



Get On Board **LAKE HAVASU** *Connecting People & Places*



Lake Havasu Metropolitan Planning Organization **Regional Transit Feasibility and Implementation Plan**

Final Report

January 2020



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Appendix A. Public Outreach Phase I

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1. PLAN OVERVIEW

The Lake Havasu Metropolitan Planning Organization (LHMPO) initiated 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. This important Plan is the first, critical step to create a complete public transportation system that addresses the current and future unmet transportation and mobility needs of the area. The goal of this Plan is to determine the needs and feasibility of increasing public transportation services to allow residents to fulfill their daily commuting needs that includes medical, educational, shopping, recreational, and emergency travel commitments. The Plan is being developed with support from local stakeholders and community members and is driven by a robust community engagement process.

STUDY PURPOSE

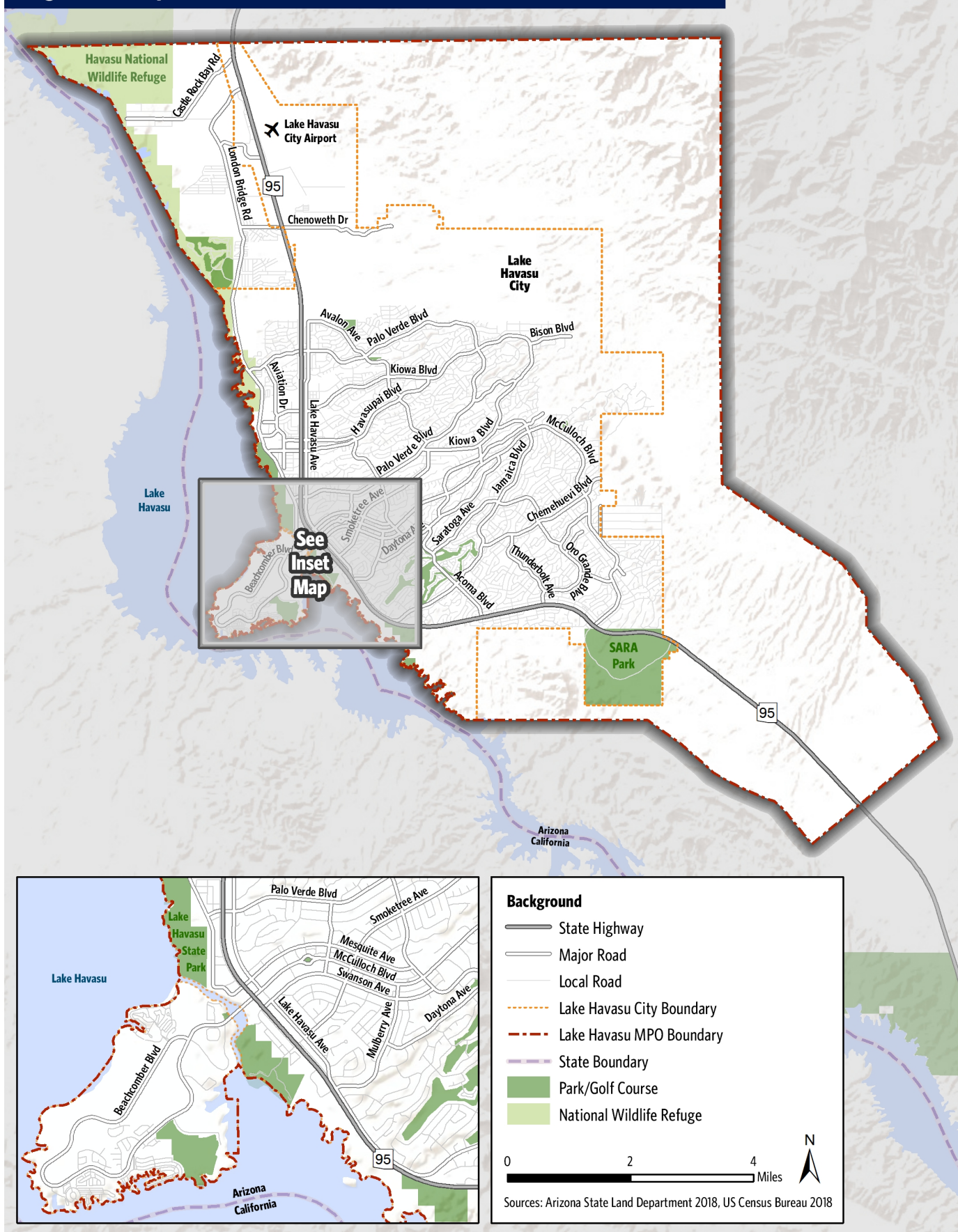
The objective of the transit feasibility study is to determine what type of public transportation services are needed for the LHMPO area. Assessing the appropriateness of service includes evaluating and documenting existing transit needs and determining the type of public transportation service that best meets that need (if any). By understanding and documenting potential demand and matching it to different service types, it is possible to evaluate potential service options. The main tasks of the *LHMPO Regional Transit Feasibility and Implementation Study* include:

- Evaluating the need and community support for public transportation through data analysis, community surveys, and discussions with businesses, community leaders, and local organizations.
- Assessing current local and regional travel patterns to identify needs, gaps, and opportunities.
- Identifying potential service characteristics associated with identified needs (i.e., commuter services, specialized services for medical appointments, etc.).
- Evaluating different service options and emerging technologies for public transportation services to meet needs.
- Estimating the costs and benefits associated with increasing public transportation services.
- Identifying an implementation plan including both short term steps and long-term vision.
- Identifying potential funding sources to support any of the recommended services.

STUDY AREA

As illustrated in Figure 1.1, the *Regional Transit Feasibility and Implementation Plan* is focused on the LHMPO planning area that includes Lake Havasu City and unincorporated portions of Mohave County including the communities of Desert Hills, Horizon Six, and Crystal Beach. Lake Havasu City is located along the scenic Colorado River and was first conceived as a master-planned community in 1963. The focal point of Lake Havasu is the London Bridge that has stood in the waters of the Colorado River since 1971. Today, Lake Havasu City is a thriving community that offers an active, recreation-oriented lifestyle, mild climates, and a great sense of community. To provide regional access, this study will also analyze connecting the LHMPO planning area to neighboring communities, such as Kingman, Parker, and Bullhead City.

Figure 1.1 Study Area



STUDY PROCESS

This Plan is a multi-phased process that includes a feasibility review, service evaluation, and implementation plan. The first phase of the study focuses on conducting a review of existing and future conditions and potential demand and need for a public transportation system. Upcoming phases on the study include evaluating service options and developing a plan for implementing transit service. Figure 1.2 illustrates the process that will be utilized for this study. This document focuses identifying the priority areas, origins, and destinations and evaluating potential transit service options for the region.

Figure 1.2. Study Process



2. TRANSIT NEEDS AND DEMAND

In general, transit is cost-effective when large volumes of transit riders can be transported for short to moderate distances. The LHMPO planning area; however, has a small population and employment base, spread out over a large area with long, indirect travel routes. These challenges make it harder to provide cost-effective and efficient transit service that covers the entire study area.

CHALLENGES AND OPPORTUNITIES

Findings collected through the existing conditions analysis, review of previous studies, community profile and public and stakeholder outreach efforts suggest that there are both challenges and opportunities associated with developing public transportation services within the LHMPO planning area. The following summarizes the challenges and opportunities for public transportation.

Challenges

- Existing land use density present a challenge as overall population and employment density in the region is low. National transit industry standards suggest that there are very few areas that could support fixed-route transit service.
- The LHMPO area is an automobile-oriented community with curvy and windy roadways and long travel distances between activity centers and from residential areas to businesses.
- Previous public transportation services in Lake Havasu City were very ambitious, with numerous stops and routes – creating an expensive and inefficient system. Due to this, many residents have a negative perception of public transportation.
- Differences in population types, from students, tourist, and elderly, vary greatly throughout the region (and over the course of the year) making it difficult to create a one-size-fits all service option.
- There is some reluctance from the community with regards to the cost and sustainability of public transportation, suggesting service might not offer enough value given costs to implement.
- Service efficiency may be difficult given the long distances between the residential, employment and service centers.
- Significant walking distances off main roads and extreme weather conditions in the summer make first/last mile connections to bus stops challenging.

Opportunities

- The Downtown Core has a heavy concentration of population, employment, and activity centers (medical, shopping, restaurants, entertainment). Creating a localized, downtown core public transportation service may be beneficial to both residents, seasonal visitors, tourists, and local businesses.
- The popularity of the Havasu Mobility program illustrates an interest in public transportation services. These services may be leveraged to expand public transportation in the study area.
- Fluctuations in part-time, seasonal visitors and tourists may provide opportunities for flex routing and scheduling options. Special event activities may also benefit from flex public transportation services to reduce parking and congestion issues.

- Numerous stakeholders support public transportation and are interested in developing options and choices within the region. There may be opportunities to partner with local businesses and colleges to fund marketing campaigns, advertisements, and passenger facilities.
- Initial community outreach suggests that a large portion of respondents see a need for implementing a public transportation system. Survey respondents felt public transportation could be most valuable if it was oriented towards meeting the needs of the most vulnerable (older adults, persons with a disability, and people with low incomes) population groups and employment related transportation.
- Long-term potential to connect into regional transportation providers in Kingman and Bullhead City to provide regional access to employment centers, colleges, and shopping centers.

TRANSPORTATION GENERATORS

Transportation generators are locations within a community that act as generators of transportation trips and are frequent destinations within a community. Understanding these destinations is a critical step in the evaluation of existing services and determining future transit needs.

Major Employers

The location and number of jobs is a strong indicator of transit demand, as traveling to and from work is a frequent trip type served by transit. Healthcare, manufacturing, consumer services, retail, tourism, and government are the primary drivers of the region's economy. Based on readily available data from the 2017 Arizona COG /MPO Employer Database, there are approximately 15,210 employees within the LHMPO area. The top five employers in the region include:

- Havasu Regional Medical Center – 650 employees
- City of Lake Havasu – 530 employees
- Lake Havasu Unified School District 1 – 520 employees
- Sterlite Corporation – 300 employees
- Walmart – 270 employees

In the same manner as population densities, employment densities provide a strong indication of underlying employment-based transit demand. Figure 2.1 illustrates employment densities within the LHMPO region. As illustrated in the Figure, the downtown core has the highest density of employment within the study area. Located in the downtown core is a diverse concentration of major medical facilities, retail shops, grocery stores, restaurants, services, and other businesses. Although the Shops at Lake Havasu, Walmart, and Lowes are one of the largest employers in the region, employment density is low due to the large size of the block group; therefore, low density areas do not necessarily illustrate a lack of potential transit demand.

Employment at the Havasu Regional Medical Center is quite concentrated while the employment at the LHUSD is scattered throughout the community at 9 or so locations. This has an impact on transit discussions. The north area includes Walmart, the Shops at Havasu, Home Depot, Lowes and the Car Dealerships. That would be an important employment data point.

Major Activity Centers

Major activity centers are catalysts in creating trips within communities. Areas of higher numbers of activity centers tend to have more people attempting to commute to them; therefore, it is important to provide transportation options to and from these areas. Within the LHMPO region there are a multitude of recreational destinations that would benefit from transit access including:

- Shops at Lake Havasu
- Downtown District
- English Village
- Shopping Centers
- Havasu Landing Casino
- Havasu 95 Speedway
- Aquatic Center
- Senior Center
- Libraries
- Community and State Parks
- Government Buildings

Figure 2.2 illustrates major activity centers without the LHMPO region. Research has found that people typically are most willing to walk five to ten minutes, or $\frac{1}{4}$ - to $\frac{1}{2}$ -mile to a bus stop. Cyclists, on the other hand, are found to be more willing to bike over a $\frac{1}{2}$ mile to a transit route. To encourage transit usage, providing safe, comfortable, convenient, and connected pedestrian and bicycle facilities is imperative.

Schools

While this study does not focus on providing services for elementary, middle, and high school students, providing services for residents to access educational opportunities at colleges is a critical element.

- Arizona State University Lake Havasu Campus – with over 150 students a semester, the Arizona State University extension in Lake Havasu is increasing in popularity.
- Mohave County Community College (MCCC) – MCC is a thriving campus that serves over 1,400 students from Lake Havasu and surrounding communities.

In discussions with local college officials, the implementation of a transit service in Lake Havasu is critical to not only provide transportation for students but also to meet future enrollment goals of the colleges.

Figure 2.1. Employment Density

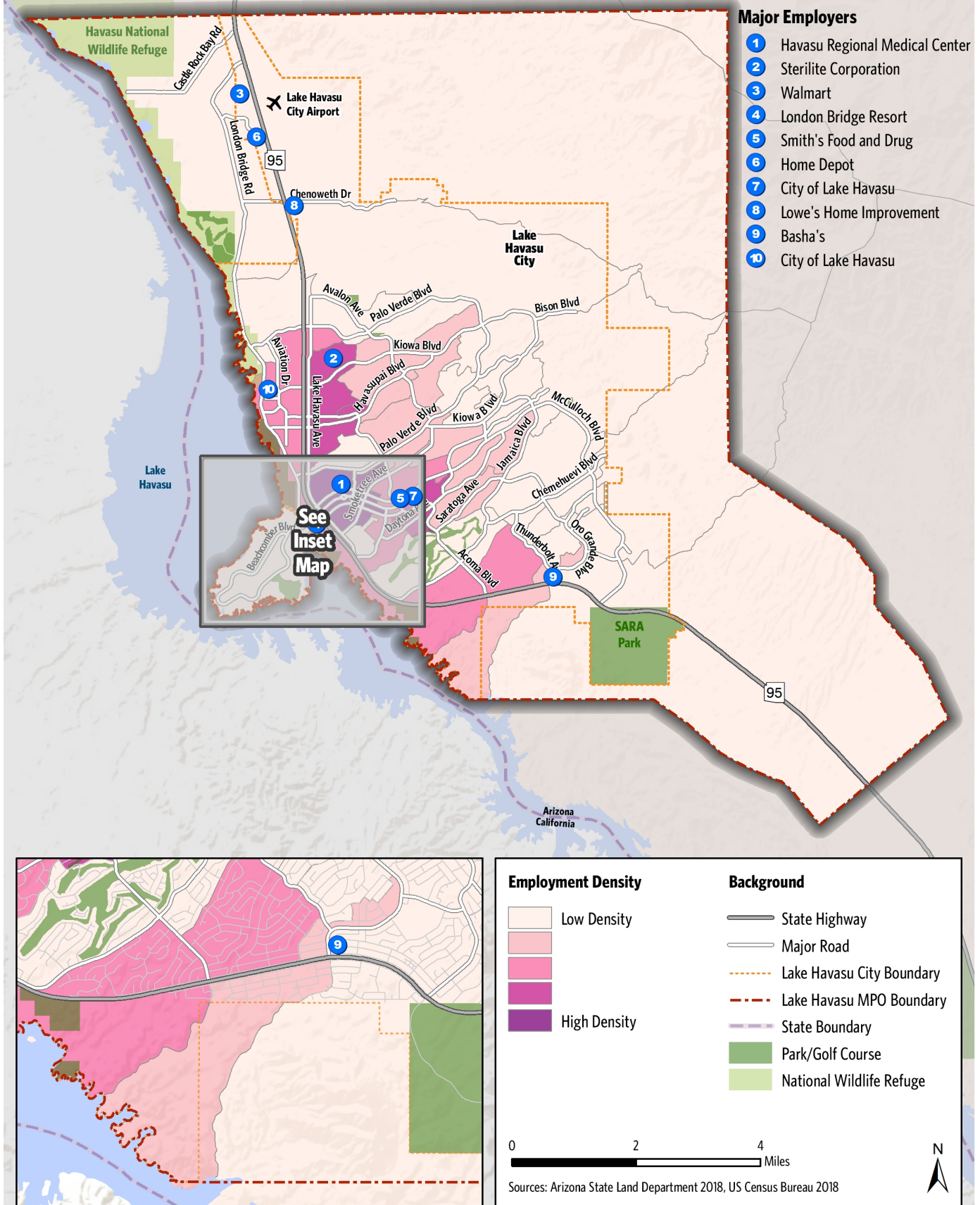
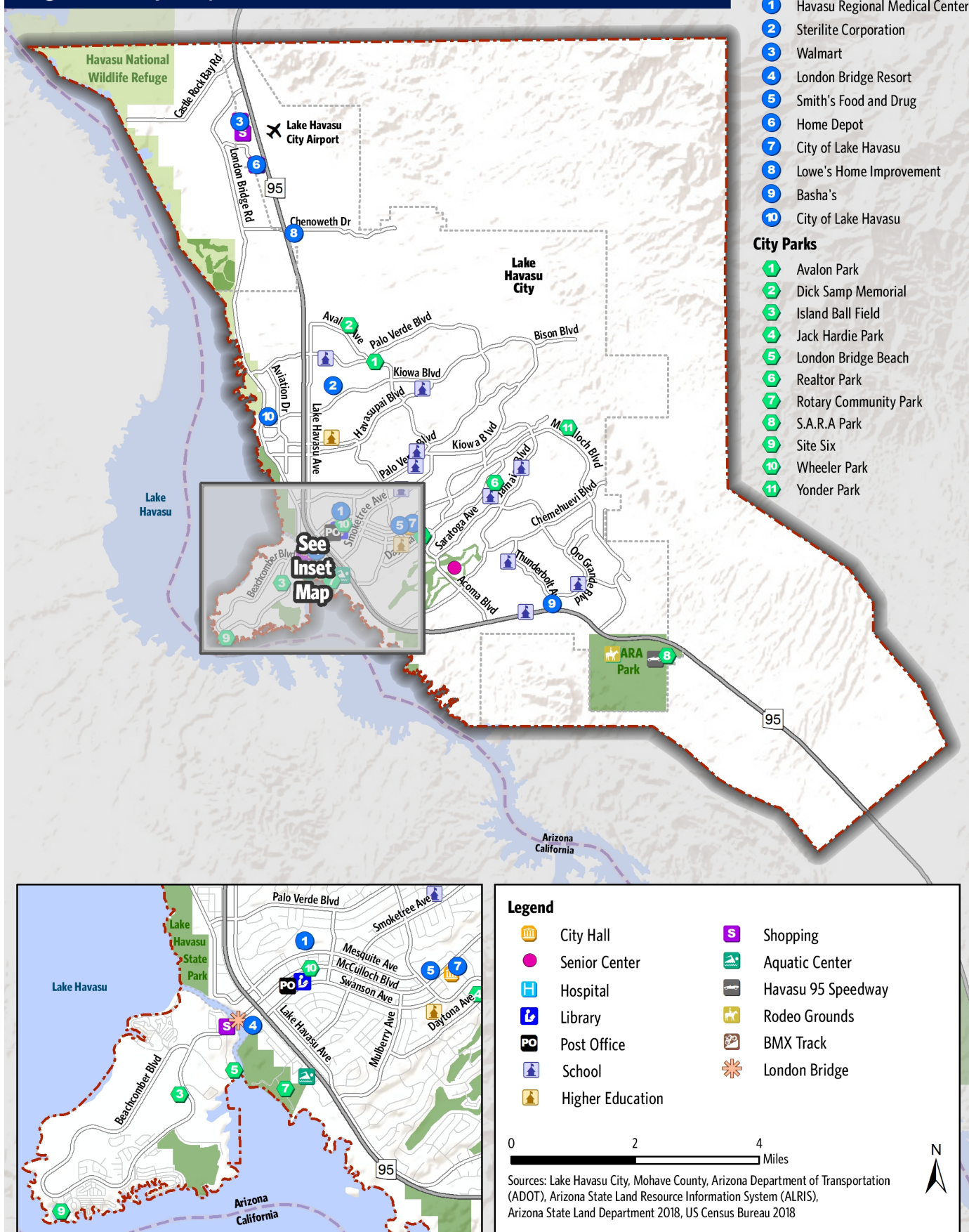
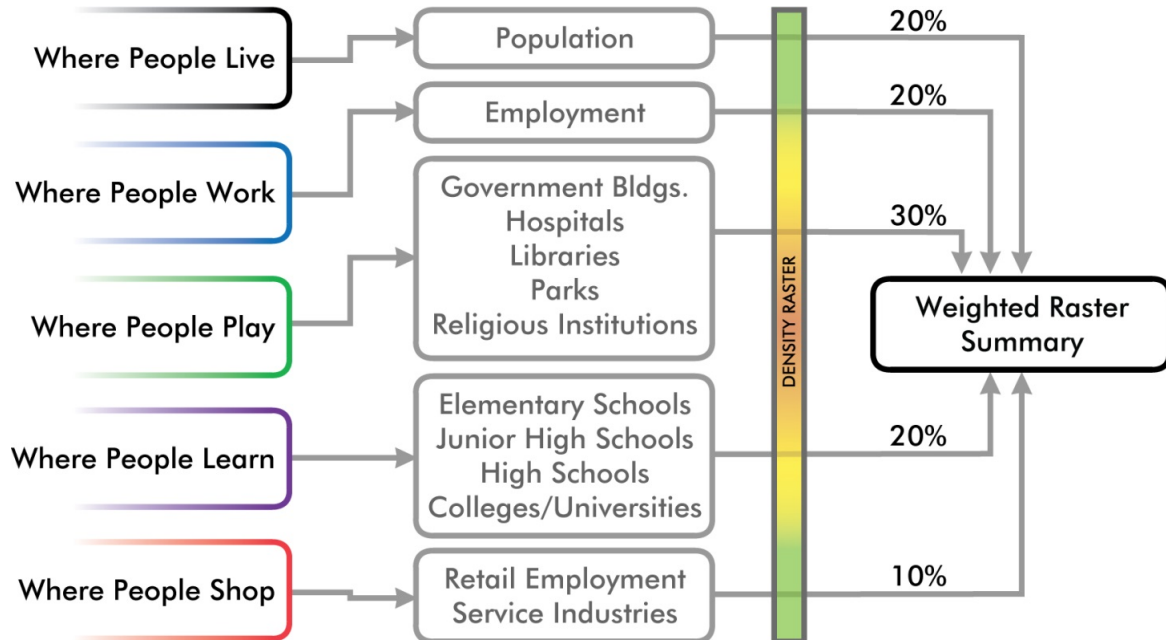


Figure 2.2. Major Trip Generators



TRANSIT DEMAND MODEL

The basis for any transit demand analysis begins with identifying areas with high residential and employment densities. Beyond those basic trip generators, a range of trip attractions (such as school, library, recreation center, employment centers, etc.) must also be incorporated into the analysis. To assess non-motorized demand, a GIS-based model was utilized to generate a model of the demand of these trip generators and attractors. As illustrated below, trip attractors and generators were identified and categorized into where people **Live, Work, Play, Learn, or Shop**. Based on the cumulative scoring, areas with high current and potential transit need can be identified.



