CITY OF MARICOPA®

PROUD HISTORY • PROSPEROUS FUTURE

Area Transportation Plan

Transportation Master Plan & Regional Connectivity Plan

December 2015

TECHNICAL APPENDICES

Prepared by :

WILSON & COMPANY

APPENDIX A: SUMMARY OF RELEVANT TRANSPORTATION STUDIES

The Study Area transportation system has been studied numerous times in the past, either as the direct focus of a local, City study or as a component of a larger, regional study. The results of these actions have contributed to development of the system in place today and programmed or planned for implementation in the future. Findings and conclusions of these studies, therefore, are relevant to this Area Transportation Plan (ATP). The challenge in preparing this ATP is to ensure the current assessment is consistent with past studies and that any differences in the basis of analysis, parameters of decisions, or recommended actions are understood and defined. Justifications for modification to previous recommendations must be adequately documented to ensure an appropriate basis for discussion. Summaries of the key facets of previous and ongoing studies relevant to the ATP herein.

In the first section, Figure A-1 illustrates the study boundaries for relevant General Plans, Figure A-2 illustrates the study boundaries for relevant plans related to parks, trails, bikes, and economic development, and Figures A-3 and A-4 illustrate the study boundaries for relevant transportation studies.

The second section is divided into four categories of studies: City of Maricopa Studies, Regional Planning Studies, ADOT Studies, and Traffic Impact Studies. The final section addressing Traffic Impact Studies provides map of the locations that were the focus of these studies (Figure A-5) and a listing of all the studies completed. These studies are especially important in assessing the potential travel demand within the Study Area for the ATP and understanding potential roadway configurations and designs as the developments more forward.

.

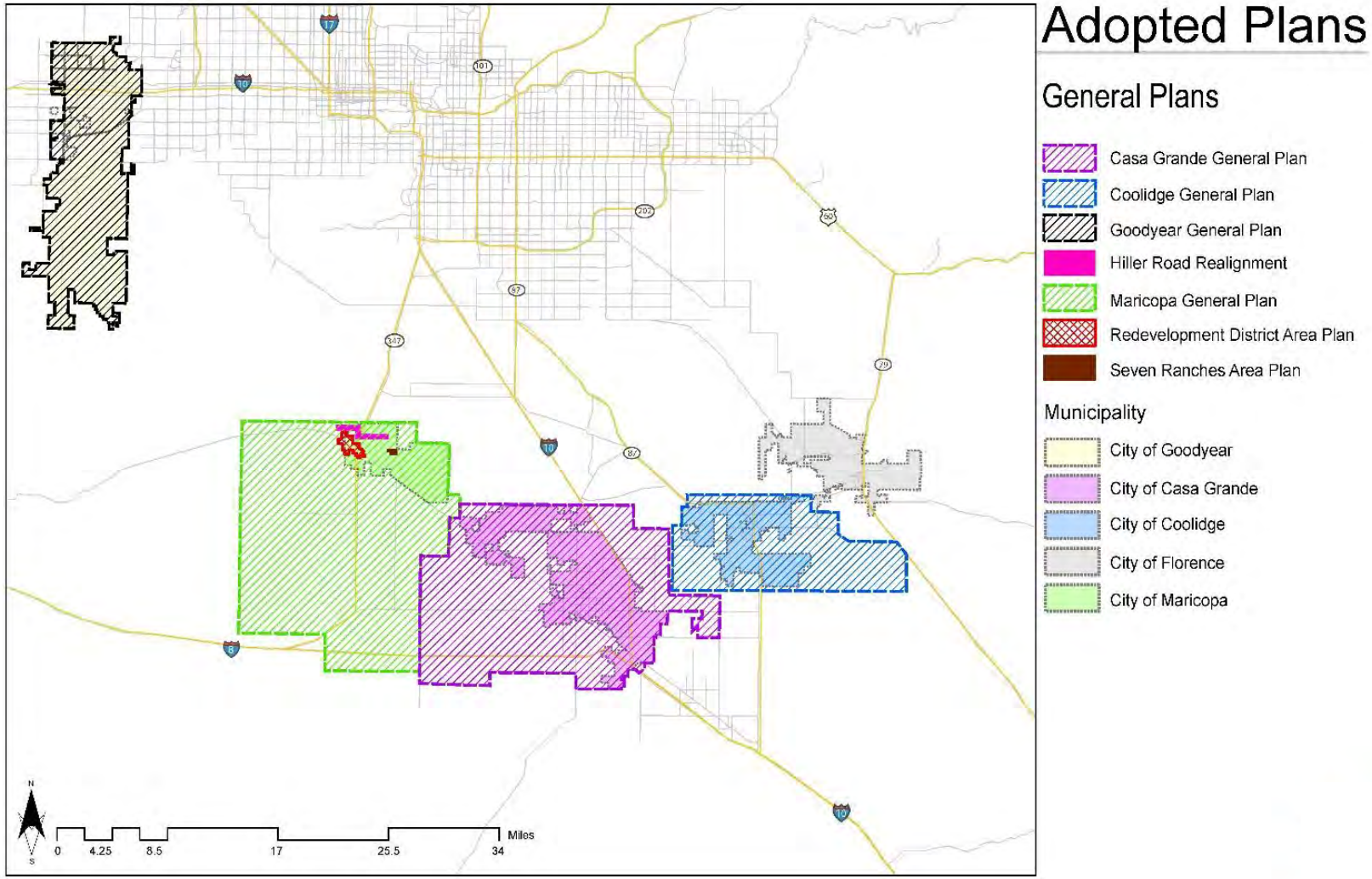


Figure A-1 | Study Boundaries of Relevant General Plans

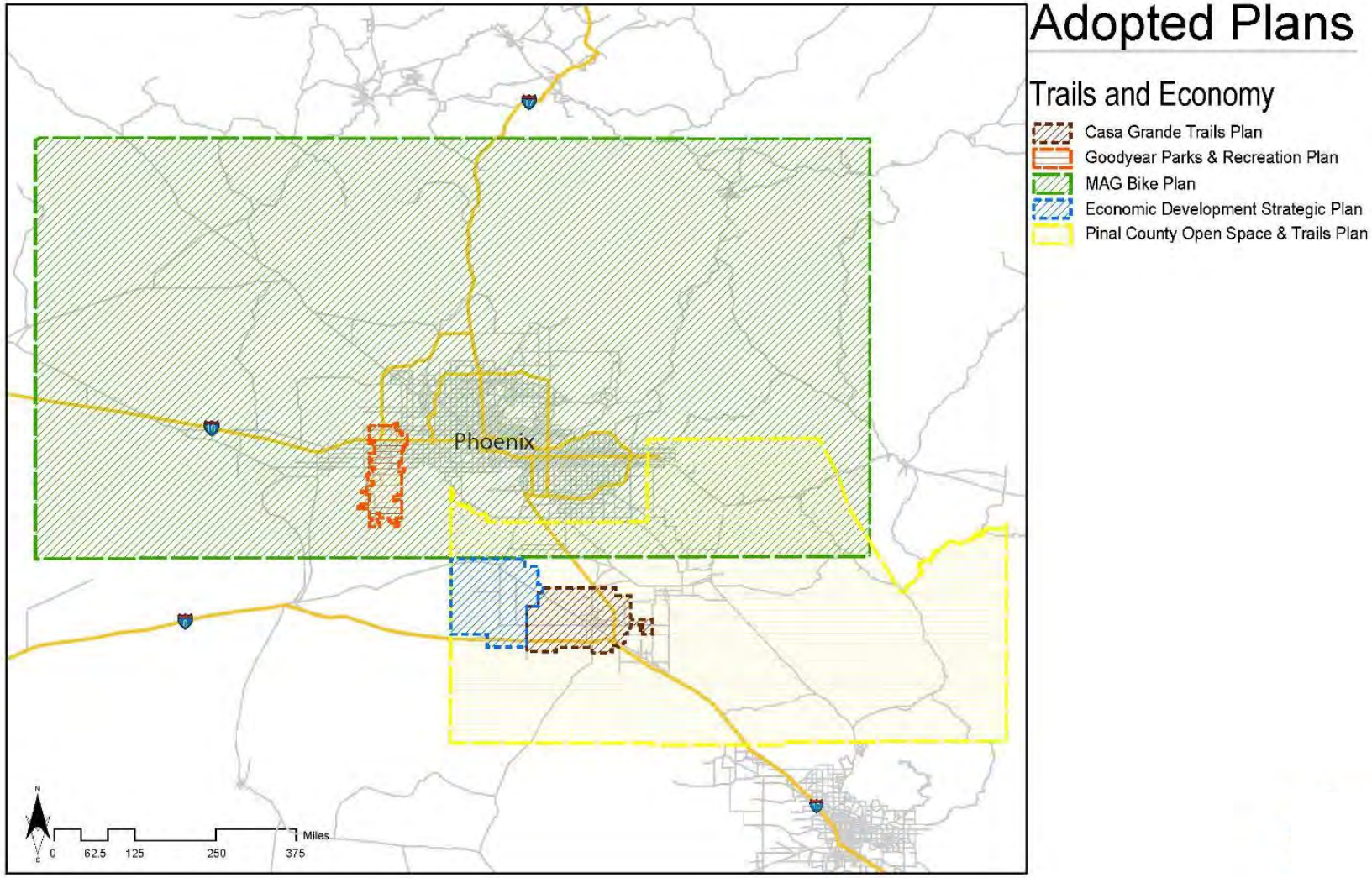


Figure A-2 | Relevant Studies Trails and Economy

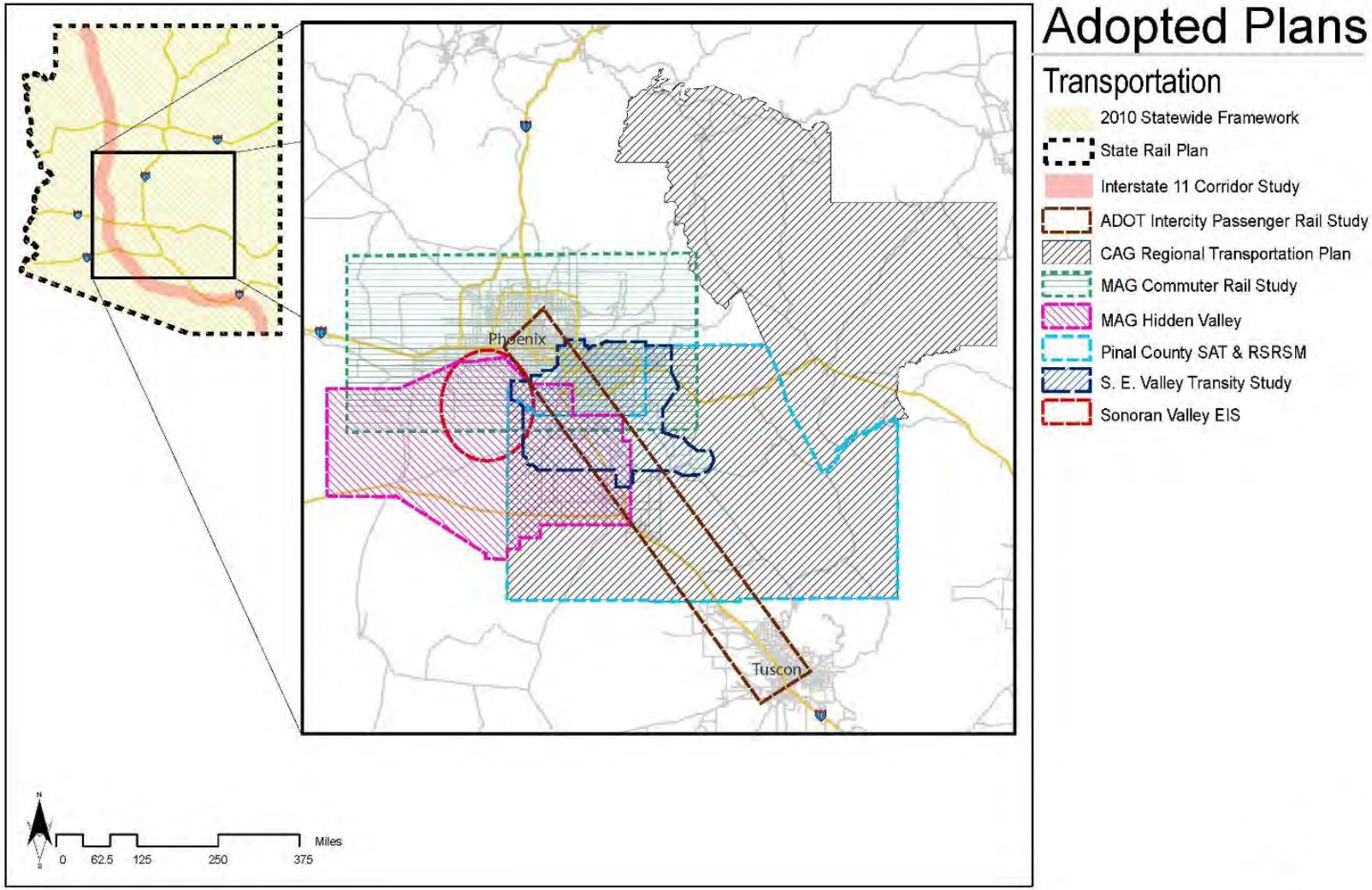


Figure A-3 | Relevant Transportation Studies

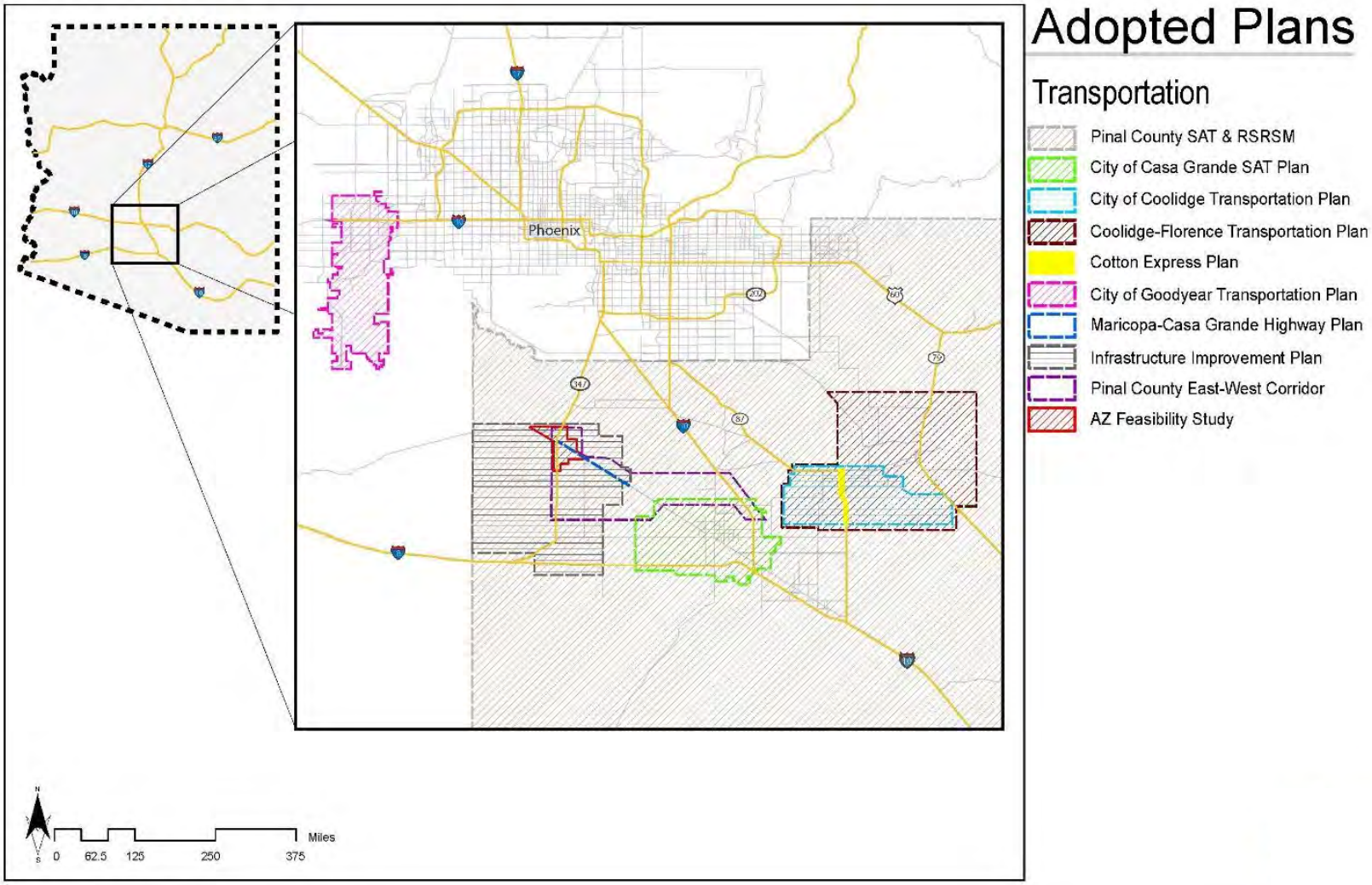


Figure A-4 | Relevant Transportation Studies

CITY OF MARICOPA STUDIES

GENERAL PLAN

(Maricopa, prepared by Willdan and David Williams & Associates, January 2006)

