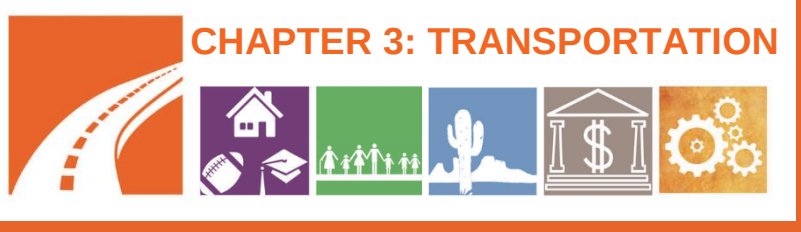

CHAPTER 3: TRANSPORTATION

Transportation and land use are inevitably connected and have a circular relationship; transportation access impacts development patterns, with more intense growth around major roadway or transit facilities while development generates and impact travel demand. Transportation systems are the backbone of any city - without the ability to move people and goods from place to place, it cannot function. Surprise must consider the character and intensity of adjacent land uses, condition of existing roadways and off-street systems, system wide connectivity, accommodation of different travel modes, and access management when planning for the improvement of our streets.

Transportation plans must support and be complimentary to land use plans when prescribing a balance between future development and prioritizing investment choices of the infrastructure needs. The three elements contained in this chapter; Roadway Systems, Transit and Alternative Modes together provide the framework and policy aspirations for Surprise.
Efficient and effective transportation infrastructures often define the appeal, livability and marketability of that city.

Transportation infrastructure can greatly influence a person's decision to buy a home or for employers locating business opportunities that create jobs. Roadways, transit, and accessible trails to nearby open spaces have a significant and important impact on land value, location of development, and the look and feel of the city. It can expand or limit economic opportunity and affect the cost of public services and the City's ability to provide them efficiently. It even influences public health by encouraging people to move about the city or discouraging them due to safety concerns, congestion or lack of adequate connections within or outside the city.

Surprise has grown to Arizona's 10th most populated city with a planning area that is three times its current municipal limits. The automobile is, and will likely continue to be, the primary mode of transportation in Surprise. However, there is increasing desire by residents, business leaders, and elected officials to continue to emphasizing the importance on alternatives modes of travel such as public transit, bicycling, walking, and neighborhood electric vehicles. Surprise leaders recognize that a strong emphasis on all modes of transportation is needed for Surprise to build a world class community and keep pace with anticipated growth.

Key Transportation Issues in Surprise

Multi-modal transportation is a high priority for the City of Surprise. Specific transportation issues in the City were identified using multiple sources, including surveys, public input received at community meetings and local and regional planning documents. A brief synopsis of each issue is found below.

- Inadequate regional connections – There is limited access to/from Surprise from the rest of the region, including east/west connections, especially crossing the Agua Fria River. Many daily commuters and residents traveling to regional shopping areas frequently are heading in an east-west trip movement to and from Surprise.

- Incomplete internal circulation facilities – Missing links in the roadway network need to be completed. In addition, numerous facilities have not been built to their ultimate size to complete the system and provide adequate capacity for future travel demand. This negatively impedes the flow of traffic and compromises the safety and efficiency of travel for all modes of transportation.

- Congestion on local and regional roadways – Several locations currently experience congestion (e.g., Bell Road, Grand Avenue and 163rd Avenue). This problem will get worse as development occurs and additional demand is placed on the transportation system. Overall traffic conditions in Surprise are not severe now, but it is important to recognize that conditions will deteriorate in the future with continuing growth in the region if improvements are not made.

- Inadequate public transportation services – This includes inadequate local transit service within Surprise, as well as regional transit service linking Surprise with other communities in the West Valley and beyond.

- Limited facilities for bicycles and pedestrians – There are very few facilities for bicycles in the City of Surprise, and there are gaps and missing links in the pedestrian facilities throughout the City.

- Maintenance of the transportation network – The City has limited resources to maintain an aging transportation system. Delays in routine maintenance can result in additional long term costs to repair facilities that have deteriorated.

- Transportation funding – As challenging as it is to keep pace with the needs and growth of the transportation system, Surprise has fared remarkably well in achieving collaborative partnerships with other government agencies in the construction and/or planning of various transportation solutions and needs.

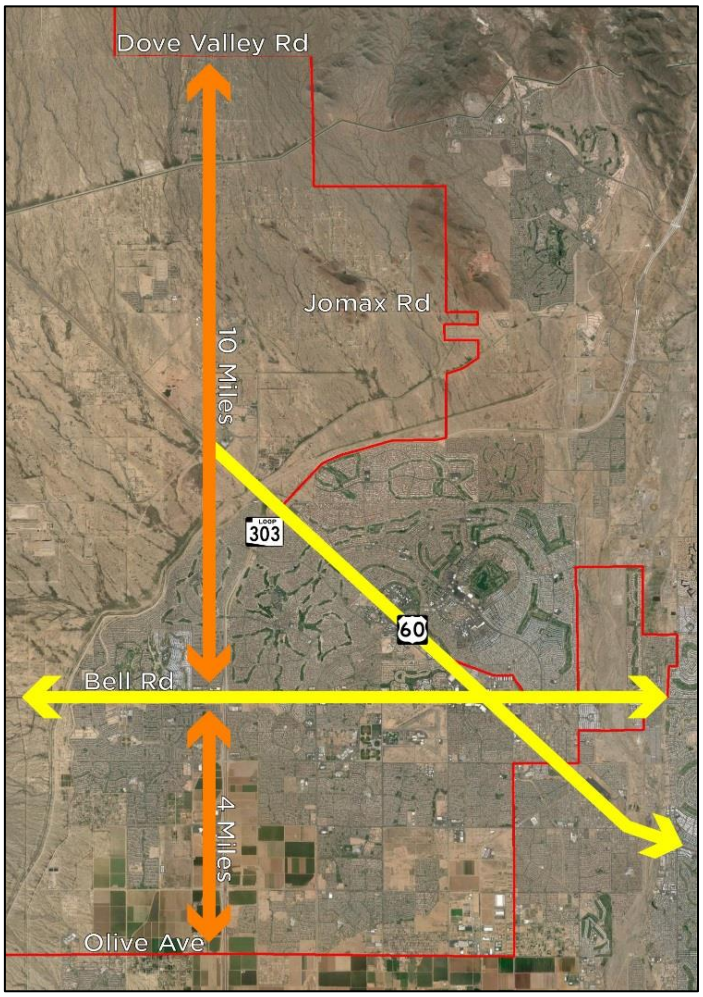
Key Transportation Issues in Surprise

Multi-modal transportation is a high priority for the City of Surprise. Specific transportation issues in the City were identified using multiple sources including surveys, public input received at community meetings and local and regional planning documents. A brief synopsis of each issue is found below.

1) Limited Regional Connections

Today Surprise has a limited number of high capacity arterial roadways connecting the city to the Phoenix metropolitan area. This challenge is particularly acute with limited east-west arterial roadways as Bell Road and Grand Avenue are currently the only two arterial roadway crossings of the Agua Fria River along a 14-mile stretch of the eastern Surprise planning area boundary. Many daily commuters and residents traveling to regional shopping areas frequently are heading in an east-west trip movement to and from Surprise. Additional information on this travel characteristic is provided in the Roadway Systems Element.

To enhance regional connection and accessibility, particularly to the east, additional bridge crossings of the Agua Fria River are planned for Happy Valley Road, Jomax Road, Deer Valley Road, Dove Valley Parkway, and Olive Avenue. Maricopa County Department of Transportation (MCDOT) is currently considering connecting Deer Valley Road in Peoria to Williams Road in Sun City West. This connection over the Agua Fria River is 3.5 miles north of Bell Road and is projected to divert approximately 5,000 trips per day off of Bell Road, thus significantly improve traffic flow on Bell Road.



2) Incomplete Internal Circulation Facilities

Surprise, like many fast growing cities, is continually challenged by "gaps" in the roadway system that are a byproduct of a growth pattern that is not always systematic or continuous in nature. That is to say, existing two-lane roadways are widened to 4-lane or 6-lane roadways adjacent to land parcels, but then tapers back to a two lane roadway past the development. This negatively impedes the flow of traffic and compromises the safety and efficiency of travel for all modes of transportation.

Incomplete internal circulation facilities also represent those areas that lack neighborhood to

neighborhood local or collector roadway street connections, common throughout most of Maricopa County.

Lack of roadway connection between two residential communities

Surprise has been proactive in already having conducted a "Gap Analysis" study that has identified and prioritized deficient and/or incomplete roadways and other infrastructure in the City. The City should also continue to partner with the development community to advance the construction of arterial frontage roadways along strategically deficient roadway facilities such as 163rd Avenue and Greenway Road. The city will continue to seek out federal and other supplemental funding sources for the advancement of infrastructure projects that are physical impediments to the mobility and safety of the surrounding land use character.

3) Roadway Congestion

Congestion is an inherent part of any city, the challenges of which date back to the ancient Romans where narrow streets and the overabundance of people and freight moving about actually deteriorated to the point that Julius Caesar banned traffic during daytime hours. In a more modern sense, the challenge for Surprise is to balance roadway capacity with the density and intensity of the adjacent land uses they serve. In Surprise and other cities, poor street connectivity and lack of alternative routes leads to further congestion and possible risks in emergency response situations.

The previously noted lack of east-west arterial roadways in Surprise creates well-documented congestion challenges on Bell Road. Congestion for a 6-mile strategic segment of Bell Road between Loop 303 and 115th Avenue is already performing below the city's desired level of service. This segment of Bell Rd. currently carries 45,000 to 61,000 vehicle trips per day

The number of vehicle trips on Bell Road is approximately four times as many vehicle trips than what the Loop 303 currently experiences. Bell Road's intersection with Grand Avenue and numerous driveway access locations reduces the overall performance of Bell Road. The planned design and construction of a grade separated crossing of Grand Avenue will help alleviate the congestion and overall performance of Bell Road. This intersection also happens to be where the Surprise Town Center and a plethora of other commercial retail locations exist along Bell Road

The intersection of 163rd Avenue and Bell Road serves as a single point of access to the Asante, Desert Oasis, Rancho Mercado and other planned communities in the area. With approximately 9,000 vehicle trips per day, egress turning movements onto Grand Avenue from 163rd Avenue are not already operating a safe and desired level of service.

Overall traffic conditions in Surprise are not severe now, but it is important to recognize that conditions will deteriorate in the future with continuing growth in the region if improvements are not made. Expansion of public transit options also helps in the reduction of congestion. Emphasis should be maintained on evaluating capacity improvements and balancing access control measures for minor arterial roadways. Capacity expansion and access management controls should also be designed and constructed along 163rd Avenue where planned communities such as Asante, Desert Oasis and Rancho Mercado are anticipated to experience moderate to rapid growth in the next two decades.

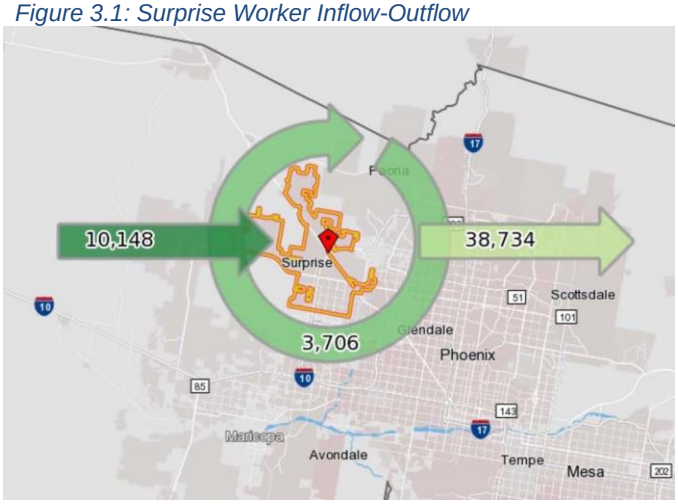
The City will continue regional collaboration with MAG and adjacent communities in the

investment and development of Intelligent Transportation Systems (ITS). It is necessary for the continued and improved coordination and signalization performance to enhance efficiency and level of service and capacity of existing high capacity roadways in Surprise.

4) Inadequate Public Transportation Services

In 2011 Surprise had a workforce of 42,440 people, of which 38,734 of the residents commuted outside of Surprise to work. Of these daily commuters, nearly 46 percent of the workforce commutes to Phoenix and nearly 9 percent work in Surprise. Other key cities that Surprise residents out commute to include Glendale (7.4%), Scottsdale (5.5%) and Tempe (5.5%). At the same time, Surprise imports 73.2 percent of its workforce (10,148) from other cities to fill the demand by area employers. Please see Figure 3.1 for reference.

Figure 3.1: Surprise Worker Inflow-Outflow



Source: U.S. Census Bureau, OnTheMap Application and LEHD Origin-Destination. Employment Statistics

There are currently not sufficient public transit services to adequately meet the daily commute demand in Surprise. Surprise is stakeholder with MAG and Valley Metro in the preparation of an ongoing transit circulation study currently under way. Upon conclusion of that study expected in the Fall of 2015, the City of Surprise will utilize the recommendations of the study to update to the Transit Element in the fall of 2016.