Utilizing the methodology above, areas with higher and lower densities of activity centers, points of interest, population, and employment can easily be identified. Figures 2.3 through 2.7 illustrate the locations of the various points in the Live, Work, Play, Learn, Shop model and the relative density of each category. Figure 2.8 presents the cumulative scoring over the Transit Demand Model. As illustrated in the figure, areas with high potential demand for transit service includes:

- Downtown Core
- Shops at Lake Havasu area
- Along Lake Havasu Avenue

Figure 2.3. Where People Live

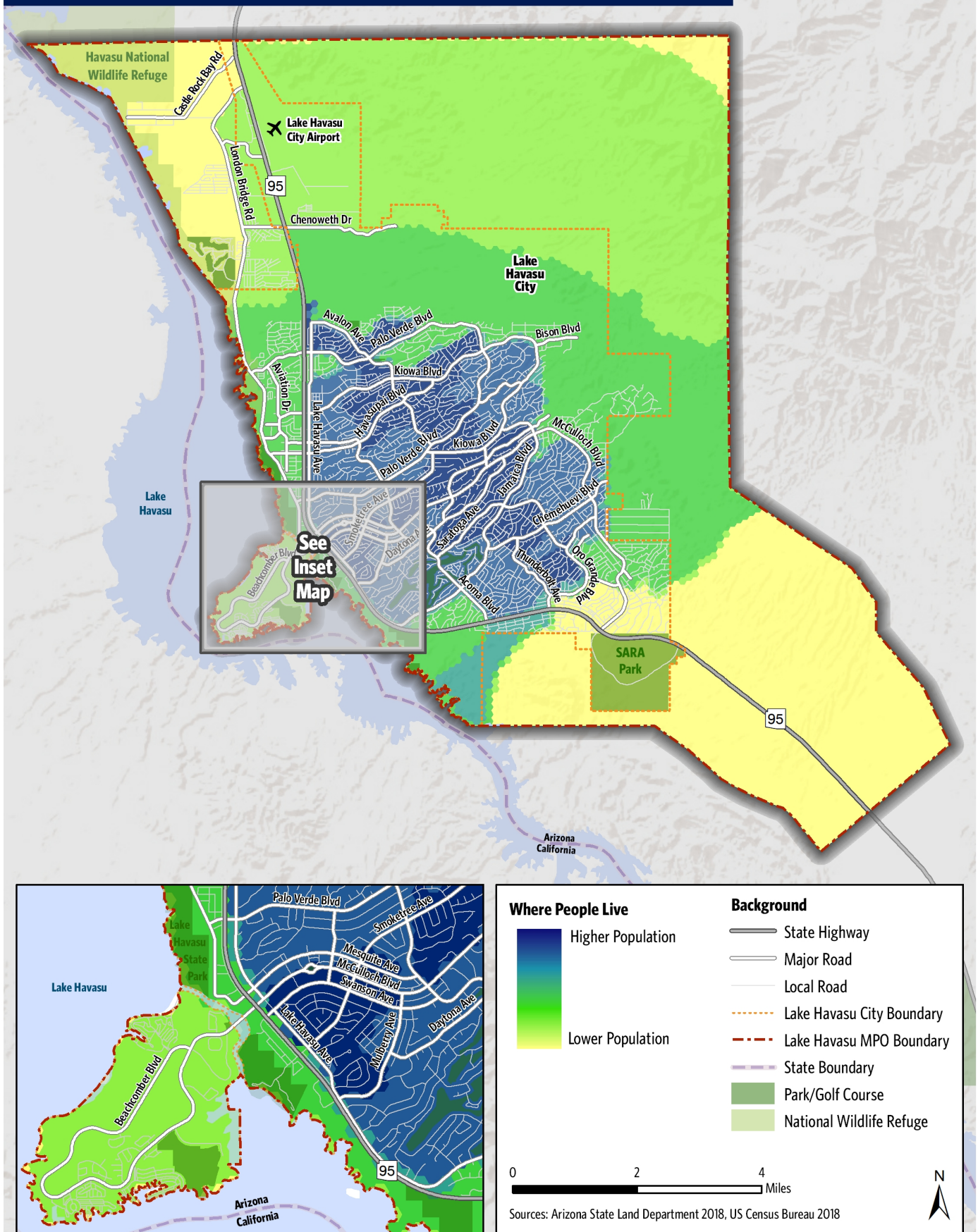


Figure 2.4. Where People Work

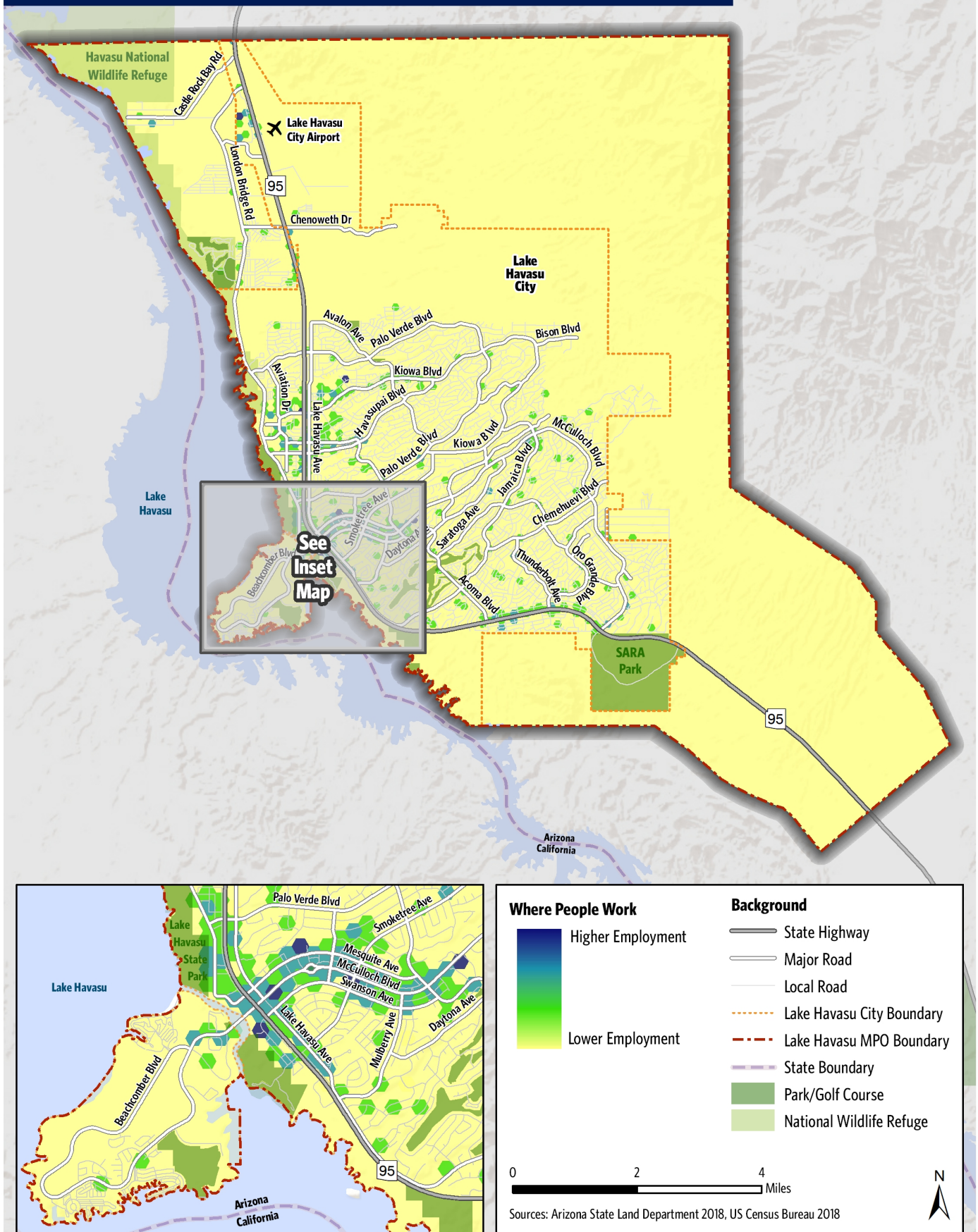


Figure 2.5. Where People Play

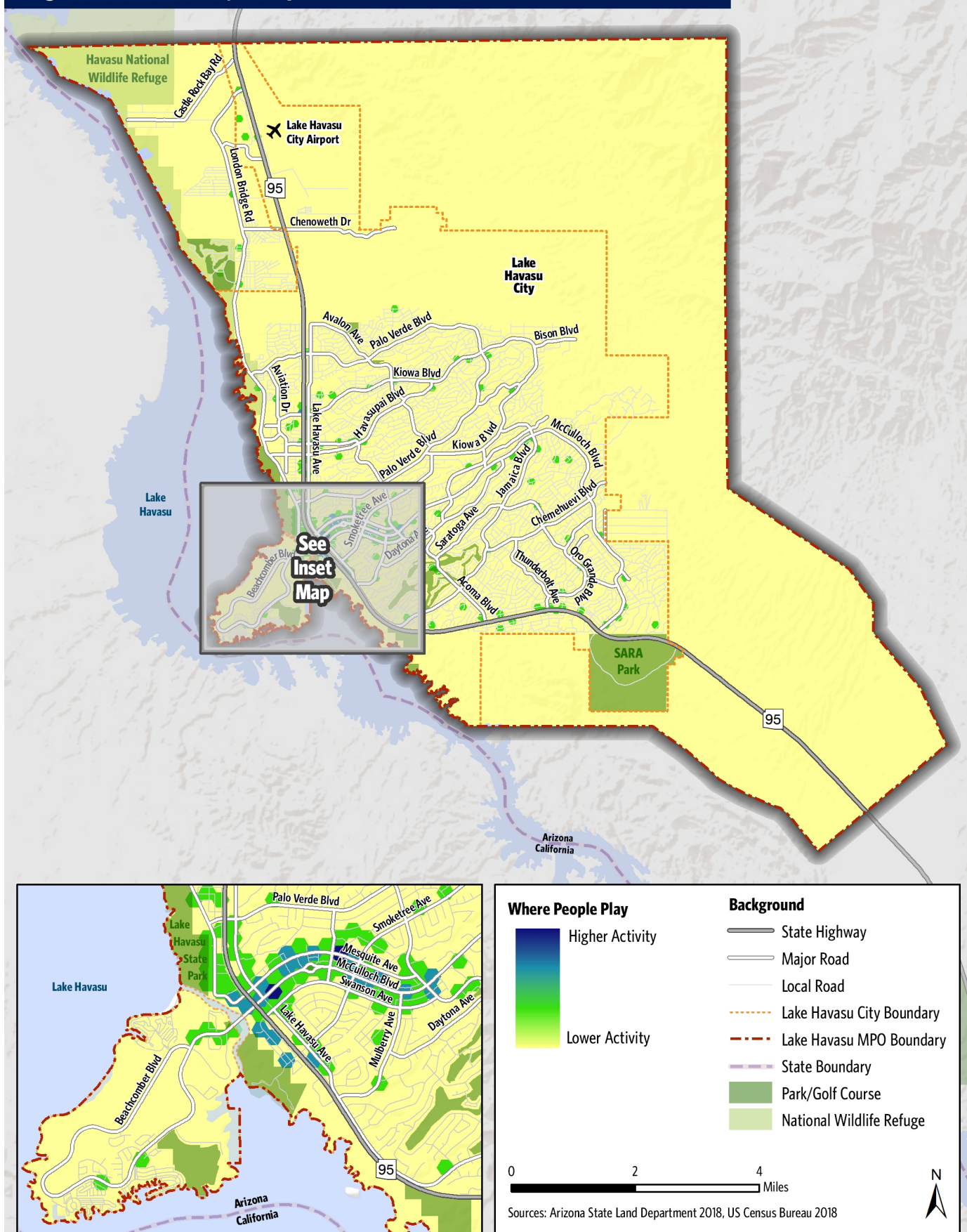


Figure 2.6. Where People Shop

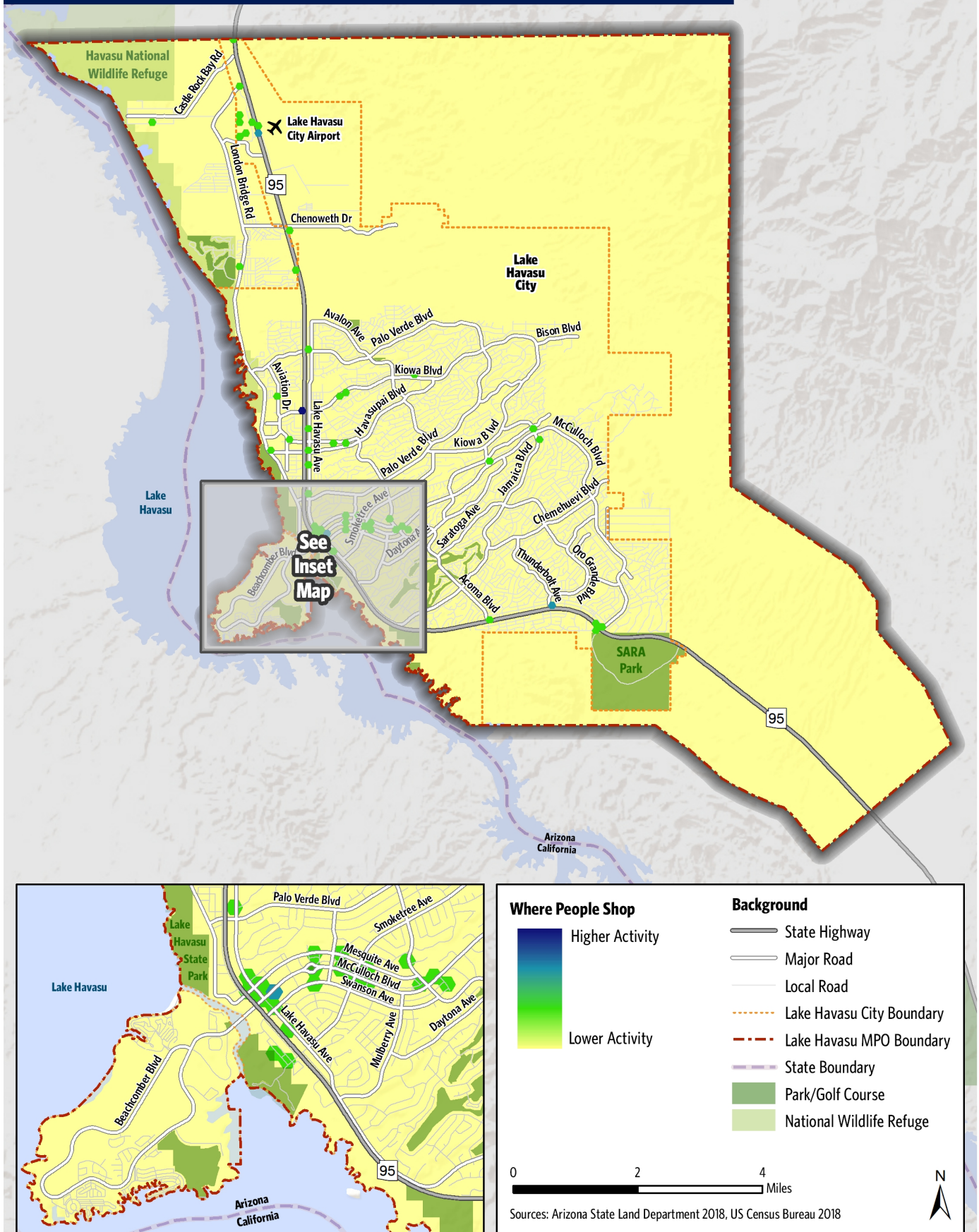


Figure 2.7. Where People Learn

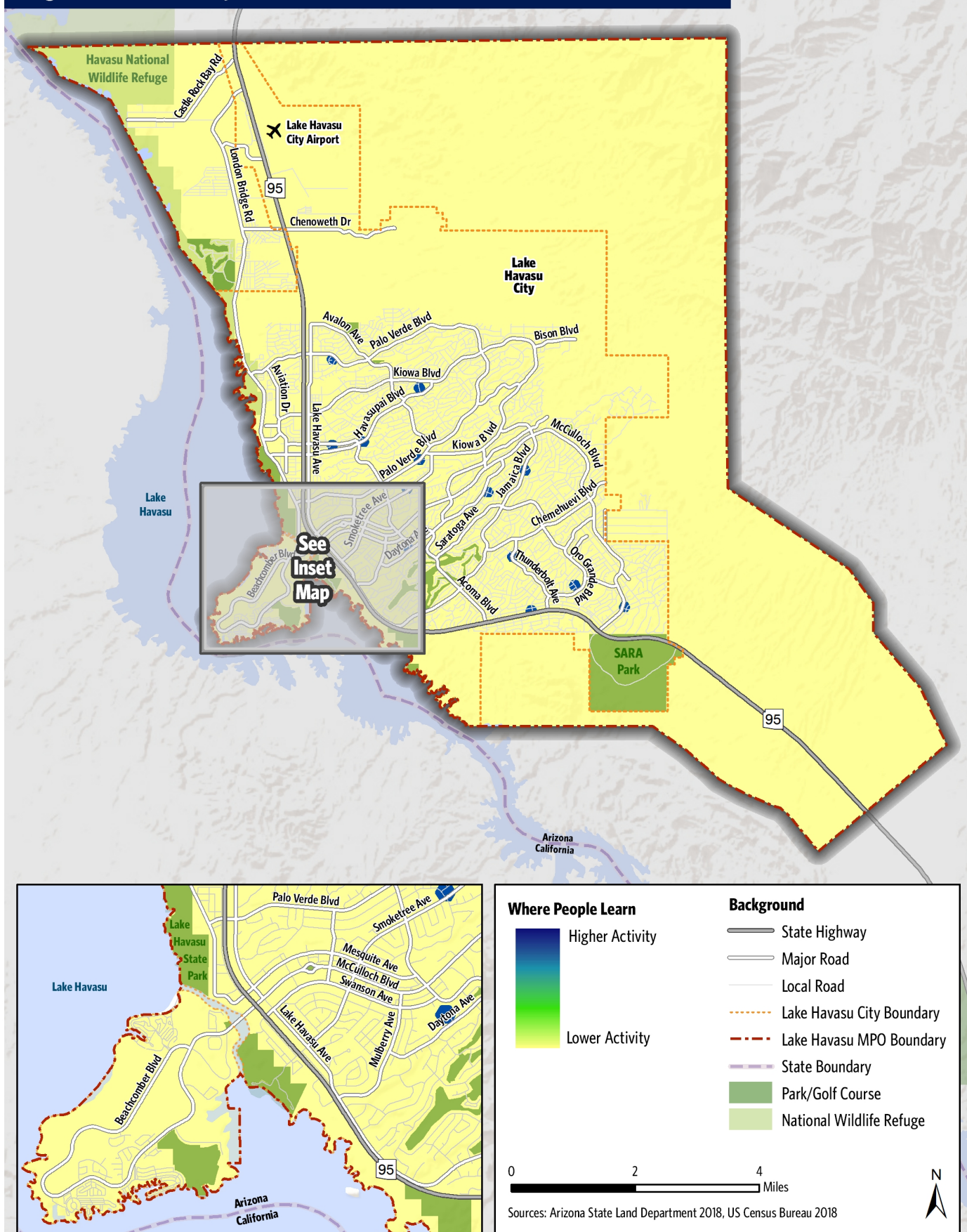
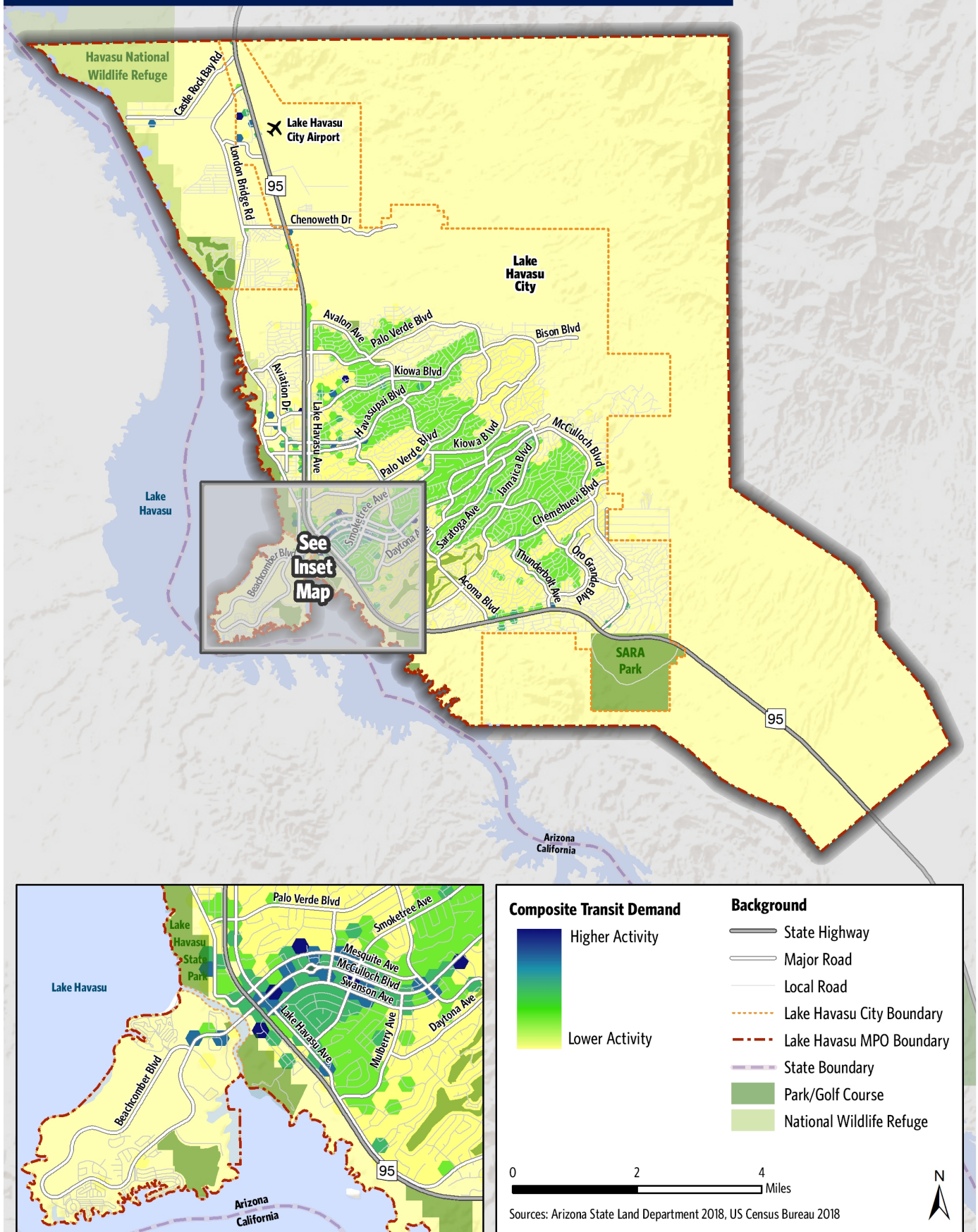


Figure 2.8. Composite Transit Demand Model



EXISTING AND PREVIOUS TRANSIT SERVICES

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 Havasus 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 Havasus Mobility . |

The following sections review historical and current public transportation options within the LHMPO area in order to gain lessons learned from previous service options and to understand current transportation opportunities.

Overview of Previous Havasu Area Transit (HAT)

In 2006, the Lake Havasu City Council voted to transform City Transit to a traditional fixed route service and updated the name to Havasu Area Transit (HAT). Besides reducing service costs, goals of the service included reducing walking distances to bus stop and providing services to rural, unincorporated areas. HAT originally began with Monday to Thursday service, running from 8:00am to 2:00pm, with a fleet of 15-20 vans. At the height of the service, HAT had five routes, including a downtown trolley. The Trolley, which operated Monday to Saturday and connected Lake Havasu City downtown to Island with 30-minute frequency, was suspended in 2011. During the final two years of HAT service, the system included:

- **Fixed Service Routes:**

- Red Route: 11.6-mile route that connected residential areas to the Downtown Transfer Center
- Blue Route: 13.2-mile route that connected the Downtown Transfer Center to residential areas in the southern portion of Lake Havasu City.
- Brown Route: 14.2-mile route that connected the Havasupai Blvd and Kiowa Blvd to the Downtown Transfer Center.
- Green Route: 17.9-mile connection from the Downtown Transfer Center to the Shops at Lake Havasu
- Transfer Center: all buses met at a Downtown Transfer Center 25 minutes past the hour. The station was located at 83 Capri Lane

- **Days and Hours of Operations:**

- Scheduled Fixed Bus Route:
 - Hourly service Monday to Saturday
 - Monday - Friday 6:00am to 7:00pm; Saturday 6:00am to 7:00pm
- Curbside Service
 - Monday - Friday 6:30am to 7:00pm; Saturday 8:00am to 6:00pm
 - Requires reservations made 24 hours in advance

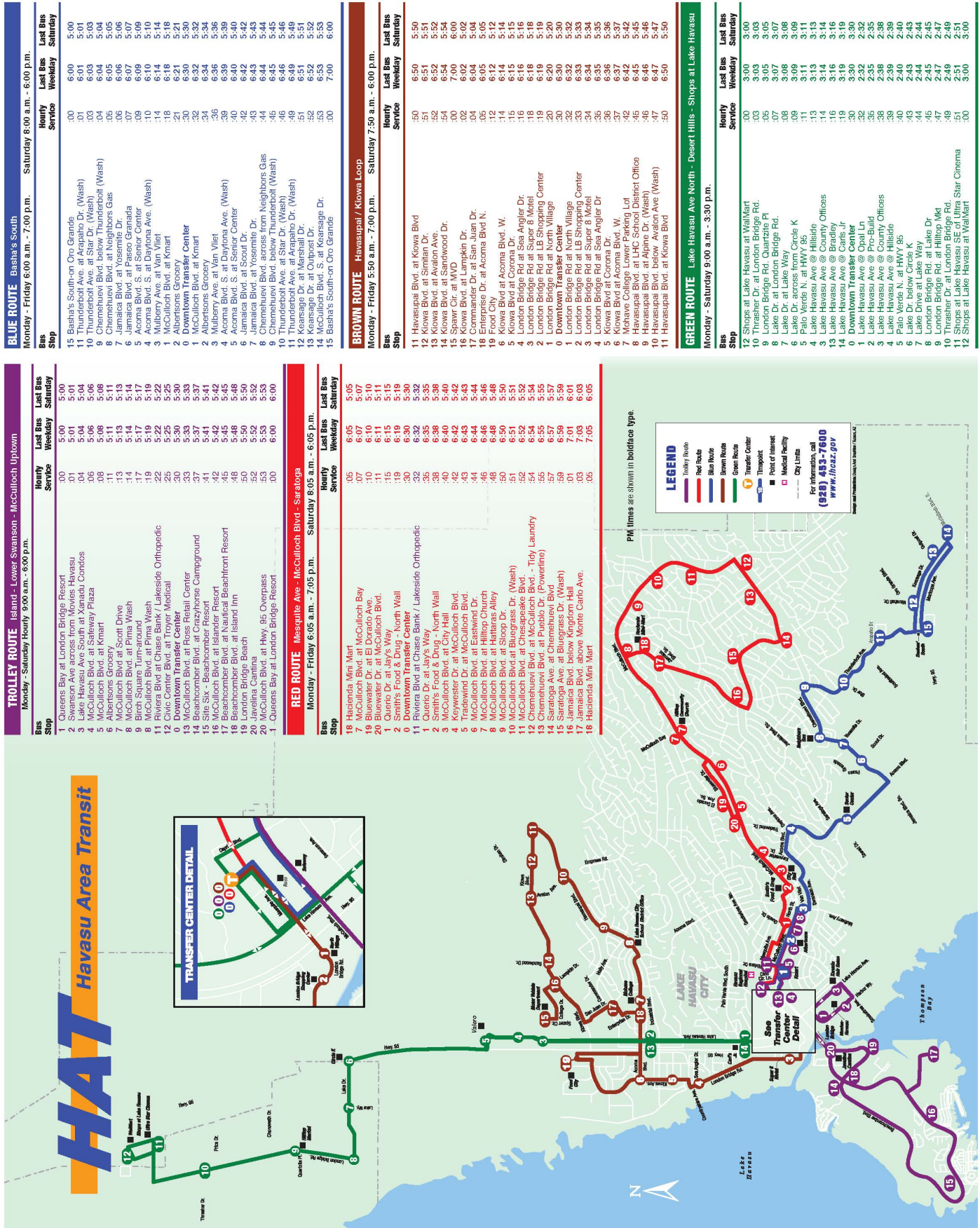
- **Fares:**

- Regular Fares: \$1.25
- Children under 5: Free
- Monthly Pass (unlimited rides): \$36.00
- Curbside Service: \$3.75; \$2.50 for riders 65 and older and persons with a disability

- **Ridership:** According to the National Transit Database (NTD), HAT reported 104,058 unlinked trips annually in 2013. In 2014, 9,431 demand responsive and 72,178 transit unlinked trips occurred annually.

