)	Throughout RTP
Was the requirement to update the plan at least every five years met?	23 CFR 450.324(c)	Yes
Was the plan updated based on the latest available estimates and assumptions for population, land use, travel, employment, congestion, and economic activity?	23 CFR 450.324(e)	Chapter 6
Does the plan include the current and projected transportation demand of persons and goods in the metropolitan planning area over the period of the plan?	23 CFR 450.324(f)	Chapter 6
Does the plan include existing and proposed transportation facilities (including major roadways, public transportation facilities, intercity bus facilities, multimodal and intermodal facilities, nonmotorized transportation facilities, and intermodal connectors that should function as an integrated metropolitan transportation system, giving emphasis to those facilities that serve important national and regional transportation functions over the period of the transportation plan?	23 CFR 450.324(f)	Throughout RTP
Does the plan include a description of the performance measures and performance targets used in assessing the performance of the transportation system in accordance with §450.306(d)?	23 CFR 450.324(f)	Chapter 2
Does the plan include a system performance report and subsequent updates evaluating the condition and performance of the transportation system with respect to the performance targets described in §450.306(d), including progress achieved by the metropolitan planning organization in meeting the performance targets in comparison with system performance recorded in previous reports, including baseline data?	23 CFR 450.324(f)	Chapter 2
Did the MPO integrate in the metropolitan transportation planning process, directly or by reference, the goals, objectives, performance measures, and targets described in other State transportation plans and transportation processes, as well as any plans developed under 49 U.S.C. chapter 53 by providers of public transportation, required as part of a performance-based program	23 CFR 450.306(d)	Chapter 2
Does the plan include operational and management strategies to improve the performance of existing transportation facilities to relieve vehicular congestion and maximize the safety and mobility of people and goods?	23 CFR 450.324(f)	Chapter 10
Does the plan include consideration of the results of the congestion management process in TMAs, including the identification of SOV projects that result from a congestion management process in TMAs that are nonattainment for ozone or carbon monoxide?	23 CFR 450.324(f)	N/A
Does the plan include assessment of capital investment and other strategies to preserve the existing and projected future metropolitan transportation infrastructure, provide for multimodal capacity increases based on regional priorities and needs, and reduce the vulnerability of the existing transportation infrastructure to natural disasters?	23 CFR 450.324(f)	Chapter 9

Requirement	Code of Federal Regulation (CFR) Reference	Where Addressed in the LRTP
Does the plan include transportation and transit enhancement activities, including consideration of the role that intercity buses may play in reducing congestion, pollution, and energy consumption in a cost-effective manner and strategies and investments that preserve and enhance intercity bus systems, including systems that are privately owned and operated, and including transportation alternatives, as defined in 23 U.S.C. 101(a), and associated transit improvements, as described in 49 U.S.C. 5302(a)?	23 CFR 450.324(f)	Chapter 9
Does the plan describe all proposed improvements in sufficient detail to develop cost estimates?	23 CFR 450.324(f)	Chapter 9
Does the plan include a financial plan that demonstrates how the adopted transportation plan can be implemented?	23 CFR 450.324(f)	Chapter 9
Does the plan include system-level estimates of costs and revenue sources to adequately operate and maintain Federal-aid highways and public transportation?	23 CFR 450.324(f)	Chapter 9
Did the MPO, public transportation operator(s), and State cooperatively develop estimates of funds that will be available to support metropolitan transportation plan implementation, as required under §450.314(a)?	23 CFR 450.324(f)	Chapter 9
Does the financial plan include recommendations on additional financing strategies to fund projects and programs included in the plan, and, in the case of new funding sources, identify strategies for ensuring their availability?	23 CFR 450.324(f)	Chapter 9
Does the plan's revenue and cost estimates use inflation rates that reflect year of expenditure dollars, based on reasonable financial principles and information, developed cooperatively by the MPO, State(s), and public transportation operator(s)?	23 CFR 450.324(f)	Chapter 9
Does the plan include pedestrian walkway and bicycle transportation facilities in accordance with 23 U.S.C.17(g)?	23 CFR 450.324(f)	Throughout RTP
Does the transportation plan indicate coordination for developing transportation control measures (TCMs) in the State Implementation Plan (SIP)? - 23 CFR 450.324 (d)	23 CFR 450.324(h)	N/A
Does the plan identify the current and projected transportation demand of persons and goods in the metropolitan planning area over the period of the plan?	23 CFR 450.324(g)	Chapter 6, Chapter 8