5) Limited Facilities for Bicycles and Pedestrians

There are very few facilities for bicycles in the City of Surprise, and there are gaps and missing links in the pedestrian facilities throughout the City.

6) Maintenance of the Transportation Network

The City has limited resources to maintain an aging transportation system. Delays in routine maintenance can result in additional long term costs to repair facilities that have deteriorated.

The public works department maintains a thorough inventory of existing facilities owned and maintained by the city. One key piece of regional infrastructure is the Bell Road bridge over the Agua Fria River. The Agua Fria bridge on Bell Road is critical to east-west mobility in and out of Surprise. This bridge was constructed in the mid 1960's and is accommodating 40,000 to 60,000 vehicle trips a day. A recent fire under the bridge again serves as an important reminder of this bridge's significant role is safely accommodating the daily vehicles and transport of commerce to and from Surprise and the need to not only evaluate and maintain, but enhance its structural integrity on a frequent basis.

7) Transportation Funding

Funding restrictions that often limit the ability to meet the local transportation system needs are usually more pronounced in fast growing cities like Surprise. There are typically insufficient funds to build new facilities needed to serve existing and projected development, and to maintain and operate the existing transportation system. The City's FY 2016 Capital

Improvement Program (CIP) included a total of $3.8 million for transportation related improvements.

As challenging as it is to keep pace with the needs and growth of the transportation system, Surprise has fared remarkably well in achieving collaborative partnerships with other government agencies in the construction and/or planning of various transportation solutions and needs. Surprise has partnered with ADOT and MAG (using Proposition 400 monies) for the design and construction of a very important grade separated crossing of Bell Road over US 60/Grand Avenue. This facility will greatly reduce the congestion and increase the overall level of service and performance of Bell Road at this strategically significant location in Surprise. Another example of the City's resourcefulness in maximizing their transportation dollar is the pavement preservation program. In the FY 2016 CIP budget, Surprise has allotted $874,000, but with the contribution of Transportation Improvement Fund dollars, a total of $3 million is available for pavement preservation projects in Surprise. Surprise was also the recipient of a grant from MAG to conduct a Safe Routes to Schools study designed to recommend system improvements to enhance the pedestrian and bicycle access and safety of children attending these schools.

Chapter 3: Transportation

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Alternate Modes Element 158
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EXECUTIVE SUMMARY

This chapter contains three state mandated elements: Roadway Systems, Transit, and Alternate Modes. This chapter contains goals and policies to promote multiple and efficient ways for the movement of residents and visitors.

The Roadway Systems element discusses how to achieve a sufficient roadway network for the future that will support multiple modes of transportation, including travel by private automobile, public transit, walking, bicycling and neighborhood electric vehicles.

The Transit element includes goals to reduce dependence on the private automobile in order to achieve multiple and interrelated goals including: increasing mobility options, preserving and enhancing neighborhood character, improving air quality, and fostering compact development and a more walkable city.

The Alternate Modes element addresses various transportation alternatives that are applicable to Surprise. Pedestrians, bicyclists, motorists, and transit riders of all ages and abilities must be able to safely move along and across streets. An incomplete system fails to serve the pedestrians, cyclists, transit, individuals with disabilities, and both the youngest and oldest members of our communities.

Roadway Systems Element

INTRODUCTION

The purpose of the Roadway Systems Element is to plan a sufficient roadway network for the future that will support multiple modes of transportation, including travel by private automobile, public transit, walking, bicycling and neighborhood electric vehicles. This system includes all levels of roadway from freeways to local streets.

DISCUSSION

Surprise's Roadway Accessibility & Mobility in the Regional Context

Located approximately 45 minutes from downtown Phoenix, US-60/Grand Avenue and the Loop-303 freeway serve as the largest high capacity roadways that connect the city of Surprise to the Maricopa County region. Surprises location at the northwestern edge of the Phoenix metropolitan area and prominence of the US-60/Grand Avenue corridor make it a gateway for travelers coming to and from Las Vegas and Wickenburg and is an Interim Segment of the CANAMEX Trade Route under the North American Free Trade Agreement (NAFTA).

The existing roadway network within the developed areas of Surprise primarily consists of the one-mile arterial roadway grid system typical of the Phoenix metropolitan area. With the exception of a few isolated roadways with topographical constraints or other physical obstructions, future planned roadways in Surprise will also follow the one-mile arterial roadway grid pattern.

There are currently five Roads of Regional Significance identified by Maricopa County DOT within or immediately adjacent to the Surprise Municipal Planning Area. These roadways include; Loop 303, US-60/Grand Avenue, Bell Road, Dysart Road, and Olive Avenue.

Roadways of Regional Significance are established at McDOT so as to prioritize their importance and linkage to the regional arterial network. These roadways then are also receive higher recognition and priority when evaluation of regional improvements by MAG and McDOT.

A 2010 US 60 Access Management Plan Study conducted by MAG recommends an Arizona Parkway section for the entire corridor length along with access management guidelines. The widened median north of Jomax Road accommodates the future White Tanks Freeway. The ultimate facility will comprise one trumpet interchange, four diverging diamond interchanges (DDI), two single point urban interchanges (SPUI) and 13 indirect left turn intersections. Currently, MAG is in the process of completing the US-60/Grand Avenue Corridor Optimization and Access Management Plan and System Study (COMPASS), which is evaluating an overall vision for the corridor. It will establish an access management system and improve traffic operations by reducing rail conflicts along the corridor.

The Loop 303's connection between I-10 and I-17 provides an invaluable transportation corridor that will not only enhance the mobility of people and goods to and from Surprise and the region, but also support employment growth and economic development opportunities in Surprise. Regional services such as automobile dealerships have already been constructed at the Loop 303 and Waddell Road and a future mixture of high intensity commercial uses are planned in the Prasada planned community along Loop 303.

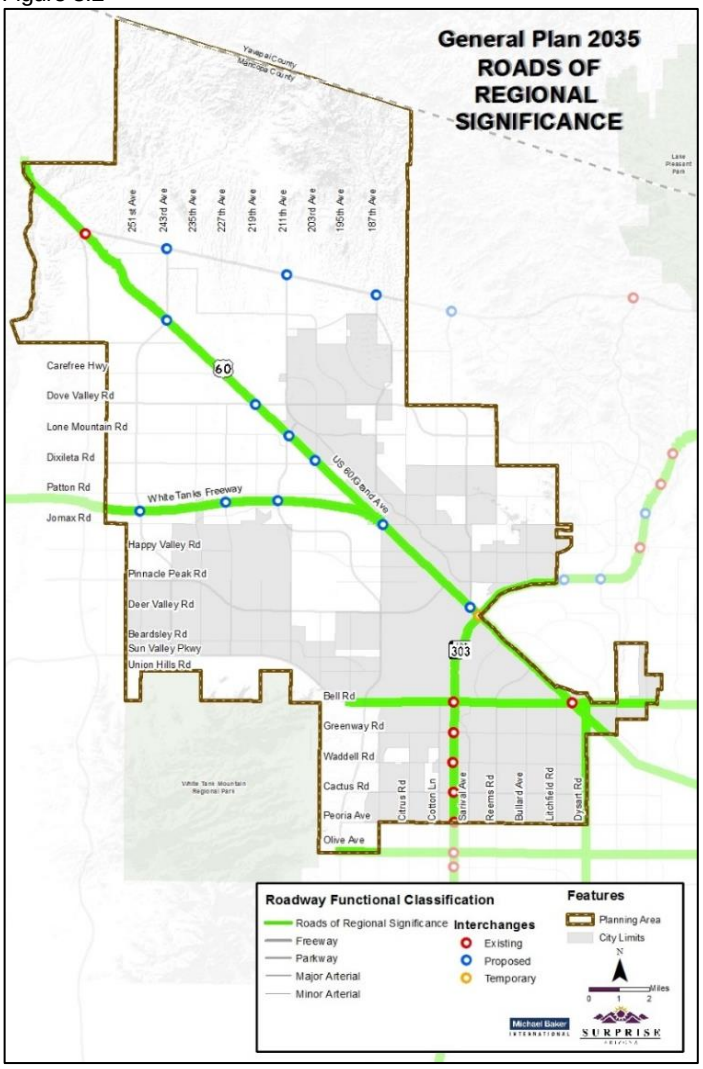
While US-60 and Loop 303 are important

facilities to promote regional connectivity, east to west mobility is challenged with the existing roadway infrastructure in Surprise. Bell Road is also a primary community gateway. It is heavily traveled by Surprise residents and Sun City residents that travel east to regional employment and commercial retail centers in Peoria and Glendale. With the exception of Grand Avenue (running diagonally from southeast to northwest), Bell Road current serves as the sole east-west high capacity roadway with the only bridge crossing of the Agua Fria River. The only other bridge crossings of the Agua Fria River are Grand Avenue and the Loop 303, neither facilitating a direct east-west connection along the traditional grid pattern.

The lack of vehicular roadway connections to the east is a constraint that can limit employment growth in Surprise and increases the congestion of Bell Road within Surprise and adjacent communities. A large percentage of residents who commute to jobs east of the city put stress on the performance and capacity of Bell Road and Grand Avenue, particularly during the morning and afternoon peak periods. As jobs are created in Surprise, the reduction in commute patterns will also reduce stress onto the overall performance of the arterial and collector network in Surprise.

With respect to planned long term accessibility and mobility in the region, the White Tanks Freeway has been identified by MAG, in the 2007 Interstate 10/Hassayampa Valley Transportation Framework Study (Figure 3.3), to serve the future growth and development of the region. The White Tanks Freeway is a planned long term freeway, yet to commit or identify a permanent funding source, will provide east to west regional connectivity from the planned Hassaympa Freeway (possible I-11 corridor) in Buckeye to existing Loop 303 freeway in Surprise. As Figure 3.3 illustrates, within the Surprise planning area, the proposed freeway corridor runs approximately north of the current Jomax Road alignment, until its intersection with Loop 303 freeway.

Figure 3.2



Influence of Previous and Ongoing Studies

There are a number of important local and regional transportation planning studies that have influenced the planning and design of existing and planned roadways in Surprise over the last several years. Some refinements to Roadway Circulation Framework map were made in conjunction with the planning process, but the foundation of the Roadway Circulation Plan was made based influences and recommendations identified in the studies identified below. Additional transportation studies associated with transit, commuter rail and bike and pedestrians are identified and discussed in the Transit and Alternative Modes Elements.

Influence of Previous and Ongoing Studies

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Table 3.6: Previous and Ongoing Studies

Study (Year), Author	Purpose	Findings/Key Points
US-60/Grand Ave. Access Management Plan: SR -303L/Estrella Freeway to SR-74 (2010)	The study provides a clear vision for the corridor development to guide the actions of the various agencies in the corridor. The study recommends an Arizona Parkway section for the entire corridor length along with access management guidelines. The ultimate facility will comprise one trumpet interchange, four diverging diamond interchanges (DDI), two single point urban interchanges (SPUI) and 13 indirect left turn intersections.	• US-60/Grand Avenue will connect with several key high-capacity, region serving facilities. • Access to US-60/Grand Avenue must reflect the facility's role in regional and state travel, which demands traffic operational concepts that maintain safety and capacity as growth progresses. • US-60/Grand Avenue, in combination with US-93 north of Wickenburg, is an Interim Segment of the CANAMEXT Trade Route under the North American Free Trade Agreement (NAFTA). • Future BNSF operations potentially will impact traffic operations and truck traffic levels in the Study Corridor. • The presence of the parallel BNSF corridor will affect options for a future regional arterial grid system.
North Peoria Traffic Study (2014)	The study identifies multimodal transportation needs for an area approximately bounded by the Agua Fria River, 67th Avenue, Union Hills Drive and the West Wing Parkway.	• There are 19 roadway improvements ranging in cost from $1.6 million to $22.8 million. • There are 15 intersection improvements ranging from operations only to $1.2 million in costs. • There are seven transit improvements ranging in annual cost from $189,000 to $275,000 plus one Park-and-ride lot estimated at $6 million. • There are 10 non-motorized improvements ranging in cost from $50,000 to $1.5 million.