Arizona Revised Statutes (ARS) require each city adopt a comprehensive, long-range general plan to guide the community's physical development. The purpose of the general plan is to express the community's vision, identify the community's goals, serve as a policy guide for local decision-making, and fulfill legal requirements created by state law. The City of Maricopa's first General Plan represents expectations for the future of the community. Its preparation was driven by citizen input and the Plan conforms to the letter and spirit of "Growing Smarter Plus" legislation established by the State of Arizona. The General Plan includes six elements: Land Use, Circulation, Economic Development, Parks, Recreation and Open Space, and Public Services and Facilities. It includes many recommendations and analyses of current and future conditions with a vision of maintaining its reputation as "a community with a heart". In addition, there are a few fundamental understandings and planning assumptions, which assist in organizing Maricopa's General Plan principles. City development policies have been formulated to coincide with these basic directions. The Area Transportation Plan must be developed within the context of the future established by this Plan. Key figures/tables from this study include:

- Figure 2 - Future Land Use
- Figure 3 – Circulation Plan
- Table 3 – 2025 Growth Assumption
- Table 7 – Traffic Volumes

REDEVELOPMENT DISTRICT AREA PLAN

(Maricopa, prepared by Morrison-Maierle, Inc., May 2009)

The City of Maricopa's Redevelopment District Area Plan recognizes the importance of the Old Town area to the identity of Maricopa while also understanding the need for preservation and redevelopment. In 2008, Maricopa City Council adopted boundaries for the Redevelopment Area, which began an extensive public involvement process to define goals and objectives that would result in a long term revitalization strategy. The Plan includes six goals relating to: downtown destination, adequate infrastructure, neighborhood protection, improved traffic circulation, greater variety of land uses, improved property values, and enhanced economic activity. Covering an area of 3.1 square miles, this Plan recognizes it will take 25 years or more to accomplish. The Redevelopment District Area Plan provides a framework for policies and actions, both public and private for guiding investment and growth in the redevelopment area. Key figures from this study include:

- Figure 2 – Boundary Map
- Figure 9 – Present and Future Parks, Open Space, and Drainageway Maps
- Figure 17 – Major Street Lanes with Average Daily Traffic Volumes Map

- Figure 39 – Future Overpass Locations, Option E Map
- Figure 44 – Proposed General Plan Future Land Use Map

SEVEN RANCHES AREA PLAN

(Maricopa, prepared by the American Planning Association, June 2012)

The American Planning Association (APA) organized a Community Planning Assistance Team in 2012. Seven Ranches is the tenth community to participate in APA's Community Planning Assistance Team initiative. The City of Maricopa Seven Ranches Area Plan was produced after numerous meetings with residents, advocates, stakeholders, officials, private sector representatives, and extensive discussions and evaluations of varied possibilities and concerns. The Plan includes the Team's findings, observations, and recommendations for the residents of Seven Ranches Area and the City of Maricopa to consider as they decide how to move forward as a community. Overall, Seven Ranches will continually be influenced by its surroundings and this influence will become greater overtime. Though Seven Ranches faces multiple challenges, it has several locational advantages that can benefit property owners and the City of Maricopa. Key figures from this study include:

- Drawing 1 – Existing Conditions
- Drawing 2 – Existing Roadways
- Drawing 3 – Drainage
- Drawing 8 – Development Scenario #1: Value Creation-Low
- Drawing 9 – Development Scenario #1: Value Creation-Medium

SR 347 ENVIRONMENTAL ASSESSMENT AND SECTION 4(F) EVALUATION

(SR 347 at Union Pacific Railroad, Arizona Department of Transportation, October 2014)

The AZ Feasibility Report was developed in 2007 to determine alternatives for grade separating State Route 347 (SR 347) from the Union Pacific Railroad (UPRR) in the City of Maricopa. The Draft Environmental Assessment and Section 4(f) was recently issued in October of 2014 as a follow up to the study. Nine alternatives were eliminated from detailed study while one Build Alternative (Alternative H) and the No Build Alternative were carried forward for further study. The Build Alternative would change access to and from SR 347, as well as reconfigure several adjacent roadways currently serving the area. Construction would require the acquisition of 11 commercial properties, taking up to a year to relocate. The Assessment concluded that in the long term, the improved traffic flow through the area would benefit local businesses as people would pass through more often. The Build Alternative would meet the project purpose and need, was developed and refined based on agency and public input and environmental considerations, and is considered feasible. It is being carried forward as the preferred alternative. Key figures from this study include:

- Figure 8 – Alternative H-Build Alternative
- Figures 9-17

SR 347 FINAL FEASIBILITY REPORT AND ENVIRONMENTAL OVERVIEW

(Maricopa and Arizona Department of Transportation, prepared by HDR Engineering, Inc., August 2007)

This report documents the results of an investigation of alternatives for grade separating SR 347 from the UPRR in the City of Maricopa. SR 347 is the area's primary north/south corridor and most direct route to the Phoenix area. As a result of regional growth the SR 347-UPRR crossing is quickly becoming a major cause of delays and congestion, as cars stop and wait while the 60-plus daily freight trains and six weekly Amtrak trains block the crossing. The purpose of this study was to develop and evaluate various alternatives for achieving the grade separation while considering existing and future traffic requirements, community impacts, environmental considerations, and the need to provide a project that addresses the long-term regional transportation needs of the community. Through analysis, scoping, and public meetings, five options were presented and evaluated on phase-ability, costs, right-of-way impacts, railroad impacts, utility impacts, traffic circulation, and capacity. Key figures/tables from this study include:

- Figure 1-2 – Project Vicinity Map
- Figure 2-4 – Future Roadway Classifications
- Table 1-2 – City of Maricopa Traffic Projections
- C-3 - C-7 – Options in Plan

HILLER ROAD REALIGNMENT CORRIDOR FEASIBILITY STUDY

(Maricopa, prepared by AZTEC TYPSA Group, June 2008)

The purpose of this study was to determine the financial, environmental, and cultural feasibility of the planning or possible construction of Hiller Road, a potential corridor at the northern boundary of the City. The City of Maricopa has one primary north/south connection to the Phoenix metropolitan area, SR 347; however, growth calls for alternative intraregional and interregional routes to compliment SR 347. Three alternatives and a No-Build alternative were evaluated as part of this study and were based on the following criteria: right-of-way requirements, transportation/drainage infrastructure, utility impacts, potential environmental considerations, and preliminary project cost. Based on an extensive survey report, alternative three was recommended for further study. Comprised of three segments known as A, B, and C, this alternative proposes a continuous corridor without speed reductions, potential to create a development corridor that would increase economic activity for the City of Maricopa, minimal impact to residential and commercial properties, and does not require the construction of a new bridge but instead widens the existing Smith-Enke Road bridge. Key figures/tables from this study include:

- Table 2 – Alternative Evaluation Matrix
- Figures 1-8 – Hiller Road Improvements

INFRASTRUCTURE IMPROVEMENT PLAN AND DEVELOPMENT FEE STUDY

(Maricopa, prepared by TischlerBise Fiscal, Economic & Planning Consultants)

This study was undertaken in response to various plan proposals to calculate improvements and new facilities costs within the City of Maricopa. Adhering to the Constitutional Requirements and State Requirements, the Infrastructure Improvement Plan and Development Fee Study provides the necessary documentation of developmental fees. This study also proves the various improvements are advancing the government's interest in the protection of public health, safety, and welfare by ensuring that development is not detrimental to the quality of essential public services. Improvements and costs were calculated for six different categories. Specific capital costs have been identified using local data and current dollars.

The addition of a new Library will cost $23,442,265, including both construction and financing. The City aims to add 70 acres of Parks and Recreation, estimated to cost $48,190,308, including both construction and financing. A new City Service Complex will be built with 6,099 square feet designated to the Police Department, 813 square feet to the Fire Department, and 41,597 square feet designated to the General Government. The total cost of the City Service Complex has been estimated at $14,940,828, including both construction and financing. According to the 2009 Regional Transportation Plan Update, 160.7 lane miles of streets are to be added to Maricopa with an estimated cost of $113,369,000. Key figures from this study include:

- Figure 5 – Library Facilities IIP
- Figure 12 – Parks IIP
- Figure 34 – Police Facility IIP
- Figure 46 – Fire Share of Administration Facility IIP
- Figure 64 – General Government Facilities IIP

ECONOMIC DEVELOPMENT STRATEGIC PLAN

(Maricopa, prepared by Maricopa Economic Development Alliance and TIP Strategies, Inc., June 2011)

This Plan guides the vision that, "Maricopa will be a leading regional partner, providing growth opportunities for new companies, entrepreneurs and expanding companies by delivering high quality services, sites, and talent to local, regional, national and international businesses." Maricopa, a City occupying a position in the greater Phoenix region, has been one of the most rapidly growing communities. A place that has experienced exponential growth must focus on local economic development efforts to maintain its sustainability. As a premier bedroom community, Maricopa features stable and attractive neighborhoods; however, the amenities associated with established communities are still a work-in-progress. This Plan includes many analyses of current and future conditions while also utilizing community feedback through structured planning methods. This Plan is directed by four main goals and encourages Maricopa to develop the necessary sites and buildings that will transform it from a suburban community into an employment center. Key figures from this study include:

- Pages 56-62 – Goal 1-4 Actions

- Page 74 – SWOT Analysis
- Page 80 – Commuter Flow

MARICOPA-CASA GRANDE HIGHWAY PROJECT ASSESSMENT

(Maricopa, prepared by PBS&J, June 2007)

This assessment was undertaken to address current and future congestion in the corridor. The purpose of the project was to (1) identify options for reconstructing the Maricopa-Casa Grande Highway (MCGH) to keep pace with growth and (2) implement a transportation solution that improves safety, access, and mobility within the MCGH corridor between SR 347 in downtown Maricopa and Val Vista Road. The assessment included: evaluating access; capacity (including an update of the traffic analysis developed in the 1993 Design Concept Report, the 2003 Limited Access Study, and the 2005 SATS); environmental issues; availability and constraints on right-of-way; safety; infrastructure improvements; and funding mechanisms. This initial study of possible improvements resulted in the identification of seven alternative design concepts, three of which are being carried forward to formal environmental documentation. This step will be followed by final design and then construction. The anticipated long-term solution is development of a six-lane divided highway with bike lanes and connections to Farrell Road, Steen Road, and/or Peter and Nall Road. Access control is still to be decided. Key figures/exhibits from this study include:

- Exhibit 2-9 – Planning Level Estimates of Costs
- Exhibit 2-12 – 2020 Traffic Projections and Level of Service
- Figures 3-(2-8) – Alternatives

REGIONAL PLANNING STUDIES

CENTRAL ARIZONA GOVERNMENTS (CAG) REGIONAL TRANSPORTATION PLAN

(CAAG, prepared by Wilson & Company Engineers & Architects, June 2015)

The Regional Transportation Plan is a comprehensive, multimodal plan that charts the region's transportation priorities over the next 20 years. The purpose of this study is to prioritize transportation investments to support economic development in various communities in the CAG Region. Equally as important is ensuring the plan elements are compliant with the Federal Highway Administration, Federal Transit administration, and ADOT. Five values identified for improving and sustaining the quality of life for all residents are: economic development and opportunity, connectivity/accessibility/mobility, environmental quality, quality of life, and community cohesiveness. These values form the foundation for this Plan, guiding goals and suggestions made throughout. Five case studies were selected to review, as they reflected a range of size and organization. Southern California Association of Governments, Capital Area Metropolitan Planning Organization in Texas, Central Yavapai Metropolitan Planning Organization in Arizona, Regional Transportation commission of South Nevada, and the Association of Monterey Bay Area Governments offered valuable insight into the advantages and disadvantages to certain Metropolitan Planning

Organizations. Broken into two phases distinguishing transportation policies and strategies, the CAG Regional Transportation Plan encompasses a wide range of public involvement, analyses, and implementation.

MAG COMMUTER RAIL SYSTEM STUDY

(Maricopa Association of Governments, prepared by URS, May 2010)

Building on previous local and regional planning work such as the High Capacity Transit Study of 2003 and the Commuter Strategic Plan in 2008. The Commuter Strategic Plan developed a commuter rail system concept that would radiate from downtown Phoenix and be oriented around five existing freight rail lines. This MAG Commuter Rail System Study further defines and evaluates these five commuter rail corridors: Grand Avenue Corridor, Yuma West Corridor, Tempe Corridor, Chandler Corridor, and Southeast Corridor. This study compares a set of Stand-Alone Alternatives (single corridors) and a set of Interlined Alternatives (combined corridors) taking into account ridership forecasts, travel time savings, cost-effectiveness, and ease of implementation or constructability. Recommending a phased approach to implementation with an emphasis on cost-sharing, this study sets the groundwork for regional planning efforts to maintain connectivity within the region. Key figures/tables from this study include:

- Figure 1-1 – MAG Commuter Rail System Study Corridors
- Table 4-9 – Potential Cost-Sharing Approach to Commuter Rail Implementation

HIDDEN VALLEY ROADWAY FRAMEWORK STUDY

(ADOT, Pinal County, Town of Buckeye, City of Goodyear, City of Maricopa, prepared by Wilson & Company, Partners for Strategic Action, Inc., Curtis Lueck & Associates, and Lima & Associates, October 2009)

The Hidden Valley Roadway Framework Study includes parts of the City of Avondale, the City of Goodyear, the Town of Buckeye, the Town of Gila Bend, the City of Maricopa, the City of Casa Grande, the City of Eloy, the City of Coolidge, the Gila River Indian Community, the Ak-Chin Indian Community, the Tohono O'odham Nation, and unincorporated portions of Maricopa and Pinal Counties. This study will develop a transportation framework for the study area that ultimately will be implemented at multiple jurisdictional levels. The study is a large-area, regional planning effort to address not only freeways and State highways, but also address issues and concerns down to the parkway, boulevard, and major arterial level. The study is intended to emphasize identification of not only "lines on map" outlining facility proposals, but also a comprehensive funding plan to demonstrate how the region can build the study's recommendations. Key figures/tables from this study include:

- Study Area Map
- 1-8/1-10 Hidden Valley Transportation Framework Study
- Potential Implementation Timeframe

MAG BIKE PLAN

(MAG, prepared by the Bicycle and Pedestrian Committee, 2012)

The Bicycle and Pedestrian Committee annually reviews and updates the Maricopa Association of Governments Pedestrian Plan and recommends projects for funding. Previously developed plans are the Regional Bicycle Plan, the Regional Off-Street System Plan, and the Regional Bikeways Map. Encouraged implementation of these plans comes from the Committee recommending pedestrian and bicycle-related projects for funding from federal sources and activities that inform the region about the health benefits of biking and walking. Every three to five years, a regional bikeways map is published and illustrates all of the bike lanes, bike routes, paved and unpaved multi-use paths, paved shoulders, and pedestrian sites throughout the region. The route that leads to the City of Maricopa is Highway 347, which is designated as a paved bike shoulder route. Key figure from this plan include:

- MAG Bike Plan Map

PINAL COUNTY COMPREHENSIVE PLAN

(Pinal County, November 18, 2009)

This Plan translated countywide visioning scenarios into a comprehensive land use and transportation plan. It is intended "…to steer the County on a positive course of action to manage growth, preserve the quality of life, and promote sustainability. An important step in plan development was compilation of a compendium of existing conditions to provide better understanding regarding the County's opportunities and constraints. It was shown that many changes are occurring, including: diminishing agriculture enterprises, urban and mixed-use development is encroaching on industrial mining in the County, municipal cores are expanding, and large master-planned communities springing up at the fringes of incorporated areas. The adopted Plan applies the concept of "Buildout," which "…is defined as the ultimate development of land in Pinal County with appropriate land uses based on a series of assumptions, including land ownership patterns, topographic and environmental constraints and opportunities, development potential, infrastructure support, and private property rights. Buildout does not depend on a benchmark." The Comprehensive Plan is one of the components of the County's Growth Planning Initiative, which is geared toward creating a comprehensive structure to manage growth and development effectively, while enhancing the County's quality of life. The Plan includes a Compliance component to assure a "…project's conformity with the Plan's land use designations, graphic depictions, and activity centers as well as the vision, goals, objectives, policies, and planning guidelines outlined in the Comprehensive Plan. A Compliance Checklist has been adopted with the Plan, which is intended to provide guidance in determining Plan compliance relative to vision components and key concepts. Key figures/tables from this study include:

- Figure 4-4 – Multimodal Circulation Plan: Roadways
- Figure 4-5 – Multimodal Circulation Plan: Rail Transit and Aviation

PINAL COUNTY TRANSIT FEASIBILITY STUDY

Pinal County conducted a Small Area Transportation Study (SATS) in 2006 in which a number of "initial transit-related" recommendations were presented for the County and communities within the County. This study further recommended that a county transit feasibility study be conducted to develop a more detailed blueprint for transit service through 2025. The County Comprehensive Plan identifies four growth areas, listing 39 prospective mixed-use centers, each with 500 jobs for every 1,000 residents. The plan identifies for planning purposes an integrated, multimodal transportation system to support increased travel demand via motorized vehicles travel as well as mass transportation in the form of public transit service. The public transit component includes commuter and local rail services, bicycle routes, and pedestrian facilities. The Transit Feasibility Study addresses the next steps the County should take to develop the public transit services called for in the Comprehensive Plan. Although the County's transit needs are still relatively small, the Transit Feasibility Study presents a "roadmap" for developing the necessary elements of a public transit system as future growth occurs. Key figures/tables from this study include:

- Figure 4-1 – Pinal County Land Use Plan
- Figure 4-4 – 2025 Travel Flows: All Trip Types
- Figure 4-5 – 2025 Travel Flows: Work Trips
- Figure 6-1 – Potential Short-Term Transit Improvements
- Figure 6-4 – Potential Long-Term 2025 Transit Improvements
- Figure 6-5 – Potential Commuter Rail Service to Pina County

