

Social Conditions Report

In support of the Environmental Impact Statement

South Mountain Transportation Corridor in Maricopa County, Arizona

Arizona Department of Transportation
Federal Highway Administration
in cooperation with
U.S. Army Corps of Engineers
U.S. Bureau of Indian Affairs
Western Area Power Administration



April 2013

Federal-aid Project Number: NH-202-D(ADY) ADOT Project Number: 202L MA 054 H5764 01L



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Abstract: This document assesses and describes the effects on social conditions that would occur as a result of the construction and operation of the proposed South Mountain Freeway, as adopted in the 2003 *Regional Transportation Plan*. Contents of this document will be presented in Chapter 4 of the South Mountain Transportation Corridor Environmental Impact Statement.

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List of Acronyms and Abbreviations

ADOT Arizona Department of Transportation

C Central

Community Gila River Indian Community

E Eastern

E1 E1 Alternative

EIS environmental impact statement
FHWA Federal Highway Administration

FR Full Reconstruction

I-10 Interstate 10

MAG Maricopa Association of Governments

PR Partial Reconstruction
RAZ regional analysis zone

SAZ socioeconomic analysis zone

SMPP Phoenix South Mountain Park/Preserve
SMTC South Mountain Transportation Corridor

SR State Route

TI traffic interchange

W Western

W101CFR W101 Alternative, Central Option, Full Reconstruction
W101CPR W101 Alternative, Central Option, Partial Reconstruction
W101EFR W101 Alternative, Eastern Option, Full Reconstruction
W101EPR W101 Alternative, Eastern Option, Partial Reconstruction
W101WFR W101 Alternative, Western Option, Full Reconstruction
W101WPR W101 Alternative, Western Option, Partial Reconstruction

W59 W59 Alternative W71 W71 Alternative

Glossary

accessibility Capable of being reached.

affected environment Those elements of the Study Area that may be changed by the proposed

alternatives. These changes might be positive or negative in nature.

American Indian or Alaskan Native A person having origins in any of the original peoples of North America and who maintains cultural identification through tribal affiliation or community

recognition.

Arizona Department of Transportation (ADOT)

The State agency responsible for state roads and highways.

Asian American A person having origins in any of the original peoples of the Far East,

Southeast Asia, the Indian subcontinent, or the Pacific Islands.

barrier Something that blocks or is intended to block passage, or a natural formation

or structure that prevents or hinders movement or action.

Black/African American A person having origins in any of the black racial groups of Africa.

capacity The maximum number of vehicles that a given section of roadway or traffic

lane can accommodate.

characteristic A distinguishing trait, quality, or property.

community A unified body of individuals; people with common interests living in a

particular area. An interacting population of various kinds of individuals in a common location, or a group of people with a common characteristic or

interest living together within a larger area.

community character A set of parameters that creates a sense of place within a community. Factors

contributing to community character are physical size, compatible land uses within the community, internal circulation, distinct but common architecture,

and cultural activities.

community cohesion The dynamic within a community that promotes internal neighborhood

circulation to and from residences and community facilities, quasi-public facilities, and regularly required activities such as food shopping at local

grocery stores.

demographic Relating to the dynamic balance of a population, especially with regard to

density and capacity for expansion or decline.

density Number per unit of area.

Eastern Section The portion of the Study Area located east of 59th Avenue.

environmental impact statement (EIS)

The project documentation prepared in accordance with the National

Environmental Policy Act when the project is anticipated to have a significant

impact on the environment.

family A group of two or more people who reside together and who are related by

birth, marriage, or adoption.

Federal Highway Administration (FHWA) A branch of the U.S. Department of Transportation responsible for administering the Federal-aid Program. The program provides financial resources and technical assistance for constructing, preserving, and improving the National Highway System along with other urban and rural

roads.

Hispanic/Latino A person of Mexican, Puerto Rican, Cuban, Central or South American, or

other Spanish culture or origin, regardless of race.

household A social unit consisting of those living together in the same dwelling.

income Total amount of all and any wages, bonuses, and/or tips received in a given

year.

migration To move from one country, place, or locality to another.

mitigation An action taken to reduce or eliminate an adverse impact stemming from

construction, operation, or maintenance of a proposed action alternative. Mitigation could reduce the magnitude and extent of an impact from a level of significance to a level of insignificance. Mitigation includes *avoiding* the impact altogether by not taking a certain action or parts of an action; *minimizing* impacts by limiting the degree of magnitude of the action and its impact that impact the impact has reactive and objective the impact by reactiving relabilitating or restoring

implementation; rectifying the impact by repairing, rehabilitating, or restoring the affected environment; reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; and compensating for the impact by replacing or providing substitute resources or

environments. (40 Code of Federal Regulations § 1508.20)

Native

Hawaiian/Other Pacific Islander A person having origins in any of the original peoples of Hawaii, Guam,

Samoa, or other Pacific Islands.

population All the people living in a given area; a group of individuals.

setting The time, place, and circumstances in which something occurs or develops.

socioeconomic Of, relating to, or involving a combination of social and economic factors.

Study Area The geographic area within which action alternative solutions to the problem

are developed.

tenure Distinction between owner-occupied and renter-occupied housing.

Western Section The portion of the Study Area located west of 59th Avenue.

White A person having origins in any of the original peoples of Europe, the Middle

East, or North Africa.

1. Project Description and Purpose and Need

Project Description

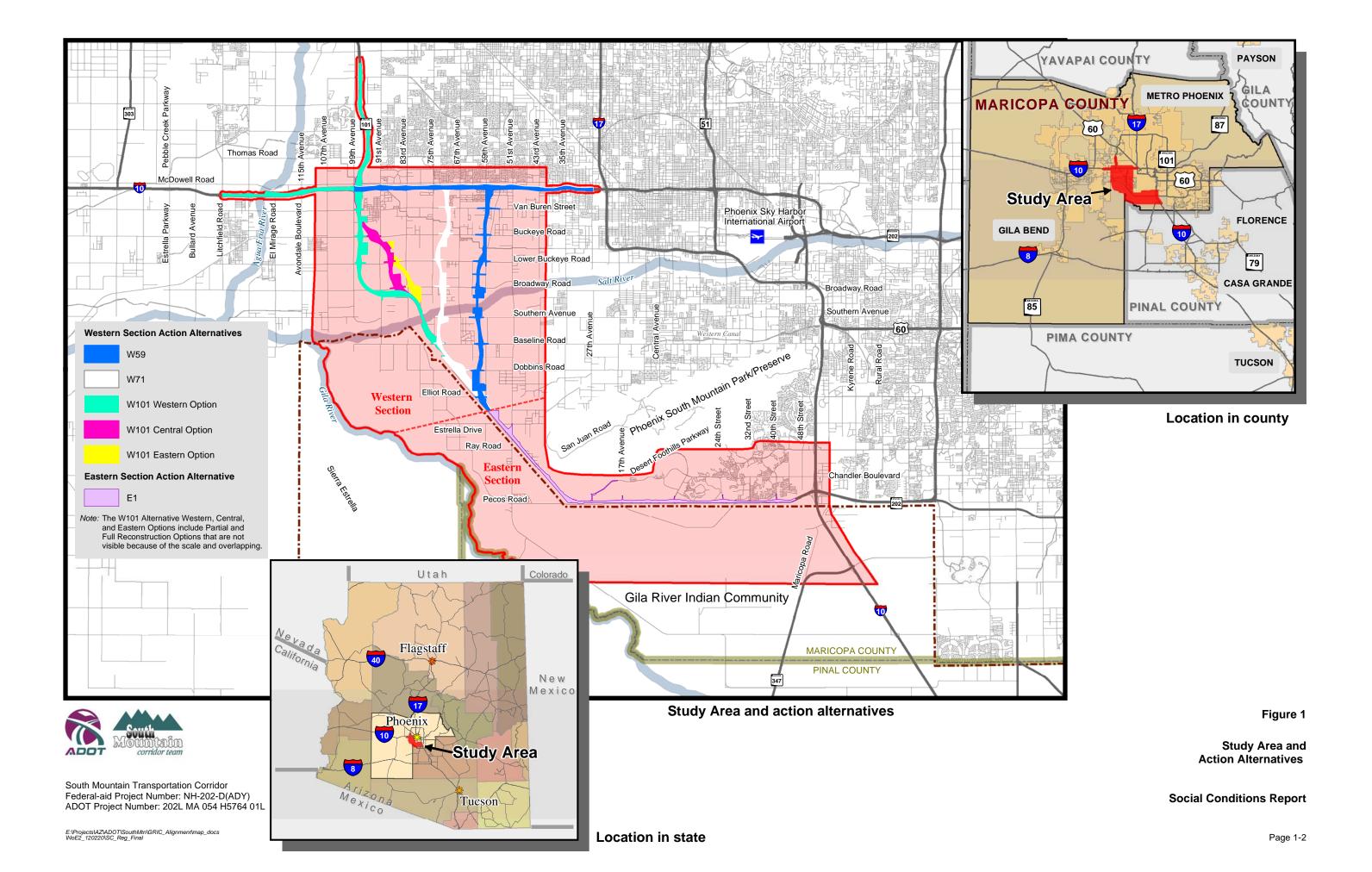
The Arizona Department of Transportation (ADOT) is studying the South Mountain Transportation Corridor (SMTC) in southern Phoenix, Maricopa County, Arizona. The South Mountain Freeway corridor was adopted into the Maricopa Association of Governments (MAG) regional freeway system in 1985 as part of the *MAG Freeway/Expressway Plan* (MAG 1985), at which time it was placed on the state highway system by the State Transportation Board. In 1988, ADOT prepared a design concept report and a state-level environmental assessment for the project, identified at that time as the South Mountain Parkway (ADOT 1988a, 1988b). As presented then, the project would connect Interstate 10 (I-10) (Maricopa Freeway) south of Phoenix with I-10 (Papago Freeway) west of the city, following an east-to-west alignment along Pecos Road through the western tip of the Phoenix South Mountain Park/Preserve (SMPP), then north to I-10 between 59th and 99th avenues. Because of the time elapsed since those documents were approved and to secure eligibility for federal funding for a proposed project within this corridor, ADOT and the Federal Highway Administration (FHWA) are now preparing an environmental impact statement (EIS) in accordance with the National Environmental Policy Act. In November 2004, the MAG *Regional Transportation Plan* (2003) was placed before Maricopa County voters, who approved the sales tax funding the plan. The South Mountain Freeway was included in this plan.

Alternatives considered for the SMTC included past freeway proposals as well as transportation system management, transportation demand management, transit improvements, arterial street network improvements, and land use controls. A freeway facility was determined to best address the project purpose and need. Therefore, this report discusses the potential impacts of a proposed freeway in the SMTC.

