

Southeast Mesa Land Use and Transportation Plan



Final Report
July 2019



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Prepared for:



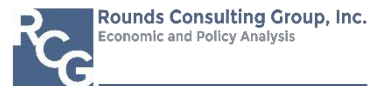
Prepared by:



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July 2019



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Introduction

The *Southeast Mesa Land Use and Transportation Plan* (LUTP) is a guide for programming future transportation improvement priorities that was developed by identifying and understanding existing and future land use trends in the southeast area of Mesa.

Project Need

In 2008, the City of Mesa completed the *Mesa Gateway Strategic Development Plan* (MGSDP), which provided a planning analysis and vision for future growth in the southeast portion of Mesa. Since that time, southeast Mesa has developed into a major economic, employment, and educational center for the region.



The LUTP updates the land use and transportation portions of the MGSDP. The City of Mesa recognized the need for the LUTP updates because land development market trends have deviated somewhat from what was assumed in the MGSDP, and the existing roadway network cannot adequately

accommodate existing and projected traffic demands. Through the LUTP, the City of Mesa seeks to enhance the quality of life in southeast Mesa through the programming and delivery of timely multimodal transportation enhancements.

Study Area

Figure 1 shows the LUTP study area boundary. The study area encompasses approximately 50 square miles. Portions of the study area are bounded by the City of Apache Junction, Town of Gilbert, Town of Queen Creek, and Pinal County. Portions of the State Route (SR) 24, SR 202 (Loop 202), and US 60 freeways are within the study area. The study area also includes the Phoenix-Mesa Gateway Airport (PMGA) and the Arizona State University (ASU) Polytechnic campus.



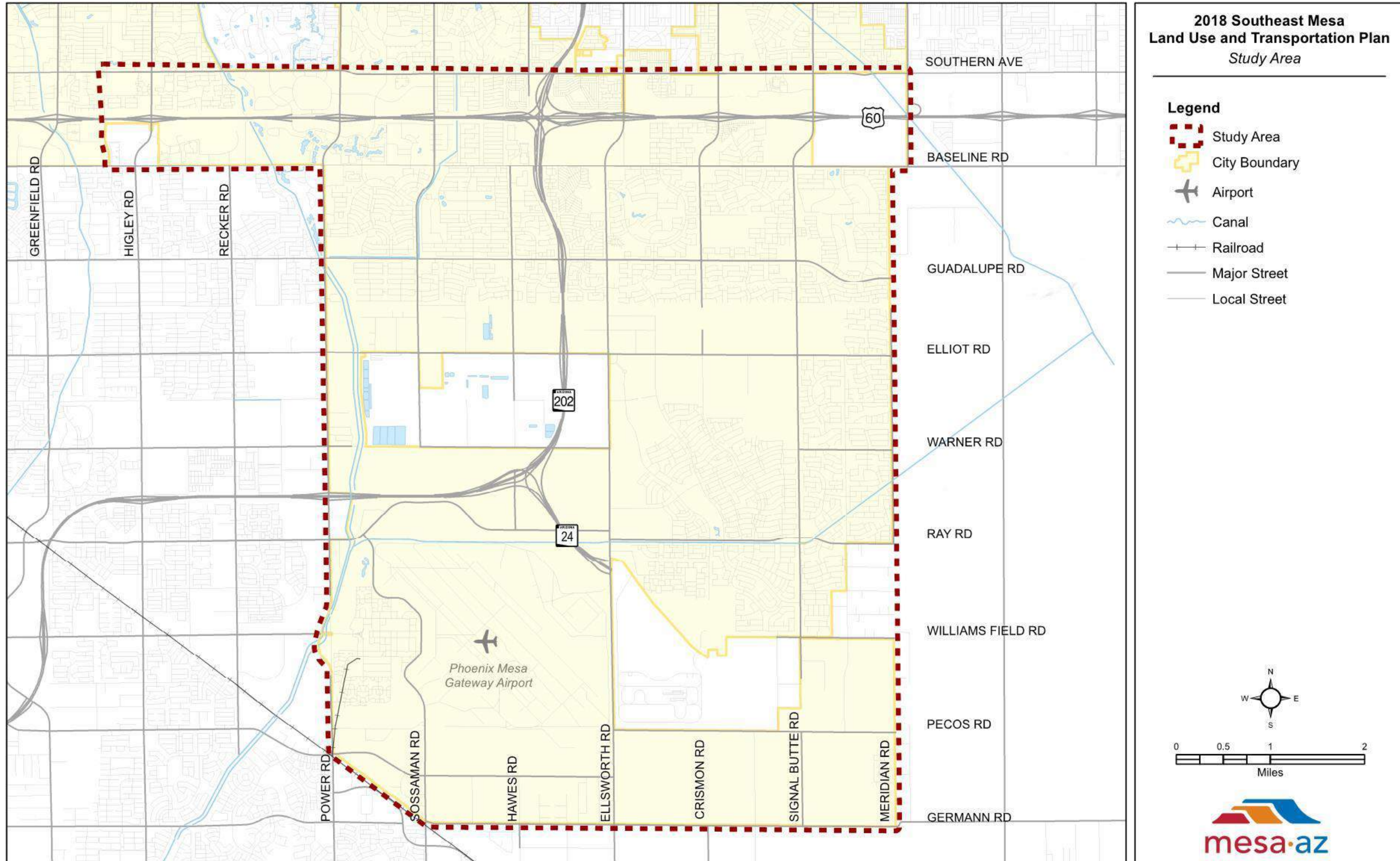


Figure 1: Study Area



Baseline Roadway Network Conditions

Existing Conditions

The roadway network within the northern and eastern portions of the study area is fairly well developed with arterial, collector, and residential streets. Much of the southern portion of the study area (south of Elliot Road), however, is less-developed or undeveloped.

Figure 2 shows the current functional classification (i.e., freeways, arterials, and collectors) for the study area segments of the roadway network. Where new roadway segments are planned or a change of functional classification is anticipated per the City’s *2040 Transportation Plan*, the future functional classification is also shown in the same figure.

Table 1 shows the number of centerline miles of roadway of each functional classification within the study area.

Table 1: Roadway Centerline Miles by Current Functional Classification

Functional Classification	Miles
■ Freeway	■ 16
■ Arterial	■ 93
■ Collector	■ 43

Figure 3 shows the number of through travel lanes on each arterial or collector roadway segment. This laneage information was developed in coordination with the City of Mesa and confirmed using aerial photography or field

reviews. Most of the arterial streets north of Elliot Road are built out with four or more through lanes. South of Elliot Road, there are many arterial roadway segments that have not been built or that are only two-lane roadways.

Figure 4 shows the daily traffic volumes on study area roadways. These volumes were derived from traffic counts collected in 2017 and 2018 by the City of Mesa, Town of Gilbert, Maricopa County Department of Transportation (MCDOT), and Arizona Department of Transportation (ADOT).

The highest recorded daily traffic volumes occur on the freeway segments and on arterial segments near freeway traffic interchanges. The highest arterial traffic volumes occur along Power Road near the US 60 and Loop 202 traffic interchanges and on Ellsworth Road south of SR 24.



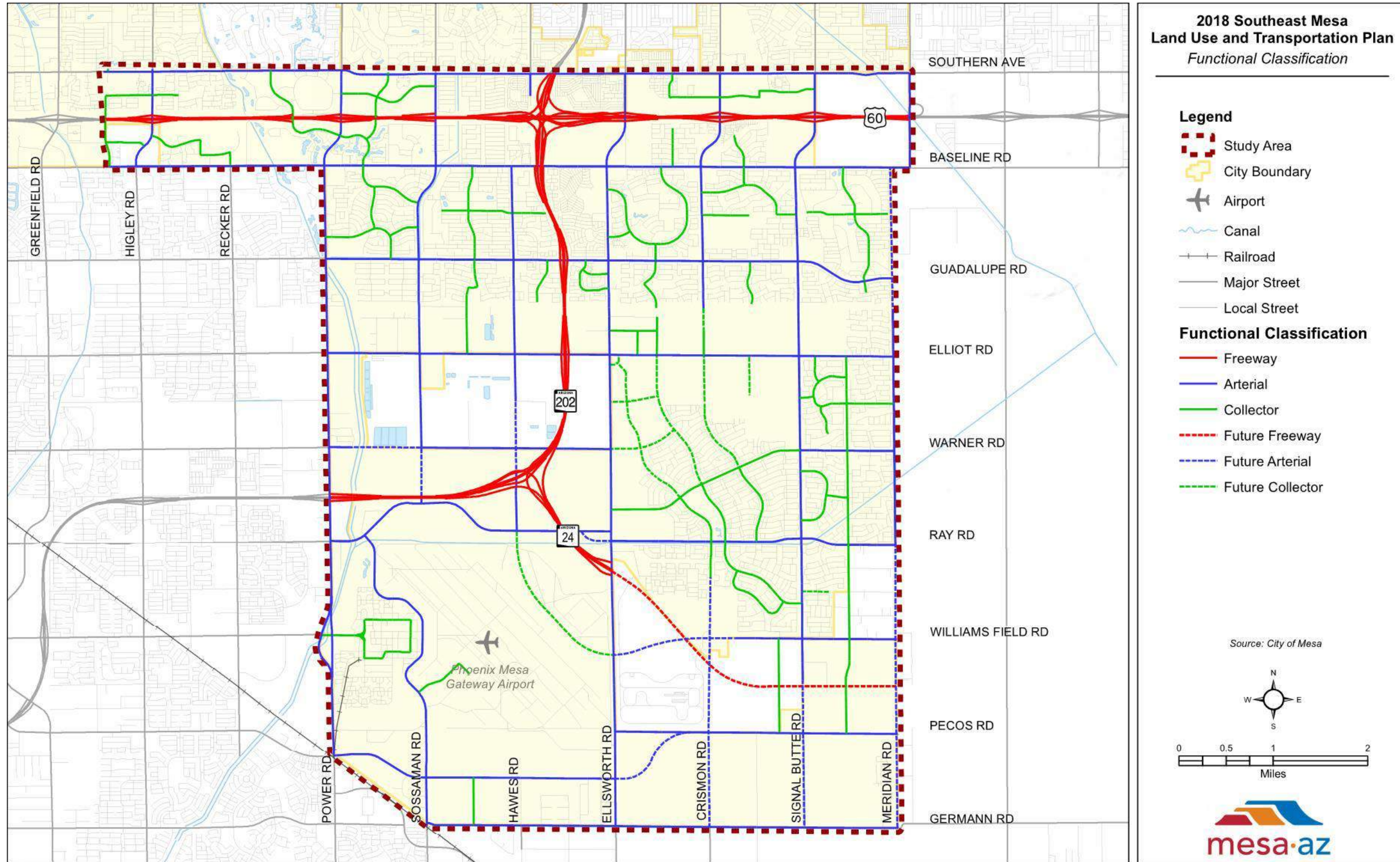


Figure 2: Existing and Future Roadway Functional Classification

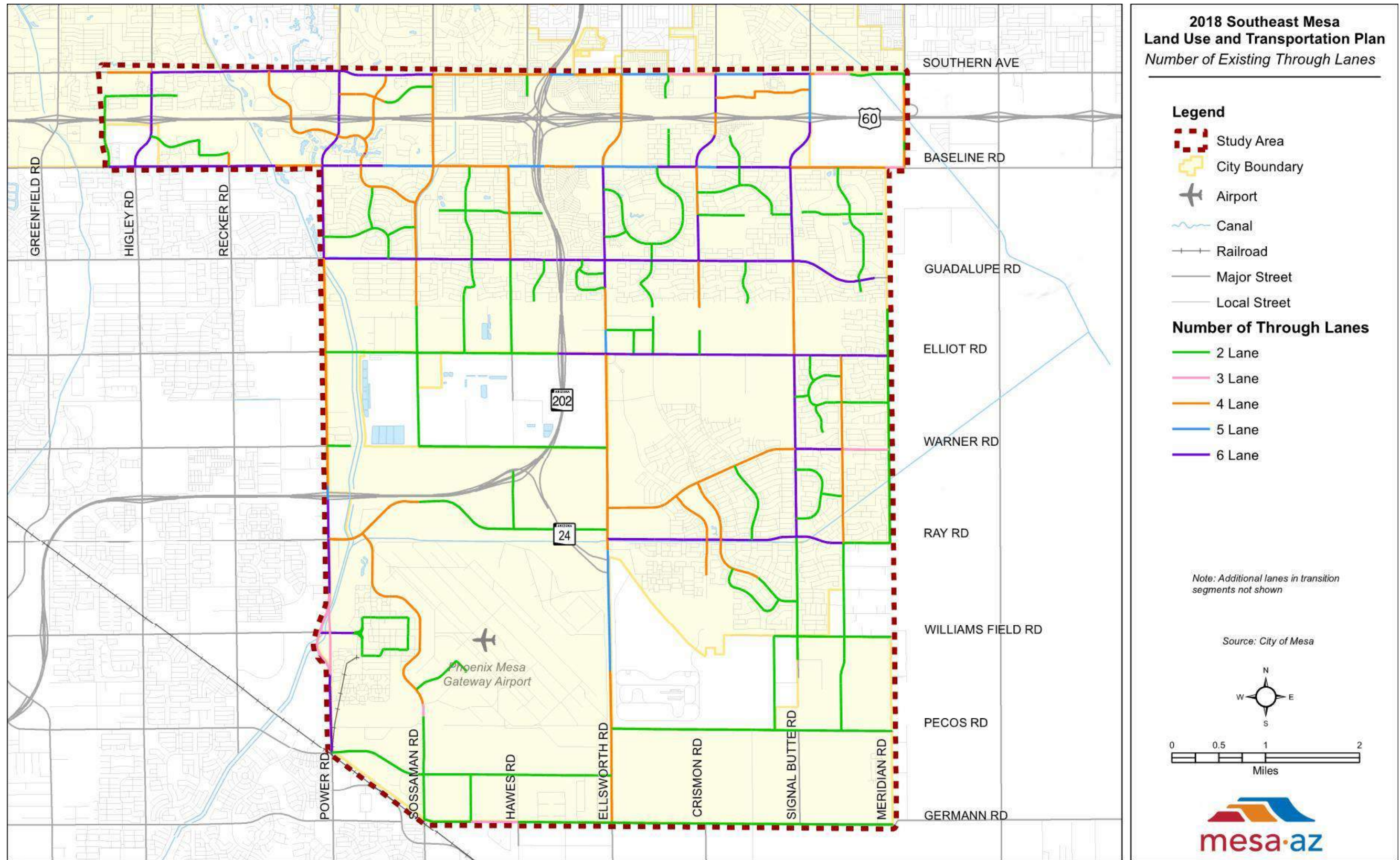


Figure 3: Number of Existing Through Lanes



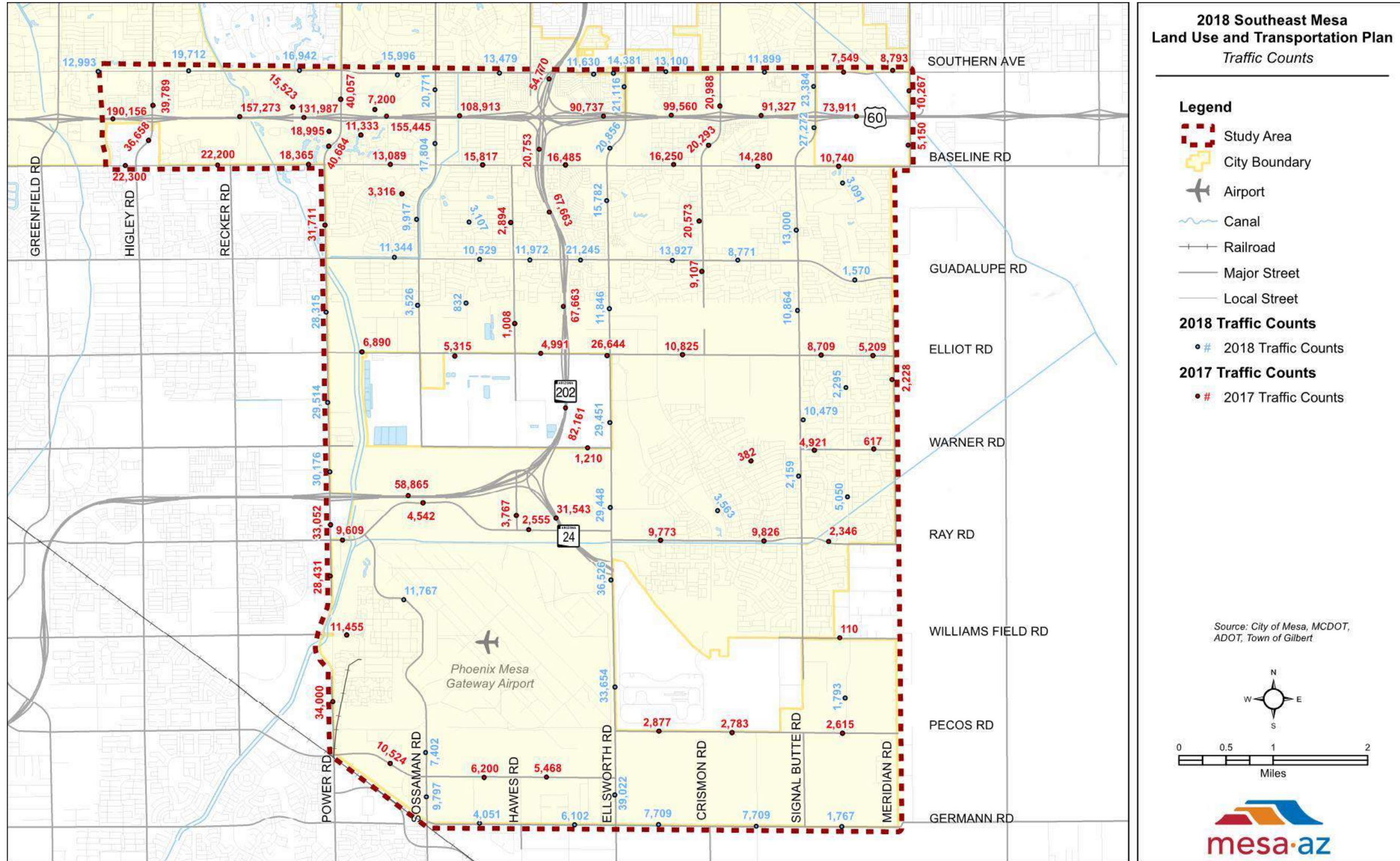


Figure 4: Roadway Segment Existing Daily Traffic Volumes



Planned Roadway Improvements

Within the study area, there are several roadway improvement projects that are underway or within the current five-year plan for the City of Mesa (2019-2023 Capital Improvement Program (CIP)) and the Maricopa Association of Governments (MAG) (2018-2022 Transportation Improvement Program (TIP)). There are also several impending developer-funded roadway improvements and longer-term public agency planned improvements in the study area. These improvement projects will influence traffic patterns and operations within the study area. The major planned roadway improvements include the following and are anticipated to be constructed prior to 2030 except as noted:

City of Mesa

- Widen Power Rd to 6 lanes between south of Guadalupe Rd and Loop 202;
- Construct Signal Butte Rd as a 4-lane arterial between Williams Field Rd and Pecos Rd;
- Construct Signal Butte Rd as a 2-lane arterial between Pecos Rd and Germann Rd; and
- Construct Hawes Rd/Williams Field Rd connector loop as a 2-lane collector through the airport that connects Ray Rd to SR 24.

MAG/ADOT

- Construct SR 24 with 2 general purpose freeway lanes in each direction between Loop 202 and Ironwood Rd with interchanges at Ellsworth Rd, Williams Field Rd, Signal Butte Rd, Meridian Rd, and Ironwood Rd.

Queen Creek/Pinal County

- Widen Ellsworth Rd to 6 lanes between Germann Rd and Queen Creek Rd;

- Construct Germann Rd as a 2-lane arterial between Meridian Rd and Ironwood Rd;
- Construct Signal Butte Rd as a 2-lane arterial between Germann Rd and Queen Creek Rd;
- Construct Meridian Rd as a 2-lane arterial between SR 24 and Germann Rd;
- Construct Pecos Rd as a 4-lane arterial between Meridian Rd and Ironwood Rd (by 2040); and
- Construct Ray Rd as a 4-lane arterial between Meridian Rd and Ironwood Rd (by 2040).

Private Development/Others

- Construct Copernicus Rd as a 2-lane collector between Point Twenty-Two Blvd and Ray Rd;
- Construct Inspirian Pkwy as a 4-lane arterial between District St and Point Twenty-Two Blvd;
- Construct Eastmark Pkwy as a 4-lane arterial between Elliot Rd and Warner Rd;
- Construct Everton Terrace as a 2-lane arterial between Point Twenty-Two Blvd and Ray Rd;
- Construct Parc Joule as a 2-lane collector north of Point Twenty-Two Blvd for ¼ mile;
- Construct Warner Rd as a 4-lane arterial between Ellsworth Rd and Eastmark Pkwy;
- Construct Hawes Rd as a 2-lane arterial between Elliot Rd and Warner Rd; and
- Construct Verona Ave as a 2-lane collector between Power Rd and Sossaman Rd (by 2040).



Character Area / District Analysis

MGSDP Vision

The MGSDP set out to establish a vision for this area that would set the standard for how an active and thriving airport environment could not only co-exist with its neighbors but leverage the strengths of both the airport and surrounding area to establish a national live/learn/work/play destination. As the MGSDP describes, this approach is referred to as a “marriage of form and function in airport planning and development.” To realize this approach, the MGSDP further described the following steps as being necessary for success:

- Establish the “aviation envelope” that will support the regional interests of airport and airline users; unless specific lands are absolutely essential for uninterrupted regional airport operations, they should be considered for development;
- Promote compatible land uses; a wide range of commercial, recreational, and residential uses can occupy land in close proximity to the airport and its active airspace; and
- Ultimately transfer the focal point of the passenger and commercial experience to the east side of the property, where a new passenger terminal should be developed as a regional landmark.

MGSDP Districts

To aid in implementation, the MGSDP established a framework comprised of four subareas referred to as districts. These districts were created for the more undeveloped

portions of the study area, which is the land south of the powerline corridor that runs halfway between Guadalupe Road and Elliot Road. The districts were created to guide future growth and development to ensure compatibility with the airport and leverage the land areas’ specific locational advantage, based on their proximity to the airport and the regional transportation network. Design, form, and character goals were identified for the four districts to guide future development. The four districts were:

- The Mixed-Use Community District;
- The Inner Loop District;
- The Airport/Campus District; and
- The Logistics and Commerce District.

As part of the LUTP effort, the MGSDP districts were evaluated against current development trends to determine if the districts needed to be updated.

The following sections provide a description of the MGSDP districts. **Figure 5** contains a supporting map. The district descriptions and map are based on information provided in the MGSDP.

Mixed-Use Community District

This district was envisioned to be the area that solidifies the goal to balance land uses and provide sustainability through the creation of a live/learn/work/play community. It was



envisioned to contain the widest variety of land uses within the planning area, with ultimate development including low- to high-density residential, commercial, employment, civic, and recreational uses to provide a complete community experience. While the other districts allow for residential uses, this district will be the primary area for residential development. Providing for residential use is critical to attaining the balance that is sought within the Mesa Gateway area amidst the employment, education, commercial, and industrial uses found primarily within the other districts. This district will also include walkable mixed-use “urban core” areas to provide focus and identity.

The boundaries of this district are existing and planned freeways that serve as a transition zone to the other districts. Development in this transitional area can take advantage of freeway frontage and access. Business park, light industrial, and other higher-intensity employment uses, as well as regional community commercial uses, are compatible with this designation. High-density residential will be integrated with commercial and employment uses in urban cores and other mixed-use development areas.

Inner Loop District

The Inner Loop District was envisioned to contain a wide variety of uses. This district should provide a high-quality, mixed-use environment that is compatible with increasing over-flight activities associated with PMGA operations. Because this area will likely be subject to the most revisions to the airport noise contours, land uses in this area may need to be generally nonresidential and the City should weigh new developments carefully. Over time, flexibility will be important as development

should begin to transition to mixed uses, with concentrations of light industrial, office, and retail, with a possibility of higher-density residential uses in the future.

The Elliot Road corridor is envisioned as a multimodal corridor linking Elliot Road with an urban center at Ellsworth Road. A transit system is ultimately envisioned to limit the need for use of personal automobiles for residents within this area. The high intensity of development in this area will be balanced with a significant area of community open space and connections to the regional recreational path system. Close to the area’s Loop 202 boundary, higher intensity uses will help to transition the district to meet the adjacent land uses. While the uses near the freeway will be similar to those found throughout the district, building orientation that presents attractive facades to the freeway and contains high-quality design elements will be of importance.

Airport/Campus District

This district refers to the area encompassing the ASU Polytechnic/Chandler-Gilbert Community College (CGCC), East Valley Institute of Technology (EVIT), PMGA, and the area immediately outside the airport’s future main terminal. It is envisioned as a mixed-use district centered around educational opportunities, research and development functions, and airport-related uses that support the traveling public. Uses on the airport will relate to the uses across the airport boundary.