Appendix B.
Public Involvement Outreach

Ruby Eileen Ross, Decedent
Notice of Appointment
Notice to Unknown Heirs
La Paz County Public Fiduciary is appointed as Personal Representative of the estate of Ruby Eileen Ross who died on August 21, 2021 without a Will. Any and all persons seeking a determination of heir ship shall file a claim with the La Paz County Public Fiduciary at 1105 W. 14th Street, Parker Arizona on or before February 1, 2022. In order to determine heirs or legatees, claims should include official identification and legal birth certificates.
This Probate matter is filed in the Superior Court of La Paz County, Arizona located at 1316 Kofa Ave, Parker Arizona 85344. Probate Case #PB202100046 /s/ Vivian Hartless La Paz County Public Fiduciary
Publish: 10-20, 27; 11-3, 2021 2550

Notice is Hereby given that London Bridge Road Storage has a possessory lien on the following storage units that will be in accordance with AZRS 33-1703, 33-1704, and will be sold at public auction on Wednesday, November 17, 2021 at 6:00 AM. All purchases are sold as is, where is, and must be removed within 72 hours from the close of sale. Sale is subject to cancellation in the event of a settlement between owner and obligated party.
Location is at: These units can be viewed a full week prior to the auction held at www.Bid13.com.
Property: 3839 London Bridge Rd, Lake Havasu City, AZ 86404 **928-764-3900**
Jeffrey McNaughton Unit #135: 2-bikes, 2-boxes, and entertainment stand.
Publish: 11-3, 10, 2021 2552

DCS'S NOTICE OF HEARING ON DEPENDENCY PETITION
NO. JD-2021-07034
(Honorable Steven C. Moss)
IN THE SUPERIOR COURT OF THE STATE OF ARIZONA
IN AND FOR THE COUNTY OF MOHAVE
In the Matter of:
FAITH GRONLUND
d.o.b. 02/16/2010
TREYSON SMITH
d.o.b. 10/11/2011
JAX SMITH
d.o.b. 04/24/2016
Person(s) under 18 years of age.
TO: JESSICA MOSHER, MITCH GRONLUND, and JOHN DOE, a fictitious name, parents and/or guardians of the above-named children.
1. The Department of Child Safety, (DCS or the Department), by and through undersigned counsel, has filed a Dependency Petition pursuant to Title 8, of the Arizona Revised Statutes, Rules 4.1 and 4.2 of the Arizona Rules of Civil Procedure; and Rule 48(D) of the Arizona Rules of Procedure for the Juvenile Court.
2. The Court has set a Publication hearing on the 4th day of January, 2022 at 9:00 a.m., at the Mohave County Superior Court, 2001 College Drive, Lake Havasu City, Arizona 86403, before the Honorable Steven C. Moss for the purpose of determining whether any parent or guardian named herein is contesting the allegations in the Petition.
3. You and your children are entitled to have an attorney present at the hearing. You may hire your own attorney or, if you cannot afford an attorney and want to be represented by an attorney, one may be appointed by the Court.
4. You have a right to appear as a party in this proceeding. You are advised that your failure to personally appear in court at the initial hearing, pretrial conference, status conference, or dependency adjudication, without good cause shown, may result in a finding that you have waived your legal rights and have admitted the allegations in the Petition. In addition, if you fail to appear, without good cause, the hearing may go forward in your absence and may result in an adjudication of dependency, termination of your parental rights or the establishment of a permanent guardianship based upon the record and the evidence presented to the court, as well as an order of paternity, custody, or change of custody in a consolidated family law matter and an order for child support if paternity has been established.
5. Notice is given that DCS is proposing to substantiate any allegations of abuse and/or neglect contained in the dependency petition for placement in the DCS Central Registry. The DCS Central Registry is a confidential list of DCS findings that tracks abuse and neglect. If the court finds your children dependent based upon allegations of abuse and/or neglect contained in the dependency petition, you will be placed in the DCS Central Registry. See A.R.S. § 8-804.
6. If you are receiving this Notice by publication, you may obtain a copy of the Dependency Petition, Notice of Hearing, and Temporary Orders by submitting a written request to: STEVEN ZAGORSKI, Office of the Attorney General, CFP/PSS, 2400 Airway Avenue, Suite A, Kingman, Arizona 86409. The assigned case manager is Brianne Gragg and may be reached by telephone at (928) 854-0688.
7. Requests for reasonable accommodation for persons with disabilities must be made to the court by parties at least three working days in advance of a scheduled court proceeding and can be made by calling (928) 453-0701.
8. You have the right to make a request or motion prior to any hearing that the hearing be closed to the public.
DATED this 20th day of October, 2021.
MARK BRNOVICH
Attorney General
STEVEN ZAGORSKI
Assistant Attorney General
TODAYS NEWS HERALD
Publish: 10-27; 11-3, 10, 17, 2021 2555