The Study Area for the EIS encompasses more than 156 square miles and is divided into a Western Section and an Eastern Section at a location common to all action alternatives (Figure 1). The division between sections occurs just east of 59th Avenue and south of Elliot Road.

Within the Western Section, three action alternatives are being considered for detailed study. These are the W59, W71, and W101 Alternatives. The W59 Alternative would connect to I-10 at 59th Avenue, while the W71 Alternative would connect at 71st Avenue. The W101 Alternative would connect to I-10 at the existing State Route (SR) 101L (Agua Fria Freeway)/I-10 system traffic interchange (TI) and has six associated options. The W101 Alternative options vary geographically among the Western (W), Central (C), and Eastern (E) Options and would vary geometrically based on a Partial Reconstruction (PR) or a Full Reconstruction (FR) of the system TI.

Improvements to I-10 (Papago Freeway) would occur for each Western Section action alternative (W59, W71, and W101). Improvements to SR 101L would occur for each option associated with the W101 Alternative.



Within the Eastern Section of the Study Area, one action alternative is being considered. The E1 Alternative would begin near Elliot Road and 59th Avenue and proceed to the southeast to Pecos Road, which it would follow to the east until connecting to I-10 (Maricopa Freeway) at the Pecos Road/I-10/SR 202L (Santan Freeway) system TI.

The action alternatives and options are summarized in Table 1.

Table 1. Action Alternatives and Options

Section	Interstate 10 Connection	Action Alternative	Option – Broadway Road to Buckeye Road	Option – State Route 101L/ Interstate 10 Connection Reconstruction	Option Name
	59th Avenue	W59	a	a	
	71st Avenue	W71	_	_	_
	State Route 101L	W101	Western	Partial Reconstruction	W101WPR
Western			Western	Full Reconstruction	W101WFR
Western			Control	Partial Reconstruction	W101CPR
			Central	Full Reconstruction	W101CFR
			F4	Partial Reconstruction	W101EPR
			Eastern	Full Reconstruction	W101EFR
Eastern	Pecos Road	E1		_	_

^a not applicable

The No-Action Alternative is being considered for the entire Study Area.

Purpose and Need

An analysis of population trends, land use plans, and travel demand shows that a considerable traffic problem in the Phoenix metropolitan area is projected for the future, resulting in the need for a new freeway in the SMTC. This traffic problem is likely to worsen if plans are not made to accommodate the regional travel anticipated. The purpose of a freeway within the SMTC is to support a solution to traffic congestion. Between the early 1950s and the mid-1990s, the metropolitan area grew by over 500 percent, compared with approximately 70 percent for the United States as a whole (MAG 2001). From 1980 to 2005, the Maricopa County population more than doubled, from 1.5 million to 3.7 million. The MAG region has been one of the fastest-growing metropolitan areas in the United States; Phoenix is now the fifth-largest city in the country, and the region ranks as the 12th-largest metropolitan area in the country.

Travel demand and vehicle miles driven in the metropolitan area are expected to increase at a faster rate than the population. MAG projections (conducted in collaboration with the Arizona Department of Economic Security) indicate Maricopa County's population will increase from 3.7 million in 2005 to 6.5 million in 2035 (MAG 2009). It is projected that in the next 25 years, daily vehicle miles traveled will increase from 101 million to 185 million

Project Description and Purpose and Need

Even with anticipated improvements in light rail service, bus service, trip reduction programs, and existing roads and freeways, vehicle traffic volumes are expected to exceed the capacity of Phoenix metropolitan area streets and highways by as much as 11 percent in 2035. A freeway within the SMTC would accommodate approximately 6 percentage points of the 11 percent of the unmet travel demand and would be part of an overall traffic solution.

2. Affected Environment

This report discusses the potential impacts on social conditions of the SMTC. Social conditions discussed in this chapter include demographic characteristics, community character, public facilities, projected growth, and a general discussion of economic activity. Economic activity is addressed in further detail in the *Economic Impacts Report*.

Demographic Characteristics

Key demographic characteristics of the Study Area discussed in this report include race, income, employment, housing, and population growth. Population growth is an important socioeconomic factor for alternatives analysis because of its influence on current and planned transportation facilities and infrastructure. Population growth influences the demand for all modes of transportation, including highway facilities, mass transit, and bicycle and pedestrian infrastructure.

Regional Context

Founded in 1870, Phoenix was a small agricultural community in what was then the Arizona Territory. In 1912, Arizona became a state and Phoenix became its capital with a population of less than 10,000. By 1950, Phoenix was the nation's 99th most populated city, with 107,000 citizens and an area of 17 square miles. This growth was an indicator of the city's potential to become a regional population and economic center. By 2010, Phoenix was the nation's sixth most populous city, with 1,445,656 residents and an area of 519 square miles (U.S. Census Bureau 2010; City of Phoenix 2009); Maricopa County's population in 2010 was estimated at 3,817,117.

The growth experienced between 2000 and 2010, a result of both in-migration and natural increase, changed the racial composition of Phoenix. Certain population segments decreased in terms of percentage of the total population, including Whites (from 75.5 to 65.9 percent). During that same period many minority groups increased in percentage: Black/African Americans (from 4.8 to 6.0 percent), and Asians (from 2.0 to 3.0 percent). American Indians/Alaskan Natives (1.6 percent), Native Hawaiian/Other Pacific Islander population (0.1 percent), and "other race/two or more races" (1.9 percent) showed little change over the period. The Hispanic/Latino of any race population had the greatest increase as a percentage of the population (from 34.1 to 40.8 percent).

Because Hispanics may self-identify on the census form as being White (racially) and as being Hispanic (as an ethnicity), the above percentages may not be directly comparable, i.e., some percentages of census respondents may consider themselves to be in both groups. The above statistics should be taken as only a rough measure of demographic change.

Population Changes

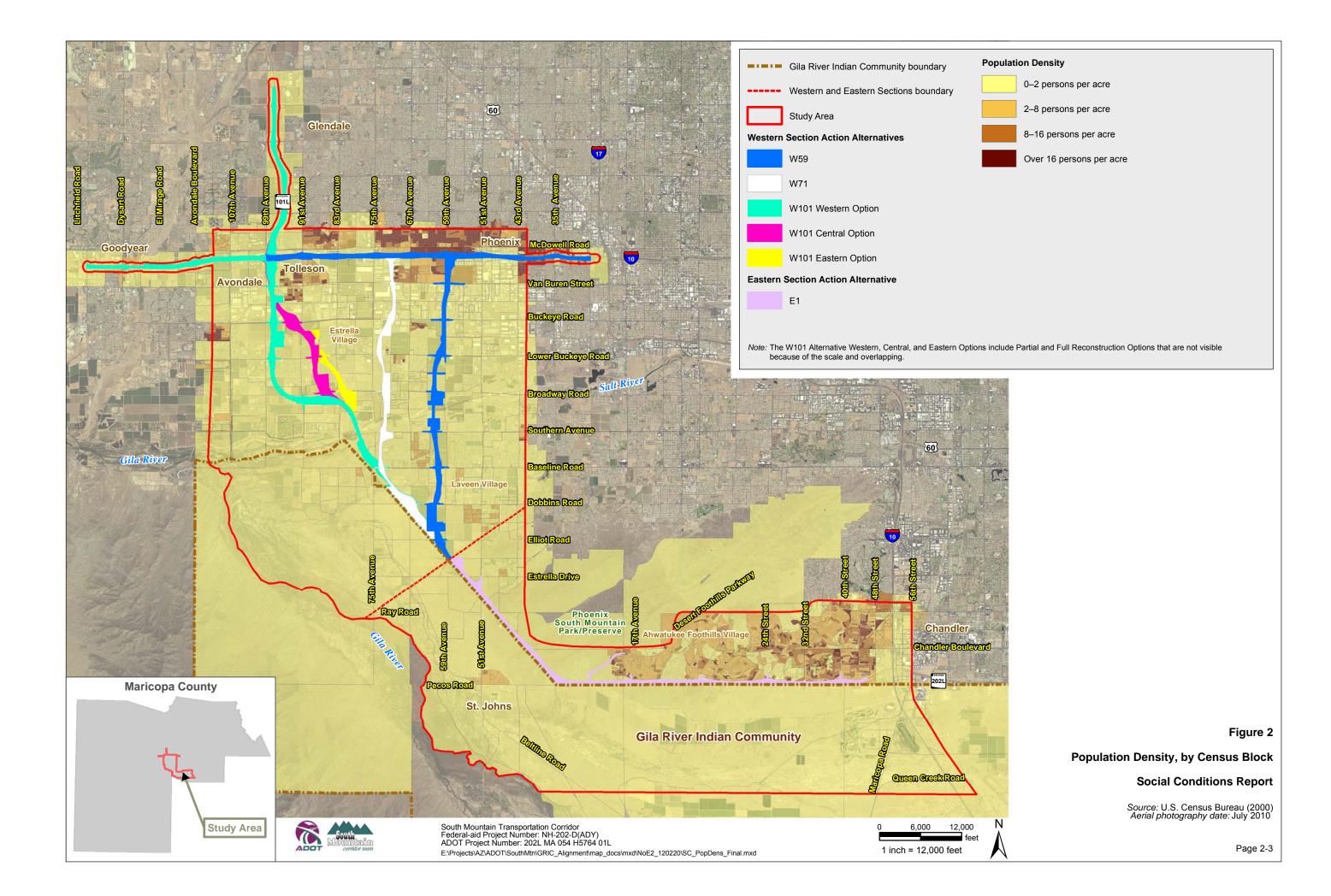
Between 2000 and 2010, population within census tracts in the Study Area increased 47 percent, from 213,263 to 313,127 people. In comparison, the population of Arizona increased by 25 percent, Maricopa County by 24 percent, and Phoenix by 9 percent.

Between 1990 and 2000 the highest population increase in the Study Area occurred in and around the Ahwatukee Foothills Village planning area, which increased by over 400 percent (the planning area is currently near buildout). Between 2000 and 2010, the Laveen planning area experienced even greater growth, increasing by 665 percent. Other more populated areas, such as the Estrella planning area, north of the Salt River, grew by 256 percent between 2000 and 2010.

Population Density

In 2010, the population in census blocks in the Study Area was 224,810. It should be noted that this population figure differs from the number reported by census tract in the previous section (313,127). The reason for the difference is that census tracts are made up of smaller census blocks. Census tracts are larger and, therefore, may extend beyond the Study Area in some cases. That is the reason why the Study Area population estimate based on census tract geography is much higher than the census block-based estimate; the tracts that together encompass the entire Study Area cover more territory outside the Study Area boundaries. As smaller geographic units, census blocks provide a better approximation of the Study Area population because they can be matched more closely to the Study Area boundary (however, census blocks may change size from census to census; census tracts are typically kept consistent).

