

## 3.0 Transportation

The Transportation Element promotes the continual development of a balanced, comprehensive transportation system within the City of Mesa. This element is the framework for providing a dependable, efficient, safe, aesthetic, and economical transportation system that offers residents choices of destinations, routes, and modes of travel.



### 3.1 Background

The City of Mesa's transportation system, which includes roadways, public transportation, a freight rail line, and bicycle and pedestrian facilities, is described in detail in the City of Mesa Transportation Master Plan. An overview of the existing system is presented in the following section.

#### 3.1.1 Roadways

The City of Mesa street system is based on a mile-grid of arterial streets as well as mid-section collector streets. In addition, several state highways serve the City including Loop 101, Loop 202, US 60, and SR 87.

The City's Transportation Division maintains a very comprehensive traffic counting program on its major streets. Daily traffic counts are conducted on half of the streets every year, which means that every street segment is counted every two years. The Transportation Division publishes the 24-hour volumes in map form annually. Daily volumes are an indication of demand on road segments and can be used to gauge the number of through lanes needed on a given street segment.

The typical daily distribution pattern of traffic in Mesa is to have a morning peak, a midday peak, and an evening peak that is usually the highest. In general, the peak-period peak-directions are northbound and westbound in the morning and southbound and eastbound in the evening.

In addition to traffic volumes, other measures of performance of the existing system include travel time and intersection level of service. Travel time is defined as the total time required to travel a segment from point A to point B. This includes any delay at traffic signals or caused by incidents. A recent study of arterial streets indicates that travel speed on city streets is decreasing in the peak hours. Level of service is a quality measure describing operational conditions within a traffic stream. There are six levels of service ranging from A to F, with A representing the best operating conditions and F representing the worst. The

level of service analysis for intersections indicates that over half of the major intersections are at level of service E or F.

### 3.1.2 Public Transportation

Fixed route transit service within the City of Mesa is funded by multiple agencies. Service is operated under the name “Valley Metro.” The City of Mesa is the primary service provider, although the Regional Public Transportation Authority (RPTA) provides partial or full funding for routes that operate within Mesa. The City of Tempe and the Town of Gilbert also fund routes that extend into parts of Mesa. Each weekday twelve local routes and four express routes operate along main arterials. In most cases, weekday transit service is operated from 5 a.m. to 10 p.m. with 30-minute frequencies. Express route service operates in the peak hour only and provides connections between Mesa and downtown Phoenix. Saturday service is in Mesa only and operates from 5 a.m. to 10 p.m. on 30 to 60 minute frequencies. Service on Sunday is limited to five routes that operate on mainly east-west arterials from 5 a.m. to 10 p.m. with 60-minute frequencies. Annually, over two million passengers board transit routes operating in Mesa.

Paratransit services are available in Mesa through the East Valley Dial-a-Ride, which is a partnership among the City of Mesa, City of Chandler, City of Tempe, City of Scottsdale, Town of Gilbert, and the RPTA. It operates weekdays from 7 a.m. until 7 p.m., and weekends and holidays from 7 a.m. until 7 p.m. Extended service hours are provided for individuals who qualify under the Americans with Disabilities Act (ADA). Approximately 88,800 passengers ride within the City of Mesa. In addition to East Valley Dial-a-Ride, the City funds the enabling transportation program. Enabling transportation is a volunteer based transportation program for the elderly and disabled, it is administered by Mesa Senior Services.

The City of Mesa owns and maintains a wide range of transit capital and infrastructure ranging from bus stops to transit vehicles. There are an estimated 632 bus stops located throughout the city, including one passenger transfer facility. The passenger transfer facility, which consists of a multi-bay bus pull-out and three passenger shelters, is located at the Mesa Senior Center at 247 N. Macdonald.

### 3.1.3 Bicycle

Bicycles are allowed on all roadways within Mesa with the exception of the freeways. Bicycles destinations include schools, parks, shopping centers, and some employment sites.

The City of Mesa prepared and published its first bicycle map in August 1997. The map shows the location of existing bike routes, bike lanes, and bike paths. These include 70 miles of bike routes, 28 miles of bike lanes, and 4 miles of bike paths.

Bike lanes in the City of Mesa are of two types: either as a painted shoulder, or a shared lane with parking. Bike lanes are typically 6 feet in width or 12 feet in width if shared with parked cars. The existing bike paths are along the Crosscut Canal (2 miles) and the RWCD Canal (2 miles).