Notice To Creditors/Jeffrey Van Carl
Nancy C. Pohl (Bar No. 024511) Ashley E. Fitzgibbons (Bar No. 036295) Gallagher & Kennedy, P.A. 2575 East Camelback Road Phoenix, Arizona 85016-9225 Telephone: (602) 530-8000 Facsimile: (602) 530-8500 nancy.pohl@gknet.com ashley.fitzgibbons@gknet.com Attorneys for Personal Representative Superior Court Of The State Of Arizona County Of Mohave In the Matter of the Estate of: Jeffrey Van Carl, Deceased. No. PB2021-00277 Notice To Creditors Notice Is Given that Sandra L. Carl was appointed Personal Representative of this Estate. All persons having claims against the Estate are required to present their claims within four (4) months after the date of the first publication of this Notice or the claims will be forever barred. Claims must be presented by delivering or mailing a written statement of the claim to Sandra L. Carl c/o Gallagher & Kennedy, P.A., Attn: Irma C. Davenport, 2575 East Camelback Road, Phoenix, Arizona 85016. Dated this 25th day of September, 2021. /s/ Sandra L. Carl Gallagher & Kennedy, P.A. By: /s/ Nancy C. Pohl Nancy C. Pohl Ashley E. Fitzgibbons 2575 East Camelback Road Phoenix, Arizona 85016-9225 Attorneys for Personal Representative
Publish: 10-27; 11-3, 10, 2021 2556

NOTICE TO POTENTIAL BIRTH FATHER
ARIZONA REVISED STATUTE §8-106(G)
TO: JOHN (LAST NAME UNKNOWN), (A.K.A. JOHN DOE, A FICTITIOUS NAME)
Pursuant to A.R.S. §8-106(G), notice is given to **JOHN (LAST NAME UNKNOWN), (A.K.A. JOHN DOE, A FICTITIOUS NAME),** that you have been identified by Jessica Berry, residing in Kingman, Arizona, as the potential father of Heidi Paitience Berry, (a.k.a. Not Named Berry), (a.k.a. Baby Girl Berry), born on October 13, 2021.
You, **JOHN (LAST NAME UNKNOWN), (A.K.A. JOHN DOE, A FICTITIOUS NAME),** have been named the potential biological father of this child. You are informed of the following:
1. The natural mother, Jessica Berry, is planning to place her child for adoption through Adoption Choices of Arizona.
2. Under Arizona law, A.R.S. §8-106 and A.R.S. §8-107 you have the right, if you are the biological father of this child, to consent or withhold your consent to the proposed adoption.
3. Your written consent to the adoption is irrevocable once you sign it.
4. You have the right to seek custody of the child.
5. In the event that you wish to assert parental rights to the child described above, and/or if you wish to withhold your consent to the proposed adoption plan, your obligations are as follows:
A. If paternity has not been established, you must initiate a paternity action pursuant to title 25, chapter 6, article 1, and serve upon the mother the paternity action within thirty (30) days of completion of service of this Notice.
B. You have the obligation to proceed to judgment in the paternity action.
6. Once paternity is established, you must begin providing financial support for the child, and if paternity is not established until after the child is born, you may be responsible for past support. [A.R.S. §25-809(A)]
7. If you do not file a paternity action and do not serve upon the mother your paternity action within thirty (30) days after completion of service of this Notice and proceed to judgment in the paternity action, you are barred from bringing or maintaining any action to assert any interest in the child.
8. The Indian Child Welfare Act may supersede the Arizona Revised Statutes regarding this adoption and paternity, if applicable to this adoption.
9. For purposes of service of a paternity action, service may be made on the mother by serving Adoption Choices of Arizona, c/o Philip (Jay) McCarthy, Jr., Esq., McCarthyWeston, PLLC, 508 North Humphreys Street, Flagstaff, Arizona 86001.
10. THIS IS A LEGAL NOTICE. YOU MAY WISH TO CONTACT AN ATTORNEY TO ASSIST YOU IN RESPONDING TO THIS NOTICE.
You may obtain further information by contacting Philip (Jay) McCarthy, Jr., McCarthyWeston, PLLC, 508 North Humphreys Street, Flagstaff, Arizona 86001, telephone number (928) 779-4252.
Publish: 10-27;11-3,10,17, 2021 2560