As shown on Figure 2, most of the census blocks in the Study Area have a density of two persons per acre or less, reflecting the generally rural and/or low-density character of the Study Area in 2010. The highest concentration of persons (greater than eight persons per acre) is located in the more developed portions of the Study Area, including the McDowell Road corridor, Tolleson, the Lower Buckeye Road corridor west of 59th Avenue, the Baseline Road corridor east of 75th Avenue in Laveen Village, and small areas within the Ahwatukee Foothills Village planning area.



Housing

As shown in Table 2, within the census tracts intersecting the Study Area in 2010, there were 114,267 housing units, of which 88 percent were occupied. There is a lower percentage of owner-occupied housing units in the Study Area (61 percent) when compared with Maricopa County (65 percent).

With regard to the value of owner-occupied housing units, 49 percent of all units were valued below \$219,300, which is the Maricopa County median home value (U.S. Census Bureau 2011). As shown on Figure 3, the median value of housing is highest—relative to the rest of the Study Area—in the villages of Ahwatukee Foothills and Laveen, and lowest in the southern portion of Maryvale Village. The area north of Southern Avenue has a variety of housing types, with most block groups having a median value ranging from \$150,000 to \$219,300.

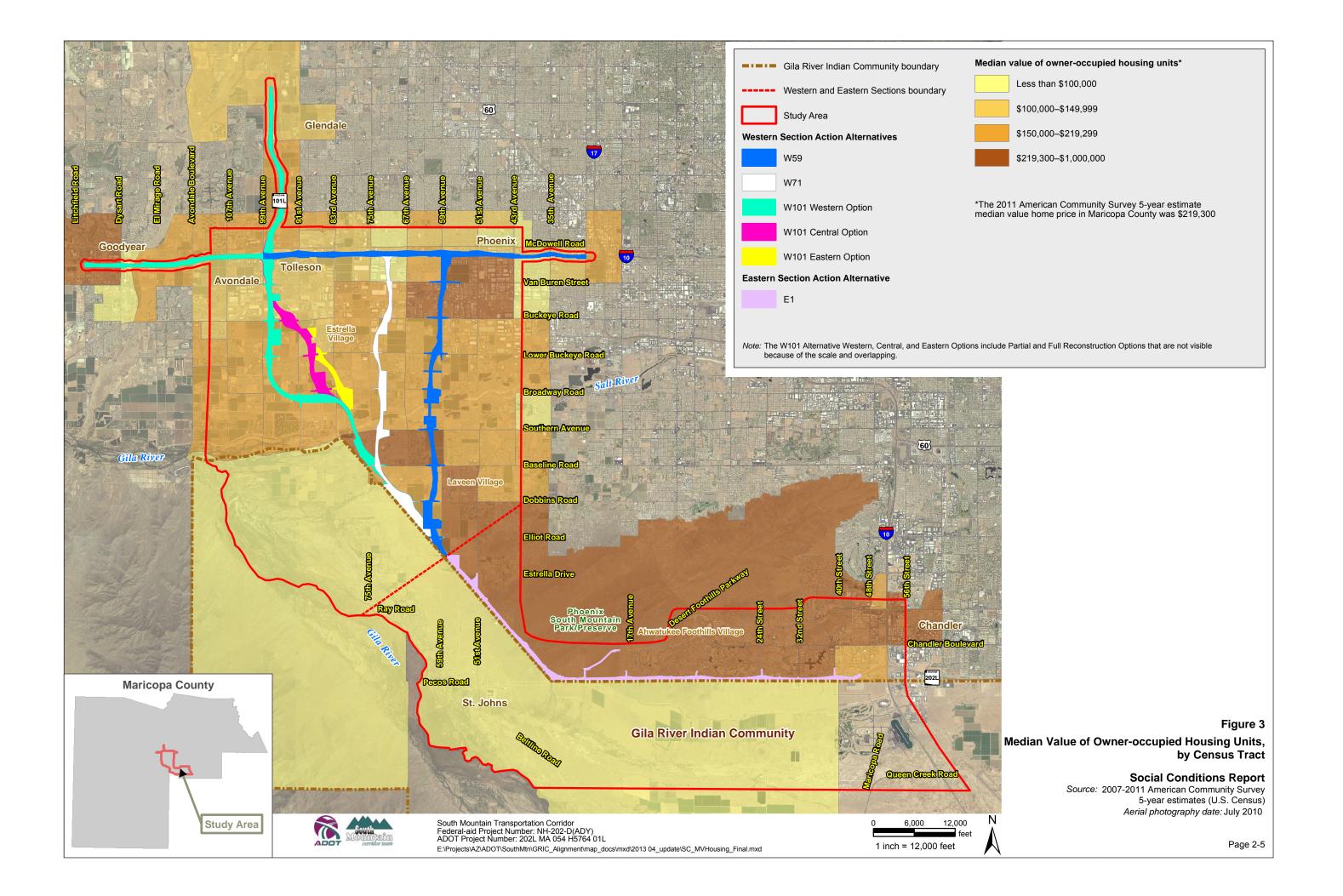
Table 2. Housing Characteristics, from the 2010 Census

Study Area	Maricopa County	Phoenix
114,267	1,639,279	495,793
88	86	94
12	14	6
61	65	58
39	35	39
46	35	54
22	17	16
75	69	64
22	26	33
3	5	3
49	44	50
	114,267 88 12 61 39 46 22 75 22 3	Study Area County 114,267 1,639,279 88 86 12 14 61 65 39 35 46 35 22 17 75 69 22 26 3 5

Source: U.S. Census Bureau (2010)

^a Census tracts were not split at the Study Area boundary; therefore, this number represents the value for all tracts that intersect the Study Area boundary.

^b Threshold values represent the closest value to the median value for an owner-occupied housing unit in Maricopa County 2007–2011 American Community Survey 5-year Estimates (\$219,300).



Study Area Characteristics

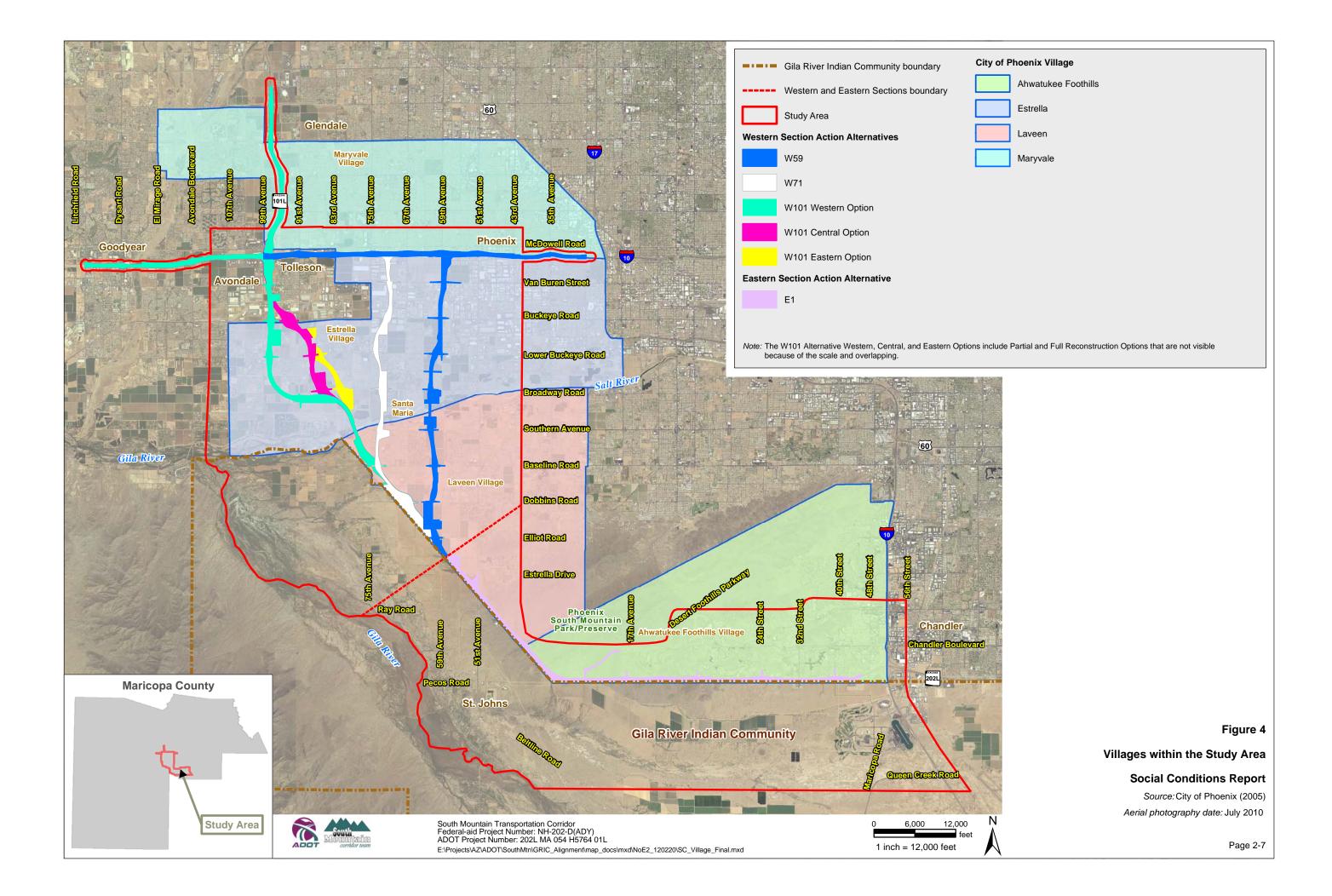
This section describes community characteristics within the Study Area. Generally, with the exception of a few distinct locations (Ahwatukee Foothills Village, Tolleson, and Santa Maria), the overall characteristic of the area can be labeled as transitional. The majority of the Study Area is growing, as described in the *Demographic Characteristics* section. There has been a transition from rural agricultural to moderate-density homogenous single-family residential land use. The reader is referred to the *Land Use*, *Title VI and Environmental Justice*, and *Visual Resources* reports for related discussions regarding Study Area characteristics.

The Study Area is located in Maricopa County and encompasses portions of southwestern Phoenix, all of Tolleson, and portions of Avondale, Chandler, the Gila River Indian Community (Community), and unincorporated Maricopa County. As shown on Figure 4, portions of four of Phoenix's villages are within the Study Area: Ahwatukee Foothills, Laveen, Estrella, and Maryvale.