Figure 2.9 illustrates HAT's service route and schedule.

Figure 2.9. Havasu Area Transit Service Route and Schedule



Existing Specialized Transportation Services

As previously mentioned, there is no existing fixed-route transit service available in the LHMPO region. There are, however, numerous specialty transportation. The following provides an overview of existing public transportation providers in the LHMPO region.

FTA 5310 Transit Service Providers

Transit Administration (FTA) Section 5310 provides funding for capital purchases and sometimes operating costs to provide dedicated services for seniors and individuals with disabilities. FTA Section 5310 provides funding for capital purchases and sometimes operating costs to provide dedicated seniors and individuals with disabilities.

Havasu Mobility

Havasu Mobility is an FTA 5310 transit service provider operated by Lake Havasu City to provide transportation services for seniors, persons with disabilities, and military veterans. An overview of Havasu Mobility's service is provided below:

- **Days of Operation:** Monday through Friday for the demand response service.
- **Hours of Operation:** Appointments may be made from 8:00 a.m. to 5:00 p.m.
- **Fares:** Curbside service is \$2.00 each way.
- **Fleet:** seven passenger vans that carry nine to 14 passengers
- **Annual Trips/Ridership:** 5,608 annual ridership; 10,104 annual trips
- **Trip Purpose:** medical/dental/therapy appointments, work related trips, trips to the pharmacy, the courthouse and social service agencies, to grocery stores, or to the Senior Center
- **Reservations:** must be made the day prior to travel or up to two weeks in advance. For the Senior lunch bus, reservations can be made one week in advance. Same day appointments may be made if there is room in the schedule.



In discussions with Havasu Mobility staff, it was noted that many destinations for riders include:

- Walmart – served once or twice a day
- Senior Center
- Downtown Lake Havasu City

Table 2.1 outlines budgets for Havasu Mobility for the previous five years. As illustrated in the Table, due to fiscal constraints budgets for Havasu Mobility are reduced every year.

Table 2.1. Havasu Mobility Budgets (2015- 2020)

	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020
Personnel	\$276,715	\$238,350	\$239,643	\$231,077	\$241,862
Operations and Maintenance	\$212,681	\$72,678	\$44,626	\$45,146	\$45,146
Capital Outlay		\$0	\$0	\$0	\$0
Total Expenditures	\$489,396	\$311,028	\$284,269	\$276,223	\$287,008

New Horizons Center for People with Special Needs

New Horizons is a non-profit organization that provides service to people of all ages with developmental disabilities (includes: Autism, Epilepsy and Cerebral Palsy in addition to cognitive disabilities). In addition to providing residential housing, New Horizon provides transportation services to work, school, for shopping, for social activities, and for prescription pickups. According to the WACOG 2019 & 2020 Coordinated Transportation Plan Update, key statistics of New Horizons operations include:

- **Fleet:** 28 vehicles (not all vehicles are within the LHMPO region)
- **Annual Trips/Ridership:** 17,845 annual ridership; 50,209 annual trips (includes ridership and trips completed throughout state)

RISE Services

RISE Services provides services for people with disabilities including residential settings, day programs, employment assistance, managed care, and home and community-based services. Adults do not need to be living in a RISE home to participate in programs, as transportation can be arranged and provided through the agency. According to the WACOG 2019 & 2020 Coordinated Transportation Plan Update, key statistics of RISE services operations include:

- **Fleet:** 13 vehicles (not all vehicles are within the LHMPO region)
- **Annual Trips/Ridership:** 1,997 annual ridership; 1,700 annual trips (includes ridership and trips completed throughout state)

Other Specialty Providers

In addition to the specialty 5310 service providers, the LHMPPO region is served by a variety of private carriers, shuttle services, taxis, and regional transit operators. The following provides a listing of these operations.

Private Providers

Uber and Lyft

Peer-to-peer ridesharing and ride service hailing on-demand service. Via a smartphone application, riders request a ride and are connected to a nearby driver.

5 Dollar Holler Shuttle

Private shuttle services that provides transportation services 7 days a week from 8:00am to 3:00am. The shuttle prices rides based on what zone the passenger is traveling to/from.

B-Right There Shuttle

Private shuttle service that provides 24-hour service 365 days a year. Shuttle prices vary by zones.

B-Smart Shuttle Services

Private shuttle service that provides 24-hour service 365 days a year. Shuttle price is \$6.00

Day & Night Shuttle

Private shuttle service that provides 24-hour service 365 days a year. Shuttle prices vary by route.

Elite VIP Shuttle

Private shuttle service that provides 24-hour service 365 days a year. Shuttle prices vary by route.

Johnsons Non-Emergency Medical Transport

Provides non-emergency medical transportation in Lake Havasu, as well as airport transfers. Service hours are Monday to Friday from 7:00am to 7:00pm and Saturday 7:00am to 1:00pm.

Regional Transportation Providers

The following operators provide regional transportation opportunities.

Commuter Services

Provides airport shuttle service from Lake Havasu to Las Vegas McCarran Airport for \$55.00 per person.

Aloha Airport Express

Provides airport shuttle service from Lake Havasu to Las Vegas McCarran Airport for \$60.00 per person.

HavasuvVegas Express

Door to door daily shuttle service between Lake Havasu City and Las Vegas McCarran Airport, hotels and medical facilities. Prices are \$65 one-way.

Greyhound

Greyhound provides regional connections to the Phoenix and Las Vegas metropolitan areas and any destination on the Greyhound service route. The nearest Greyhound station is located in Kingman.

Amtrak

Amtrak is a national passenger railroad service that connects destinations across America. The nearest Amtrak station is located in Needles, California, approximately 40 miles northwest of Lake Havasu.

3. PEER COMMUNITY REVIEW

Peer cities and their respective transit systems were reviewed to help decision-makers, stakeholders, and citizens better understand how other communities have implemented transit service in their area, what the expenses are, and the quality of services provided. Peer cities were selected based upon their population size, climate constraints, seasonal population changes, and financing mechanisms utilized to fund transit. Information gathered from peer cities included cost per mile, route miles, service type, type of vehicles, number of routes, operational characteristics, history, successes, challenges, and lessons learned. Key takeaways from the peer review include:

- All peer cities primarily started small and began as a pilot program.
- Route miles vary in length, with local circulators covering shorter routes and regional connectors servicing longer routes.
- Service type varies among the peer cities. Services include fixed route, deviated fixed route, and on-demand/demand response. The type of service initially implemented varies based on community needs and is not directly correlated to city size.
- All peer cities utilize cut-away buses, which perform well and can hold an optimum number of passengers.

PEER COMMUNITIES

The following section outlines communities from around the United States that demonstrate similarities to Lake Havasu. Additionally, a few communities are highlighted below that either demonstrate notable programs or exhibit many similar qualities to Lake Havasu.

Vista Transit, Sierra Vista, AZ

With a population of 45,000, Sierra Vista is the commercial, education, and medical hub of southeast Arizona. Originally established in 1994, Vista Transit was initially operated by Catholic Community Services on a passenger service request basis. Today, Vista Transit operates throughout Sierra Vista and Fort Huachuca with five local bus routes.

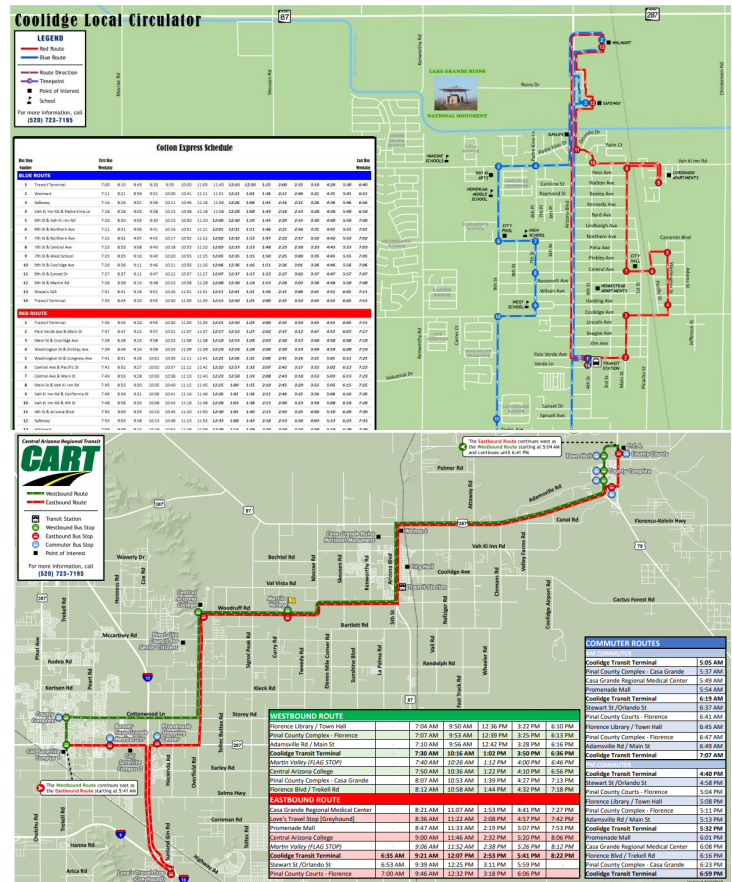
- **Service Area:** 152 mi²
- **Service Area Population:** 45,166
- **Regular One-Way Fare:** \$1.25
- **Monthly Pass:** \$40.00
- **Service:** five fixed routes; demand responsive
- **Fleet:** five fixed route buses, two demand responsive buses
- **Ridership:** 140,960 annual unlinked trips
- **Total Operating Expenditure:** \$1,065,063/\$402,355 local funds
- **Fare Revenues:** \$105,543



Cotton Express & Central Arizona Regional Transit (CART), Coolidge, AZ

The City of Coolidge Transit Department operates the Cotton Express (local Coolidge bus service) and CART (Central Arizona Regional Transit – regional bus service). The Cotton Express bus system provides Deviated Fixed Route bus service and On Demand service throughout The City of Coolidge Monday through Friday. The CART bus system provides regional route services to neighboring communities for employment, medical, and personal trips.

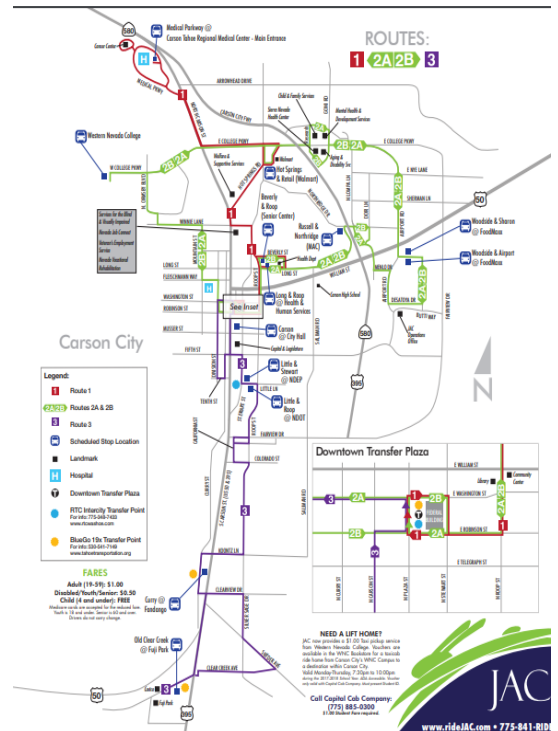
- **Regular One-Way Fare:** Cotton Express: \$1.00 (\$0.50 more for deviated route); CART: \$2.00
- **Monthly Pass:** Cotton Express: \$45.00; CART: \$60.00
- **Service:** Cotton Express: two deviated flex routes; CART: two fixed routes and AM/PM commuter routes
- **Fleet:** ten fixed route buses, one demand responsive bus
- **Ridership:** 36,407 annual unlinked trips
- **Total Operating Expenditure:** \$936,143/\$309,948 local funds
- **Fare Revenues:** \$39,054



Jump Around Carson (JAC), Carson City, NV

Jump Around Carson (JAC) is governed by the city's Regional Transportation Commission. JAC began operating in October 2005 and features a fixed-route system as well a dial-a-ride program that provides transportation for individuals with disabilities. JAC buses run Monday through Friday from 6:30 am to 7:30 pm, and on Saturdays from 8:30 am to 4:30 pm.

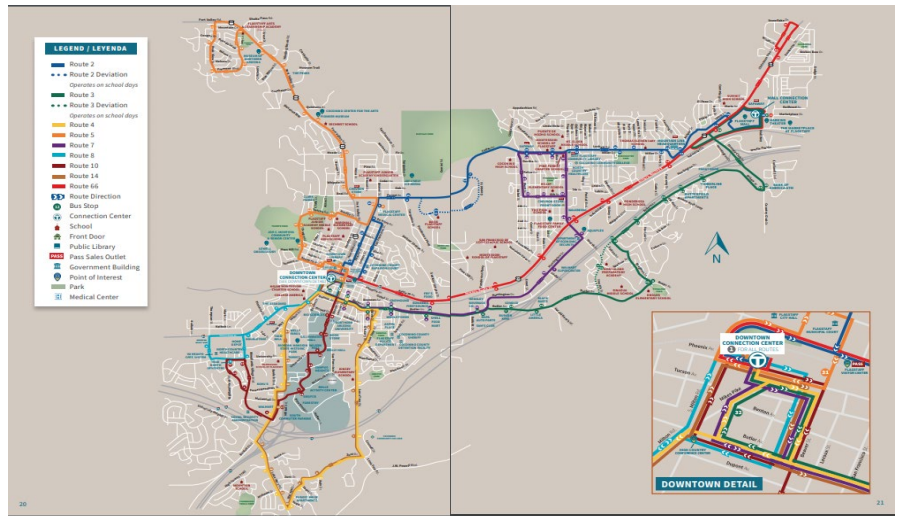
- **Service Area:** 26 mi²
- **Service Area Population:** 53,859
- **Regular One-Way Fare:** \$1.00. Seniors are free.
- **Monthly Pass:** N/A
- **Service:** four fixed routes; demand responsive
- **Fleet:** four fixed route buses, four demand responsive buses
- **Ridership:** 205,896 annual unlinked trips
- **Total Operating Expenditure:** \$1,260,173/\$324,098 local funds
- **Fare Revenues:** \$96,894



Mountain Link, Flagstaff, AZ

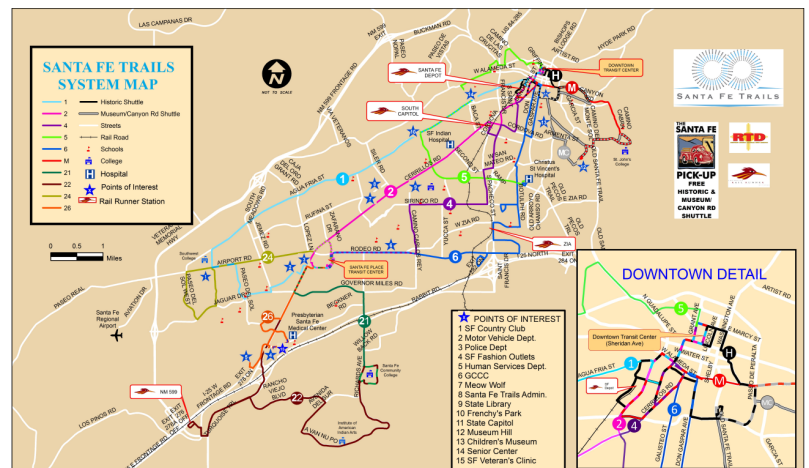
The Northern Arizona Intergovernmental Public Transportation Authority (NAIPTA) is the transit agency in northern Arizona operating the Mountain Line, Mountain Lift and Mountain Link systems in Flagstaff. NAIPTA also coordinates with Campus Shuttle Service at Northern Arizona University. When Mountain Line started in 2001, the annual ridership was just shy of 200,000, and the agency hit the 1 million rider mark in 2009 and the 2 million rider mark in 2017. Today Mountain Line operates nine routes that traverse Flagstaff and offer service to jobs, schools, health care, shopping, and entertainment areas.

- **Service Area:** 29 mi²
- **Service Area Population:** 65,760
- **Regular One-Way Fare:** \$1.25
- **Monthly Pass:** \$37.00
- **Service:**
 - Mountain Line fixed route bus service on nine routes
 - Mountain Line Paratransit service and taxi programs
 - Mountain Express seasonal service to Arizona Snowbowl
 - Vanpool service for commuters traveling to/from outside of Flagstaff
- **Fleet:** 29 buses (100 percent hybrid-electric, including six 60-foot articulated buses); 8 paratransit vans
- **Ridership:** 2,110,866
- **Total Operating Expenditure:** \$7,346,293/\$3,513,021 local funds
- **Fare Revenues:** \$1,416,087



Santa Fe Trails, Santa Fe, NM

While slightly large in population than Lake Havasu, Santa Fe shares similar seasonal population change and extreme weather conditions as Lake Havasu. To accommodate both local and tourist travel needs, the City operates 10 fixed route bus stops with two downtown, tourist focused free shuttles. While a bit larger than Lake Havasu, Santa Fe is a bustling capital city with close access to outdoor recreation and a historic district that



entices visitor's year-round. In addition to operating 10 bus routes and demand response routes, Santa Fe Trails also offers 2 free tourist shuttles.

- **Service Area:** 41 mi²
- **Service Area Population:** 67,947
- **Regular One-Way Fare:** \$1.00, Youth and veterans are free. During major community fairs and events, the City offers free transit services
- **Monthly Pass:** \$20.00
- **Service:** 10 fixed routes; demand responsive; free downtown tourism shuttle
- **Fleet:** 25 buses, 14 demand response vehicles (including downtown tourism shuttles)
- **Ridership:** 1,016,624
- **Total Operating Expenditure:** \$8,985,786/\$6,880,990 local funds
- **Fare Revenues:** \$376,895



Additional Peer Best Practices and Service Ideas

In addition to the key peer cities identified, a review of similar communities found the following best practices and transit service ideas.

- **Lake Tahoe, CA:** Seasonal deviations to provide winter visitors access to ski resorts and summer tourists to key boating activity centers.
- **Palm Springs, CA:** Downtown circulator trolley designed to accommodate peak demand. Trolleys run every 15 minutes on Thursday through Saturday between the hours of noon to 10 pm.
- **Myrtle Beach, SC:** Free Entertainment Shuttle operates from 9 AM until midnight during peak summer tourist season from May to Labor Day.
- **Pensacola, FL:** Developed a partnership with the University of Western Florida and Pensacola Beach to form a public trolley system.
- **Bozeman, MT:** Seasonal skiing shuttles and streamlined late-night service routes to accommodate tourists and Montana State University students.

4. PUBLIC TRANSPORTATION OPTIONS

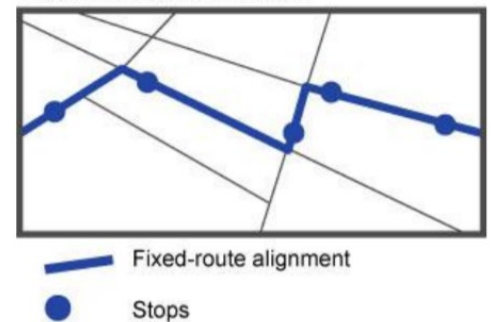
The purpose of this chapter is to identify the priority areas, origins, and destinations in Lake Havasu City for public transportation service within a five-year horizon. Currently, Lake Havasu City is eligible to receive 5307 Urbanized Area Formula Program funds from the Federal Transit Administration to implement a public transportation system. If these 5307 funds are not utilized during an approved program year, the funds are reallocated to another eligible grantee in Arizona.

TRANSIT SERVICE TYPES

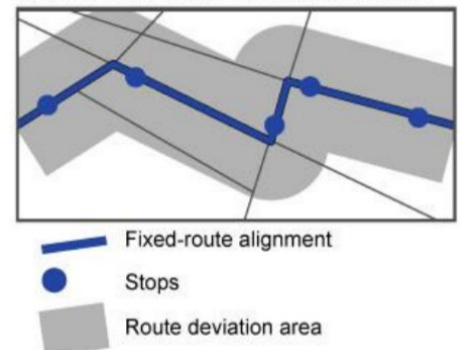
Transit service can be provided in a variety of ways, ranging from paratransit to fixed route services, and for transit to be most effective, individual services must be designed to match market demand and the operating environment. The following sections describe different transit types that could be appropriate for the Lake Havasu City area.

- Fixed Route Service.** Fixed-route bus services operate along a fixed route at set times and headways. Services operate with designated stops or as a flag stop service, where riders “flag down” the bus at safe location on the route.
- Deviated Fixed Route Service.** Deviated fixed-route service is a variation of fixed-route service that deviates off the fixed route to provide curbside service in certain locations. When there are no requests for the deviation, service operates in the same manner as standard fixed-route service. In order to be dropped off the normal route, riders simply request the service from the driver when they board the bus. For pick-ups, riders must call the transit system in advance with the location where they want to be picked-up, and the time or trip that they want to be picked-up by. Deviated fixed-route services are considered to be demand-responsive under ADA regulations. As a result, if deviated fixed-route service is provided, it is not also necessary to provide complimentary paratransit service.
- Flex Service.** Flex-Service is a hybrid of fixed-route service and demand responsive service. At one end, it operates on a fixed schedule to and from specific locations. At the other end, it operates within a designated flex area along a variable route providing demand-responsive service. Flex routes provide a flexible way to expand service to areas where current population and employment densities or the road network make traditional fixed route service infeasible.
- ADA Complementary Paratransit.** Public transit agencies that run fixed routes must also provide ADA complementary paratransit service within $\frac{3}{4}$ mile on either side of the fixed route; this is considered to be the maximum distance a rider would travel to reach a bus or train stop. Paratransit services are characterized by vehicles that operate flexible routes or demand response service and provide origin-to-destination service.

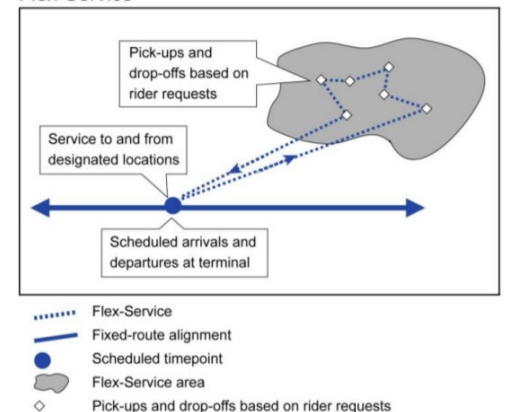
Fixed-Route Service



Deviated Fixed-Route Service



Flex-Service



- **Demand Responsive Transit (DRT).** Demand-responsive transit (DRT) is often seen as a combination of regular public transit services (fixed route, fixed schedule) and completely personalized taxi services (flexible route, flexible schedule). They are often used where traditional public transportation services are lacking, or not cost-effective, to cover the demand areas. There is often a focus on the elderly or mobility-impaired populations when thinking of DRT, but they can also be used to effectively close the first/last mile problem or serve as additional services when needed. DRT is most commonly operated by private companies under contract with public transit agencies, but can also be operated by community groups, nonprofit organizations, or the public transit agency directly.
- **Vanpool.** Vanpools provide transportation to groups of approximately seven to 15 people between any two points at any times desired by the traveling group. They are generally best suited to commute travel to large employment sites (for example, Wal-Mart or Sterlite).

SERVICE ALTERNATIVES DEVELOPMENT

Taking into consideration likely demand as indicated from the transit demand and transit reliance models (Chapter 2 of this report) and the broad range of public and stakeholder support, there is a strong desire and need for public transportation within the Lake Havasu area. Transit service alternatives initially identified were based on finding from Working Paper 1, public and stakeholder feedback, and a field review of conditions within the Lake Havasu City area.

Key Destinations

Potential transit service stops were identified through feedback from the TAC, stakeholders, and the public. These destinations were evaluated to identify potential transit service routes that best fit the needs of the community.

- Havasu Landing/English Village
- Shops at Lake Havasu/Wal-Mart
- Havasu Medical Regional Center
- Aquatic Center
- Hobby Lobby shopping complex
- Downtown Lake Havasu
- Lake Havasu Senior Center
- Mohave County Community College
- Arizona State University – Lake Havasu City
- Regional connections to Bullhead City, Parker, and Kingman

Prioritization of Key Destinations

To maximize ridership potential, key destinations were analyzed for potential stop locations that may provide access to multiple locations. In addition, to ensure service efficiency, the following stop types were determined for key destinations:

- **Timed Stops** are predetermined locations that have designated stop locations and pick-up/drop-off timed schedules. At a minimum, timed stops are designated by signage; however, additional infrastructure (i.e. benches, shelters, etc.) help to create a more inviting ridership experience.
- **Flag Stops** are areas along bus routes where passengers waiting at a safe and approved designated location can “flag” an approaching bus they wish to board.