NOTICE OF HEARING
CASE NO.: S8015GC202100119
IN THE SUPERIOR COURT OF THE STATE OF ARIZONA IN AND FOR THE COUNTY OF MOHAVE In the Matter of the Conservatorship of: JESSE CASAULT; CHASE CASAULT; MEMPHIS CASAULT DOB: February 21, 2006; February 21, 2006; April 3, 2009, Each a Minor. A hearing regarding the Petition in this matter shall be held on November 16, 2021 at 1:30 PM before the Honorable Judge Eric E. Gordon in Mohave County Superior Court. Individuals wishing to participate in this matter may appear via Zoom with the following credentials: Meeting ID: 676573864 Password: 2141912 Dated this 29th day of September, 2021. KENT LAW PLC. /s/Jonathan J. Henry, Esq. Jonathan J. Henry, Esq. Daniel C. Kaapke, Esq. Attorneys for Plaintiff
Publish: 10-31, 11-2, 3, 2021 2565

Lake Havasu Metropolitan Planning Organization
2045 REGIONAL TRANSPORTATION PLAN

PUBLIC NOTICE
Notice of Public Comment Period for the Lake Havasu MPO 2045 Regional Transportation Plan

The Lake Havasu Metropolitan Planning Organization (LHMPO) is seeking public input to update the Regional Transportation Plan (RTP) for the Lake Havasu City region. You are invited to review and comment on the draft transportation needs and priorities for the region.

Read the draft RTP at: LHMPO.org/RTP

Comments will be accepted until December 3, 2021
Please submit any questions or comments in writing to hembreej@lhcaz.gov

La Organización de Planificación Metropolitana de Lake Havasu (LHMPO) está buscando comentarios del público para actualizar el Plan de Transporte Regional (RTP) para la región de la ciudad de Lake Havasu. Se le invita a revisar y comentar sobre el borrador de las necesidades y prioridades de transporte para la región.

Lea el borrador de RTP en: LHMPO.org/RTP
Se aceptarán comentarios hasta el 3 de Deciembre de 2021
Envíe sus preguntas o comentarios a hembreej@lhcaz.gov
Publish: 11-3, 10, 2021 2566