Located in the Eastern Section of the Study Area, the Ahwatukee Foothills Village area is relatively well established with new residential development. In the Western Section of the Study Area, many areas are already undergoing transition, with substantial new development occurring on former agricultural and open-desert sites. The urbanization trend is evident in the form of newly constructed and proposed residential subdivisions, major warehouse and distribution facilities, and office and light industry parks, as well as large master-planned developments that sometimes include commercial, residential, and recreational components. Numerous "for sale" signs and notices of zone change requests indicate the extent of the transition that is occurring in this formerly rural setting, especially because most zoning actions are increasing the density of future single-family residential developments, by a substantial degree in some cases. Road and infrastructure upgrades and new school construction during the past decade are another sign of local area governments responding to this growth activity. New commercial centers at formerly remote intersections (e.g., northeastern corner of 83rd Avenue and Lower Buckeye Road) also indicate that the number of new homes has caused major retail to follow. In some areas, especially just north and south of the Salt River, this growth is leading to a mix of new master-planned, suburban-density subdivisions and commercial establishments amid scattered, older, rural homesteads and open fields. This state of flux makes community character difficult to define.

Throughout the Study Area, several areas maintain distinct characteristics; they are described below.

▶ The Community is located in south-central Arizona, immediately south of the Phoenix metropolitan area. The reservation covers approximately 372,000 acres (582 square miles). It was established by an act of Congress in 1859 and formally established by Constitution in 1939. The Community's tribal administrative offices and departments are located in Sacaton, Arizona, approximately 16 miles southeast of the Study Area. The Community is composed of members from two tribes, the Pima and the Maricopa.



- ➤ Tolleson, approximately 10 miles west of downtown Phoenix, was incorporated in 1929. Founded in 1912, the city is unique in that it is about 6 square miles—much smaller than other incorporated cities in the Valley. With a population of approximately 6,923 individuals, Tolleson has a distinct downtown area and maintains a family-oriented, small-town atmosphere (Arizona Department of Commerce 2010).
- ► The Laveen Village area, located between the South Mountains and Salt River, was founded on an agricultural heritage. The area has been valued by farmers, equestrians, and those looking for mountain access. First homesteaded in the late nineteenth century, Laveen Village has a strong farming community identity. Over the years, an industrial edge has developed to provide local employment. Cotton and alfalfa fields bordered by canals and country roads give Laveen Village a rural sense of character. To the west of the Laveen area is the Community, characterized by open space that includes views of the Sierra Estrella.

Laveen Village's proximity to central Phoenix is bringing development pressures. The area contains largely undeveloped and agricultural property within a 10- or 20-minute commute to I-10 and downtown Phoenix. Laveen Village is considered a developing area. The village core, planned near 59th Avenue and Dobbins Road, will provide employment, commercial, and recreational uses and a concentration of community activities. Laveen Village today provides a sense of a rural agricultural community. Future planning will attempt to emphasize the importance of maintaining this character; however, it is anticipated that development will influence its community character over the next 25 years.

▶ Santa Maria is an unincorporated townsite "island," located on 80 acres at the southwestern corner of Lower Buckeye Road and 67th Avenue. Established in the early 1900s, the townsite sits on a slightly raised ridge unsuitable for farming at that time, but ideal for residences. The original homestead was issued in January 1916 under the authority of the U.S. Homestead Act of 1862. In the early 1940s, Mexican immigrants working on farms in the area established a fairly substantial makeshift tent community on the land. In August 1944, the property owner conducted a land survey for subdivision into 62 parcels for the immigrants to purchase and, in February 1945, the Santa Marie Townsite became official (note that the community is now known as Santa Maria).

From 1945 to today, Santa Maria has thrived as a rural Hispanic community. Many of the founding families maintain a strong presence within the community. The original 62 parcels have now been further subdivided into 137 parcels. A Roman Catholic Mission Church was built in the townsite in 1973 as part of the Cashion Parish. Today, the community retains a strong sense of its rural character with its collage of predominantly vernacular architecture, narrow streets built flush to grade (no sidewalks), and aboveground utilities.

▶ Ahwatukee Foothills Village is bounded by I-10 to the east, the South Mountains to the north, and the Community to the west and south (Pecos Road—the 1988 approved alignment for the South Mountain Freeway—separates the village from the Community); in a way, the area could be considered—and has been described as—one large cul-de-sac. Unlike areas in the Western Section of the Study Area, much of Ahwatukee is developed; vacant, undeveloped land is relatively rare. It is

distinct in its character in that it consists of contemporary master-planned communities with desert landscaping, golf courses, and lakes. The adjacent SMPP provides opportunities for hiking, biking, and jogging. Because Ahwatukee is nearly fully developed, because its communities were master-planned, and because of its geographical and artificial boundaries, its character could be considered more modern, unified, and upscale.

Facilities and Services

As shown on Figures 5 and 6, public facilities within the Study Area include schools, churches, fire stations, city facilities, a post office, a park-and-ride facility, golf courses, parks, and open space areas associated with residential developments.

Employment and Economic Conditions

Employment generates household income, which is critical to the economic well-being of the community. Employment sites generate revenue for local governments in the form of taxes. Employees use various modes of transportation to get to and from work. The local road network is affected by commuting patterns and business-related traffic generated by employment sites, which are also important because they may influence transit service and could be affected by freeway alternatives.

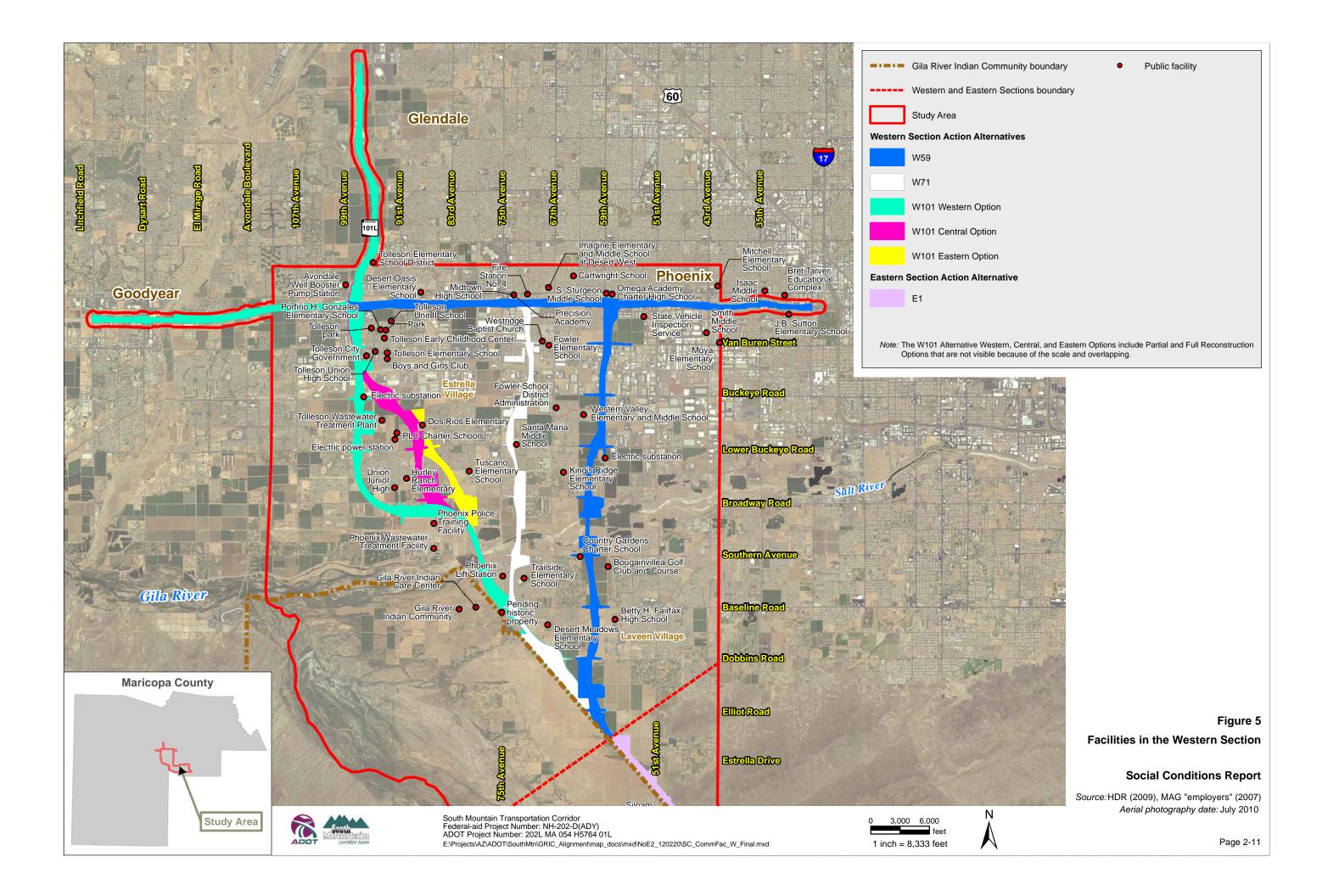
In 2007, 2,068 employers in the Study Area employed 73,501 people (Figure 7) (MAG 2007a). The majority of industries are located north of Lower Buckeye Road, in the northern portion of the Study Area. This location provides easy access to I-10 and indirect access to Interstate 17.