Over time, it is typical for stops to be revised based on ridership, both by adding or removing stops, or revising hours of service. Furthermore, local businesses can support the system through in-kind contribution by providing stop infrastructure, space, parking, etc. for use along the transit route.

Route Development

Selection of potential route alignments was guided by information from Working Paper 1: Existing and Future Conditions and from discussions with local staff, members of the Focus Group, Technical Advisory Group, and members of the public. Results of the Transit Demand Model and Transit Propensity Index Model (from Working Paper 1), were also consulted to guide preliminary route development.

Preliminary identified route alignments were evaluated and vetted with the Strategic Internal Transit Team prior to presenting concepts to the public. Based on feedback from the public, Focus Groups, and the Technical Advisory Committee, initial alternatives were refined to reflect the greater needs of the community. Refined route alignments were then field tested to determine drive time, potential infrastructure needs, and to understand potential ridership constraints and opportunities. Finally, routes were evaluated against financial constraints to determine a short- and long-range vision for transit in Lake Havasu City.

PRELIMINARY PUBLIC TRANSPORTATION ALTERNATIVES

Preliminary public transportation service options were developed for consideration. These alternatives focused on providing access to key attractors and generators, including:

- Downtown Lake Havasu City.
- Access to Shops of Lake Havasu/Wal-Mart in the northern portion of Lake Havasu.
- Connections to residential areas, particularly areas with high rates of low-income, zero vehicle households, and disabled populations.

Downtown Circulator Options

During discussions with local staff and members of the public, a strong desire for public transportation services within Lake Havasu City's downtown core was identified as a priority need. The benefits of a downtown circulator include:

- Provides localized, frequent service to key community activity centers, including Havasu Regional Medical Center, Havasu Landing, English Village, Aquatic Center, City Hall, the library, and local grocery stores and restaurants.
- Potential to alleviate vehicle congestion, particularly during community events, along McCulloch Boulevard and SR 95.
- Serves as a driver for economic development by providing streamlined transportation services between tourist hotels and key attractions and restaurants.

Option 1

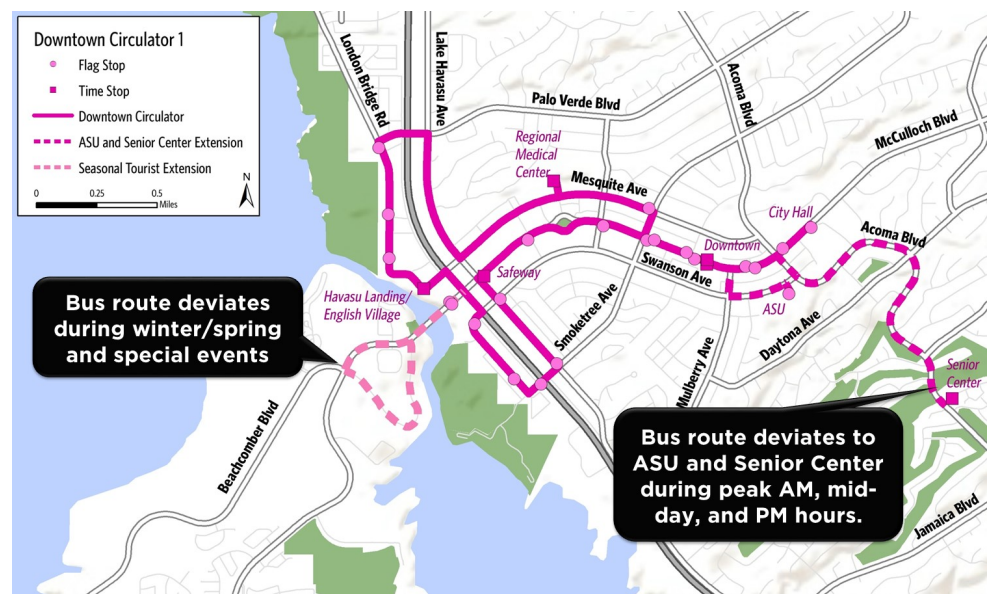
Clockwise circulator route that focuses on providing access along McCulloch Blvd, Mesquite Ave, Lake Havasu Ave, and London Bridge Rd.

Advantages:

- Directly connects to key stops along McCulloch Blvd, the hospital, and tourist hotels.
- Seasonal and special event deviation.

Disadvantages:

- No access to residential areas located along Swanson Ave.
- McCulloch Blvd often congested which may lead to delays



Option 2

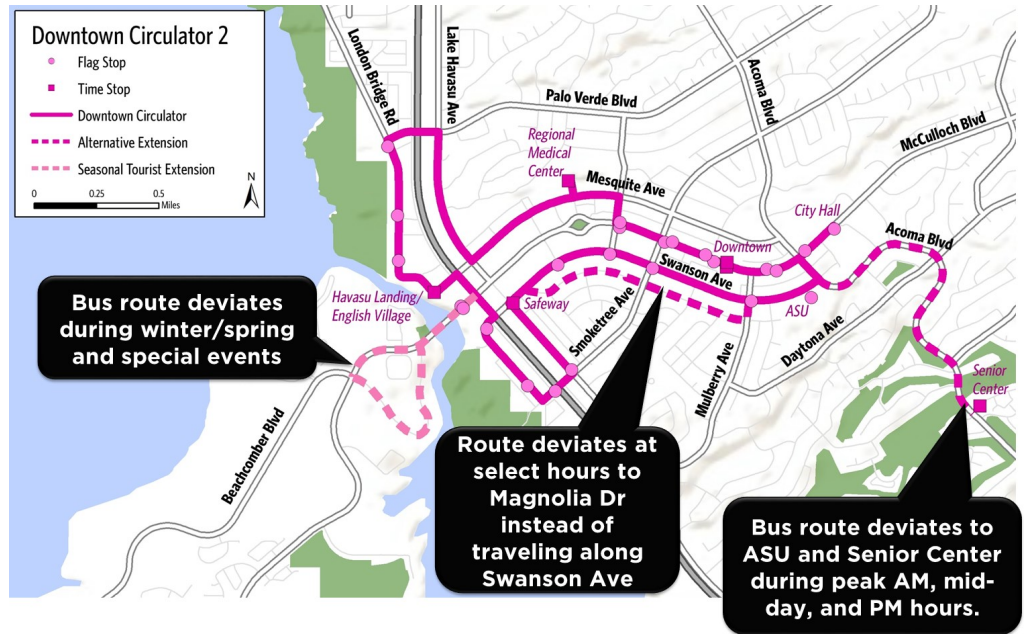
Clockwise circulator route that provides services along Swanson Ave and Magnolia Dr.

Advantages:

- Directly connects to key stops along McCulloch Blvd, the hospital, and hotels.
- Seasonal and special event deviation.

Disadvantages:

- McCulloch Blvd often congested which may lead to delays.
- Swanson Ave is narrow east of Smoketree Ave.



Option 3

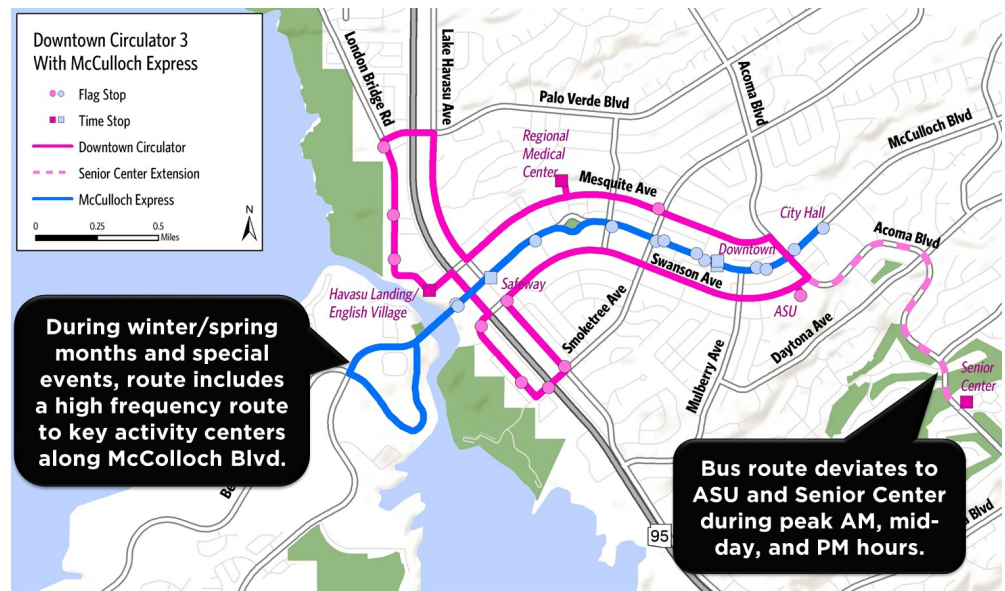
Combines a circulator route along Swanson Ave and Mesquite Ave and high-frequency seasonal route along McCulloch Blvd to provide direct connections to key activity centers in the downtown core area.

Advantages:

- Provides express downtown service for tourists and residents.

Disadvantages:

- Longer walks for riders of the Downtown Circulator to businesses along McCulloch Blvd.



Northern Express Route

Based on feedback from community members and local businesses, there was a strong demand for public transportation services that connects downtown Lake Havasu City to areas in northern Lake Havasu City. benefits of a north-south public transportation route include:

- Provides transportation options for employees, visitors, and residents to access Wal-Mart and the Shops as Lake Havasu.
- Connects the Chemehuevi Indian Tribe's Havasu Landing to employment, education, and shopping destinations.
- Serves as an economic generator by increasing access to jobs and shopping opportunities.

Option 1

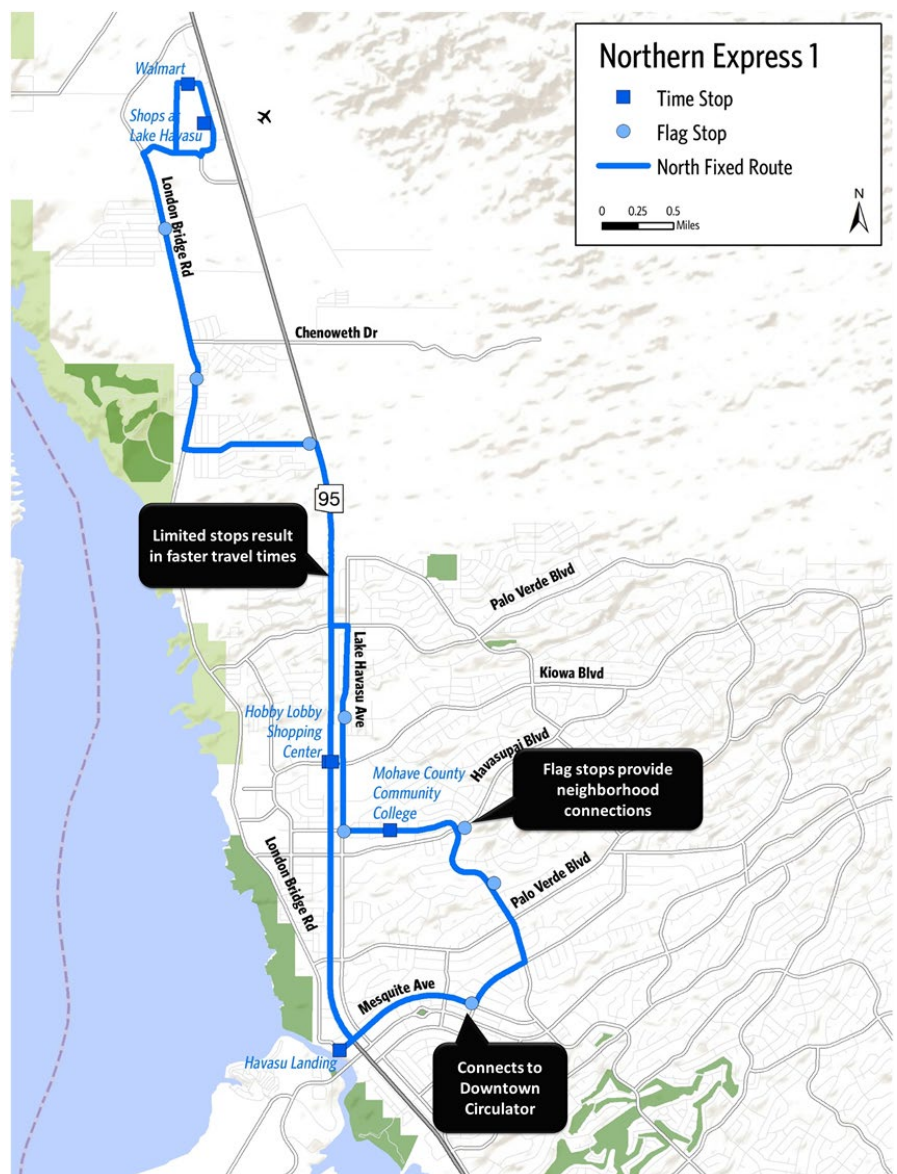
Express commuter and shopping route that connects the Downtown Circulator to shopping, employment and education centers in central and northern Lake Havasu. To increase access, route deviates along London Bridge Rd and Acoma Blvd.

Advantages:

- Connects with the Downtown Circulator
- Provides access to resident living along Acoma Blvd.
- Connects the Chemehuevi Indian Tribe to Shops as Lake Havasu and Mohave Community College
- Potential in-kind donations available from Mohave Community College and Shops as Lake Havasu.

Disadvantages:

- Alignment along Acoma Blvd and London Bridge Rd increases travel time.



Option 2

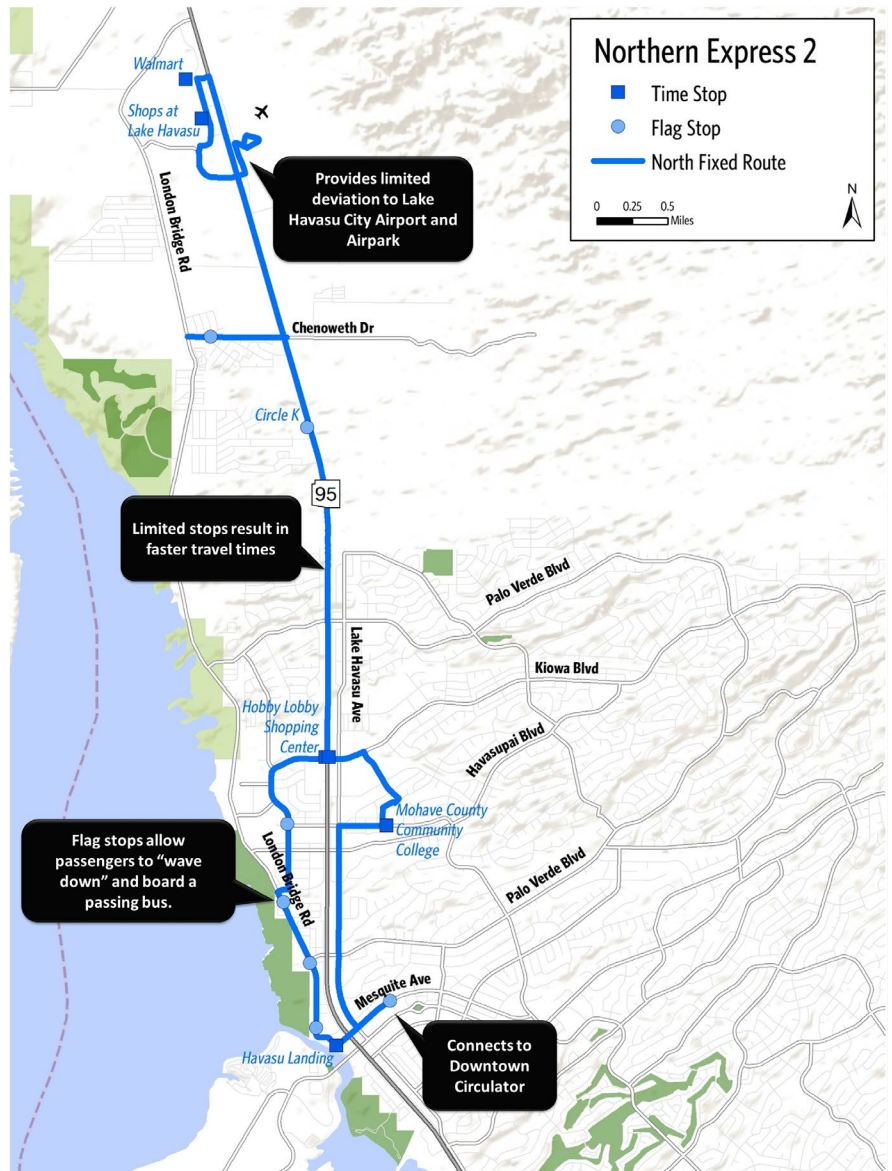
Express commuter and shopping route that connects the Downtown Circulator to shopping, employment and education centers in central and northern Lake Havasu. To increase access, route deviates along London Bridge Rd, the airpark, and along Chenoweth Dr.

Advantages:

- Streamlined service to Wal-Mart and Shops at Lake Havasu
- Connects with the Downtown Circulator
- Connects the Chemehuevi Indian Tribe to Shops as Lake Havasu and Mohave Community College
- Potential in-kind donations available from Mohave Community College and Shops as Lake Havasu.

Disadvantages:

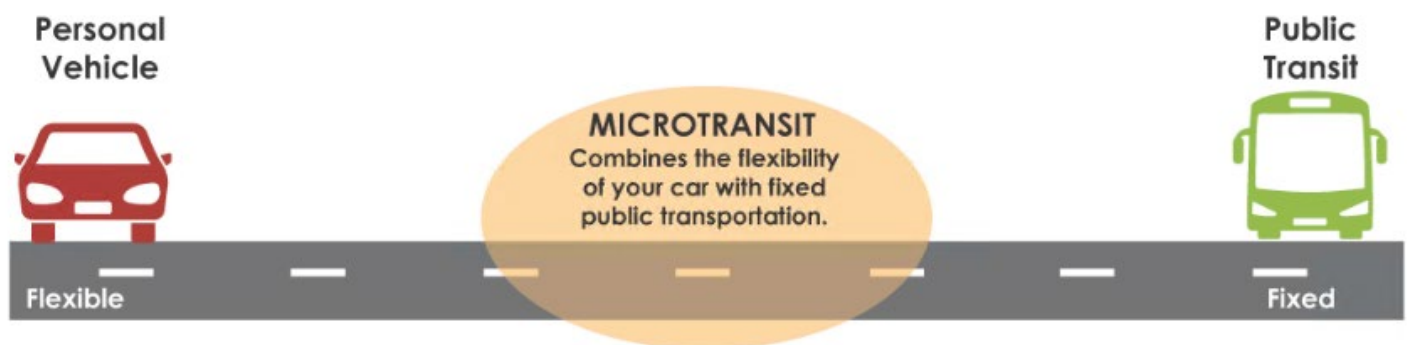
- Alignment along Acoma Blvd and London Bridge Rd increases travel time.



On-Demand Microtransit Service

Microtransit is an innovative approach to improving transportation! In simple terms, microtransit supplements traditional public transit by providing on-demand service. Microtransit is a form of Demand Responsive Transit (DRT) that combines the flexibility and independence of driving a personal vehicle with the convenience of a public transit service. Microtransit can be a door-to-door service, like using a taxi or a ride-hailing service, or it can be point-to-point, which connects people to destinations such as employment centers, universities, or transit centers from other hubs. It can also offer first and last mile connections, meaning that the vehicle will operate from 'door-to-point' – this can be helpful for connecting people to traditional fixed route transit services. The benefits of microtransit include:

- You can instantly request a ride via a phone call, online website, or your smart phone
- Provides direct connections to the fixed-route transit system
- Expands public transportation to people and activity centers that aren't located along the fixed route
- Has specific Pick-Up / Drop-Off zones
- Is data-driven, allowing City staff to adjust service as needed
- Using algorithms and trip data, the vehicle routing software optimizes each vehicles route to accommodate the most people with the shortest waiting times
- Vehicles are typically larger than a private sedan and smaller than a traditional public transit bus
- Allows for multiple payment and booking options, such as smartphone application, online website browser, or call-in phone service



Microtransit can function in a variety of ways, which leads to a context-sensitive and unique application for each community. The typical microtransit operation process includes:

1. Small passenger vans are “on-demand”
2. Request if made for a ride via smartphone application, online website, or dial-in phone request and pay for rider
3. Estimated wait time and trip time are provided to the rider
4. Nearest van is dispatched to retrieve the rider at their house or designated stop
5. While a rider is traveling towards their destination, other riders may be picked up or dropped off, depending on the time of day and route that has been optimized for the passengers.

Pilot Microtransit Pilot Projects and Providers

As an emerging sub-industry in transit and transportation, there are new providers of microtransit service and new places being piloted often. Since its inception, some providers, such as Bridj, Chariot, and Leap, have shuttered, while others have continued to thrive. This section will detail the places and providers who have found success implementing microtransit in their communities.

Via

Via, a NYC-based transportation network company founded in 2012, describes their mission as, “building the transportation systems of tomorrow, right now” by “developing innovative mobility solutions for on-demand and pre-scheduled transit, powered by the world’s most advanced technology”. With over 90 partners in over 20 countries, Via offers both software as a service and transportation as a service.



In the US, Via has partnered with transit agencies in Grand Rapids, MI; Grove City, OH; and Austin TX. As delineated in Table 4.1, all of the programs note their 15-minute wait times, which is comparable to a high frequency fixed route service.

Table 4.1. Via Pilot Projects

Location/Transit Agency	Program Details	Operational Details	Comments
Grand Rapids, The Rapid / Rapid On Demand MI	<ul style="list-style-type: none"> • 6-month pilot (2019) • Funded through the Michigan Mobility Challenge grant of \$375,000 	<ul style="list-style-type: none"> • 15-minute wait time • \$3.50 one-way 	Testing feasibility of service for seniors and people with disabilities
Grove City, OH Central Ohio Transit Authority / COTA Plus		<ul style="list-style-type: none"> • Monday – Friday, 5:30 AM – 8:00 PM • 15-minute wait times • \$3 one-way, passes available 	Offered in two service areas. Payment only through app or transit pass.
Austin, TX Cap Metro / Pickup	<ul style="list-style-type: none"> • Piloted in 2017 and 2018 • ADA accessible 	<ul style="list-style-type: none"> • 15-minute wait times • \$1.25 one-way 	Offered in six service areas with varying hours

TransLoc

TransLoc, “a technology firm with expertise in microtransit operations”, was founded in 2004 in North Carolina to create tools to make transit better, faster, more reliable, and more convenient.

In 2018, TransLoc was acquired by the Ford Mobility Collective. In addition to their On Demand Microtransit service, they’ve also built transit technologies such as mobility control centers, GTFS management software, and a microtransit simulator. The table below will delineate some of the metropolitan regions that TransLoc has partnered with to provide microtransit service. According to the company, 75% of all riders use their microtransit services to connect to fixed route transit service.



Table 4.2. Transloc Pilot Projects

Location/Transit Agency	Program Details	Operational Details	Comments
Eugene, OR Lane Transit District / EmGo	<ul style="list-style-type: none"> • 12-month pilot • Wheelchair accessible 	<ul style="list-style-type: none"> • Point to point service with 70+ locations • Monday – Friday, 7 AM – 6 PM • Fare free 	<ul style="list-style-type: none"> • Uses Polaris electric vehicles • 5 passenger vans
Kansas City, MO Kansas City Transportation Authority / RideKC	<ul style="list-style-type: none"> • Pilot becoming permanent due to success • Operational budget is \$500,000 • Originally Bridj pilot in 2015 failed • Service area extends on weekends to partner with farmer's market 	<ul style="list-style-type: none"> • Door-to-door service • Monday – Saturday, 6 AM – 8 PM • \$1.50 one-way 	<ul style="list-style-type: none"> • Accepts in-app or exact change fare • Expanding service to include taxis during peak periods
Snellville, GA (Atlanta suburb) Gwinnett County Transit / GCT Microtransit	<ul style="list-style-type: none"> • 8-month pilot • 17 sq. mi service area • Fleet is seven 12-passenger vans • ADA accessible 	<ul style="list-style-type: none"> • Point-to-point service • Monday – Friday, 6 AM - 8:30 PM and Saturday 7 AM – 7 PM • 23-minute average wait time 	<ul style="list-style-type: none"> • Program serviced 344 people per day • Connected to regional commuter fixed route into Atlanta

Other Providers

While Via and TransLoc have emerged as leaders in the microtransit industry, ridesharing services (such as Lyft and Uber) also compete for a share of the microtransit market. This section will describe some of the recent efforts of each company.