PINAL COUNTY EAST-WEST CORRIDOR STUDY

(Pinal County Department of Public Works, prepared by Jacobs Engineering Group Inc., July 2012)

Pinal County, in cooperation and coordination with the City of Maricopa and the City of Casa Grande, conducted a study to evaluate a new east-west transportation corridor through western Pinal County. Building off of two recent studies for Pinal County, the Regionally Significant Routes for Safety and Mobility Plan and the I-8 and I-10 Hidden Valley Transportation Framework Study, this East-West Corridor Study aims to improve the mobility and connectivity of the Pinal County regional transportation networks. An environmental evaluation of social, economic, and environmental resources has been made to further guide recommendations for the new connecting route. Resources that emerged as items to consider when screening and comparing alternatives were: native vegetation/plant communities, hydrology, prime and unique farmlands, noise, hazardous materials, section 4(f) parks, land use, socioeconomics, environmental justice, and cultural resources. Further analyses were then conducted on these particular factors as well as cultural history. Key figures from this study include:

- Figure 2 – Project Vicinity

PINAL COUNTY OPEN SPACE AND TRAILS MASTER PLAN

(Pinal County, prepared by Logan Simpson Design Inc., October 31, 2007)

Guiding the Open Space and Recreation Element of the Pinal County Comprehensive Plan, this Plan provides direction for the 399,300 acres of existing open space, 802,400 acres of proposed open space, 25,900 acres of restricted use open space, and 168,700 acres of regional parks. The residents of the country were asked to rate their preference on the types of parks that should receive funding and large nature-oriented parks received the highest votes, coinciding with the initiative to preserve large tracts of unfragmented land throughout the Sonoran Desert. The Master Plan identifies three conceptual alternatives that all incorporate a regional park within the central corridor of the county. Alternative B proposes the most open space and Alternative A the least amount. The majority preferred Alternative C, or a combination of B and C. The main points identified as priorities in developing a preferred alternative were: convenient/centralized location, good balance of open space with land ownership constraints, and overall open space and trail connectivity. A final conceptual master plan alternative was created with proposed trails and open space, which set the foundation for the final master plan map. Key figures from this plan include:

- Figure 11 – Preferred Conceptual Master Plan Alternative
- Figure 13 – Final Master Plan Map

PINAL COUNTY SMALL AREA TRANSPORTATION STUDY

(Pinal County Development Services, prepared by Kirkham Michael Consulting Engineers, August 2006)

As the population of Pinal County increases, traffic volume and congestion will increase and roadway improvements will be needed to provide a safe travel way for the traveling public. Planning ahead, Pinal County developed this Small Area Transportation Study to look at travel alternatives and funding over the next 20 years. Divided into two separate working papers with paper #1 analyzing the County's existing conditions and paper #2 examining future improvements, this study combines the two. Working Paper #2 also recommends a 20 year capital improvement program (CIP). Although they were reviewed, no recommendations were made for the roads within the Indian communities, city/town limits, and ADOT jurisdictional roadways/freeways. The project was divided into three separate study areas: Western, North Central, and Eastern. Impact analyses were conducted and recommendation were made throughout the region. Recommendations for the Western Study Area involved widening SR 347 to six lanes between SR 238 and I-10 but also adding roadway connections to the north and west possibly connecting I-8 to the Loop 303. The North Central recommendations acknowledged ADOT's proposal for a north-south freeway in this area while also adding a 6 lane major arterial to match the surrounding roadway systems between the freeway corridor and SR 79. Recommendations for the Eastern Study area focused on congestion at the SR 77/SR 79 junction. Key figures from this study include:

- Figure 31-33
- Figure 35
- Figure 36

REGIONALLY SIGNIFICANT ROUTES FOR SAFETY AND MOBILITY

(Lima & Associates, Kittelson & Associates, Inc., and Kimley-Horn and Associates, Inc., September, 2008)

The Regionally Significant Routes for Safety and Mobility (RSRSM) report describes the planning process and documents the results associated with a study develop a plan to ensure mobility and safety through a partnering approach with federal, state, county, local, Native American Communities, and private stakeholders. The plan's purpose is to provide guidance to County and other stakeholders for implementing and funding regionally significant routes (RSRs). An initial implementation step is the preservation of rights-of-way for these routes. The study of RSRs was deemed necessary due to: unprecedented growth in the planning area; increasing congestion resulting from restricted road capacity; deterioration of traveler safety; and the lack of continuity and connectivity of the road system. Preparation of the plan included identification and screening of candidate corridors, evaluation of access management techniques for preserving roadway capacity and safety, documentation of potential corridors for future study as development occurs. Key figures/tables from this study include:

- Corridor Preservation Map
- Priority Map
- Figure 8 – Typical Section, Regionally Significant Route
- Table 5 – Regionally Significant Routes Classification and Access Criteria

SOUTHEAST VALLEY TRANSIT SYSTEM STUDY

(Southeast Valley, prepared by Maricopa Association of Governments and Valley Metro, Spring 2014)

The Southeast Valley Includes Apache Junction, Chandler, Florence, the Gila River Indian Community, Gilbert, Guadalupe, Maricopa, Mesa, Phoenix, Queen Creek, Tempe, and surrounding portions of Maricopa and Pinal Counties. The purpose of this ongoing study is to determine present and long-term recommendations that will advance transit throughout the area. An evaluation of current transit conditions are followed by an analysis of transit needs for the area, which include community input. The study will continue through the spring of 2015 with the final report issued at the end of summer 2015. Key figures from this study include:

- Study Map
- Study Schedule

ADOT STUDIES

ADOT PASSENGER RAIL CORRIDOR STUDY

(MAG Transportation Planning Committee, prepared by ADOT, August 2013)

This study developed out of the Statewide Transportation Planning Framework and the State Rail Plan with conceptual corridors to connect the Tucson and Phoenix Metropolitan Areas. There are no real alternatives

to I-10 so this potential connection could become a key corridor in the state. Planning for speed and access, a rail choice combats the congestion of I-10. Smart Growth Concepts along the corridor include high intensity to low intensity activity centers and rail lines following employment corridors. The study resides at the stage of alternatives analysis and the different alternatives include: I-10 Busway, UP Tracks, I-10 Rail, Central Pinal/E. Valley, I-10/UP Chandler Branch, North-South Corridor/E. Valley, and Western Pinal/UP Tempe Branch. Through many public involvement efforts the final alternatives were narrowed down to four favorable options. These options include the Central Pinal/E. Valley, UP Tracks, I-10 Rail, and North-South Corridor/E. Valley. The next steps are coordination and support from local agencies, analysis and Tier I Environmental Impact Statement (EIS), and the final draft of the EIS set for spring of 2014.

ARIZONA STATE RAIL PLAN

(ADOT, prepared by AECOM and Partners for Strategic Action, March 2011)

The Arizona State Rail Plan was the first comprehensive assessment of the State's rail needs. It identifies the current rail system, determines infrastructure needs, and aims to have rail projects included in the State's long-range planning processes. Guided by five goals the State Rail Plan plays a crucial role in the State's transportation system by easing congestion, reducing greenhouse gas emissions, attracting development, promoting sustainability, and decreasing the energy consumption. Trains are three times more fuel-efficient than trucks, therefore shifting 10 percent of long-haul freight from trucks to rail would reduce fuel consumption in the U.S by more than one billion gallons a year. With statistics like these, this Plan advocate's that the state could benefit from developing a comprehensive passenger rail system. Along with the use of phasing strategies for implementation, the Arizona State Rail Plan capitalizes on the numerous opportunities associated with passenger rail systems and mitigates issues. This document is intended to be modified and updated as the implementation of various rail strategies are completed and/or revised. Key figures/tables from this plan include:

- Table 2 – Comparison of Relative Efficiencies
- Figure 8 – Integrated Statewide Passenger Rail System
- Figure 15 – Existing and Potential Support Yards
- Figure 23 – Arizona's Corridors of Opportunity

INTERSTATE 11 AND INTERMOUNTAIN WEST CORRIDOR STUDY

(NDOT and ADOT, prepared by CH2M Hill, AECOM, HDR, Inc., ESI Corporation, Partners for Strategic Action, Inc., RGC Economics, LLC, Brookings Mountain West, Policy in Motion, November 2014)

The I-11 and Intermountain West Corridor signifies a new north-south, multimodal transportation corridor, linking economies, and connecting international borders to globalize the intermountain west. Serving the nation's transportation needs from Mexico to Canada and providing a vital connection between the metropolitan areas of Phoenix and Las Vegas, this multi-modal corridor aims to serve as the foundation of a stronger and more diversified economy for the Western U.S. This study conceptualized different connections of major centers of economic activity through a two-tiered evaluation process that resulted in a series of

corridor recommendations. The future of this corridor relies on the partnerships created during the study and the implementation of the corridor in 18 separate segments. Key figures from this study include:

- Figure 6 – Universe of Corridor Alternatives
- Figure 7 – Recommended Corridor Alternatives

2010 STATEWIDE RAIL FRAMEWORK STUDY

(ADOT and BqAZ, prepared by AECOM, March 2010)

This document represented the first effort by ADOT-Multimodal Planning Division (MPD), to formulate a long-range vision for the transportation future of Arizona that went beyond the typical 20-year planning horizon. In this case, long-range was defined as a vision for 2050, with 2030 adopted as an intermediate planning horizon. This study also broke new ground by emphasizing all major surface transportation facilities and services, whether under the jurisdiction of state, local, federal, or tribal governments. ADOT-MPD also sought coordination with Arizona's five neighboring states to assure assessment of the need for seamless connections between the State and its neighbors. And, the study included evaluation of freight movement in general and international trade, in particular, with attention also to the State rail system. Developing this planning framework was a cooperative effort, involving an extensive array of state, federal, regional and local entities. Thus, it presents a comprehensive transportation vision and strategic multimodal transportation opportunities that supports place-sensitive and environmentally responsible mobility choices to promote economic prosperity in conjunction with development of livable communities. The 2050 timeframe advances consideration of the critical connection between land use and transportation planning to promote balanced and sustainable statewide growth. Key figures/tables from this study include:

- Figure 33 – Recommended Statewide 2050 Transportation Framework Scenario
- Figure 34 – Recommended Statewide Scenario – Roadway Features
- Figure 47 – Existing and Potential Passenger Rail Options

2010 STATEWIDE TRANSPORTATION PLANNING FRAMEWORK

(ADOT and BqAZ, prepared by AECOM, March 2010)

The first effort by ADOT-MPO to establish a long-range 40 year vision for the transportation future of Arizona. Not confined to highways/transportations systems owned by the state, this study includes all major surface transportation facilities and services. The Statewide Transportation Planning Framework is steered by five guiding principles: improve mobility and accessibility, support economic growth, promote a development pattern that links land use and transportation, consider Arizona's environment and natural resources, and ensure safety and security. Sustainable land use and smart growth are valued with sustainability defined as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs." Instead of playing catch up with current trends, this framework aims to proactively guide future development. An environmental overview was conducted to better direct the future of the state highlighting topography, slope, water sources, habitats, and air quality. International border improvements

are also on the list of items to complete. Calling for coordination with Arizona's five neighboring states for a seamless transportation connection while organizing cohesiveness throughout will be essential to the success of the region. Key figures/tables from this study include:

- Figure 14 – Land Ownership and Management
- Figure 28 – International Border Improvements

OTHER STUDIES

CITY OF CASA GRANDE GENERAL PLAN

(City of Casa Grande, prepared by the City Planning and Development Department, July 6, 2009)

Serving as an update to the 2001 General Plan for the City of Casa Grande, this plan aims to direct growth and changes currently taking place until the year 2020. Located in Pinal County, mid-way between Phoenix and Tucson Metropolitan cities, and a neighbor to Maricopa, the City of Casa Grande has benefited greatly from its proximity to thriving surrounding area. The City seeks to provide land uses that can support existing resources, be sustainable, and continue to enhance its tax base. Divided into two documents, one for existing conditions and the other for the vision, we find that "Community First" is high on the priority list. Overall, the Plan encourages compact forms of development, conserving undeveloped areas and promoting sustainability. As agriculture is a fundamental industry vital to the success of Casa Grande, portions of land that may become bounded by development are being looked at for logical transitional land uses. In addition, proposed future transit routes with starter local bus loops set the foundation for a smart community. This Plan is open to amendments and they must be submitted to the City of Casa Grande Planning and Development Department. Key figures from this plan include:

- Map C-1 – General Plan 2020-Land Use
- Map C-2.1 – General Plan 2020-Growth Area Phases
- Map C-4 – General Plan 2020-Regional Trails System Master Plan

CITY OF CASA GRANDE REGIONAL TRAILS SYSTEM MASTER PLAN

(City of Casa Grande, prepared by McGann & Associates Inc., May 2008)

The City of Casa Grande has grown significantly in recent years; however, it maintains its roots as a place where residents enjoy being active and outdoors. The planning boundary identified in the Casa Grande General Plan of 2010 includes 250 square miles of land. Prone to growth and development, the Community Services Department of Casa Grande recognize that they must preserve open space, construct new parks, and develop a high quality trail system. The proposed trail system will be a non-motorized, multi-use trail system serving all types of users. The creation of this trail systems stems directly from citizens responses to the 2005 Community Attitude and Interest Survey. Walking and biking trails were the outdoor recreational facilities that respondents most wanted to see within their community. The types of proposed trails in this

Plan include: linear parks, community trails, spur trails, rural/unpaved trails, primitive trails, and enhanced bicycle/pedestrian corridors. Key figures from this plan include:

- Figure 2-A – Trail System Map
- Figure 3-A – Proposed Natural Resource and Trail Park Map
- Figure 4-C – Conceptual Plan for Neighborhood Trail Development

CITY OF CASA GRANDE SMALL AREA TRANSPORTATION STUDY

(City of Casa Grande, prepared by Wilson & Company and Stantec, July 2, 2007)

The Casa Grande Small Area Transportation Study (SATS) represents an expanded update and expansion of the Casa Grande Multimodal Transportation Study prepared in 2001. In addition, this study was coordinated with the 2006 Pinal County Small Area Transportation Study and study recommendations also will be referenced by the ADOT I-10 Pinal Regional Profile. The goal of the study was to develop a comprehensive regional transportation plan for the City of Casa Grande and the greater Casa Grande planning area to guide multi-modal planning for both sub-regional and local facilities. Further, this study also presents implementation and programming recommendations for local circulation system improvements to be completed over a 20-year timeframe. Key figures/ tables from this study include:

- Figure 1-1 – Study Area and Major Roadway Network
- Figure 6-2 – Year 2030 Roadway Improvement Plan
- Table 6-2 – Year 2020 and Year 2030 Needs Network Comparison

CITY OF COOLIDGE COMPREHENSIVE TRANSPORTATION FEASIBILITY STUDY

(City of Coolidge, prepared by Wilson & Company, June 2012)

This study replaces the Coolidge-Florence Regional Transportation Plan and addresses multimodal transportation improvements to roads and infrastructure serving motorists, transit patrons, pedestrians, and bicyclists. Developed in a collaborative manner this study provides a sustainable comprehensive multimodal vision for future transportation infrastructure investments. Complete streets is one of many initiatives of this plan as well as sustainable growth with minimal community impact. In addition, the three multimodal elements—roadways, transit, and bicycle/pedestrian elements—are called to be implemented as a system. This study calls for decision making during implementation at several phases including further corridor specific study and design, during development proposal and traffic impact analysis review, and during environmental review. Central Arizona Association of Governments (CAAG) is forecasting year 2014 households in Coolidge to grow by approximately 570%. Likewise, employment is projected to increase by approximately 1,160%. Existing analyses illustrate deficiencies in systems to the future demands of the area. Priority pedestrian improvement corridors are identified along with long-term transit improvements for the region. Total construction costs for all improvements and updates ranges between $1,434,510 and $1,589,510. Key figures/tables for this study include:

- Figure 1 – Regionally Significant Routes

- Figure 10 – Transportation Plan: Functional Classification
- Table 8 – Planning Level Construction Costs

CITY OF COOLIDGE GENERAL PLAN

(Stantec Consulting for City of Coolidge, Adopted November 10, 2003)

The City of Coolidge General Plan provides extensive and detailed information regarding community characteristics, environmental characteristics, socioeconomic and housing characteristics, community resources, and community facilities and utilities. The Plan also establishes for the community a set of goals and objectives with respect to each of these categorical areas of concerns and, in addition, specifically addresses future land use. The Plan includes a Land Use Element and a Transportation Circulation Element. Plus, it addresses the requirements of the Arizona Growing Smarter Act, as specified for a community the size of Coolidge. The Plan identifies important regionally-significant roadways and outlines the transit services available. Transportation concerns are discussed, a forecast of future transportation deficiencies is presented, and Circulation Plan is proposed to satisfy future travel demand. A Design Plan is included to establish a framework for developing pedestrian and bicycle facilities. Also, guidance for updating the Mass Transit Plan is provided. Key figures/tables from this study include:

- General Plan Map

CITY OF GOODYEAR GENERAL PLAN

(Goodyear, prepared by Goodyear Planning and Zoning Commission, November 4, 2014)

Located just northwest of Maricopa, The City of Goodyear commands a prominent presence. Dotted with natural features such as the Gila River, the Sierra Estrella Mountains, and the Sonoran Desert National Monument, this City is home to many. During the creation of this Plan, the General Plan Committee met monthly for 18 months in addition to public meetings and community involvement. The City broke up the Municipal Planning Area into five different study areas: North, Central, Estrella Goodyear, Rainbow Valley Goodyear, and Southern Goodyear. These study areas align with MAG's Regional Analysis Zones used in transportation planning. With the population projected to increase, projected build-out for the Goodyear Municipal Planning Area is approximately 760,000 residents with 288,000 dwelling units and 328,000 jobs. Growth scenarios were created to better illustrate the trends of population distribution and it was noted that the highest concentration of people working in Goodyear live west of the city. Physical growth was also expected along Interstate 10, around Loop 303 Corridor. A total of 9 strategies guide the General Plan supporting their vision to "Create a highly desirable and sustainable place for all to live, work visit, and play." Key figures from this plan include:

- Figure 2.12 – Map of Goodyear Municipal Planning Area
- Figure 5.7 – Growth Areas Map
- Figure 2.22-2.23 – Commute Map

CITY OF GOODYEAR PARKS, RECREATION TRAILS, AND OPEN SPACE MASTER PLAN

(Goodyear, prepared by City of Goodyear Staff, July 2014)

With the mission to "enhance the quality of life for all through the stewardship of public land by sustaining exceptional park facilities and quality recreational programs and services" the City of Goodyear created a Master Plan to guide the future of Parks and Recreation. Currently there are 327 acres of public parks, greenbelts, and special-use areas that scatter the landscape. This Plan provides a variety of recommendations for building, funding, and maintaining parks and recreation facilities, as well as recommendations for recreation programs. Maintaining, improving, and building upon what is currently available is what the City of Goodyear hopes to do over the next 20 years. As progress is being made in many other areas of the City, the Parks and Recreation department strives to match in advancements of park facilities and functionality. Specific goals, strategies, and actions are outlined in detail, which follow the short-term, mid-term, and long-term format established in the City's General Plan. Key figures from this plan include:

- Figure 5A – Existing City Parks

CITY OF GOODYEAR TRANSPORTATION MASTER PLAN

(Goodyear, prepared by City Council and General Plan Committee, June 12, 2014)

The City's Plan for maintaining and enhancing its transportation system while addressing all transportation modes in Goodyear. Works in accordance and support of the City's General Plan. This Plan consists of a 20-year transportation program outline where cost estimates are considered and projects are prioritized to assist with project programming and implementation. Goodyear is the 13th most populous metropolitan area in the nation with a 2012 population of 4.3 million. Therefore, transportation is a high priority for both residents and developers. Key issues for residents and stakeholders mentioned throughout the Plan were truck traffic, transit services, updates to the general plan, bicycle and pedestrian facilities, and updates to the parks and recreation master plan. Various short-term, mid-term, and long-term recommendations were proposed including intersection improvements, roadway improvements, traffic signal considerations, and Parkway Crossing of the Gila River. Non-motorized recommendations included amenities, lanes, and education. Key figures from this plan include:

- Figure 3 – 16-2035 Level of Service
- Figure 4-1 – Short Term Plan for Roadway Improvements
- Figure 4-2 – Mid-Term Plan for Roadway Improvements
- Figure 4-4 – Long-Term Plan for Roadway Improvements

COTTON EXPRESS: CITY OF COOLIDGE FIVE-YEAR TRANSIT PLAN

(ADOT, prepared by Ostrander Consulting Inc., January 2009)

Cotton Express is the City of Coolidge's transit service that has been in operation for the past eighteen years. Initially, only demand response service was offered, with all trips accommodated through a reservation

system. The Cotton Express now provides service on four routes, operating on two loops through the West Central and East Central sections of the City. In addition to route deviation service to provide curb-to-curb mobility limited riders, dial-a-ride services are provided to eligible residents by reservation. ADOT's Public Transportation Section of the Multimodal Planning Division (MPD), which is charged with administering the Section 5311 Rural Transit Program, recently completed this 5-year plan for Coolidge. The Plan notes that "in order to address the management responsibility of administering these [5311] grant programs, it will be important that these five year plans have specific accountability elements and consistent formatting. This will enable appropriate analysis of accomplishment of goals and comparison of performance indicators to better assist local agencies and help direct allocation of limited resources. Thus, the Plan includes: a statement of community goals; a profile of the community; an estimate of transit service demand; an inventory of transit service operations, equipment, and facilities; a strategy for coordinating services and agencies associated with the provision of transit; an analysis of alternatives for improving service, administration, and management; and a 5-Year Implementation Plan. The Five Year Transit Plan provides a roadmap for implementing transit services in the City and a matrix of tasks and responsibilities to provide a framework management oversight of the rural transportation programs supported by ADOT. The Five Year Transit Plan includes: a minimal fleet replacement schedule; improvements to bus stops/shelters, signs, and benches; a new Transit Facility; on-board payment system; and, office equipment. New additions to service routes are proposed. The Five Year Implementation Plan was updated for the years 2011 and 2012 in 2010. Key figures/tables from this study include:

- Figure V-1 – Current Cotton Express Service Area
- Table VIII – Cotton Express Public Transportation 5 Year Budget
- Table VIII-2 – Cotton Express Transit System Implementation Plan

COOLIDGE-FLORENCE REGIONAL TRANSPORTATION STUDY

(Coolidge, Florence, and ADOT, prepared by Lima & Associates with Kimley-Horn and Associates and Economic and Real Estate Consulting, February, 2008)

The Coolidge-Florence Regional Transportation Study was accomplished through a cooperative effort of the City of Coolidge, Town of Florence, and the Arizona Department of Transportation (ADOT). The planning area for this study encompassed 336 square miles of central Pinal County approximately midway between the City of Phoenix and City of Tucson and incorporated the combined planning areas of the City of Coolidge and the Town of Florence. The planning area is projected to experience population growth in the range of 250,000 to 300,000 persons over the next 20 years. The study produced a plan for a multimodal transportation system for the Coolidge and Florence planning areas. The plan recognizes regional growth dynamics and the need for a coordinated multimodal transportation system. Although the study included roadway facilities under the jurisdiction of ADOT, improvements to the State Highway System can be made only after ADOT completed in-depth planning and engineering studies and upon approval of the State Transportation Board. The final report defined a road plan, methods for implementing the plan, funding priorities, and a public transportation component. Key figures/tables from this study include:

- Figure 6-2 – Recommended Functional Road Classification
- Figure 6-3 – Recommended Year 2025 Number of Lanes
- Table 6-2 – Minimum Road Design and Access Criteria
- Figure 6-4 – Typical Cross Sections
- Figure 8-2 – High Priority Corridors

SONORAN VALLEY ENVIRONMENTAL IMPACT STATEMENT

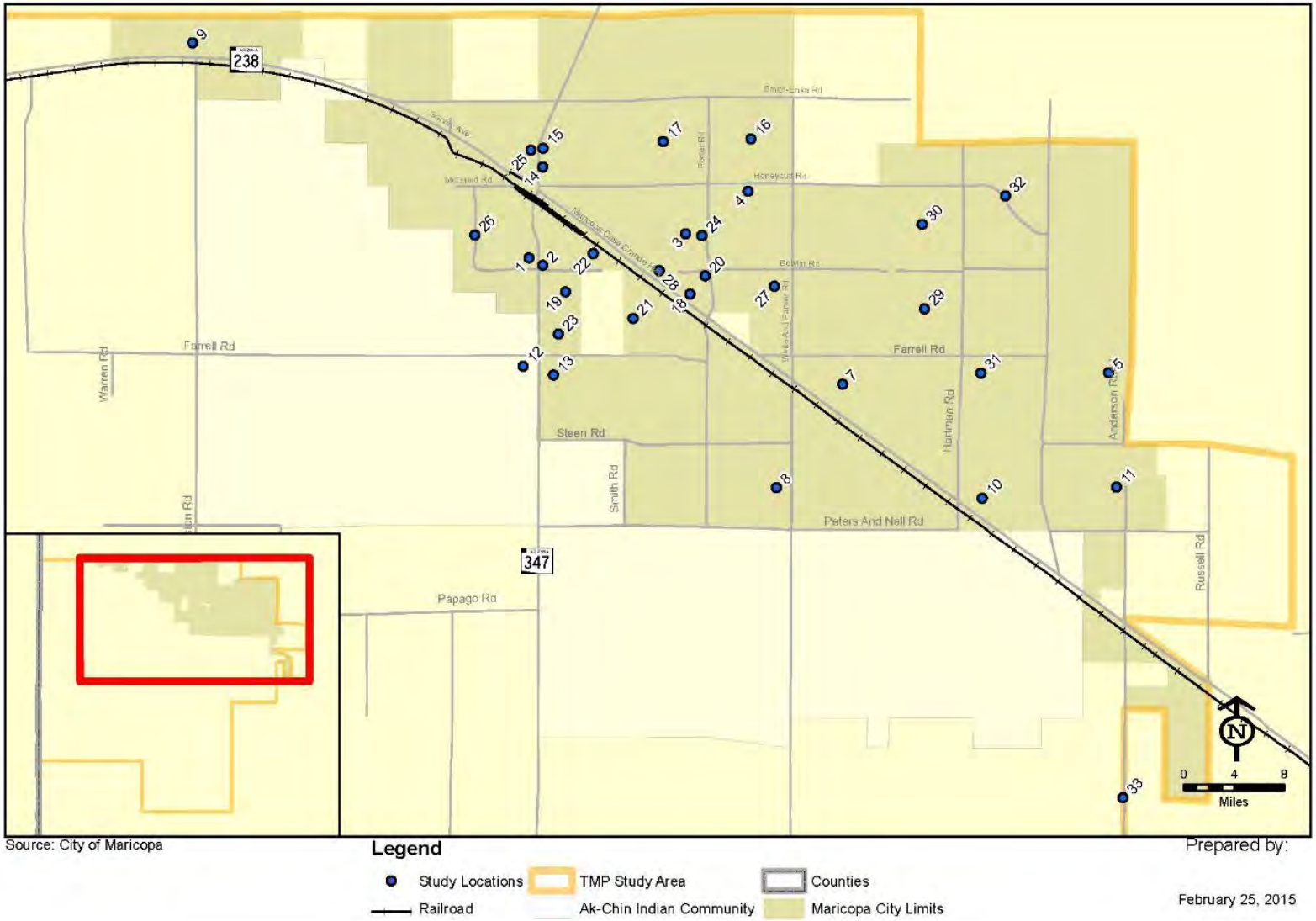
(City of Goodyear, prepared by Bureau of Land Management, July 2013)

The City of Goodyear submitted an application to the Bureau of Land Management (BLM) for a 250-foot right-of-way to construct, operate, and maintain a two to six-lane parkway in Rainbow Valley, Arizona. The Sonoran Valley Parkway has been previously identified on regional transportation plans to meet future traffic demand. The BLM issued an Environmental Impact Statement to help in determining whether to grant the right-of-way. Many alternatives were considered and narrowed down to four, with the BLM preferring Alternative A. Alternative A is approximately 15.72 miles long, begins at Riggs Road heading south to Komatke, then southeast for 10.4 miles, eventually intersecting in Mobile at SR 238.

TRAFFIC IMPACT STUDIES

Article 402 of the City's zoning code specifies requirements for the adequate provision of public facilities with respect to all new developments. According to the ordinance, all new developments must meet established service levels for certain public facilities. As part of this condition, the City may require a study by a qualified engineer to determine the development's impact to traffic and, if applicable, to identify any strategies to mitigate the impact. Figure A-5 shows the location of proposed developments for which a traffic impact study has been completed. The following table presents detailed information regarding the proposed land use, intensity, estimated trip generation, and status for each development.

Figure A-5 | Traffic Impact Studies



Listing of Traffic Impact Studies

#	Development Name	Phase	Proposed Land Use	Intensity	Trip Generation Daily (vpd)	Trip Generation AM (vph)	Trip Generation PM (vph)	Develop. Date	Notes
1	NWC Bowlin Road and SR-347		Commercial Development	266,453 SF	22,993	780	1,820	2010	No Entitlement Yet. Projected Completion Date, 2020
2	Circle K at NEC of John Wayne Parkway and Bowlin Road		Gas Station	20 Fueling Stn.	5,764	306	493	2012	Expected Completion Date, Summer 2015
			Commercial PAD	3,900 SF					
			Commercial	10,500 SF					
3	Homestead South		Single-Family Dwelling	2134 units	20,595	1,620	2,192	2015	50% Completed, Expected Build Out 2020
			Multi-Family Dwelling	260 units	1,231	93	114		
			Park	27 acres					
			School	127,456 SF	1,394	389	362		
			Church	130,680 SF	1,190	481	87		
			External		19,608	1,568	2,076		
4	Our Lady of Grace Church (Appendix only)		Church	-	-	-	-	-	Under Construction, Expected Build Out 2025
5	Red Valley Ranch		Residential	575 units	5,436	425	576	2010	Under Entitlement Review, Expected Build Out 2025

Listing of Traffic Impact Studies (Continued)

#	Development Name	Phase	Proposed Land Use	Intensity	Trip Generation Daily (vpd)	Trip Generation AM (vph)	Trip Generation PM (vph)	Develop. Date	Notes
6	Avalea		Residential Sing. Family	3811 units	67,090	3,572	5,436	2020	Zoning Entitled, Build Out 2025
			Residential Multi Family	644 units					
			Residential Retirement	2300 units					
			Commercial	1,045,000 SF					
			School	314,000 SF					
			Recreation Center	121,968 SF					
7	Eagle Shadow Phase 2		Residential	1,315	33,159	918	1,770	2020	Under Pre Plat Entitlement Review, Build Out 2025
			Park	42 Acres					
			Commercial	545,000 SF					
8	Daltessa Heights		Residential	932 units	8,920	699	799	2013	Zoning Entitled, Expected Build Out 2025
9	Guzman Industrial Subdivision		Light Industrial	160,675 SF	1,918	221	234	2010	Plat Entitled, Build Out 2025
			Warehousing	160,675 SF					

Listing of Traffic Impact Studies (Continued)

#	Development Name	Phase	Proposed Land Use	Intensity	Trip Generation Daily (vpd)	Trip Generation AM (vph)	Trip Generation PM (vph)	Develop. Date	Notes
10	The Sanctuary	Scenario 1	Residential	782 units	11,951	703	795	2020	Zoning Entitled, Build Out 2030
			Commercial	465,000 SF					
			Park	7.8 acres					
		Scenario 2	Residential	931 units	8,931	525	594		
			Park	7.8 acres					
11	Hartman Ranch		Residential	1752 units	42,414	2,290	4,302	2020	Zoning Entitled, Build Out 2030
			Commercial	395,000 SF					
			Park	4.17 acres					
			School	1,000 students					
12	Ak-Chin Family Entertainment		Theater	2,380 seats	6,986	283	435	2012	50% Complete
			Bowling Alley	49,075 SF					
			Retail	44,935 SF					
			Restaurant	7,200 SF					
13	Maricopa Towne Center		Commercial Retail	845,377 SF	23,960	575	2,092		Zoning Entitled, Build Out 2025
14	Maricopa Towne Center		Restaurant	8,600 SF	2,604	179	113	2011	Zoning Entitled, Build Out 2020
			Hotel	140 rooms					

Listing of Traffic Impact Studies (Continued)

#	Development Name	Phase	Proposed Land Use	Intensity	Trip Generation Daily (vpd)	Trip Generation AM (vph)	Trip Generation PM (vph)	Develop. Date	Notes
15	Edison Place		Restaurant	4,200 SF	1,432	67	476	2013	75% Built, 2018 Build Out
			Retail	22,000 SF					
16	The Homestead North		Residential	2307 units	24,788	2,249	2,732	2010	50% Built, 2020 Build Out
			Park	5 acres					
			Elementary School	119,800 SF					
			Church	78,408 SF					
17	Province Engle Homes		Residential	2,200 Units	11,220	924	1,232	2010	75% Built, 2020 Build Out
			Parks and Open Space	202 acres					
			Community Center	9 acres					
18	Maricopa Power Center		Retail	588,760 SF	29,882	1,240	1,949	2012	25% Built, 2025 Build Out
			Restaurant	35,905 SF					
			Bank	7,000 SF					
			Gas Station	12 Fueling Stn.					