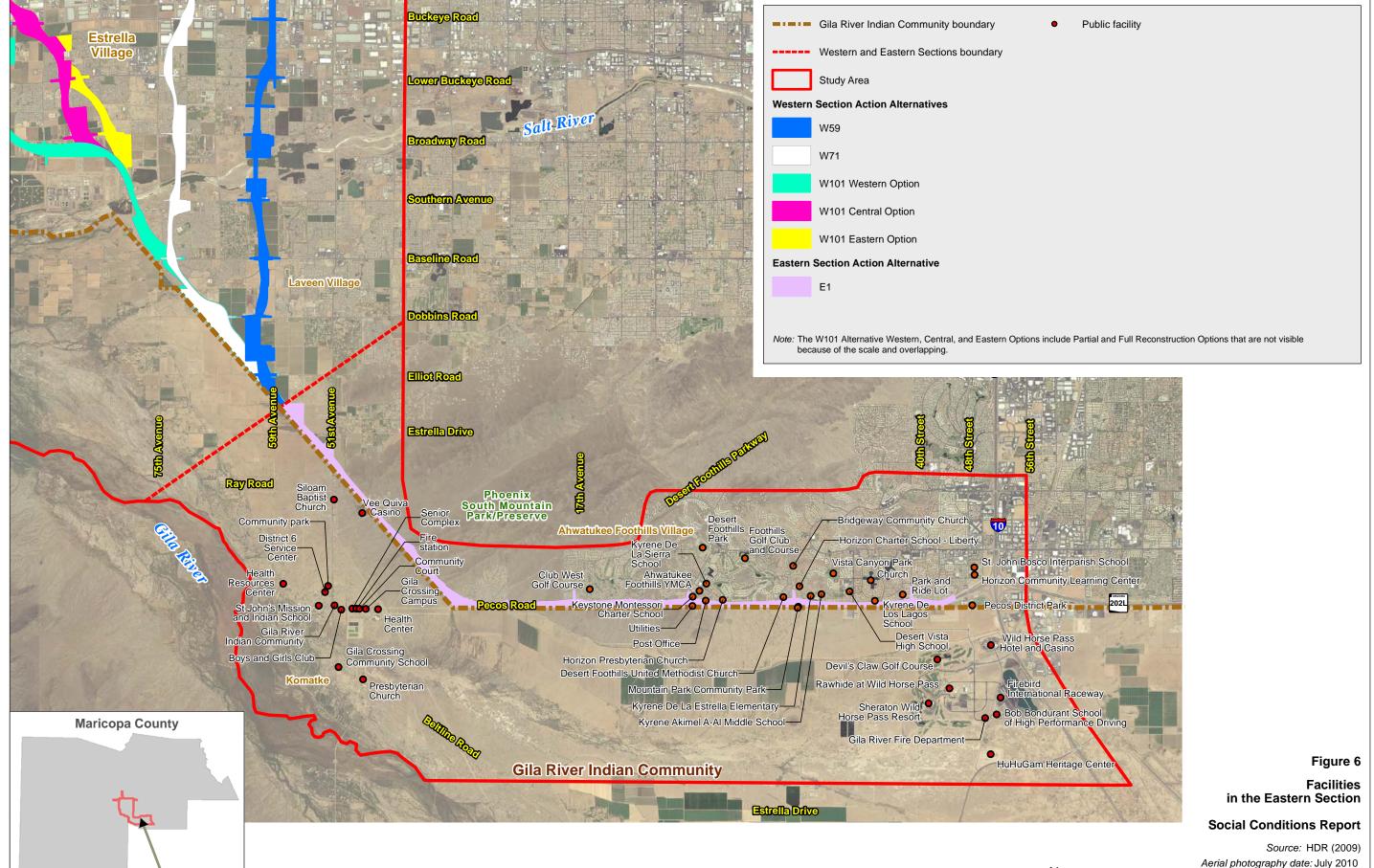
Reported businesses in the Study Area have staffs that range in size from 3 to 2,700 people (the MAG employer database reports only businesses that have 3 or more employees). The 2,068 employers located in the Study Area have been separated into 15 industry types, as shown in Table 3. The reader is referred to the *Economic Impacts Report* for additional information. The largest industry in the Study Area, manufacturing, represents 22 percent of all employees, followed by transportation and warehousing (16 percent) and retail trade (14 percent).

Table 3. Employers within the Study Area, by Industry

Industry	Employers	Percentage	Employees	Percentage
Accommodation and food services	180	9	4,695	6
Administrative and support and waste management and remediation services	71	3	1,826	2
Agriculture, forestry, fishing, hunting, and mining	24	1	737	1
Arts, entertainment, and recreation	30	1	2,368	3
Construction	146	7	3,681	5
Health care and social assistance	160	8	1,806	2
Manufacturing	269	13	16,368	22
Other services (except public administration)	140	7	2,441	3
Professional	349	17	9,063	12
Public administration	22	1	1,089	1
Retail trade	268	13	10,053	14
Transportation and warehousing	145	7	11,661	16
Unclassified	30	1	580	1
Utilities	7	0	901	1
Wholesale trade	227	11	6,232	8
Total	2,068	100	73,501	100

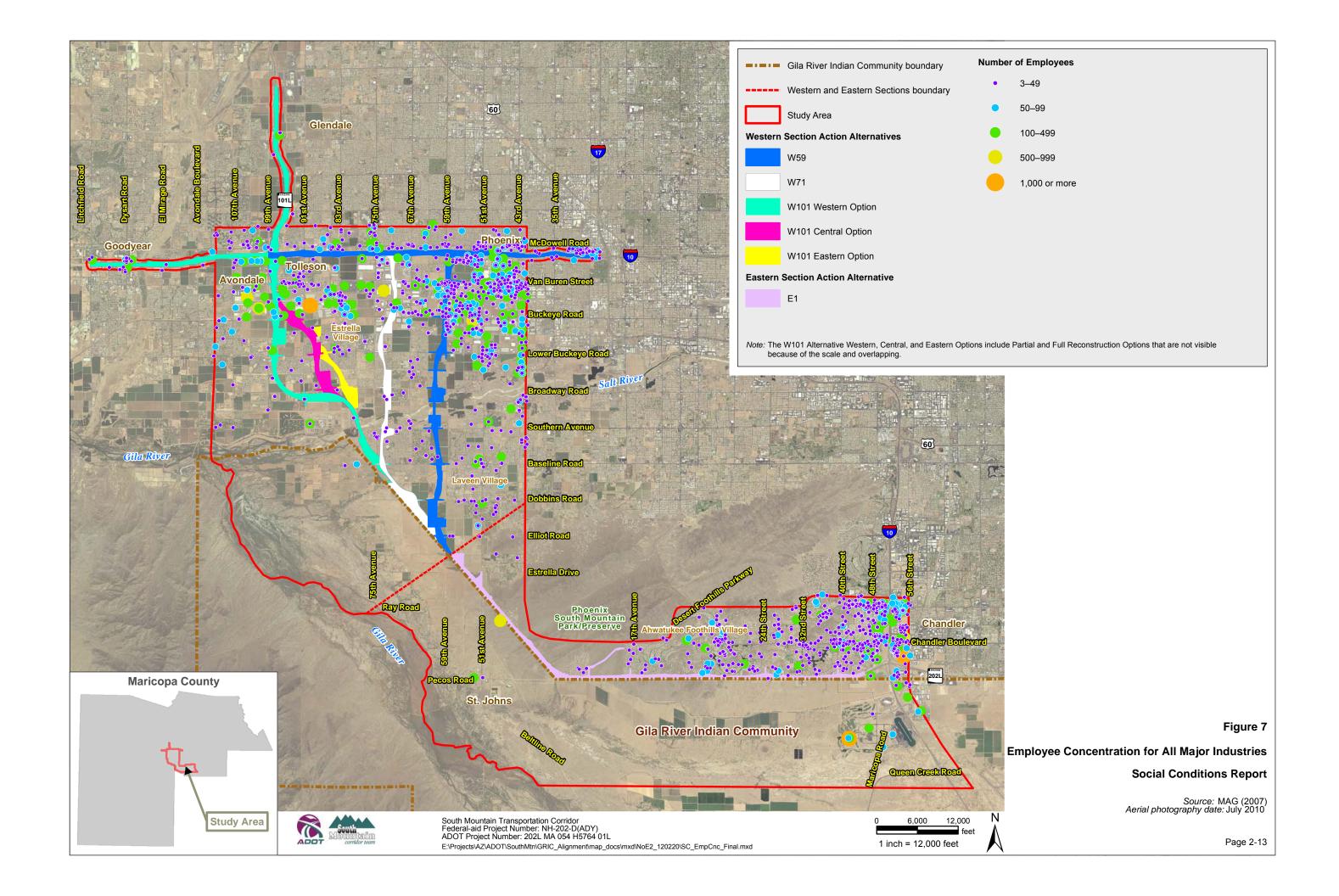
Source: Maricopa Association of Governments (2007a)





Aerial photography date: July 2010

Study Area



Projected Growth

MAG provides region-wide growth forecasts by socioeconomic analysis zone (SAZ) and regional analysis zone (RAZ). MAG's 2009 projections (at the RAZ level) indicate that Maricopa County's population will increase by over three-quarters between 2005 and 2035. Population is expected to increase from 3.7 million in 2005 to over 6.5 million by 2035, a compounded annual growth rate of 1.9 percent. Housing units are projected to increase by 81 percent by 2035 to accommodate the expected growth in population. Employment is also expected to more than double, increasing from approximately 1.7 million in 2005 to 3.6 million in 2035.

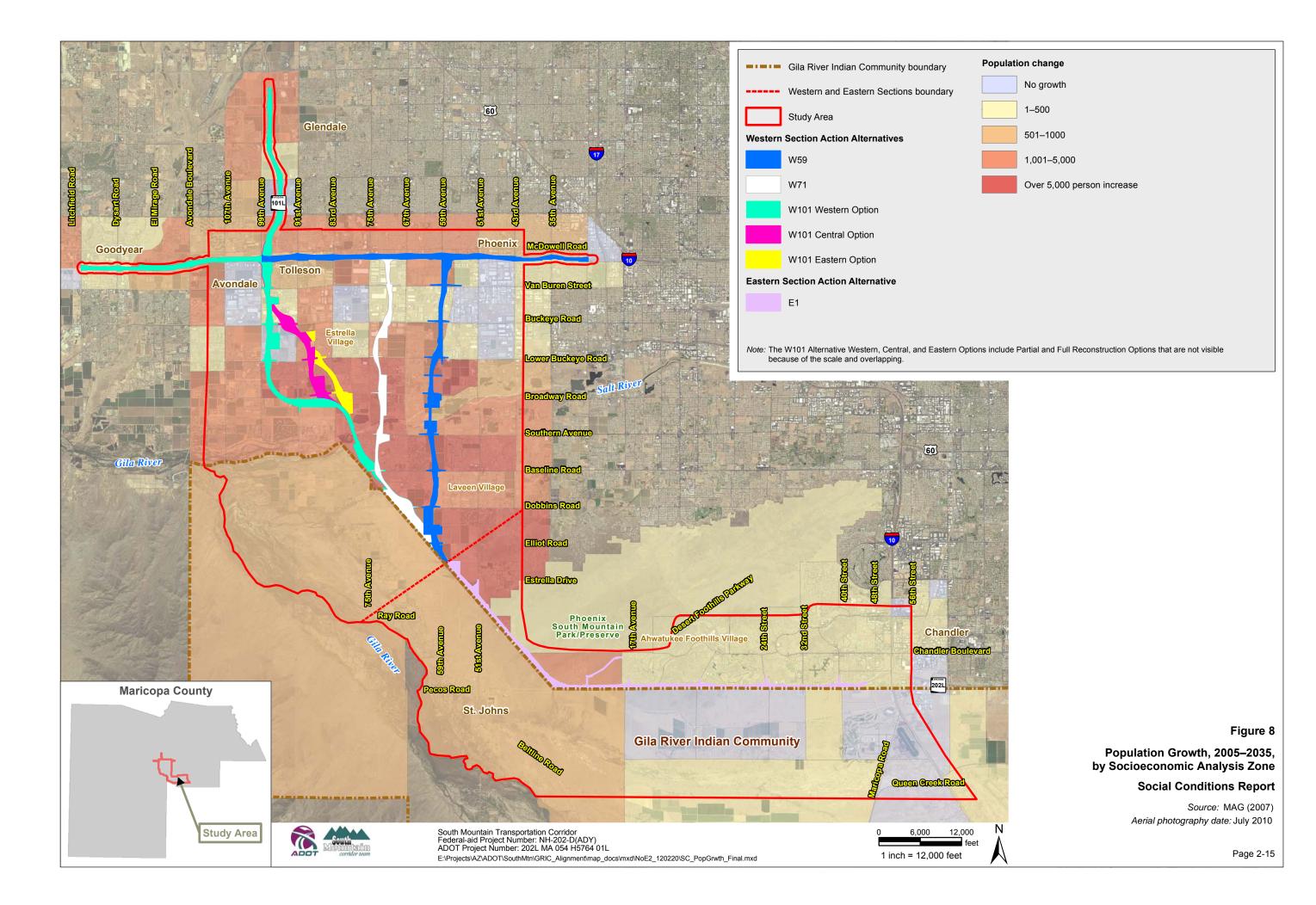
A portion of this growth would occur in and around the Study Area, as shown on Figures 8 and 9. The total population in the SAZs located within the Study Area is expected to grow at a slightly slower rate than Maricopa County, increasing from 264,630 in 2005 to 453,748 in 2035, an annual compounded growth rate of 1.8 percent. It should be noted that this 2005 population figure differs from the number reported by census tract (213,263) and by census block (130,307). This is due to several factors: 1) the SAZ data report 2005 population estimates while the census data are based on the 2000 population, and 2) the SAZs represent a larger geographic area than census blocks, a smaller area than census tracts, and extend much farther beyond the Study Area boundary in some cases. For these reasons, the Study Area population estimate based on SAZ geography is much higher than the census block-based estimate.