Peoria Multi-modal Transportation Study (2011) Nelson/Nygaard	The study addresses smarter growth with short-term and mid to long-term improvements for local transit service, high capacity transit, an Old Town Transit Center and bus stop improvements.	• It is more important to extend Valley Metro services into Peoria than to develop purely local circulator services. • It is important to provide full rather than limited service. • Peoria Dial-A-Ride service needs to be maintained. • Bus stop facilities should be improved. • An Old Town Transit Center should be developed at the 83rd/Peoria/Grand intersection. • Projected population and employment levels and densities for the foreseeable future will not support High Capacity Transit.
Access Management Plan, Draft (2014) Surprise	The purpose is to maintain the capacity or roadways while promoting safety and bicycle and pedestrian access by reducing the number of conflict points along the roadway facility.	• The plan defines roadway functional classification for urban and rural roads. • The plan defines access management strategies for driveways and intersections, number of access points, auxiliary lanes and internal site circulation. • The plan defines bicycle and pedestrian access and mobility and shared use paths for bicycle and pedestrian access.
Maricopa County Department of Transportation (MCDOT) Planning Studies • 163rd Avenue Corridor Improvement Study • El Mirage Road Corridor Improvement Study • Jackrabbit Trail Parkway Corridor Improvement Study • Jomax Road East Corridor Improvement Study	MCDOT conducted corridor studies for numerous current and future roadways within and adjacent to the Surprise Metropolitan Planning Area. Many of the studies were derived from the Interstate 10-Hassayampa Valley Roadway Framework Study.	• Many of the studies recommend a preferred or feasible roadway alignment for potential Arizona Parkway facilities. • The Arizona Parkway is a six to eight-lane roadway with a wide median in a 200-foot right-of-way that employs indirect left turn intersections and median u-turn features. • Most experts agree that the Arizona Parkway achieves greater vehicular capacities at reasonable travel speeds in a safer manner when compared to the conventional principle arterial roadway.

• Patton-Jomax Corridor Improvement Study • Sun Valley Parkway Co Improvement Stud • Turner Parkway Corridor Feasibility Study • State Route 74 Access Management Study • Deer Valley Parkway Feasibility Study • Dove Valley Parkway Feasibility Study		
MAG Regional Transit Framework (2010)	The framework provides an understanding of the region's transit needs and deficiencies with the goal of identifying high-leverage transit investments that can attract a significant number of new passengers while improving existing transit service.	• Scenario II assumes the existing transit revenues sources and services continue through 2030. • Scenario II expands funding to $11.05 billion that is consistent with peer regions in 2006. This addresses many service deficiencies. • Scenario III expands funding to $21.46 billion that is a leader among peers and is four times the existing level. Among other service enhancements, it develops a more comprehensive network of higher speed transit.
Interstate 10 – Hassayampa Valley Roadway Framework Study (2007) Figure 3.3	The study develops a multi-modal transportation network for the build-out population and employment in the study area bounded by Loop 303, 459th Ave, the Gila River and SR 74. The 3,000,000 person population is derived from the more than 100 entitled master-planned communities.	The project established a transportation framework that: • Identifies a network of freeways, parkways and arterials • Recommends a new arterial facility entitled the "Arizona Parkway" for providing a higher capacity and safer roadway • Includes recommendations for transit connections • Provides a transportation planning framework for making land use decisions

2035 Regional Transportation Plan (2014) MAG	This is the fourth update of the 2003 RTP. The RTP is the basis for programming of regional transportation funds for regional transportation services in the freeway life cycle program (FLCP), the arterial life cycle program (ALCP) and the transit life cycle program (TLCP).	• Freeway/Highway projects include Loop 303 and an interchange at Bell Road and Grand Avenue and an interchange at El Mirage Rd and Loop 303. • Arterial street projects include R.O.W. preservation for Jomax Rd and El Mirage Rd improvements between Grand Ave and Bell Road. • Transit projects local bus, regional super grid bus and regional Express/LINK bus service on select routes in Surprise. • Improvements are funded by a combination of federal, regional transportation sales tax and local revenue sources.
US-60/Grand Avenue Corridor Optimization and Access Management Plan, and System Study (COMPASS) (in process)	The project goals are to: • Create an overall vision for the corridor • Enhance economic development, maintain accessibility, improve traffic operations and reduce highway and rail conflicts. • Establish an access management system • Develop guidelines for signage, landscaping and aesthetic treatments	• The study evaluates Grand Avenue from Loop 303 and Interstate 10, is in process. Draft documents are currently unavailable at the time of this writing.

Functional Classification System

Roadways are typically characterized by their operational, access management, and physical characteristics called “functional classifications”. The Roadway Functional Classification Plan shown on page 152 depicts the classification of each roadway type under “build-out” conditions within for Surprise Planning Area. Typical roadway cross sections can be found in the city’s engineering design manual as the cross section details can be modified from time to time.

The following categories are included in the Functional Classification System for the Surprise Roadway Systems Plan:

Table 3.7: Functional Classification System

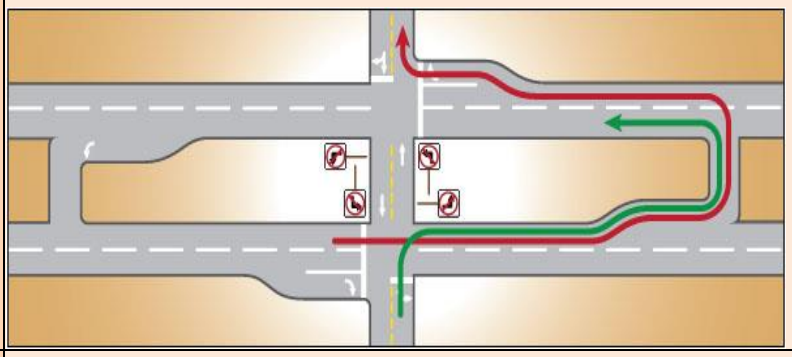
Roadway Type	Description	Through Lanes	Target Operating Speed
Freeway/Highway	Freeways and highways are divided facilities that are designed to carry large volumes of high-speed traffic and serve long, regional trips. Freeways have full access control (highways do not); with entry and exit restricted to grade-separated traffic interchanges. A freeway is typically 4 to 8 through lanes that can accommodate 160,000 to 200,000 vehicles per day. All roadways classified as freeways are portions of the State Highway System and are under the jurisdiction of the Arizona Department of Transportation (ADOT).	***4 or more***	***45-65 mph***
Parkway	Parkways are, by design, an enhanced arterial roadway which utilizes a distinct indirect left-turn intersection configuration. This intersection treatment prohibits left turns at major cross-street intersections and controls intersection traffic movements with two-phased traffic signal control. The improved functionality increases capacity while maintaining local access. As such, Parkways can accommodate up to 85,000 vehicles per day and acceptable level of service. The standards for a Parkway are based on the "Design Guideline Recommendations for the Arizona Parkway" adopted by the Maricopa County Department of Transportation. 	***6 lanes***	***45 mph***
Major Arterial	Major arterials are designed to move high volumes of traffic over substantial distances, but may also provide direct access to adjacent properties. In the Valley, arterial streets are usually located on one-mile section lines and intersections are at-grade	***6 lanes***	***45 mph***
Minor Arterial	Minor arterials are similar to major arterials but with somewhat lower design requirements.	***4 lanes***	***35-45 mph***
Commercial Collector	Collector streets are designed to carry lower traffic volumes for shorter distances while providing direct access to commercial land uses. Commercial Collector streets serve as a land access function by receiving traffic from arterial roadways and distributing it to commercial business driveways and vice versa. Two through lanes with striped bike lane and detached sidewalk is a typical design. Commercial collector roadways may be increased to 4 lane roadways to accommodate high volume land use trip generators.	***2-4 lanes***	***25-35 mph***

Table 3.7: Functional Classification System

Roadway Type	Description	Through Lanes	Target Operating Speed
Residential Collector	Residential Collector roadways are designed to carry lower traffic volumes for shorter distances while providing direct access to residential communities. These roadways typically receive traffic from adjacent arterial roadways and distribute traffic to local streets within a residential community. The Residential Collector is intended to promote all modes of mobility by offering striped bike lanes and large detached sidewalks separated from the roadway with generous landscape designs.	***2 lanes***	***25 – 35 mph***
Local Street	Local streets provide access directly to local property and are not designed to accommodate through traffic. Two lanes is the usual width. Since collector and local roadways are usually developed as part of planned communities to support specific land uses and site plan configurations, these roadways are not shown on the Transportation Map on page 152	***2 lanes***	***25 mph***

The Roadway Functional Classification Plan for Surprise relies upon a series of Parkways to efficiently serve as high capacity corridors. The majority of the proposed parkway locations were originally identified in the Interstate 10/Hassayampa Valley Transportation Framework Study (Figure 3.3). Those parkway location recommendations (with a few subtle alignment adjustments and modifications) are essentially intact and represented in the Roadway Functional Classification Plan. Proposed north-south parkway corridors are163rd Avenue, 187th Avenue, portions of 211th Avenue, Wild Rose Parkway and Turner Parkway (northwest planning area). Sun Valley Parkway, Deer Valley/Pinnacle Peak Parkway, and Dove Valley/Lone Mountain Road are proposed parkways to serve high capacity east-west mobility in Surprise.

The Roadway Functional Classification Plan has fewer 6-lane major arterial roadways than previously identified. The inclusion of parkways into the overall roadway functional classification plan increases vehicle carrying capacities of these corridors thereby reducing the operational and performance stresses on adjacent arterial roadways. Adhering to strong access management policies on major arterial roadways will increase the operational performance of these facilities which in turn will create an opportunity for additional 4-lane minor arterial roadways along added section line roadways.

Figure 3.3: Interstate 10/Hassayampa Valley Transportation Framework Study

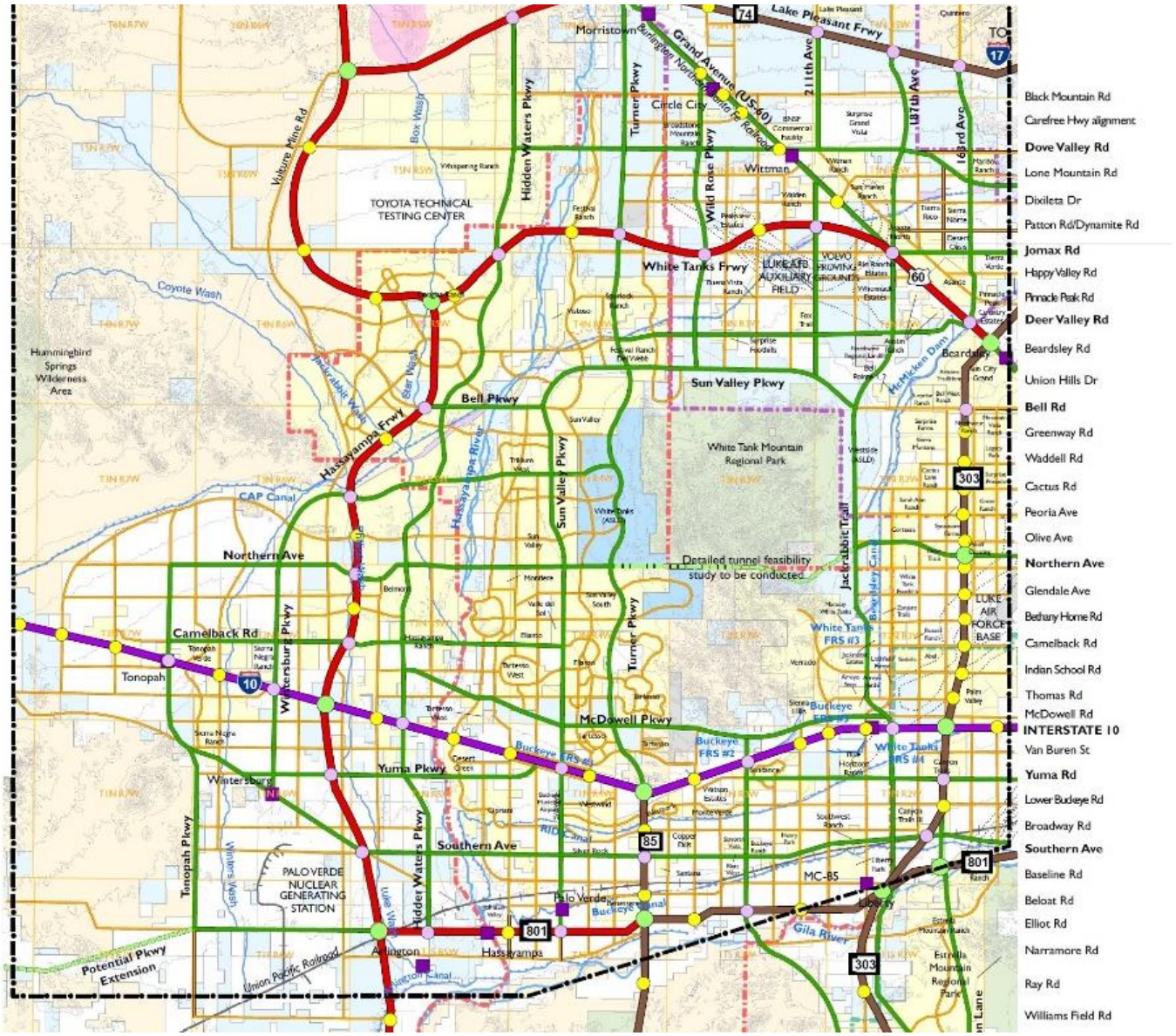


Table 3.3 below shows a breakdown of the total length of existing and planned roadways by type under build out condition in Surprise.