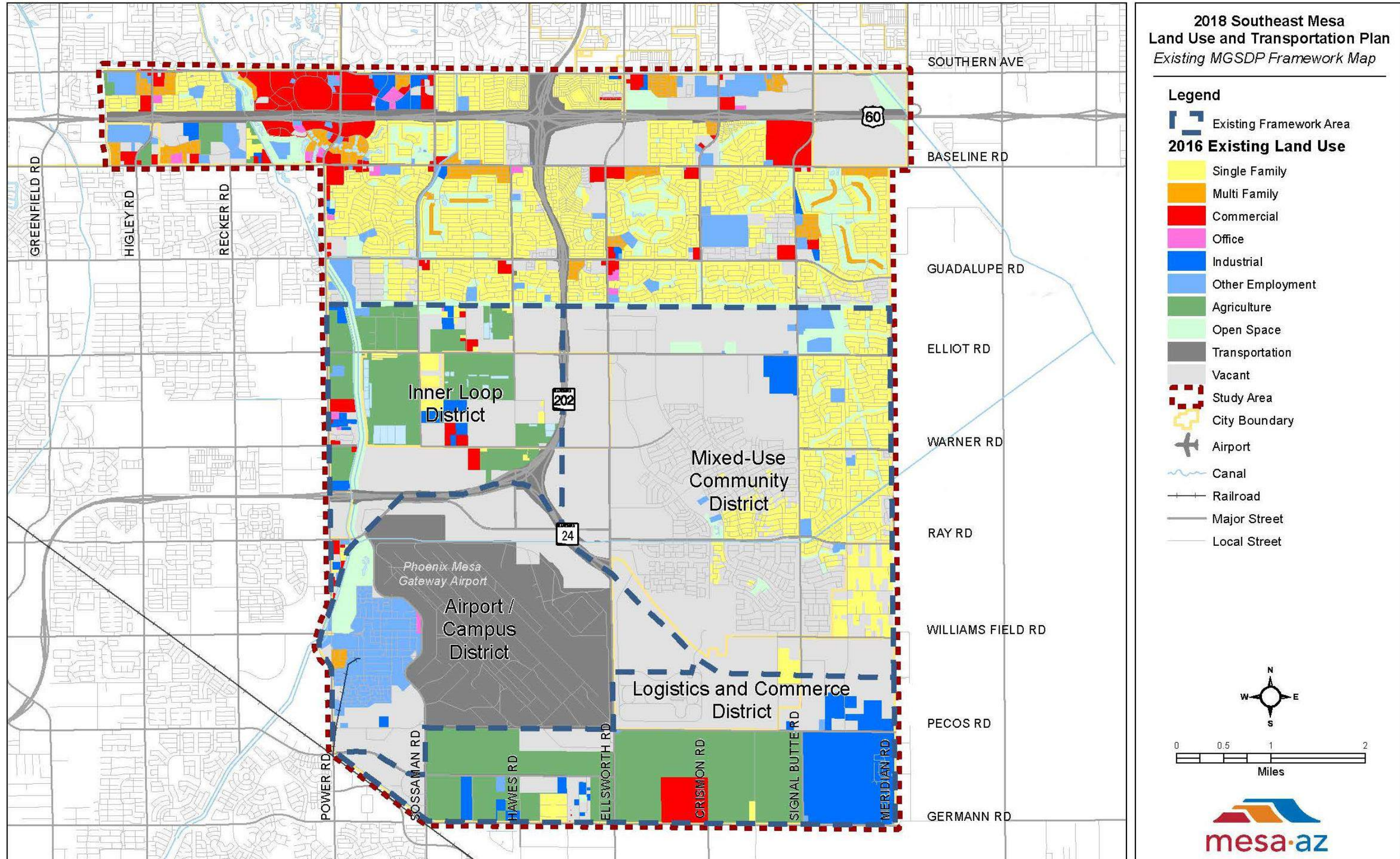


Figure 5: MGSDP Framework Districts



Development in the Airport/Campus District will be high-intensity and pedestrian-oriented. Its pedestrian friendliness will distinguish this district from more typical airport-adjacent developments.

The transitional area or boundary of this district will predominantly be high-intensity employment uses that integrate well with the on-airport uses. Uses in this area will also address the needs of travelers and visitors and provide a smooth transition from the airport into the rest of the community. High-density residential uses can be integrated within a mixed-use development, when appropriate. This area will be a hub of visitor activity and create the first and last impression visitors have of the community. It must therefore provide a very high-quality image.

Logistics and Commerce District

This designation applies to areas south of the Airport/Campus District and SR 24. Heavy industrial, light industrial, business park, and

commercial uses were envisioned to be predominant within this district. Desired uses include manufacturing facilities, large warehouses, distribution facilities, planned employment parks, and similar uses. This district should provide a high-quality employment environment that is compatible with increasing over-flight activities associated with PMGA. Greater intensity and higher density uses will be encouraged for development approaching the northern boundary of this area as it transitions approaching SR 24.

Existing Land Uses

To identify trends in growth and development, it is important to consider the current, existing uses on the ground. A table showing the MAG 2016 existing land uses and associated map are provided in **Table 2** and **Figure 6**, respectively. Referring to this information, approximately 46% of the project area is currently Vacant or utilized for Agriculture.

Table 2: 2016 MAG Existing Land Uses

Existing Land Use	Acres	Sq. Miles	% Overall
Vacant	11,288	17.64	35.46%
Single Family	6,290	9.83	19.76%
Transportation	4,885	7.63	15.34%
Agriculture	3,224	5.04	10.13%
Open Space	1,833	2.86	5.76%
Other Employment	1,412	2.21	4.43%
Industrial	1,157	1.81	3.63%
Commercial	1,108	1.73	3.48%
Multi Family	543	0.85	1.71%
Office	95	0.15	0.30%
Grand Total	31,834	49.74	100.00%



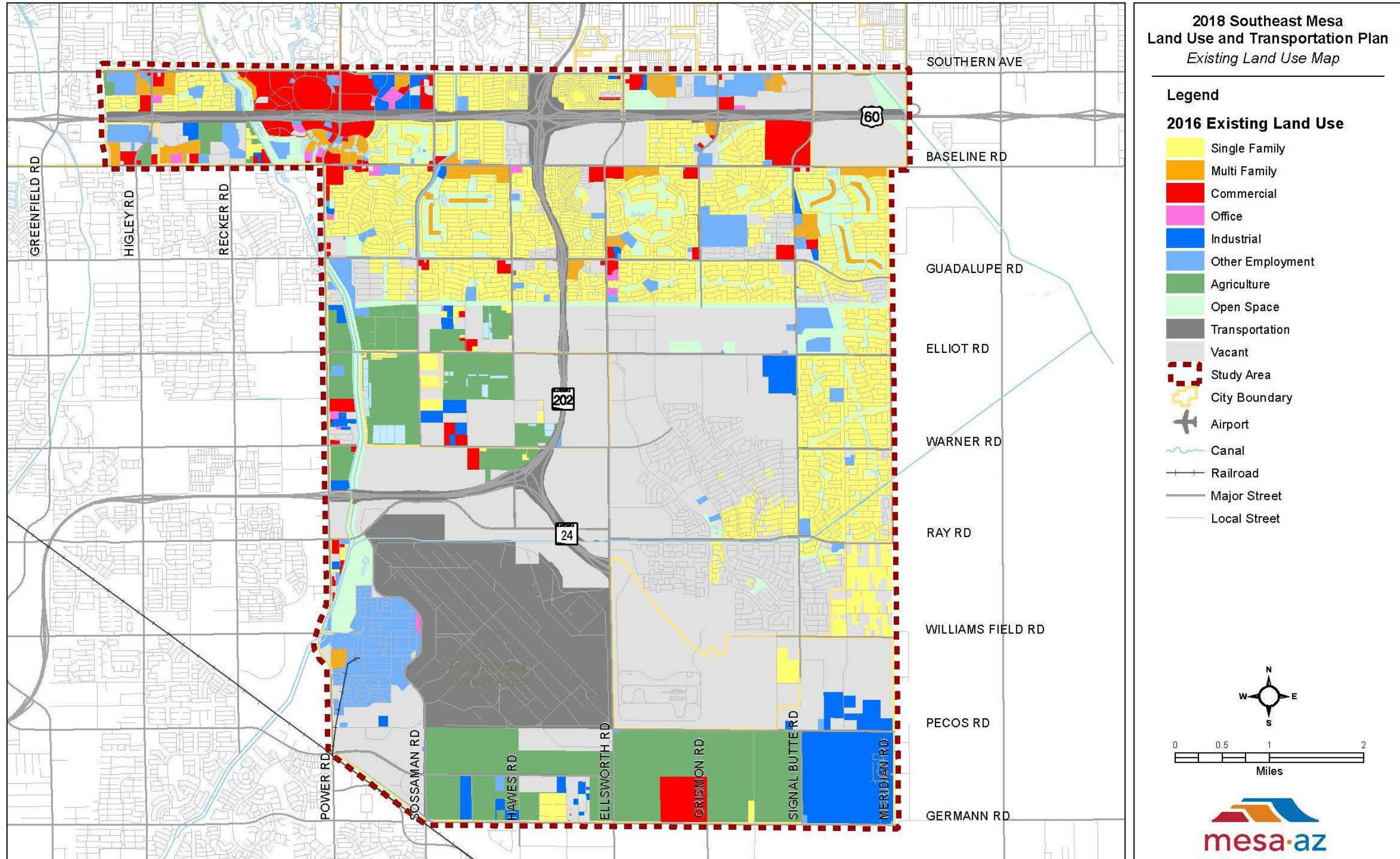


Figure 6: 2016 MAG Existing Land Uses



Existing Zoning

Existing zoning designations also provide insight to potential for growth and development. A data table showing the City of Mesa current

zoning designations within the project area (not including zoning for county islands) and associated map are provided in **Table 3** and **Figure 7**, respectively.

Table 3: City of Mesa Existing Zoning

Existing Zoning	Acres	Sq. Miles	% Overall
County Land / Road Right-of-Way	8,044	12.57	25.27%
LI - Light Industrial	5,821	9.10	18.29%
PC - Planned Community	3,412	5.33	10.72%
RS-6 Single Residence 6	3,262	5.10	10.25%
AG - Agricultural	1,970	3.08	6.19%
RS-7 Single Residence 7	2,045	3.19	6.42%
GI - General Industrial	1,528	2.39	4.80%
LC - Limited Commercial	1,489	2.33	4.68%
PS - Public and Semi-Public	1,268	1.98	3.98%
RM-2 Multiple Residence 2	640	1.00	2.01%
PEP - Planned Employment Park	539	0.84	1.69%
RS-9 Single Residence 9	479	0.75	1.50%
RM-4 Multiple Residence 4	454	0.71	1.43%
RS-43 Single Residence 43	237	0.37	0.75%
RM-3 Multiple Residence 3	204	0.32	0.64%
NC - Neighborhood Commercial	82	0.13	0.26%
HI - Heavy Industrial	76	0.12	0.24%
RSL-4.5 Small Lot Single Residence 4.5	88	0.14	0.28%
RSL-2.5 Small Lot Single Residence 2.5	88	0.11	0.28%
OC - Office Commercial	64	0.10	0.20%
RS-15 Single Residence 15	23	0.04	0.07%
RSL-3.0 Small Lot Single Residence 3.0	16	0.03	0.05%
GC - General Commercial	4	0.01	0.00%
Grand Total	31,834	49.74	100.00%



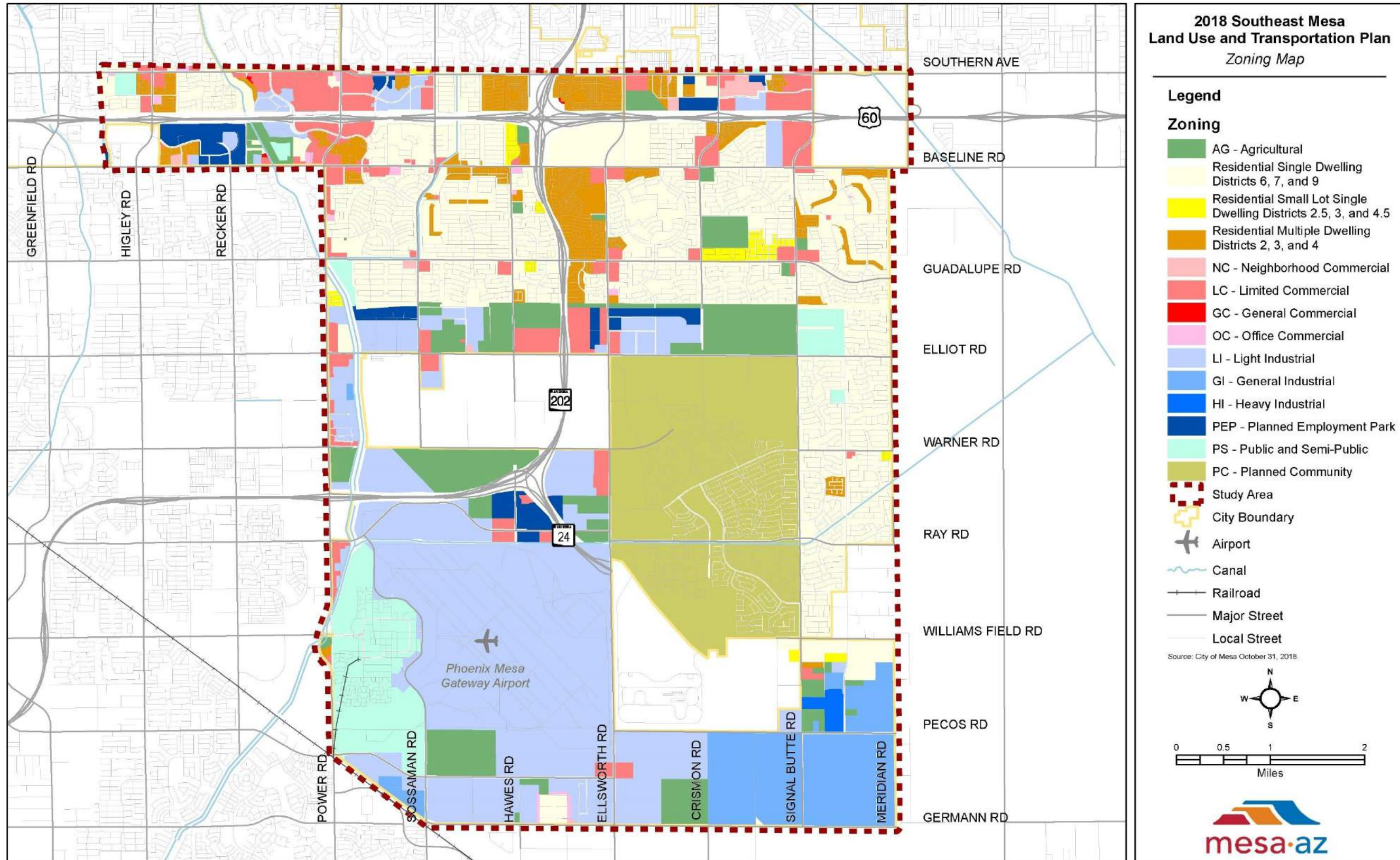


Figure 7: City of Mesa Existing Zoning Designations



General Plan Future Land Uses

Future land use designations – as indicated in the City’s current 2040 *General Plan* character area types – were assessed for the study area. The purpose of this approach was to include and consider the development potential of vacant infill parcels that may impact the area.

A data table showing the City’s *General Plan* future character area types within the study area and associated map showing their location are provided in **Table 4** and **Figure 8**, respectively. Because future land uses consider all property (city or county), the total shown in **Table 4** includes land use designations for the full study area, including county islands.

Table 4: General Plan Future Character Area Types Summary

Future Land Use Character Area Types	Acres	Sq. Miles	% Overall
Neighborhood	10,319	16.12	32.39%
Employment	5,323	8.32	16.71%
Mixed Use Activity/Employment	5,278	8.25	16.57%
Mixed Use Community	4,887	7.64	15.34%
Specialty	4,256	6.65	13.36%
Mixed Use Activity District	1,572	2.46	4.93%
Transit Corridor	109	0.17	0.34%
Neighborhood Village	49	0.08	0.15%
Station Area	31	0.05	0.10%
Park	30	0.05	0.10%
Grand Total	31,855	49.77	100.00%



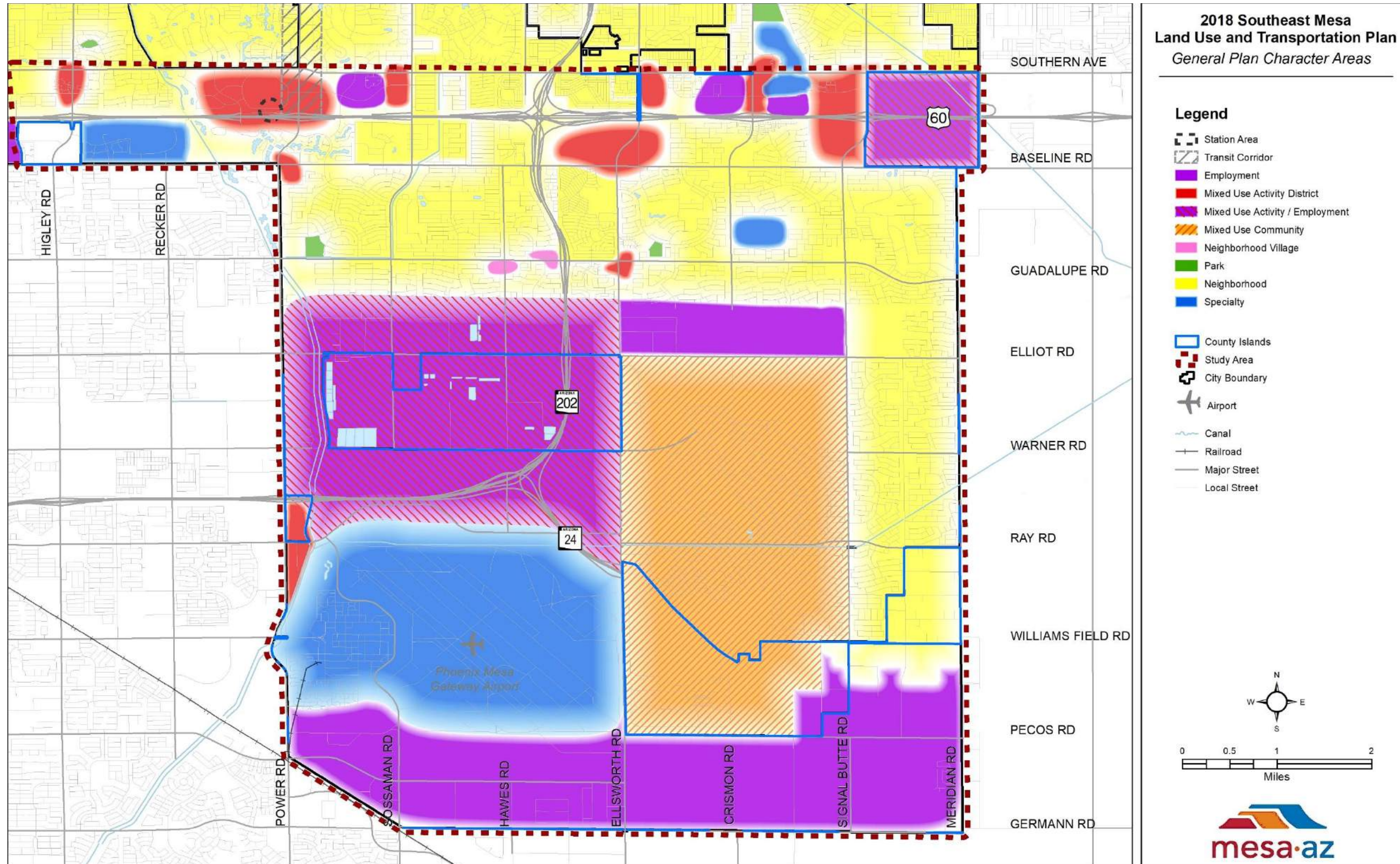


Figure 8: General Plan Future Land Use Character Area Types



Potential New Growth

Areas of potential new growth include properties that are currently vacant, in agriculture production, or certain open space areas.

properties that are vacant, in agriculture production, or certain open space areas within the study area (not including zoning for county islands) are provided in **Table 5** and **Figure 9**, respectively.

A data table and map showing the location and existing zoning of potential new growth

Table 5: Potential New Growth Areas (excluding unincorporated properties)

Existing Zoning of New Growth Areas	Acres	Sq. Miles	% Overall
AG - Agricultural	1,466	2.29	14.46%
GI - General Industrial	832	1.30	8.21%
HI - Heavy Industrial	35	0.06	0.35%
LC - Limited Commercial	621	0.97	6.12%
LI - Light Industrial	2,557	4.00	25.22%
NC - Neighborhood Commercial	17	0.03	0.17%
OC - Office Commercial	12	0.02	0.12%
PC - Planned Community	2,722	4.25	26.85%
PEP - Planned Employment Park	453	0.71	4.47%
PS - Public and Semi-Public	437	0.68	4.31%
RM-2 Multiple Residence 2	42	0.07	0.41%
RM-3 Multiple Residence 3	11	0.02	0.11%
RM-4 Multiple Residence 4	58	0.09	0.57%
RS-15 Single Residence 15	7	0.01	0.07%
RS-43 Single Residence 43	57	0.09	0.56%
RS-6 Single Residence 6	292	0.46	2.88%
RS-7 Single Residence 7	356	0.56	3.51%
RS-9 Single Residence 9	50	0.08	0.49%
RSL-2.5 Small Lot Single Residence 2.5	42	0.06	0.41%
RSL-3.0 Small Lot Single Residence 3.0	15	0.02	0.15%
RSL-4.5 Small Lot Single Residence 4.5	57	0.09	0.56%
Grand Total	10,139	15.86	100.00%



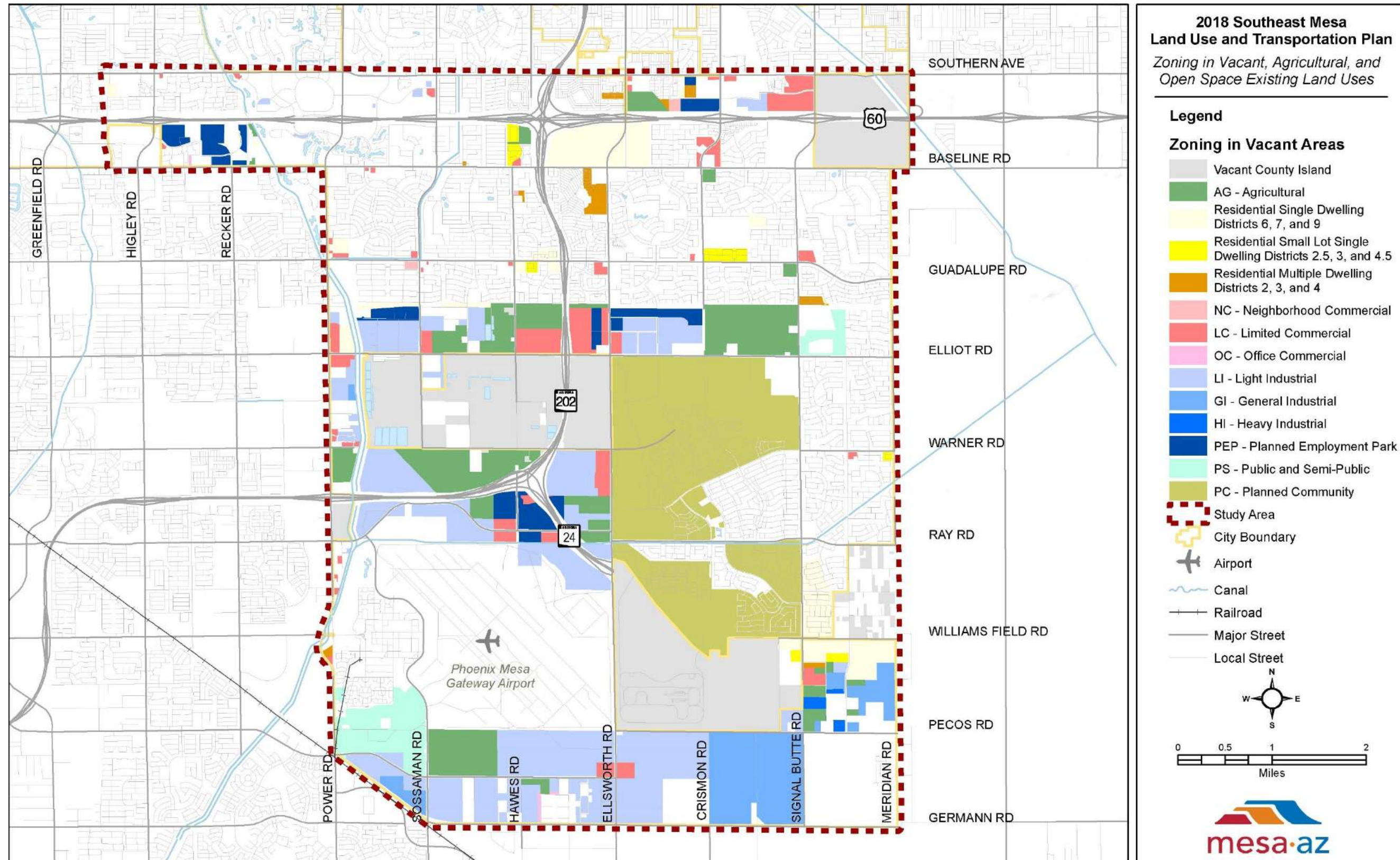


Figure 9: City of Mesa Zoning in Potential New Growth Areas



Adjustments to MGSDP Framework Districts

To evaluate the validity of the MGSDP current framework districts, the context of the area surrounding the airport was assessed to determine local conditions. Referring to the context map shown in **Figure 10**, four areas of influence have emerged. These areas are:

- PMGA;
- ASU Polytechnic;
- Master planned communities; and
- Transition areas.