Uber

Since 2016, Uber has attempted to ameliorate its relationships by partnering with transit agencies to provide first and last mile connections to their fixed route transit stops. While not necessarily a shared ride, the subsidies provided by the transit agencies offset the cost of the ride-hailed trip and improve access to fixed route transit for constituents who would otherwise drive their own vehicle for the duration of their trip, most likely. Pinellas County, FL, home to St. Petersburg and Clearwater, began their pilot program, Direct Connect in 2016, and has recently voted to extend the contract with Uber through 2021, for up to \$300,000 per year even though the program has been met with mixed success. Similarly, the Massachusetts Bay Transportation Authority (MBTA) began a partnership with Uber in 2016 to support its paratransit program. This program, which saves the MBTA about \$13 per ride and has increased trips by 28%, has agreed to extend the program for an additional three years – but has also faced criticism from accessibility advocates for promising wheelchair accessible vehicles (WAVs) and then not delivering.

Uber

Lyft

Founded in 2012 and known as Uber's greener, nicer competition, Lyft has also dived into the microtransit industry through first and last mile connections in recent years. In addition to its MBTA partnership along with Uber, Lyft has fostered connections in other cities as well, such as Boise, ID; Monrovia, CA; Charlotte, NC; and Southern Nevada.



Pantonium

A Toronto-based technology firm, Pantonium, provides "on-demand transit service via an artificially intelligent routing system that communicates with drivers and rides in real-time". Their first pilot program, a 2018 effort in Belleville, Ontario, increased ridership 300%, decreased per vehicle mileage 30%, and holding both vehicles and service hours steady, the number of stops serviced is 70% greater than the previous service offered. By producing a "globally optimal solution for all transit vehicles and trips" every bus stop in Belleville is accessible within 30 minutes. Besides the artificially intelligent routing system (which operates autonomously, allowing for nighttime service), what differentiates Pantonium from other microtransit providers is their layering of technology on an existing transit infrastructure – buses, drivers, and stops.



Best Practices

As microtransit pilot deployments have become more frequent since their early days in 2015, leaders in the industry, from both the private and public sectors, can offer best practices to implementing microtransit. Key lessons and best practices from microtransit pilots include:

- Beginning with a pilot to adapt to customer feedback, providing a lot of service in a small area, and forming strong partnerships between cities, transit agencies, business associations, police departments, and other community partners such as employment centers and universities.
- Pantonium highlights that on-demand services are most useful in low-density rural or suburban areas and nighttime service.
- Education, customer communication, and aggressive marketing are crucial to the program's success, but won't reach everyone
- Incorporating flexibility and robustness to handle all cases of riders requesting transportation

As microtransit gains credibility and popularity as a viable addition to a transit agency's repertoire, agencies should be mindful to incorporate careful planning, aggressive marketing, an equity-lens, and a trust-based partnership, along with rigorous data collection efforts, into their pilot programs.

Home to Hub Microtransit Option

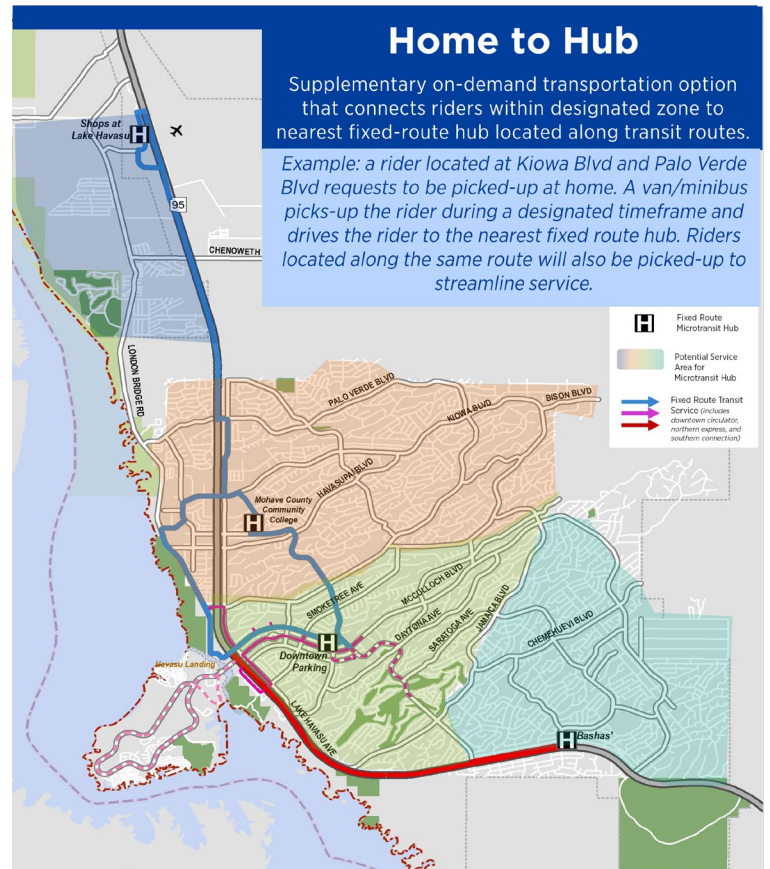
Home to Hub microtransit is a supplementary on-demand transportation option that connects riders within designated zone to nearest fixed-route hub located along transit routes. *For example: a rider located at Kiowa Blvd and Palo Verde Blvd requests to be picked-up at home. A van/minibus picks-up the rider during a designated timeframe and drives the rider to the nearest fixed route hub. Riders located along the same route will also be picked-up to streamline service.*

Advantages:

- Provides first/last miles connections.
- Extends the service areas of the fixed routes.
- Opportunities to partner with local companies to provide on-demand services.

Disadvantages:

- Long distance to hubs may create long rideshare travel times.



Hub to Hub Microtransit Option

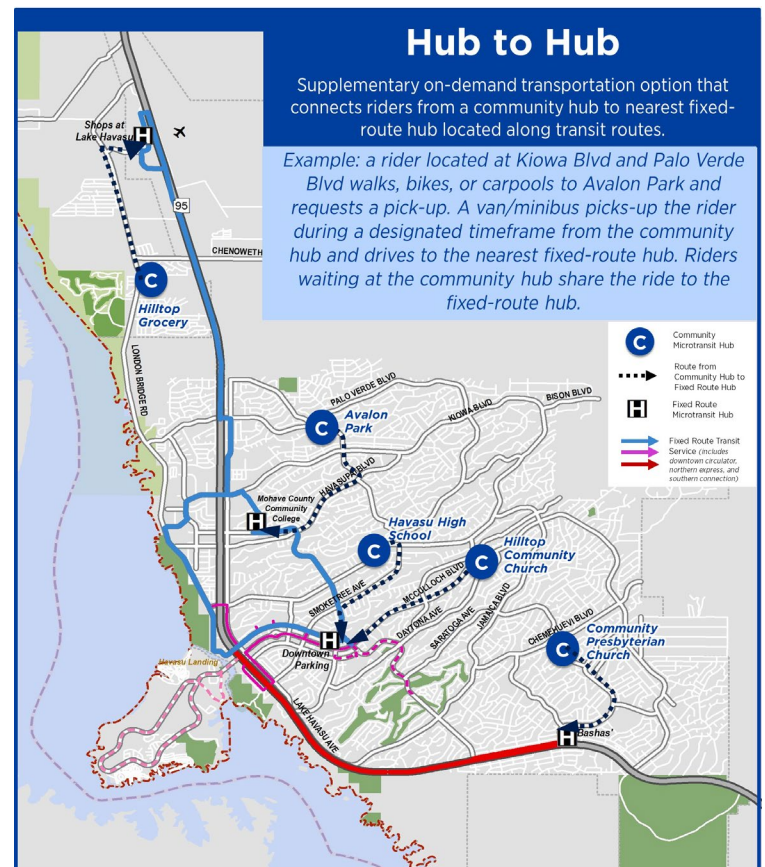
Hub to Hub microtransit is a supplementary on-demand transportation option that connects riders from a community hub to nearest fixed-route hub located along transit routes. *For example: a rider located at Kiowa Blvd and Palo Verde Blvd walks, bikes, or carools to Avalon Park and requests a pick-up. A van/minibus picks-up the rider during a designated timeframe from the community hub and drives to the nearest fixed-route hub. Riders waiting at the community hub share the ride to the fixed-route hub.*

Advantages:

- Extends the service areas of the fixed routes.
- Opportunities to partner with local companies to provide on-demand services.

Disadvantages:

- Riders without access to a vehicle, ride, or incapable of walking/biking may have difficulty reaching the hub.



PUBLIC TRANSPORTATION ALTERNATIVE REFINEMENT

Preliminary alternatives were presented to the TAC, stakeholders, and the public for feedback. Through an online survey and multiple public open houses, opportunities were provided to members of the community to view the proposed routes, offer comments, and help refine service routes and schedules. Chapter 6 presents community feedback regarding the initial service alternatives.

Based on all feedback received, the initial alternatives were reviewed, and it was determined that the following transit service options should be carried for additional review and analysis:

- Modified Downtown Circulator Route that has seasonal route and timing variations.
- Modified Northern Express Route Option#1 that streamlines service to the Shops at Lake Havasu by eliminating service to London Bridge Road.
- Southern Express Route that connects Basha's shopping center to the Downtown Circulator Route and Northern Express Route.
- Home to Hub Microtransit service that provides first/last mile connections.

5. COMMUNITY OUTREACH

The *LHMPO Transit Feasibility and Implementation Plan* incorporates a robust community outreach process to gather information on the public attitudes towards public transportation and how residents are traveling within the study area. The second phase of outreach focused on obtaining public input on the type of service would the community like to see.

PROJECT WEBSITE

A project website was developed and launched in January 2019, allowing the public easy access to important information about the study. The website is hosted on the City of Lake Havasu City's website and includes outreach event dates, project documents links, and survey links. A comment form is also provided to allow the public to submit a question or concern directly to the study team.



Comments Received via Project Website

To date, comments received directly via the Project Website include the following:

I think a public transit system would be great, particularly through snow-bird season. I noticed that Urgent Care is not a suggested destination. With extremely high cost involved with HRMC emergency room visits of even a few minutes, I think a lot of people use local Urgent Care facilities since their fees are more reasonable. Just food for thought. A transit system of sorts has been tried a couple of times over the past couple of decades. The ridership did not justify the costs. LHC has grown and I'm glad to see it being explored again.

Utilize the existing bus stops and put in rental scooters and bikes. Recharging stations placed at the bus stops to pick up another and continue on your desired destination.

There is a public transit on southpadre island, TX. We lived there for years. They had little free trolleys that went every half hr. It boosts revenue for all the local businesses.

Keep em small & infrequent, neva reverse & strictly monitored.

An effective transit service for those in need would also provide a safety effect as many drivers should not be driving, namely many elderly persons, those whose licenses have been suspended or revoked, etc. They would have a safer option to take the bus. Thank you.

You / we definitely need Transit here in this beautiful little town! My gosh I've seen towns with a lesser population with Transit available, to not have it here in Havasu is a disgrace.

Lake Havasu City needs Public Transportation. We are a CITY with over 50,000 people. Havasu streets have no sidewalks no street lights, and with temperatures exceeding 115* degrees during the long summer months. Just walking up the street at these temperatures is not easy it requires great mental and physical effort. Please Help We need Public Transportation.

Much needed!!!

I would like to see public transit in your city. I really want to move closer to my daughter. Make it happen. I appreciate you. I will use public transit services.

Have you considered a dial-a-ride program?

Is there a place that can be used for parking personal vehicle's for drop off and pick up zones? I see this problem becoming worse in time. It would be great to have a small city area on both sides of town for this reason instead of bothering business and there parking areas. thanks for any ideas.

It gets expensive to take a shuttle back and forth here. It is also not convient for looking for employment or just getting to work. From what I here from people it would be a great service to have some kind of transit system. This town has grown a lot and some people especially seniors might not want to drive, the traffic is sometimes heck tick. Thanks.

STAKEHOLDER BUSINESS MEETINGS

The team conducted several meetings with potential local partners: three local businesses, two higher education institutions, and one Indian Tribe. The goal of the meetings was to determine potential partnership opportunities for the implementation of a transit system in the LHMPO region. Dates and possible opportunities derived from each meeting are included in Table 1.

Table 5.1. Business Partnership Meeting Summaries

MEETING	POTENTIAL OPPORTUNITIES
Havasu Regional Medical Center: July 29, 2019	<ul style="list-style-type: none"> • Providing multiple bus stops along the “medical corridor” so patients can not only visit the hospital but nearby doctors. • Bus stops to major pharmacies for residents to obtain prescriptions. • Vanpool opportunity for employees.
Go Havasu: July 29, 2019	<ul style="list-style-type: none"> • Downtown shuttle linking English Village to the downtown area Spring break shuttle that operates from the channel to downtown area • Special events shuttle service – Winterfest, New Years, Balloonfest • Park-and-ride opportunity at English Village
Shops at Lake Havasu: July 29, 2019	<ul style="list-style-type: none"> • Vanpool service linking employees to the Shops and Agave Business Park. • The Shops would potentially be able to support the public transportation system through advertisements and purchasing bus tickets for employees. • There is potential for current facilities to provide protection for waiting bus riders. • If needed, there is ample parking spaces available which may be used for a park-and-ride.
Mohave Community College: July 29, 2019	<ul style="list-style-type: none"> • Vanpool opportunity for students to other campuses or locally within the Lake Havasu area. • Connection from high school to MCC so students can take courses. • Potential transit stop location at the 500 building. This area has parking available, bathrooms, vending machines, and provides an air-conditioned area for passengers to wait. • Provide a parking lot area for special events. • Potential park-and-ride location as long as it doesn’t displace students. • MCC may be able to provide support through advertising and purchasing bus passes and selling them to students at a reduced rate.

Table 5.1. Business Partnership Meeting Summaries (Continued)

MEETING	POTENTIAL OPPORTUNITIES
Arizona State University: July 30, 2019	<ul style="list-style-type: none"> The team discussed potential public transportation opportunities. The group commented that if a bus stop is located on the ASU campus, there may be potential for ASU to construct a temporary bus shelter
Chemehuevi Indian Tribe: July 30, 2019	<ul style="list-style-type: none"> Bus route that connects the ferry to Mohave Community College and Arizona State University so residents can attend college. Bus route that connects the ferry to Walmart, clinics near the hospitals, and the movie theater and other entertainment options. Vanpool opportunity for employees. Potential for the Tribe to support the system through purchases bus passes and advertisement.

FOCUS GROUP

As part of the community outreach process for the study, focus groups were organized on October 3rd and 4th 2019. The focus groups, which involved targeted community agencies /businesses and the general public, were conducted to have one-on-one discussions with community members of the public transportation preferences within the LHMPO region. Flyers and emails were directly distributed to colleges, businesses, and local community organization for their attendance.

The focus group agendas included: introductions of attendees, a brief presentation introducing the study, staff facilitated discussion on potential routes, and a group values exercise, "Transit Service Funding Buckets," in which participants selected preferred transit routes. Attendees in each focus group had the opportunity to participate in the values exercise. Those who wanted to participate were given 35 play "dollars" and asked to deposit their funds into the transit service-related buckets of their preference. Table 5.2 outlines the "money" collectively allocated to each possible service option.

Table 2. Values Exercise Results

	October 3 rd	October 4 th
Extended Service Hours (AM/PM) (costs \$25)	\$290	\$100
More Frequent Service (costs \$25)	\$120	\$25
Transit Stop Amenities (costs \$25)	\$25	\$30
Weekend Service (costs \$25)	\$165	\$75
Downtown Circulator (costs \$100)	\$545	\$525
Micro-transit Supplement (costs \$200)	\$610	\$25
Northern Express (costs \$150)	\$355	\$400

Public Focus Group

The first focus group was hosted on October 3rd, 2019. During this first meeting, Microtransit was ranked the most popular, while the Downtown Circulator, Northern Express, and having extended service hours in the mornings and evenings were also popular choices. In addition to service preferences, attendees discussed additional needs such as: emergency response, noting that many rely on Yellow Cab, and lower

cost options for the homebound and those that need to get to the Senior Center for daily meals and interaction.

Business Focus Group

The second focus group was hosted on October 4th, 2019 and involved local business leaders. At the second meeting, the Downtown Circulator ranked the most popular. The Northern Express Route and extended hours of service in the mornings and evenings also garnered interest. Attendees were also excited about the possibility of partnerships with businesses and of the new transit system's benefits to tourists.

PUBLIC OPEN HOUSE

A public open house was hosted on October 4th, 2019. The meeting was held as an open house, in which attendees were invited to talk one-on-one with the team. Boards showing summarizing the planning process, potential routes, and answered frequently asked questions, were on display. Attendees encouraged to mark their preferences on the route boards. Appendix A includes the boards and handouts.



COMMUNITY SURVEY

To gain insight in the transportation needs of residents and visitors in the study area, as well as their opinion of public transportation, a community survey was conducted. The survey was administered from January 2019 to October 2019. Available in both hardcopy and electronic forms, the 18-question survey included questions on two main topics:

- Characteristics of Survey Respondents
- Route and Service Preference

With the assistance of LHMPO and Lake Havasu City staff, study team members, and community organizations, flyers and hardcopy surveys were distributed at major activity centers throughout the LHMPO region. A copy of the survey is available in the Appendix.

Summary of Survey Results

The online and hardcopy survey was also available in Spanish. As of October 2019, a total of 287 surveys were completed. Results presented henceforth represent the results of the 266 surveys received and may not represent a complete picture of the needs of residents in the study area.

Characteristics of Survey Respondents

Where Respondents Live

- 93% live in Lake Havasu City
- 2% live in Desert Hills
- 1% live in Horizon Six
- 4% live in other areas or were seasonal visitors

Age of Respondents

- Under 18: less than 1%
- Ages 18-34: 11%
- Ages 35-49: 22%
- Ages 50-64: 35%
- Ages 65 and Older: 27%
- Prefer not to answer: 4%

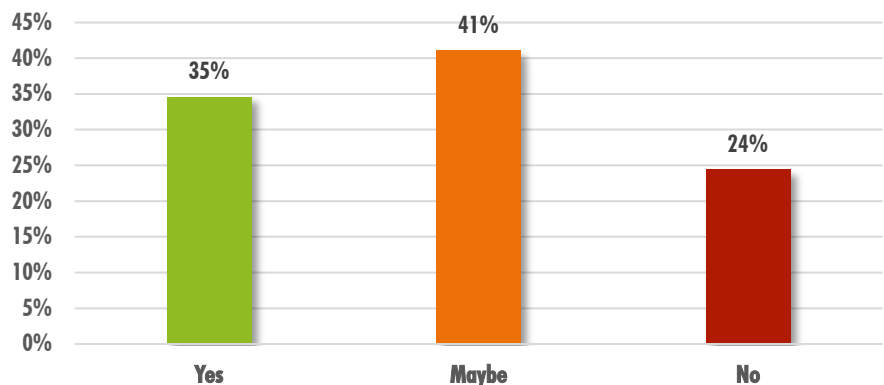
Current Employment Status

- 61% Employed
- 3% in school
- 36% neither in school or employed

Downtown Circulator Preference

In general, most respondents said they would or might consider using the Downtown Circulator if it was available (Yes=35%, Maybe=41%). Some respondents said they would not consider using it (No=24%). Respondents were also asked about their preference among route variations, preferred days of service, and preferred times of service.

IF A DOWNTOWN CIRCULATOR WAS AVAILABLE, WOULD YOU CONSIDER USING IT?



Route Variations (In order from most popular to least popular)

- 1) McCulloch Blvd Express
- 2) Swanson Ave Route
- 3) McCulloch Blvd Route

Service Day Preference (In order from most popular to least popular)

- 1) Saturday
- 2) Monday to Friday or During Special Events Only
- 3) Sunday

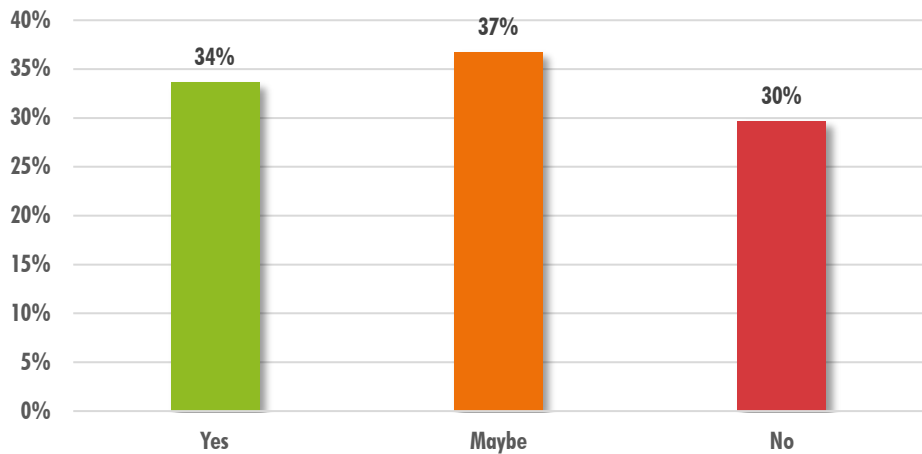
Service Time Preference (In order from most popular to least popular)

- 1) 9AM to 3PM
- 2) 6PM to 9PM
- 3) 3PM to 6PM
- 4) After 9PM
- 5) 6AM to 9AM

Northern Express Route Preference

In general, most respondents said they would or might consider using the Downtown Circulator if it was available (Yes=34%, Maybe=37%). Some respondents said they would not consider using it (No=30%). Respondents were also asked about their preference among route variations, preferred days of service, and preferred times of service.

IF A NORTHERN EXPRESS ROUTE WAS AVAILABLE, WOULD YOU CONSIDER USING IT?



Route Variations (In order from most popular to least popular)

- 1) SR 95 Route
- 2) London Bridge Rd Route

Service Day Preference (In order from most popular to least popular)

- 1) Saturday
- 2) Monday to Friday or During Special Events Only
- 3) Sunday

Service Time Preference (In order from most popular to least popular)

- 1) 9AM to 3PM
- 2) 3PM to 6PM
- 3) 6PM to 9PM
- 4) After 9PM
- 5) 6AM to 9AM

Microtransit Preference

A total of 190 (66% among all survey respondents) respondents gave their opinion on microtransit. Among these respondents, the “Home to Hub” option was preferred (56%) over the “Hub to Hub” option (44%). Additional comments on microtransit included:

- “Prepaid ride cards to eliminate need for cash or credit cards.”
- “Covered benches.”
- “Shuttles to and from the parking lots of main events as my husband is handicapped.”
- “None, they can use cab service or Uber. It’s not the city's responsibility to support 1% of the population.”

Overall, a downtown circulator was the highest priority for respondents, followed by a northern express route, and then microtransit routes. The service options were prioritized as follows:

- 1) Downtown Circulator
- 2) Northern Express Route
- 3) Microtransit Supplement
- 4) More Frequent Service
- 5) Weekend Service
- 6) Extended Hours (AM/PM Service)
- 7) Transit Amenities (i.e., shelters, benches, bike parking)

MOHAVE COMMUNITY COLLEGE (MCC) AND ARIZONA STATE UNIVERSITY-LAKE HAVASU SURVEYS

To gain an understanding of the unique needs of Mohave Community College (MCC) and Arizona State University-Lake Havasu City (ASU Havasu) students and faculty, specialty surveys were conducted in Fall 2019 with the assistance of staff. The following outlines the results of the two surveys.

Summary of MCC Survey Results

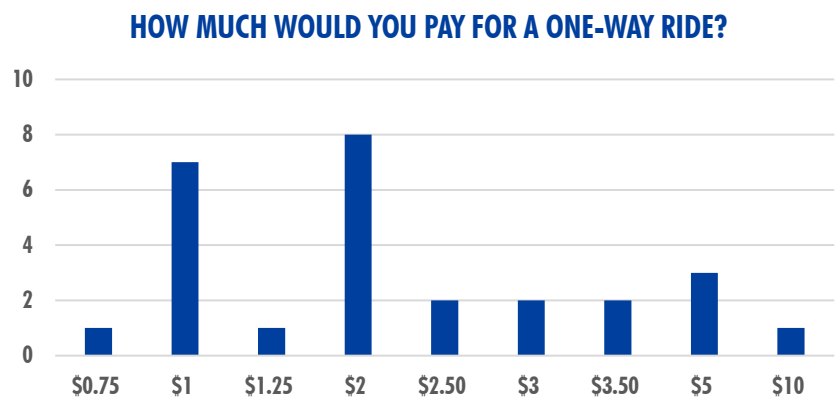
To garner the specific needs of MCC students and faculty, a nine-question survey was conducted in September 2019. A total of 33 student and faculty surveys were completed. Survey results are summarized in the following section. Of the respondents, 22 were students and 11 were faculty members.

Commute Behavior

Most respondents shared that they live commuting distance to campus (84%) while a small percentage shared that they live within walking distance (16%). The majority of respondents typically commute by car (94%), while smaller numbers drive or carpool (10%), or drive or bike or walk (10%). In the last 12 months, 13% of respondents said that they had missed school or work due to lack of transportation.

Service Preference

The survey included questions on service preference including desired destinations, fares, and service days and times. A total of 40% of respondents said they would be likely to use the public transit system if it were to exist, 42% said they would not be likely, and 15% said they didn't know whether they would use public transit. The majority said they would pay \$2 for a one-way ride.



Destinations

Respondents were asked to identify five destinations where they would like to see transit stops. The most popular destinations were Mohave Community College (22 responses), Walmart (20 responses), and Arizona State University-Lake Havasu (8 responses), and Smith's Grocery Store (9 responses).

Days and Times of the Week

Respondents were asked to identify the day of the week and time of day would be most helpful to have transit available. The most popular choice was weekdays, followed by Saturdays, and finally, Sundays. Noon to six in the afternoon was the most popular across all of the days.