Table 3.3 **Roadway Type**	**Length**	
	Miles	**Percent**
Freeway/Highway	34.7	8.58%
Parkway	82.03	20.29%
Major Arterial	113.84	28.16%
Minor Arterial	173.63	42.96%
TOTAL	**404.2**	**100%**

Scenic Corridors

The Roadway Functional Classification Plan identifies four Scenic Corridors. The Scenic Corridor is a special overlay designation designed to protect and enhance the byway's intrinsic qualities and character that define their scenic corridor. The four Scenic Corridors are; Sun Valley Parkway, Carefree Highway, Castle Hot Springs Road and Olive Avenue. Specific urban design character guidelines are recommended to be developed for each Scenic Corridor, extending ¼ mile from the centerline of each roadway. The Scenic Corridor designation is intended to:

- Preserve the native vegetation and unique visual characteristics of the corridor
- Encourage buildings and other structures to adapt to the terrain in placement and appearance, avoiding excessive cuts and fills.
- Encourage the use of open space buffers separating the roadway from buildings
- Encourage the use of southwestern architectural styles that reflect the character of the Sonoran Desert
- Maintain the natural state of washes at necessary crossings
- Encourage plant species and densities to be consistent with the surrounding landscape character of the specific location
- Encourage the use of muted or low level lighting to help minimize nighttime glare
- Encourage signage design that is context sensitive

Sun Valley Parkway has been functionally designated as a “Parkway.” The roadway also experiences significant recreational bicycle use. The City of Buckeye, Maricopa County and the City of Surprise all recognize that this roadway showcases the White Tank Mountain Regional Park, which the roadway circumnavigates. The view angles away from the mountains are also dramatic. The Scenic Corridor designation is designed to preserve these mountain views and suggest development practices that limit encroachment into hillsides and maintain broad viewsheds as reasonably as possible.

Carefree Highway/State Route 74 also maintains a Scenic Roadway designation. Recognizing the inherent beauty of the surrounding area, Maricopa County completed the State Route 74 Scenic Corridor Management Guidelines in 2000. Cities are encouraged to follow suit and the City of Peoria has established guidelines to mirror the corridor and Surprise is designating this facility as a Scenic Corridor. The Scenic Corridor for Carefree Highway will also have to consider a planned overhead electric transmission line along the roadway corridor.

Castle Hot Springs Road is a unique rural roadway Scenic Corridor designation. Maricopa County completed the Castle Hot Springs Scenic Corridor Guidelines in 2000. These guidelines assume that the historic pattern of urban growth and development will continue in Maricopa County. The Castle Hot Springs Scenic Corridor is consistent with other scenic corridors in Maricopa County that were established ahead of urban growth and development. This roadway serves a natural gateway to the Bradshaw-Harquahala BLM recreation and management areas located to the north of Surprise.

Olive Avenue, much like Carefree Highway and Castle Hot Springs Road, also was identified by Maricopa County as a scenic roadway in 2000. Olive Avenue serves as the primary roadway access to White Tanks Regional Park. The Surprise Municipal Planning Area has now expanded by two square miles that includes frontage on Olive Avenue from 187th Avenue to 203rd Avenue.

Designated Truck Routes & the Movement of Goods & Freight

Virtually all of Surprise's goods are imported from outside the region. The movement of freight and goods in Surprise and the region is supported by an integrated intermodal freight infrastructure consisting of trucks on roadways, rail and railroads. Commercial goods movement must be optimized to maintain and improve the region's economic competitiveness while minimizing potential negative impacts to the transportation system and neighborhoods.

The overall intermodal freight system and infrastructure is owned and operated by public agencies and private businesses. While the system is intended to support the goods movement/freight requirements for the City of Surprise and the region, it is important to also note that this infrastructure also supports Surprise's role in the nation's supply chain and business trade.

Trucks: The majority of goods in the Surprise region are transported by trucks using state and federal highways with access provided by truck routes along regional arterials. In the Surprise region, US-60, Loop-303 and SR-74 are major truck corridors. These serve both local as well as regional trade. There are four arterial roadways that also serve as designated truck routes in Surprise. Bell Road, Dysart Road, Cactus Road (from Litchfield Rd. to Dysart Rd. only) and Peoria Avenue (from Litchfield Rd. to Dysart Road only) are designated truck routes to facilitate the movement of goods primarily from the Skyway Business park to the Loop-303 and Loop-101 freeways. While the designation of Bell Road as a truck route is not ideal, because Bell Road maintains the only bridge over the Agua Fria River to the east, there are no other alternatives for a truck route until a second bridge crossing is constructed. A future Olive Avenue crossing of the Agua Fria River will promote a more efficient east-west movement of trucks originating from the Skyline Business Park and reduce the dependency on an already-overcrowded Bell Road. Truck route standards within the City of Surprise adhere to all current Arizona Department of Transportation standards for length and weight.

Freight Rail Service: Freight rail service is operated by the Burlington Northern Santa Fe (BNSF) railroad along the US-60 corridor. Freight service within this corridor is focused in the areas of auto trans-load service, lumber, fly ash, cement and local freight service. The Alternative Modes Element provides a more in depth discussion on rail service in Surprise.

Roadway Level of Service

Levels of Service (LOS) is a roadway "grading scale" initiated by the 1965 Highway Capacity Manual (HCM), and is used to explain the quality of traffic operations in a broader, less technical sense for consumption by general public and elected officials.

The level of service (LOS) concept is utilized to determine the efficiency of existing and future roadway and intersection operations. Level of service provides a comparative measure of the congestion and travel conditions and is reported in levels "A through F," with "A" representing the best representing free flow conditions and "F" representing breakdown conditions that includes driver discomfort. LOS on roadway segments is defined as follows:

LOS A: Free flowing conditions. The operation of vehicles is virtually unaffected by the presence of other vehicles and operations are con- strained only by the geometric features of the roadway and driver preferences.

LOS B: Indicative of free flow, but the presence of other vehicles begins to have a noticeable impact on speeds and freedom to maneuver.

LOS C: Represents a range in which the influence of traffic density on operations becomes marked. The ability to maneuver within the traffic stream and to select an operating speed is now clearly affected by the presence of other vehicles.

LOS D: Borders on unstable flow. Speeds and ability to maneuver are severely restricted because of traffic congestion.

LOS E: Operations are at or near capacity and are quite unstable.

LOS F: Represents forced or breakdown flow. The City of Surprise strives to achieve a level of service "D" or better on all roadways. Any roadway where the level of service falls to a level of service "E" or "F" is considered congested and requires review for improvements. Where feasible, capacity improvements or other remedial actions are usually recommended if the level of service is worse than "D."

Table 3.4 – Service Volumes and LOS

Roadway Type	# of Travel Lanes	LOS A	LOS B	LOS C	LOS D	LOS E
Freeways	4	47,940	55,930	63,920	71,910	79,900
	6	73,980	86,310	98,640	110,970	123,300
	8	100,080	116,760	133,440	150,120	166,800
	10	126,180	147,210	168,240	189,270	210,300
Limited Access Parkway	4	29,280	34,160	39,040	43,920	48,800
	6	43,740	51,030	58,320	65,610	72,900
	8	57,960	67,620	77,280	86,940	96,600
Major Arterial	5	30,480	35,560	40,640	45,720	50,800
	6	36,480	42,560	48,640	54,720	60,800
Minor Arterial	3	12,960	15,120	17,280	19,440	21,600
	4	21,540	25,130	28,720	32,310	35,900
Major Collector	2	5,100	5,950	6,800	7,650	8,500
	3	8,520	9,940	11,360	12,780	14,200
	4	10,560	12,320	14,080	15,840	17,600
Minor Collector	2	3,360	3,920	4,480	5,040	5,600
Local Street	2	1,200	1,400	1,600	1,800	2,000

Source: City of Peoria TIA Criteria; McDOT Roadway Design Manual

The city of Surprise has goal of achieving a LOS C on major arterial roadways and parkways but will accept a LOS D. This is a common approach taken by many communities nationally, but Surprise will strive to maintain the LOS C or better on each of Surprise's major arterials and parkways.

Complete Streets

The notion of a "complete street" is to ensure that the design and construction of new roadways and retro-fitting of existing roadways ensures that facilities for bicycles, pedestrians, and transit are recognized as integral to a properly designed and functioning street. "Complete Streets" as defined by the National Complete Street Coalition, is "a transportation policy and design approach that requires streets to be planned, designed, operated, and maintained to enable safe, convenient and comfortable travel and access for users of all ages and abilities regardless of their mode of transportation".

"Complete streets" embraces the notion that all modes of travels are equally as important to mobility, health, and safety as a vehicular travel lane. Walking and bicycling foster safer, more

livable, family-friendly communities; promote physical activity and health; reduce vehicle emissions and fuel use; and often increase property values in the areas they serve.

On March 11, 2010, the U.S. Secretary of Transportation issued a Policy Statement on Bicycle and Pedestrian Accommodation. This policy states that walking and bicycling shall be considered equal to other transportation modes, and encourages states, local governments, professional associations, community organizations, public transportation agencies, and other government agencies to adopt similar policy statements.

The City of Surprise embraces the "complete streets" policy in patterning design components presented in the MAG Complete Streets Guide for the planning and design of new or retrofitted streets in Surprise. While the City can utilize guidance offered in the MAG Complete Streets Guide, the City also intends to develop its own long term process and procedures (and perhaps guidelines or standards) for the evaluation, design and prioritization of investment choices for complete streets projects in Surprise.

Parking

As travel and parking needs have increased, there has been recognition of the constant need to better manage transportation and parking facilities. Parking requirements in Surprise are set out in the Zoning Ordinance and Engineering Design Guidelines by the type and size of use.

Trends

There is rising demand for parking for long distance commuters. The current park and ride facility, located on Bell Road east of Grand Avenue provides for inter-modal service. The predominant modal interchange is between the private automobile and transit, but also includes modal changes between transit and bicycle, pedestrian, carpool, vanpool, or drop-and-ride modes as well. Maricopa County government found that vanpool subsidies helped achieve trip reduction ordinance goals but was also an efficient and cost effective way to reduce single occupant vehicle use. Transit service offered at the facility includes the Route 571 Express Bus between Surprise and downtown Phoenix. There is a rising demand for additional park and ride facilities in Surprise. The changing needs of the public and the surrounding environment reaffirm the need to approach park and ride facilities with an eye for innovation and optimization.

Managing Parking Supply

A balance should be achieved between parking policies, travel behavior, development density, development cost and urban design. In most developments in Surprise there is an oversupply of parking, and it is provided at no direct cost to the tenants or their employees. Measures need to be taken to discourage oversupply of parking while still providing adequate parking that is not too expensive in order to maintain retail and employment centers. On-street parking in residential areas near employment and commercial sites should also strike a balance between providing for resident parking and providing overflow commercial and employee parking.

Parking Facility Design

Structured parking allows development densities and site designs that support good transit service and alternative modes, although it is more expensive than surface parking to build. Structured parking will minimize the amount of valuable land needed for travel and parking purposes.

Character Area Land Uses & Roadway Compatibility (in progress)

As described throughout the General Plan 2035, the character area land use planning approach places emphasis upon the urban form and character of an area, not the prescriptive land use of each development parcel. The Neighborhood Character Areas may consist of rural, suburban or urban neighborhoods. Compatibility and transition procedures and

guidelines help shape the integration and buffering of various development types. For example, the Commerce & Business Character Area locations could include a blend of mixed used commercial and residential, regional shopping centers or a medical campus. The question of their individual appropriateness will hinge upon how these uses fit into the character of the area in which they are proposed.

The City has a section line and mid-section line system of surface streets that form the grid network which creates one square mile development patterns throughout the majority of Surprise's planning area. When applying the Character Area land use approach, the intent is to fit developments and roads together by ensuring that the activity creating trips are located on a roadway designed to handle the impact. It also strives to make efficient use of public investment by not overcrowding or underutilizing roadways. Because the precise future land use of a given intersection is not specifically defined, it places a greater need in forecasting necessary roadway capacity to accommodate vehicle trips generated.

The Character Area approach then puts a greater degree of emphasis on the need for the city to more frequently evaluate the performance of roadways compared against a continually updated "scorecard" of new growth. While it is likely that the predominant residential land use pattern will consist of suburban densities (3-5 dwelling units per acre), a mixture of densities can maximize the opportunity for non-vehicular forms of transportation within the development. This will maximize the level of internalized activity and minimize the impact on surrounding neighborhoods. In either case, the Character Area approach puts added emphasis on the city to conduct more frequent performance measurements of roadways and off street systems than under the traditional planning methods. The Implementation Element in Chapter 6 provides more detail on the need to conduct roadway count studies and travel time studies on a regular basis.

In order to provide a snapshot of the impact of certain typical land uses upon Surprise's roadways, Table 3.5 is provided to demonstrate these effects. The Institute for Traffic Engineers Trip generation Manual offers guidance on trip generation levels for many different land use types and is referenced and utilized in the creation of Table 3.5.