Since the adoption of the original MGSDP in 2008, development patterns have not adhered exactly to the framework district boundaries.

The ASU Polytechnic area has become more defined, and, while compatible with PMGA, the ASU Polytechnic area may need to be considered as a separate district to meet campus goals. Additionally, the master planned communities area has become more defined as zoning for master planned communities has been approved and development is underway. In reference to the PMGA area, the MGSDP framework district boundary for the airport is somewhat limited and does not include transition areas north and southeast of the airport that may have development restrictions due to proximity to the airport or the noise contour overlay.

The emerging development pattern suggests that an adjustment to the MGSDP framework districts is needed. This adjustment includes a change in district boundaries as well as a bifurcation of the Airport/Campus District into two separate districts, creating a total of five districts. The five proposed districts are:

- Inner Loop;
- Airport and Business;
- Master Planned Communities;
- Campus; and
- Logistics and Commerce.

The proposed new districts and their boundaries are shown in **Figure 11**.



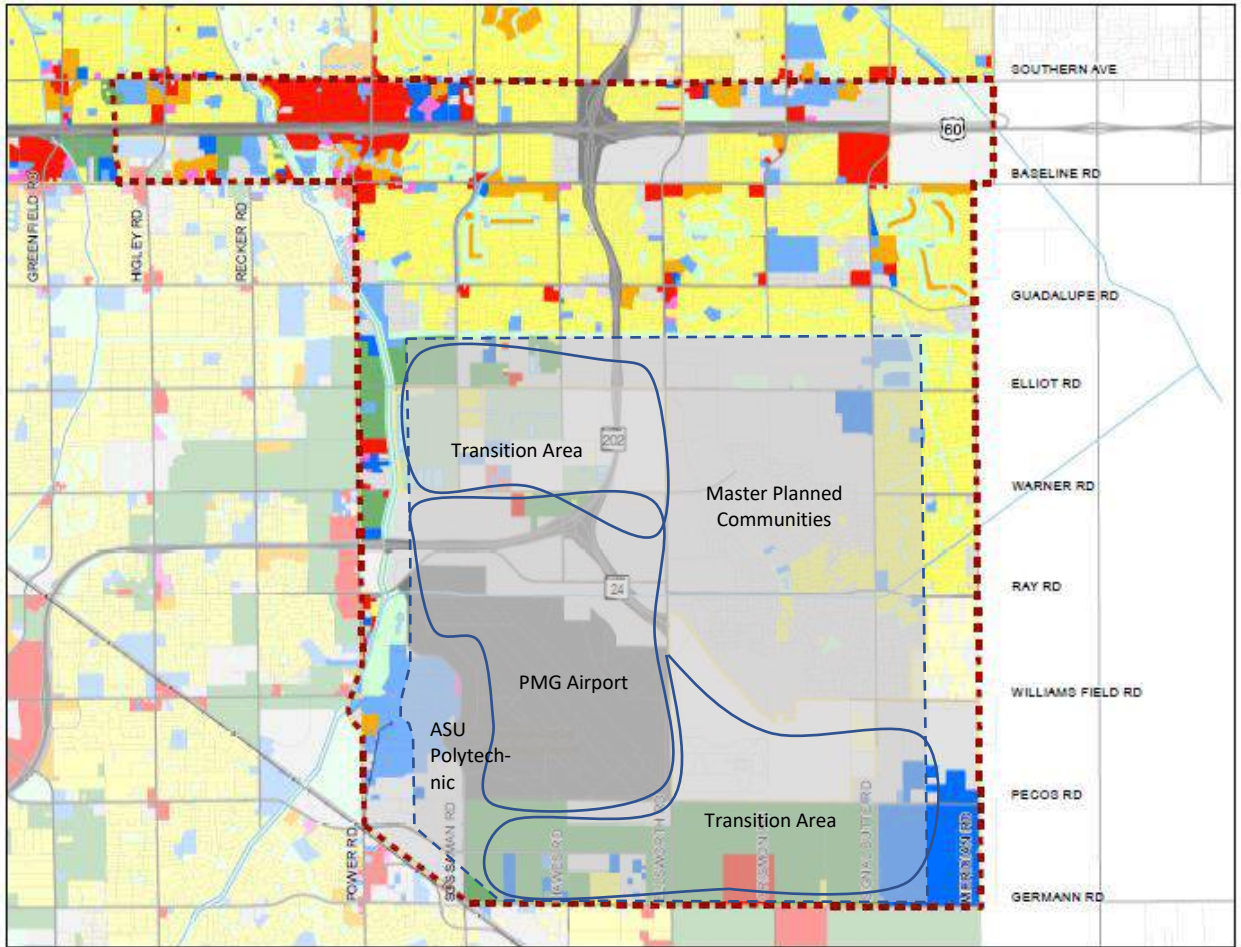


Figure 10: Areas of Influence in Existing Context

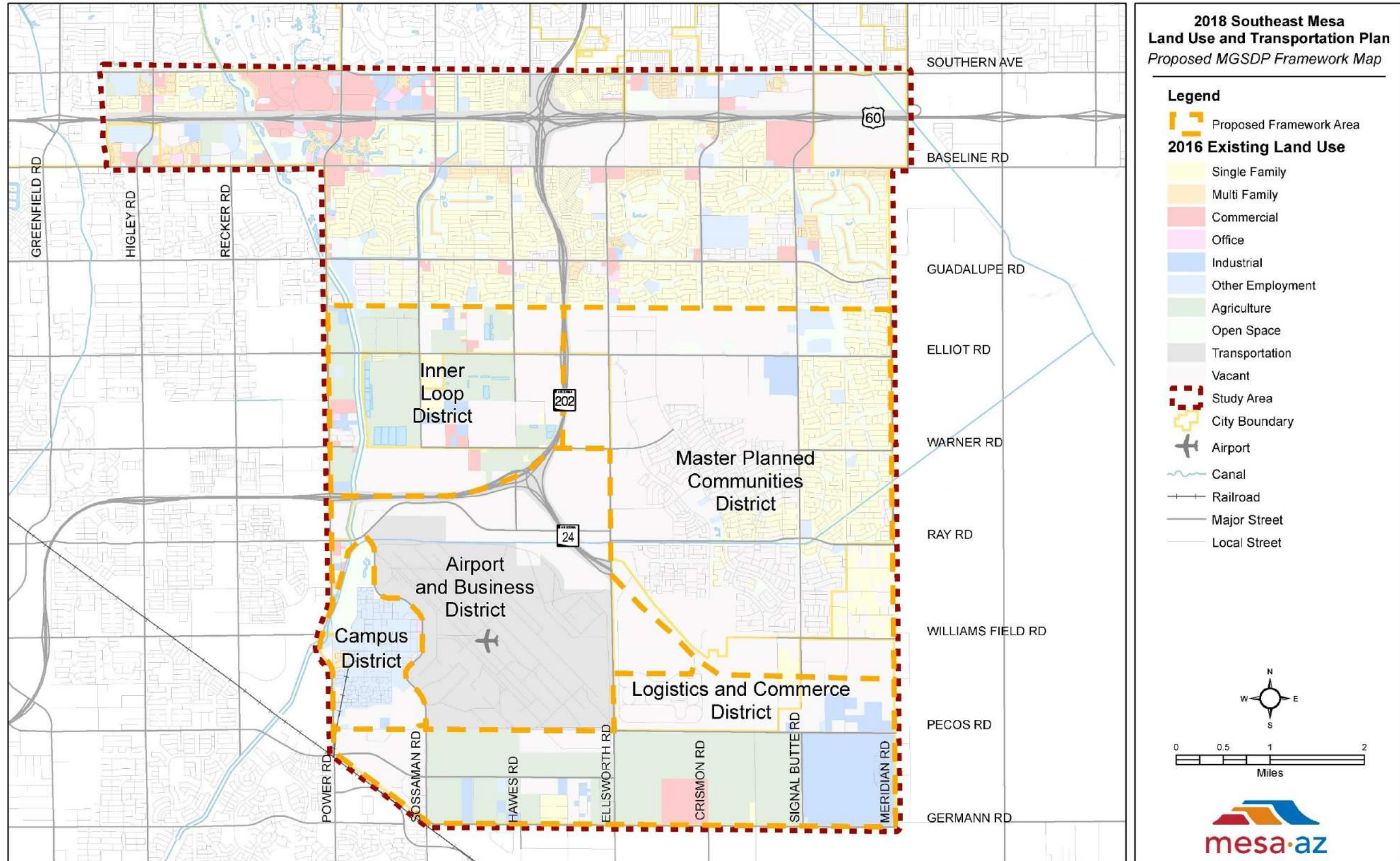


Figure 11: Proposed New Framework Districts



Land Use Scenario Development

Baseline Scenario

The baseline land use scenario for the study area was established utilizing the existing zoning of vacant property within the City of Mesa incorporated boundary, assuming no future rezoning and/or annexations.

Areas of potential new growth in the baseline scenario include properties that are currently vacant, in agricultural production, or in certain open space conditions. The previously referenced **Table 5** shows the existing zoning of properties that meet this baseline scenario criteria within the study area (excluding zoning for county islands).

The total land available for development in the baseline scenario is approximately 10,139 acres. Of this amount, approximately 66% is made up of the following zoning types:

- Planned Community (27%);
- Light Industrial (25%); and
- Agricultural (14%).

2040 Future Land Use Buildout Scenario

Following the establishment of the baseline scenario, the 2040 future land use (FLU) scenario was developed based on the following:

- Public input received at the first community meeting;
- Assumption that all property is developed according to the future land use category; and
- Assumption that all unincorporated property is successfully annexed into the City.

For the 2040 future land use buildout scenario, it was assumed that all available undeveloped property (incorporated and unincorporated), would develop (i.e., buildout condition). To develop this buildout scenario, data was first standardized in two phases: 1) isolate undeveloped properties; and then 2) identify the planned development categories within those properties. The second phase included several sub-steps to more accurately assess future development potential.

First, the MAG 2016 existing land use layer data was used to isolate the land available for development. MAG is the regional authority for existing land use in Maricopa County and 2016 was the most recent data available at the time of this study. All the vacant, agricultural, and open space land use data within the study area were extracted to identify all undeveloped land within the study area. To the extent feasible, City of Mesa parcel data was used to establish accurate proposed development boundaries.



For the buildout condition, the following predictors of future development were referenced to develop 2040 future land use assumptions:

1. **City of Mesa Existing Zoning.** Except for the Agricultural zone, an undeveloped incorporated parcel was assumed to develop at the highest and best use of its existing zoning (see previously referenced **Figure 7**), as shown in **Table 6**.

Table 6: Future Land Uses Based on City of Mesa Zoning

Existing Zoning	Acres
Light Industrial	2,557
General Industrial	832
Heavy Industrial	35
Planned Employment Park	453
Limited Commercial	621
Neighborhood Commercial	17
Office Commercial	12
Planned Community	2,722
Public and Semi-Public (Areas 1-3)	437
RM-2 Multiple Residence 2	42
RM-3 Multiple Residence 3	11
RM-4 Multiple Residence 4	58
RS-15 Single Residence 15	7
RS-43 Single Residence 43	57
RS-6 Single Residence 6	292
RS-7 Single Residence 7	356
RS-9 Single Residence 9	50
RSL-2.5 Small Lot Single Residence 2	42
RSL-3.0 Small Lot Single Residence 3	15
RSL-4.5 Small Lot Single Residence 4	57
Total	8,673

2. **Inner Loop Proposed Development.** The “Inner Loop” refers to the land west and north of Loop 202 to the north of PMGA (see previously referenced **Figure 11**). Within the Inner Loop, the future buildout land uses shown in **Table 7** were derived from the draft Inner Loop Plan proposed development designations contained in the draft October 2018 Land Use Plan submitted to the City by Greey|Pickett / Hilgart Wilson.

Table 7: Future Land Uses Based on Inner Loop Development

Proposed Land Use	Acres
Commercial	44
High Density Residential	94
Low Medium Density Residential	152
Medium Density Residential	278
Office	9
Park/Open Space	13
Technology Mixed Use	349
Urban Mixed Use	188
Total	1,127

3. **City of Mesa 2040 General Plan Character Area Types.** For unincorporated areas within the study area, future buildout land uses were assigned as shown in **Table 8** based on the City of Mesa’s 2040 General Plan future land use character area type designations (see previously referenced **Figure 8**). In addition, it was assumed that all agriculturally zoned properties (incorporated or unincorporated) will be built out based on the future land use character area types designated for those agricultural properties by the 2040 General Plan if not otherwise categorized as part of



the Inner Loop proposed development. The character areas were intentionally drawn in the 2040 General Plan as conceptual, somewhat amorphous shapes; however, when overlaid with a real-world buildout scenario for the SE Mesa LUTP, the boundaries needed to be adjusted for accuracy. For example, a square corner lot that may have had a curved character area boundary drawn through it, resulting in a hypothetical 90% / 10% mix of Employment and Neighborhood character areas, respectively, was given a resulting land use scenario of the predominant Employment character area. Some of the smaller character areas were divided more evenly to be more realistic for development and represented as separate polygons.

Table 8: Future Land Uses Based on Character Areas

Character Area Land Use Type	Acres
Employment	759
Mixed Use Activity/Employment	1,601
Mixed Use Activity District	73
Mixed Use Community (North of SR 24)	264
Mixed Use Community (South of SR 24)	926
Neighborhood	199
Total	3,822

In summary, the total land available for the 2040 buildout scenario, inclusive of unincorporated areas is 13,622 acres, as shown in Table 9, which constitutes 43% of the total land area within the study area.

Table 9: Total Developable Land Area for 2040 Buildout

Land Area	Acres
Mesa Existing Zoning	8,673
Proposed Inner Loop Development	1,127
Character Area Future Land Uses	3,822
Total	13,622

Table 10 provides summary characteristics of the 2040 preferred future land use buildout scenario, which were determined using assumptions for how developable land will be split between commercial, industrial, and residential land uses and the corresponding assumed floor-area ratios (FAR), target densities, and persons per household (PPH) values. More detail on the 2040 preferred future land use buildout scenario is provided in Table 11, with a map showing the preferred future land uses in Figure 12.

Table 10: 2040 Future Land Use Buildout Scenario Summary

Component	Unit
New Commercial Acreage	2,433
New Industrial Acreage	6,290
New Residential Units	24,598
New Population	71,862

2030 Land Use Scenario

A 2030 land use scenario was developed from the buildout scenario using assumed growth rates based on historical and forecasted trends. The detailed assessment of the 2030 land use scenario is provided in Table 12, with a map showing 2030 percent buildout in Figure 13.



Table 11: 2040 Future Land Use Buildout Scenario Detail

	Projected Future Land Use	Total Acres	Commercial			Industrial			Residential				
			% Total Acres	FAR	Total sf.	% Total Acres	FAR	Total sf.	% Total Acres	Target Density	PPH	Total Units	Population
Inner Loop Proposed Master Plan	Inner FLU: COMM	44	100%	0.5	956,021								
	Inner FLU: HDR	94	25%	0.25	255,507				75%	16.5	1.7	1,161	1,974
	Inner FLU: LMDR	152	15%	0.2	199,256				85%	4.5	3.2	583	1,866
	Inner FLU: MDR	278	5%	0.18	108,880				95%	8	2.7	2,111	5,699
	Inner FLU: OFFICE	9	100%	0.15	58,109								
	Inner FLU: OS	13											
	Inner FLU: TECH MIX5	349	50%	0.4	3,038,824	50%	0.25	1,899,265					
	Inner FLU: URB. MIX4	188	20%	0.65	1,062,251				80%	8	2.7	1,201	3,241
City of Mesa Future Land Use	Mesa Char Area: Employment	759	20%	0.2	1,322,830	80%	0.25	6,614,148					
	Mesa Char Area: Mixed Use Activity / Employment	1,601	50%	0.2	6,972,749	50%	0.25	8,715,936					
	Mesa Char Area: Mixed Use Activity District	73	80%	0.5	1,276,012	20%	0.5	319,003					
	Mesa Char Area: Mixed Use Community (North of SR24)	264	10%	0.25	287,572				90%	4.5	3.2	1,069	3,422
	Mesa Char Area: Neighborhood (South of SR24)	926	15%	0.2	1,210,162	80%	0.25	8,067,748	5%	4.5	3.2	208	667
	Mesa Char Area: Neighborhood	199	5%	0.2	86,710				95%	4.5	3.2	851	2,723
City of Mesa Existing Zoning	Mesa Zoning: LI - Light Industrial	2,557				100%	0.25	27,849,436					
	Mesa Zoning: GI - General Industrial	832				100%	0.2	7,244,168					
	Mesa Zoning: HI - Heavy Industrial	35				100%	0.15	231,334					
	Mesa Zoning: PEP - Planned Employment Park	453				100%	0.25	4,927,727					
	Mesa Zoning: LC - Limited Commercial	621	100%	0.2	5,410,485								
	Mesa Zoning: NC - Neighborhood Commercial	17	100%	0.25	189,176								
	Mesa Zoning: OC - Office Commercial	12	100%	0.25	126,422								
	Mesa Zoning: PC - Planned Community	2,722	10%	0.18	2,134,542				90%	4.5	3.2	11,026	35,282
	Mesa Zoning: PS - Public and Semi-Public (Area 1)	76				100%	0.1	331,056					
	Mesa Zoning: PS - Public and Semi-Public (Area 2)	188				100%	0.25	2,047,320					
	Mesa Zoning: PS - Public and Semi-Public (Area 3)	173				100%	0.51	3,843,299					
	Mesa Zoning: RM-2 Multiple Residence 2	42							100%	16.5	1.7	693	1,178
	Mesa Zoning: RM-3 Multiple Residence 3	11							100%	16.5	1.7	176	299
	Mesa Zoning: RM-4 Multiple Residence 4	58							100%	16.5	1.7	962	1,635
	Mesa Zoning: RS-15 Single Residence 15	7							100%	8	2.7	52	141
	Mesa Zoning: RS-43 Single Residence 43	57							100%	8	2.7	458	1,238
	Mesa Zoning: RS-6 Single Residence 6	292							100%	4.5	3.2	1,314	4,204
	Mesa Zoning: RS-7 Single Residence 7	356							100%	4.5	3.2	1,604	5,133
	Mesa Zoning: RS-9 Single Residence 9	50							100%	4.5	3.2	226	724
	Mesa Zoning: RSL-2.5 Small Lot Single Residence 2*	42							100%	8	2.7	332	897
Mesa Zoning: RSL-3.0 Small Lot Single Residence 3*	15							100%	8	2.7	118	318	
Mesa Zoning: RSL-4.5 Small Lot Single Residence 4*	57							100%	8	2.7	452	1,221	
Grand Total		13,622	2,433	23%	24,695,508	6,290	26%	72,090,438	4,524	5.44	2.9	24,598	71,862



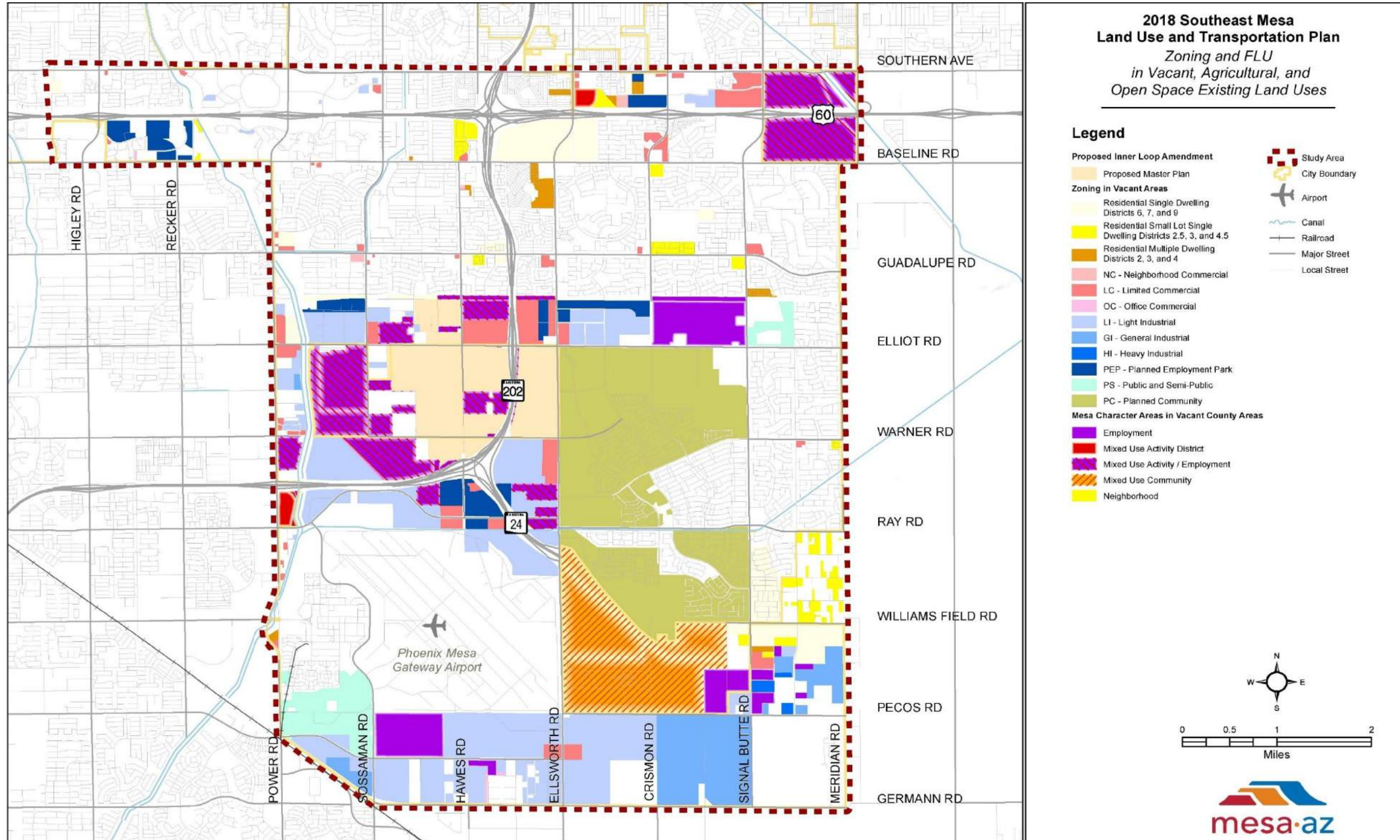


Figure 12: 2040 Future Land Use Buildout Scenario



Table 12: 2030 Future Land Use Scenario Detail

	Projected Future Land Use	Total Acres	Commercial			Industrial			Residential					
			% Total Acres	FAR	Total sf.	% Total Acres	FAR	Total sf.	% Total Acres	Target Density	PPH	Total Units	Population	
Inner Loop Proposed Master Plan	Inner FLU: COMM	44	100%	0.5	382,408									
	Inner FLU: HDR	94	25%	0.25	102,203				75%	16.5	1.7	690	1,173	
	Inner FLU: LMDR	152	15%	0.2	79,702				85%	4.5	3.2	346	1,109	
	Inner FLU: MDR	278	5%	0.18	43,552				95%	8	2.7	1,254	3,386	
	Inner FLU: OFFICE	9	100%	0.15	23,244									
	Inner FLU: OS	13												
	Inner FLU: TECH MIX5	349	50%	0.4	1,215,530	50%	0.25	791,234						
	Inner FLU: URB. MIX4	188	20%	0.65	424,901				80%	8	2.7	713	1,926	
City of Mesa Future Land Use	Mesa Char Area: Employment	759	20%	0.2	529,132	80%	0.25	2,755,454						
	Mesa Char Area: Mixed Use Activity / Employment	1,601	50%	0.2	2,789,100	50%	0.25	3,631,059						
	Mesa Char Area: Mixed Use Activity District	73	80%	0.5	510,405	20%	0.5	132,897						
	Mesa Char Area: Mixed Use Community (North of SR24)	264	10%	0.25	115,029				90%	4.5	3.2	635	2,033	
	Mesa Char Area: Neighborhood (South of SR24)	926	15%	0.2	484,065	80%	0.25	3,361,024	5%	4.5	3.2	124	396	
	Mesa Char Area: Neighborhood	199	5%	0.2	34,684				95%	4.5	3.2	506	1,618	
City of Mesa Existing Zoning	Mesa Zoning: LI - Light Industrial	2,557				100%	0.25	11,602,075						
	Mesa Zoning: GI - General Industrial	832				100%	0.2	3,017,920						
	Mesa Zoning: HI - Heavy Industrial	35				100%	0.15	96,374						
	Mesa Zoning: PEP - Planned Employment Park	453				100%	0.25	2,052,891						
	Mesa Zoning: LC - Limited Commercial	621	100%	0.2	2,164,194									
	Mesa Zoning: NC - Neighborhood Commercial	17	100%	0.25	75,671									
	Mesa Zoning: OC - Office Commercial	12	100%	0.25	50,569									
	Mesa Zoning: PC - Planned Community	2,722	10%	0.18	853,817				90%	4.5	3.2	6,550	20,961	
	Mesa Zoning: PS - Public and Semi-Public (Area 1)	76				100%	0.1	137,918						
	Mesa Zoning: PS - Public and Semi-Public (Area 2)	188				100%	0.25	852,914						
	Mesa Zoning: PS - Public and Semi-Public (Area 3)	173				100%	0.51	1,601,118						
	Mesa Zoning: RM-2 Multiple Residence 2	42							100%	16.5	1.7	412	700	
	Mesa Zoning: RM-3 Multiple Residence 3	11							100%	16.5	1.7	104	177	
	Mesa Zoning: RM-4 Multiple Residence 4	58							100%	16.5	1.7	751	971	
	Mesa Zoning: RS-15 Single Residence 15	7							100%	8	2.7	31	84	
	Mesa Zoning: RS-43 Single Residence 43	57							100%	8	2.7	272	735	
	Mesa Zoning: RS-6 Single Residence 6	292							100%	4.5	3.2	781	2,498	
	Mesa Zoning: RS-7 Single Residence 7	356							100%	4.5	3.2	953	3,049	
	Mesa Zoning: RS-9 Single Residence 9	50							100%	4.5	3.2	134	430	
	Mesa Zoning: RSL-2.5 Small Lot Single Residence 2*	42							100%	8	2.7	197	533	
	Mesa Zoning: RSL-3.0 Small Lot Single Residence 3*	15							100%	8	2.7	70	189	
	Mesa Zoning: RSL-4.5 Small Lot Single Residence 4*	57							100%	8	2.7	269	725	
Grand Total		13,622	2,433	9%	9,878,203	6,290	11%	30,032,877	4,524	3.23	2.9	14,613	42,693	