Listing of Traffic Impact Studies (Continued)

#	Development Name	Phase	Proposed Land Use	Intensity	Trip Generation Daily (vpd)	Trip Generation AM (vph)	Trip Generation PM (vph)	Develop. Date	Notes
19	Vekol Project (Copper Sky Recreation and Commercial Center)	1	Swimming Facility	20,000 SF	3,537	134	224	2014	Park Completed, Commercial Pending 2020 Build Out For Commercial
			Multi-Gen Facility	50,000 SF					
			Regional Park	100 acres					
		2	Swimming Facility	20,000 SF	6,524	200	391	2020	
			Multi-Gen Facility	50,000 SF					
			Regional Park	100 acres					
			Commercial	60,984 SF					
		3	Swimming Facility	20,000 SF	11,478	321	676	2030	
			Multi-Gen Facility	50,000 SF					
			Regional Park	100 acres					
			Commercial	156,816 SF					
20	Banner Health Center	1	Health facility	40,909 SF	1,478	95	142	2012	50% Built, 2020 Build Out
		2	Health facility	144,319 SF	3,738	239	359	2017	
21	El Rancho Santa Rosa		Residential	720 units	N/A	N/A	N/A	2007	Zoning Entitled, 2025 Build Out
22	Santa Rosa Crossing		Residential	356 units	3,336	195	216	2007	5% Built, 2020 Built Out

Listing of Traffic Impact Studies (Continued)

#	Development Name	Phase	Proposed Land Use	Intensity	Trip Generation Daily (vpd)	Trip Generation AM (vph)	Trip Generation PM (vph)	Develop. Date	Notes
23	Palo Brea		Residential	525 units	5,024	295	339		25% Built, Build Out 2025
24	Community of Hope	1	Church	20,000 SF	182 (733)	18 (236)	19 (0)	2010-Weekdays (Sundays)	75% Built, 2020 Build Out
			School	250 students	620	N/A	N/A		
		2	Church	54,500 SF	496 (1,955)	47 (640)	52 (0)	2020-Weekdays (Sundays)	
			School	250 students	620	N/A	N/A		
25	Sonoran Creek		Retail	113,284 SF	7,809	721	643	2008	10% Built, 2020 Build Out
			Office	56,630 SF					
26	Maricopa Meadows		Residential	1608 units	16,409	1,497	1,884	2005	80% Built, 2020 Build Out
			Elementary School	1,000 students					

Listing of Traffic Impact Studies (Continued)

#	Development Name	Phase	Proposed Land Use	Intensity	Trip Generation Daily (vpd)	Trip Generation AM (vph)	Trip Generation PM (vph)	Develop. Date	Notes
27	San Travasa Master	Opening	Community College	76,800 SF	2,112	230	196	2013	College 30% Built, Rest Of Development Zoning Entitled, 2025 Build Out
		Interim	Community College	153,600 SF	18,402	1,477	1,918	2020	
			Commercial	208,217 SF					
			Office	209,524 SF					
			Hotel	115 rooms					
			Apartments	153 units					
			Daycare Center	48,787 SF					
		Horizon	Community College	720,000 SF	46,554	4,011	4,734	2030	
			Commercial	414,434 SF					
			Office	419,047 SF					
			Hotel	230 rooms					
			Apartments	306 units					
			Daycare Center	97,574 SF					
28	Stonegate Center MCG		Retail	479,150 SF	15,898	590	1,370	2010	Zoning Entitled, 2025 Build Out

Listing of Traffic Impact Studies (Continued)

#	Development Name	Phase	Proposed Land Use	Intensity	Trip Generation Daily (vpd)	AM (vph)	PM (vph)	Develop. Date	Notes
29	Sorrento		Commercial	321,400 SF	40,065	2,385	4,114	2020	25% Built, 2025 Build Out
			School	1,000 students					
			Residential	2,120 units					
30	Rancho Mirage Estates		Commercial	217,796 SF	37,249	2,226	3,813	2015	25% Built, 2025 Build Out
			School	600 students					
			Park	5.7 acres					
			Residential	2,187 units					
31	Cortona	1A	Residential	358 units	3,408	201	226	2014	Under Final Plat Entitlement, Build Out 2025
		1B	Residential	712 units	6,778	401	449	2017	
		Buildout	Residential	1489 units	14,176	838	938		
32	Tortosa Development		Residential	3760 units	45,186	4,436	4,854		30% Built, 2025 Build Out
			Commercial	261,000 SF					
			Schools	3,850 students					

Listing of Traffic Impact Studies (Continued)

#	Development Name	Phase	Proposed Land Use	Intensity	Trip Generation Daily (vpd)	AM (vph)	PM (vph)	Develop. Date	Notes
33	Santa Cruz Ranch		Mixed Residential Total	1,910 gross acres	129,993	7,284	13,074	2010	
			Residential	6,287 units					
			School	2,500 students					
			Commercial	1,151,000 SF					

Source: City of Maricopa

APPENDIX B: FULL LIST OF PROGRAMMED IMPROVEMENTS

This appendix presents a listing of all programmed improvements identified by the City of Maricopa that were considered for the MAG Transportation Improvement Program (TIP). The list was compiled from two sources: the "City of Maricopa Projects FY 2014 - FY 2018," and the City of Maricopa Capital Improvement Plan (CIP). Not all of the programmed improvements identified in this appendix were included in the "Existing plus Committed" (E+C) Roadway Network that was used for travel demand forecasting purposes, because the City of Maricopa wanted to confirm the need for these projects using modeling results produced through this planning effort.

Improvement Projects from "City of Maricopa Projects FY 2014 - FY 2018" and City of Maricopa Capital Improvement Plan

TIP ID	Work Year	MAG TIP ID	Location	Work	Miles	# of Lanes Before	# of Lanes After	Funding	Total Estimated Cost *
MAR14-401	2014	40640	Honeycutt Rd: Porter Rd to White & Parker Rd	Design New Roadway	1	2	4	Local	450,000
MAR14-402	2015	11364	SR 347: Between SR 238 and Cobblestone Farms Dr - North	Construct Sidewalks	0.7	0	0	STP-TEA	637,841
MAR14-403	2016	15724	Maricopa-Casa Grande Highway (MCGH): Porter Rd to White & Parker Rd	Design Roadway Widening	1	2	4	Local	790,000
MAR14-404	2016	15724	MCGH: Porter Rd to White & Parker Rd	Acquisition of right-of-way for Roadway widening	1	2	4	Local	382,000
MAR14-405	2014	36280	SR 347 at SR 238 Acacia Crossings to Bank of America	Construct Sidewalks	0.7	0	0	STP-TEA	363,733
MAR14-406	2018	5965	White and Parker Rd: South of Honeycutt to Cowpath Rd	Design Roadway Widening	1	2	4	Local	500,000
MAR14-407	2015	38156	Hartman Rd: From MCGH to Approx. 1.5 North	Design New Roadway	1.5	2	2	Local	88,802
MAR14-407 D2	2015	38156	Hartman Rd: From MCGH to Approx. 1.5 North	ADOT Design Review Fees	1.5	2	2	CMAQ 2.5	30,000
MAR15-401	2015	40640	Honeycutt Rd: Porter Rd to White and Parker Rd	Construct New Roadway	1	2	4	Local	1,676,000
MAR14-402	2015	15724	MCGH: Porter Rd to White & Parker Rd	Construct Roadway Widening	1	2	4	STP-MAG	3,540,000
MAR15-404	2015	28264	Edison Rd Extension to SR 238	Design Roadway Widening	0.64	0	4	Local	337,500

Improvement Projects from "City of Maricopa Projects FY 2014 - FY 2018" and City of Maricopa Capital Improvement Plan (Continued)

TIP ID	Work Year	MAG TIP ID	Location	Work	Miles	Lanes Before	Lanes After	Funding	Total Estimated Cost *
MAR15-403	2018	5965	White & Parker Rd: South of Honeycutt Rd to Cowpath Rd	Construct Roadway Widening	1	2	4	Local	1,900,000
MAR15-405	2015	28264	Edison Rd Extension to SR 238	Construct Roadway Widening	0.64	0	4	Local	2,385,584
MAR15-406	2017	566	MCGH: White & Parker Rd to City Limits	Design Roadway Widening	1	2	4	Local	988,125
MAR14-407	2016	38156	Hartman Rd: From MCGH to Approx. 1.5 North	Pave Unpaved Roadway	1.5	2	2	CMAQ 2.5	531,529
MAR15-470	2015	48528	Maricopa (Citywide)	Procure Engineering for Sign Management System and Sign Upgrade	-	0	0	HSIP-MAG	188,500
MAR15-470	2016	48528	Maricopa (Citywide)	Procure and Install Sign Management System and Sign Upgrade	-	0	0	HSIP-MAG	241,800
MAR17-401	2017	566	MCGH: White & Parker to City Limits	Construct Roadway Widening	1	2	4	Local	1,500,000
MAR17-402	2017	48986	Bowlin Rd: Hartman Rd to Murphy Rd	Design Roadway Widening	1	2	2	Local	250,000
MAR17-403	2017	21288	Hartman Rd: Bowlin Rd to Honeycutt Rd	Design New Roadway	2	2	2	Local	250,000
MAR17-401	2018	48986	Bowlin Rd: Hartman Rd to Murphy Rd	Construct Roadway Widening	1	2	2	Local	2,500,000
MAR17-401	2018	566	MCGH: White & Parker to City Limits	Construct Roadway Widening	1	2	4	Local	1,300,000

Improvement Projects from "City of Maricopa Projects FY 2014 - FY 2018" and City of Maricopa Capital Improvement Plan (Continued)

TIP ID	Work Year	MAG TIP ID	Location	Work	Miles	Lanes Before	Lanes After	Funding	Total Estimated Cost *
MAR18-402	2018	21288	Hartman Rd: Bowlin Rd to Honeycutt Rd	Construct Roadway Widening	2	2	2	Local	2,500,000
MAR15-406	2019	566	MCGH: White & Parker to City Limits	Design Roadway Widening	1	2	4	Local	500,000
MAR17-401	2019	566	MCGH: White & Parker to City Limits	Construct Roadway Widening	1	2	4	Local	2,585,000
MAR15-406	2019	566	MCGH: White & Parker to City Limits	Design Roadway Widening	1	2	4	Local	500,000
MAR17-401	2019	566	MCGH: White & Parker to City Limits	Construct Roadway Widening	1	2	4	Local	7,500,000
	2014		Safe Routes to School: Vehicle Feedback Signs	Install Feedback Signs	-	0	0	STP-TEA	232,406
	2015		Smith Enke: ½-miile west of Porter Rd to Porter Rd Intersection & Chase Dr to White & Parker Rd	Design Roadway Widening	0.5	2	4	Local	686,890
	2015		Smith Enke: ½-miile west of Porter Rd to Porter Rd Intersection & Chase Dr to White & Parker Rd	Construct Roadway Widening	0.5	2	4	Local	734,515
	2015		SR 347: Juan St to Bowlin Rd	Construct Sidewalks	0.5	0	0	STP-TEA	262,406
	2015		White & Parker Rd: City Hall Property Frontage Half Street Improvements	Design Roadway Widening	1	2	4	Local	500,000

Improvement Projects from "City of Maricopa Projects FY 2014 - FY 2018" and City of Maricopa Capital Improvement Plan (Continued)

TIP ID	Work Year	MAG TIP ID	Location	Work	Miles	Lanes Before	Lanes After	Funding	Total Estimated Cost *
	2015		UPRR Grade Separation: Study/Design – White & Parker Rd	Design Grade Separation	0.25	2	4	UPPR	937,187
	2016		White & Parker Rd: City Hall Property Frontage Half Street Improvements	Construct Roadway Widening	1	2	4	Local	2,250,000
	2016		Hartman Rd: MCGH to Bowlin Rd	Design New Roadway	2	2	3	Local	500,000
	2016		SR 347 Overpass Project: Honeycutt Rd: From SR 347 to MCGH	Design Roadway Widening	0.28	0	4	Local	450,000
	2016		SR 347 Overpass Project: Honeycutt Rd: From SR 347 to MCGH	Acquisition of right-of-way for Roadway widening	0.28	0	4	Local	1,195,336
	2016		SR 347 Overpass Project: Honeycutt Rd: From SR 347 to MCGH	Construct Roadway Widening	0.28	0	4	Local	1,279,845
	2016		SR 347 Overpass Project: Overpass	Design Roadway Overpass	1	4	6	Local	52,000,000
	2017		Hartman Rd: MCGH to Bowlin Rd	Construct Roadway Widening	2	2	3	Local	2,000,000
	2018		Honeycutt Rd: White & Parker Rd to Santa Cruz Wash	Design Roadway Widening	2	2	2	Local	350,000

Improvement Projects from "City of Maricopa Projects FY 2014 - FY 2018" and City of Maricopa Capital Improvement Plan (Continued)

TIP ID	Work Year	MAG TIP ID	Location	Work	Miles	Lanes Before	Lanes After	Funding	Total Estimated Cost *
	2019		Honeycutt Rd: White & Parker Rd to Santa Cruz Wash	Construct Roadway Widening	2	2	2	Local	3,000,000
	2019		Murphy: Honeycutt Rd to Bowlin Rd	Design Roadway Widening	0.42	2	2	Local	250,000
	2019		Murphy: Honeycutt Rd to Bowlin Rd	Construct Roadway Widening	0.42	2	2	Local	2,000,000

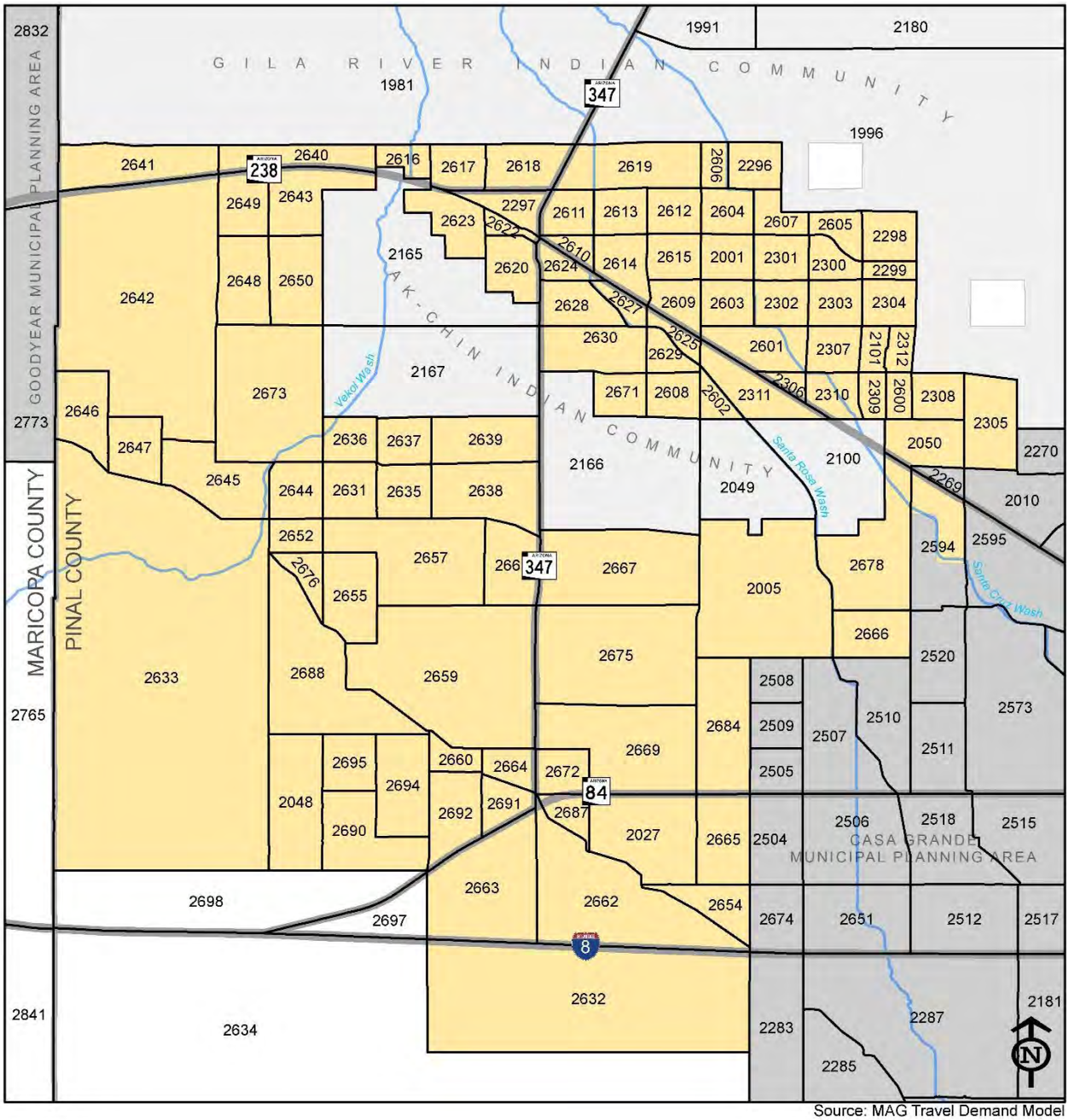
* All costs stated in current year dollars, with no adjustments for inflationary factors; as a result, actual construction costs may be higher due to inflation. Projects must have sound cost estimates, an identified site, and verified financing sources, as well as confirmation that they can be staffed and maintained within budgetary constraints. The identification of a project, however, does not guarantee construction. The initiation of any project requires other evaluations and approvals, which must be completed for a project to advance to design and, ultimately, construction.

APPENDIX C: TABULAR TMP SOCIOECONOMIC DATA: YEARS 2014, 2020, 2030,& 2040

This appendix contains socioeconomic data for all Traffic Analysis Zones (TAZs) in the Area Transportation Plan (ATP) Study Area for Years 2014, 2020, 2030, and 2040, including: population, number of households, employment, and dwelling units. A map of the ATP Study Area shows the boundary, general location and relationship of the TAZs, which are labeled and assigned ID numbers for modeling purposes. Each TAZ identifies a geographic subarea within six larger geographic areas referred to as Municipal Planning Areas (MPAs). The six MPAs are associated with: City of Maricopa, Ak-Chin Indian Community, Gila River Indian Community, Casa Grande, Goodyear, and areas of Maricopa and Pinal counties.

A subsequent table identifies how the forecasted socioeconomic data has been allocated to each of the TAZs for the Years 2014, 2020, 2030, and 2040. The first column, titled MPA, indicates the Municipal Planning Area wherein TAZ is located: “MA” represents the City of Maricopa, “AK” denotes the Ak-Chin Indian Community, and “CG” is the abbreviation for the City of Casa Grande. TAZs for these three MPAs were considered most relevant to the assessment of travel demand within the ATP Study Area.