### 3.1.4 Pedestrian

Pedestrian travel in the City of Mesa typically occurs on sidewalks adjacent to a city street. The current City of Mesa Design Guidelines require four foot sidewalks on residential streets and five foot sidewalks on collector and arterial streets, except that the sidewalk on Main Street and Country Club Drive is required to be six feet.

Many trip destinations are located along arterial streets where sidewalks are typically immediately behind the curb. Some areas have sidewalks that are separated from the curb, which provides a more attractive walking experience than areas where the sidewalk is immediately adjacent to the curb. Current development patterns, which typically do not provide paths through the development, discourage walking trips.

## 3.2 Goals, Objectives, and Policies

Based on the previous transportation goals in the Mesa General Plan 1996 and discussions with the Transportation Subcommittee, goals have been developed to guide the preparation of the Plan and the implementation of the plan elements. Goals are statements concerning desirable long-range achievements, which are general in nature and describe the ideal future situation.

These goals are not separate from the overall goals of the City, but rather an integral subset that takes into account environmental, economic, and social factors in making transportation decisions.

### 3.2.1 Key Issues

Key issues were identified as part of the public participation process, which included interviews with community leaders, public workshops, Joint Master Plan Committee meetings, and a community survey. The key issues are summarized below.

- Creation of a balanced transportation system
- Street widening and intersection improvements
- Completion of the freeway system
- Improvement of mass transit
- Relationships with development patterns

- Needs of bicyclists and pedestrians
- Coordination with surrounding communities
- Transportation funding for adequate maintenance and operations
- Transportation funding for capital projects
- Air quality

### 3.2.2 Goals, Objectives, and Policy Statements

#### Goal T-1:

Provide a balanced, multi modal transportation system for the City of Mesa that supports the safe and efficient movement of people and goods.

**Objective T-1.1** Provide viable options for the movement of people and goods.

Policy T-1.1a Implement strategies to manage congestion.

Policy T-1.1b Enhance the safety of all current and future travel modes.

Policy T-1.1c Balance mobility and accessibility needs among travel modes.

Policy T-1.1d Establish performance standards for all modes.

Policy T-1.1e Encourage the development and implementation of new technologies for traffic control, traffic information systems, public transit, and goods movement.

Policy T-1.1f Support the planning and development of a balanced, multi-modal transportation system that provides equal convenience and accessibility for all modes of travel.

**Objective T-1.2** Design and build a roadway system for the future (2025 and beyond) that learns from and builds on the past.

Policy T-1.2a Coordinate with ADOT to complete the freeway system.

Policy T-1.2b Ensure that the freeways do not create barriers to other modes of transportation and that the designs provide crossings for pedestrian and bicycle travel. In addition, the potential for facilities that parallel the freeways for bikes and trails should be evaluated.

Policy T-1.2c Develop and maintain a roadway network consistent with the Roadway Functional Classification Map presented in this General Plan.

Policy T-1.2d Develop the roadway network consistent with the right-of-way requirements and typical street sections contained in the current version of the Mesa Standard Details.

Policy T-1.2e Continue the ongoing street widening and improvement programs in anticipation of future demands with focus on those that provide direct freeway access.

- Policy T-1.2f Continue to develop and maintain state of the art traffic signal equipment to provide the best possible traffic flow.
- Policy T-1.2g Support the efforts of the regional trip reduction program to reduce single-occupant commuter trips to major and intermediate employment sites.

**Objective T-1.3** Improve accessibility, availability, efficiency, and viability of public transportation systems for all users.

- Policy T-1.3a Provide a dedicated funding source for public transportation services to ensure dependable ongoing mobility options for Mesa citizens.
- Policy T-1.3b Continue to provide a variety of paratransit services, which primarily serves the elderly and the disabled.
- Policy T-1.3c Support the efforts of the Regional Public Transportation Authority (RPTA) to expand bus service and to establish light rail transit (LRT) service in the East Valley that includes a major hub in Town Center.
- Policy T-1.3d Continue the concept of a grid network local bus system with connections to express bus service and regional transit service.
- Policy T-1.3e Develop transit/High Occupancy Vehicle (HOV) passenger transfer facilities and park-and-ride lots as needed to make transit ridership safe, comfortable, and convenient.
- Policy T-1.3f Develop local bus circulators to provide better connectivity between neighborhoods and activity centers within the City of Mesa.
- Policy T-1.3g Coordinate with Valley cities and regional agencies to explore applicability of congestion pricing, including High Occupancy Toll (HOT) lanes.