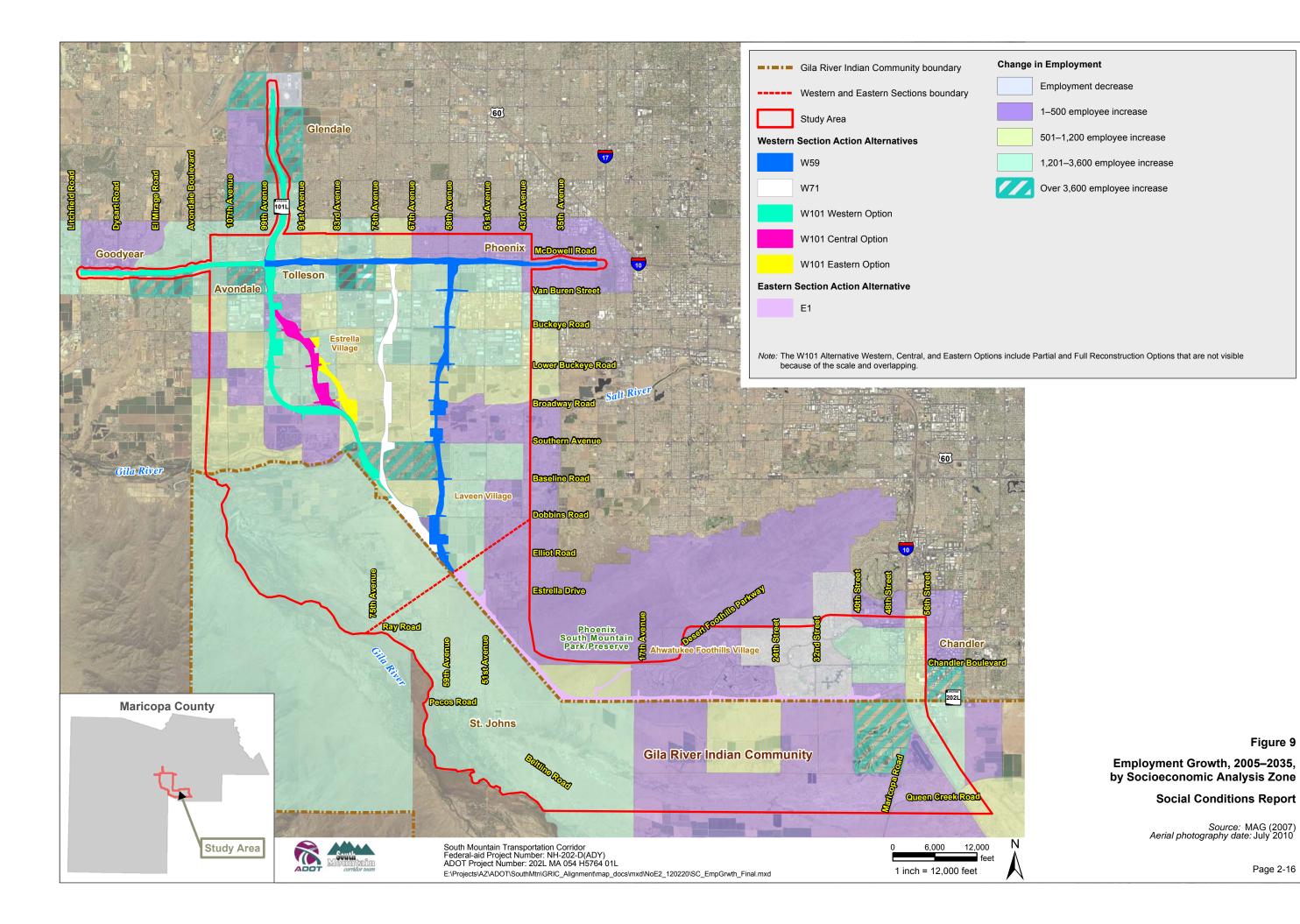
The greatest increase in population is expected to occur in the northern part of the Study Area in Phoenix (Laveen and Estrella villages) and in unincorporated portions of Maricopa County. As shown in Table 4, employment within the Study Area is expected to increase by 114 percent from 116,629 in 2005 to 249,568 in 2035. As with population, the greatest increase in employment is expected to occur in the Western Section of the Study Area in Tolleson and in Laveen and Estrella villages. More detailed information on projected growth is presented in the *Economic Impacts Report*.

Table 4. Projected Growth

	Maricopa County			SAZs Associated with the Study Area		
	2005	2035	Percentage Change	2005	2035	Percentage Change
Population						
Population	3,681,025	6,545,000	77.8	264,630	453,748	71.5
Employment	Employment					
Retail	466,492	984,512	111.0	29,720	69,612	134.2
Office	384,634	889,781	131.3	3,724	33,277	793.6
Industrial	357,712	664,131	85.7	53,297	93,711	75.8
Public	244,431	472,851	93.4	11,365	23,759	109.1
Other	294,263	588,325	99.9	18,523	29,209	57.7
Total	1,747,532	3,599,600	106.0	116,629	249,568	114.0

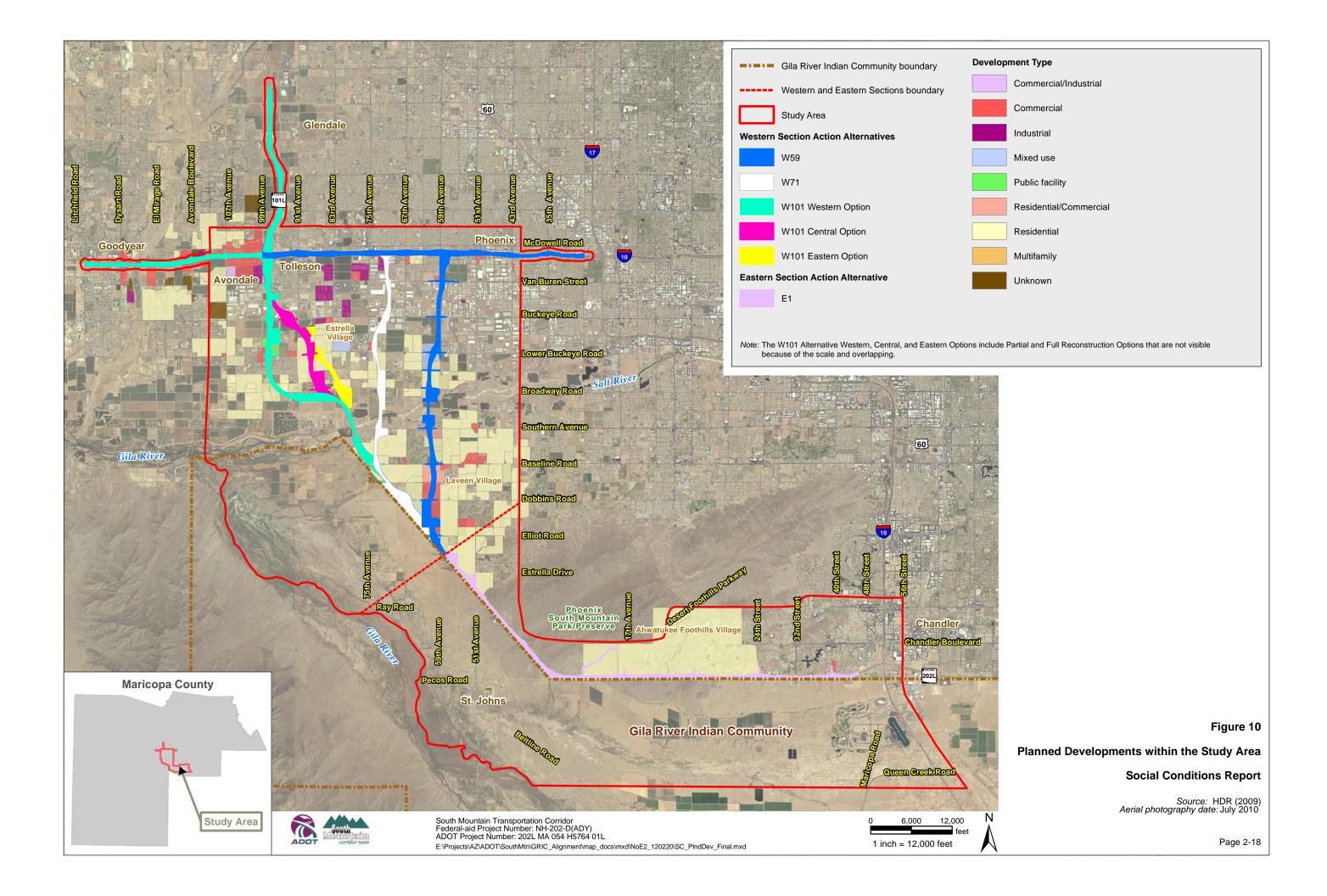
Source: Maricopa Association of Governments (2007b, 2009)





Planned Developments

Figure 10 displays planned developments by type (for example, residential, multifamily) in the Study Area. Several of these developments are under construction while others are in the approval process. Developments under construction in 2009 at the time fieldwork was conducted for this report were included in the displacements and relocation counts discussed in the *Economic Impacts Report*. For residential subdivisions, lots were estimated and included in the displacement counts for those subdivisions where streets were built, even though home construction had not begun. Depending on actual right-of-way requirements and land acquisition, the action alternatives and options would potentially affect additional residences, businesses, and community facilities.