TAZ Map



Source: MAG Travel Demand Model

Legend

- TAZ
- Major Roadways
- XXXX - TAZ ID
- Counties
- Railroad
- Major Washes
- TMP Study Area

0 2 4
Miles

WILSON & COMPANY

March 30, 2015

Tabular Socioeconomic Data for Years 2014, 2020, 2030, and 2040

MPA	TAZ ID #	2014				2020				2030				2040			
		Population	Households	Employment	Dwelling Units	Population	Households	Employment	Dwelling Units	Population	Households	Employment	Dwelling Units	Population	Households	Employment	Dwelling Units
MA	2001	13	3	5	13	454	151	95	164	2,021	692	317	982	3,518	1,198	305	1,258
MA	2005	0	0	221	0	20	7	38	7	183	61	58	60	53	20	305	116
MA	2027	35	7	0	7	35	7	7	10	18	4	3	9	16	5	48	7
MA	2048	465	178	6	224	538	207	66	395	511	195	74	382	626	213	35	224
AK	2049	0	0	0	0	0	0	0	0	0	0	2	5	1	1	4	11
MA	2050	28	9	344	9	31	10	280	15	14	5	627	15	26	9	4,018	14
AK	2100	0	0	28	0	0	0	14	0	4	1	21	7	10	4	85	14
MA	2101	11	4	4	8	22	7	10	14	65	20	31	35	112	36	54	36
AK	2165	834	243	32	246	853	252	178	413	913	265	355	492	915	270	369	270
AK	2166	123	32	211	32	121	32	315	53	128	33	362	71	194	57	481	63
AK	2167	46	9	656	9	45	9	409	14	46	9	419	23	52	11	1,130	28
MA	2296	16	6	87	6	16	6	2	8	16	6	2	8	16	6	85	6
MA	2297	2,088	739	973	854	2,362	833	1,742	1,423	2,515	889	3,956	1,701	2,634	930	5,285	986
MA	2298	0	0	4	0	0	0	24	0	0	0	50	0	0	0	60	0
MA	2299	0	0	0	0	0	0	22	0	0	0	74	0	0	0	100	0
MA	2300	2,011	657	35	730	2,345	765	243	1,277	3,536	1,176	834	2,030	4,809	1,598	563	1,648
MA	2301	869	290	45	450	1,121	371	137	723	2,287	766	643	1,377	3,538	1,187	595	1,223
MA	2302	1,118	355	52	528	1,411	464	91	857	2,553	838	893	1,488	3,701	1,212	786	1,249
MA	2303	24	8	3	18	254	85	10	102	928	293	19	432	1,587	515	57	540
MA	2304	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Tabular Socioeconomic Data for Years 2014, 2020, 2030, and 2040 (Continued)

MPA	TAZ ID #	2014				2020				2030				2040			
		Population	Households	Employment	Dwelling Units	Population	Households	Employment	Dwelling Units	Population	Households	Employment	Dwelling Units	Population	Households	Employment	Dwelling Units
MA	2305	0	0	0	0	0	0	0	0	0	0	8	0	0	0	19	0
MA	2306	15	5	5	9	116	39	5	47	337	114	15	170	580	199	22	210
MA	2307	191	64	30	113	453	150	31	249	1,363	457	56	729	2,290	767	40	777
MA	2308	187	74	6	89	231	87	30	169	282	103	51	188	337	118	92	124
MA	2309	14	4	4	8	62	19	3	26	167	55	5	83	278	89	6	96
MA	2310	39	14	5	24	217	72	11	93	638	216	23	318	1,051	351	21	371
MA	2311	83	28	206	52	733	244	178	289	2,143	734	599	1,037	3,548	1,235	803	1,256
MA	2312	191	69	11	76	193	67	11	118	250	87	10	158	296	103	19	109
MA	2600	64	24	7	35	56	19	9	38	170	57	13	109	257	88	50	96
MA	2601	11	2	2	9	673	168	8	176	2,651	789	45	1,255	4,680	1,463	41	1,811
MA	2602	13	4	28	8	163	53	32	60	484	164	89	237	717	244	227	288
MA	2603	48	13	21	24	379	114	26	134	1,045	348	36	488	1,741	579	82	589
MA	2604	23	8	0	12	113	35	1	46	250	87	4	140	487	175	6	179
MA	2605	1,868	634	65	725	1,904	642	179	1,159	2,552	871	241	1,612	3,450	1,176	91	1,208
MA	2606	0	0	0	0	0	0	0	0	0	0	0	0	3	1	0	1
MA	2607	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MA	2608	172	48	36	94	621	202	41	283	1,831	611	173	922	2,997	1,009	251	1,044
MA	2609	27	8	55	14	494	165	176	178	1,605	486	815	687	2,737	841	1,599	898
MA	2610	3,630	1,018	77	1,018	3,644	1,022	227	1,672	3,660	1,028	259	1,910	3,618	1,017	165	1,019
MA	2611	5,051	1,579	784	1,845	5,623	1,763	1,397	2,965	5,757	1,813	2,424	3,461	5,813	1,832	2,698	1,945

Tabular Socioeconomic Data for Years 2014, 2020, 2030, and 2040 (Continued)

MPA	TAZ ID #	2014				2020				2030				2040			
		Population	Households	Employment	Dwelling Units	Population	Households	Employment	Dwelling Units	Population	Households	Employment	Dwelling Units	Population	Households	Employment	Dwelling Units
MA	2612	2,380	794	41	1,114	3,049	1,024	406	1,781	3,870	1,308	767	2,383	4,642	1,562	614	1,671
MA	2613	1,776	903	48	1,103	2,284	1,025	247	1,628	3,123	1,266	320	2,166	3,702	1,489	144	1,562
MA	2614	4,610	1,470	304	1,509	4,732	1,505	510	2,440	4,966	1,608	955	2,821	5,235	1,695	1,175	1,718
MA	2615	1,567	540	346	700	1,889	653	749	1,145	2,519	851	1,234	1,520	3,047	1,029	1,753	1,084
MA	2616	0	0	12	0	0	0	9	0	0	0	9	0	0	0	17	0
MA	2617	64	19	17	37	79	25	17	42	225	75	23	136	365	123	96	128
MA	2618	2,795	830	474	894	3,074	915	946	1,495	3,405	1,018	1,868	1,879	3,705	1,110	2,107	1,141
MA	2619	8,683	2,953	293	3,578	10,303	3,512	589	5,860	11,920	4,040	1,290	7,498	13,311	4,512	1,072	4,838
MA	2620	6,668	2,062	805	2,497	7,482	2,326	1,208	3,980	7,609	2,384	2,262	4,583	7,650	2,396	2,301	2,583
MA	2622	74	17	109	18	60	16	356	26	65	17	572	31	62	17	814	18
MA	2623	46	16	4	24	336	104	5	125	935	304	38	427	1,610	531	199	537
MA	2624	1,509	518	122	536	1,731	589	348	939	2,300	773	439	1,350	2,847	952	436	958
MA	2625	30	12	28	16	162	54	39	68	519	165	67	251	828	278	67	279
MA	2627	279	113	7	155	455	180	20	283	807	291	32	482	1,112	393	28	408
MA	2628	559	154	35	200	690	207	61	358	1,290	404	134	684	1,865	596	136	613
MA	2629	8	4	11	11	134	46	13	57	877	296	21	444	1,602	524	16	604
MA	2630	100	37	22	60	1,232	426	77	478	3,722	1,238	165	1,733	6,374	2,132	120	2,227
MA	2631	407	141	41	161	441	152	105	289	432	151	113	287	452	154	111	161
MA	2632	14	3	0	3	14	3	0	3	8	2	1	3	0	0	15	3
MA	2633	1,366	449	35	529	1,520	494	166	963	1,304	426	166	879	1,402	455	124	529

Tabular Socioeconomic Data for Years 2014, 2020, 2030, and 2040 (Continued)

MPA	TAZ ID #	2014				2020				2030				2040			
		Population	Households	Employment	Dwelling Units	Population	Households	Employment	Dwelling Units	Population	Households	Employment	Dwelling Units	Population	Households	Employment	Dwelling Units
MA	2635	234	77	25	82	286	95	54	166	362	124	64	212	472	157	41	161
MA	2636	385	121	22	139	425	135	177	254	424	137	406	252	413	134	531	139
MA	2637	0	0	0	0	53	18	2	18	475	158	18	220	883	296	35	300
MA	2638	72	24	49	41	442	146	51	183	1,523	500	77	721	2,503	832	89	862
MA	2639	4	1	0	1	409	102	0	102	620	155	2	155	825	286	6	523
MA	2640	38	14	21	16	38	14	56	24	38	14	175	26	36	13	932	16
MA	2641	25	7	15	9	26	8	13	13	26	8	18	12	11	3	38	10
MA	2642	282	110	12	122	294	113	34	203	282	110	45	219	212	77	68	122
MA	2643	0	0	0	0	1	0	1	0	6	2	4	3	0	0	16	4
MA	2644	349	118	4	132	438	146	50	261	544	182	63	318	664	224	19	235
MA	2645	7	3	0	3	192	82	30	82	173	58	19	149	1,003	329	29	411
MA	2646	60	18	4	19	59	18	11	33	56	17	15	33	57	17	18	19
MA	2647	85	29	6	33	115	39	8	60	170	58	11	108	162	54	14	85
MA	2648	169	58	3	63	176	60	12	101	172	59	15	113	179	61	24	63
MA	2649	73	30	1	38	90	37	5	69	117	46	15	85	157	55	14	60
MA	2650	0	0	0	0	0	0	0	0	0	0	1	0	0	0	10	0
MA	2652	130	47	17	52	161	56	21	103	176	62	28	115	216	76	224	77
MA	2654	31	11	3	16	3	1	5	1	3	1	8	2	3	1	29	1
MA	2655	9	2	0	3	27	6	3	6	22	8	13	15	45	14	24	32
MA	2657	26	10	25	10	62	24	19	29	77	26	32	51	163	51	160	82

Tabular Socioeconomic Data for Years 2014, 2020, 2030, and 2040 (Continued)

MPA	TAZ ID #	2014				2020				2030				2040			
		Population	Households	Employment	Dwelling Units	Population	Households	Employment	Dwelling Units	Population	Households	Employment	Dwelling Units	Population	Households	Employment	Dwelling Units
MA	2659	84	20	48	46	74	19	39	53	257	79	100	165	653	212	711	220
MA	2660	2	1	2	1	2	1	0	1	1	1	9	2	3	1	103	1
MA	2662	45	12	2	13	74	20	13	29	100	27	18	48	59	19	38	47
MA	2663	235	130	10	138	253	136	125	221	262	136	129	254	302	133	44	138
MA	2664	0	0	17	0	0	0	9	0	0	0	223	0	0	0	882	0
MA	2665	52	15	12	25	0	0	9	0	0	0	14	0	0	0	36	0
MA	2666	275	82	19	85	306	92	168	164	351	106	400	187	390	120	631	121
MA	2667	22	5	117	5	230	52	71	53	331	75	431	151	307	109	2,019	250
MA	2668	0	0	3	0	5	2	1	2	42	14	15	19	66	22	234	27
MA	2669	3	1	68	1	6	2	71	2	6	2	100	2	0	0	262	6
MA	2671	56	17	1	31	678	216	15	244	1,878	653	44	899	3,024	1,052	5	1,109
MA	2672	282	95	22	104	306	103	160	194	336	111	446	209	366	123	554	128
MA	2673	497	177	15	212	1,069	386	100	567	2,026	724	173	1,148	3,538	1,188	90	1,282
MA	2675	0	0	1	0	47	16	5	16	417	139	21	187	588	181	130	265
MA	2676	21	8	1	9	35	10	3	19	76	21	2	36	114	32	4	33
MA	2678	254	52	5	52	1,441	295	156	329	2,515	550	290	950	4,065	1,247	199	1,300
MA	2684	11	3	16	3	147	40	176	40	106	32	410	91	418	148	584	195
MA	2687	126	30	1	30	126	30	13	55	119	28	15	55	89	28	37	30
MA	2688	373	120	51	136	412	132	175	246	387	124	269	249	452	147	305	156
MA	2690	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0

Tabular Socioeconomic Data for Years 2014, 2020, 2030, and 2040 (Continued)

MPA	TAZ ID #	2014				2020				2030				2040			
		Population	Households	Employment	Dwelling Units	Population	Households	Employment	Dwelling Units	Population	Households	Employment	Dwelling Units	Population	Households	Employment	Dwelling Units
MA	2691	0	0	6	1	1	0	14	0	3	1	18	1	3	1	79	1
MA	2692	327	106	13	139	381	121	70	240	360	116	159	238	389	131	242	139
MA	2694	370	148	13	169	414	162	67	296	393	154	70	306	467	163	33	169
MA	2695	106	45	4	55	121	48	15	93	116	44	18	91	148	51	20	55
MA	2594	0	0	3	1	0	0	0	1	0	0	8	1	0	0	41	0
CG		0	0	10	4	0	0	0	4	118	41	5	68	598	221	0	235

APPENDIX D: LEVEL OF SERVICE ANALYSIS

This appendix contains the results of travel demand modeling conducted in support of the TMP. In the following sections, outputs from the MAG Regional Travel Demand Model and roadway capacity analyses are presented in tabular form for Years 2014, 2020, 2030, and 2040.

EXISTING LEVEL OF SERVICE

Figure D-1 shows the existing level-of-service (LOS) on modeled roadways. Currently, Edwards Avenue and SR 347/Maricopa Road are the only Study Area roads operating at conditions below LOS C. Edwards Avenue operates at LOS E west of SR 347/Maricopa Road until it becomes McDavid Road.
SR 347/Maricopa Road operates at a LOS D between Edwards Avenue and Edison Avenue and operates at LOS E north of Cobblestone Farms Drive - North. This is significant, because SR 347 serves a vital role for residents of the study area as the only link north to the Phoenix metropolitan region. With high levels of growth forecasted for the Study Area, conditions on this road are only expected to deteriorate into the future without improvements to increase capacity.

Table D-1 (Pg D-3) shows detailed capacity analysis information for each existing major roadway segment in the Study Area.

FORECASTED LEVEL OF SERVICE

Table D-2 (Pg D-14) shows detailed capacity analysis information for each major roadway segment in the Study Area for the Year 2020.

Table D-3 (Pg D-25) shows detailed capacity analysis information for each major roadway segment in the Study Area for the Year 2030.

Table D-4 (Pg D-36) shows detailed capacity analysis information for each major roadway segment in the Study Area for the Year 2040.

Table Notes:

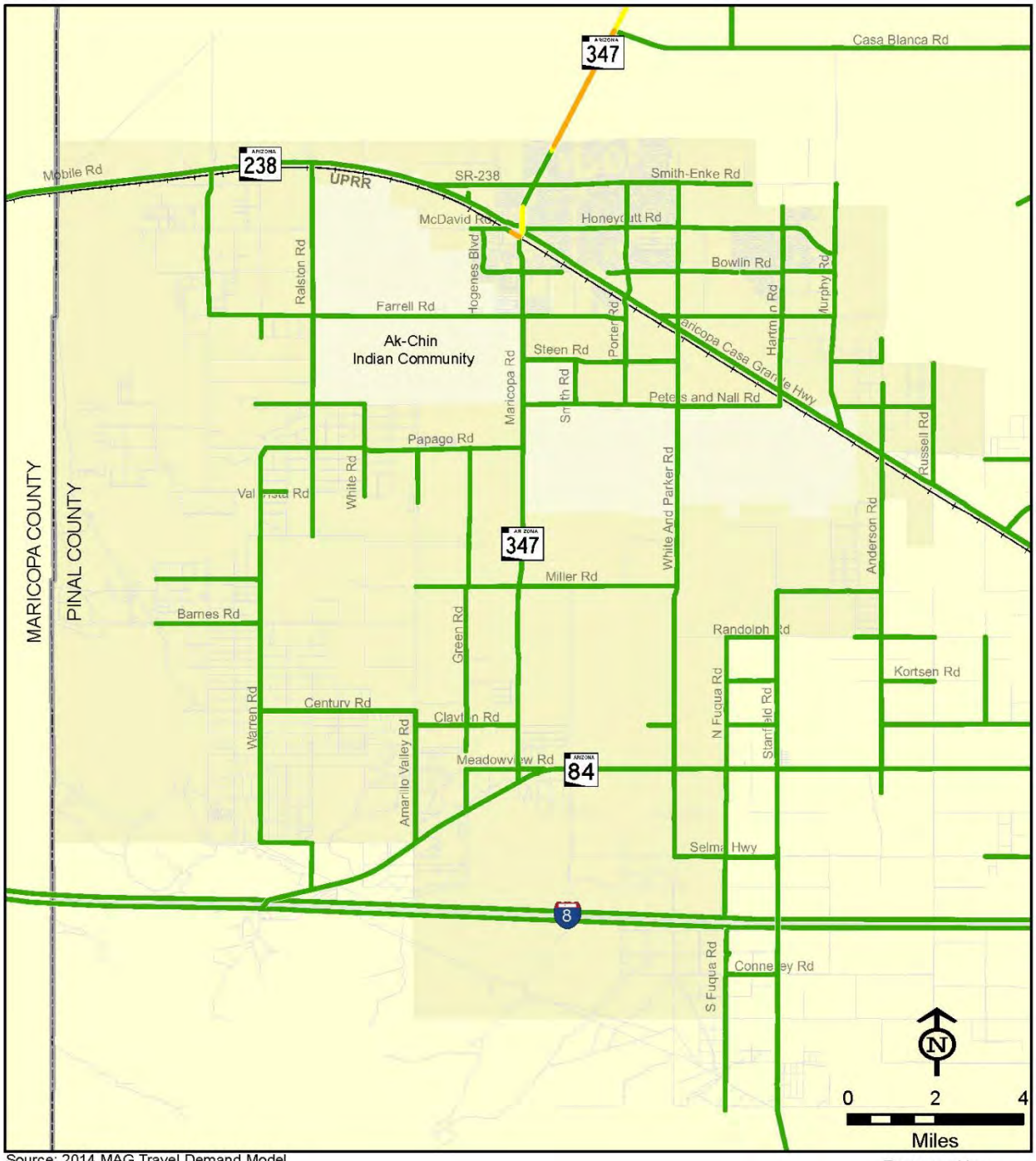
Values were derived from output of the MAG Regional Travel Demand Model, based on facility type, area type, and number of lanes (see Table 5-2 in the body of the report).