Release Date: Wednesday, November 3, 2021

Los Angeles Times Daily Crossword Puzzle

Edited by Rich Norris and Joyce Nichols Lewis

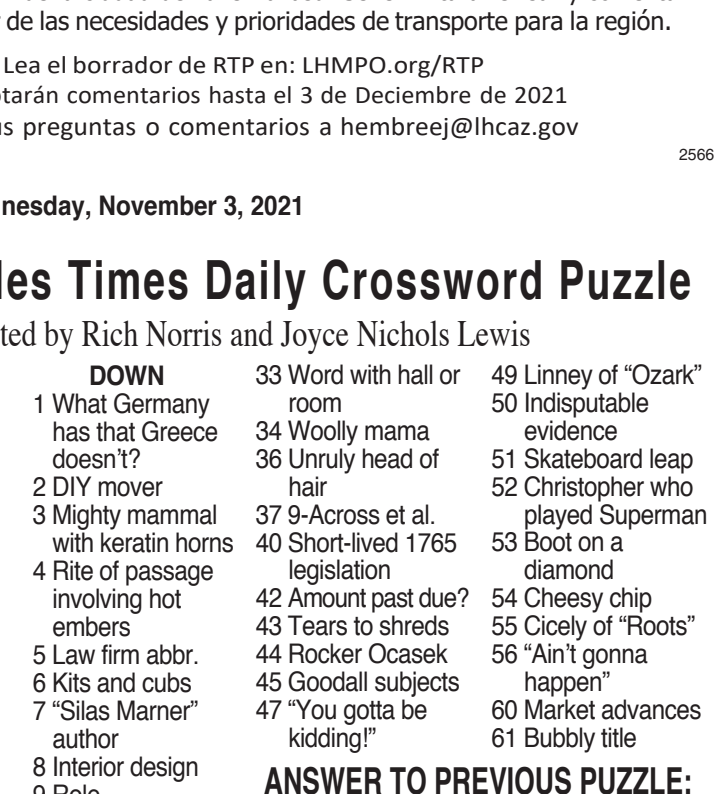
ACROSS
1 Site-hop, Webwise
5 Watched closely
9 Beetle relative
14 "Small world"
15 Fish that ought to go well with a cobbler?
16 Paddled
17 Not at all biased
18 Yeast-free loaf
20 Au courant, with "in"
22 Common lunch hour
23 Instrument for Este Haim of the pop rock trio Haim
24 Opposite of a roast
27 "When They See Us" creator DuVernay
28 Become less brilliant, as colors
29 Fictional legal secretary
35 Org. impacted by the Real ID Act
38 "CHiPs" actor Estrada
39 Kitten's cry
40 Place in an overhead bin, say
41 Not looking good
42 Three-horned dinosaur
46 Self-__
48 Hoppy brew letters
49 Job for the police
56 DEA agent
57 Valley
58 Application of small drops
59 Overpowered ... or how the Across answers with circles might be described?
62 Bends
63 Surg. holding area
64 Save for later, as a TV show
65 Pacific salmon
66 Puts in the work for
67 Appear
68 Suffix with Jumbo

DOWN
1 What Germany has that Greece doesn't?
2 DIY mover
3 Mighty mammal with keratin horns
4 Rite of passage involving hot embers
5 Law firm abbr.
6 Kits and cubs
7 "Silas Marner" author
8 Interior design
9 Role
10 iPod accessory
11 Showed, as a good time
12 Rag on
13 Puts into the mix
19 Carver's tool
21 Soprano superstar
25 Rapper Lil __ X
26 Upside-down sleeper
29 Dawn phenomenon
30 Slice of history
31 Author who wrote the Thongor fantasy series
32 "That's enough!"
33 Word with hall or room
34 Woolly mama
36 Unruly head of hair
37 9-Across et al.
40 Short-lived 1765 legislation
42 Amount past due?
43 Tears to shreds
44 Rocker Ocasek
45 Goodall subjects
47 "You gotta be kidding!"
49 Linney of "Ozark"
50 Indisputable evidence
51 Skateboard leap
52 Christopher who played Superman
53 Boot on a diamond
54 Cheesy chip
55 Cicely of "Roots"
56 "Ain't gonna happen"
60 Market advances
61 Bubbly title

ANSWER TO PREVIOUS PUZZLE:

H	A	R	E		C	H	A	S	M		R	S	V	P
G	U	A	M		H	A	G	U	E		A	N	A	L
T	R	I	O		L	I	O	N	S		C	O	N	E
V	A	N	P	O	O	L		D	A	R	K	W	E	B
		M	O	D	E	M		A	S	K	E	W		
S	N	A	P	E		A	N	N		O	T	H	E	R
O	A	K			P	R	I	C	E			I	K	E
A	V	E		K	E	Y	L	E	S	S		T	E	N
K	E	R	M	I	T				A	T	B	E	S	T
			S	C	A	B		S	U	I	T			
S	P	U	N	K		A	O	L		G	U	M	B	Y
Q	E	D		E	A	R	W	O	R	M		A	L	A
U	N	D	E	R	T	H	E	W	E	A	T	H	E	R
I	C	E	S		V	O	T	E	S		W	A	N	D
B	E	R	T		S	P	O	R	T		O	L	D	S

11/03/21



By August Miller

11/03/21

Youngkin wins Virginia race, jolting Democrats

ASSOCIATED PRESS

RICHMOND, Va. — Glenn Youngkin won the Virginia governor's race on Tuesday, tapping into culture war fights over schools and race to unite former President Donald Trump's most fervent supporters with enough suburban voters to become the first Republican to win statewide office here in 12 years.