Table 3.5: Average Daily Trips by Land Use Types

Land Use Type	Average Daily Vehicle Trips Generated
Single Family Residential Home	10
200 unit apartment complex	1,330
Condominium/Townhouse (300 vehicles)	1,000
Assisted Living Facility (150 beds)	410
Fast Food restaurant – 3000 Sq. ft. with Drive thru	1,490
Convenience Market (2,000 sq. ft.)	1,500
Hotel (200 rooms)	1,785
Grocery Store – 50,000 sq. ft.	5,100
Warehouse (350 employees)	1,360
Office Park (1,500 employees)	5,250
Community Park (50 acres)	80
Elementary School (650 students)	840
Church (20,000 sq. ft. on a Sunday)	735

Source: ITE Trip Generation Report, 8th Edition

GOALS AND POLICIES

The goal and policy statements for the Roadway Systems Element serve as the City's policy guide for the expansion, design and prioritization of investment choices for roadways in Surprise. The goals and policy statements reflect the culmination of collective inputs received from stakeholders, citizens, elected officials, City staff as well as the re-validation of select goals and policies from the 2013 Surprise General Plan update process.

Goal 1: Integrated Decisions

Develop a complete and connected system of roadways.

Policies

1. The City will maintain the Surprise transportation system to serve current and future needs and protect the investment in the City's roadways.
2. Design roadways to support planned and existing land uses to achieve a LOS C or greater and maintain no less than a LOS D on major arterial and parkways.
3. Prioritize opportunities to restore and reconnect the street grid.
4. Partner with land owners and developers to seek to add capacity and identify a second point of arterial roadway access north of Grand Avenue and east of 163rd Avenue.
5. Provide for future transportation corridors by identifying and preserving adequate right-of-ways during the planning and development processes, in advance of development occurring.
6. The City continually find efficient means to transport truck traffic in a manner that minimizes the impacts upon residential and pedestrian oriented land uses.
7. Require the use collector roadways or frontage roads for warehouse and distribution uses land uses along the Loop 303 corridor in order to promote the segregation of truck trips from automobile trips.
8. Collaborate with ADOT, MAG and McDOT to identify likely routes for over-sized, over-weight vehicles.
9. Partner with McDOT to accept the recommendations of the Capacity Study to promote the expansion of capacity of roadways such as El Mirage Road and Sun Valley Parkway that provide regional connection to and from Surprise and have experienced significant increases in average daily vehicle trips over the past several years.
10. Regularly conduct (every two years) customer satisfaction surveys to determine areas in need of improvement to supplement and support findings from bi-annual traffic counts and LOS analyses of roadways in Surprise.
11. Maintain strong access management policies for incoming development accessing major arterials and parkways. The extent feasible, promote internalized driveways for limiting driveway access onto major arterials to enhance the operations and capacity of these roadways in order to reduce the need to expand system capacity in the future.
12. Strive to improve traffic flow by completing missing and incomplete links in the arterial network in Surprise.
13. Plan for the one mile spacing of arterial roadways in Surprise to the extent possible.
14. Conduct roadway count studies and travel time studies on a more frequent and regular basis to assist the city with the goal of keeping the rate of travel time increases below the growth rate of traffic volumes under the Character Area land use planning approach.

Goal 2: Complete Streets

Provide roadways that are "complete streets" that cater to enhancing multi-modal accessibility.

Policies

1. Adopt a Complete Streets Plan and Policy document that provides specific direction for the planning and implementation of complete street elements for Surprise roadways. The City shall utilize guidance form the MAG Complete Streets Guide in the preparation of this document.
2. Encourage a pilot program to evaluate and assess functionality of a complete street design and assess future potential opportunities for existing streets to transition to complete streets.
3. The City of Surprise shall require developers

to design and construct pedestrian and bicycle connections to internally and externally link residential uses to nearby commercial uses, schools, parks, transit stops and adjacent neighborhoods.

4. Evaluate and prioritize existing roadways that are minor arterials or greater for retrofitting to a complete street. Greenway Road is a high priority candidate. Evaluate and prioritize and cost benefit analysis should be utilized to target roadways that provide the greatest connection between existing neighborhoods and employment and other activity centers.
5. Continue to update the City's adopted standard roadway cross-sections to embrace the complete street concepts to enhance multi-modal mobility when designing new streets or improving existing streets throughout the Surprise planning area.
6. Update to the Gap Study should commence in the near future to re-fresh the city's priorities and investment choices for closing multimodal infrastructure gaps
7. Prepare an off-street systems mobility plan that investigates and recommends non-motorized mobility network along the newly recognized greenway system. This plan should provide for a safe, alternate mode of transportation to motor vehicular trips using sidewalks, greenways, trails of all sorts, other pedestrian linkages can make the City more walkable to and from existing and planned neighborhoods and employment centers.

Goal 3: Access

Improve transportation access to, from, and within Surprise.

Policies

1. The City shall continue to seek collaboration with ADOT and the City of Peoria to prioritize the need to establish a partial interchange on the Loop 303 at Litchfield Road.
2. Collaborate with the City of Peoria, MCDOT, ADOT for the coordination and extension of Jomax Road from US60 to Happy Valley Road, and for a future traffic interchange with the Loop 303.
3. Continue to collaborate with MAG, McDOT and the City of Peoria to continually emphasize the need for additional east-west major arterial roadway bridge crossings of the Agua Fria River to support anticipated growth. Potential bridge crossings at Olive Avenue, Happy Valley Road and Lone Mountain Road are preferred crossings to service growth at a timeframe complimentary to development proximate to these areas.
4. Identify and prioritize freight infrastructure projects that are needed to maintain mobility and enhance the City's (and regions) economic competitiveness.
5. Collaborate with ADOT, MAG, FHWA and McDOT to preserve a 350-foot right-of-way for the future White Tanks Freeway and planned parkways as designated in the Roadway Systems Element.
6. Continue to collaborate with MAG to leverage funding opportunities for the construction of planned parkway facilities. Added emphasis may be placed on parkways if support for additional freeway facilities is lacking.
7. Ensure that the local transportation system is fully and effectively connected to the regional transportation system.
8. The City shall support construction of regional freeways providing improved access between Surprise and the region.
9. Maximize the effective use of roadway capacity by managing access to arterials, and assuring a high level of cross access between adjacent developments
10. Utilize new technologies such as Intelligent Transportation Systems (ITS) to maximize the capacity and efficiency of the transportation system.
11. Continue to coordinate and cooperate with regional agencies and adjacent communities

to assure continuity of roadway, transit and alternative modes of travel across jurisdictional boundaries.

Goal 4: Financing

Leverage regional partnerships, land owner support, and cost effective financing mechanisms to secure fair and sufficient funding for the transportation system in Surprise.

Policies

1. Investigate alternative funding options for the design, construction, operation and maintenance of transportation facilities and services in Surprise.
2. Continue to develop and maintain strategic partnerships with Arizona Department of Transportation, Maricopa County Department of Transportation, the Maricopa Association of Governments, the Regional Public Transit Association, and adjacent jurisdictions for regional projects and services that benefit Surprise.
3. Continually update the CIP for priority roadway projects to make investment choices that assist in the construction of roadway facilities that support employment growth areas and residential growth areas identified in the Growth Area Element.
4. Collaborate with existing properties with approved PAD's to equitably evaluate the adjustments in the Functional Classification Plan to make adjustments to approved PADs that will accommodate modifications to proposed alignments and right-of-ways widths.
5. Invite and encourage the use of CIP budgets to leverage the development of recommended greenway trails as a mechanism to encourage investment in existing communities that in turn spurs redevelopment and revitalization of these areas.
6. Update and implement the Capital Improvement Plan and evaluate its projects using the goals and policies within the General Plan and City Council Strategic Action Plan.
7. The City put an enhanced emphasis on developing and maintaining a robust pavement preservation system that earmarks annual CIP dollars towards the maintenance of priority needs in order to extend the lifespan of critical roadway infrastructure.
8. Continue to apply for all applicable state and federal grants to develop and maintain the transportation system in Surprise.
9. Explore additional opportunities to work with adjacent communities, Flood Control District of Maricopa County, Maricopa County and the Maricopa Association of Governments to ensure bicycle and pedestrian network continuity across jurisdictional boundaries.

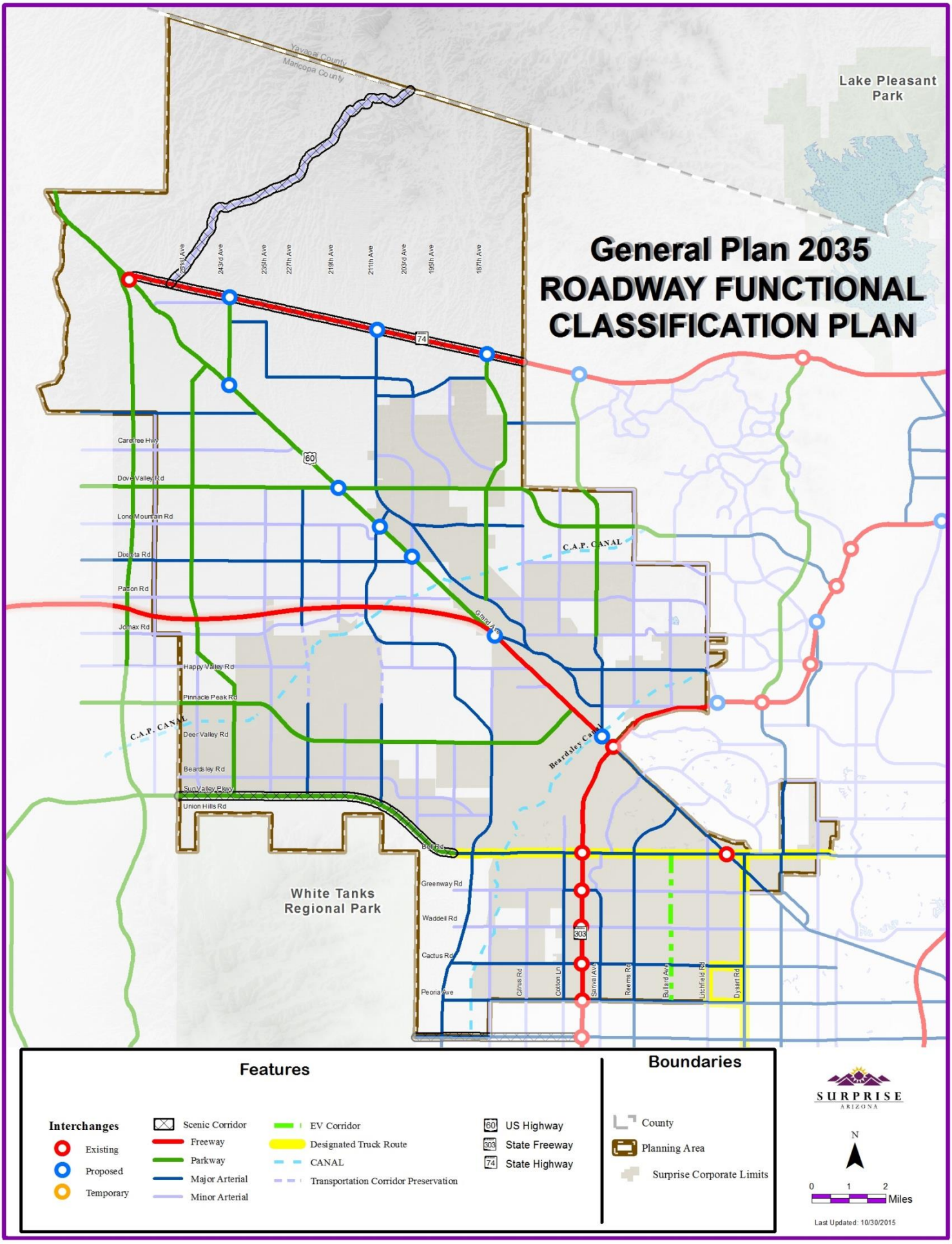
Goal 5: Roadway Designs

Promote roadway designs, operations, and aesthetics that support the Character Areas they serve.

Policies

1. The City of Surprise shall require that newly proposed developments demonstrate that there are adequate services and facilities, or plans to provide the necessary services and facilities, to serve the development during the development approval process.
2. Maintain the traditional grid street pattern where it currently exists, reconnect it where possible. When improving older streets in neighborhoods, maintain original street widths and curb radii.
3. The City of Surprise shall initiate and/or require development applicants to prepare and update master plans and strategic plans as needed to prepare for infrastructure needs and financial resources to serve growth.
4. Strive to integrate land use and roadway compatibility decisions per suggested measures outlined in the Implementation Element of General Plan.