**Objective T-1.4** Create a comprehensive system of bicycle facilities, programs, and services.

- Policy T-1.4a Accommodate bicyclists on street rights-of-way consistent with the type of street, potential demand for cycling, safety, and the bicycle facility map contained in the City's Transportation Master Plan.
- Policy T-1.4b Develop an interconnected network of shared-use paths along canal banks, utility easements, and roadway rights-of-way to link open spaces, parks, recreational facilities, and schools throughout the City and into adjacent jurisdictions.
- Policy T-1.4c Encourage employers to provide bicycle lockers and shower facilities for employees who cycle to work.
- Policy T-1.4d Develop bicycle parking standards for new development and redevelopment projects.
- Policy T-1.4e Provide an interconnected system of half-mile collector streets to ensure continuity of biking and walking routes.

Policy T-1.4f Use nationally and regionally recognized standards and guidelines for the planning, design, and construction of bicycle facilities.

**Objective T-1.5** Create an efficient, inviting environment for pedestrians.

Policy T-1.5a Adopt design standards and codes that improve the pedestrian environment. In developing pedestrian standards, consider nationally recognized studies, Pedestrian Area Policies and Design Guidelines prepared by the Maricopa Association of Governments (MAG), and the RPTA Pedestrian-Oriented Development Guidelines.

Policy T-1.5b Encourage pedestrian use and safety by providing sidewalks that are detached from roadways, along with appropriate landscaping and shade. Encourage shelters, awnings, trees, and benches on sidewalks in designated pedestrian areas.

Policy T-1.5c Develop multi-use pathways along the canals and in parks to improve pedestrian circulation.

Policy T-1.5d Maintain easy and inviting pedestrian access from commercial and residential developments to transit connections.

Policy T-1.5e Provide direct and convenient pedestrian connections. Meandering sidewalks shall be discouraged.

**Objective T-1.6** Create a transportation system that is accessible to all users.

Policy T-1.6a Consider the needs of the entire community and the special needs of the elderly and people with impaired mobility in the planning and design of the transportation system.

Policy T-1.6b Design transportation facilities to be in conformance with standards established in the Americans with Disabilities Act.

Policy T-1.6c Enhance inter-modal access for individuals with impaired mobility. Ensure that people with disabilities are provided equal access to work, home, and community destinations.

**Objective T-1.7** Ensure existing elements of the multi-modal transportation system are conserved through adequate maintenance and preservation.

Policy T-1.7a Monitor the condition of all transportation facilities including roads, buses, and bike facilities, to nationally accepted maintenance levels.

**Goal T-2:**

Develop a plan that builds on the character of the city, is sensitive to the environment, and enhances the quality of life today and in the future.

- Objective T-2.1** Provide a transportation system that minimizes air, water, and noise pollution while maintaining and enhancing the environment.
- Policy T-2.1a Support the development of innovative travel modes and fuel sources to reduce single-occupant vehicles, vehicle miles traveled, and reliance on fossil fuels.
  - Policy T-2.1b Monitor and evaluate the development of zero-emission technology for conversion of City vehicles.
- Objective T-2.2** Assist in achieving and maintaining health-related air quality standards throughout the region.
- Policy T-2.2a Continue to work with the regional air quality planning agency to reduce the levels of air pollution that are attributable to the transportation system.
  - Policy T-2.2b In accordance with the Federal Clean Air Act, require that all regionally significant transportation projects undertaken by the City of Mesa meet specified air quality conformity criteria.
  - Policy T-2.2c Support and participate in the Maricopa Association of Governments Clean Cities program.
  - Policy T-2.2d Secure funding to pave dirt streets and treat alleyways to improve air quality.
- Objective T-2.3** Establish guidelines and standards to enhance the land use/transportation connection.
- Policy T-2.3a Develop guidelines to encourage pedestrian and transit-oriented development and revitalization.
  - Policy T-2.3b Discourage or restrict cut-through vehicular traffic through residential neighborhoods while maintaining pedestrian and bicycle access.
  - Policy T-2.3c Encourage the location of higher density land uses in activity centers where a variety of transportation options can be provided.
  - Policy T-2.3d Support the integration of transportation and land use planning processes and programs.
  - Policy T-2.3e Locate greater residential densities near major employment centers to reduce travel demand and to maintain air quality.
  - Policy T-2.3f Locate a broad mix of housing options close to employment centers to reduce home to work trip lengths.

- Policy T-2.3g Discourage the development of new strip commercial areas and focus future activity in such areas to create a more clustered pattern of commercial development that minimizes trips.
- Policy T-2.3h Encourage infill and redevelopment to accommodate a portion of expected growth and to utilize existing transportation infrastructure.
- Policy T-2.3i Encourage mixed-use development where such areas act as buffers and where opportunities exist for the creation of activity centers.