Hours	Weekdays	Saturdays	Sundays
Before 7am	11	6	6
7am to noon	17	10	10
Noon to 6pm	22	15	14
6pm to 9pm	17	12	11
After 9pm	9	10	4

Summary of ASU Havasu Survey Results

To garner to specific needs of ASU Havasu students, a nine-question survey was given to residence hall students in September 2019. The following outlines findings from the 32 completed student surveys.

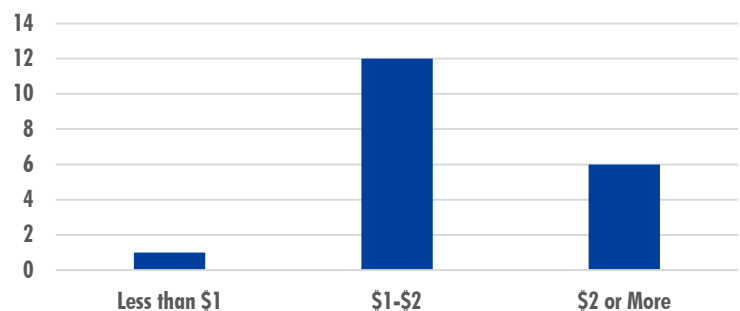
Commute Behavior

The majority of respondents typically commute by car (54%), while smaller numbers taxi or uber (14%), drive or carpool (11%), or drive or bike or walk (11%). Of respondents 11% said that they use another type of transportation and 14% did not respond. In the last 12 months, 12.5% of respondents said that they had missed school or work due to lack of transportation.

Service Preference

The survey included questions on service preference including desired destinations, fares, and service days and times. A total of 69% of respondents said they would be likely to use the public transit system if it were to exist, 22% said they would not be likely, and 3% said they didn't know whether they would use public transit. The majority said they would pay \$1-\$2 for a one-way ride.

HOW MUCH WOULD YOU PAY FOR A ONE-WAY RIDE?



Destinations

Respondents were asked to identify five destinations where they would like to see transit stops. The most popular destinations were Walmart (25 responses), Mohave Regional Medical Center (13 responses), Arizona State University-Lake Havasu (12 responses), Rotary Park (9 responses), and Smith's Grocery Store (8 responses).

Days and Times of the Week

Respondents were asked to identify the day of the week and time of day would be most helpful to have transit available. The most popular choice was weekdays, followed by Saturdays, and finally, Sundays. Noon to six in the afternoon was the most popular across all of the days.

Hours	Weekdays	Saturdays	Sundays
Before 7am	9	7	6
7am to noon	20	14	14
Noon to 6pm	22	21	19
6pm to 9pm	18	21	19
After 9pm	17	14	10

6. RECOMMENDED TRANSIT SERVICE PLAN

As Lake Havasu City moves towards providing public transportation services, services should be thoughtful and well planned so that services are appropriate to the community current characteristics and are cost effective to operated. As a result, an incremental approach is recommended to help gain community support, ridership, and local enthusiasm for public transportation. Adopting an incremental approach allows the City to build success and public trust while developing new services.

SERVICE GOALS AND OBJECTIVES

Developing clear goals and objectives for a transit system is imperative to ensure that the service reflects the operating environment and values of the community it serves. Goals represent the general directions in which a transit provider wishes to head, and objectives outline how to meet a goal. The following recommended goals and objectives should serve as a starting point for transit service within Lake Havasu City. As needed, the goals and objectives should be refined to better align with the goals of the community.

Goal 1: Build a safe, effective, efficient, and accessible transit service for residents and visitors.

- Objective: Design, implement, and maintain routes that are most responsive to the needs of the community.
- Objective: Provide on-time service with reliable vehicles and ensure safety of people using transit as well as of non-riders.
- Objective: Regularly evaluate route productivity, adjusting schedule and stops as needed.

Goal 2: Increase/address the mobility needs of residents and visitors

- Objective: Ensure geographic and social equity, providing service for all users of all abilities.
- Objective: Raise community awareness of transit service through marketing and advertising plan.
- Objective: Provide local and regional access to employment, healthcare, shopping, and recreation centers.

Goal 3: Identify reliable, sustainable, and adequate funding for continued transit operations.

- Objective: Ensure continued eligibility for key funding opportunities and grants.
- Objective: Obtain greater community financial support to augment local match requirements for grants.
- Objective: Operate in a fiscally responsible and compliant manner that assures long-term sustainability.

SHORT-TERM SERVICE PLAN (0 – 2 YEARS)

It is recommended that the short-term plan include a combination of fixed-routes, deviated fixed-routes, complementary paratransit, and vanpool service and is executed in an incremental approach as outlined in the implementation section. Recommended service characteristics for each service element are described below. The recommended short-term service plan includes:

- Downtown Circulator Route
- Northern Express Route
- Complementary Paratransit Services
- Vanpool Program

Recommended Short-Term Service Characteristics

Downtown Circulator Route

Figure 6.1 illustrates the recommended *deviated-fixed route* for the Downtown Circulator. The route is designed to provide transit service to major activity and shopping centers in the Downtown area. The roundtrip mileage of the route is approximately seven miles. The route schedule is designed to operate with a 60-minute headway with a single vehicle. To provide access to the Senior Center, the route includes a deviation to the Senior Center at limited morning, mid-day, and afternoon intervals. The deviation adds another 2 miles to the overall roundtrip mileage. In order to facilitate connectivity with the Northern Express Route, the Downtown Circulator offers seamless connection via transfer either at the Swap Meet parking lot, Havasu Landing, or the Downtown Parking Lot on Mesquite Avenue. Route deviation of 1/2 off the fixed route is allowed and requires that reservations be made 24-hours in advance. No more than two deviations are allowed per roundtrip.

Transit Stops

Recommended stops were identified based on their ability to accommodate buses, to easily access the stop, the safety of pedestrian/cyclists when accessing the stop, and to minimize walking distances between the stops and activity centers. Since the condition and location of a bus stop could influence the perception of riders and non-riders, the consulting team drove to each stop to evaluate the conditions of each recommended stop location. For stops located within private property, the Transit Administrator will need to negotiate agreements with the property owners to provide for regular bus service. The route includes a total of 5 time stops and 17 flag stops. Lake Havasu City has previously invested and installed benches and amenities throughout the City that can be utilized for the new service. Table 6.1 outlines existing transit stop amenities available for reuse by stop.

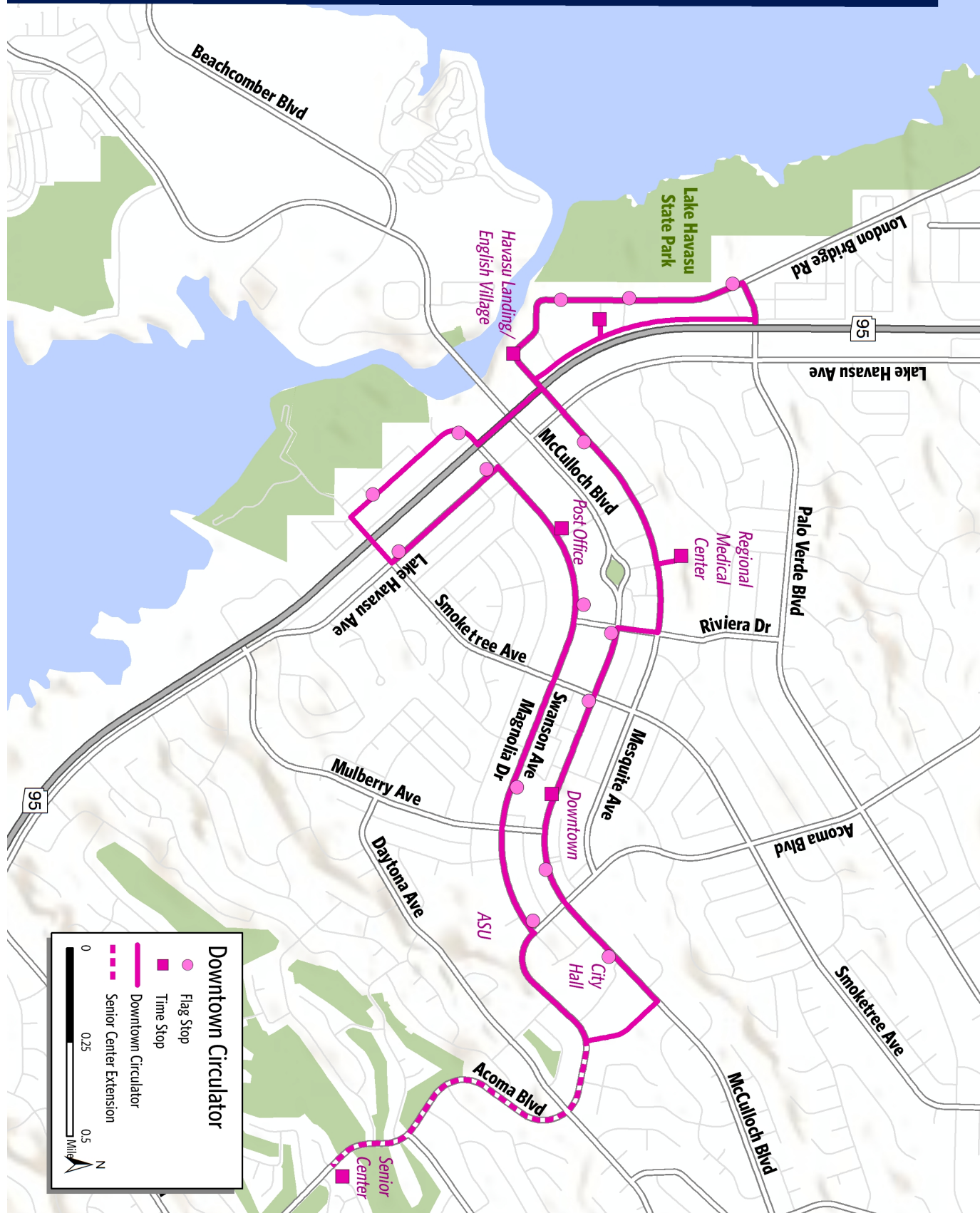
Table 6.1. Transit Stop Amenities

Stop Location	Type	Current Infrastructure
Swap Meet Parking Lot on Paseo del Sol Avenue	Timed	City owned, restrooms available, sidewalk access
London Bridge Road/Roadway Inn Suites	Flag	Sidewalk access
London Bridge Road/Hampton Inn	Flag	Sidewalk access
London Bridge Road/Motel 6	Flag	Sidewalk access
Havasu Landing/English Village	Timed	Private property, sidewalk access, benches

Table 6.1. Transit Stop Amenities (Continued)

Stop Location	Type	Current Infrastructure
Mesquite Avenue /North of Lake Havasu Ave	Flag	Sidewalk access
Havasu Regional Medical Center	Timed	Private property, sidewalk access, inside waiting area available, restrooms, vending machines
McCulloch Boulevard/Rivera Drive	Flag	Sidewalk access
McCulloch Boulevard/Smoketree Ave	Flag	Sidewalk access, bench, trash bin, may need to remove one on-street parking space
McCulloch Boulevard/Mesquite Park	Timed	City owned, covered bench, sidewalk access
McCulloch Boulevard/Birch Square	Flag	Sidewalk access, may need to remove one on-street parking space
Lake Havasu City City Hall	Flag	Bus pullout, sidewalk access, benches, trash bin
Swanson Avenue/Acoma Boulevard	Flag	Sidewalk access
Swanson Avenue/Wings Loop	Flag	Sidewalk access
Swanson Avenue/Rivera Drive	Flag	Sidewalk access
Swanson Avenue/Capri Drive	Timed	Sidewalk access
Lake Havasu Avenue/Swanson Avenue	Flag	Sidewalk access
Lake Havasu Avenue/Smoketree Avenue	Flag	Sidewalk access
Swanson Avenue/Smoketree Avenue	Flag	Sidewalk access
Swanson Avenue/Queens Bay	Flag	Sidewalk access

Figure 6.1. Recommended Short-Term Downtown Circulator Route



Northern Express Route

Figure 6.2 illustrates the recommended *fixed route* for the Northern Express route. The route is designed to provide long-distance transit service to key employment, shopping, and educational centers. The roundtrip mileage is approximately 18 miles. The route schedule is designed to operate with a 60-minute headway with a single vehicle, although two driver shifts would be required. In order to facilitate connectivity with the Downtown Circulator, the route offers seamless connection via transfer either at the Swap Meet parking lot or Havasu Landing. Route deviation is NOT recommended for this route; however, complementary paratransit services would be provided.

If the City is able to develop a partnership and memorandum of understanding (MoU) with Mohave County, the City may consider rerouting the bus to London Bridge Road during select periods of the day to capture riders in Desert Hills and Crystal Beach.

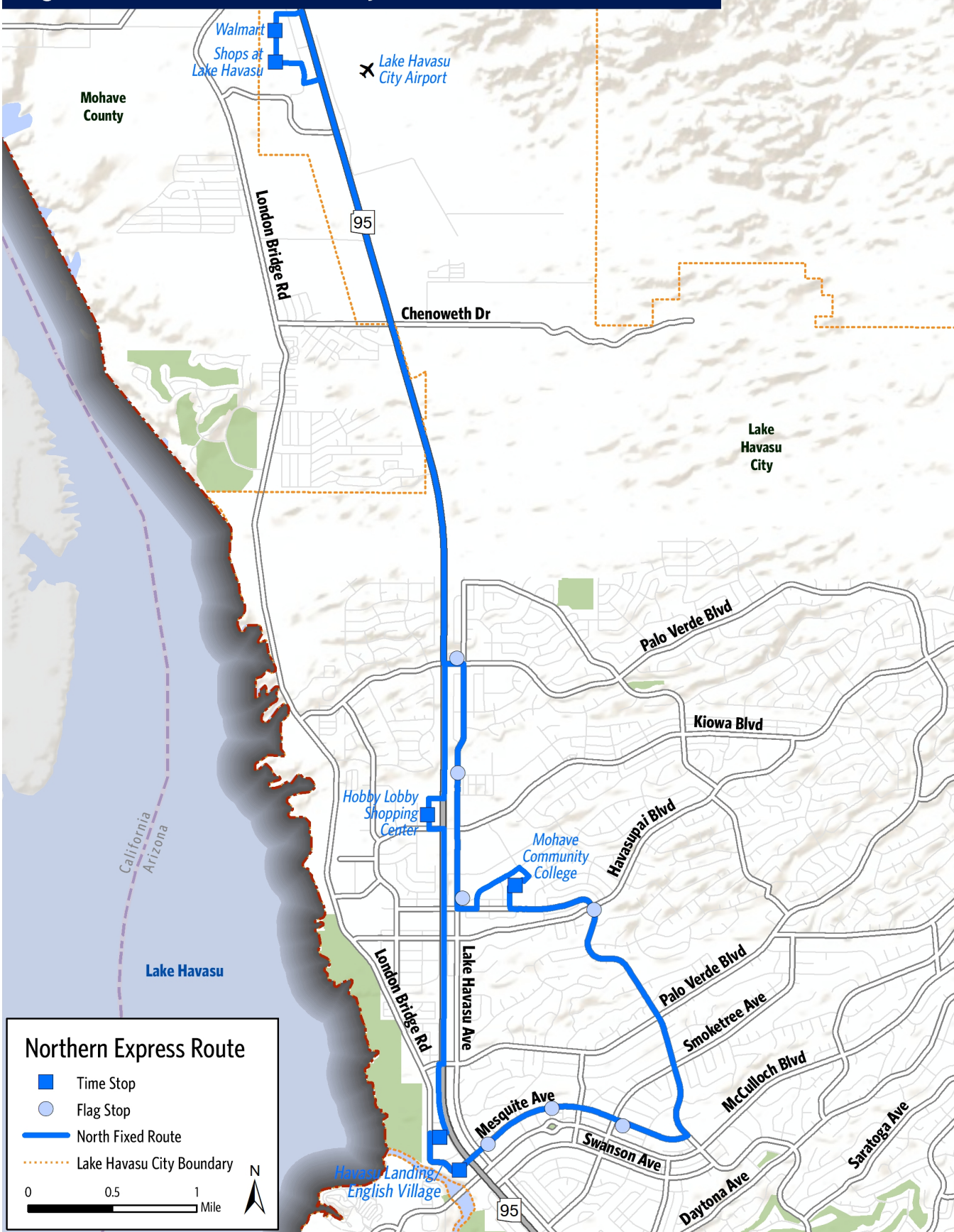
Transit Stops

A total of 6 time stops, and 7 flag stops were identified along the route. Similar to the Downtown Collector route, benches and other stop amenities previously installed could be used where available. For stops located within private property, the Transit Administrator will need to negotiate agreements with the property owners to provide for regular bus service. Table 6.2 outlines existing transit stop amenities available for reuse by stop.

Table 6.2. Transit Stop Amenities

Stop Location	Stop Type	Current Infrastructure
Swap Meet Parking Lot on Paseo del Sol Ave	Time	City owned, restrooms available, sidewalk access
English Village/Havasus Landing	Time	Sidewalk access
Mesquite Avenue/Lake Havasu Ave	Flag	Sidewalk access
Mesquite Avenue/Civic Center Ln	Flag	Bench, sidewalk access
Mesquite Avenue/Smoketree Ave	Flag	Sidewalk access
Acoma Blvd/Havasupai Blvd	Flag	Sidewalk access
Mohave Community College	Time	Owned by Mohave Community College, sidewalk access, potential partnership to host transit center in Building 800.
Lake Havasu Ave/Acoma Blvd	Flag	Limited sidewalk access
Lake Havasu Ave/College Dr	Flag	Sidewalk access
Palo Verde Dr/Lake Havasu Ave	Flag	Sidewalk access
Wal-Mart	Time	Private property, benches and restrooms available, must develop agreement with owners
Shops at Lake Havasu	Time	Private property, benches and restrooms available, must develop agreement with owners
Hobby Lobby Shopping Center	Time	Private property, benches and restrooms available, must develop agreement with owners

Figure 6.2. Recommended Northern Express Route



Complementary Paratransit Services

ADA compliance for FTA 5307 either requires paratransit or deviation service paired with a fixed-route service. A deviation service operates along a fixed route but can deviate up to three-quarters ($\frac{3}{4}$) of a mile from the fixed route. Like any on-demand service, deviated service provides door-to-door service, but only within $\frac{3}{4}$ mile of the route. The second option is to provide a separate complementary paratransit service. A paratransit service provides door-to-door service but operates like an on-demand service. Requirements include ADA-compliant buses, accessible vehicles and stops, and reduced fares.

Currently Havasu Mobility provides approximately 13,000 rides a year; of which approximately 80% of riders use wheelchairs or mobility assistance devices. To keep costs manageable, it is recommended that the paratransit service be limited to people (individuals with cognitive, vision, or other eligible disabilities) who are unable to use the fixed and deviated-fixed routes.

Vanpool Service

One of the primary needs in Lake Havasu City is to provide employees with safe, cost effective, and reliable transportation options to get to and from work. From discussions with local businesses and stakeholders, there are already some limited carpooling to/from employment and educational sites in Lake Havasu City. For instance, numerous students at Mohave Community College carpool to attend class in Bullhead City (112 miles roundtrip) four times a week. Most, if not all, of the existing carpools in the region are loosely organized and arranged among the individuals who know each other. Establishing a vanpool program for businesses and colleges where there is already a demand for carpooling can help residents save money and provide necessary transportation services.

Vanpooling refers to an arrangement where a group of individuals (usually five or more) share the costs of operating a van that also usually takes individuals to/from work. For example, assuming \$60 per week in gasoline plus another \$15 per week in maintenance/insurance, if there were six riders in the van, each rider would need to pay \$15 per week, or roughly \$1.50 per trip. FTA 5307 funds can be used to subsidize any vanpool that is destined for, originates in, or travels through Lake Havasu City. Table 6.3 outlines potential vanpool programs within the study area. Typical vanpool programs include:

- Leased or owned vehicles that are shared by 7-15 riders.
- Federal and state grants cover the capital cost of the vehicle.
- Passengers pay the cost of driving the vehicle plus some maintenance costs.
- Vanpool drivers ride for free and are responsible for collecting fares from the passengers.
- Riders either agree to meet at a central location or are picked up at their home.

Table 6.3. Vanpool Service Opportunities

Agency/Business	Description	Vehicle Type	Comments
Mohave Community College	Student vanpool from Lake Havasu City to Bullhead City	7-12 person van	Potential to sell seats not utilized by students
Wal-Mart	Employee vanpool	7-12 person van	Potential to sell seats to members of the public
Chemehuevi Indian Tribe	Employee vanpool	7-12 person van	
Sterlite	Seasonal employee vanpool	7-12 person van	

Recommended Short-Term Service Implementation

The following implementation phases are recommended for the short-term horizon.

Pre-Kickoff Phase (0-6 months)

The purpose of this initial phase is to lay the groundwork to kick-off the transit system in community. The following actions are recommended as part of this phase.

- Seek City Council approval of Lake Havasu Regional Transit Feasibility and Implementation Plan.
- Establish a Transit Department and hire a Transit Administrator.
- Apply to be an FTA 5307 grant recipient and establish a Transit Working Committee (TWG)
- Conduct public outreach to:
 - Establish system name and branding
 - Obtain feedback on phases, routes, stop locations, and preliminary route schedule
 - Generate enthusiasm for kick-off
- Develop a marketing plan

Phase I: Evaluation Period (7-12 months)

Phase I, a six-month evaluation period, will kick-off the new transit system in Lake Havasu and will lay the foundation towards implementing a cost efficient and effective transit system. The primary purpose of this evaluation period is to help answer the following and make necessary adjustments to improve the service in Phase II:

- What's the level of enthusiasm and demand for public transit?
- What adjustments if any are needed for the Downtown Circulator route?
- Which stops are under performing and do they need to be removed?
- Are additional stops needed?
- Are any travel time adjustments needed?
- Do passengers feel safe at the stop locations
- Does the service frequency need to be adjusted?

Phase I Service Schedule

This phase will include the basic Downtown Circulator route with two runs in the AM, mid-day, and PM periods. The DC route will allow for up to two deviations per run. Route deviation of up to 1/2 mile off the fixed route is allowed and requires that reservations be made 24-hours in advance. The DC route will be complemented by the paratransit service only for qualified riders that are unable to use the deviated-fixed route service. In addition to these services, it is recommended to initiate vanpool service to Walmart/Shops at Lake Havasu to and from Havasu Landing. The vanpool will operate one AM run and one PM run during this evaluation period. Phase 1 services and schedule are outlined in Table 6.4.

Table 6.4. Recommended Phase I Services and Schedule (Monday to Friday)

Service Route	Service Characteristics
Downtown Circulator	<ul style="list-style-type: none"> • 2 AM Runs (7AM, 8AM) • 2 Mid-Day Runs (11AM, 12PM) • 2 PM Runs (4PM, 5PM)
Paratransit Service	<ul style="list-style-type: none"> • 8AM to 5PM
Vanpool to Walmart/Shops at Havasu	<ul style="list-style-type: none"> • 1 AM Run (7AM) • 1 PM Run (4PM)

Phase I Seasonal Variations

Given fluctuations in visitations to Lake Havasu City, seasonal variations in the transit route will need to occur to accommodate tourists. Seasonal variation routing would occur during the high visitation months between November and April and would provide access to the Island Inn and London Bridge Beach. Additional seasonal variations for the City to consider include:

- Extending late night service during peak visitor months and special events.
- Increasing route frequency during peak months.
- Reducing operating hours and headways during slower summer months.

Phase I Actions

- Initiate the six-month pilot phase of the transit service.
- Establish partnerships with Local Service Organizations to supplement Havasu Mobility and to provide demand-transportation services for vulnerable population groups for medical and shopping needs.
- Monitor service performance and adjust as needed.

Phase II (13-18 months)

The primary purpose of Phase II is to make necessary adjustments to the initial service based on the results of the Phase I evaluation period.

Phase II Service Schedule

The following services are recommended for Phase II. Services and schedule are outlined in Table 6.4.

- **Downtown Circulator**
 - Adjust route, stop locations, and service start times if needed based on Phase I results.
 - Add one additional run during the AM and PM periods resulting in 3 AM and PM runs each and 2 mid-day runs.
 - Extend service to Senior Center for one AM, mid-day, and PM run.
 - DC route will continue to allow for a deviation of ½ mile off the route with no more than 2 deviations per run. Deviations will be limited to one during the runs to the Senior Center.
- **Northern Express Fixed-Route: Six-Month Evaluation Period**
 - Initiate Northern Express route service as a pilot.
 - Operate two AM runs and two PM runs.
 - Deviations are NOT allowed to keep the roundtrip travel time under 60 minutes.
- **Paratransit Service**
 - Continue paratransit service at Phase 1 levels for qualified users only.
- **Vanpool Service**
 - Add one additional vanpool run to Walmart/Shops at Havasu.
 - Initiate new vanpool as a pilot to Sterlite from Havasu Landing. One AM and one PM run.