5. Revise subdivision regulations to include connectivity standards and guidelines that require greater street connectivity, and provide allowances for pedestrian and bicycle connections when street connectivity cannot be made.
6. Within Scenic Land Overlay and Scenic Roadway Corridor areas, the City promote roadway designs that preserve natural features, steep slopes, and when appropriate, views, low ambient light intrusion, and low noise.
7. The City continue to utilize the MAG roadway construction standards and specifications.
8. Partner with BNSF railroad to identify a comprehensive intermodal transportation network to serve the daily needs of this future facility. An internal collector roadway that promotes truck traffic while segregating truck trips from adjacent planned residential communities is a priority. Partner with ADOT to identify coordinated access management and turning movements onto US 60.
9. Install truck route signage on Bell Road and Dysart Road and segments of Cactus Road and Peoria Avenue to identify truck routes in the City.
10. Encourage land use patterns that reduce the amount of external travel by developing neighborhoods where mixed use centers and services are easily accessible from residences.
11. Prepare a Scenic Roadway Corridors overlay district and/or design guidelines to require the design and construction of Scenic Corridor roadways that embrace the terrain and scenic quality in the roadway design, landscaping, lighting and building development standards for properties located within these corridors.
12. Ensure the physical location and design of transportation facilities are done in a fashion which is environmentally sensitive to our desert, mountains, scenic corridors, open spaces and neighborhoods.
13. Strive to protect neighborhoods and the environment from adverse effects of transportation facilities and services.
14. Promote the design well landscaped streets, with low water usage plants, to help improve the community aesthetics.
15. Establish a process for existing neighborhoods to request traffic calming, including how to evaluate the request, select the appropriate type of calming treatment, and fund recommendations.


General Plan 2035
ROADWAY FUNCTIONAL CLASSIFICATION PLAN
Lake Pleasant Park
Yavapai County
Maricopa County
White Tanks Regional Park
C.A.P. CANAL
Beardsley Canal
Grand Ave
Carefree Hwy
Dove Valley Rd
Lone Mountain Rd
Dixileta Rd
Patton Rd
Jomax Rd
Happy Valley Rd
Pinnacle Peak Rd
Deer Valley Rd
Beardsley Rd
Sun Valley Pkwy
Union Hills Rd
Bell Rd
Greenway Rd
Waddell Rd
Cactus Rd
Peoria Ave
Citrus Rd
Cotton Ln
Sarival Ave
Reems Rd
Bullard Ave
Litchfield Rd
Dysart Rd
Features
Interchanges
Existing
Proposed
Temporary
Scenic Corridor
Freeway
Parkway
Major Arterial
Minor Arterial
EV Corridor
Designated Truck Route
CANAL
Transportation Corridor Preservation
US Highway
State Freeway
State Highway
Boundaries
County
Planning Area
Surprise Corporate Limits
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Last Updated: 10/30/2015

Transit Element

INTRODUCTION

A primary strategy of the Transit Element is to reduce dependence on the private automobile in order to achieve multiple and interrelated goals including: increasing mobility, preserving and enhancing neighborhood character, improving air quality, and fostering compact development and a more walkable city. A greater reliance on public transportation will improve mobility by increasing travel options for residents, and by increasing the people-carrying capacity of the City's transportation system. It will also decrease the environmental degradation caused by the growing use of single-occupant vehicles. The intent is to develop a transit system that supports as well as leads the development of Surprise Land Use Character Areas as set forth by the Surprise General Plan 2035.

Surprise's development strategy combines transit supportive changes in the City's development pat- tern with a more complete and competitive multimodal transportation system. Achieving growth targets based on cores and corridors is an important element for the future development of Surprise. It provides more desirable investment in facilities and service delivery systems to support areas where growth will occur and reflects local decisions and neighborhood priorities. This shift may require some major investments in transit infrastructure and services as well as changes in priorities for street use.

DISCUSSION

Regional Collaboration

The transit system in Surprise is affected by plans and programs that guide the development and management of the regional transportation system. The Regional Transportation Plan (RTP) adopted by the Maricopa Association of Governments (MAG) in July 2010 calls for a significant expansion of regional transit services into portions of Maricopa County which are currently underserved, including Surprise. Proposition 400, the funding measure to implement the RTP, was passed by voters in November 2004. This extended the one-half cent sales tax (approved through Proposition 300) for transportation an additional 20 years, through 2025. This funding is divided between freeway, arterial roadway, and transit projects.

Commuter express service from Surprise to downtown Phoenix via the Grand Avenue corridor began in January 2006. Regional transit service planned to be extended to Surprise through Proposition 400 funding (both frequent stop trunk line and limited stop express services) will not occur within the planned time-frame of the RTP due to shortfalls in sales tax revenues, which provide the funding for these planned services. It is likely that no future funding for regional transit service will be available to Surprise until such time as another Proposition is passed by the voters, or another funding source is instituted.

The levels of transit service provided for in the RTP are not adequate to accommodate de-mand given the projected rate of development in Surprise. MAG published the Northwest Valley Local Transit System Study (June 2013), which made short-term, mid-term, and long-term recommendations for Surprise and the rest of the Northwest Valley. Short-term

recommendations include creating a Surprise local circulator that provides access to many retail, commercial, educational, and institutional destinations along Bell Road and Greenway Road. Mid-term recommendations include extending existing bus routes into Surprise and increasing service on local circulators as demand increases. Long-term recommendations include the implementation of high-capacity transit along the US60/Grand Avenue corridor and extending additional bus routes into Surprise.

The City of Surprise is currently working with Valley Metro on a Short-Range Transit Study to identify additional transit opportunities along US60/Grand Avenue corridor prior to the implementation of a high-capacity transit option.

During the public outreach effort for this Surprise General Plan 2035, citizens showed a preference for development patterns concentrated around major transportation corridors. Surprise has no major transportation corridor more significant than US 60/Grand Avenue. Not only is this roadway part of the State Highway System, it is also immediately adjacent to the BNSF Railway. MAG completed the initial phase of a regional commuter rail study, which shows support for passenger service in this corridor. Such service is not yet assured, and will, in any case, be years in the future. Until that time, concentrated rubber tired-transit services in the corridor can both demonstrate the de- mand for service and influence land use pat- terns in the corridor.

Existing and Projected Levels of Transit

Valley Metro under the Regional Public Transportation Authority (RPTA) provides all of Surprise's transit service. Surprise is currently served by one Valley Metro express bus route to downtown Phoenix. Valley Metro also pro- vides local Dial-a-Ride (DAR) service to Sur- prise through a regional cab contract. Express bus routes are meant to be suburb-to-suburb routes. Route 571 serves commuters travelling between Surprise and Phoenix. A park and ride facility at 13327 W. Bell Road serves transit users. The popularity of the Express Route 571 shows that there are important transportation needs in Surprise and the surrounding areas. Due to the success of these services, plans are progressing to implement a circulator route within the City, as well as regional high capacity transit such as commuter rail.

Commuter Rail

Many consider commuter rail to be the missing element in the regional transportation system, and the BNSF line running along Grand Avenue is key to achieving the objective of implement- ing commuter rail services in this corridor. Commuter rail trains typically provide service between suburbs and urban centers. Service typically occurs at a lower frequency than light rail, serving primarily peak travel needs for commuters. Travel distance between a rail line's termini may range between 30 and 50 miles, with station spacing typically five to ten miles apart.

In 2010 MAG completed the Commuter Rail System Study, along with corridor development plans for each of the four corridors identified in the system study. The system study provides a detailed evaluation of potential commuter rail links to the West Valley by incorporating the findings of the Grand Avenue and Yuma West Corridor Development Plans; and evaluation of potential commuter rail links to the East Valley. The system study calls for phased implementation of the commuter rail system based on a number of factors, including: development pat- terns, changes in travel demand, community support, potential funding sources and potential integration with the Phoenix/Tucson intercity rail.

By 2035 the Grand Avenue corridor is projected to experience a 41 percent increase in population and a 52 percent increase in employment. As a result of this growth, and even with planned roadway improvements and increased transit service, congestion in the Grand Avenue corridor is expected to worsen. Automobile congestion levels are projected to

range from moderate to severe throughout the length of the project corridor. Commuter rail service would provide an opportunity to improve mobility, particularly for peak period trips, by reducing travel time and providing a reliable and consistent alternative to automobile travel in a congested roadway corridor.

The BNSF rail line currently carries seven to eight trains daily at an approximate speed of 49 miles per hour. Upgrades and changes desired for implementing commuter rail services on the BNSF line may include new signals, a second track, and reduced main track switching activity. Additional commuter rail implementation requirements include governance and administration, railroad cooperation and funding.

Trends in Transit Use

City of Surprise Dial-a-Ride (DAR) transit use has remained relatively flat for the last five years due to limited funding. In 2012 the City switched to contract service for DAR and began to use 2010 New Freedom grant funds avail- able for this type of service. The City anticipates a 10 percent growth over the next three years in DAR service trips.

The City participated in a region wide reorganization of the express bus route system that was implemented in 2012. The 571 express route, which provides express commuter service from Surprise into downtown Phoenix, has experienced steady growth, and currently provides 4 morning inbound trips and 4 evening outbound trips.

According to the United States Census, more than 75 per cent of Surprise workers used a car, truck, or van to commute to their jobs. Public transportation as a mode of commuting amounted to less than one percent. Surprise has seen an increase in transit ridership in the past year. Valley Metro's annual transit report reflects a 9.33% increase in Route 571 ridership in 2015 from 2014, and 31.15% decrease in 2014 from 2013. The total decrease in 2014 was similar to those experienced throughout the valley and was partially attributed to the significant decrease in fuel prices.

The projected increase in population for Sur- prise will provide an opportunity to expand transit into new and growing markets, thereby extending its ridership base. To meet the continued needs and demands generated by development, it will become necessary to develop local public transit services. As environmental and capacity issues become more evident, transit's role will increase. Effective use of transit could make a difference in the level of congestion in certain corridors in the Surprise area.

Transit Supportive Land Use Planning

In order for transit to be successful, the City of Surprise needs to create a more "transit friendly environment" in which transit has a better opportunity to succeed. One element of this is to provide for denser, mixed use development that will support travel by transit. Another element is to provide the physical facilities that result in a better operating environment for transit, such as bus pullouts, park and ride lots, signal prioritization for transit vehicles and improved access to transit for pedestrians and bicyclists.

Implementation is dependent on the close coordination of land use and transportation planning. The relationship between transit and land use focuses development in concen- trated rather than linear patterns adjacent to transit stops and stations. Transit investments are directed to link these transit supportive ar- eas to provide people with an attractive option to the single occupant vehicle. This will allow more people to live and work within walking distance of transit.

GOALS AND POLICIES

Goal 1: Balanced Multi-modal System

Develop and maintain a balanced, multi-modal transportation system to ensure safe and efficient movement of people and goods in Surprise.

Policies

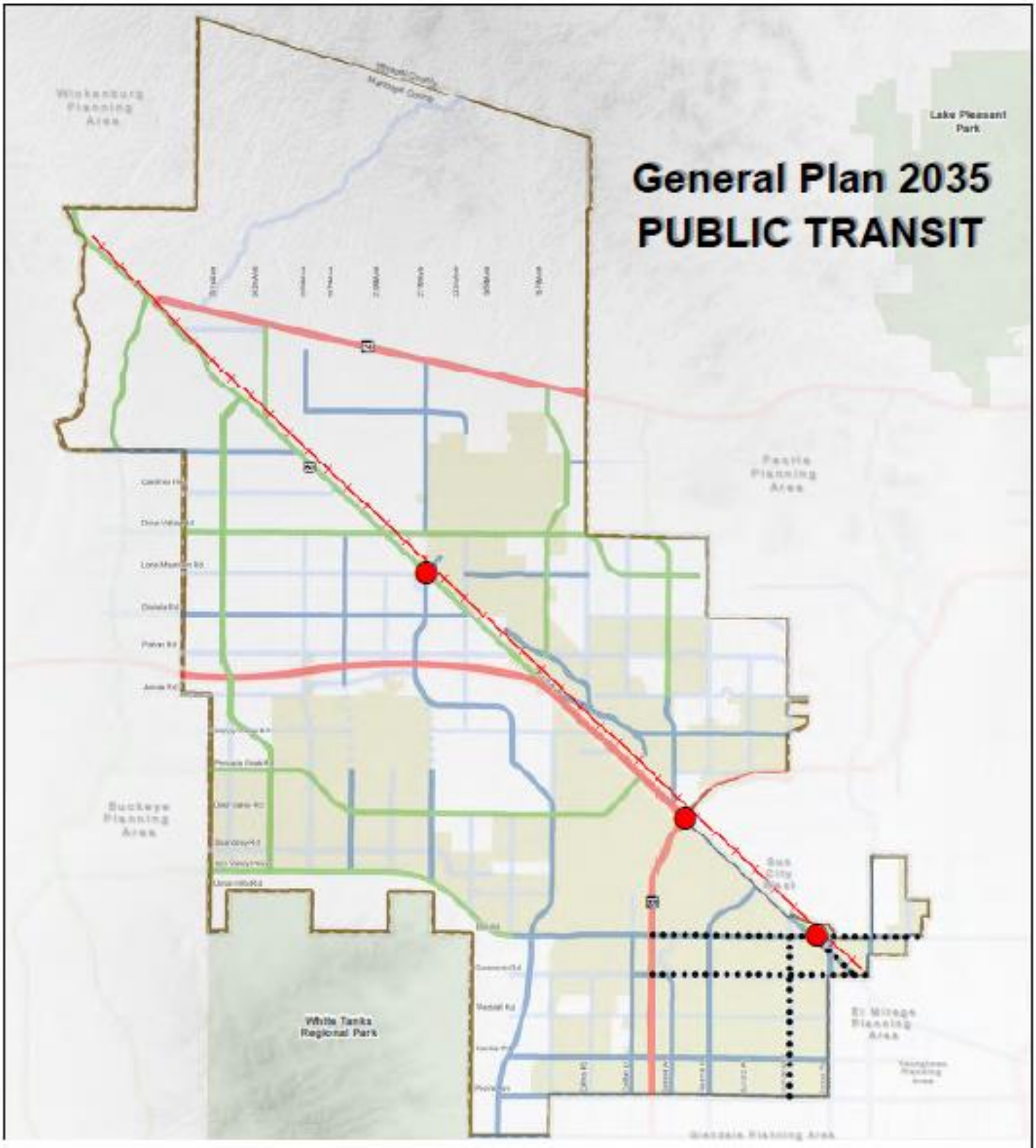
1. Provide and expand transportation demand management strategies to help reduce traffic congestion and encourage alternative modes of travel.
2. Consider the needs of the entire community and the special needs of the elderly and people with impaired mobility in the planning, design, construction and maintenance of the City's transportation system.
3. Include transit planning as an integral component of long range plans and the development review process.