**Objective T-2.4** Maintain and enhance neighborhood integrity and identity when planning, designing, and constructing transportation improvements.

- Policy T-2.4a Provide connection between neighborhoods, schools, parks, and areas of the City without using arterial streets.
- Policy T-2.4b Minimize physical barriers between neighborhoods and subdivisions, such as fences and walls.
- Policy T-2.4c Design new local and collector streets to reduce travel speeds and cut through traffic in neighborhoods.
- Policy T-2.4d Provide for appropriate traffic calming measures to address speeding and cut through traffic in neighborhoods.

**Objective T-2.5** Develop transportation facilities that are compatible with the natural desert landscape and open space.

- Policy T-2.5a Establish guidelines related to the visual appearance (aesthetics) of transportation facilities and to the incorporation of public art in transportation projects that give identity to neighborhoods.

**Goal T-3:**

Provide an open, objective, and credible process for planning and developing a transportation system that complies with state and federal regulations and is responsive to the community.

**Objective T-3.1** Involve citizens in planning the transportation system – ensuring plans address public values and have the flexibility to respond to changing needs.

- Policy T-3.1a Maintain a website with information on transportation projects and meetings.
- Policy T-3.1b Seek citizen input on transportation issues, projects, and programs.
- Policy T-3.1c Identify ways to obtain public input on transportation priorities in preparing the Five-Year Capital Improvement Program.

**Objective T-3.2** Educate and involve the public and policy makers in developing our transportation system, including changing how we as a community travel.

Policy T-3.2a Develop transportation related information and educational programs for distribution to the public.

Policy T-3.2b Establish a presence at City sponsored events.

Policy T-3.2c Provide adequate resources to support a transportation safety education program.

Policy T-3.2d Begin an active marketing program for the use of alternate modes.

**Objective T-3.3** Coordinate the planning for the existing and future transportation system with adjacent communities and regional agencies.

Policy T-3.3a Coordinate long-range transportation planning activities by participating in the Municipal Planning Organization (MPO) planning. Coordinate transportation facilities and improvements with development activities, both public and private, and with regional transportation and land use plans.

Policy T-3.3b Coordinate with affected state and federal agencies, local governments, special districts, and providers of transportation services to ensure the timely provision of required projects, programs, and services.

Policy T-3.3c Coordinate with adjacent jurisdictions to ensure consistent planning and network continuity at the City's boundaries for all modes of travel.

**Objective T-3.4** Utilize the Transportation Element as the foundation for decision making in transportation related issues.

Policy T-3.4a Provide policy direction for elected officials, advisory bodies, and staff in transportation issues.

Policy T-3.4b Develop and periodically update a Transportation Master Plan, which will provide the technical details and strategies necessary to implement this Transportation Element of the General Plan.

Policy T-3.4c Use the Transportation Element, in conjunction with the Transportation Master Plan, for the following:

- Review and revise existing transportation design standards;
- Require new development to provide its fair share of transportation right-of-way and infrastructure;
- Identify measures and programs to enhance mobility for all travel modes;
- Prioritizing projects in the Five-Year Capital Improvement Program; and
- Establish funding and project construction priorities

**Goal T-4:**

Develop a transportation plan that can be funded and that reflects responsible use of public funds.

**Objective T-4.1** Develop innovative and sound funding policies to implement the Plan.

- Policy T-4.1a Continue to pursue additional outside funding sources.
- Policy T-4.1b Develop policies that support private investment in the development of high tech infrastructure.
- Policy T-4.1c Ensure that the costs of planned improvements are commensurate with the benefits.
- Policy T-4.1d Establish the operations and maintenance of the existing transportation system as a priority for funding before investing in new infrastructure.
- Policy T-4.1e Establish a dedicated funding source to plan, design, operate, and maintain the transportation system.

**Objective T-4.2** Establish funding priorities to guide the timing and sequencing of transportation improvements.

- Policy T-4.2a Continue to evaluate the transportation system in keeping with current needs and desires of the public.
- Policy T-4.2b Conduct an annual review of transportation projects to validate priorities.
- Policy T-4.2c Provide for ongoing funding for streets dedicated to long-term maintenance and reconstruction of the City's transportation facilities.

**Objective T-4.3** Ensure new growth and development projects pay for their fair share of transportation infrastructure costs.

- Policy T-4.3a Address access and roadway needs for all proposed new developments, the City may require a Traffic Impact Analysis. Cost and responsibility of needed transportation improvements should be identified.
- Policy T-4.3b Establish a Traffic Impact Fee program.
- Policy T-4.3c Support legislation to allow for the creation of a street utility fee.