Volume-to-Capacity (*v/c*) Ratios are highlighted to indicate LOS D and LOS E or F, as shown below:

Level of Service D: Volume-to-Capacity between 0.73 and 0.84, inclusively. Adapted from LOS criteria in HCM 2010.

Level of Service E or F: Volume-to-Capacity greater than or equal to 0.85. Adapted from LOS criteria in HCM 2010.

Figure D-1 | Existing Level-of-Service



Source: 2014 MAG Travel Demand Model

Legend

Level of Service
- LOS A-C
- LOS D
- LOS E
- LOS F
- Counties
- TMP Study Area
- Railroad

Prepared by:
WILSON & COMPANY
February 5, 2015

Table D-1 | Major Roadway Capacity Analysis: Existing Roads

Facility Name	From	To	Existing Facility Type	Area Type	# of Lanes	Daily Volume	Theoretical Capacity (1)	Volume-to-Capacity Ratio
North-South Routes – West to East								
Hidden Valley Rd	SR 238	Farrell Rd	Unpaved Road	Rural	2	500	7,600	0.07
Warren Rd	Farrell Rd	Pima Rd	Collector	Rural	2	0	14,700	0.00
Warren Rd	Papago Rd	Val Vista Rd	Arterial	Rural	2	3,300	22,800	0.14
Warren Rd	Val Vista Rd	Miller Rd	Arterial	Rural	2	2,900	22,800	0.13
Warren Rd	Miller Rd	Barnes Rd	Arterial	Rural	2	2,800	22,800	0.12
Warren Rd	Barnes Rd	Century Rd	Arterial	Rural	2	900	22,800	0.04
Warren Rd	Century Rd	Robin Rd	Arterial	Rural	2	400	22,800	0.02
Ralston Rd	SR 238	Farrell Rd	Collector	Rural	2	1,000	14,700	0.07
Ralston Rd	Farrell Rd	Peters & Nall Rd	Collector	Rural	2	1,300	14,700	0.09
Ralston Rd	Peters & Nall Rd	Papago Rd	Collector	Rural	2	1,500	14,700	0.10
Ralston Rd	Papago Rd	Teel Rd	Collector	Rural	2	900	14,700	0.06
Ralston Rd	Robin Rd	SR 84	Arterial	Rural	2	600	22,800	0.02
White Rd	Peters & Nall Rd	Papago Rd	Arterial	Rural	2	300	22,800	0.01
White Rd	Papago Rd	Val Vista Rd	Arterial	Rural	2	100	22,800	0.00
Amarillo Valley Rd	Papago Rd	Val Vista Rd	Collector	Rural	2	0	14,700	0.00
Amarillo Valley Rd	Century Rd	Clayton Rd	Collector	Rural	2	1,300	14,700	0.09
Amarillo Valley Rd	Clayton Rd	SR 84	Collector	Rural	2	600	14,700	0.04
Green Rd	Smith-Enke Rd	Garvey Ave	Unpaved Road	Suburban	2	0	6,500	0.00
Green Rd	Papago Rd	Miller Rd	Unpaved Road	Rural	2	0	7,600	0.01
Green Rd	Miller Rd	Clayton Rd	Unpaved Road	Rural	2	300	7,600	0.03
Green Rd	Clayton Rd	Meadowview Rd	Unpaved Road	Rural	2	400	7,600	0.05

Table D-1 | Major Roadway Capacity Analysis: Existing Roads (Continued)

Facility Name	From	To	Existing Facility Type	Area Type	# of Lanes	Daily Volume	Theoretical Capacity (1)	Volume-to-Capacity Ratio
North-South Routes - West to East (Continued)								
Green Rd	Meadowview Rd	SR 84	Unpaved Road	Rural	2	0	7,600	0.00
Hogenes Blvd	Honeycutt Rd	Bowlin Rd	Arterial	Suburban	2	400	20,800	0.02
SR 347	Casa Blanca Rd	Cobblestone Farms Dr - North	Arterial	Rural	4	40,200	45,600	0.88
SR 347	Cobblestone Farms Dr - North	Smith-Enke Rd	Arterial	Suburban	5	40,200	51,900	0.77
SR 347	Smith-Enke Rd	Edison Rd	Arterial	Suburban	6	23,500	62,300	0.38
SR 347	Edison Rd	Garvey Ave	Arterial	Suburban	4	31,100	41,500	0.75
SR 347	Garvey Ave	Honeycutt Rd	Arterial	Suburban	4	32,400	41,500	0.78
SR 347	Honeycutt Rd	Maricopa-Casa Grande Highway	Arterial	Suburban	4	34,800	41,500	0.84
SR 347	Maricopa-Casa Grande Highway	Edwards Ave	Arterial	Suburban	4	31,700	41,500	0.76
SR 347	Edwards Ave	Bowlin Rd	Arterial	Suburban	4	12,800	41,500	0.31
SR 347	Bowlin Rd	Farrell Rd	Arterial	Suburban	5	11,900	51,900	0.23
SR 347	Bowlin Rd	Farrell Rd	Arterial	Rural	4	10,600	45,600	0.23
SR 347	Farrell Rd	Steen Rd	Arterial	Rural	4	9,300	45,600	0.20
SR 347	Steen Rd	Peters & Nall Rd	Arterial	Rural	4	7,200	45,600	0.16
SR 347	Peters & Nall Rd	Papago Rd	Arterial	Rural	4	7,700	45,600	0.17
SR 347	Papago Rd	Miller Rd	Arterial	Rural	4	2,700	45,600	0.06
SR 347	Miller Rd	Clayton Rd	Arterial	Rural	4	2,400	45,600	0.05

Table D-1 | Major Roadway Capacity Analysis: Existing Roads (Continued)

Facility Name	From	To	Existing Facility Type	Area Type	# of Lanes	Daily Volume	Theoretical Capacity (1)	Volume-to-Capacity Ratio
North-South Routes - West to East (Continued)								
SR 347	Clayton Rd	Meadowview Rd	Arterial	Rural	2	1,400	22,800	0.06
SR 347	Clayton Rd	Meadowview Rd	Arterial	Rural	4	1,500	45,600	0.03
SR 347	Meadowview Rd	SR 84	Arterial	Rural	2	1,600	22,800	0.07
Smith Rd	Steen Rd	Peters & Nall Rd	Unpaved Road	Rural	2	0	7,600	0.00
Porter	Smith-Enke Rd	Honeycutt Rd	Arterial	Suburban	2	6,000	20,800	0.29
Porter	Honeycutt Rd	Bowlin Rd	Arterial	Suburban	4	7,500	41,500	0.18
Porter	Bowlin Rd	Maricopa-Casa Grande Highway	Arterial	Suburban	4	2,400	41,500	0.06
Porter	Maricopa-Casa Grande Highway	Farrell Rd	Arterial	Rural	4	3,800	45,600	0.08
Porter	Maricopa-Casa Grande Highway	Farrell Rd	Collector	Rural	2	2,900	14,700	0.20
Porter	Farrell Rd	Steen Rd	Unpaved Road	Rural	2	800	7,600	0.10
Porter	Steen Rd	Peters & Nall Rd	Unpaved Road	Rural	2	300	7,600	0.04
White & Parker Rd	Smith-Enke Rd	Honeycutt Rd	Collector*	Suburban	2	5,500	12,500	0.44
White & Parker Rd	Honeycutt Rd	Bowlin Rd	Collector*	Suburban	2	2,300	12,500	0.18
White & Parker Rd	Honeycutt Rd	Bowlin Rd	Collector*	Rural	2	2,300	14,700	0.15
White & Parker Rd	Bowlin Rd	Bowlin Rd	Collector*	Rural	2	2,300	14,700	0.15
White & Parker Rd	Bowlin Rd	Farrell Rd	Collector*	Rural	2	2,500	14,700	0.17

Table D-1 | Major Roadway Capacity Analysis: Existing Roads (Continued)

Facility Name	From	To	Existing Facility Type	Area Type	# of Lanes	Daily Volume	Theoretical Capacity (1)	Volume-to-Capacity Ratio
North-South Routes - West to East (Continued)								
White & Parker Rd	Farrell Rd	Maricopa-Casa Grande Highway	Collector*	Rural	2	2,500	14,700	0.17
White & Parker Rd	Maricopa-Casa Grande Highway	Steen Rd	Collector*	Rural	2	3,100	14,700	0.21
White & Parker Rd	Steen Rd	Peters & Nall Rd	Collector*	Rural	2	2,300	14,700	0.16
White & Parker Rd	Peters & Nall Rd	Miller Rd	Collector*	Rural	2	2,000	14,700	0.14
White & Parker Rd	Miller Rd	Clayton Rd	Collector*	Rural	2	1,500	14,700	0.10
White & Parker Rd	Clayton Rd	SR 84	Collector*	Rural	2	1,500	14,700	0.10
White & Parker Rd	SR 84	Selma Hwy	Unpaved Road	Rural	2	100	7,600	0.01
Fuqua Rd	Barnes Rd	Kortsen Rd	Unpaved Road	Rural	2	0	7,600	0.00
Fuqua Rd	Kortsen Rd	Clayton Rd	Unpaved Road	Rural	2	0	7,600	0.00
Fuqua Rd	Clayton Rd	SR 84	Unpaved Road	Rural	2	0	7,600	0.00
Fuqua Rd	SR 84	Selma Hwy	Unpaved Road	Rural	2	0	7,600	0.00
Fuqua Rd	Selma Hwy	I-8	Unpaved Road	Rural	2	0	7,600	0.00
Fuqua Rd	I-8	Connelly Rd	Unpaved Road	Rural	2	0	7,600	0.00
Fuqua Rd	Connelly Rd	Battaglia Rd	Unpaved Road	Rural	2	300	7,600	0.04
Hartman Rd	Smith-Enke Rd	Honeycutt Rd	Collector	Rural	2	0	14,700	0.00
Hartman Rd	Honeycutt Rd	Bowlin Rd	Collector	Rural	2	2,200	14,700	0.15
Hartman Rd	Bowlin Rd	Bowlin Rd	Collector	Rural	2	2,200	14,700	0.15
Hartman Rd	Bowlin Rd	Farrell Rd	Unpaved Road	Rural	2	1,300	7,600	0.17

Table D-1 | Major Roadway Capacity Analysis: Existing Roads (Continued)

Facility Name	From	To	Existing Facility Type	Area Type	# of Lanes	Daily Volume	Theoretical Capacity (1)	Volume-to-Capacity Ratio
North-South Routes - West to East (Continued)								
Hartman Rd	Farrell Rd	Maricopa-Casa Grande Highway	Unpaved Road	Rural	2	900	7,600	0.12
Hartman Rd	Maricopa-Casa Grande Highway	Peters & Nall Rd	Unpaved Road	Rural	2	600	7,600	0.08
Stanfield Rd	Miller Rd	Barnes Rd	Unpaved Road	Rural	2	0	7,600	0.01
Stanfield Rd	Barnes Rd	Kortsen Rd	Unpaved Road	Rural	2	0	7,600	0.01
Murphy Rd	Smith-Enke Rd	Honeycutt Rd	Unpaved Road	Rural	2	0	7,600	0.01
Murphy Rd	Honeycutt Rd	Bowlin Rd	Arterial	Rural	2	1,300	22,800	0.06
Murphy Rd	Bowlin Rd	Farrell Rd	Arterial	Rural	2	1,300	22,800	0.06
Murphy Rd	Farrell Rd	Steen Rd	Arterial	Rural	2	1,900	22,800	0.08
Murphy Rd	Steen Rd	Peters & Nall Rd	Arterial	Rural	2	1,500	22,800	0.07
Murphy Rd	Peters & Nall Rd	Maricopa-Casa Grande Highway	Arterial	Rural	2	1,400	22,800	0.06
Anderson Rd	Farrell Rd	Steen Rd	Unpaved Road	Rural	2	0	7,600	0.00
Anderson Rd	Steen Rd	Peters & Nall Rd	Unpaved Road	Rural	2	200	7,600	0.03
Anderson Rd	Peters & Nall Rd	Maricopa-Casa Grande Highway	Unpaved Road	Rural	2	700	7,600	0.10
Anderson Rd	Maricopa-Casa Grande Highway	Miller Rd	Collector	Rural	2	1,200	14,700	0.08
Anderson Rd	Miller Rd	Barnes Rd	Collector	Rural	2	800	14,700	0.05
Anderson Rd	Barnes Rd	Kortsen Rd	Collector	Rural	2	600	14,700	0.04

Table D-1 | Major Roadway Capacity Analysis: Existing Roads (Continued)

Facility Name	From	To	Existing Facility Type	Area Type	# of Lanes	Daily Volume	Theoretical Capacity (1)	Volume-to-Capacity Ratio
North-South Routes - West to East (Continued)								
Russell Rd	Steen Rd	Peters & Nall Rd	Collector	Rural	2	200	14,700	0.01
Russell Rd	Peters & Nall Rd	Maricopa-Casa Grande Highway	Collector	Rural	2	800	14,700	0.05
Diagonal Routes – Northwest to Southeast								
Maricopa-Casa Grande Hwy	SR 347	Porter Rd	Arterial	Suburban	2	5,400	20,800	0.26
Maricopa-Casa Grande Hwy	SR 347	Porter Rd	Arterial	Suburban	3	5,400	31,100	0.17
Maricopa-Casa Grande Hwy	SR 347	Porter Rd	Arterial	Suburban	4	7,300	41,500	0.18
Maricopa-Casa Grande Hwy	Porter Rd	Farrell Rd	Arterial	Rural	2	7,300	22,800	0.32
Maricopa-Casa Grande Hwy	Porter Rd	Farrell Rd	Arterial	Rural	4	7,300	45,600	0.16
Maricopa-Casa Grande Hwy	Farrell Rd	White & Parker Rd	Arterial	Rural	2	6,000	22,800	0.26
Maricopa-Casa Grande Hwy	White & Parker Rd	Hartman Rd	Arterial	Rural	2	5,500	22,800	0.24
Maricopa-Casa Grande Hwy	Hartman Rd	Murphy Rd	Arterial	Rural	2	6,800	22,800	0.30
Maricopa-Casa Grande Hwy	Murphy Rd	Anderson Rd	Arterial	Rural	2	7,400	22,800	0.33

Table D-1 | Major Roadway Capacity Analysis: Existing Roads (Continued)

Facility Name	From	To	Existing Facility Type	Area Type	# of Lanes	Daily Volume	Theoretical Capacity (1)	Volume-to-Capacity Ratio
Diagonal Routes – Northwest to Southeast (Continued)								
Maricopa-Casa Grande Hwy	Anderson Rd	Anderson Rd	Arterial	Rural	2	7,100	22,800	0.31
Maricopa-Casa Grande Hwy	Anderson Rd	Russell Rd	Arterial	Rural	2	6,500	22,800	0.29
Maricopa-Casa Grande Hwy	Russell Rd	Val Vista Rd	Arterial	Rural	2	7,100	22,800	0.31
Garvey Ave	Smith-Enke Rd	Green Rd	Unpaved Road	Suburban	2	400	6,500	0.07
Garvey Ave	Green Rd	SR 347	Collector	Suburban	2	1,300	12,500	0.11
East-West Routes - North to South								
SR 238	County Line	Hidden Valley Rd	Arterial	Rural	2	1,200	22,800	0.05
SR 238	Hidden Valley Rd	Ralston Rd	Arterial	Rural	2	1,800	22,800	0.08
SR 238	Ralston Rd	Garvey Ave	Arterial	Rural	2	2,900	22,800	0.13
SR 238	Garvey Ave	SR 347	Arterial	Suburban	2	7,800	20,800	0.38
SR 238	Garvey Ave	SR 347	Arterial	Suburban	3	7,800	31,100	0.25
SR 238	Garvey Ave	SR 347	Arterial	Suburban	4	11,700	41,500	0.28
Smith-Enke	SR 347	Province Pkwy	Arterial	Suburban	4	19,100	41,500	0.46
Smith-Enke	Province Pkwy	Porter Rd	Arterial	Suburban	4	8,800	41,500	0.21
Smith-Enke	Porter Rd	White & Parker Rd	Arterial	Suburban	2	5,300	20,800	0.25
Smith-Enke	Porter Rd	White & Parker Rd	Arterial	Suburban	3	5,700	31,100	0.18
Smith-Enke	Porter Rd	White & Parker Rd	Arterial	Suburban	4	5,700	41,500	0.14
Smith-Enke	White & Parker Rd	Murphy Rd	Arterial	Suburban	2	500	20,800	0.02
McDavid	Green Rd	Hogenes Blvd	Arterial	Suburban	2	500	20,800	0.03

Table D-1 | Major Roadway Capacity Analysis: Existing Roads (Continued)