3. Environmental Consequences

Community Character and Cohesion

Community character is determined by a variety of physical and environmental features. These include the community's location and setting, geographic extent and shape, degree of urbanization (if any), land use and development patterns, and building styles and architecture. A community has a distinctive character when these features are unique or noticeably different from those of surrounding or peer communities.

Community cohesion involves the degree to which an area is physically unified and interconnected. Cohesion is reduced when barriers to circulation and interaction exist or when access to certain destinations or subareas is interrupted.

Social Impacts Associated with All Action Alternatives

For all action alternatives and options, increased traffic-carrying capacity provided by a new freeway would improve overall circulation and accessibility both within the Study Area and between this area and the greater Phoenix metropolitan area, benefiting both current and future residents and employees. However, the movement of traffic between a freeway and the local street network often leads to peak-hour congestion at TI locations. This, in turn, can result in increased traffic volumes and delays in the vicinity, potentially affecting nearby commercial and neighborhood areas (the effects would be offset by optimizing service TI operation through design and by the *Regional Transportation Plan*-planned arterial street improvements, where applicable). Inversely, local travel times may be improved if more of the area's through traffic is shifted to a freeway facility and diverted from the local street system. This could also make local roads more attractive and safe for nonvehicular travel by bicyclists and pedestrians. The proposed freeway would reduce the number of vehicles passing through Community land on 51st Avenue and Beltline Road.

All of the action alternatives and options would affect the character and cohesion of adjacent communities and distinct subareas within the overall Study Area, as detailed in the sections that follow. Each action alternative would affect different neighborhoods, but all would affect the social aspects of the Study Area. With regard to the effect of the action alternatives and options on regional and community growth, the SMTC has been incorporated into MAG's *Regional Transportation Plan* to accommodate regional mobility needs over the next 20 years. Growth forecasts for the region depend, in part, on MAG's planned freeway system being in place to accommodate the transportation needs of the twenty-first century. Completion of the proposed action would meet a need within the region and western Maricopa County for additional freeway system links.

Public Facilities

Public facilities potentially affected by the action alternatives and options include schools, park areas, police and fire protection, and other types of facilities and services (e.g., post office, State of Arizona vehicle inspection center, municipal offices and community centers, and a transit park-and-ride lot).

The proposed action alternatives and options would not adversely affect access from area neighborhoods to schools as provided by the major arterial streets. Altered bus routes may be necessary if some schools use collector streets as their primary access, but this does not appear to be the case for any of the existing or new schools near any of the proposed action alternatives because many of these schools are located on or near a major arterial street. Upon completion of the proposed freeway, travel time for school buses may improve because there would be less congestion on the arterial and collector streets used for school access. A new freeway through the area would also improve access for residents to school facilities and community centers used for afterschool daycare and recreational and educational activities.

It is anticipated that during construction, detours could lengthen police and fire response times. However, with the freeway in operation, no disruption of police or fire protection service would be anticipated because circulation on the area's major arterial streets would be maintained through grade separations and planned interchanges. The long-term effect would be reduced travel and response times as a result of improved access to the area by providing alternative access routes to the major arterial streets.

Social Impacts Associated with the Western Section Action Alternatives

W59 Alternative

South of the Salt River, this action alternative would pass through the western portion of Laveen Village. The area of Laveen Village generally west of 51st Avenue and south of Dobbins Road remains in active agricultural use, which is in contrast to areas farther east and north that are rapidly being converted to new single-family housing developments. The W59 Alternative would traverse agricultural land, with scattered rural homesteads in the vicinity. North of Baseline Road, it would pass through more agricultural property between two residential neighborhoods that illustrate the development transition in this portion of Laveen Village. In this area, an older, established subdivision exists to the west and a newer development exists to the east that is oriented around a golf course (associated with Bougainvillea Golf Club) and in which larger homes are clustered on much smaller lots.

As discussed in the *Land Use Report*, the Study Area is transitioning from rural development to higher-density residential development. The City of Phoenix has also identified a future village core for the area around 59th Avenue and Baseline Road, which would include commercial and more intense land uses. The current passive rural character of the area south of Dobbins Road would be affected by the visual intrusion of a freeway and associated noise as discussed in the *Visual Resources* and *Noise* reports. While the W59 Alternative would avoid the existing and new residential developments north of Baseline Road, it would affect their character through the presence of the freeway and associated visual and noise intrusions into these nearby neighborhoods.

Minimal effects on community cohesion are anticipated south of the Salt River because circulation on the local street network would continue to be accommodated through planned TIs at Elliot Road, Dobbins Road, Baseline Road, and Southern Avenue.

Upon entering Estrella Village, the W59 Alternative would continue through an area that remains primarily agricultural between the Salt River on the south and the Roosevelt Irrigation District Canal on the north. One exception is just north of Broadway Road, where the action alternative would proceed between an established residential subdivision (Rio Del Rey) that straddles the proposed freeway corridor. The existing character of both the agricultural land and the residential neighborhoods would be affected by the introduction of a freeway and associated noise and visual intrusions. The proposed TI at Broadway Road would also affect residential character because the space required for its construction would displace some abutting homes (as detailed in the *Economic Impacts Report*).

Community cohesion would not be greatly affected south of Buckeye Road because circulation on local streets would continue unabated through proposed TIs at Broadway, Lower Buckeye, and Buckeye roads. While the Rio Del Rey subdivision, located immediately north of Broadway Road, was designed to accommodate the freeway corridor, the needed right-of-way would affect a number of homes and disrupt the local street network. The impact on the Rio Del Rey subdivision street network would be limited to the southern three blocks on the west side of the needed right-of-way and southernmost block on the east side. While the proposed TI at Broadway Road would disrupt several streets in the adjacent neighborhood, this disruption would occur at the edge of the neighborhoods and would not affect any of the main ingress/egress points for residents and visitors.

A clear change in community character occurs once the W59 Alternative proceeds north of the Roosevelt Irrigation District Canal (between Lower Buckeye and Buckeye roads) and particularly north of Buckeye Road. This area of Estrella Village is primarily industrial, with limited vacant land remaining compared with the situation south of Buckeye Road. Because the area is already intensively developed with a mix of business park, light industrial, and heavier industrial uses (toward Van Buren Street), the introduction of a freeway through this area would not markedly change the existing community character.

North of Van Buren Street, the W59 Alternative would result in the likely displacement of residents of two apartment complexes totaling 680 units and single-family residences as a result of additional right-of-way requirements for the system TI with I-10 (Papago Freeway).

Cohesion of the business and industrial properties and activities in this area would be affected to the extent that internal site circulation and parking/storage areas would be disrupted by the introduction of a freeway, particularly on a potential alignment that would bisect large existing developed properties. Circulation on the local road network would not be affected because TIs are proposed at Lower Buckeye Road and Van Buren Street.

North of Van Buren Street, the W59 Alternative would traverse an existing business park immediately south of I-10 along Latham Street. The existing business/industrial character of this area would not be affected by the introduction of a freeway. However, cohesion of the area would be affected if Latham Street were disrupted, although trucks and other vehicles destined for businesses along this street could still gain access from 51st Avenue on the east. A State of Arizona vehicle inspection facility is also

located along this segment of Latham Street. This facility would continue to be easily accessible from 51st Avenue but would no longer be accessible along Latham Street from 59th Avenue.

W71 Alternative

From the point where the W71 Alternative would connect with the E1 Alternative to north of Dobbins Road, this action alternative would traverse land just north of the Community boundary, at the western edge of Laveen Village. This land remains in agricultural use or is largely undeveloped with only scattered homes. The passive rural character of this area would be affected by the visual intrusion of a freeway and associated noise.

South of Baseline Road, where this action alternative and the W101 Alternative and Options would separate, the proposed alignment would turn due north and proceed through several developing residential subdivisions within Laveen Village. In one case, immediately north of Baseline Road, the action alternative would bisect the subdivision. In another case, farther north toward Southern Avenue, the W71 Alternative would affect only the edge of the subdivision. It would affect several businesses along Southern Avenue before crossing the Salt River corridor. Because this area (near Baseline Road and Southern Avenue) is already in transition, a new freeway would be but another factor in an evolving land use situation, although one that is shifting toward substantially more residential activity.

Community cohesion for the general area would not be affected to the extent that circulation on the local street network would be maintained through proposed TIs at Elliot Road, Dobbins Road, Baseline Road, and Southern Avenue. However, the cohesion of the new residential neighborhood to be built just north of Baseline Road would be affected if a freeway were to divide the development down the middle and disrupt major elements of the internal street system. The next residential development to the north, toward Southern Avenue, would have homes displaced and portions of several local streets disrupted.

North of the Salt River, the W71 Alternative would traverse an area of Estrella Village characterized by ongoing agricultural activity and an existing low-density, rural residential subdivision just south of Broadway Road. The primarily rural character of this area would change with the introduction of a freeway through agricultural land and with the loss of homes in an established neighborhood.

While a proposed TI at Broadway Road would maintain circulation on the area street network, the cohesiveness of the residential area near Broadway Road would be affected by a freeway cutting through the middle of the neighborhood and disrupting local access streets and internal circulation.

Between Broadway and Lower Buckeye roads, the W71 Alternative would traverse several existing residential developments. The surrounding area within Estrella Village is in transition as new housing developments are interspersed among agricultural parcels. Therefore, a new freeway would be introduced into a development setting that is already in flux.

Minimal effects on the cohesion of this area would be expected if judged solely by the maintenance of circulation, which would be accommodated through proposed TIs at Broadway and Lower Buckeye

roads. However, the W71 Alternative would proceed through the core of residential development in the area, displacing homes (as detailed in the *Economic Impacts Report*) and disrupting much of the planned local street network.

At the proposed TI location where the W71 Alternative would cross Lower Buckeye Road, an existing neighborhood to the south would be affected. Community cohesion would be affected by the loss of existing homes and disruption of local streets that also serve as entries into the neighborhood.

Between Lower Buckeye and Buckeye roads, the W71 Alternative would proceed along the edge of properties that remain in agricultural use. The rural character of this area would change with the introduction of a freeway and associated noise and visual intrusion. However, new residential and nonresidential development is occurring all across this central area of Estrella Village; therefore, the area is already experiencing an urbanization trend. Minimal effects on community cohesion are expected as freeway TIs are proposed at Lower Buckeye and Buckeye roads to accommodate local circulation.