**Goal T-5:**

Provide the transportation system to support planned economic development and vitality.

**Objective T-5.1** Support desired economic development and tourism.

- Policy T-5.1a Provide a balanced transportation system to support the economic viability of the City.
- Policy T-5.1b Provide gateway treatments along transportation corridors at the City's boundaries to highlight the entrance to Mesa.

Policy T-5.1c Provide specialized signage as needed in activity centers such as downtown to direct tourists to sites and parking areas.

**Objective T-5.2** Provide for goods movement.

Policy T-5.2a Design arterial streets to accommodate freight traffic.

Policy T-5.2b Provide transportation infrastructure for the movement of goods and freight via automobile, truck, rail, air, fiber optics, or pipeline.

**Objective T-5.3** Preserve and enhance the value to the community of Falcon Field and Williams Gateway Airport.

Policy T-5.3a Promote and encourage improved access to Williams Gateway Airport.

### 3.3 PLAN COMPONENTS

The Transportation Element of the General Plan is composed of a series of modal elements to guide future decisions and investments. Specific provisions address future needs for roadways, public transportation, bicycling, and pedestrians and trails. The Transportation Element provides overall policy guidance, which is more fully developed and implemented through the Transportation Master Plan.

#### 3.3.1 Roadway

The City of Mesa street system is comprised of section line (mile) streets, mid-section line (half mile) streets, and local (neighborhood) streets. In addition, portions of the regional freeway system extend into and through the city. A street system is defined by the function of its components. A functional classification system establishes a hierarchy of individual streets both from an access and mobility standpoint. Generally, the "higher" the functional class, the higher the level of mobility and less direct access. Conversely, the "lower" the functional class, the lower the level of mobility and more direct access.

Freeways are generally regarded as the "highest" functional class. In an urban area, freeways typically have between six and ten through lanes (both directions), and can include high occupancy vehicle (HOV) and auxiliary lanes. They provide excellent mobility and generally, access is limited to mile interchanges at arterial streets. There is no property access provided. Parkways are divided highways that provide good mobility with some direct access. Generally, traffic signals are placed at no less than one-mile spacing for local street access and direct property access is limited to right turn in/right turn out.

Arterial streets form the backbone of a City's roadway system. Arterial streets are typically four or six lanes wide with ideal traffic signal spacing no less than one-quarter mile. Arterial streets can include a raised median for access control.

Direct property access is provided, however, driveway guidelines typically define the number and frequency of access points. Collector streets define the transition from higher mobility to higher access. Collector streets typically do not extend beyond city boundaries, and they provide direct property access as well as connect neighborhoods.

Table 3.1 presents a summary of the user characteristics of each roadway type. Table 3.2 presents a summary of the roadway characteristics of each classification.

**Table 3.1: Types of Roadways**

FACILITY TYPE	TRIP LENGTHS	ACCESS	USERS/TRIP TYPE
Freeways	Long trips; regional trips	Access is limited to interchanges	Commuters who work in another city, trucks, through trips
Parkways	Mid-range trips between adjacent communities and across a city	Limited access with raised medians and signalized intersections limited to mile spacing	Commuters who work in an adjacent city, some trucks
Arterials	Mid-range trips – throughout a city and continuing	Signalized and non-signalized intersections and business driveways	Commuters who work within the city, general trips to an adjacent city, delivery trucks, and some local trips
Collectors	Short trips – within and between neighborhoods	Direct property access	Local trips to shopping, elem. School, bicyclists, pedestrians

**Table 3.2: Roadway Characteristics**

FACILITY TYPE	TRAVEL SPEED (off-peak)	DAILY CAPACITY (vehicles per day)	RIGHT OF WAY (feet)
Freeways	50-60 mph	120,000	300-500
Parkways	45-55 mph	70,000	200-300
Arterials	40-50 mph	54,000	110-130
Collectors	30-40 mph	30,000	60-110

In addition to the street classification defined above, Maricopa County has developed a designation called Roads of Regional Significance (RRS). RRS are an overlay on existing city streets and are identified to enhance regional mobility. RRS guidelines suggest that the roads should be six-lane streets with a raised median as well as restrictions on access points. However, the design guidelines for the RRS may not be feasible in all areas. In developed areas, the right of way

and access control requirements could be very disruptive or extremely expensive. Within the City of Mesa, the designated RRS include Country Club Drive, Gilbert Road, Higley Road, Power Road south of US 60, and University Drive. In the future, additional road segments may be recommended to the County for the RRS designation.