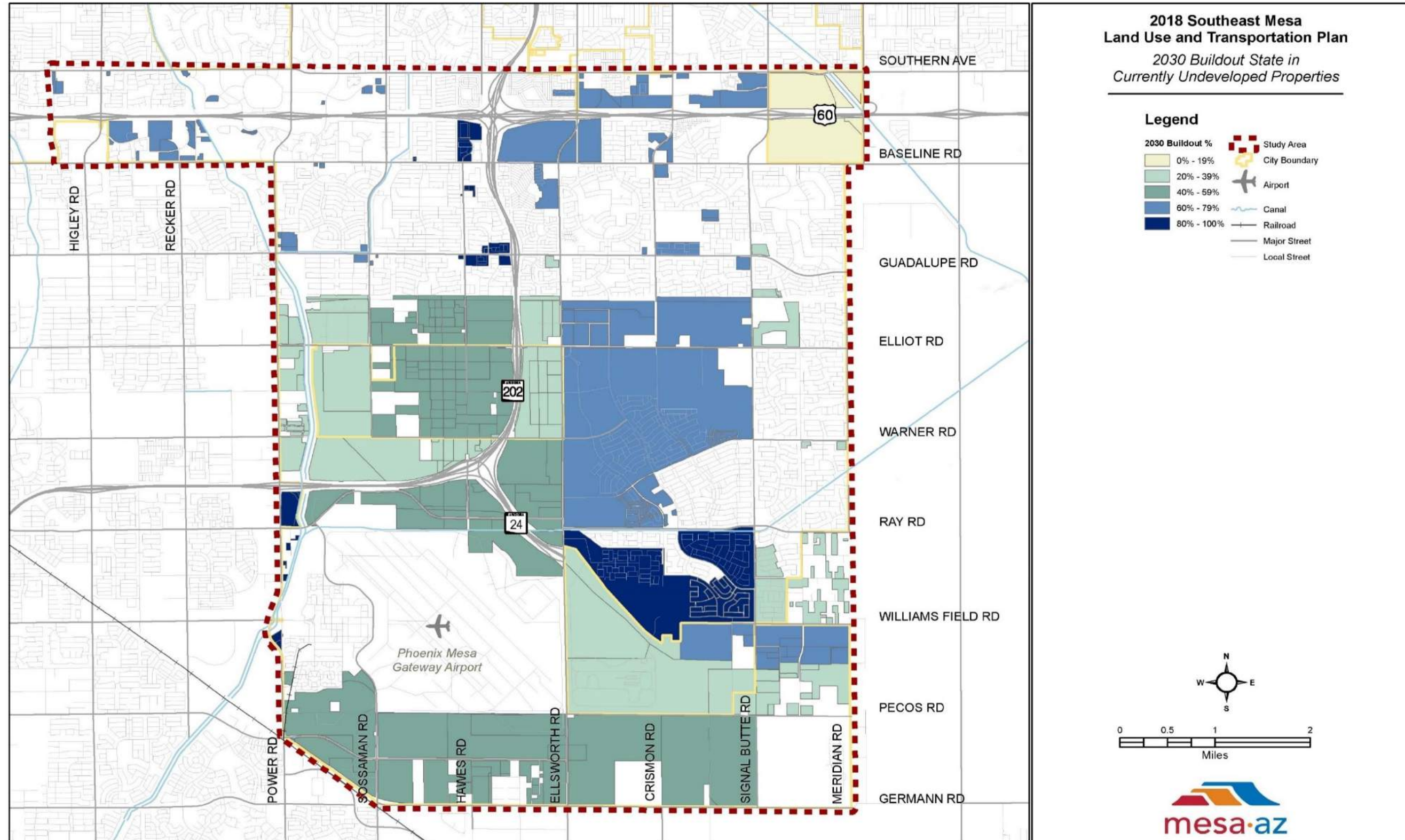


Figure 13: 2030 Percent Buildout of Developable Land



Economic Analysis

An economic model was developed to identify tax collections and the multiplier benefits resulting from the development of land for different uses (e.g., residential, office, industrial, etc.) to support the LUTP land use scenario evaluation.

To provide perspective on the different economic and fiscal implications resulting from developments of different land uses, the model calculated the impacts generated by the following five land use categories:

- Commercial/retail;
- Office;
- Industrial;
- Single family residential; and
- Multi-family residential.

Results of the economic analysis indicated that development of all future available land at full buildout would support 240,538 direct jobs with \$12.3 billion in annual wages. The annual economic output generated by direct activities equals \$57.6 billion. An additional 238,363 indirect and induced regional jobs would be supported by the new developments. The total annual economic output generated by the buildout scenario is estimated at \$94.5 billion. The City of Mesa would also collect \$253.9 million annually in tax revenues from the development of the 13,622 acres.

More detail regarding the economic model development and results is presented in the Economic Analysis report provided in **Appendix 1**.



Transportation Implementation Plan

Introduction

This section of the report describes the existing and future baseline and proposed improved roadway networks for the years 2018 (existing), 2030, and 2040. Projected future daily traffic volumes were modeled and analyzed to determine potential future roadway operating conditions, identify baseline capacity constraints and needed improvements, and prioritize recommended future roadway capacity improvements.

Subarea Travel Demand Model Development and Validation

A subarea travel demand model was developed to forecast future year traffic volumes in the study area. The subarea model was based on, and extracted from, the current version of the MAG regional travel demand model. Because the regional model mainly focuses on arterial roadways in the entire region, it has insufficient granularity on both traffic analysis zones (TAZs) and the roadway network in the study area. To introduce the needed granularity into the subarea model, large TAZs were split into several smaller TAZs and study area roadways were added to the model network where missing. These changes allowed the model to more

accurately depict where traffic is generated and what travel routes are used.

To forecast the future traffic condition more accurately in the study area, a 2018 base year subarea model was developed and validated. The associated demographic and economic data were refined and developed for the 2018, 2030, and 2040 analysis years. The subarea model traffic assignment results were compared with available traffic counts to validate the accuracy of the model performance, with minor adjustments made to model parameters to improve the accuracy of the subarea model.

More detail regarding the subarea model development and validation is presented in the Mesa Subarea Travel Demand Model technical memorandum provided in **Appendix 2**.

Existing and Projected Employment and Population

Figure 14 shows the 2018 study area employment by TAZ as identified in the subarea travel demand model. Most of the existing employment within the study area is located near PMGA and along US 60 west of Sossaman Road. **Figure 15** and **Figure 16** show the projected study area employment by TAZ for the years 2030 and 2040, respectively.



By 2040, the study area is anticipated to effectively be built out in terms of employment. Notable increases in employment occur in the southern portion of the study area in and around PMGA, the Inner Loop, and along US 60 west of Power Road and east of Ellsworth Road.

Figure 17 shows the 2018 study area population by TAZ as identified in the subarea travel demand model. Most of the study area population is located in TAZs in the northern portion of the study area, west of the airport, within the Eastmark development, and north of Ray Road between Signal Butte Road and Meridian Road. **Figure 18** and **Figure 19** show the projected study area population by TAZ for the years 2030 and 2040, respectively.

By 2040, the study area is anticipated to effectively be built out in terms of population. Notable increases in population occur within the Inner Loop and Eastmark areas, as well as east of Ellsworth Road between Ray Road and the expected SR 24 alignment.

More detailed population and employment information by TAZ is available in **Appendix 3**.



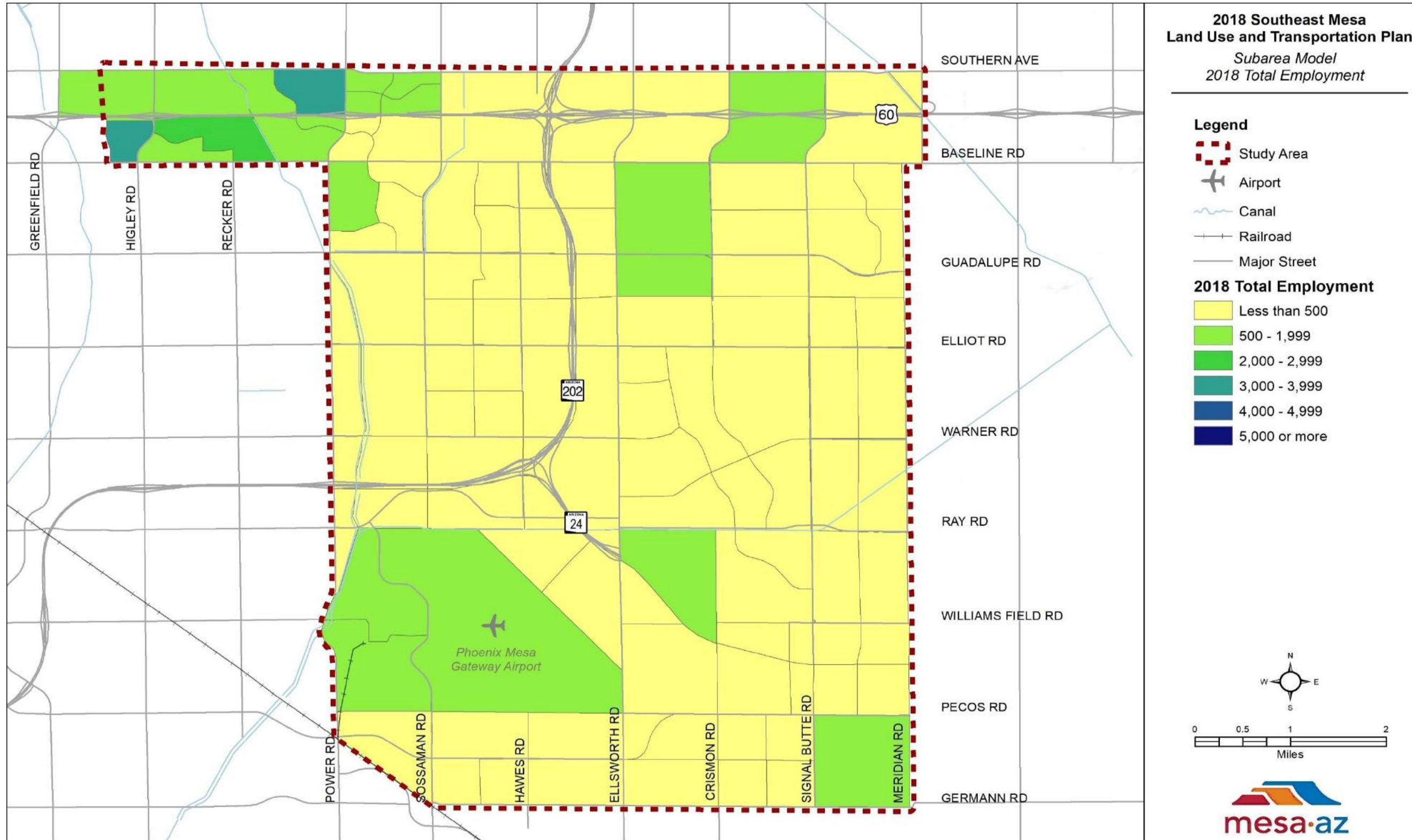


Figure 14: 2018 Total Employment by TAZ

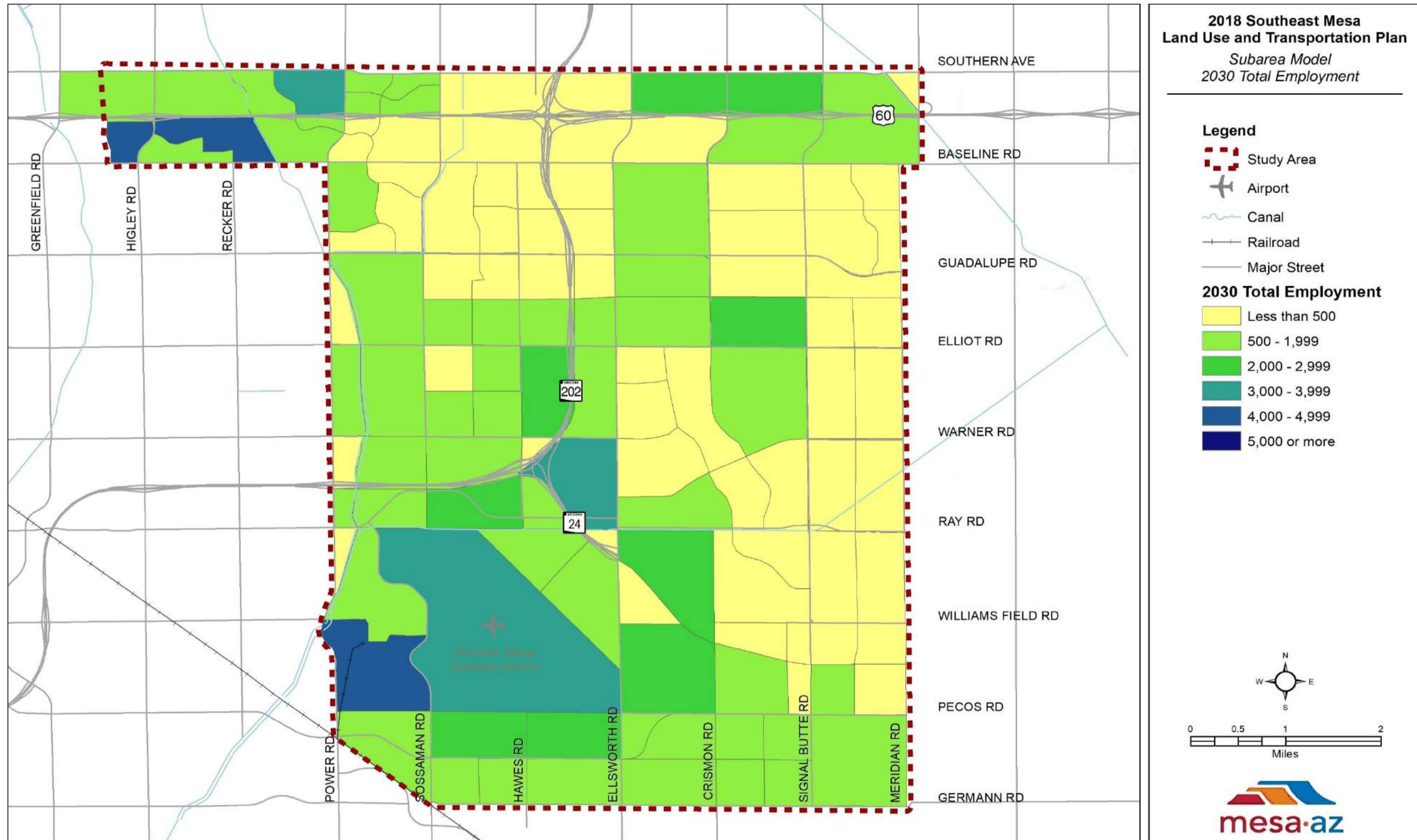


Figure 15: 2030 Total Employment by TAZ



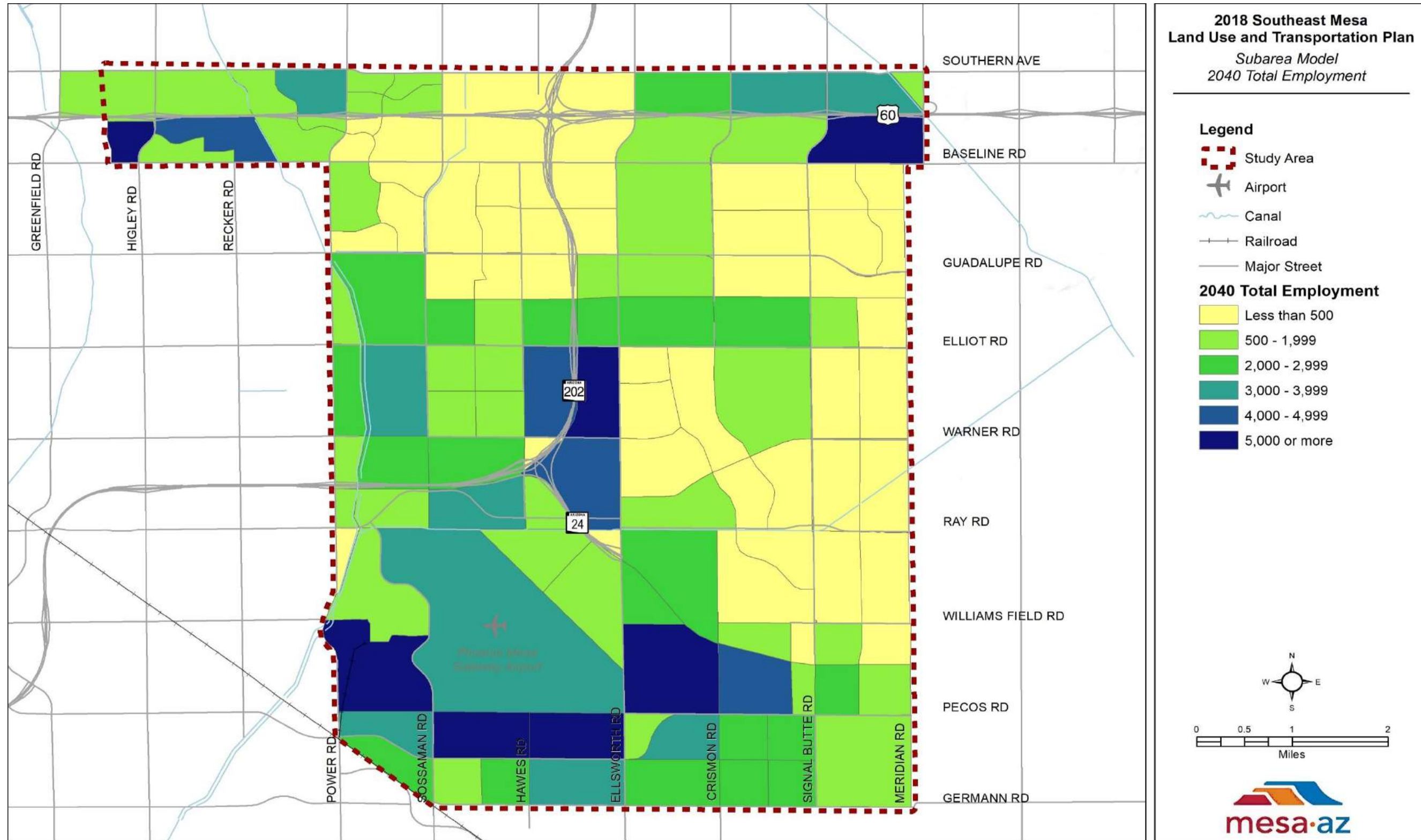
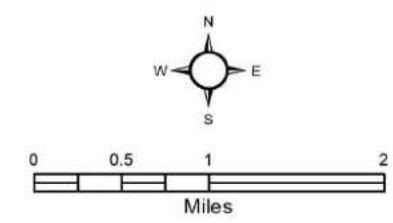
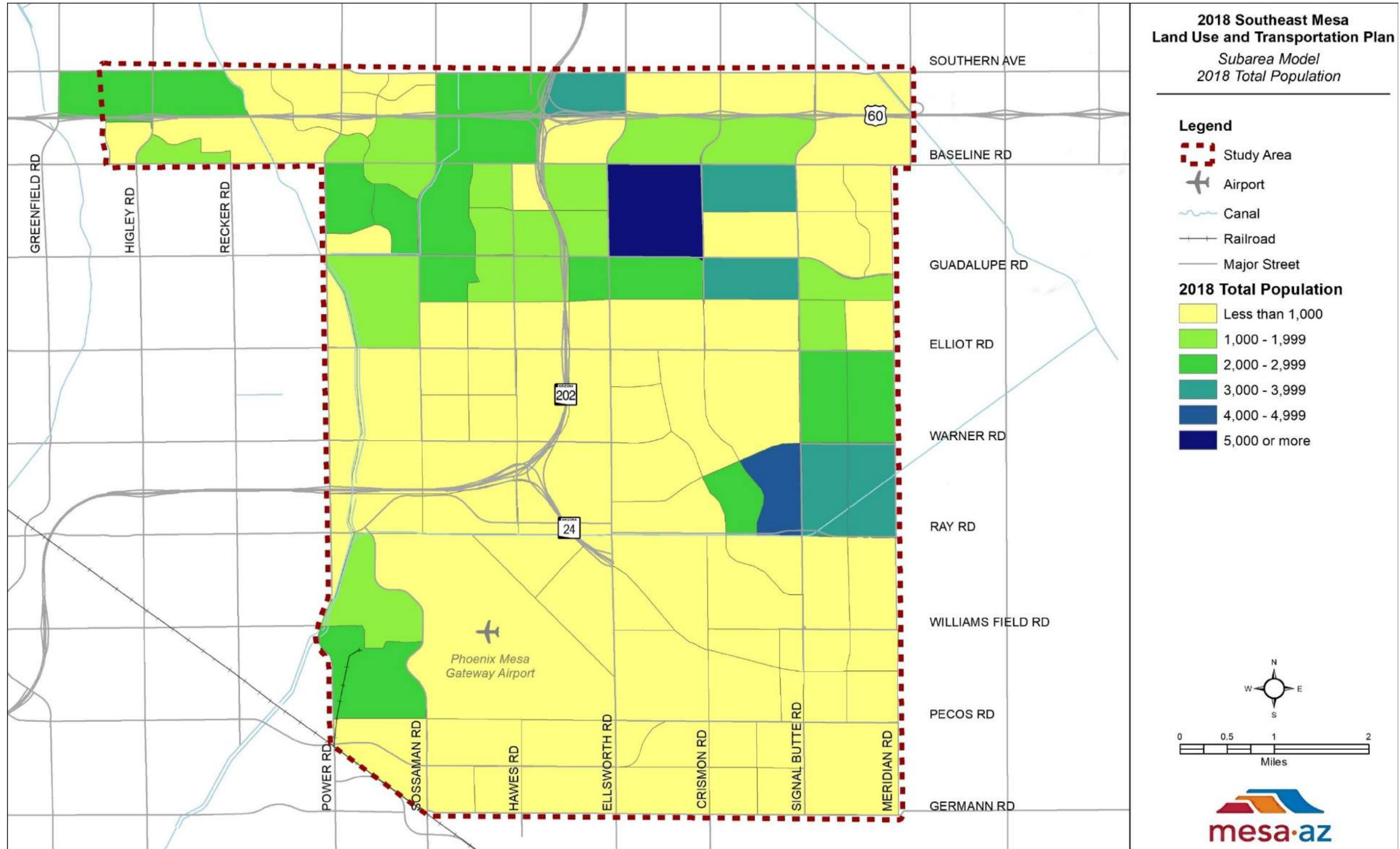