The remainder of the W71 Alternative north of Buckeye Road traverses an area of Estrella Village that is primarily industrial but also has remaining pockets of agricultural use as well as some established residential areas north of Van Buren Street near I-10. This includes a single-family residential neighborhood just north of Van Buren Street and east of 71st Avenue that abuts the action alternative, resulting in the displacement of some homes along the western edge of this neighborhood (as detailed in the *Economic Impacts Report*). While the introduction of a freeway would have minimal effect on the character of areas already devoted to industrial use, properties in agricultural and residential use would be affected by a new freeway and the associated visual and noise intrusion.

Community cohesion near this action alternative between Buckeye Road and I-10 would be minimally affected to the extent that circulation on the area street network would be maintained through proposed TIs at Buckeye Road and Van Buren Street. However, the cohesion of the existing residential neighborhood immediately east of the W71 Alternative and north of Van Buren Street would be affected by the loss of homes at the western end of nearly every east—west street within the neighborhood. Also, because most of these streets currently connect to 71st Avenue, enabling easy movement between internal streets in the western portion of the neighborhood, the elimination of 71st Avenue and these local street intersections would reduce neighborhood cohesion. It would result in a series of internal streets, access to which can be gained only from Van Buren Street on the south or 67th Avenue on the east and no longer from 71st Avenue on the west.

W101 Alternative and Options

South of the Salt River

From the point where the W101 Alternative would connect with the E1 Alternative to north of Dobbins Road, the W101 Alternative would traverse land along the Community boundary, at the western edge of Laveen Village. This land is agricultural or largely undeveloped with only scattered homes. The passive rural character of this area would be affected by the visual and noise intrusion of a freeway.

South of Baseline Road, this action alternative would separate from the W71 Alternative and continue to the northwest along the Community boundary toward its proposed Salt River crossing. North and south of Baseline Road, the action alternative would affect the western edge of two residential developments. A proposed TI at Baseline Road would maintain circulation on the area road network. However, the cohesion of the new neighborhood north of Baseline Road would be affected by the loss of homes and by disruption of the planned internal street network in the western quarter of this development.

North of the Salt River to Buckeye Road

North of the Salt River, several options for the W101 Alternative would traverse an area of western Estrella Village where agriculture has been largely supplanted by residential development. Dairy operations along Broadway Road between 83rd and 99th avenues continue to operate. The W101 Alternative Eastern Option would avoid this dairy area, while the Western Option would affect several such properties. The Central Option would proceed through the center of this dairy cluster. Aside from introducing a freeway into this rural setting, the disruption of dairy operations and associated farmstead homes along Broadway Road would change the area's existing character.

The cohesion of this dairy area would also be affected, more so by the Central and Western Options than by the Eastern Option. Proposed TIs at Broadway Road for all of the options would help to maintain circulation on the area road network. However, these dairy operations have been concentrated in this area for many years, and a new freeway could introduce a barrier amid this cluster of common economic and agricultural activity.

Near Lower Buckeye Road, all three options for the W101 Alternative would continue through an area where new residential subdivisions were recently built or are currently under construction on former agricultural properties. The Eastern Option would affect the most residential area because it would traverse a new subdivision site southwest of the 83rd Avenue-Lower Buckeye Road intersection, would pass through another subdivision immediately north of Lower Buckeye Road where new homes are already occupied, and then would go through another active subdivision site to the west along Lower Buckeye Road. As a result, the Eastern Option would affect the newly emerging residential character of this area by introducing a freeway directly through several new neighborhoods, bringing associated noise and visual effects. The Central Option would have a lesser effect because it would pass through only the new subdivision under construction north of Lower Buckeye Road and through a developing subdivision immediately south of Lower Buckeye Road. However, it would go directly through the center of the one new neighborhood it would affect. The Western Option would traverse an area that has more properties still in agricultural use but is transitioning rapidly, with a new master-planned development near Lower Buckeye Road and 99th Avenue. Therefore, all three options would change the character of an area that is already losing its predominantly rural atmosphere and is quickly taking on a suburban residential nature.

Community cohesion would also be affected because all three options for the W101 Alternative would pass directly through largely existing and/or pending new neighborhoods, leading to the loss of numerous

homes (as detailed in the *Economic Impacts Report*) and disruption of a major portion of the internal street system of each neighborhood.

Buckeye Road Vicinity to I-10

In the area south of Buckeye Road, the three options would again traverse largely agricultural land. Community character changes abruptly north of Buckeye Road (entering Tolleson), where a concentration of industrial and warehouse/distribution activity is established both east and west of 99th Avenue. The introduction of a freeway in this area would not greatly affect its already industrial nature, but the options would each affect activities on individual properties to varying degrees. The Western Option would pass directly through the footprints of two large structures just north of Buckeye Road. The Eastern and Central Options would avoid these properties and structures, but would affect new industrial development east of 99th Avenue. Minimal effects on community cohesion are anticipated because TIs at Buckeye Road and Van Buren Street would accommodate circulation on area streets.

From the vicinity of Van Buren Street north to I-10, the options for the W101 Alternative would traverse land that is in industrial use or is undeveloped. Exceptions are found nearer to I-10, where various types of highway-serving businesses have already been established along, and east and west of, 99th Avenue (e.g., automobile sales and truck stop/convenience centers). The character of this developing area near I-10 would not be affected as much by the introduction of a freeway as would the lesser developed areas closer to Van Buren Street. Tolleson's downtown core, older established neighborhoods, and main civic and educational facilities are located nearby, both north and south of Van Buren Street and to the east of the W101 Alternative and Options. All options would stay to the west and thereby avoid this core area of Tolleson. However, the community's character would still be affected by the relatively nearby introduction of a freeway. Effects on community cohesion are less likely, given the location of the options and because local circulation would be maintained through a proposed TI at Van Buren Street. However, a potential system TI at I-10 and SR 101L would place several existing buildings directly in the path of a future freeway improvement; particularly vulnerable would be a large structure built immediately south of the current terminus of SR 101L at I-10.

Social Impacts Associated with the Eastern Section Action Alternative

Effects on community character would initially seem to be minor to the extent that the E1 Alternative follows Pecos Road, an existing busy arterial street that already is divided to allow for higher-speed travel along the southern edge of Ahwatukee Foothills Village and the Community boundary. However, character would be affected because a full freeway improvement would bring additional noise and visual intrusion into adjacent developed areas. The greatest effects would occur near proposed TI locations, where right-of-way needs would be most extensive and where homes, various schools, churches, and public facilities are located (as detailed in the *Economic Impacts Report*). Such locations include the proposed TIs at 24th and 40th streets.

Effects on community cohesion would similarly be concentrated at the proposed TIs because of the loss of homes at these locations and potential disruption of traffic on adjacent local streets.

The proposed E1 Alternative would not introduce a barrier or otherwise disrupt access to most area public facilities given the existing "edge" location of Pecos Road, which the action alternative would generally follow. The new Pecos District Park is the only public facility in the vicinity located south of Pecos Road and north of the Community boundary. The park is accessible through an overpass where freeway improvements have already been made just west of I-10 near 48th Street. However, both the Valley Metro 40th Street/Pecos Park-and-Ride facility and Kyrene de los Lagos Elementary School (between 40th and 32nd streets) have existing ingress/egress points directly on Pecos Road, which would likely be eliminated with the introduction of a fully access-controlled freeway facility along this alignment.

The E1 Alternative would extend Chandler Boulevard from the 27th Avenue alignment at the eastern edge of the Foothills Reserve subdivision to the north and east for approximately 1 mile to the current termination of Chandler Boulevard at the western edge of the Foothills Club West subdivision. This extension of Chandler Boulevard would provide residents of the Foothills Reserve subdivision a second point of ingress/egress.

The E1 Alternative would extend around the western edge of SMPP before turning to the northwest toward the point where the Western Section action alternatives would begin. Along this segment is a cluster of approximately 40 homes that are situated in a narrow area between the foothills of the South Mountains and the Community boundary. While the Vee Quiva Casino was built just across the Community boundary from this residential cluster, the area still retains a sense of separation from the larger metropolitan area. The existing single-family dwellings and manufactured homes are scattered mostly along unpaved roads, giving the area a rural feel. Horses are kept at some of the home sites, likely because of the proximity of SMPP and other nearby natural areas. The character of this area would be affected by the introduction of a freeway into this detached residential setting.

Community cohesion would also be affected to the extent the E1 Alternative would introduce freeway-related noise and visual intrusions to this area. A new freeway would also displace homes in the Dusty Lane area. Access to the area is limited to a single point from 51st Avenue. The freeway would alter this access but would not cause any access impediments.

No-Action Alternative

No impacts on the community character and cohesiveness of existing or currently developing neighborhoods and commercial/industrial areas would occur as a result of the No-Action Alternative. However, increasing congestion on the local street network would be expected, especially in the most rapidly urbanizing portions of the Study Area, if a controlled-access, high-speed travel option is not available to area residents, businesses, and visitors. This could lead to increased travel times and reduced efficiency in the movement of people and goods within and across the area. This, in turn, could affect the character of the individual villages and distinct subareas within the Study Area. The area's growth prospects, as well as its contributions to regional economic growth, could also be adversely affected by both the perception and reality of traffic congestion and travel delays.

4. Mitigation

The following describes potential mitigation measures for ADOT to consider as future commitments to be implemented as part of the project to avoid, reduce, or otherwise mitigate environmental impacts associated with the project. The discussion of these measures in this report does not obligate ADOT to these specific measures. ADOT, along with FHWA, may choose to modify, delete, or add measures to mitigate impacts.

ADOT Design Responsibilities

Where possible, segments of a recommended action alternative would be designed to reduce visual and noise intrusions and reduce impacts on the character of surrounding communities. In those instances where the vertical profile of the recommended action alternative would affect community character and cohesion, additional mitigation measures to reduce these impacts would be considered by ADOT during final design of the selected alternative. Such measures may include reducing the amount of right-of-way required, providing alternative access to the local street network to satisfy emergency service access requirements, or using noise barriers and landscaping to reduce noise and visual intrusions, respectively. Such measures are described in the *Noise* and *Visual Resources* reports.

During final design of the selected alternative, ADOT would coordinate with all appropriate emergency services, utility companies, and the Cities of Phoenix and Tolleson to ensure that emergency and utility services are maintained to all service areas.

Mitigation for social impacts would include ongoing public involvement during final design phases and construction, as well as implementation of an acquisition and relocation program as described in the *Economic Impacts Report*.

During final design, ADOT would coordinate with the local jurisdictions and development community to address and correct impacts on internal road networks within residential communities where necessary.

ADOT Right-of-Way Responsibility

Mitigation for social impacts would include implementation of an acquisition and relocation program as described in the *Economic Impacts Report*.

ADOT Construction District Responsibility

Mitigation for social impacts would include ongoing public involvement during construction and coordination with local jurisdictions and communities to minimize impacts to fire and police response times.

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