The functional classification for the City of Mesa planned street system is shown in Figure 3-1. The map shows freeway, parkway, arterial streets, and collector streets.

As can be seen, the map depicts a street system that completes the arterial street grid as well as the freeway system throughout the municipal planning area. The map shows development of the mile streets in the southeast area based upon the redevelopment of the GM Desert Proving Ground. Also included is a new parkway, which will extend from Loop 202 near Hawes Road easterly into Pinal County between Williams Field Road and Ray Road. In addition, the existing Higley Road is designated to be converted into a parkway. This conversion would not occur until Higley Road is extended north across the Salt River and connects with State Route 87. The parkway concept would provide for grade-separated intersections at selected major cross streets and would continue to have signalized intersections at the remaining major arterial streets.

This functional classification map forms the framework for the City's street system. The details of the arterial street system, such as the number of through lanes and cross section width will be specified in the Transportation Plan.

### 3.3.2 Public Transportation

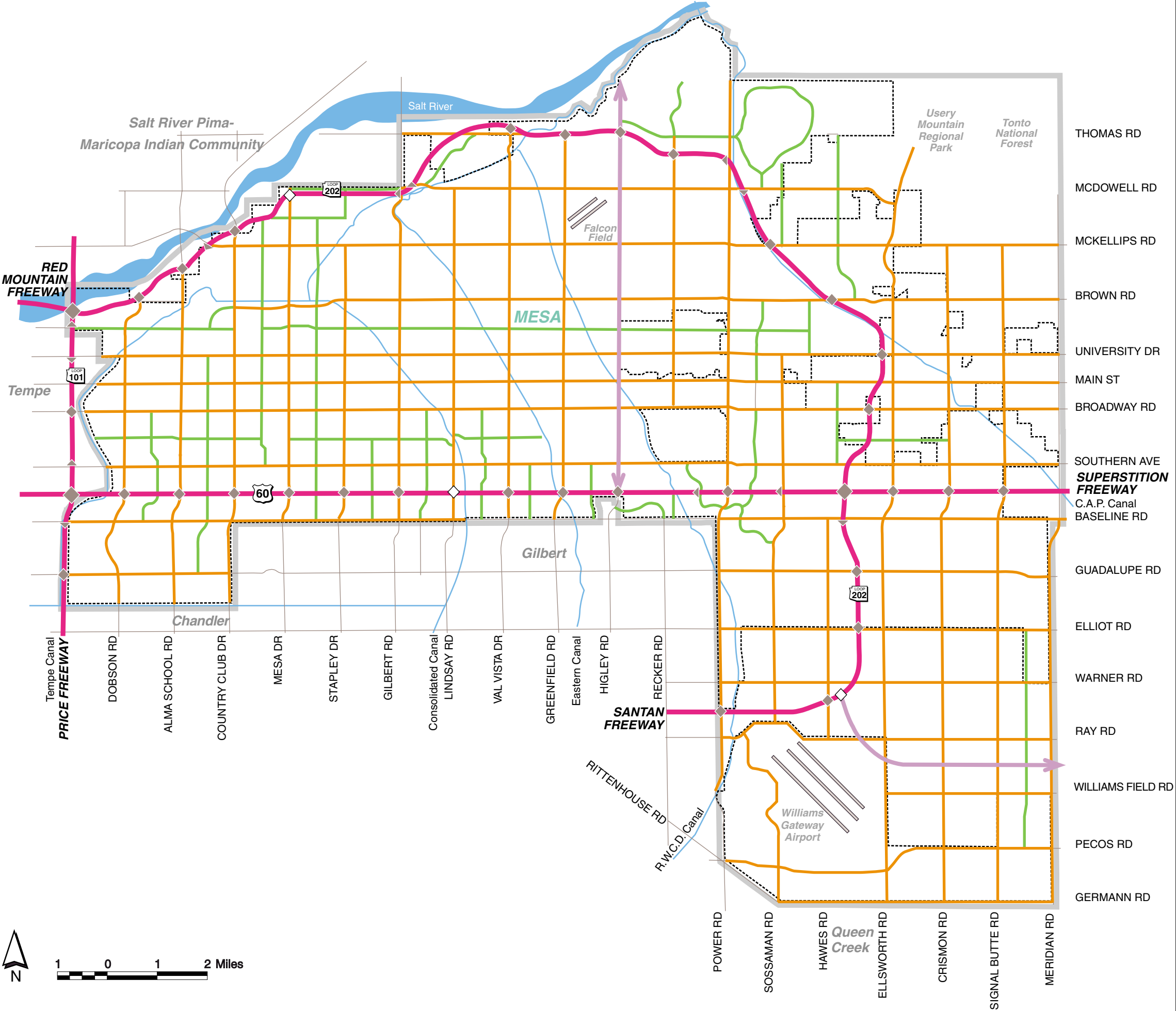
Future transit will focus on the addition of service along the arterials of the mile grid, with express service to areas of higher population and employment densities. Transit will also focus on serving mixed-use activity centers, providing frequent connections to employment sites. The type of transit technologies that could provide these services range from small vehicles to large buses and rail. The neighborhood and regional focused services will work together in order to deliver passengers safely and efficiently from their point of origin to their destination.