Figure 16: 2040 Total Employment by TAZ



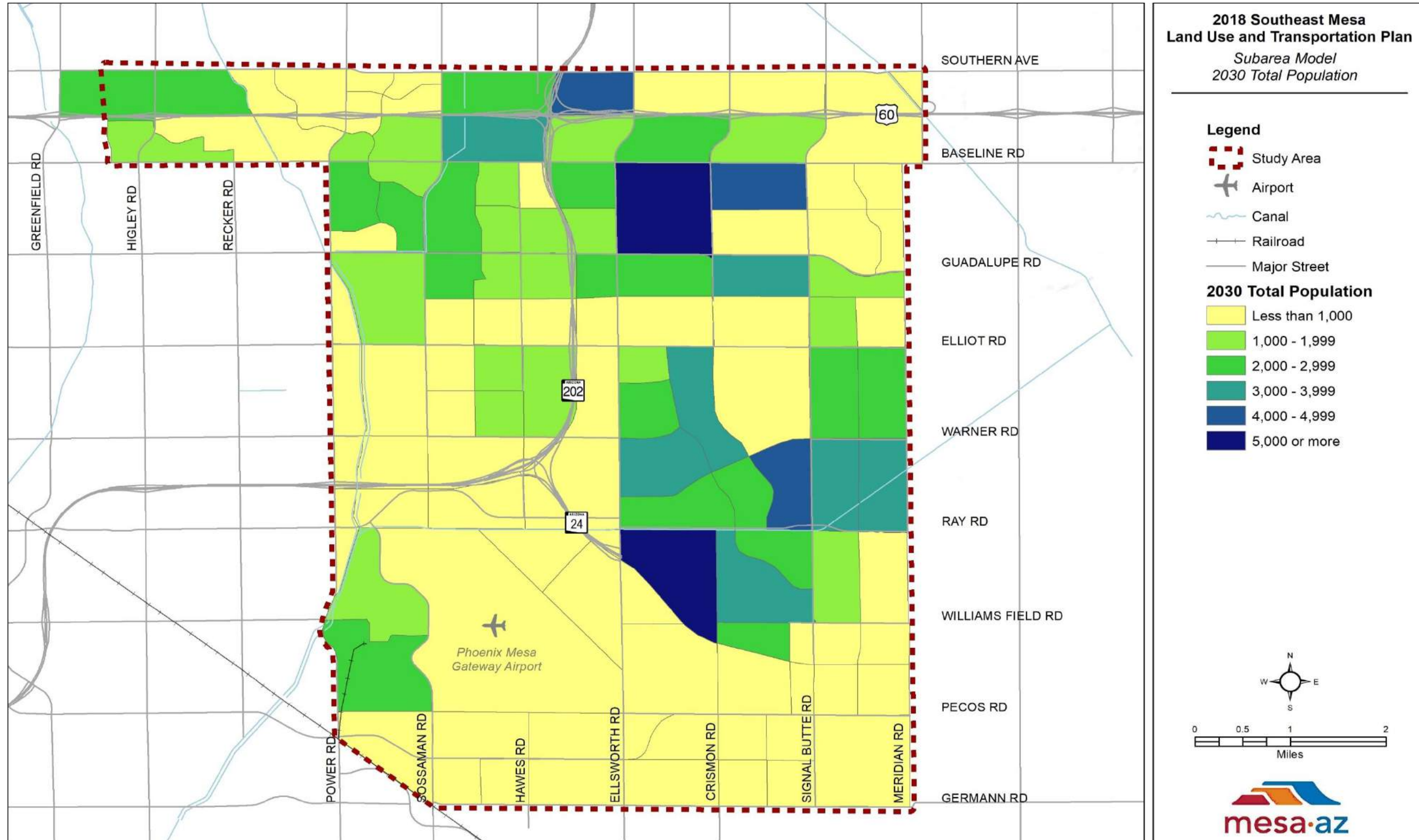


Figure 18: 2030 Total Population by TAZ

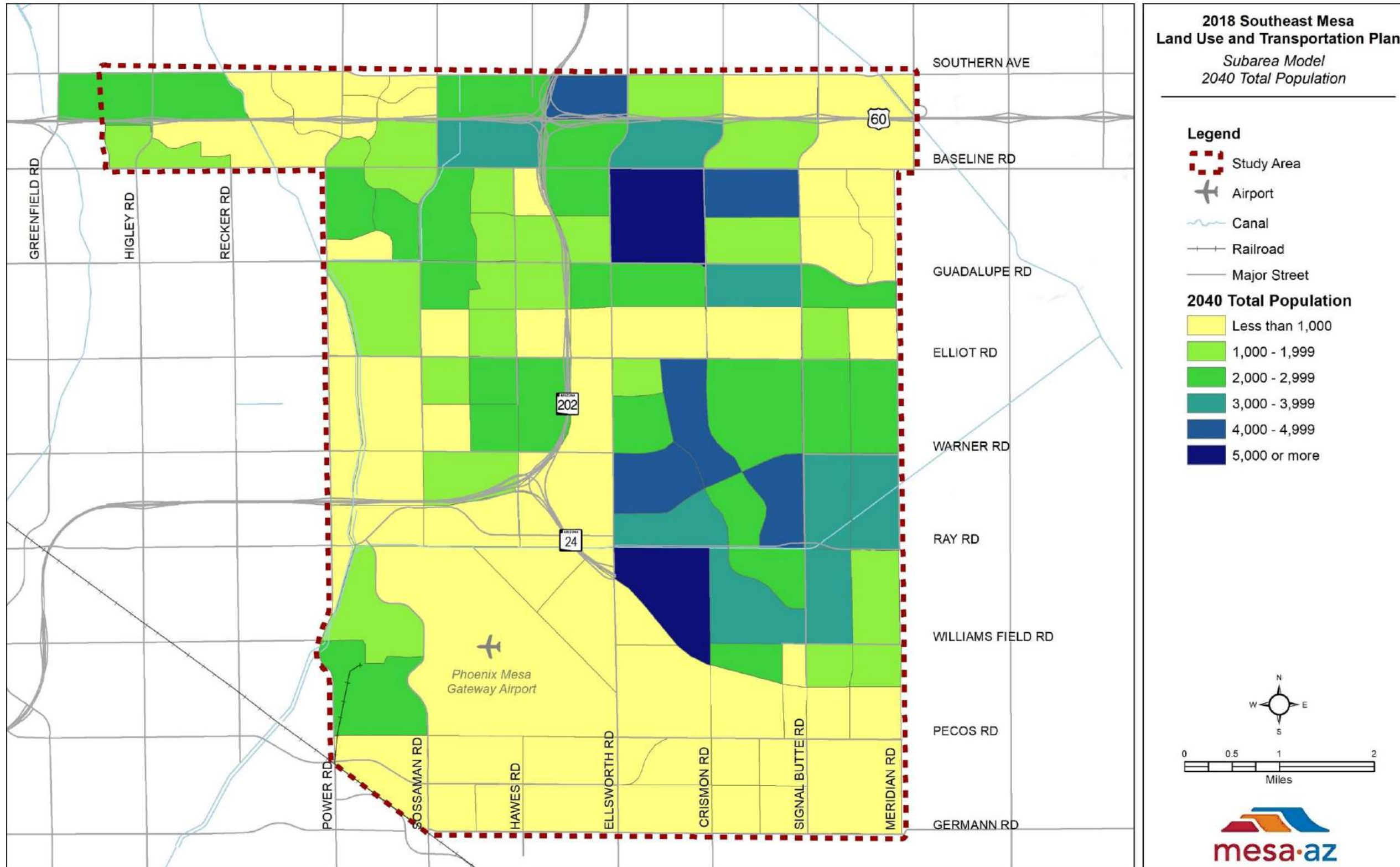


Figure 19: 2040 Total Population by TAZ



Programmed/Committed Improvements

Programmed/committed roadway projects within the study area were identified based on input from the City of Mesa, MAG, ADOT, Town of Queen Creek, Pinal County, and the private development community. The programmed improvements are shown in **Figure 20**. These programmed/committed roadway projects are anticipated to be constructed prior to 2030 except as noted previously in this report.

Baseline Number of Lanes and Level of Service

The 2018, 2030, and 2040 baseline number of lanes were determined by taking the existing roadway network and incorporating any changes due to the programmed/committed improvements. **Figure 21**, **Figure 22**, and **Figure 23** show the baseline total number of lanes for the years 2018, 2030, and 2040, respectively.

The 2018, 2030, and 2040 baseline roadway segment levels of service (LOS) were determined by running the subarea model using the baseline number of lanes and socioeconomic data for each of the analysis years. LOS ranges from LOS A (no congestion) to LOS F (at or over capacity), with LOS D or better generally considered “acceptable”.

LOS values are based on the ratio of volume-to-capacity (v/c ratio) for a given roadway segment, with the subarea model assuming differing daily volume capacity values for the various types of roadway facilities. The relationship in the subarea model between LOS and v/c ratios is as follows:

- Minimal congestion (LOS C or better) = v/c ratio < 0.70;
- Moderate congestion (LOS D) = v/c ratio > 0.70 and < 0.85;
- Nearing capacity (LOS E) = v/c ratio > 0.85 and < 1.00; and
- At or over capacity (LOS F) = v/c ratio > 1.0.

Figure 24 shows the segment LOS for the 2018 baseline network. More detailed LOS information is available in **Appendix 4**. Based on the model results, most of the study area roadway segments operate at an acceptable LOS with minimal to moderate congestion. City roadway segments nearing, at, or over capacity in 2018 include:

- Sossaman Rd: Pecos Rd to Germann Rd; and
- Ellsworth Rd: Williams Field Rd to Germann Rd.

Figure 25 shows the segment LOS for the 2030 baseline network. More detailed LOS information is available in **Appendix 4**. Based on the model results, several more roadways segments are expected to operate near, at, or over capacity in 2030 under these baseline conditions, particularly in the southern portion of the study area. City roadway segments projected to be nearing, at, or over capacity in 2030 include:

- Power Rd: Loop 202 to Ray Rd;
- Power Rd: Williams Field Rd to Verona Ave;
- Sossaman Rd: Velocity Way to Germann Rd;
- Hawes Rd: Loop 202 to Ray Rd;
- Ellsworth Rd: Elliot Rd to ½ mile south of Elliot Rd;
- Ellsworth Rd: Warner Rd to Germann Rd;
- Signal Butte Rd: Eastmark Pkwy to Williams Field Rd;



- Signal Butte Rd: SR 24 to Germann Rd;
 - Meridian Rd: Pecos Rd to Germann Rd;
 - Elliot Rd: Power Rd to ½ mile east of Power Rd;
 - Elliot Rd: Hawes Rd to Ellsworth Rd;
 - Warner Rd: 80th St to Ellsworth Rd;
 - Ray Rd: Hawes Rd to Ellsworth Rd;
 - Pecos Rd: Power Rd to Crismon Rd;
 - Pecos Rd: 222nd St to Signal Butte Rd; and
 - Germann Rd: Sossaman Rd to 196th St.
- Ray Rd: Sossaman Rd to Ellsworth Rd;
 - Pecos Rd: Power Rd to Meridian Rd;
 - Germann Rd: Sossaman Rd to ½ mile east of Ellsworth Rd;
 - Germann Rd: Crismon Rd to Signal Butte Rd; and
 - Germann Rd: 228th St to Meridian Rd

Figure 26 shows the segment LOS for the 2040 baseline network. More detailed LOS information is available in **Appendix 4**. Based on the model results, many more roadway segments are expected to operate near, at, or over capacity in 2040 under these baseline conditions, particularly in the southern portion of the study area. City roadway segments projected to be nearing, at, or over capacity in 2040 include:

- Power Rd: Elliot Rd to Warner Rd;
- Power Rd: Loop 202 to Pecos Rd;
- Sossaman Rd: ½ mile north of Elliot Rd to Warner Rd;
- Sossaman Rd: Velocity Way to Germann Rd;
- 196th St: Pecos Rd to Germann Rd;
- Hawes Rd: Guadalupe Rd to Warner Rd;
- Hawes Rd: Loop 202 to Ray Rd;
- Ellsworth Rd: Portobello Ave to Germann Rd;
- 222nd St: Frye Rd to Pecos Rd;
- Signal Butte Rd: Guadalupe Rd to Elliot Rd;
- Signal Butte Rd: Ray Rd to Germann Rd;
- Mountain Rd: Ray Rd to north of Pecos Rd;
- Meridian Rd: Southern Ave to north of US 60;
- Meridian Rd: SR 24 to Germann Rd;
- Elliot Rd: Power Rd to Eastmark Pkwy;
- Warner Rd: Sossaman Rd to Ellsworth Rd;
- Ray Rd: Power Rd to Sossaman Rd;