Goal 2: Access and Alternatives

Provide attractive and convenient public transit services to, from, and within Surprise.

Policies

1. Pursue a Citywide local transit system that connects homes, businesses, schools, and employment centers.
2. Integrate the regional transit system with the Surprise local transit system.
3. Work with all appropriate agencies and interests to support the implementation of commuter rail service in the Burlington Northern/Santa Fe (BNSF) Railway corridor adjacent to US 60/Grand Avenue.
4. Support the provision of high frequency transit service and capital investments to benefit high density/intensity areas.
5. Implement transit priority measures to ensure increased transit ridership.
6. Encourage transit services that address the needs of persons with disabilities, the elderly, young people, people with special needs, and people who depend on public transit for their mobility.
7. Develop transit fare recovery policies consistent with regional standards.
8. Collaborate with regional agencies to ensure increased transit service frequency, connectivity and availability in Surprise.


General Plan 2035
PUBLIC TRANSIT
Lake Pleasant Park
Wickenburg Planning Area
Peoria Planning Area
Buckeye Planning Area
White Tanks Regional Park
El Mirage Planning Area
Sun City West
Glendale Planning Area
Features
Rail_Stop
Bus Service
Commuter Rail
Freeway
Parkway
Major Arterial
Minor Arterial
Transportation Corridor Preservation
US Highway
State Freeway
State Highway
Boundaries
Surprise Corporate Limits
Planning Area Boundary
County Boundary
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Alternate Modes Element

INTRODUCTION

A complete transportation system is designed and operated to enable safe access for all users. While streets and motorized vehicles do account for the majority of a transportation system, they are not the only components. Broadly speaking, a transportation system can be defined as any means used to move people and/or products. Taken together individual transportation options create the community's transportation system. For this reason it is critical that the transportation element addresses each of these choices, as applicable to the community. Pedestrians, bicyclists, motorists, and transit riders of all ages and abilities must be able to safely move along and across streets. An incomplete system fails to serve the pedestrians, cyclists, transit, individuals with disabilities, and both the youngest and oldest members of our communities. A complete transportation system also includes consideration for the environment by promoting "green" building concepts while beautifying streets and making them inviting places to be.

DISCUSSION

Pedestrians

The most basic transportation option is walking. Walking is the most popular form of exercise in the United States and can be performed by people of all ages and income levels; however, it is not often considered as a means of travel. This is mainly because pedestrian facilities are generally an afterthought and not planned as an integral part of the transportation system.

The City's pedestrian network consists of sidewalks, trails, and street crossings. Surprise has many areas that seem especially conducive to walking for recreation and transportation, particularly within the planned character areas, within its neighborhoods, and along the washes that traverse the City. In the past the City of Surprise has established policies to encourage improvement of the pedestrian network in those areas, through pedestrian connections between neighborhoods and other areas. Some parts of the City are well served by an extensive sidewalk network and pleasant walking conditions. However, pedestrian connectivity along washes and canals is lacking and must be given significant attention.

The Alternative Modes Plan includes multi-purpose paths, and a variety of trail corridors for pedestrian activity. Trails include local routes and also corridors included in the Maricopa County Regional Trails Plan. The Non-Motorized Transportation map is on page 164.

Pedestrian Improvement Priorities

Barriers to pedestrian movement limit the viability of walking as a form of transportation in some parts of the City. Specific pedestrian is- sues raised during discussions undertaken as part of the new Surprise General Plan 2035 preparation include the lack of pedestrian crossings at intersections, the lack of sidewalks along some streets, difficult crossings on certain intersections, difficulty accessing adjacent alternative roadways and train crossings at a number of locations.

In addition, measures may be required in special areas to reduce vehicle speed and induce traffic calming. The Surprise General Plan 2035 seeks to promote walking within Surprise by improving pedestrian connections, increasing pedestrian safety and creating a land use context supportive of pedestrian travel

Minimizing conflict between transportation modes

Pedestrians face obstacles and conflicts with

motorists when roadways and developments are designed primarily for the automobile. Even if pedestrian facilities are provided, high-speed, high volume roadways with large intersections create barriers for pedestrians. In designing roadways, the impact that the different modes have on each other must be balanced. A large number of public comments received during the general plan development process have indicated a strong need for better pedestrian connectivity throughout the city, especially the need to address major pedestrian barriers. In addition, the need to create a more pedestrian friendly environment (with amenities, traffic calming, and safer intersections) has been extensively noted, particularly within high activity centers and nearby neighborhoods.

Facility Improvements

The City of Surprise requires sidewalks along all public streets as part of new developments. Additionally, every attempt should be made to retrofit existing developed areas to add sidewalks and/or curb ramps. This issue has been noted extensively in public comments related to pedestrian-oriented transportation and access.

Design for pedestrian facilities for persons with special needs

Limitations experienced by the elderly, children, and persons with a disability should be considered in the design of pedestrian and other transportation facilities. “Accessible” design is required by the Americans with Disabilities Act (ADA) and can benefit able-bodied users as well. Numerous public comments received during the general plan process have stressed the need for better pedestrian facilities, especially for the residents with disabilities who rely on them most.

Maintenance of pedestrian facilities

Continued maintenance efforts are needed to assure that pedestrian areas, including bus stops are in a usable state of repair. This is especially important for the elderly and persons with a disability in order to maintain their mobility.

Bikeway System

Like pedestrians, bicyclists are often overlooked when considering transportation facilities. The size, topography, and climate of Surprise make it an ideal city for bicycling. Cycling is a very efficient mode of travel. Bicycles take up little space on the road or when parked. They do not contribute to air or noise pollution and offer relatively higher speeds than walking. Bicycling should be encouraged to decrease the use of automobiles for short trips in order to reduce some of the negative aspects of urban growth. Linked trips using bicycles and transit are possible since all Valley Metro regional buses have bike racks on the front. Noise, air pollution, and traffic congestion could be mitigated if more short trips were taken by bicycle or on foot. Riding a bike for short distances between residences and transit stops helps reduce vehicle impacts during peak travel hours. Typically, a short trip that would be taken by bicycle is two miles. According to the United States Department of Transportation, one-quarter of all trips in this country are under one mile; about 40 percent of all trips are two miles or shorter. Recreational bicycling is also gaining popularity as an essential need of the bikeway system in Surprise especially along Sun Valley Parkway.

According to the 2000 census, less than one percent of Surprise residents commute to work by bicycle. The bikeway network has not been developed as a viable commute alternative in Surprise. Bicycle lanes and support facilities such as bicycle parking are lacking in most areas. Construction of a comprehensive citywide bikeway network and support facilities, such as bicycle parking at employment locations and other destinations, could greatly increase the mode share of bicycling. Reducing local vehicle trips into retail centers by shifting those trips to bicycling or walking would help alleviate circulation and parking concerns. Development of a bicycle path along the canal systems is also an

opportunity to provide alternative cross-town linkages. The Alternative Modes Plan is intended to support both commuter and recreational bicyclists with local and regional links.

There are three types of bike path designations:

Bike lanes: Bike lanes are within the roadway, next to the curb. Bike lanes are proposed for collector streets and minor arterial roadways with or without on-street parking.

Multi-purpose paths: Multi-purpose paths are behind the curb and sized to accommodate both bicyclists and pedestrians. Multi-purpose paths are proposed for major arterials and park- way cross sections.

Bike Routes: Bicycles are allowed to operate on all Arizona roadways where they are not prohibited by the State Engineer (currently only the Valley Freeway System and Interstate-10 between Phoenix and Tucson). Bicycle routes are roadways which have no bike lane designated within the roadway but which are accepted recreational bicycle corridors of regional significance, such as Sun Valley Parkway, which see significant recreational use.

Bicycle Routes and Support Facilities

There are two important components to consider in bicycle planning—the availability of safe routes and the support facilities that are offered at the end of the trip.

Issues of concern related to bicycle routes include barriers (i.e. freeways), hazards (i.e. rail crossings), lack of bicycle accommodations on existing major roadways, lack of alternatives on heavily used major roadways due to inadequate street connectivity, and lack of traffic control devices that accommodate bicyclists. Maintenance of bicycle routes is also a concern due to debris accumulation and surface deterioration.

Support or “end-of-trip” facilities are what cyclists use when they reach their destinations, and can include short and long-term bicycle parking, showers, lockers, and adequate lighting. Inadequate facilities can be one of the largest deterrents to cycling for many riders. The City should encourage businesses to partner with each other in order to provide support facilities for bicyclists in their work force.

There are different types of support facilities just as there are different levels of bike path designations. Bicycle support facilities fall into one of four main categories:

Short-term bicycle parking: Bicycle racks are low cost devices that provide a location to secure a bicycle. Ideally, bicyclists can lock both their bicycle frame and wheels. The bicycle rack should be in a highly visible location secured to the ground, preferably within 50 feet of a main entrance to a building or facility. Short-term bicycle parking is commonly used for short trips, when cyclists are planning to leave their bicycles for a few hours.

Long term bicycle parking: Bicycle lockers are covered storage units that can be locked individually, providing secure parking for one bicycle. Bicycle cages are secure areas with limited access roads. Occasionally they are attended. Each of these means is designed to provide bicyclists with a high level of security so that they feel comfortable leaving their bicycles for long periods of time. They are appropriate for employees of large buildings and at transit stations.

Shower and locker facilities: Lockers provide a secure place for bicyclists to store their helmets or other riding gear. Showers are important for bicycle commuters with a rigorous commute and/or formal office attire.

Bicycle stations: Bicycle stations provide free all day attended bicycle parking. Bicycle stations usually provide bicycle tune ups, repairs, and rentals in order to sustain their operation. They are intended to serve locations with larger numbers of bicycle commuters needing long-term bicycle parking and are an excellent means of facilitating the inter-modal connections between bicycles and transit.

Public Education

To be responsible bicyclists, riders should learn their rights and responsibilities and safe riding techniques. This knowledge is also nec- essary for motor vehicle drivers sharing the road with bicyclists. There is a continuous need to provide education for bicyclists and motorists including development and distribu- tion of bicycle maps and other informational materials and conducting safety and training programs.

Neighborhood Electric Vehicles (NEV)

The neighborhood electric vehicle is a small, electric car designed for low-speed, local trips in neighborhoods and urban areas. These ve- hicles are designed for short trips on surface streets to carry small loads, and generally for one or two people, although they might be de- signed for additional passengers. The popular- ity of NEVs is growing at an incredible rate. NEVs are similar to golf carts and some even double as golf carts, but they are street legal in most areas. They are not intended to be free- way capable, allowing for a dramatic reduction in energy and power needs. NEVs would serve those trips that consumers find too long for walking and bicycling but do not require the use of full-size automobiles. They have become incredibly popular in many places such as retirement communities, resort areas, campgrounds, and golf course communities.

NEVs are usually a little faster and safer than a standard golf cart and they will normally carry four passengers. NEVs have been growing in popularity among all age groups especially among the numerous adult communities that have been developed in the Surprise planning area during the past twenty years. These com- munities provide amenities that encourage the use of NEVs and golf carts as a means of transportation.

During the development of the Surprise Gen- eral Plan 2035 several issues concerning cur- rent and future conflicts between NEVs, golf carts, and automobiles were identified. Con- cerns include increased traffic on major streets, the increasing difficulty for NEV and golf cart drivers to cross these streets, and safe access for golf cart users to shopping ar- eas and grocery stores. The City of Surprise supports the use of electric vehicles, but has emphasized that the vehicles must be oper- ated in accordance with existing Arizona law. Arizona law provides the following restrictions (ARS 28-966):

- A neighborhood electric vehicle shall not be operated at a speed of more than twenty-five miles per hour (25 MPH).
- A neighborhood electric vehicle shall not be driven on a highway that has a posted speed limit of more than thirty-five miles per hour (35 MPH). This section does not prohibit a neighborhood electric vehicle from crossing a highway that has a posted speed limit of more than thirty-five miles per hour at an intersection.
- A neighborhood electric vehicle shall have a notice of the operational restrictions applying to the vehicle permanently attached to or painted on the vehicle in a location that is in clear view of the driver.