*Neighborhood circulators* will focus on serving a common geographic area. The vehicles are smaller and enable passengers to connect to a wider transit network from their residential neighborhoods or downtown areas. The circulators will offer all-day service with 15 to 30 minute frequencies. Examples include the downtown Phoenix and downtown Tempe circulators, DASH and FLASH, which operate with 10-minute frequencies.

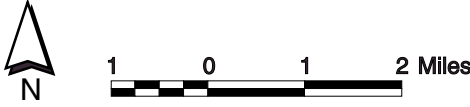
# GENERAL PLAN

## Functional Classification

Figure 3-1



- Freeway
- Parkway
- Arterial
- Major Collector
- Interchange
- Future Interchange
- Major Arterial Roadway
- Canals and Waterways



*Fixed route service* is the most common form of transit service in the City of Mesa and is characterized by buses operating along the major arterial grid network of streets. The vehicles make frequent stops and may require passengers to transfer in order to reach their destinations. The plan in Mesa is to provide all-day service with 15 to 30 minute frequencies on all major arterials.

*Express buses* operate as commuter service during the peak travel period for people traveling from Mesa to downtown Phoenix. The routes typically serve park-and-ride lots and may parallel local service but with fewer stops. Express bus service in Mesa will be expanded to operate with 15-minute frequencies over a longer peak travel period (5AM – 9AM and 3PM - 7PM). New express bus routes will be introduced as permanent, regional park-and-ride facilities are constructed.

*Paratransit services* are available in Mesa through the East Valley Dial-a-Ride, which is a partnership among the City of Mesa, City of Chandler, City of Tempe, City of Scottsdale, Town of Gilbert, and the RPTA. Extended service hours are provided for individuals who qualify under the Americans with Disabilities Act (ADA). Paratransit service will need to expand as new fixed route service is added. ADA requires that complimentary paratransit service be provided to origins and destinations within corridors that have fixed route service.

*Bus rapid transit (BRT)* uses dedicated or shared guideway to provide fast, frequent, convenient rapid transit service for longer distance, medium to heavy travel demand corridors. The key to BRT's success is the priority given to BRT vehicles as they run in designated bus lanes that are assigned traffic signal priority. The US 60 in Mesa is an example of a travel corridor that has the potential for BRT.

*Light rail transit (LRT)* is electrically powered, high capacity transit service operating on fixed guideway at street level. It is a two-track, all day operation running at frequencies of 5 to 20 minutes, with priority over autos at intersections and stations located about every mile. A 20.3-mile starter segment of the new Central Phoenix/East Valley Light Rail Transit Project will begin operating in late 2006. The starter segment will run from the Chris-Town area to downtown Phoenix, through downtown Tempe, and into Mesa where it will terminate at the East Valley Institute of Technology. Future extensions are planned to Mesa Drive and possibly to points east in Mesa or south in Chandler.

*Commuter rail* is a regional passenger rail service operating during peak hours between a central city, its suburbs and/or another central city in heavy demand travel corridors. It is traditionally powered by a diesel-powered locomotive, and typically shares railroad mainline tracks with freight operations. It can also be competitive or faster than automobile travel with frequent bus connections and appropriate speed limits in urbanized areas. Examples of a shared right of way include the Virginia Railway Express; other examples include San Diego's Coaster and Dallas's Trinity Railway Express. Commuter rail service makes stops less

frequently, but is designed to interface with other transit options at station areas. A possible commuter rail line along the Union Pacific Railroad right-of-way from Williams Gateway Airport to downtown Phoenix is under study.

The City of Mesa will incrementally introduce new and expanded transit service based on population and employment densities, roadway congestion, and demand for service. A major effort will be made to provide transit service to connect the urban centers of the community with each other and with the remainder of the metropolitan area. Mesa residents have demonstrated support for increasing public transportation.