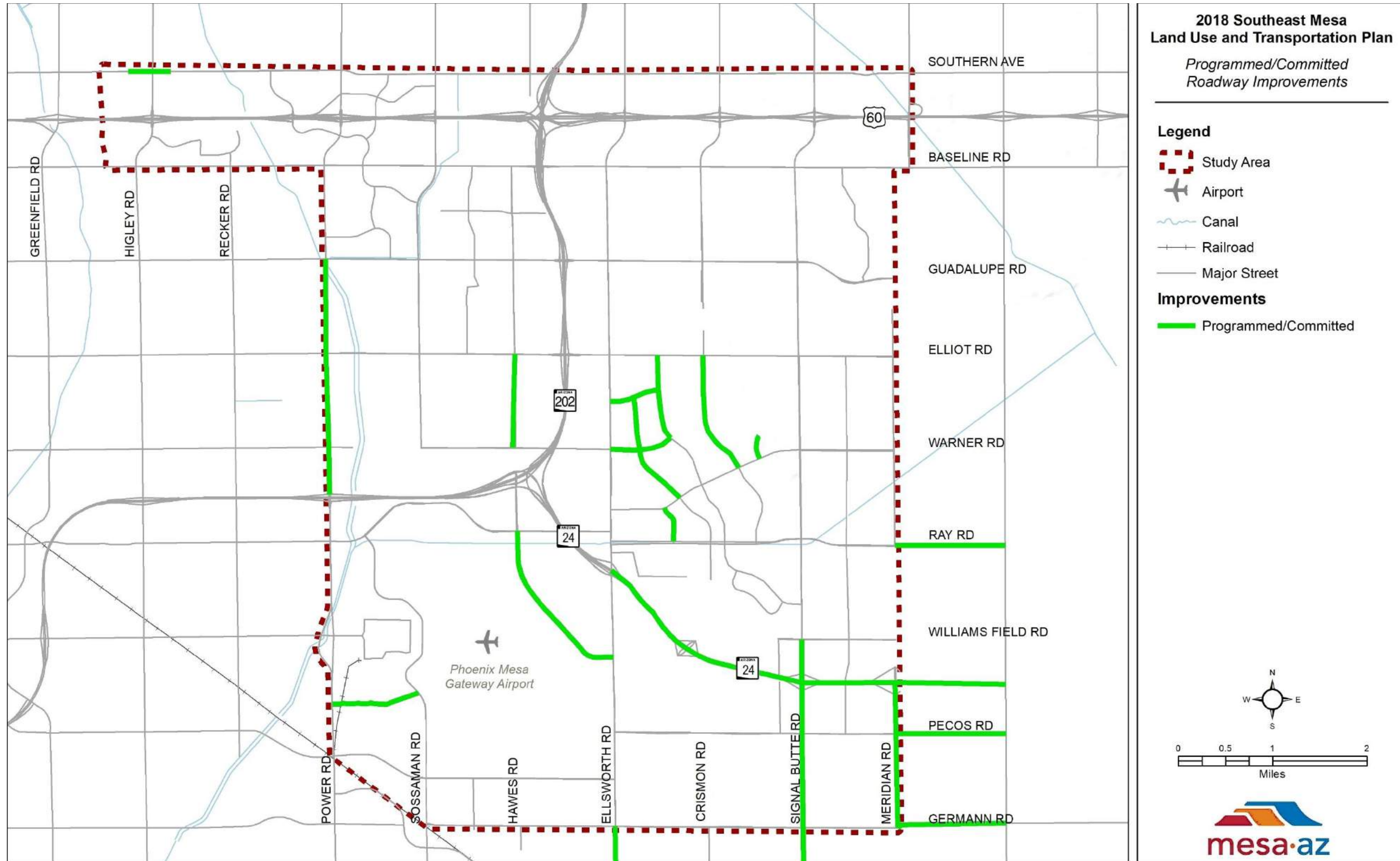


Figure 20: Programmed/Committed Roadway Improvements

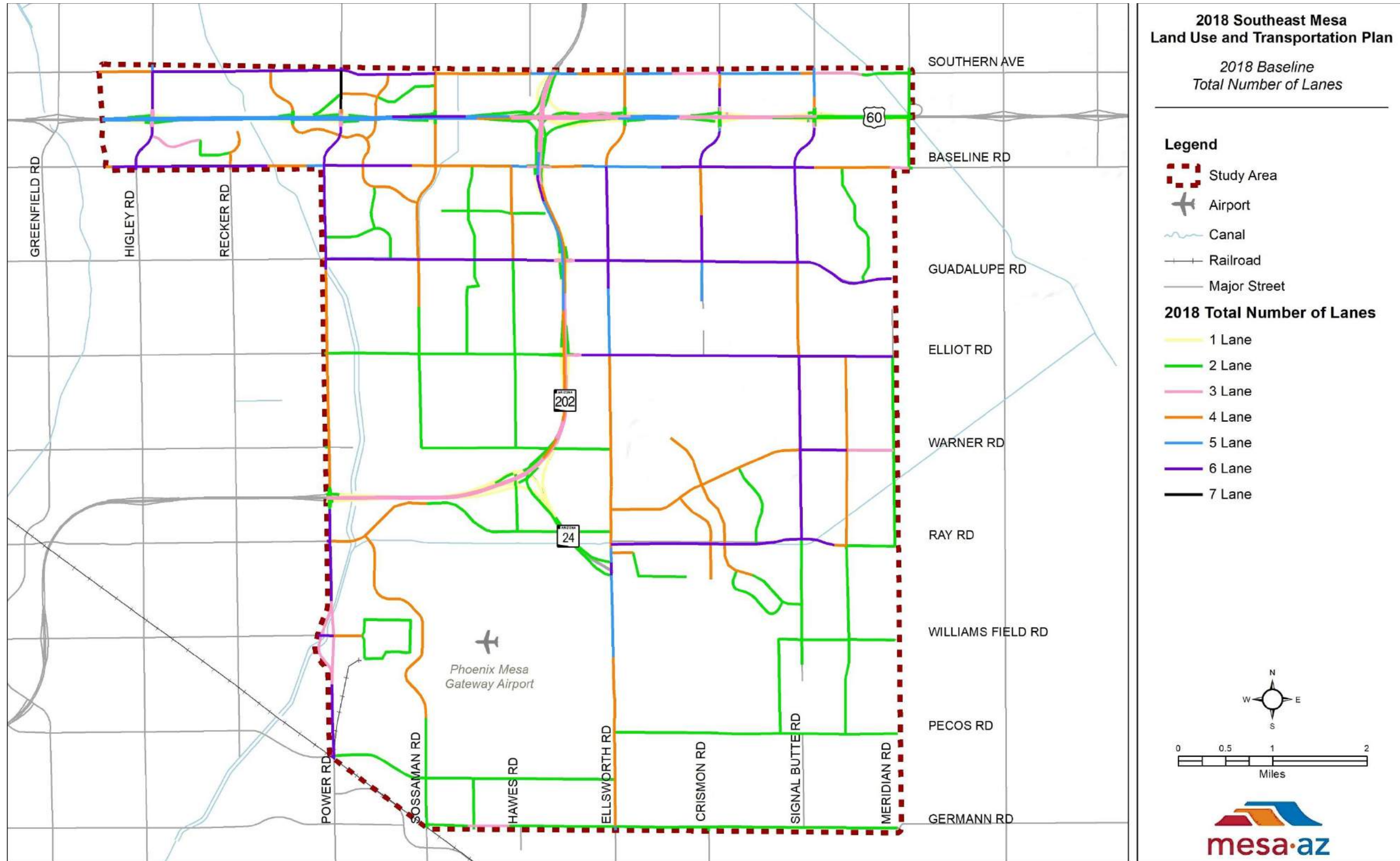


Figure 21: 2018 Baseline Total Number of Lanes



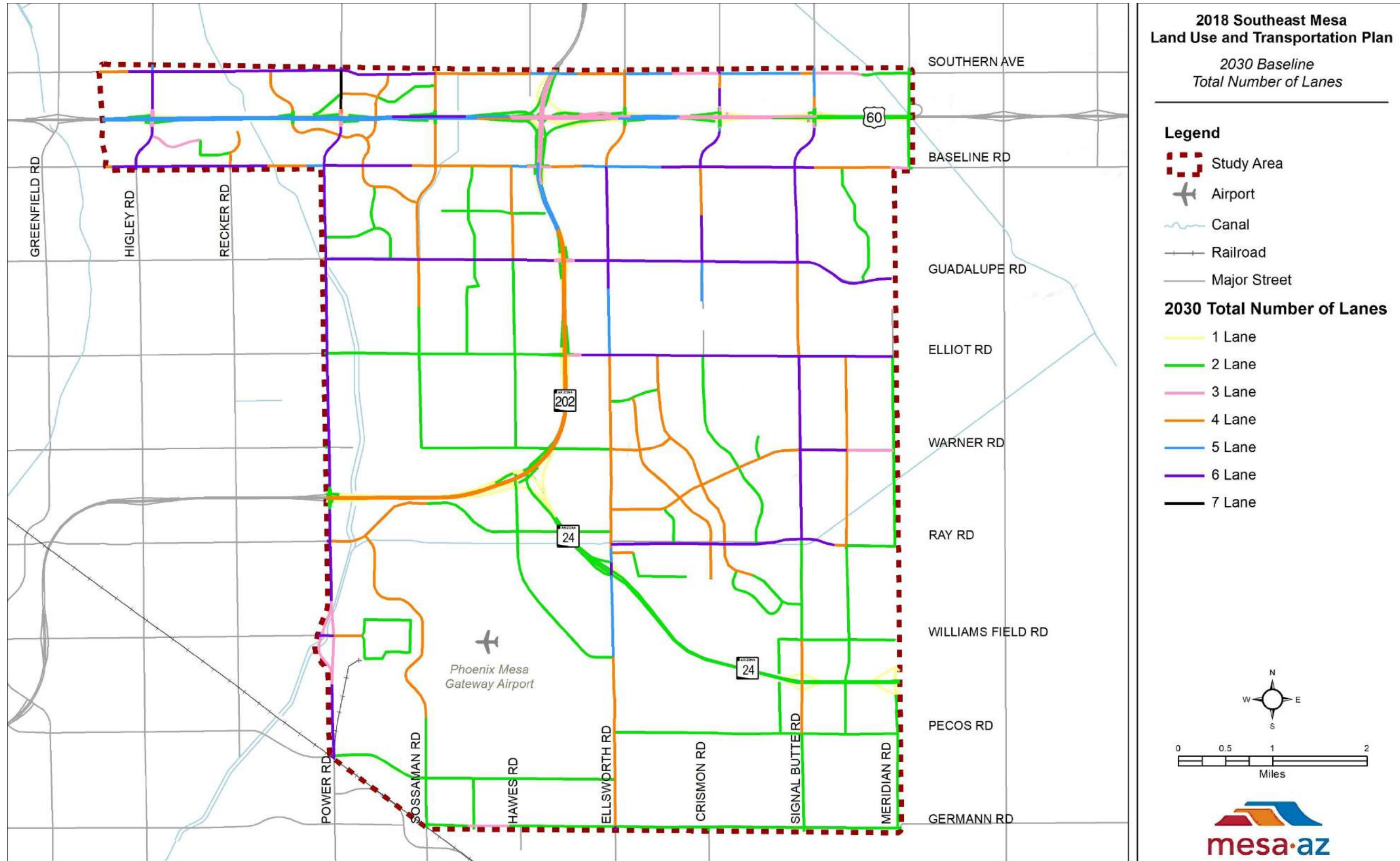


Figure 22: 2030 Baseline Total Number of Lanes

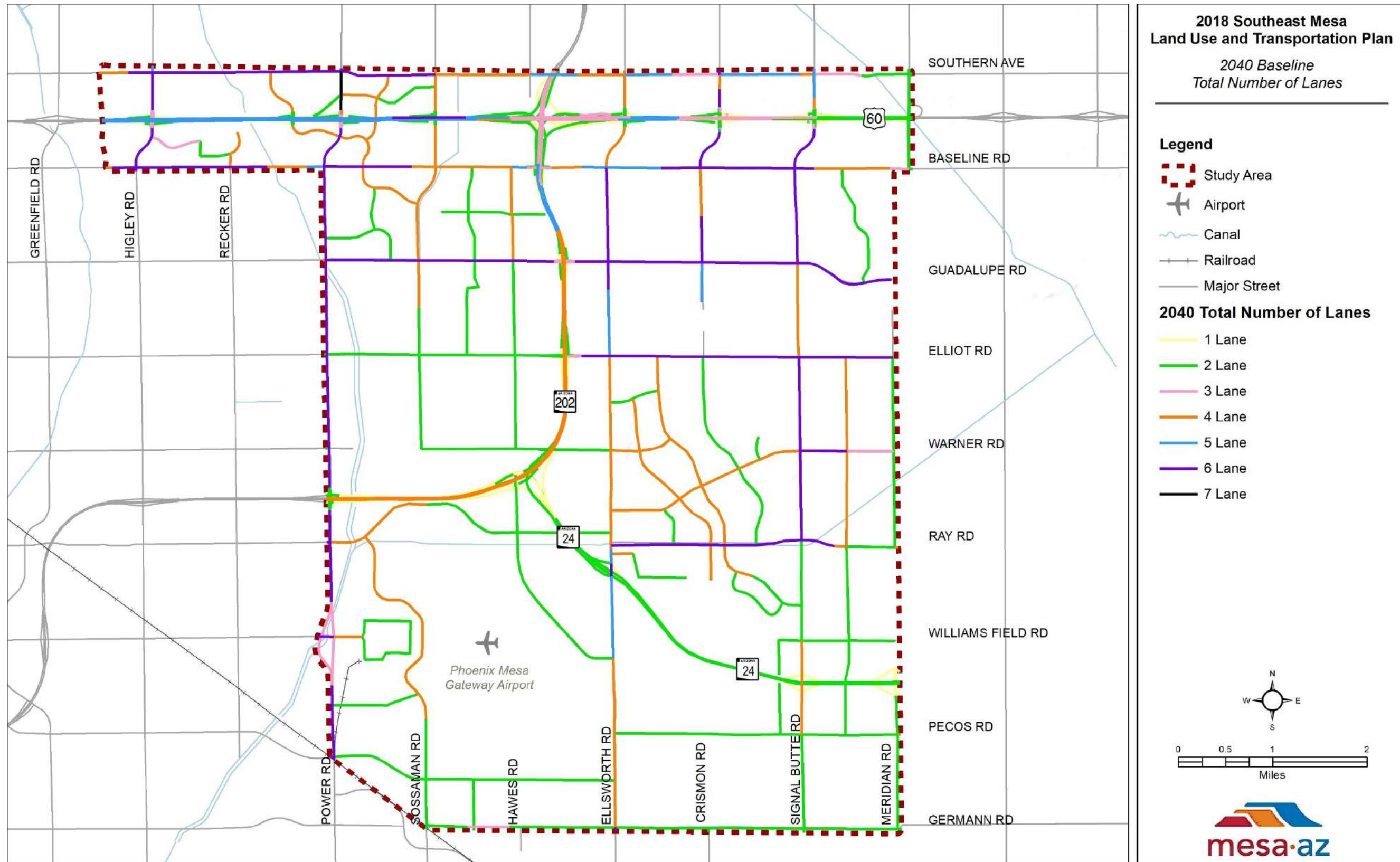


Figure 23: 2040 Baseline Total Number of Lanes



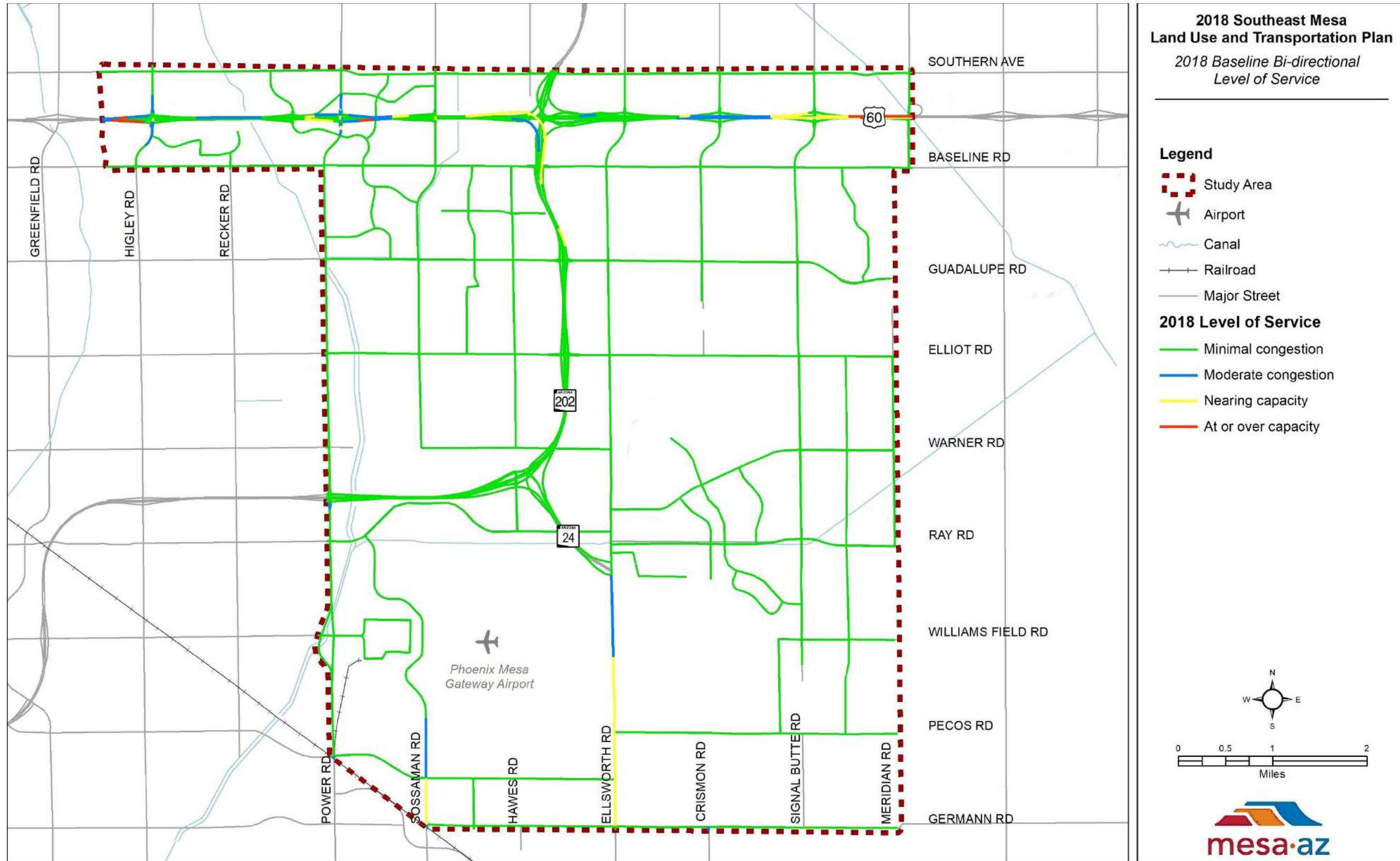


Figure 24: 2018 Baseline Level of Service

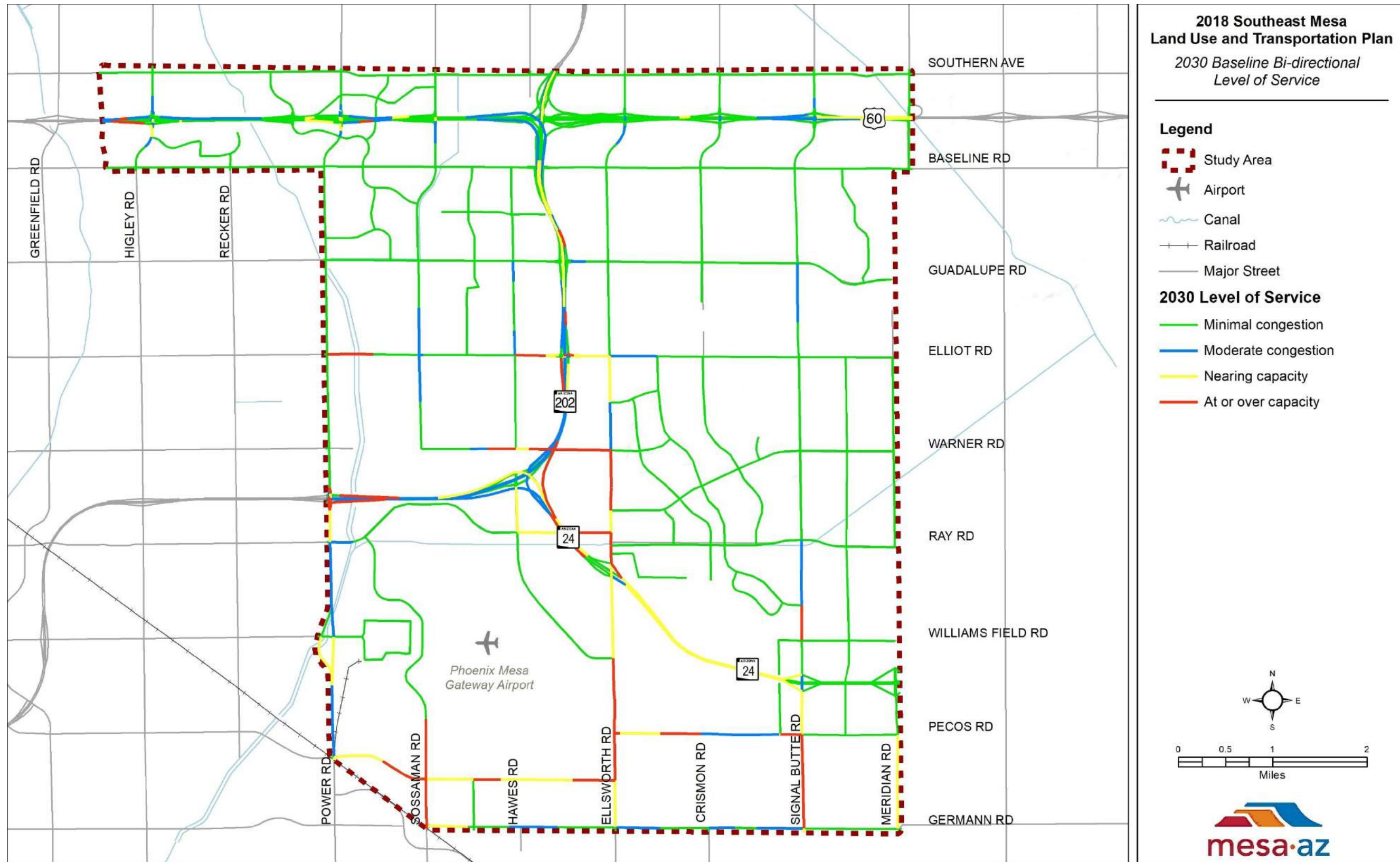


Figure 25: 2030 Baseline Level of Service



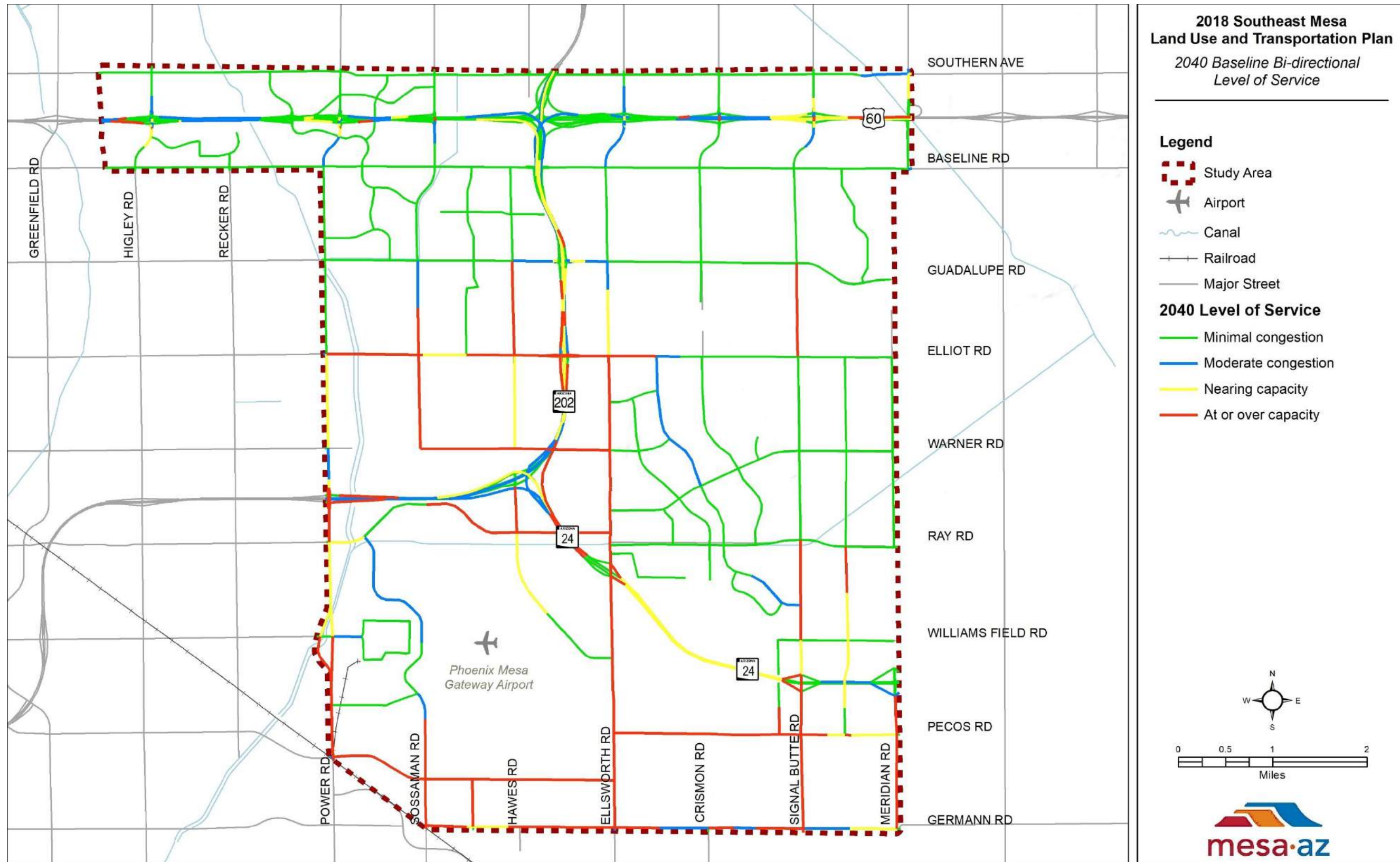


Figure 26: 2040 Baseline Level of Service



Future Roadway Network Improvements

Recommended City roadway improvements are based on the 2018, 2030, and 2040 baseline roadway networks and LOS results. The intent of the improvements is to better accommodate the projected daily traffic for each analysis year by increasing capacity to keep the level of service for the City's study area roadways within the minimal to moderate congestion range (LOS D or better) where practical. The improvement timeframes into which improvements were grouped were split into the following three periods based on which improvements address the LOS needs identified from the subarea model results within each timeframe:

- Near-term – Immediate need;
- Mid-term – Needed by 2030; and
- Long-term – Needed by 2040.

Figure 27 shows the recommended near-term roadway improvements. **Figure 28** shows the recommended mid-term roadway improvements. **Figure 29** shows the recommended long-term roadway improvements. **Figure 30** shows the combination of the recommended roadway improvements across all three analysis periods. These figures only show the recommended improvements that the City of Mesa would likely financially contribute to directly.

The limits of the recommended roadway improvements for all three analysis periods are listed in **Table 13**. It should be noted that the recommended improvements are ordered geographically in this table (prioritization of improvements within timeframes is presented in a subsequent table in this document).

The recommended near-term improvements address existing congestion and connectivity issues. The recommended mid-term improvements focus primarily around the airport and freeways, where significant growth in traffic volumes is projected over the next few years. The recommended long-term improvements address connectivity and congestion issues that are anticipated to become critical as the study area approaches the buildout condition.

Future Roadway Network Improvements by Others

Improvements are also projected to be necessary along US 60, Loop 202, and SR 24 (all of which are ADOT facilities) as described in the subsequent bullets (with suggested timeframes provided for ADOT's consideration):

- Widen US 60/Higley Rd eastbound (EB) off-ramp to 2 lanes (near-term);
- Widen US 60 to 3 general purpose freeway lanes in each direction: west of Signal Butte Rd to east of Meridian Rd (near-term);
- Widen Loop 202/Power Rd westbound (WB) off-ramp to 2 lanes (mid-term);
- Widen SR 24 to 3 general purpose freeway lanes in each direction: Ellsworth Rd to Signal Butte Rd (mid-term);
- Widen SR 24/Signal Butte Rd EB off-ramp to 2 lanes (mid-term);
- Widen Loop 202/Elliott Rd northbound (NB) off-ramp to 2 lanes (long-term); and
- Widen SR 24 to 3 general purpose freeway lanes in each direction: Signal Butte Rd to Meridian Rd (long-term).



Improved Number of Lanes and Level of Service

The 2018, 2030, and 2040 improved number of lanes were determined by adding the future proposed roadway network improvements by the City and ADOT to the baseline roadway network for each analysis year. **Figure 31**, **Figure 32**, and **Figure 33** show the improved total number of lanes for the years 2018, 2030, and 2040, respectively.

The 2018, 2030, and 2040 improved roadway LOS were determined by running the subarea model using the improved number of lanes and corresponding socioeconomic data. **Figure 34** shows the segment LOS for the 2018 improved network. Based on the model results, the only study area roadway segments that don't operate at an acceptable LOS with minimal to moderate congestion are along US 60 and Loop 202.

Figure 35 and **Figure 36** show the segment LOS for the 2030 and 2040 improved networks, respectively. Based on the model results, the roadway segments nearing, at, or over capacity in 2030 are along the freeways or on the arterials near the freeways. By 2040, these same segments plus other segments of Ellsworth Road, Power Road, and Elliot Road are projected to be nearing, at, or over capacity.