The need for NEVs to reach destinations by crossing major arterials creates problems. The use of NEVs to cross over into areas that are not signed or built to accommodate them may result in safety hazards. To accommodate NEVs safely on existing roads designed for large vehicles and fast-moving traffic, infrastruc- ture standards and designs may need to be modified. The type and scale of NEV infrastruc- ture could vary across communities, depending in part on which vehicles prevail. On streets that carry heavy traffic, NEVs should be allowed only if the posted speed meets state require- ments and if the drivers of other vehicles are made aware of the presence of such vehicles in the area.

Any NEV used on the City streets should be equipped and insured in the manner prescribed by state law. Improvement in safety for these low-polluting and energy efficient vehicles is a significant concern in the City of Surprise.

The City has designated Bullard Avenue, from Greenway Road to Peoria Avenue as a NEV Corridor. Although NEVs may travel on any roadway signed for 35 mph or slower, this three-mile stretch of Bullard Avenue is designated as a NEV Corridor because of the number of nearby destinations that may be conducive to the use of NEVs. Those destinations include seven schools, churches, Surprise civic center, the Surprise Stadium, Northwest Regional Library, parks and the recreation campus. Signs and/or pavement markings may be installed along the NEV Corridor alerting motor vehicle drivers to the possible presence of NEVs and to share the road with NEVs. NEV drivers should be especially cautious at major street intersections as motor vehicle drivers may not see them due to their smaller size. All NEVs shall be operated in accordance with all State laws.

GOALS AND POLICIES

Goal 1: Bicycles and Pedestrians

Develop and promote safe bicycle and pedestrian systems, and provide connectivity throughout Surprise.

Policies

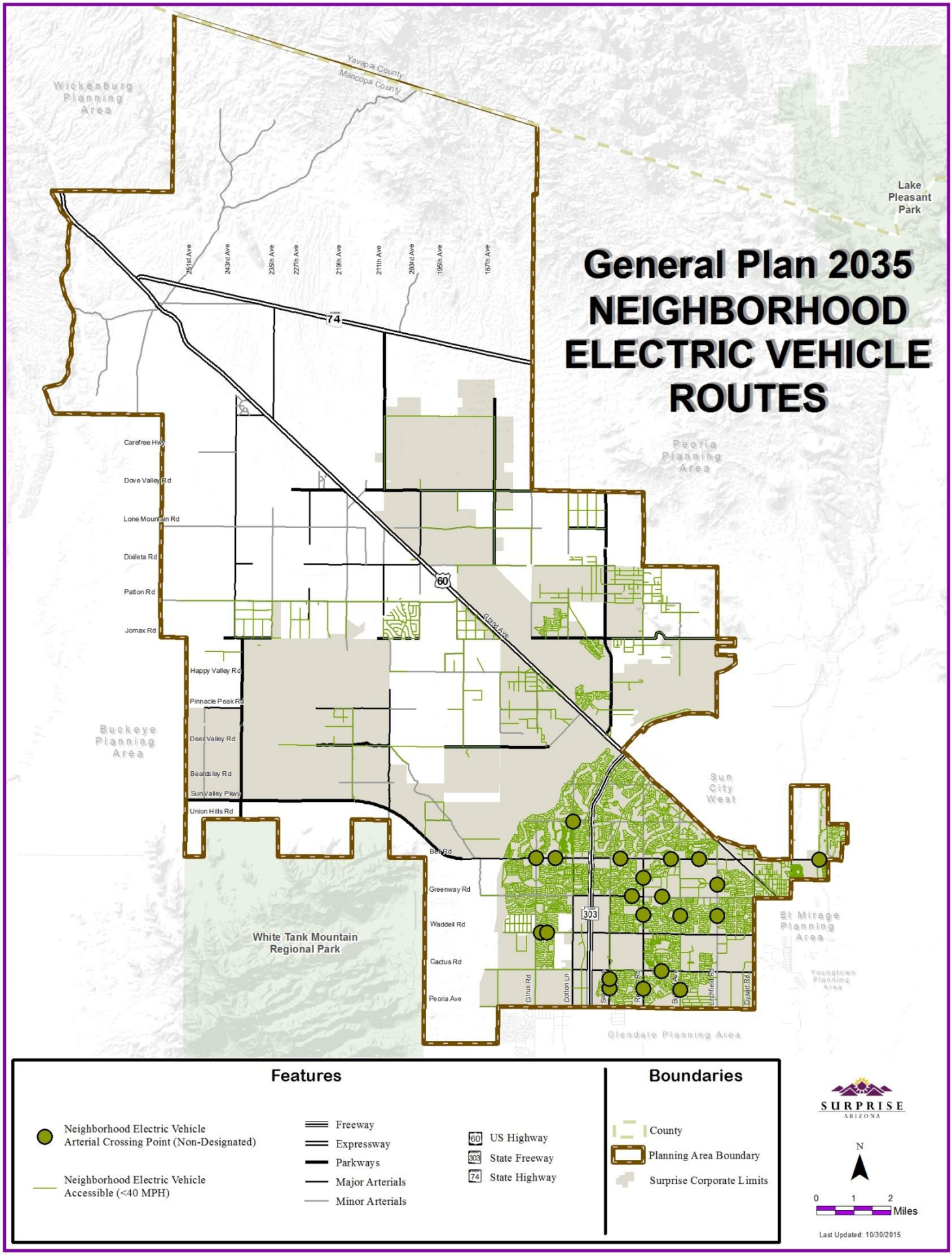
1. Facilitate the integration of bicycle facilities on collector, arterial and parkway streets to meet or exceed the national average.
2. Develop a safe and convenient network of sidewalks, crossings and paths for walking and bicycling that provides connections between schools, recreation facilities, residential areas, transit stops and business centers.
3. Develop, monitor and update a Citywide Bicycle Development Plan.
4. Promote bicycle programs that encourage education, safety and enforcement.
5. Identify opportunities to improve safety for bicycling and walking such as grade separations, mid-block crossings, and multimodal intersections.
6. Encourage businesses and employers to provide bicycle support facilities such as locking bicycle parking areas, lockers, and showers at commercial and industrial facilities.
7. Ensure businesses are providing adequate bicycle parking for their patrons.

Goal 2: Neighborhood Electric Vehicles

Provide for the safe and convenient use of Neighborhood Electric Vehicles (NEVs) in Surprise.

Policies

1. Provide preferential parking for alternative fuels vehicles, including NEVs.
2. Develop safe and convenient connections for NEVs throughout the City.
3. Enforce laws regulating the use of NEVs.


General Plan 2035
NEIGHBORHOOD
ELECTRIC VEHICLE
ROUTES
Yavapai County
Maricopa County
Wickenburg Planning Area
Lake Pleasant Park
Peoria Planning Area
Buckeye Planning Area
Sun City West
El Mirage Planning Area
Youngstown Planning Area
Glendale Planning Area
White Tank Mountain Regional Park
Carefree Hwy
Dove Valley Rd
Lone Mountain Rd
Dixileta Rd
Patton Rd
Jomax Rd
Happy Valley Rd
Pinnacle Peak Rd
Deer Valley Rd
Beardsley Rd
Sun Valley Pkwy
Union Hills Rd
Bell Rd
Greenway Rd
Waddell Rd
Cactus Rd
Peoria Ave
Grand Ave
251st Ave
243rd Ave
235th Ave
227th Ave
219th Ave
211th Ave
203rd Ave
195th Ave
187th Ave
74
60
303
Features
Neighborhood Electric Vehicle Arterial Crossing Point (Non-Designated)
Neighborhood Electric Vehicle Accessible (<40 MPH)
Freeway
Expressway
Parkways
Major Arterials
Minor Arterials
US Highway
State Freeway
State Highway
Boundaries
County
Planning Area Boundary
Surprise Corporate Limits
SURPRISE
ARIZONA
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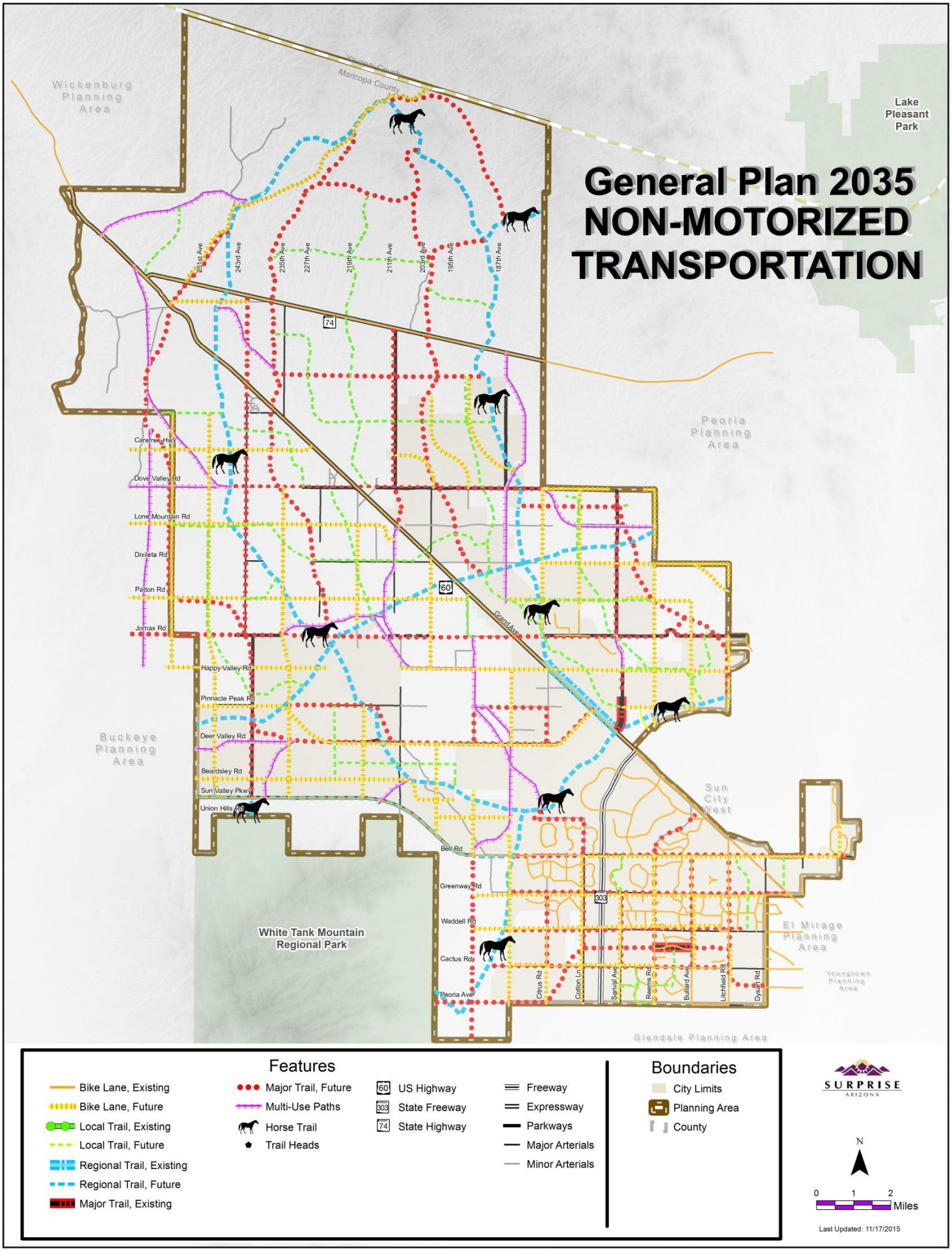
Miles
Last Updated: 10/30/2015


General Plan 2035
NON-MOTORIZED
TRANSPORTATION
Wickenburg Planning Area
Yavapai County
Maricopa County
Lake Pleasant Park
Peoria Planning Area
Buckeye Planning Area
Sun City West
El Mirage Planning Area
Youngtown Planning Area
Glendale Planning Area
White Tank Mountain Regional Park
251st Ave
243rd Ave
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Carefree Hwy
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Deer Valley Rd
Beardsley Rd
Sun Valley Pkwy
Union Hills Rd
Grand Ave
Bell Rd
Greenway Rd
Waddell Rd
Cactus Rd
Peoria Ave
Citrus Rd
Cotton Ln
Sarival Ave
Reems Rd
Bullard Ave
Litchfield Rd
Dysart Rd
74
60
303
Features
Bike Lane, Existing
Bike Lane, Future
Local Trail, Existing
Local Trail, Future
Regional Trail, Existing
Regional Trail, Future
Major Trail, Existing
Major Trail, Future
Multi-Use Paths
Horse Trail
Trail Heads
US Highway
State Freeway
State Highway
Freeway
Expressway
Parkways
Major Arterials
Minor Arterials
Boundaries
City Limits
Planning Area
County
SURPRISE
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Last Updated: 11/17/2015