Transit options requiring higher levels of investment also require further evaluation. Determining future transit corridors includes re-examining existing transit routes to offer a heightened level of service along the same corridors, as well as monitoring new growth areas. Planning for future transit service includes anticipating transit demand as new activity centers and residential neighborhoods are planned and developed. The process to obtain public input on new routes, stations, and multi-modal access is defined in the Transportation Plan.

As the public transportation system expands, the residents of Mesa need to be informed about alternate modes of travel. The City will need to establish a program for education, sales, and marketing of travel choices available to the residents.

### 3.3.3 Bicycle

Bicycle travel generally falls into two categories: recreational travel and commuter travel. The needs of each type of bicycle rider and the destinations are different. Commuter bicyclists generally prefer to travel on arterial streets and their trip is from home to work. The recreational bike rider usually prefers to travel on bike paths, or bike lanes on collector streets and their trip is to commercial areas, parks, libraries, etc. A system of bicycle facilities is needed to serve all types of users.

Bicycle facilities are described in three general categories: bike lanes, bike routes, and bike paths. A bike lane is a designated portion of the roadway width that is marked for bicycle use. Bike routes are signed facilities that establish continuous routing for bicycle traffic. The third category, bike path, is an exclusive bike facility in its own corridor separated from vehicular traffic.

The existing bicycle facilities will be extended to provide linkages throughout the City to bicycle destinations. In addition, to provide for longer trips, intermodal linkages will be made to allow for transfers between modes. Nodes can be created at destinations and at the intersections of routes to provide meeting places, directions, rest areas, and parking sites or lockers. Signage has an important role in the bike plan for directing bicyclists as well as alerting the motoring public to the presence of bicyclists. Arterial street crossings will occur at

signalized intersections, at marked mid-block unsignalized locations, and in some locations, at grade-separated crossings.

In some locations, it may be appropriate for a bike path to be developed as part of a shared use path. Shared use paths are typically located along open space corridors such as canal banks and utility corridors. In addition, abandoned or converted railroad corridors are being converted to multi-use paths nationwide. Shared use paths are usually shared by all types of non-motorized forms of transportation including cyclists, equestrians, joggers, baby carriages, etc. Shared use paths are a minimum of 10 feet in width, but where use is heavy, more width is needed to accommodate the mix of users safely. Not all shared use paths need to be paved.

A detailed plan for the provision of bicycle facilities in Mesa is provided in the Bike Plan in the Transportation Master Plan.

### 3.3.4 Pedestrian and Trails

Every trip has a pedestrian component. For this reason, pedestrian facilities are needed to supplement the roadway, transit, and bicycle components of the plan. Sidewalks are provided along many of the streets in the City. Additional sidewalks, trails, and paths are planned to provide continual linkages to and through developments.

Pedestrian facilities should be designed to address non-motorized mobility needs and be located so that pedestrian travel takes precedence over vehicles. The facilities are needed to support the dynamics of the local neighborhood and as such need to consider neighborhoods as unique areas with individual needs. Attention will be given to existing land uses such as schools, parks, and local shopping sites. In addition, consideration will be given to connections to other modes including transit stops and park and ride lots. Pedestrian-oriented development guidelines can provide guidelines for pedestrian circulation within new developments and as well as for redevelopment within the City.

A detailed plan to address pedestrian facilities is provided in Transportation Master Plan.

### 3.3.5 Other Transportation Guidelines

#### Airports

Mesa has two airports: Falcon Field on the northern edge of the City and Williams Gateway in the southeastern quadrant. Master Plans have been prepared by each airport and are regularly updated. The Transportation Plan addresses landside access for airport users and on-site employers. Landside access includes

the arterial street system that provides access for automobiles, trucks, and public transportation. In addition, both airports will have access to Loop 202.

### **Parking**

On-site parking requirements are set forth in the City's zoning ordinance. The requirements should be reviewed on a regular basis to provide for an equitable and adequate, but not excessive, parking supply.

### **TDM**

Transportation demand management (TDM) strategies are actions that provide travel options and reduce reliance on single occupant vehicles. Strategies could include carpooling, trip reduction ordinances, parking pricing, telecommuting and congestion pricing such as HOT lanes. For an effective program, the City will have to encourage a combination of strategies to reduce the number of single occupant vehicles.

### **Developments and Building Setbacks**

Review zoning ordinances to address building setbacks and orientation. In addition, establish the need to incorporate transit-oriented and pedestrian-oriented design guidelines.

### **Street Naming and Numbering**

Street names are assigned and should continue to be assigned in accordance with MAG Policy. Street address numbering should continue with the current pattern of assigning odd-numbered addresses on the south and east sides and even-numbered addresses on the north and west sides.