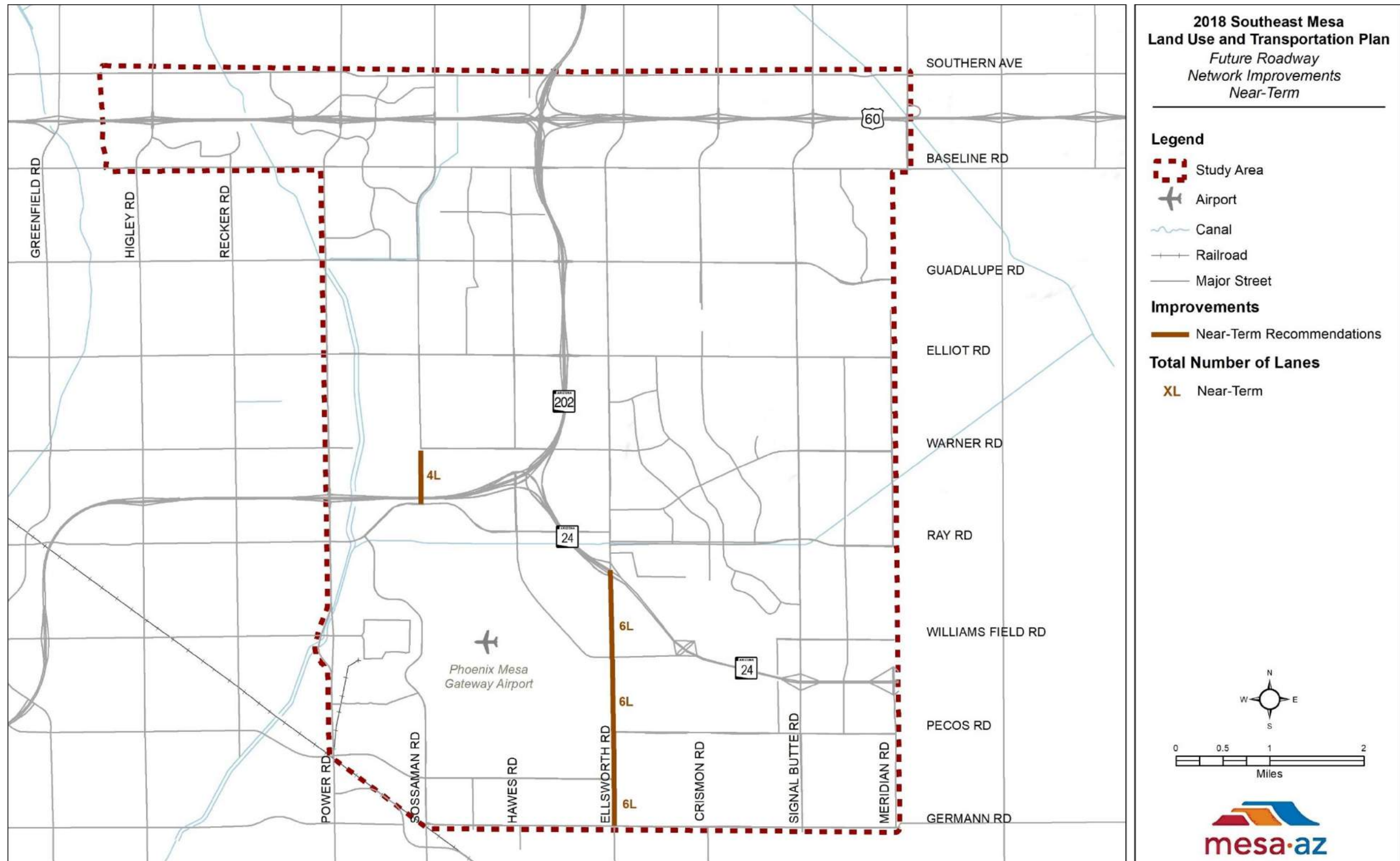


Figure 27: Near-Term Recommended Improvements



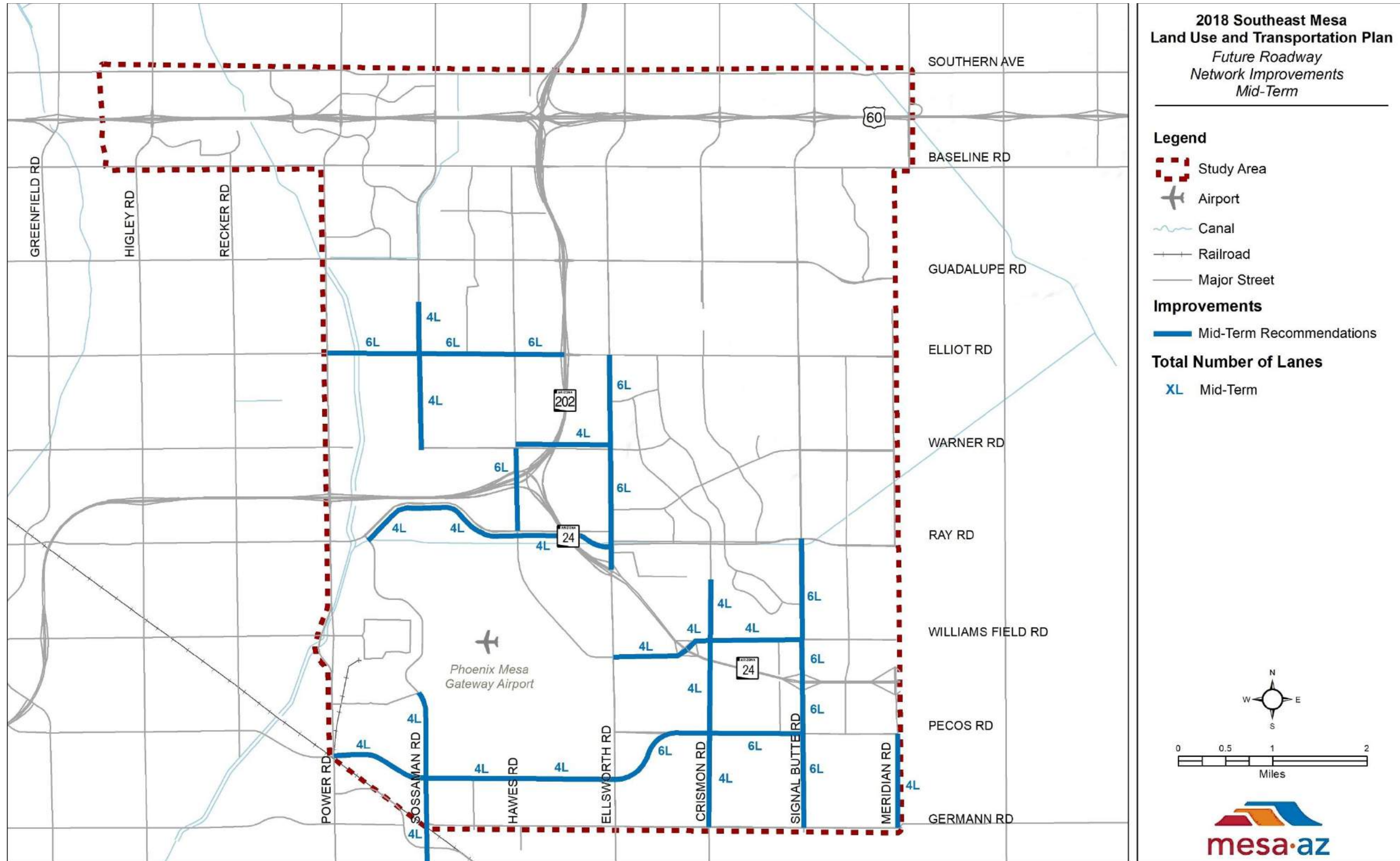


Figure 28: Mid-Term Recommended Improvements

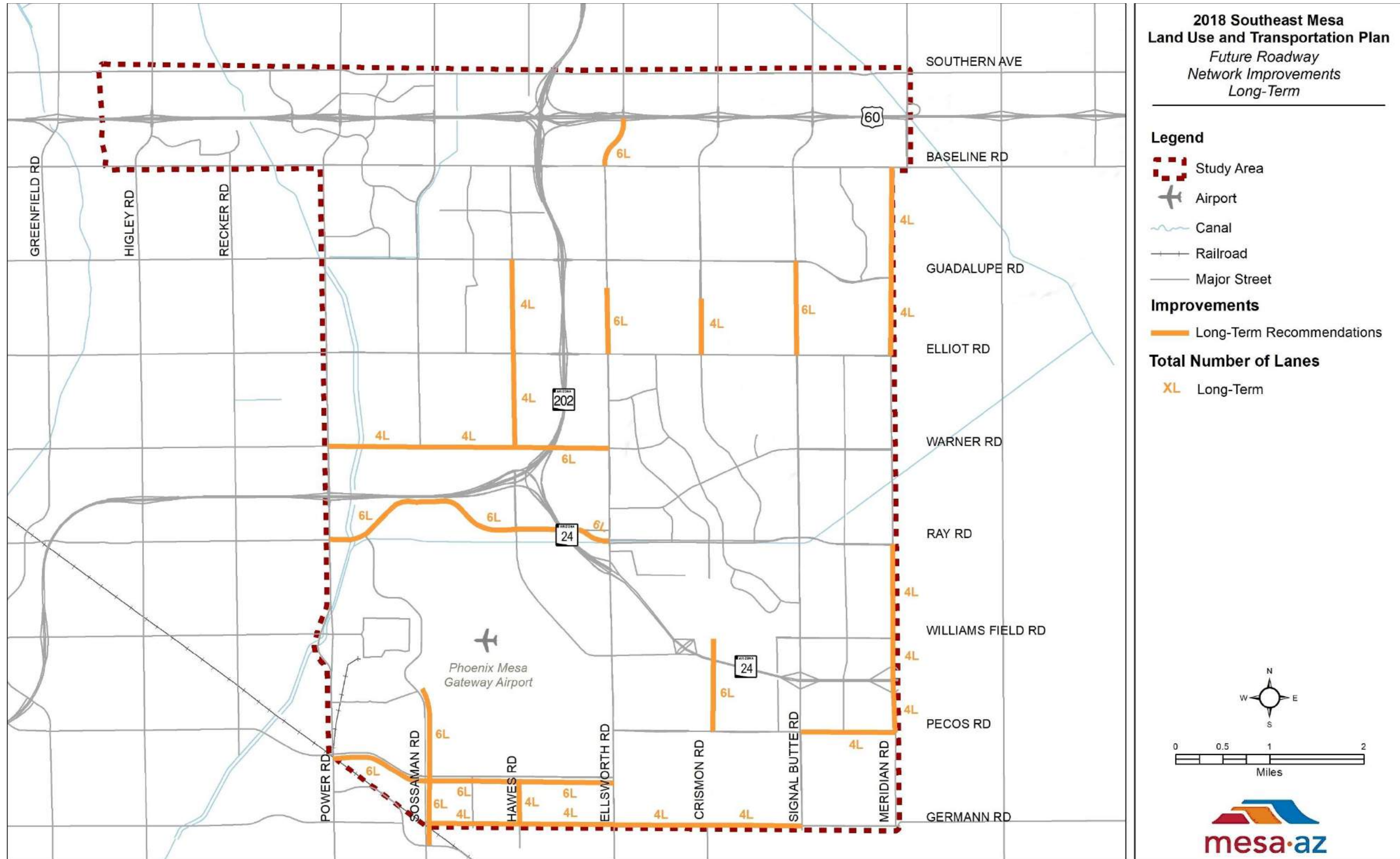


Figure 29: Long-Term Recommended Improvements



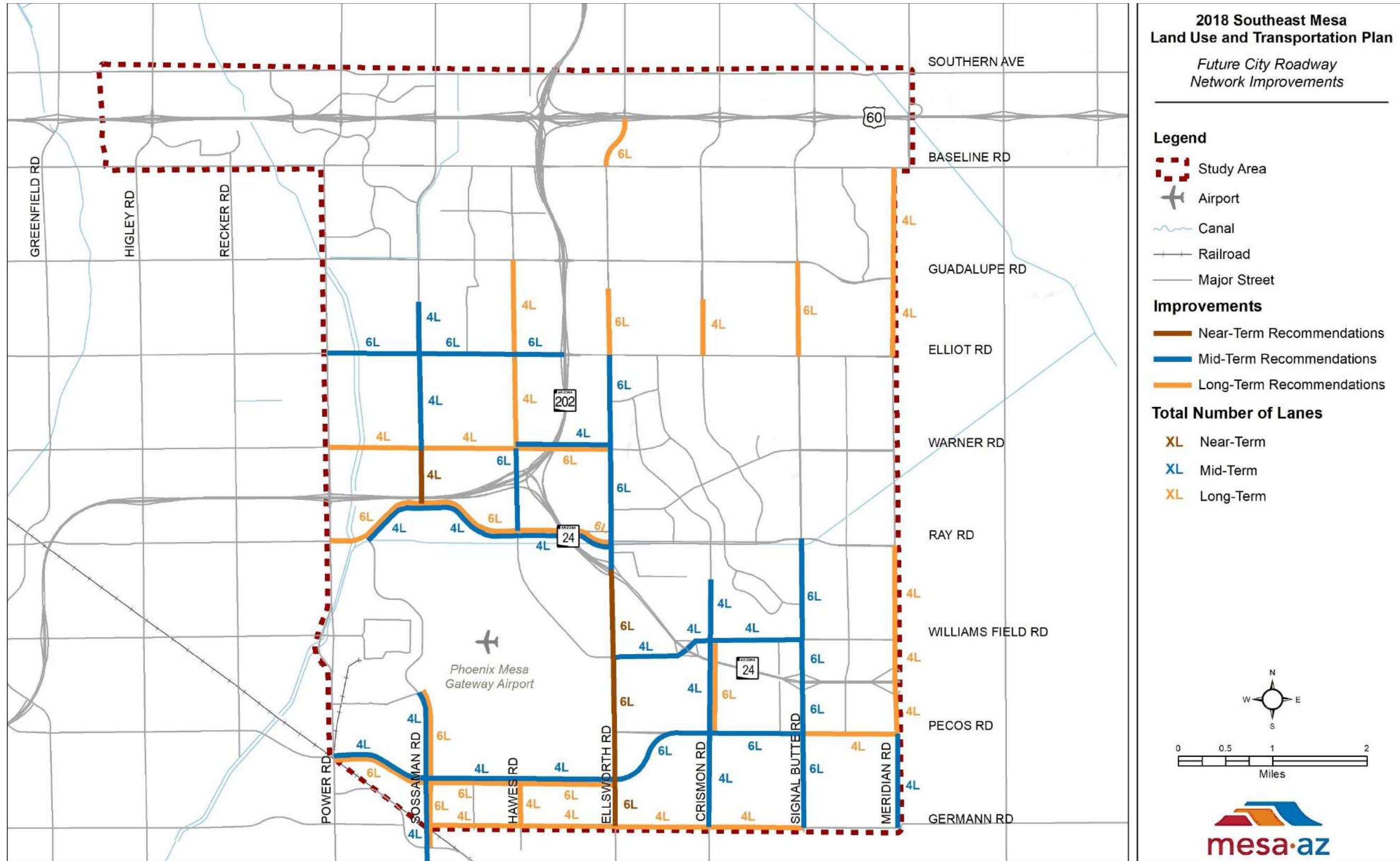


Figure 30: All Recommended Improvements



Table 13: Recommended Improvements (organized geographically and by timeframe)

	Improvement Description
Near-term	<p>Construct Sossaman Rd as a 4-lane arterial: Warner Rd to Ray Rd</p> <p>Widen Ellsworth Rd to 6 lanes: SR 24 to Germann Rd</p>
Mid-term	<p>Widen Sossaman Rd to 4 lanes: ½ mile south of Guadalupe Rd to Warner Rd</p> <p>Widen Sossaman Rd to 4 lanes: Velocity Way to ¼ mile south of Rittenhouse Rd</p> <p>Construct Hawes Rd as a 6-lane arterial: Warner Rd to Loop 202</p> <p>Widen Hawes Rd to 6 lanes: Loop 202 to Ray Rd</p> <p>Widen Ellsworth Road to 6 lanes: Elliot Rd to SR 24</p> <p>Construct Crismon Rd as a 4-lane arterial: ¼ mile south of Ray Rd to Germann Rd</p> <p>Widen Signal Butte Rd to 6 lanes: Ray Rd to Germann Rd</p> <p>Widen Meridian Rd to 4 lanes: Pecos Rd to Germann Rd</p> <p>Widen Elliot Road to 6 lanes: Power Rd to Loop 202</p> <p>Widen Warner Rd to 4 lanes: Hawes Rd to Ellsworth Rd</p> <p>Widen Ray Rd to 4 lanes: Sossaman Rd West to Ellsworth Rd and realign it with a curve to the south to connect directly to Ray Rd east of Ellsworth Rd</p> <p>Construct Williams Field Rd as a 4-lane arterial: Ellsworth Rd to SR 24</p> <p>Construct Williams Field Rd as a 4-lane arterial: SR 24 to Signal Butte Rd</p> <p>Widen Pecos Rd to 4 lanes: Power Rd to Ellsworth Rd</p> <p>Widen Pecos Rd to 6 lanes: Ellsworth Rd to Signal Butte Rd and realign it with a curve to the south to connect directly to Pecos Rd west of Ellsworth Rd</p>
Long-term	<p>Widen Sossaman Rd to 6 lanes: Velocity Way to Rittenhouse Rd</p> <p>Widen Hawes Rd to 4 lanes: Guadalupe Rd to Warner Rd</p> <p>Construct Hawes Rd as a 4-lane arterial: Pecos Rd to Germann Rd</p> <p>Widen Ellsworth Rd to 6 lanes: US 60 to Baseline Rd</p> <p>Widen Ellsworth Rd to 6 lanes: ¼ mile south of Guadalupe Rd to Elliot Rd</p> <p>Construct Crismon Rd as a 4-lane arterial: ½ mile south of Guadalupe Rd to Elliot Rd</p> <p>Widen Crismon Rd to 6 lanes: Williams Field Rd to Pecos Rd</p> <p>Widen Signal Butte Rd to 6 lanes: Guadalupe Rd to Elliot Rd</p> <p>Construct Meridian Rd as a 4-lane arterial: Baseline Rd to Elliot Rd</p> <p>Construct Meridian Rd as a 4-lane arterial: Ray Rd to SR 24</p> <p>Widen Meridian Rd to 4 lanes: SR 24 to Pecos Rd</p> <p>Construct Warner Rd as a 4-lane arterial: Power Rd to Sossaman Rd</p> <p>Widen Warner Rd to 4 lanes: Sossaman Rd to Hawes Rd</p> <p>Widen Warner Rd to 6 lanes: Hawes Rd to Ellsworth Rd</p> <p>Widen Ray Rd to 6 lanes: Power Rd to Ellsworth Rd</p> <p>Widen Pecos Rd to 6 lanes: Power Rd to Ellsworth Rd</p> <p>Widen Pecos Rd to 4 lanes: Signal Butte Rd to Meridian Rd</p> <p>Widen Germann Rd to 4 lanes: Sossaman Rd to Signal Butte Rd</p>