The 54-year-old Youngkin's defeat of Democrat Terry McAuliffe marked a sharp turnabout in a state that has shifted to the left over the past decade and was captured by President Joe Biden last year by a 10-point margin. It is certain to add to the Democrats' anxiety about their grip on political power heading into next year's midterms, when the party's thin majority in Congress could be erased.

The election was the first major test of voter sentiment since Biden took office, and the results were a stern warning sign for the president's own support. His administration has been shaken repeatedly in recent months, beginning with the chaotic withdrawal from Afghanistan, challenges in emerging from the pandemic and a legislative agenda at risk of stalling on Capitol Hill.

Youngkin, a political neophyte and former private equity executive, was able to take advantage of apparent apathy among core Democratic voters fatigued by years of elections that were seen as must-wins. He successfully portrayed McAuliffe, a former Virginia governor, Democratic National Committee chairman and close friend of Bill and Hillary Clinton, as part of an elite class of politicians. He also seized on a late-stage stumble by McAuliffe, who during a debate performance suggested parents should have a minimal role in shaping school curriculums.

Perhaps most significantly, Youngkin prevailed in a task that has stumped scores of Republicans before him: attracting Trump's base while also appealing to suburban voters who were repelled by the former president's divisive behavior.

During the campaign, Youngkin stated his support for "election integrity," a nod at Trump's lie that the 2020 presidential election was stolen, while also focusing on education and business-friendly policies. He never campaigned in person with Trump, successfully challenging McAuliffe's effort to cast him as a clone of the former president.

That approach could provide a model for Republicans competing in future races that feature significant numbers of Democratic or independent voters.

In addition to the stinging loss for the Democrats in Virginia, New Jersey Gov. Phil Murphy was in a close fight as he sought to become the first Democratic governor to win reelection there in more than four decades.

Meanwhile, mayoral contests from New York and Boston to St. Louis, Detroit and Seattle promised to reshape leadership in many of the nation's largest cities. Democratic former police captain Eric Adams won in New York City, and Boston voters elected City Councilor Michelle Wu, the city's first female Asian American mayor. Cincinnati, too, is getting its first Asian American mayor, Aftab Pureval.

MINNEAPOLIS

MINNEAPOLIS VOTERS REJECT REPLACING POLICE WITH NEW AGENCY

Minneapolis voters on Tuesday rejected a proposal to replace the city's police department with a new Department of Public Safety, an idea that supporters had hoped would bring radical change to policing in the city where George Floyd's death under an officer's knee brought calls for racial justice.

The initiative would have changed the city charter to remove a requirement that the city have a police department with a minimum number of officers. Supporters said a complete overhaul of policing was necessary to stop police violence. Opponents said the proposal had no concrete plan for how to move forward and warned it would leave some communities already affected by violence more vulnerable as crime is on the rise.

Those opponents welcomed the amendment's defeat but stressed the urgency of transforming policing in the city even without it.

"Tonight Minneapolis voters have made clear that we want a planful approach to transforming policing and public safety in our city that needs to include meaningful consultation with the communities that are most impacted by both violent crime and by over-policing," said Leili Fatehi, manager of the All of Mpls campaign.

— Associated Press

HOW MAJOR US STOCK INDEXES FARED

Stocks closed higher on Wall Street Tuesday, pushing the Dow Jones Industrial Average to its first close above 36,000 points.

The Dow, the broader S&P 500 and the Nasdaq rose. The gains came ahead of more news this week from the Federal Reserve and on the jobs market. The Fed is considering ways to wind down its extraordinary support measures for the economy. Its next policy statement comes out Wednesday.

On Tuesday:
The S&P 500 rose 16.98 points, or 0.4%, to 4,630.65.

The Dow Jones Industrial Average rose 138.79 points, or 0.4%, to 36,052.63.

The Nasdaq rose 53.69 points, 0.3%, to 15,649.60.
The Russell 2000 index of smaller companies rose 3.74 points, or 0.2%, to 2,361.86.