Table 6.4. Recommended Phase II Services and Schedule (Monday to Friday)

Service Route	Service Characteristics
Downtown Circulator	<ul style="list-style-type: none"> • 3 AM Runs (7AM, 8AM, 9AM) <ul style="list-style-type: none"> ○ 9AM run – deviate to Senior Center • 2 Mid-Day Runs (11AM, 12PM) • 3 PM Runs (3PM, 4PM, 5PM) <ul style="list-style-type: none"> ○ 3PM run – deviate to Senior Center
Northern Express	<ul style="list-style-type: none"> • 2 AM Runs (7AM, 8AM) • 2 PM Runs (3PM, 4PM)
Paratransit Service	<ul style="list-style-type: none"> • 8AM to 5PM
Vanpool to Walmart/Shops at Havasu	<ul style="list-style-type: none"> • 2 AM Run (7AM, 8AM) • 2 PM Run (4PM, 5PM)
Vanpool to Sterlite	<ul style="list-style-type: none"> • 1AM Run (7AM) • 1PM Run (4PM)

Phase II Seasonal Variations

Seasonal variation adjustments similar to Phase 1 apply.

Phase II Actions

- Adjust service levels, routes, stop locations, and schedule based on results from the pilot phase for the Downtown Circulator route.
- Expand service to add Northern Express route.
- Expand service to add a vanpool to Sterlite.
- Continue and expand partnerships with Local Service Organizations to supplement Havasu Mobility and to provide demand-transportation services for vulnerable population groups for medical and shopping needs.
- Monitor service performance and adjust service as needed.

Phase III (19-24 months)

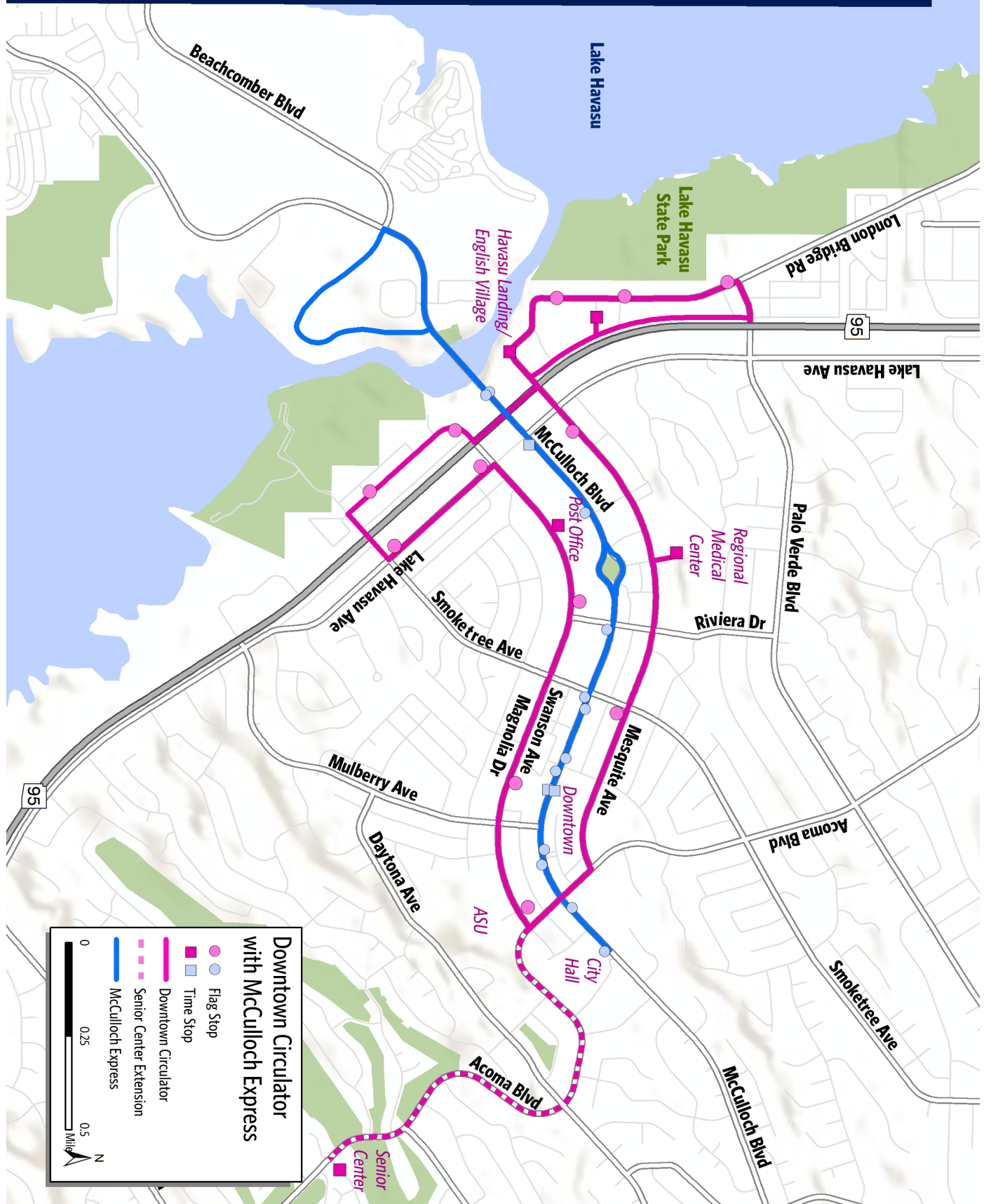
Phase III will build on the performance of services in Phase II, expand service hours, and include a six-month evaluation of a Downtown Express route along McCulloch Boulevard.

Phase III Service Schedule

The following services are recommended for Phase 3.

- **Downtown Circulator**
 - Adjust the Downtown Circulator route and stop locations as illustrated in Figure 6.3.
 - Continue providing 3 AM and PM runs each and 2 mid-day runs.
 - Deviate to Senior Center for one AM, mid-day, and PM run.
 - Downtown Circulator route will continue to allow for a deviation of ½ mile off the route with no more than 2 deviations per run. Deviations will be limited to one during the runs to the Senior Center.
- **Northern Express Fixed-Route**
 - Operate two AM runs, one mid-day run, and two PM runs.
 - Deviations are NOT allowed to keep the roundtrip travel time under 60 minutes.
- **Downtown Express Fixed-Route: Six-Month Evaluation Period**
 - Initiate Downtown Express route service as a pilot.
 - Operate at 30 min headways during AM and PM runs and at 60-minute headways during mid-day runs.
 - Deviations are NOT allowed to keep the roundtrip travel time under 30 minutes.
- **Paratransit Service**
 - Continue paratransit service at Phase II levels for qualified users only.

Figure 6.3. Recommended Short-Term Phase III Downtown Circulator Route



- **Vanpool Service**

- Continue operating vanpool service to Walmart/Shops at Lake Havasu at Phase II levels.
- Add one additional vanpool run to Sterlite

Phase III services and schedule are outlined in Table 6.5.

Table 6.5. Recommended Phase III Services and Schedule (Monday to Friday)

Service	Characteristics
Downtown Circulator	<ul style="list-style-type: none"> • 3 AM Runs (7AM, 8AM, 9AM) <ul style="list-style-type: none"> ○ 9AM run – deviate to Senior Center • 2 Mid-Day Runs (11AM, 12PM) • 3 PM Runs (3PM, 4PM, 5PM) <ul style="list-style-type: none"> ○ 3PM run – deviate to Senior Center
Northern Express	<ul style="list-style-type: none"> • 2 AM Runs (7AM, 8AM) • 1 Mid-Day Run (11AM) • 2 PM Runs (3PM, 4PM)
Downtown Express	<ul style="list-style-type: none"> • AM: 30 min intervals between 8AM to 10AM • Mid-Day: 60 min intervals between 11AM to 2PM • PM: 30 min intervals between 3PM to 6PM
Paratransit Service	<ul style="list-style-type: none"> • 8AM to 5PM
Vanpool to Walmart/Shops at Havasu	<ul style="list-style-type: none"> • 2 AM Run (7AM, 8AM) • 2 PM Run (4PM, 5PM)
Vanpool to Sterlite	<ul style="list-style-type: none"> • 2 AM Run (6AM, 7AM) • 2 PM Run (3PM, 4PM)

Phase III Seasonal Variations

Seasonal variation adjustments similar to Phase II apply.

Phase III Actions

- Adjust service levels, routes, stop locations, and schedule based on results from Phase II for the Downtown Circulator and Northern Express routes.
- Expand service to add Downtown Express route (Evaluation only).
- Continue and expand partnerships with Local Service Organizations to supplement Havasu Mobility and to provide demand-transportation services for vulnerable population groups for medical and shopping needs.
- Monitor service performance and adjust service as needed.

Fare Structure

The community transit survey conducted for this study included a question about fares discussed in the Lake Havasu Regional Transit Feasibility Study. In general, people responding to that question were willing to pay a reasonable fare for transit service, and the amount they were willing to pay varied according to the distance traveled. Fares for peer agency services similar to recommended services vary depending on the system, ranging from free to \$1.00 to \$3.00 per ride. Fare-free systems offer the advantage of attracting riders who don't have to worry about carrying exact change or figuring out how to pay for the bus. Many public transportation agencies provide fare free options during special events to help alleviate vehicle congestion on busy roads.

To encourage the bus usage, partnerships can be made with local employers to purchase bus passes for employees. Currently, federal law allows employers to offer their employees a tax-free benefit for commuting to work using public transportations. The tax code allows employees to purchase bus passes with pre-tax dollars, providing a financial incentive for using transit rather than driving alone. The pre-tax benefit is only available through the employer.

Providing an electronic fare payment system eliminates cash fares allows riders the flexibility to prepay for a ride via a smartphone application or a prepaid transit card. Electronic fare systems allow riders to board buses faster and leads to less administrative labor for counting, verifying and managing cash fare boxes. There are a variety of state-of-the-art fare payment and collection technologies available, including smartcards that allow riders to scan or tap a preloaded fare card at an electronic reader and smartphone applications. Being able to just hop on the bus and go is helpful in attracting riders and can also help expedite bus loading in areas where many visitors all load at once.

A recommended fare structure is summarized in Table 6.6.

Table 6.6. Recommended Fare Structure

Fare Type	One-Way	All-Day Pass	Monthly Pass
Adult Fare	\$2.00	\$3.00	\$40.00
Child/Student	\$1.00	\$2.00	\$30.00
Elderly/Disabled/Veteran	\$1.00	\$2.00	\$30.00

Capital Equipment

Capital equipment generally is made up of three types of capital purchases: vehicles and their accessories; equipment and furnishings; and facilities.

Vehicles

There are several approaches to the acquisition of vehicles for transit service. One option is for the City to acquire vehicles and place them in operation with either public staff or a private operator. In discussion with TAC, City staff have leaned towards operating the system in-house. The City will need access to FTA 5307 funds to buy their vehicles or they can apply to ADOT for the Small Urban 5339 funds we receive (less than \$1 million a year) or they can apply to the national pool of 5339 funds for buses. Both application rounds are typically in the summer and it takes approximately 9 to 12 months for the busses to arrive.

It is recommended that the transit program acquire a two new cutaway minibus with a capacity of 9- 22 passengers and positions for two wheelchairs. These vehicles are estimated to cost approximately \$100,000 – 180,000 each, including a bus wrap, bicycle rack, seatbelts, and destination sign. Furthermore, this type of vehicle requires the driver to obtain a CDL license, which may be a barrier. Due to the length of trips and frequent stops/starts, a gas engine is also recommended. When purchasing a new vehicle, the following items should be considered:

- Directional header
- Public announcement system
- Bicycle racks
- Electronic fare-boxes with the ability to accept bills and coins.
- Upgraded suspension and air conditioning
- Tinted side windows to keep buses cooler



Table 6.7 lists existing vehicle inventory and the number of additional vehicles to be procured for the short-term phase.

Table 6.7. Vehicle Needs

Vehicle Type	Quantity	Status	Estimated Cost
Phase I			
Minibuses for Paratransit	2	New Purchase	\$90,000
Cut-away Bus (DC Route)	1	New Purchase	\$120,000
Cut-away Bus (Backup)	1	New Purchase	\$120,000
Vanpool Van	1	New Purchase	\$60,000
Phase II			
Minibuses for Paratransit	2	Phase I Purchase	-
Cut-away Bus (DC Route)	1	Phase I Purchase	-
Cut-away Bus (Northern Express Route)	1	New Purchase	120,000
Cut-away Bus (Backup)	1	Phase I Purchase	-
Vanpool Van (Walmart route)	1	Phase I Purchase	-
Vanpool Van (Sterlite route)	1	New Purchase	\$60,000
Phase III			
Minibuses for Paratransit	2	Phase I Purchase	-
Cut-away Bus (DC Route)	1	Phase I Purchase	-
Cut-away Bus (Northern Express Route)	1	Phase II Purchase	-
Cut-away Bus (Downtown Express)	1	New Purchase	\$120,000
Cut-away Bus (Backup)	1	Phase I Purchase	-
Vanpool Van (Walmart route)	1	Phase I Purchase	-
Vanpool Van (Sterlite route)	1	Phase II Purchase	-

Additional Vehicle Options

Recently, the City of Tempe partnered with Arboc Specialty Vehicles and Creative Bus Sales to test a new medium-duty transit buses to replace aging cutaway busses. The test buses were alternatively fueled by compressed natural gas (CNG), has a larger seating capacity and are wheelchair accessible with a low floor, allowing easy access for passengers with mobility devices. The rear engine design is expected to improve air conditioning performance, improving passenger and operator comfort. The prototype bus is 30' in length, seats 22 passengers, has two wheelchair positions, and two bike racks. Testing of the vehicles yielded positive feedback and results, resulting in the City to submit an RFP for the manufacturing and delivery of new busses.

During future phases on the Plan, the City could leverage the community's ties to England by repurposing a double decker bus. The purpose for the unique bus would be for seasonal use during weekends, special occasions, peak tourist periods and routes related to connecting the Downtown Circulator route between English Village and City Hall. The promotion of Lake Havasu's 50-year cultural link with London would further add to the British ambiance and create a one-of-a-kind transportation option in Arizona.



More importantly, the usage of a double decker bus serves as a built-in marketing campaign that with the help of the Chamber of Commerce and Go Havasu can serve as a base for marketing campaigns and events throughout the year.

As an additional element to the Lake Havasu transit system, the double decker bus options include the 'half top – open air' touring double decker, which may present a more suitable option for the peak-season climate. A San Diego area-based firm, British Bus Company (BBC), is one of many companies in the United States that refurbishes British double-decker, buses for legal street use within the US. This assists with the FTA compliance regarding to the "Buy America" clause. It is important, however, that adjacent local landowners and business should be conferred with prior to service, as some may be concerned with passengers seated on the second level – and line of sight issues related to privacy. At the time of delivery of this report, the following double decker bus options were available from the BBC:

Full Length Top Double Decker (1989)	\$35-45,000
(*Features diesel engine conversion, with North America conversion to right side passenger door/left side driver control; repaint into custom Lake Havasu design)	
Half Top / Open Air Double Decker (1990s)	\$35-45,000
(*Features diesel engine conversion, with North America conversion to right side passenger door/left side driver control; repaint into custom Lake Havasu design)	

*An internal wheel-chair lift from first to second level of the bus may be an additional option.

Bus Stops

Signed bus stops and bus shelters can play a key role in the success of the transit program. It is recommended that the system begin with basic pole signs along with “infoposts” that depict route schedules and maps at bus stops (example illustrated on the right). Signage at the bus stops is informational for riders, but it also advertises the transit system to passersby, riders and non-riders alike. Bus stop signs can be installed on a temporary basis, (buried stanchion buckets) that can be reasonably removed and are safe until made permanent. It may be also possible to attach bus stop signage to existing architecture or signage.

Once the system has been tested for a period of time, consideration should be given for the installation of benches, bike racks, trash cans, and shelters. As warranted, bus shelters should be incrementally installed at the busiest bus stops and those locations that serve both the Downtown Circulator and Northern Express routes. Bus shelters provide rider safety and comfort, particularly in the summer months, and can also generate advertising revenue. Bus shelters, benches, bike racks, etc. may be purchased from a number of different vendors including the Arizona Department of Corrections (<http://aci.az.gov>).



Example of Department of Corrections Bus Shelter

Equipment and Facilities

Lake Havasu City should consider choosing to invest in equipment to build and maintain the transit system. Electronic equipment can include phones, computers/software, printers, copiers, GPS tracking, etc. Computer equipment and software is recommended for transit management and dispatching personnel. Leveraging existing Havasu Mobility software (i.e., Microsoft Office and Adobe Acrobat Pro) and peripherals (such as scanners, printers, etc.) will help reduce necessary initial equipment purchases.

Facility purchases cover a wide range of expenses including the design and construction of transit related buildings including offices, bus storage, maintenance buildings, transfer stations, etc. The transit building, where LHMPPO and Havasu Mobility offices currently reside, were funded through the American Recovery Act grant through the FTA. ADOT assisted in facilitating the agreement. As transit services expand, additional facilities may be warranted, including potential park-and-ride facilities. As ridership and service expands, it is imperative that the City review existing facility conditions and assess the need for increase facilities.

Short-Term Financial Plan

Table 6.8 details the total costs, local share, and federal share for each phase.

Table 6.8. Short-Term Financial Plan

Cost Item	Total Cost	Local Share	Federal Share
Phase I			
DC Route - Capital	\$240,000	\$48,000	\$192,000
DC Route – Operations	\$92,000	\$46,000	\$46,000
Paratransit – Capital	\$90,000	\$18,000	\$72,000
Paratransit – Operations	\$242,000	\$121,000	\$121,000
Vanpool Van (Walmart) - Capital	\$60,000	\$12,000	\$48,000
Vanpool Van (Walmart) - Operations	User Paid	User Paid	User Paid
TOTAL	\$724,000	\$245,000	\$479,000
Phase II			
DC Route – Operations	\$123,000	\$61,500	\$61,500
Northern Express - Capital	\$120,000	\$24,000	\$96,000
Northern Express - Operations	\$85,000	\$42,500	\$42,500
Paratransit – Operations	\$242,000	\$121,000	\$121,000
Vanpool Van (Sterlite) - Capital	\$60,000	\$12,000	\$48,000
Vanpool Van (Walmart and Sterlite) - Operations	User Paid	User Paid	User Paid
TOTAL	\$630,000	\$261,000	\$369,000
Phase III			
DC Route – Operations	\$123,000	\$61,500	\$61,500
Northern Express - Operations	\$106,000	\$53,000	\$53,000
Downtown Express - Capital	\$120,000	\$24,000	\$96,000
Downtown Express – Operations	\$138,000	\$69,000	\$69,000
Paratransit – Operations	\$242,000	\$121,000	\$121,000
Vanpool Van (Walmart and Sterlite) - Operations	User Paid	User Paid	User Paid
TOTAL	\$729,000	\$328,500	\$400,500

MID-TERM TRANSIT PLAN (3-5 YEARS)

For the mid-term horizon, transit services performance from the short-term horizon should be evaluated and transit services should be adjusted or enhanced as needed. In addition, the following will serve as a guide to continue existing services and add new services.

Recommended Mid-Term Service Characteristics

- **Continue Fixed-Route Service** and evaluate need to increase public transportation service routes, service times and days, and service frequencies. Continue to build partnerships with local businesses and stakeholders to provide in-kind donations and to support the system through purchasing tickets and advertisement.
- **Continue and Expand Vanpool Programs** for larger employers to provide necessary transportation services for their employees. Potential mid-term candidates for a vanpool program include Mohave Community College (for students to Bullhead City) and for Casino employees.
- **Implement a Southern Express Service Route** that connects Bashas' to the Downtown Circulator and Northern Express routes
- **Implement a Microtransit Pilot Project** that offers flexible routing and scheduling to provide public transportation services to underserved areas and to extend the reach of the Downtown Circulator and Northern Express routes. The microtransit pilot project would provide necessary first/last-mile connections, as well as needed service to residents in Crystal Beach, Desert Hills, Horizon Six, and on the outskirts of the City.
- **Evaluate Microtransit Pilot Project**

System Upgrade Triggers

The simplest factor in the need to increase service frequency is when ridership on some or all of the routes reach the seating capacity of the vehicle. While having standees on some urban area routes is not unusual, especially during peak periods, it does pose a safety concern. A lack of seating is a key trigger point for frequency improvements. As ridership grows, the City should discuss steps to determine if frequency increases or larger capacity rolling stock is appropriate.

LONG-TERM TRANSIT PLAN (5+ YEARS)

For the long-term horizon, the following are recommended

- **Re-Evaluate and Update the Transit Service Plan** and adjust service routing, timing, and schedules to accommodate local growth and demand.
- **Evaluate Potential Need for Transit Connections to Bullhead City, Kingman, and Parker** by developing a partnership with local community and transit providers. Potential partnership opportunities include:
 - Creating a regional transit system that connects major communities.
 - 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.

Emerging Technologies

There are several emerging technologies and social trends that may influence how transit is provided in Lake Havasu in the future, including:

- **Autonomous Vehicles (AV)** use technologies in order to operate a vehicle on its own without the assistance of a human driver.
- **Connected Vehicles (CV)** use technologies to connect vehicles to infrastructure (i.e. signals and light poles), with other vehicles, and with smartphones using radar, cameras and other sensors.

Autonomous shuttles are similar in size to existing cutaway buses, generally with a capacity of 6 to 20 passengers, are primarily electric, and operate at low speeds (typically 15 MPH). There are many opportunities to deploy autonomous shuttles in Lake Havasu City's downtown core. Autonomous shuttles are ideal for short-distance service, where they can address first/last-mile connectivity issues, for campus transportation, or for other controlled environments where interactions with mixed traffic are limited. Transit Plan update should evaluate the impact of autonomous/connected vehicle technologies on Lake Havasu's transit system and recommend a plan for leveraging these technologies to improve cost effectiveness, system efficiency, and user experience.

7. IMPLEMENTATION PLAN

The following chapter outlines recommended activities and funding sources to implement recommendations developed by this Plan.

IMPLEMENTATION ACTIVITIES

The following outlines key steps to implement public transportation services in Lake Havasu. Note that many activities can be undertaken concurrently.

Start-Up Activities (3 - 12 months prior to system launch)

- Obtain City Council approval
- Apply for FTA 5307 funding (in-progress)
- Establish a Lake Havasu City Transit Department and hire Transit Administrator
- Establish a mission, goals, and objectives for the transit system
- Establish Transit Working Group (TWG) to guide implementation and on-going activities
- Coordinate with LHMPO Technical Advisory Committee
- Participate in regional groups, efforts, and committees that are ancillary to new transit such as Arizona Transit Association and ADOT Transit Planning
- Review assurances and certification with regards to Federal and State funding sources
- Meet with local businesses, agencies, and organizations to promote service
- Finalize route, scheduling, and stop locations
- Prioritize bus stop improvements and develop implementation plan
- Develop partnership agreements with stops located on private property
- Determine vehicle, equipment, and facility needs and develop specifications (Buses typically take 9 to 12 months to arrive)
- Develop logo and system name
- Develop policies, procedures, safety, training, maintenance, and operations plans and handbook
- Prepare Marketing Plan
- Develop Rider Guide
- Develop rider passes and vouchers
- Finalize recordkeeping procedures
- Establish reporting schedules and data collection methods for National Transit Database, State, and Federal funding sources
- Establish Civil Rights and ADA policies and make public notice

Prelaunch Activities (1 - 3 months prior to system launch)

- Hire and train drivers
- Conduct staff and driver training on all plans, policies, and procedures
- Install bus signs
- Carry out Marketing Plan
- Distribute Rider Guide
- Develop partnerships with local businesses to purchase advertising and to post flyers advertising the start of the transit system

Transit System Start Date

- Host kickoff event with ribbon cutting ceremony
- Meet with TAC and LHMPO Technical Advisory Committee quarterly
- Survey riders after the three-month pilot program and in 3-month intervals during the first year
- Revise or make changes to system on an as needed basis
- Submit monthly/quarterly/annual reports to TAC and funding sources

ROLES AND RESPONSIBILITIES

To make the transit system work smoothly and efficiently, a defined management and organizational structure is needed. The following outlines recommended roles and responsibilities for managing and leading the transit system.

Governance Structure

It is recommended that the goal be to develop a governance structure that provides an administrative structure for all basic mobility services, including public transportation, vanpools, customer service, etc. Due to the size and resources of Lake Havasu City, it is recommended that the City lead managerial, planning, programming and administrative duties. Direct management of FTA 5307 would make Lake Havasu City be responsible for hiring of a Transit Administrator and all necessary staff, reporting performance measures to the FTA, and the overall safety and quality of the transit system. By leading the transit system, this give the greatest control for the City as all operations would be directly under the City government structure. As part of the overall governance structure, it is recommended that LHMPO continue to remain actively involved in the implementation of the Transit Plan and regional, state, and federal coordination.

Transit Working Group (TWG)

The purpose of the Transit Working Group is to advise the City Manager and City staff on the implementation of implementation of transit services and on issues related to transit within the Lake Havasu City region. This group would shepherd the start-up process by accomplishing these tasks:

- Establish a target service start date
- Appoint a lead staff person to serve as liaison and provide staff support.
- Appoint a chairperson who can be a champion for the implementation of the service.
- Review and make decisions regarding structure.
- Identify partnership opportunities and develop relationships with potential partners.
- Serve as a champion by marketing and promoting transit services internally and externally.

The TWG should meet at least quarterly and may need to meet monthly in the first year as services are established. The TWG would also be an advisory body to the City Council. It is recommended that LHMPO and members of the Internal Strategic Team, established as part of this planning process, be included as members of the TWG. Additional TWG members may include members of human service organizations, members of the public, businesses, and additional internal staff.