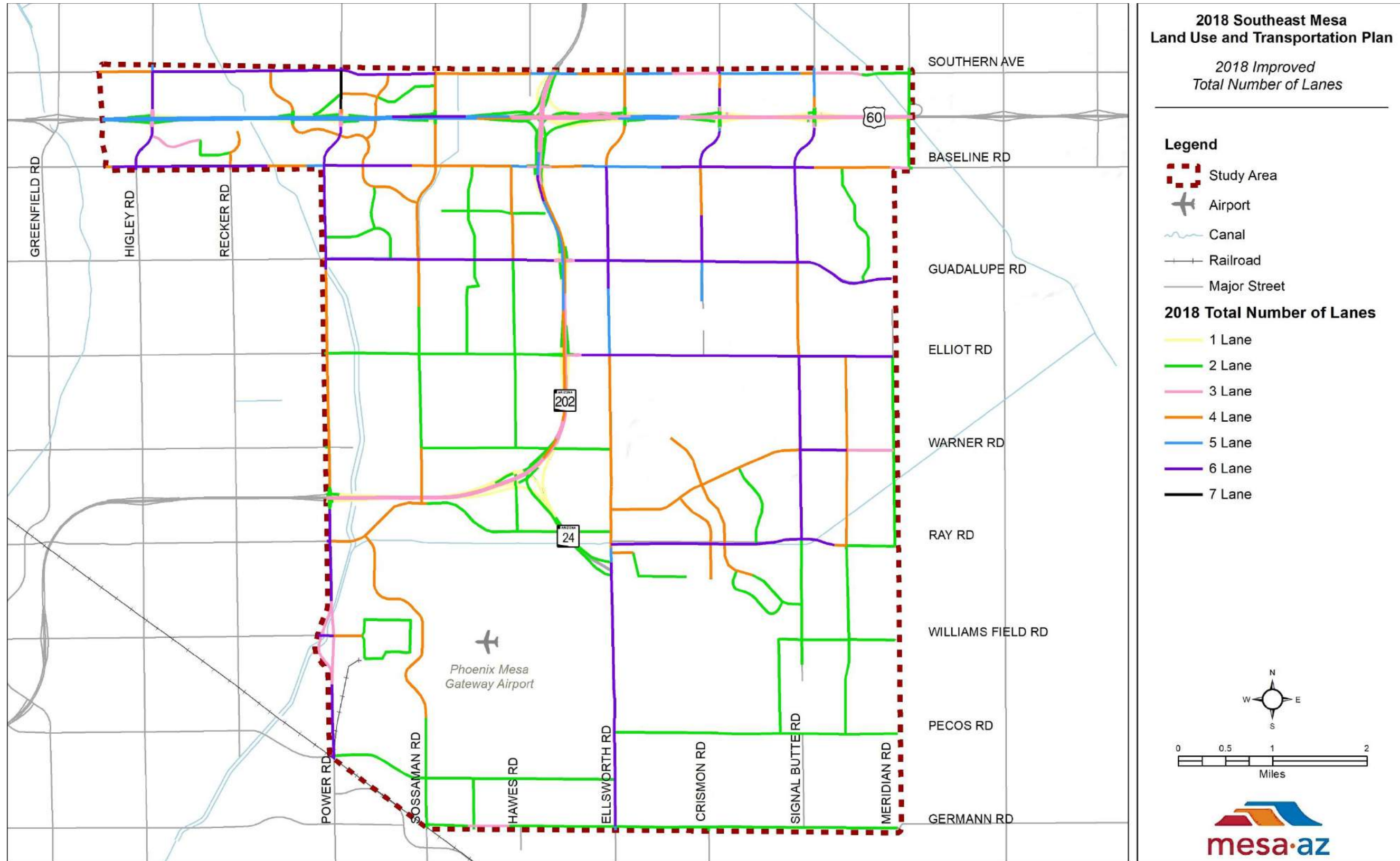


Figure 31: 2018 Improved Total Number of Lanes

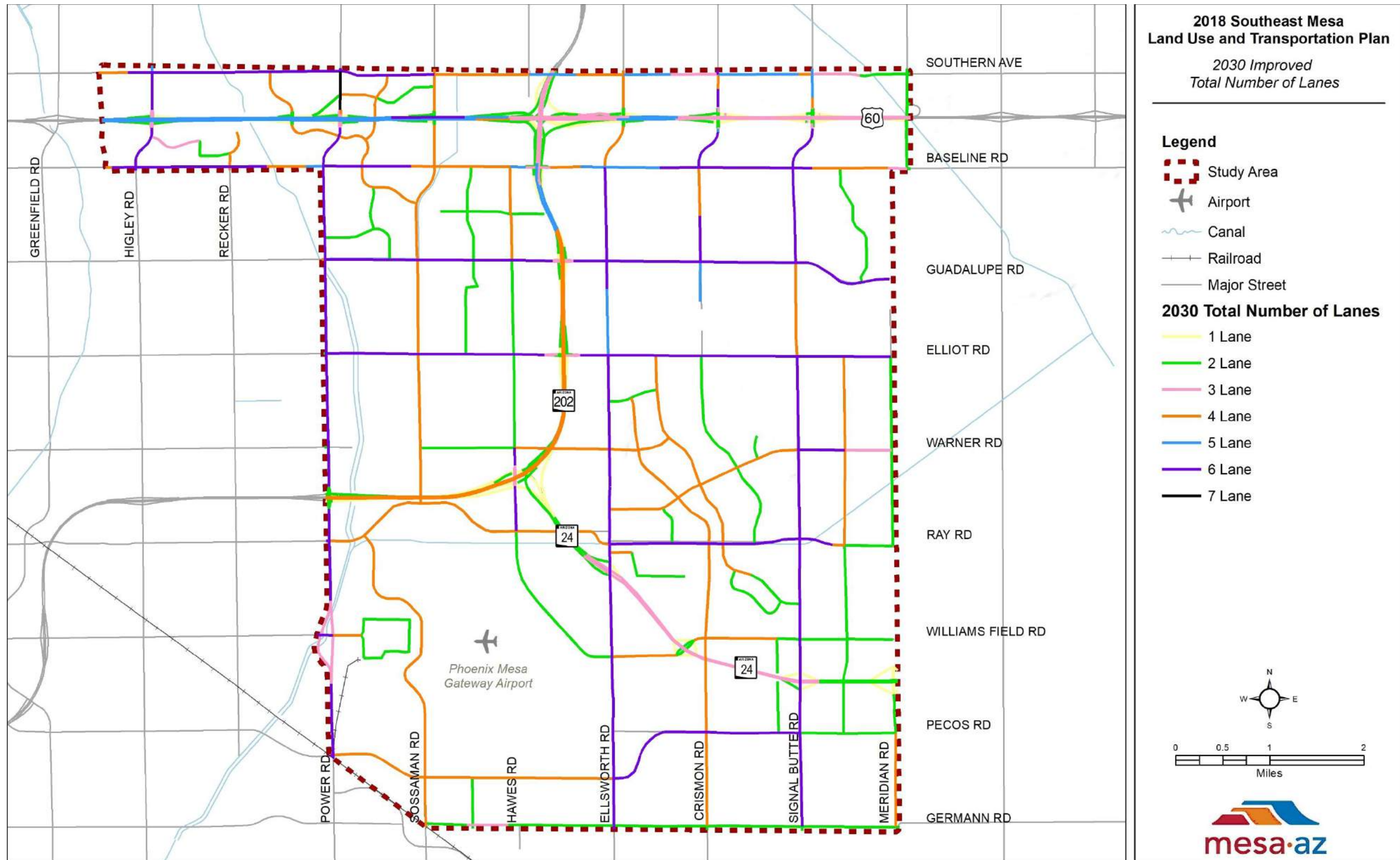


Figure 32: 2030 Improved Total Number of Lanes



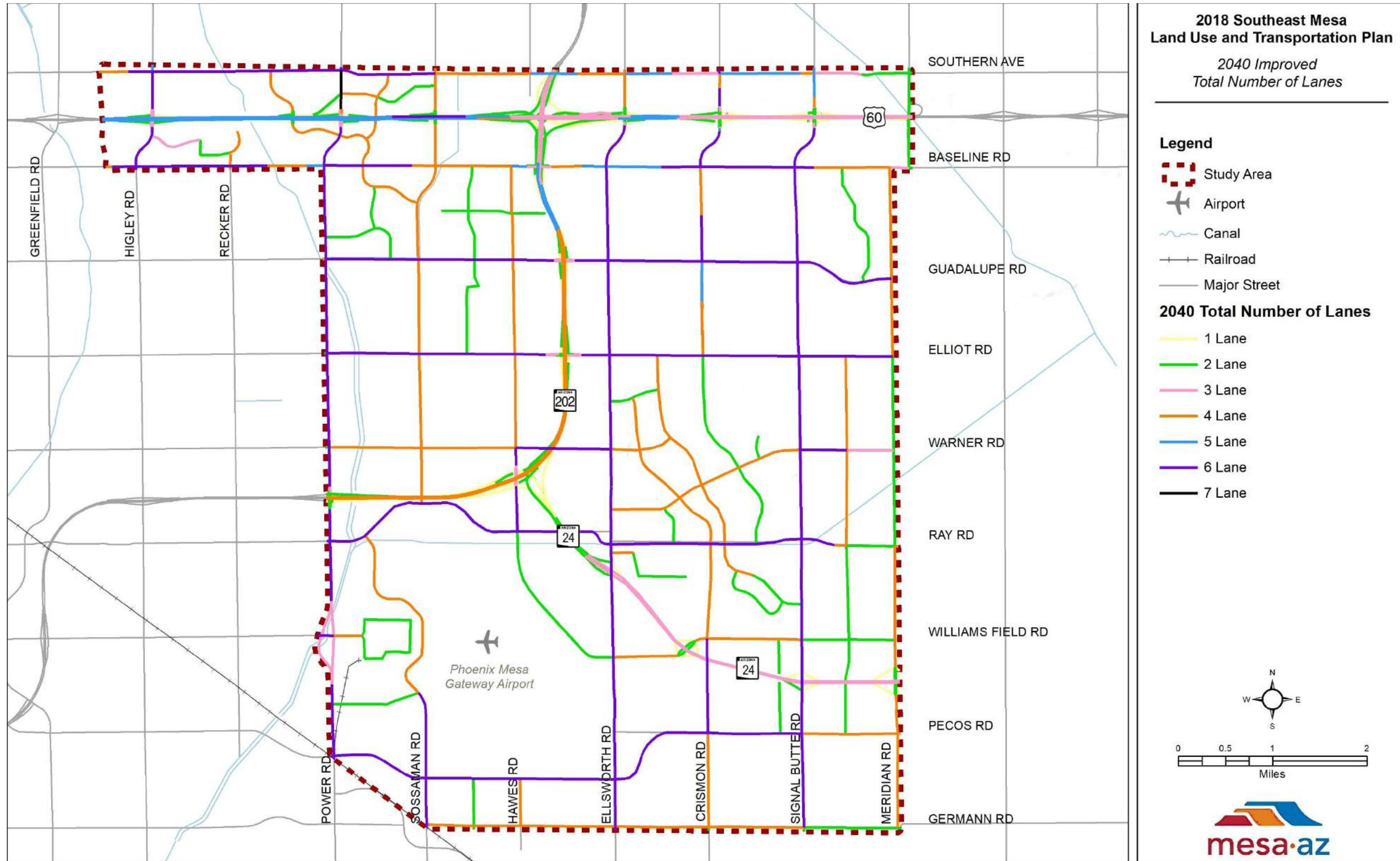


Figure 33: 2040 Improved Total Number of Lanes

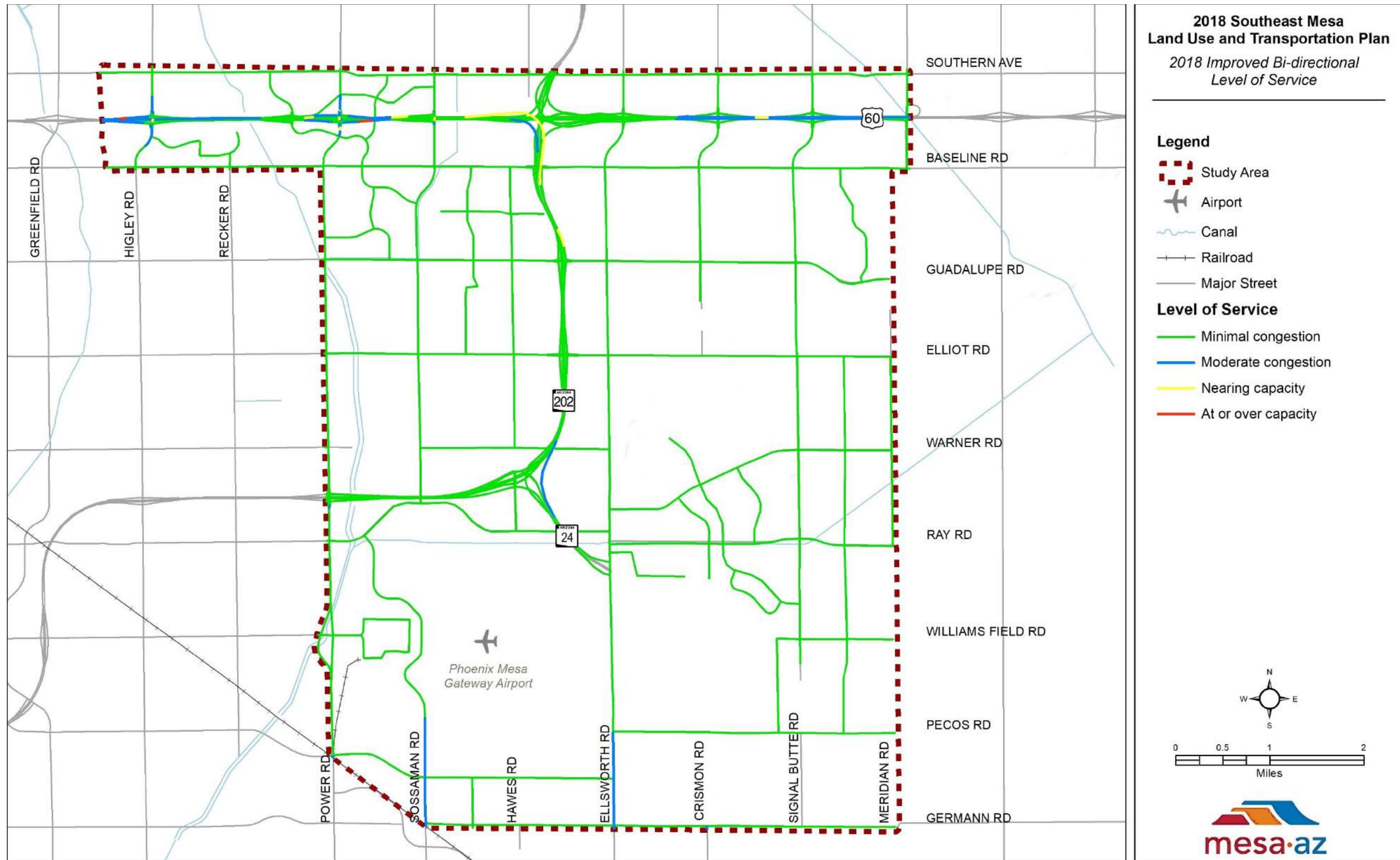


Figure 34: 2018 Improved Level of Service



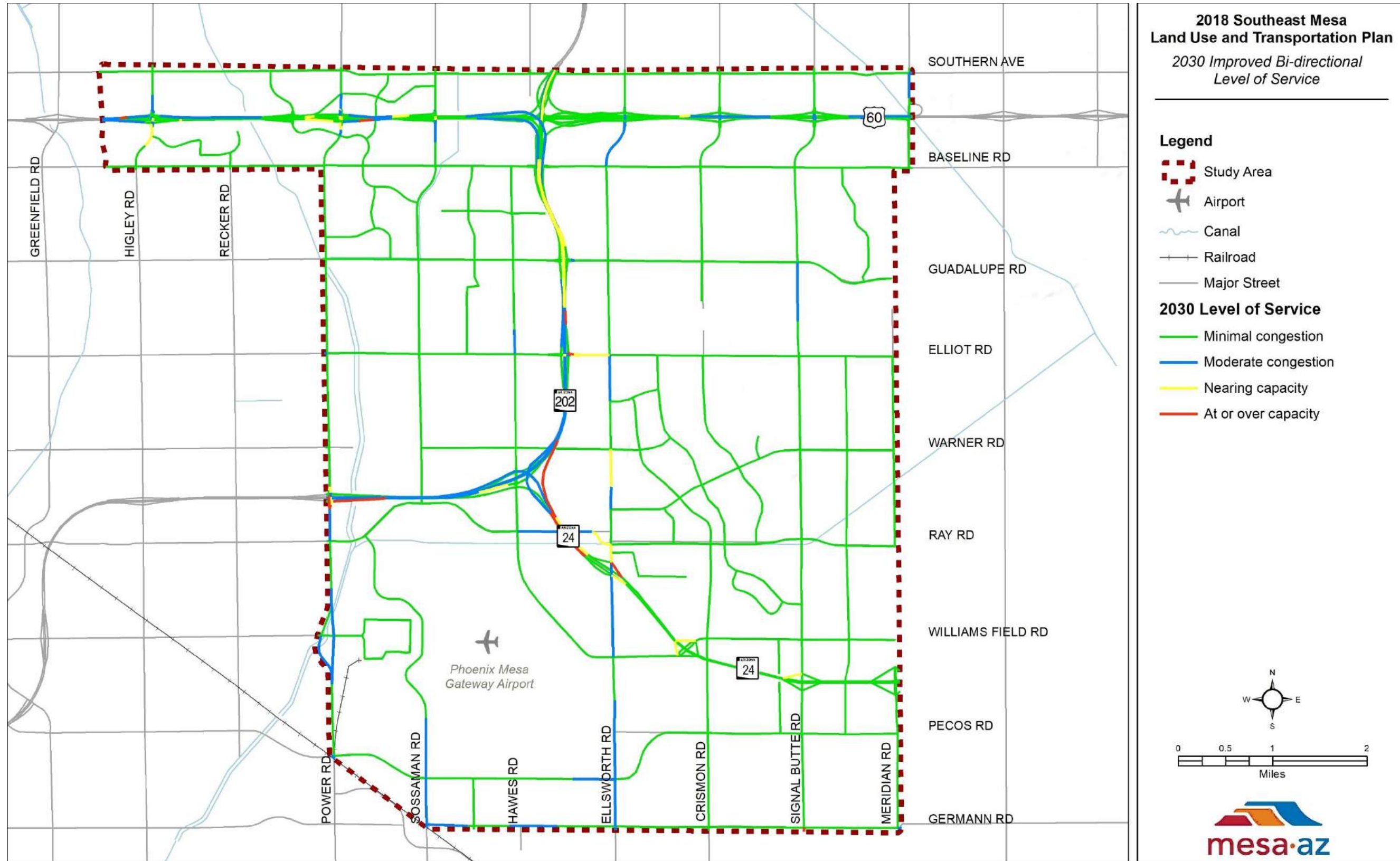


Figure 35: 2030 Improved Level of Service

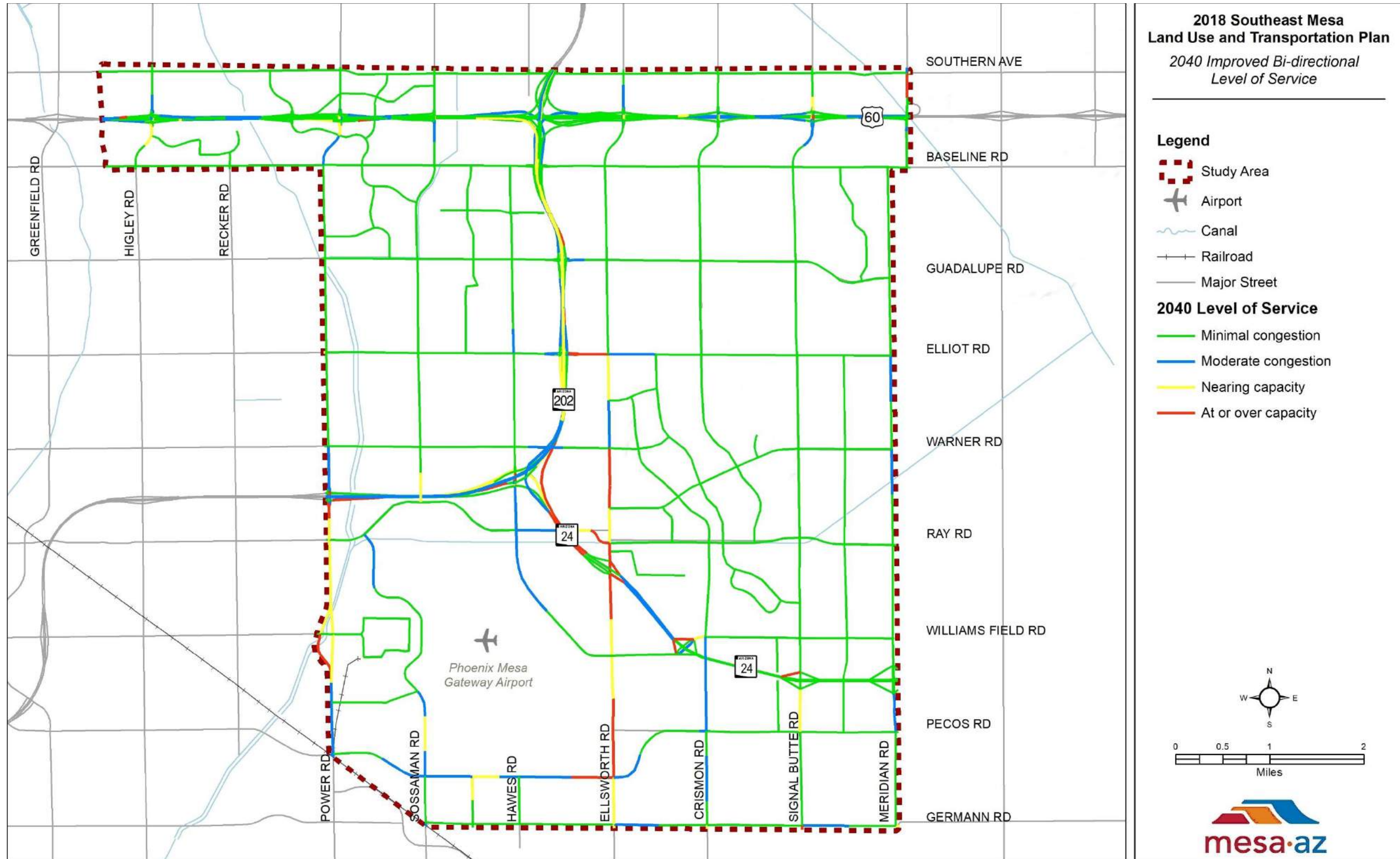


Figure 36: 2040 Improved Level of Service



Improvement Prioritization in Analysis Timeframes

Prioritization criteria were developed in consultation with the City of Mesa to determine the suggested order in which the recommended improvements should be implemented *within* each of the analysis timeframes (i.e., near-term, mid-term, and long-term). This prioritization differs from the determination of which improvements correspond to each analysis timeframe in that it includes more factors than only addressing LOS needs. The prioritization criteria were split into the following four categories (with the noted weighted percentages):

- **Improves mobility and safety** (42% weighting factor) – Project reduces mobility issues (i.e., congestion, delay, unreliability, access concerns) or safety issues, thereby improving the regional and local transportation network;
- **Enhances economic vitality** (27% weighting factor) – Project has a positive impact on the economy because it improves infrastructure or access within an economically strategic area (i.e., designated growth area, important economic corridor, employment center) or provides new strategic development opportunities, thereby improving general livability;
- **Can feasibly be funded and is cost-effective** (18% weighting factor) – Project makes timely and efficient use of available funding; and
- **Is compatible with approved plans and public input** (12% weighting factor) – Project is a recommendation in an approved plan or has public support.

Each recommended improvement was scored within each of these four categories. These four scores were added together to give each recommended improvement project a total

prioritization score. Between improvement projects within the same analysis timeframe, a project with a higher prioritization score was prioritized above a project with a lower prioritization score. If two or more improvement projects had the same prioritization score, the improvement project with the higher number of projected employees in 2040 on adjacent land was ranked higher.

Prioritization scores were compared only within analysis timeframes. For example, a low priority improvement in the near-term has a higher overall priority than a high priority improvement in the mid-term because near-term improvements address near-term needs and would likely be constructed by the time of need for mid-term improvements.

The prioritization criteria matrix detailing the scoring within each prioritization criterion is provided in **Appendix 5**.

Table 14 shows the resulting prioritization score and ranking of the recommended improvement projects, along with the factors considered in the prioritization scoring.

Estimates of Probable Cost for Improvements

Planning-level opinions of estimated probable cost were developed for each of the improvement projects based on the following unit cost assumptions:

- New 2-lane road - \$14 million/mile;
- New 4-lane road - \$18 million/mile;
- New 6-lane road - \$22 million/mile;
- Widen from 2-lane road to 4-lane road - \$16 million/mile;
- Widen from 2-lane road to 6-lane road - \$18 million/mile;



- Widen from 4-lane road to 6-lane road - \$14 million/mile;
- Widen to add 1 lane in 1 direction - \$7 million/mile; and
- Bridge - \$200/square foot.

These unit cost assumptions were derived from recent planning-level unit costs provided by the City of Phoenix and the City of Chandler and include costs for design, construction, administration, and right-of-way.

The planning-level estimates of probable cost for the recommended improvements are presented in **Appendix 5**, with improvements listed in priority order from top to bottom within each analysis timeframe per the previously described prioritization.



Table 14: Prioritized Recommended Improvements with Scores and Ranking

Improvement Timeframe	Improvement Description	Prioritization Score					Rank (highest to lowest)	Improves Mobility and Safety					Enhances Economic Vitality		Can Feasibly be Funded and is Cost-Effective		Is Compatible with Approved Plans and Public Input	
		Improves Mobility and Safety	Enhances Economic Vitality	Can Feasibly be Funded and is Cost-Effective	Is Compatible with Approved Plans and Public Input	Total Score		Baseline V/C - Improved V/C	Baseline/Improved LOS & V/C	Baseline Volume/Improved Volume	New Connection	Crash Pattern	Growth Area	Adjacent 2040 Employees	Likely Funding Source	Relative Cost/Length (mi)	Compatible with Approved Plans	Public Support
Near-Term	Widen Ellsworth Rd to 6 lanes between SR 24 and Germann Rd	42	27	12	12	93	1	0.24	E/D 0.98/0.74	34.7/39.7	No	Yes	in GA	25k	Mesa	\$\$/2.8	TMP (partial)	Strong
	Construct Sossaman Rd as a 4-lane arterial between Warner Rd and Ray Rd	21	27	12	12	72	2	0.03	C/C 0.56/0.53 -C -/0.10	20.1/18.7 -3.6	Yes		in GA	9k	Mesa, Developer	\$/0.6	TMP	Moderate
Mid-Term	Widen Elliot Road to 6 lanes between Power Rd and Loop 202	35	27	18	12	92	1	0.74	F/C 1.10/0.36	19.6/19.1	No		in GA	20k	Mesa, Developer	\$\$/2.5	TMP	Strong
	Widen Ellsworth Road to 6 lanes between Elliot Rd and SR 24	35	27	18	12	92	2	0.29	F/E 1.26/0.97	55.9/51.8	No		in GA	12k	Mesa, Developer	\$\$/2.2	TMP	Strong
	Construct Crismon Rd as a 4-lane arterial between ¼ mile south of Ray Rd and Germann Rd	35	27	18	12	92	3	0.52	F/D 1.25/0.73 -C -/0.67	44.4/38.9 -23.8	Yes		in GA	11k	Mesa, Developer	\$\$/2.8	TMP	Strong
	Construct Hawes Rd as a 6-lane arterial between Warner Rd and Loop 202	35	27	18	8	88	4	0.30	F/E 1.17/0.87 -C -/0.28	41.5/46.4 -15.0	Yes		in GA	3k	Mesa, Developer	\$/0.3	TMP	Moderate
	Widen Warner Rd to 4 lanes between Hawes Rd and Ellsworth Rd	35	27	12	12	86	5	0.62	F/C 1.20/0.58	17.5/20.7	No		in GA	15k	Mesa, Developer	\$/1.0	TMP	Strong
	Widen Ray Rd to 4 lanes between Sossaman Rd West and Ellsworth Rd and realign it with a curve to the south to connect directly to Ray Rd east of Ellsworth Rd	35	27	12	12	86	6	0.29	F/E 1.26/0.97	22.3/34.5	No		in GA	14k	Mesa, Developer	\$\$\$/3.0	TMP	Strong
	Widen Signal Butte Rd to 6 lanes between Ray Rd and Germann Rd	35	27	12	12	86	7	0.88	F/C 1.37/0.49	24.4/26.4	No		in GA	9k	Developer	\$\$\$/3.0	TMP	Strong
	Construct Williams Field Rd as a 4-lane arterial between Ellsworth Rd and SR 24	35	27	12	12	86	8	-0.03	C/C 0.40/0.43 -C -/0.15	21.2/22.9 -5.3	Yes		in GA	8k	Mesa, Developer	\$/0.8	TMP	Strong
	Construct Williams Field Rd as a 4-lane arterial between SR 24 and Signal Butte Rd	35	27	12	12	86	9	0.08	C/C 0.36/0.28 -C -/0.23	19.2/15.0 -24.8	Yes		in GA	3k	Mesa, Developer	\$/1.2	TMP	Strong
	Widen Pecos Rd to 6 lanes between Ellsworth Rd and Signal Butte Rd and realign it with a curve to the south to connect directly to Pecos Rd west of Ellsworth Rd	35	27	12	8	82	10	0.79	F/C 1.09/0.30	19.3/15.9	Yes		in GA	23k	Mesa, Developer	\$\$\$/2.5	TMP (partial)	Moderate
	Widen Sossaman Rd to 4 lanes between Velocity Way and ¼ mile south of Rittenhouse Rd	35	27	12	8	82	11	0.59	F/D 1.39/0.80	24.7/28.5	No		in GA	23k	Mesa, QC	\$\$/2.0	TMP	Moderate
	Widen Pecos Rd to 4 lanes between Power Rd and Ellsworth Rd	35	27	12	8	82	12	0.48	F/D 1.22/0.74	21.8/26.4	No		in GA	21k	Mesa, Developer	\$\$\$/3.2	TMP	Moderate
	Widen Sossaman Rd to 4 lanes between ½ mile south of Guadalupe Rd and Warner Rd	21	27	18	8	74	13	0.40	D/C 0.84/0.44	14.9/15.5	No		in GA	9k	Mesa, Developer	\$\$/1.5	TMP	Moderate
	Widen Hawes Rd to 6 lanes between Loop 202 and Ray Rd	21	27	18	8	74	14	0.52	E/C 0.91/0.39	16.2/20.9	No		in GA	5k	Mesa, Developer	\$/0.6	TMP	Moderate
	Widen Meridian Rd to 4 lanes between Pecos Rd and Germann Rd	21	27	12	8	68	15	0.54	E/C 0.85/0.31	15.1/11.2	No		in GA	1k	Mesa, PC, QC	\$/1.0	TMP	Moderate
Long-Term	Construct Warner Rd as a 4-lane arterial between Power Rd and Sossaman Rd	35	27	18	12	92	1	1.48	F/C 1.92/0.44 -C -/0.54	34.1/23.4 -19.2	Yes		in GA	9k	Mesa, Developer	\$\$\$/1.0	TMP	Strong
	Widen Warner Rd to 4 lanes between Sossaman Rd and Hawes Rd	35	27	18	12	92	2	1.54	F/C 2.22/0.68	32.4/24.0	No		in GA	5k	Mesa, Developer	\$/1.0	TMP	Strong
	Widen Warner Rd to 6 lanes between Hawes Rd and Ellsworth Rd	35	27	18	8	88	3	1.09	F/D 1.81/0.72	26.4/38.3	No		in GA	15k	Mesa, Developer	\$/1.0	-	Strong
	Widen Crismon Rd to 6 lanes between Williams Field Rd and Pecos Rd	35	27	18	8	88	4	0.43	F/F 1.49/1.06 -D -/0.84	66.1/56.3 -44.7	Yes		in GA	11k	Mesa, Developer	\$\$/1.0	-	Strong
	Widen Ray Rd to 6 lanes between Power Rd and Ellsworth Rd	35	27	12	12	86	5	0.66	F/F 1.78/1.12	31.6/59.5	No		in GA	13k	Developer	\$\$\$/3.3	TMP (partial)	Strong
	Widen Signal Butte Rd to 6 lanes between Guadalupe Rd and Elliot Rd	35	18	18	12	83	6	0.58	F/C 1.12/0.54	39.9/28.6	No		partially in GA	3k	Mesa, Developer	\$/1.0	TMP	Strong
	Widen Pecos Rd to 6 lanes between Power Rd and Ellsworth Rd	35	27	12	8	82	7	1.24	F/F 2.33/1.09	41.4/58.0	No		in GA	25k	Mesa	\$\$\$/3.2	-	Moderate
	Widen Sossaman Rd to 6 lanes between Velocity Way and Rittenhouse Rd	35	27	12	8	82	8	0.84	F/E 1.71/0.87	30.4/46.6	No		in GA	22k	Mesa, QC	\$\$/1.8	-	Moderate
	Widen Pecos Rd to 4 lanes between Signal Butte Rd and Meridian Rd	35	27	12	8	82	9	0.48	F/C 1.08/0.60	19.2/21.2	No		in GA	4k	Mesa, Developer	\$/1.0	TMP	Moderate
	Widen Meridian Rd to 4 lanes between SR 24 and Pecos Rd	35	27	12	8	82	10	0.53	F/D 1.24/0.71	22.0/25.1	No		in GA	2k	Mesa, PC, QC	\$/0.5	TMP	Moderate
	Widen Hawes Rd to 4 lanes between Guadalupe Rd and Warner Rd	35	18	18	8	79	11	0.44	F/D 1.19/0.75	21.2/26.7	No		partially in GA	12k	Mesa, Developer	\$\$/2.0	TMP	Moderate
	Construct Hawes Rd as a 4-lane arterial between Pecos Rd and Germann Rd	21	27	18	8	74	12	0.24	F/E 1.11/0.87 -C -/0.14	16.2/12.6 -5.0	Yes		in GA	16k	Mesa, Developer	\$/0.6	TMP	Moderate
	Construct Meridian Rd as a 4-lane arterial between Ray Rd and SR 24	35	18	12	8	73	13	0.67	F/C 1.14/0.47 -C -/0.46	16.6/6.8 -16.2	Yes		partially in GA	1k	Mesa, PC	\$\$/1.5	TMP	Moderate
	Construct Crismon Rd as a 4-lane arterial between ½ mile south of Guadalupe Rd and Elliot Rd	21	27	12	12	72	14	0.28	E/C 0.96/0.68 -C -/0.46	42.5/36.0 -16.3	Yes		in GA	5k	Mesa	\$\$/0.5	TMP	Strong
	Widen Ellsworth Rd to 6 lanes between ¼ mile south of Guadalupe Rd and Elliot Rd	21	18	18	12	69	15	0.28	E/C 0.96/0.68	42.5/36.0	No		partially in GA	5k	Mesa, Developer	\$\$/0.8	TMP	Strong
Widen Germann Rd to 4 lanes between Sossaman Rd and Signal Butte Rd	21	27	12	8	68	16	0.29	E/C 0.92/0.63	24.5/22.5	No		in GA	15k	Mesa, QC	\$\$\$/4.0	TMP	Moderate	
Widen Ellsworth Rd to 6 lanes between US 60 and Baseline Rd	21	27	12	8	68	17	0.21	D/C 0.83/0.62 C/C 0.54/0.50	29.5/33.2 29.0/26.9	No		in GA	1k	Mesa, ADOT	\$\$/0.6	TMP	Moderate	
Construct Meridian Rd as a 4-lane arterial between Baseline Rd and Elliot Rd	21	18	12	8	59	18	0.04	-C -/0.38	-13.4	Yes		out of GA but directly benefits	0k	Mesa, PC	\$\$/2.0	TMP	Moderate	



Community Involvement Plan

Purpose

Through a coordinated public outreach effort, community engagement helped create a community-based plan. The outreach effort for the LUTP was guided by this Community Involvement Plan, which details the approach for engaging the public throughout the LUTP process.

Key components of the Community Involvement Plan included the following items:

- Staff Advisory Committee;
- Stakeholder Coordination;
- Community Meetings;
- Citizen Board Updates;
- Informational Brochures; and
- Project Website.

Staff Advisory Committee

The LUTP was guided by a Staff Advisory Committee, comprised of the following staff from the City of Mesa's Transportation Department, Planning Department, and Economic Development Department:

- Aric Bopp;
- Lesley Davis;
- Erik Guderian;
- RJ Zeder;
- Al Zubi; and
- Mark Venti.

Staff Advisory Committee meetings were held on a bi-weekly basis during most of the project. The Staff Advisory Committee provided guidance and feedback on preliminary findings and recommendations and reviewed interim deliverables and community outreach materials.

Stakeholder Coordination

Stakeholders were identified through the scoping process and included the following:

- City departments;
- Southeast Business Group;
- Arizona State Land Department;
- Fujifilm;
- TRW;
- SkyBridge;
- Cadence;
- Sunbelt Invest Holdings;
- Commercial Metals Company (CMC);
- ASU Polytechnic Campus;
- Phoenix-Mesa Gateway Airport;
- DMB;
- Town of Queen Creek;
- Town of Gilbert;
- City of Apache Junction; and
- Pinal County.

A presentation was made at the Southeast Mesa Economic Resource Forum (SMERF) on September 27, 2018. Stakeholders were invited



to attend the meeting and provide feedback on the study.

In-person meetings and phone calls with several stakeholders were completed to gain a clear understanding of the issues and expectations for the LUTP. These meetings were done either individually or in small groups. Stakeholder meetings/calls were conducted with:

- Fujifilm;
- CMC;
- TRW;
- DMB;
- ASU Polytechnic Campus;
- Pinal County;
- Town of Queen Creek;
- City of Apache Junction; and
- Arizona State Land Department.

Community Meetings

Two community meetings were held during the LUTP process to allow the public to provide input. Many of the identified stakeholders also attended the community meetings.

Postcards announcing the community meetings were mailed to the approximately 40,000 property owners with the LUTP study area. Eblasts and social media posts were also sent out to subscribers making them aware of the community meetings. A summary of community meeting materials and input received is provided in **Appendix 6**.

Community Meeting #1

Community Meeting #1 was held on November 7, 2018 at the Eastmark Community Center. Approximately 120 people attended the meeting. The primary purpose of this initial public meeting was to receive public input on issues, opportunities, community values, and

vision. This input was used to build consensus as well as identify what residents value about living in southeast Mesa. This input helped to identify community priorities that guided the LUTP.

Community Meeting #2

Community Meeting #2 was held on March 27, 2019 at Desert Ridge High School.

Approximately 120 people attended the meeting. The primary purpose of the second public meeting was to present and obtain input on the draft LUTP findings and recommendations.

Citizen Board Updates

Two presentations were made to the Transportation Advisory Board (November 20, 2018 and May 21, 2019). One presentation was made to the Planning and Zoning Board (May 22, 2019). The presentation materials from these meetings are provided in **Appendix 7**.

Informational Brochures

Kimley-Horn prepared two informational brochures that included relevant information regarding the LUTP. The intent of the brochures was to provide decision-makers, the public, and landowners with a solid understanding of the LUTP process at critical stages of the update. The informational brochures were distributed at the community meetings and are provided in **Appendix 8**.

Project Website

The City hosted and maintained a website dedicated to the LUTP. This project website was a source of information concerning upcoming events, contained documents and presentations that the public could download, and provided the public with a way to leave comments and suggestions related to the project.





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