Wall Street roundup
Dow Jones Industrial Average
+138.79 (+0.4%)
Close 36,052.63
S&P 500
+16.98 (+0.4)
Close 4,630.65
Nasdaq
+53.69 (+0.3%)
Close 15,649.60
Source: AP

For the week:
The S&P 500 is up 25.27 points, or 0.5%.
The Dow is up 233.07 points, or 0.7%.
The Nasdaq is up 151.21 points, or 1%.

The Russell 2000 is up 64.67 points, or 2.8%.
For the year:

The S&P 500 is up 874.58 points, or 23.3%.

The Dow is up 5,446.15 points, or 17.8%.

The Nasdaq is up 2,761.32 points, or 21.4%.
The Russell 2000 is up 387.01 points, or 19.6%.

CRYPTOCURRENCY

Bitcoin: $63,092.73 (+2.87%)
Ethereum: $4,581.73 (+5.40%)
XRP: $1.13 (+3.08%)
Cardano: $1.96 (+0.57%)
Dogecoin: $0.272439 (+0.16%)
Source: Coindesk.com at 5:20 p.m. Tuesday

SUDOKU

DIFFICULTY RATING: ★★☆☆☆

			1	7	4	6	2	
4			2	3				
2	1		5		9		8	
				2			1	
6			4		1			5
	8			9				
	5		9		7		6	3
				4	6			1
	7	6	3	5	2			

11/3

HOW TO PLAY:
Each row, column and set of 3-by-3 boxes must contain the numbers 1 through 9 without repetition.

PREVIOUS SOLUTION

2	5	6	8	9	4	1	3	7
1	3	8	5	7	2	9	6	4
7	4	9	1	6	3	2	5	8
3	7	5	9	2	1	8	4	6
8	1	2	7	4	6	3	9	5
6	9	4	3	5	8	7	2	1
5	8	7	6	3	9	4	1	2
9	2	1	4	8	5	6	7	3
4	6	3	2	1	7	5	8	9

Lake Havasu Metropolitan Planning Organization

2045 REGIONAL TRANSPORTATION PLAN

PUBLIC NOTICE
Notice of Public Comment Period for the Lake Havasu MPO 2045 Regional Transportation Plan

The Lake Havasu Metropolitan Planning Organization (LHMPO) is seeking public input to update the Regional Transportation Plan (RTP) for the Lake Havasu City region. You are invited to review and comment on the draft transportation needs and priorities for the region.

Read the draft RTP at: LHMPO.org/RTP

Comments will be accepted until December 3, 2021
Please submit any questions or comments in writing to hembreej@lhcaz.gov

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La Organización de Planificación Metropolitana de Lake Havasu (LHMPO) está buscando comentarios del público para actualizar el Plan de Transporte Regional (RTP) para la región de la ciudad de Lake Havasu. Se le invita a revisar y comentar sobre el borrador de las necesidades y prioridades de transporte para la región.

Lea el borrador de RTP en: LHMPO.org/RTP
Se aceptarán comentarios hasta el 3 de Deciembre de 2021
Envíe sus preguntas o comentarios a hembreej@lhcaz.gov

Publish: 11-3, 10, 2021

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Affidavit of Proof of Publication

STATE OF ARIZONA

COUNTY OF MOHAVE, ss

I, Janet Fotino, being duly sworn, says that during the publication of the notice, as herein mentioned, she was and now is an Authorized Agent of **Today's News-Herald**, a seven-times weekly newspaper published on Sunday, Monday, Tuesday, Wednesday, Thursday, Friday and Saturday of each and every week at the City of Lake Havasu City, in Mohave County, State of Arizona. That said newspaper was printed and published as aforesaid on the following dates, to-wit:

Notice to the Public
2045 Regional Transportation Plan

Published date(s)

November 3, 2021
November 10, 2021

of which the annexed copy is a printed and true copy, was printed and inserted in each and every copy of said newspaper, printed and published on the dates aforesaid, and in the body of said newspaper and not in a supplement thereof.

Janet Fotino

Subscribed and sworn to before me this 12th day of November, 2021.

KELLI BLUMM
Notary Public, State of Arizona
Mohave County
Commission # 573116
My Commission Expires
December 08, 2023

Kelli Blumm
Notary Public

December 08, 2023
My Commission Expires