Lake Havasu MPO

Including Lake Havasu MPO has an active partner in the planning and implementation of transit improvements in the Lake Havasu region is important for the on-going success of the system. Including LHMPO has members of the TWG is one of many areas the City can leverage LHMPO staff and funds to help make transit a viable and sustainable solution for the region. Areas that LHMPO can aid the City includes, but is not limited to:

- **Transit Planning Funds.** LHMPO will continue to receive state and federal transit planning funds. Allowing LHMPO to be a partner in the implementation and planning of the transit system will help the City leverage these planning funds for on-going needs.
- **Local Partnership Development.** Creating partnerships with businesses and stakeholders will be key to the success of the transit system. Leveraging LHMPO's relationships with local and regional businesses and organizations can help to create mutually beneficial agreements.
- **State, Regional, and Agency Coordination.** As the region's planning organization, LHMPO is actively involved with other transit organization and agencies, such as Arizona Department of Transportation, Federal Transit Administration, Arizona Transit Association, and other regional planning organizations. LHMPO's relationships with these organizations provides the City can help the City pull from a wide range of resources and supporting services to ensure the system's success.
- **Other Funding Resources.** There may be opportunities to obtain grant and other funding resources through the LHMPO.
- **Transit Working Group Involvement.** LHMPO's involvement in the TWG is critical, as they provide vital transit planning resources and connections to state and federal best practices. LHMPO's involvement is particularly important for the long-term regional transit planning needs and trying to build partnerships with Mohave County, Bullhead City, Kingman, Parker, and WACOG.

Internal City Transit Department

It is recommended that an internal Transit Department be established that includes a Transit Administrator and supporting staff. The Transit Administrator job description would include duties such as:

- Applying for and managing state and federal grants.
- Developing and maintaining necessary partnerships with government, non-profit, and private organizations and agencies.
- Obtaining necessary approvals and permits.
- Transit budgeting and financial reporting.
- Procuring equipment, services, and supplies.

In addition to the Transit Administrator, additional staff that may be needed include:

- Supervisor/dispatcher
- Full or part-time bus drivers
- Administrative assistant
- Maintenance services

MARKETING PLAN

A marketing, outreach, and communication plan is necessary to attract riders and to educate potential riders on how to use the fixed route system. Marketing strategies need to be innovative, reach various users through diverse media outlets, and disseminate information in an easy-to-understand format. This section presents a preliminary marketing approach to launch, educate, and promote transit services in Lake Havasu City. Key objectives of the marketing plan are:

- Build awareness, a positive image, and support for the public transit system.
- Utilize a variety of communication and outreach tools to educate the public about the benefits of public transit and to encourage ridership.
- Develop a user-friendly and easy to understand network of transit services through passenger information materials and signage

For transit marketing efforts to be effective, they must address target groups for whom the transit system will primarily serve. In the Lake Havasu area, target markets include seniors, persons with disabilities, local workers, students, and tourists. Multiple marketing strategies may need to be utilized to reach all potential target markets

System Name and Branding

Developing a system name and branding is the foundation for the marketing program. Branding can help create immediate recognition of all aspects of the service, raise awareness and visibility of the transit system, and can be utilized as a marketing tool. A system name, and logo, should be short, easy to understand, attractive, and communicate the nature of the service.

To assist Lake Havasu City, a preliminary system name and logo was developed (shown on the right). The system name “Cruise Havasu Transit” and corresponding logo pays homage to the London Bridge, English Village, and the Colorado River.

Vehicle graphics can turn a simple bus into a rolling billboard for marketing the transit service. If funding is

available, branding vehicles, or painting vehicles to match the color scheme, should be considered to help distinguish the fixed route services from social service vehicles. Lake Havasu City also has the opportunity to wrap buses to mimic a traditional double decker bus. Furthermore, the system logo and color scheme should be utilized on all bus stop signage to further advertise the availability of transit services within the area.



Grand Opening Campaign

Upon establishing a start date for the fixed route system, create a campaign theme and host a “Ride for Free” Day to demonstrate how to utilize the transit system. The Grand Opening Campaign can be promoted through a ribbon cutting ceremony, advertisements via the newspaper and radio, and press releases on social media. During the “Ride for Free” kickoff event, businesses at key stops can host booths to help further engage the public and help cross promote businesses. If a final logo and brand hasn’t been approved prior to the Grand Opening Campaign, Lake Havasu City may consider having an “Extreme Transit Makeover” competition where members of the community can design the look for the new transit service.

Rider Guide

A Rider Guide, which includes a fixed route map and schedule, should be developed to easily disseminate information to riders. Rider guides typically contain a color map showing each route, all stops, transfer locations, and daily schedule. Information on basic rider responsibility and the required Civil Rights assurances and complaint information should also be included. Additional information that should appear in the Rider Guide includes:

- How-to-ride information, including fares, where to purchase tickets, and how to identify a bus stop
- Service days, hours, and holidays
- Contact information, including website address

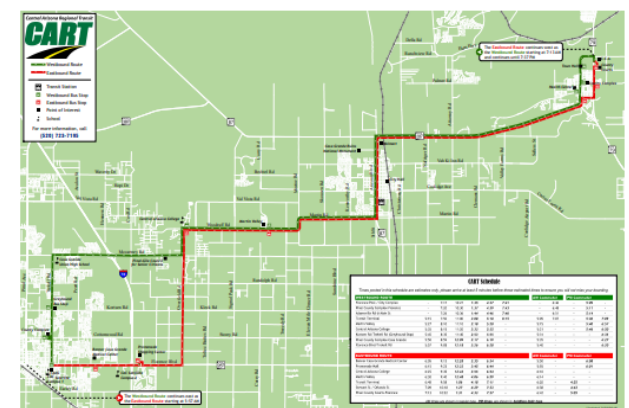
The Rider Guide should be posted on the website, social media, and available on the buses. Furthermore, the guide should be developed in both English, Spanish, and for those that are blind. The Rider Guide should be updated annually to reflect changes in service, fare, and schedule.

Schedule brochure distribution is very critical to the success of the marketing program. “Placement” of brochures in all major retail, office, governmental and social service locations is necessary. To target tourists, schedules should be available in every hotel in the area. Direct mailings to Lake Havasu City residents through utility bills may also be a cost-effective way to mass distribute service information.



Example of Kick-off Rally flyer and ribbon cutting ceremony

Fare Type	One-Way	Round-Trip	Transfer	Transfer + One-Way	Transfer + Round-Trip
Children 12 & Under	\$1.00	\$2.00	\$0.50	\$1.50	\$3.00
Students 13-18	\$2.00	\$4.00	\$1.00	\$3.00	\$6.00
Adult 19 & Up	\$2.00	\$4.00	\$1.00	\$3.00	\$6.00



Example of Cottonwood Area Transit's double-sided Riders Guide

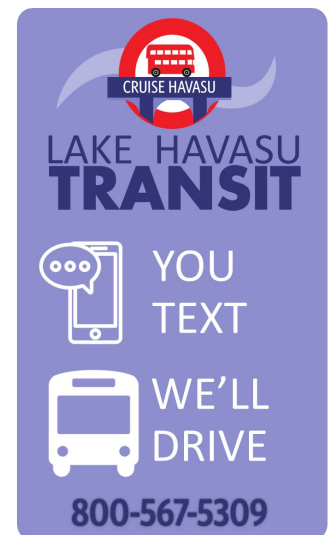
Collateral Materials

In addition to the Rider Guide, a family of brochures, flyers, and PowerPoint presentations can be developed to provide riders and the community with information on the transit service. All printed and online marketing materials need to be cohesive in look and messaging to strengthen the brand of the Payson-Star Valley transit system. Furthermore, all materials should be consistent and easy for the general public to understand. The following are recommended collateral materials:

- Permanent information displays include a standard-sized poster or flyer and space for Rider Guides. The permanent information displays can be located at high-traffic locations, such as medical complexes, grocery stores, schools, etc. These displays provide long-term communication and help promote the transit system.
- Posters to display on bulletin boards and windows throughout the community. Posters could be developed for a variety of purposes/themes, including commute to work, new service, students, environmentally friendly travel, etc.
- Student “How to Use” flyers to educate parents and students on how to use the transit system.



Example of informational display



Transit Website

Creating a Lake Havasu City Transit website is an important first point of contact for many potential customers. The transit system’s website should contain all of the information provided in the Rider Guide in an easy-to-use manner. The initial cost of setting up, designing, and customizing the website may be high; however, on-going maintenance and support could be completed in minimal time. Ideally, the website would include the following elements:

- Logo and branding
- Integrated Google Transit trip planner
- A map of the service area and service stops
- Fare information and information about fare media and where to buy it
- Service days, hours, and holidays
- Rider alerts – for weather, holidays, and other important notices
- Links to social media sites
- Contact information
- Information for Havasu Mobility
- Rider rights and responsibilities as well as methods for persons with disabilities to get more information (TTDY number, phone number for those with visual impairments, etc.).

Integrating the transit system's route and schedule data into Google Transit is a powerful tool to allow users to quickly and easily plan a transit route. The National Rural Transit Assistance Program (RTAP) provides information on how to incorporate data into Google Transit.

Social Media

Creating a page on Facebook, Instagram, and Twitter can be a cost-effective way to engage with riders and community supporters. Social media can be utilized to build awareness of the new system, promote service changes, and to hear from the community their issues and concerns. Developing "How to Use" videos via YouTube and social media outlets is another inexpensive means of educating the public on how to use the new transit system. If social media sites are created, the sites should be promoted on printed guides and bus boards. It is important that a staff member monitor these sites regularly, refresh content, and respond to comments and questions.

Community Outreach

Community outreach activities are a good way to increase the visibility of the Lake Havasu City transit system. The following are potential community outreach activities that the City may consider incorporating into their Marketing Plan:

- Participation in community events by decorating a bus and participating in a parade or hosting a booth that includes interactive games and giveaways.
- Stuff the Bus Event – "Stuff the Bus" is an event where the community is encouraged to donate items to a bus for a local charity. Free rides for people who make donations is another way to encourage participation.
- "Leave the Car at Home", "Dump the Pump", "Break Up with Your Car", or "Gas Pains" campaigns that focus on fuel savings for the rider.
- Participation in nationally recognized promotions, such as National Library Month (i.e., during National Library Month, all riders with a library card ride free on a certain day).
- On-board festivals with giveaways, music, and allowing riders can take photos in the driver seat.
- Rider Surveys that include a prize drawing for people who participate.

Advertising

Advertising the new transit services prior to its implementation is essential to the success of the program. Press releases are a common and inexpensive way to have information in print format and Public Service Announcements are generally free (though not always a good time slot) through radio stations. The following are some inexpensive advertising ideas:

- Press releases to all print media including newspapers, magazines, and employer newsletters.
- Event coverage – Invite press to rider trainings, bus stop sign placement, etc. Media are always looking for good public interest stories.
- Public service announcements to all area radio stations – may want to include pass giveaway.
- Advertisements strategically placed in local tourist brochures and at the movie theaters.

FUNDING OPPORTUNITIES

Public transit systems are often funded through a combination of programs and revenue sources, such as state grants, passenger fares, advertisement revenues and local contributions; however, most systems typically rely on federal grants to help cover a significant portion of a system capital costs. A summary of relevant local, state and federal funds is provided below.

Federal Sources

The Federal Transit Administration (FTA) is funded through the surface transportation program. Funds are distributed through several programs as established in the current transportation authorization. Programs provide funding for capital facilities, equipment, and operations.

FTA Section 5307 Urbanized Area Formula

The Urbanized Area Formula Grant program provides grants to support public transportation to urbanized areas with a population of 50,000 or more. Funds are distributed based on a formula that reflects the level of transit service provision, population, and other factors and funds are primarily used to support capital programs, rather than operating costs. Section 5307 funds require a 20% match for capital purchases and, if eligible, a 50% match for operating costs. Lake Havasu City is eligible to apply for this funding and the money could be used to implement recommendations from this plan.

Bus and Bus Facilities

The Section 5339 bus and bus facilities funding program provides funding for facility construction, renovation, and vehicles. Eligible capital projects include the acquisition of buses for fleet and service expansion, bus maintenance and administrative facilities, transfer facilities, bus malls, transportation centers, intermodal terminals, park-and-ride stations, acquisition of replacement vehicles, bus rebuilds, passenger amenities such as passenger shelters and bus stop signs, accessory and miscellaneous equipment such as mobile radio units, supervisory vehicles, fare boxes, computers, and shop and garage equipment. These funds can also be transferred by the state to supplement urban and rural formula grant programs. Program funding is 80% federally funded and requires a 20% non-federal match. Lake Havasu City is eligible to apply for this funding and the money could be used for capital purchases, such as buses, to support transit implementation.

FTA 5310 Enhance Mobility of Seniors and Individuals with Disabilities

This program is intended to improve mobility for seniors and individuals with disabilities by removing barriers to transportation service and expanding transportation mobility options. This program supports transportation services planned, designed, and carried out to meet the special transportation needs of seniors and individuals with disabilities in all areas—large urbanized (with a population over 200,000), small urbanized (with a population between 50,000- 200,000), and rural (with a population under 50,000). Eligible projects include both traditional capital investment and nontraditional investment beyond the Americans with Disabilities Act (ADA) complementary paratransit services. Eligible grant partners include private non-profit organizations, governmental authorities where no non-profit organizations are available to provide service, and governmental authorities approved to coordinate services.

Local Funding Sources

Potential city-based funding resources include the General Fund, which could provide opportunities for prioritization and allocation of funds to transit projects. The City also currently imposes a transaction privilege (sales) tax on certain business activities, such as hotels, vacation rentals restaurants, bar, retail, and special events. The transaction privilege sales tax may be used for almost any purpose and are paid by residents and visitors making purchases. Depending on the amount of usage by tourists, the City may consider using these funds to help support the transit system.

Community Partnership Opportunities

A range of funding opportunities exist to contribute the City's local match portion of federal funding requirements. City portions of the local match can include in-kind funds such as utilizing City facilities for storage, maintenance yard usage, staff time to address transit-related activities, and volunteer drivers' time. Examples of potential partnerships include:

- Marketing and promotional arrangements with the Convention and Visitors Bureau, Chamber of Commerce, local businesses, and hotels to support public awareness of the new service.
- Relationships with local schools, employers, the Chemehuevi Indian Tribe, and other organizations to coordinate service schedules.
- Agreements with local car dealerships and businesses to help fund vehicles.
- Cash contributions from local organizations and businesses.

In-kind advertising is a great way to promote services locally through a mutually beneficial arrangement with a local business or organization. Example best practices for partnerships include:

- **Exchanging Services:** Southern Nevada Transit Coalition trades ad space on their vehicles for the radio station in exchange for radio spots. They also offer ads inside their vehicles to major employers in the area, in return for displaying their brochures at their facility (i.e. at hotel check-in and concierge) or providing cash or in-kind donations.
- **Supporting a Free Day:** Durango, Colorado works local businesses to sponsor a Fare Free Day. The cost to the sponsor is more than the agency's normal fare revenue for the day, and Durango Transit keeps the difference. They do around 20 Free Fare days a year.

Table 7.1 outlines funding opportunities identified during the course of the transit planning process.

Table 7.1. Community Partnership Opportunities

AGENCY	POTENTIAL CONTRIBUTION
Mohave Community College	<ul style="list-style-type: none"> • Cash contribution to provide tickets for students/employees • Providing space in the 500 Building for transit riders. This area has parking available, bathrooms, vending machines, and provides an air-conditioned area for passengers to wait. • Providing a parking lot area for special events or a park-and-ride • Purchasing advertisements
Go Havasu	<ul style="list-style-type: none"> • Funding support through marketing campaigns and contribution to capital costs • Cash contribution • Purchasing tickets • Purchasing advertisements

Table 7.1. Community Partnership Opportunities (Continued)

AGENCY	POTENTIAL CONTRIBUTION
Shops at Lake Havasu	<ul style="list-style-type: none"> • Cash contribution to provide tickets for employees • Providing a parking lot area for special events or a park-and-ride • Installing bus shelter for passengers • Purchasing advertisements
Havasu Regional Medical Center	<ul style="list-style-type: none"> • Cash contribution to provide tickets for patients and employees • Providing space in the lobby for transit riders
Arizona State University	<ul style="list-style-type: none"> • Cash contribution to provide tickets for students/employees • Installing bus shelter on campus • Purchasing advertisements
Chemehuevi Indian Tribe	<ul style="list-style-type: none"> • Purchasing advertisements • Cash contribution to provide tickets for employees • Coordinating ferry schedule
Local 5310 Service Providers	<ul style="list-style-type: none"> • Cash contribution to provide tickets for users • Partnering to provide transit services for disabled residents
Chamber of Commerce	<ul style="list-style-type: none"> • Cross promotion and marketing with local businesses
Existing Private Shuttles	<ul style="list-style-type: none"> • Partnership to provide first/last-mile connections

Advertisement revenues vary throughout the State, with some agencies having robust advertisement campaigns that generate significant revenue. In Flagstaff, NAIPTA sells exterior ad space on their paratransit service vehicles for \$106 per month (12-month minimum purchase). Yuma Transit sells an exterior panel for \$250 a month and interior ads for \$475 per month.

8. PERFORMANCE STANDARDS

Service standards and performance measures are the policies and parameters used to design, modify, and evaluate transit service. Performance standards provide a measurement tool for city councils and other decision makers to gauge how the service is doing and make informed decisions on how public resources are being expended. Think of them like a toolbox for managing transit service.

FTA established four performance measures to approximate the State of Good Repair (SGR) for four categories of capital assets. Table 8.1 outlines established FTA performance Measures. Facility condition assessments reported to the National Transit Database (NTD) have one overall Transit Economic Requirements Model (TERM) rating per facility, as outlined in Table 8.2. Agencies are not required to use the TERM model for conducting condition assessments but must report the facility condition assessment as a TERM rating score.

Table 8.1. FTA Established Performance Measures

ASSET CATEGORY	FTA ESTABLISHED PERFORMANCE MEASURE
Rolling Stock	% of revenue vehicles exceeding useful life benchmark (ULB)
Equipment	% of non-revenue service vehicles exceeding ULB
Facilities	% of facilities rated under 3.0 on the Transit Economic Requirements Model (TERM) scale (outlined in Table 8.2)
Infrastructure	% of track segments under performance restriction

Table 8.2. FTA Transit Economic Requirements Model (TERM) Rating

TERM RATING	CONDITION	DESCRIPTION
Excellent	4.8 - 5.0	No visible defects; new or near new condition; may still be under warranty if applicable
Good	4.0 - 4.7	Good condition, but no longer new; may be slightly defective or deteriorated, but is overall functional
Adequate	3.0 - 3.9	Moderately deteriorated or defective, but has not exceeded useful life
Marginal	2.0 - 2.9	Defective or deteriorated; in need of replacement; exceeded useful life

NATIONAL TRANSIT DATABASE (NTD)

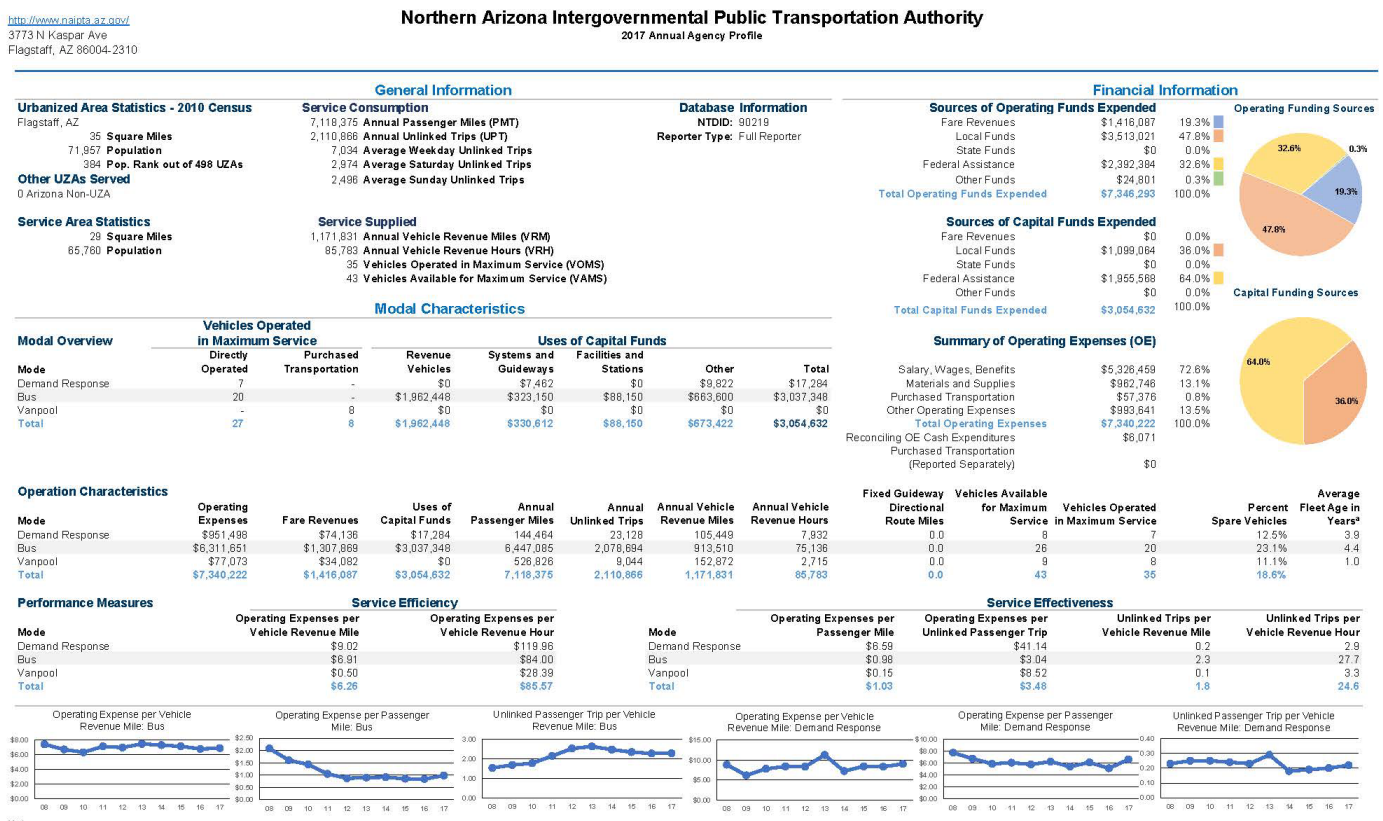
The National Transit Database (NTD) was established by Congress to be the United States' primary source for data, information, and statistics on the transit systems around the nation. The data from the NTD reporting system is used in the formula allocations of federal transit funds. Transit providers, states, or metropolitan planning organizations (MPOs) that receive FTA 5307 or FTA 5311 grants must report annual data to the NTD.

The NTD Annual Report consists of a series of forms and declarations submitted by agencies to provide a summary of transit characteristics for the fiscal year, including financial and non-financial operating statistics. Data reported and collected by the NTD includes, but not limited to:

- Annual passenger miles and passenger trips
- Annual revenue hours and revenue miles
- Fleet size, average age, and availability
- Type of service (i.e., fixed route, demand response, etc.)
- Source of operating funds and capital funds
- Summary of operating expenses
- Summary of unlinked trips (boarding of one person getting on one vehicle in one direction)
- Farebox recovery ratio (percentage of operating costs covered by fares)

Figure 8.1 provides an example of the Flagstaff NTD report.

Figure 8.1. Flagstaff National Transit Database Report Example



ADDITIONAL FTA REPORTS

Every agency that receives FTA funds is required to complete a Transit Asset Management (TAM) Plan. The TAM includes an asset inventory, condition assessments of inventoried assets, and a prioritized list of investments to improve the state of good repair of their capital assets. As of July 2019, agencies are also required to complete a Public Transportation Agency Safety Plan (PTASP). PTASP's must include performance targets based on safety performance measures established by FTA, criteria to address safety requirements and standards, and process and procedures used by the agency.

SERVICE PERFORMANCE MEASURES

Service performance measures provide the framework for evaluating service. It is important for agencies to maintain an efficient and effective operation while steadily seeking to improve the quality and delivery of core services, particularly with limited funding. Data reported to the NTD focuses on service efficiency (i.e., how well the service is being operated) rather than effectiveness (i.e., if the service is meeting the public's needs). A successful public transportation service focuses on both providing efficient and effective transportation services. Potential performance measures are highlighted in Table 8.3.

Table 8.3. Potential Service Performance Measures

PERFORMANCE INDICATOR	METRIC
Service Efficiency	<ul style="list-style-type: none"> Revenue miles per square miles Operating expenses per revenue mile Farebox recovery ratio Vehicle mile per gallon
Service Effectiveness	<ul style="list-style-type: none"> Average headway Operating Cost per Trip On-time performance Revenue miles per revenue hour Percent of disadvantaged populations served
Safety and Asset Management	<ul style="list-style-type: none"> Number of accidents Average age of fleet Total road calls Multimodal integration
Service Quality	<ul style="list-style-type: none"> Customer complaints Operated as scheduled Passenger amenities

SERVICE EVALUATION

The purpose of service standards and performance measures is to assist staff, management, and decision-makers when considering changes to service. Service changes can range from minor schedule adjustments to adding new routes to the system. Regular evaluation of service helps identify if there are under-performing routes or services that may be improved or addressed through service changes. Processes that may prompt service changes includes:

- **Performance Monitoring:** consistent performance monitoring informed by the standards and measures in this document may identify areas for service improvement.
- **Funding:** changes in funding and revenue streams detailed in annual budgets can impact how much service can be provided, leading to potential service changes.
- **Partnerships:** potential service changes may evolve from stakeholder, agency, and business coordination and partnerships.