Facility Name	From	To	Existing Facility Type	Area Type	# of Lanes	Daily Volume	Theoretical Capacity (1)	Volume-to-Capacity Ratio
East-West Routes - North to South (Continued)								
McDavid	Hogenes Blvd	Edwards Ave	Arterial	Suburban	2	100	20,800	0.01
Edwards	McDavid Rd	SR 347	Arterial	Suburban	2	19,200	20,800	0.93
Honeycutt Rd	SR 347	4th Street	Arterial	Suburban	2	12,300	20,800	0.59
Honeycutt Rd	4th Street	Porter Rd	Arterial	Suburban	4	16,300	41,500	0.39
Honeycutt Rd	Porter Rd	White & Parker Rd	Arterial	Suburban	2	6,800	20,800	0.33
Honeycutt Rd	Porter Rd	White & Parker Rd	Arterial	Suburban	3	6,800	31,100	0.22
Honeycutt Rd	White & Parker Rd	Santa Cruz Wash	Arterial	Suburban	2	9,900	20,800	0.48
Honeycutt Rd	Santa Cruz Wash	Hartman Rd	Arterial	Rural	3	9,900	34,200	0.29
Honeycutt Rd	Hartman Rd	Murphy Rd	Arterial	Rural	2	7,700	22,800	0.34
Honeycutt Rd	Hartman Rd	Murphy Rd	Arterial	Rural	4	7,700	45,600	0.17
Bowlin Rd	Hogenes Blvd	SR 347	Arterial	Suburban	2	0	20,800	0.00
Bowlin Rd	Hogenes Blvd	SR 347	Arterial	Suburban	4	0	41,500	0.00
Bowlin Rd	SR 347	Smith Rd	Arterial	Suburban	2	500	20,800	0.02
Bowlin Rd	Alan Stephens Pkwy	Porter Rd	Arterial	Suburban	2	400	20,800	0.02
Bowlin Rd	Porter Rd	White & Parker Rd	Arterial	Suburban	4	300	41,500	0.01
Bowlin Rd	Porter Rd	White & Parker Rd	Arterial	Rural	2	1,200	22,800	0.05
Bowlin Rd	White & Parker Rd	Santa Cruz Wash	Unpaved Road	Rural	2	0	7,600	0.00
Bowlin Rd	Santa Cruz Wash	Hartman Rd	Arterial	Rural	3	400	34,200	0.01
Bowlin Rd	Santa Cruz Wash	Hartman Rd	Arterial	Rural	4	400	45,600	0.01
Bowlin Rd	Hartman Rd	Murphy Rd	Unpaved Road	Rural	2	0	7,600	0.01
Farrell Rd	Hidden Valley Rd	Warren Rd	Unpaved Road	Rural	2	300	7,600	0.04
Farrell Rd	Warren Rd	Ralston Rd	Collector	Rural	2	1,900	14,700	0.13

Table D-1 | Major Roadway Capacity Analysis: Existing Roads (Continued)

Facility Name	From	To	Existing Facility Type	Area Type	# of Lanes	Daily Volume	Theoretical Capacity (1)	Volume-to-Capacity Ratio
East-West Routes - North to South (Continued)								
Farrell Rd	Ralston Rd	Ralston Rd	Collector	Rural	2	3,100	14,700	0.21
Farrell Rd	Ralston Rd	SR 347	Collector	Rural	2	3,100	14,700	0.21
Farrell Rd	SR 347	Porter Rd	Collector	Suburban	2	2,300	12,500	0.18
Farrell Rd	Maricopa-Casa Grande Highway	White & Parker Rd	Unpaved Road	Rural	2	700	7,600	0.09
Farrell Rd	White & Parker Rd	Hartman Rd	Unpaved Road	Rural	2	900	7,600	0.12
Farrell Rd	Hartman Rd	Murphy Rd	Unpaved Road	Rural	2	600	7,600	0.08
Steen Rd	SR 347	Smith Rd	Unpaved Road	Rural	2	0	7,600	0.01
Steen Rd	Smith Rd	Porter Rd	Unpaved Road	Rural	2	100	7,600	0.02
Steen Rd	Porter Rd	White & Parker Rd	Unpaved Road	Rural	2	300	7,600	0.04
Steen Rd	Murphy Rd	Anderson Rd	Unpaved Road	Rural	2	500	7,600	0.07
Peters & Nall Rd	Warren Rd	Ralston Rd	Unpaved Road	Rural	2	100	7,600	0.02
Peters & Nall Rd	Ralston Rd	White Rd	Unpaved Road	Rural	2	100	7,600	0.01
Peters & Nall Rd	SR 347	Smith Rd	Collector	Rural	2	700	14,700	0.05
Peters & Nall Rd	Smith Rd	Porter Rd	Collector	Rural	2	1,200	14,700	0.08
Peters & Nall Rd	Porter Rd	White & Parker Rd	Collector	Rural	2	1,000	14,700	0.07
Peters & Nall Rd	White & Parker Rd	Hartman Rd	Unpaved Road	Rural	2	600	7,600	0.08
Peters & Nall Rd	Murphy Rd	Anderson Rd	Unpaved Road	Rural	2	700	7,600	0.09
Peters & Nall Rd	Anderson Rd	Russell Rd	Unpaved Road	Rural	2	400	7,600	0.05
Papago Rd	Warren Rd	Ralston Rd	Collector	Rural	2	3,300	14,700	0.22
Papago Rd	Ralston Rd	White Rd	Collector	Rural	2	4,000	14,700	0.28
Papago Rd	White Rd	Amarillo Valley Rd	Collector	Rural	2	4,600	14,700	0.31

Table D-1 | Major Roadway Capacity Analysis: Existing Roads (Continued)

Facility Name	From	To	Existing Facility Type	Area Type	# of Lanes	Daily Volume	Theoretical Capacity (1)	Volume-to-Capacity Ratio
East-West Routes - North to South (Continued)								
Papago Rd	Amarillo Valley Rd	Green Rd	Arterial	Rural	3	4,600	34,200	0.13
Papago Rd	Green Rd	SR 347	Collector	Rural	2	4,800	14,700	0.32
Trading Post Rd	Peace Pipe Rd	Papoose Rd	Unpaved Road	Rural	2	100	7,600	0.01
Val Vista Rd	Warren Rd	Ralston Rd	Collector	Rural	2	300	14,700	0.02
Miller Rd	Sage St	Warren Rd	Collector	Rural	2	0	14,700	0.00
Miller Rd	Amarillo Valley Rd	Green Rd	Unpaved Road	Rural	2	200	7,600	0.03
Miller Rd	Green Rd	SR 347	Unpaved Road	Rural	2	400	7,600	0.05
Miller Rd	SR 347	White & Parker Rd	Collector	Rural	2	400	14,700	0.03
Miller Rd	Stanfield Rd	Anderson Rd	Unpaved Road	Rural	2	0	7,600	0.01
Barnes Rd	Sage St	Warren Rd	Arterial	Rural	2	1,900	22,800	0.09
Barnes Rd	Fuqua Rd	Stanfield Rd	Unpaved Road	Rural	2	0	7,600	0.00
Barnes Rd	Pala Rd	Anderson Rd	Unpaved Road	Rural	2	0	7,600	0.00
Barnes Rd	Anderson Rd	Russell Rd	Unpaved Road	Rural	2	100	7,600	0.02
Korsten Rd	Fuqua Rd	Stanfield Rd	Unpaved Road	Rural	2	0	7,600	0.00
Century Rd	Warren Rd	Amarillo Valley Rd	Collector	Rural	2	1,400	14,700	0.10
Clayton Rd	Amarillo Valley Rd	Green Rd	Collector	Rural	2	1,700	14,700	0.12
Clayton Rd	Green Rd	SR 347	Collector	Rural	2	2,100	14,700	0.14
Clayton Rd	Fuqua Rd	Stanfield Rd	Unpaved Road	Rural	2	0	7,600	0.00
Clayton Rd	Leland Rd	White & Parker Rd	Collector	Rural	2	300	14,700	0.02
Meadowview Rd	Green Rd	SR 347	Collector	Rural	2	300	14,700	0.02
Meadowview Rd	SR 347	SR 84	Collector	Rural	2	0	14,700	0.00
SR 84	Ralston Rd	Amarillo Valley Rd	Arterial	Rural	2	500	22,800	0.02

Table D-1 | Major Roadway Capacity Analysis: Existing Roads (Continued)

Facility Name	From	To	Existing Facility Type	Area Type	# of Lanes	Daily Volume	Theoretical Capacity (1)	Volume-to-Capacity Ratio
East-West Routes - North to South (Continued)								
SR 84	Amarillo Valley Rd	Green Rd	Arterial	Rural	2	600	22,800	0.02
SR 84	Green Rd	SR 347	Arterial	Rural	2	1,200	22,800	0.05
SR 84	SR 347	White & Parker Rd	Arterial	Rural	2	1,500	22,800	0.07
SR 84	White & Parker Rd	Fuqua Rd	Arterial	Rural	2	2,800	22,800	0.12
SR 84	Fuqua Rd	Stanfield Rd	Arterial	Rural	4	2,800	45,600	0.06
I-8 WB	Amarillo Valley Rd	Fuqua Rd	Freeway	Rural	2	1,700	52,600	0.03
I-8 EB	Amarillo Valley Rd	Fuqua Rd	Freeway	Rural	2	1,700	52,600	0.03
Robin Rd	Warren Rd	Ralston Rd	Arterial	Rural	2	200	22,800	0.01
Selma Hwy	White & Parker Rd	Fuqua Rd	Unpaved Road	Rural	2	100	7,600	0.01
Selma Hwy	Fuqua Rd	Stanfield Rd	Unpaved Road	Rural	2	100	7,600	0.01
Connelly Rd	Fuqua Rd	Stanfield Rd	Unpaved Road	Rural	2	300	7,600	0.04

Prepared by Wilson & Company, February 2015.

Notes:
(1) Derived from MAG travel demand model. Based on facility type, area type, and number of lanes. See Table 5-2.

Level of Service D: Volume-to-Capacity between 0.73 and 0.84, inclusively. Adapted from LOS criteria in HCM 2010.

Level of Service E or F: Volume-to-Capacity greater than or equal to 0.85. Adapted from LOS criteria in HCM 2010.

FORECASTED LEVEL OF SERVICE

The MAG Regional Travel Demand Model was used to forecast future volumes and Level of Service (LOS) for major roadways in the Study Area. Tables D-2, D-3, and D-4 present the results of this forecast for Years 2020, 2030, and 2040, respectively.

Table D-2 | Major Roadway Capacity Analysis: Year 2020

Facility Name	From	To	Facility Type	Area Type	# of Lanes	Daily Volume	Theoretical Capacity (1)	Volume-to-Capacity Ratio
North-South Routes – West to East								
Hidden Valley Rd	SR 238	Farrell Rd	Unpaved Road	Rural	2	600	7,600	0.08
Warren Rd	Farrell Rd	Pima Rd	Collector	Rural	2	0	14,700	0.00
Warren Rd	Papago Rd	Val Vista Rd	Arterial	Rural	2	3,700	22,800	0.16
Warren Rd	Val Vista Rd	Miller Rd	Arterial	Rural	2	3,100	22,800	0.14
Warren Rd	Miller Rd	Barnes Rd	Arterial	Rural	2	3,100	22,800	0.13
Warren Rd	Barnes Rd	Century Rd	Arterial	Rural	2	1,300	22,800	0.06
Warren Rd	Century Rd	Robin Rd	Arterial	Rural	2	600	22,800	0.02
Ralston Rd	SR 238	Farrell Rd	Collector	Rural	2	1,700	14,700	0.11
Ralston Rd	Farrell Rd	Peters & Nall Rd	Collector	Rural	2	2,100	14,700	0.14
Ralston Rd	Peters & Nall Rd	Papago Rd	Collector	Rural	2	2,400	14,700	0.16
Ralston Rd	Papago Rd	Teel Rd	Collector	Rural	2	1,200	14,700	0.08
Ralston Rd	Robin Rd	SR 84	Arterial	Rural	2	500	22,800	0.02
White Rd	Peters & Nall Rd	Papago Rd	Arterial	Rural	2	400	22,800	0.02
White Rd	Papago Rd	Val Vista Rd	Arterial	Rural	2	100	22,800	0.00
Amarillo Valley Rd	Papago Rd	Val Vista Rd	Collector	Rural	2	200	14,700	0.01

Table D-2 | Major Roadway Capacity Analysis: Year 2020 (Continued)

Facility Name	From	To	Facility Type	Area Type	# of Lanes	Daily Volume	Theoretical Capacity (1)	Volume-to-Capacity Ratio
North-South Routes – West to East (Continued)								
Amarillo Valley Rd	Century Rd	Clayton Rd	Collector	Rural	2	1,600	14,700	0.11
Amarillo Valley Rd	Clayton Rd	SR 84	Collector	Rural	2	700	14,700	0.05
Green Rd	Smith-Enke Rd	Garvey Ave	Unpaved Road	Suburban	2	0	6,500	0.00
Green Rd	Papago Rd	Miller Rd	Unpaved Road	Rural	2	100	7,600	0.01
Green Rd	Miller Rd	Clayton Rd	Unpaved Road	Rural	2	400	7,600	0.05
Green Rd	Clayton Rd	Meadowview Rd	Unpaved Road	Rural	2	500	7,600	0.06
Green Rd	Meadowview Rd	SR 84	Unpaved Road	Rural	2	0	7,600	0.00
Hogenes Blvd	Honeycutt Rd	Bowlin Rd	Arterial	Suburban	2	200	20,800	0.01
SR 347	Casa Blanca Rd	Cobblestone Farms Dr - North	Expressway*	Rural	4	48,600	54,100	0.90
SR 347	Cobblestone Farms Dr - North	Smith-Enke Rd	Arterial	Suburban	5	48,600	51,900	0.94
SR 347	Smith-Enke Rd	Edison Rd	Arterial	Mixed Urban	6	30,400	60,100	0.51
SR 347	Edison Rd	Garvey Ave	Arterial	Mixed Urban	6	44,500	60,100	0.74
SR 347	Garvey Ave	Honeycutt Rd	Arterial	Mixed Urban	6	42,400	60,100	0.71
SR 347	Honeycutt Rd	Maricopa-Casa Grande Highway	Arterial	Mixed Urban	6	41,100	60,100	0.68
SR 347	Maricopa-Casa Grande Highway	Edwards Ave	Arterial	Mixed Urban	6	39,800	60,100	0.66

Table D-2 | Major Roadway Capacity Analysis: Year 2020 (Continued)

Facility Name	From	To	Facility Type	Area Type	# of Lanes	Daily Volume	Theoretical Capacity (1)	Volume-to-Capacity Ratio
North-South Routes – West to East (Continued)								
SR 347	Edwards Ave	Bowlin Rd	Arterial	Mixed Urban	6	18,400	60,100	0.31
SR 347	Bowlin Rd	Farrell Rd	Arterial	Suburban	4	17,600	51,900	0.34
SR 347	Bowlin Rd	Farrell Rd	Arterial	Suburban	5	15,900	41,500	0.38
SR 347	Farrell Rd	Steen Rd	Arterial	Suburban	4	12,500	41,500	0.30
SR 347	Steen Rd	Peters & Nall Rd	Arterial	Rural	4	9,200	45,600	0.20
SR 347	Peters & Nall Rd	Papago Rd	Arterial	Rural	4	10,000	45,600	0.22
SR 347	Papago Rd	Miller Rd	Arterial	Rural	4	3,700	45,600	0.08
SR 347	Miller Rd	Clayton Rd	Arterial	Rural	4	2,900	45,600	0.06
SR 347	Clayton Rd	Meadowview Rd	Arterial	Rural	2	1,900	22,800	0.08
SR 347	Clayton Rd	Meadowview Rd	Arterial	Rural	4	2,100	45,600	0.05
SR 347	Meadowview Rd	SR 84	Arterial	Rural	2	2,200	22,800	0.10
4th St	Maricopa-Casa Grande Highway	Honeycutt Rd	Arterial	Mixed Urban	3	4,100	30,000	0.14
Smith Rd	Steen Rd	Peters & Nall Rd	Unpaved Road	Rural	2	0	7,600	0.00
Porter Rd	Smith-Enke Rd	Honeycutt Rd	Arterial	Mixed Urban	2	8,000	20,000	0.40
Porter Rd	Honeycutt Rd	Bowlin Rd	Arterial	Suburban	4	9,600	41,500	0.23
Porter Rd	Bowlin Rd	Maricopa-Casa Grande Highway	Arterial	Suburban	4	4,200	41,500	0.10

Table D-2 | Major Roadway Capacity Analysis: Year 2020 (Continued)

Facility Name	From	To	Facility Type	Area Type	# of Lanes	Daily Volume	Theoretical Capacity (1)	Volume-to-Capacity Ratio
North-South Routes – West to East (Continued)								
Porter Rd	Maricopa-Casa Grande Highway	Farrell Rd	Arterial	Suburban	4	7,000	41,500	0.17
Porter Rd	Maricopa-Casa Grande Highway	Farrell Rd	Collector	Suburban	2	5,800	12,500	0.46
Porter Rd	Farrell Rd	Steen Rd	Unpaved Road	Suburban	2	2,000	6,500	0.31
Porter Rd	Steen Rd	Peters & Nall Rd	Unpaved Road	Rural	2	300	7,600	0.04
White & Parker Rd	Smith-Enke Rd	Honeycutt Rd	Collector*	Suburban	2	7,000	12,500	0.56
White & Parker Rd	Honeycutt Rd	Bowlin Rd	Collector*	Suburban	2	4,200	12,500	0.34
White & Parker Rd	Bowlin Rd	Bowlin Rd	Collector*	Suburban	2	3,800	12,500	0.30
White & Parker Rd	Bowlin Rd	Farrell Rd	Collector*	Suburban	2	5,100	12,500	0.41
White & Parker Rd	Farrell Rd	Maricopa-Casa Grande Highway	Collector*	Suburban	2	5,000	12,500	0.40
White & Parker Rd	Maricopa-Casa Grande Highway	Steen Rd	Collector*	Suburban	2	5,900	12,500	0.47
White & Parker Rd	Steen Rd	Peters & Nall Rd	Collector*	Rural	2	3,900	14,700	0.27
White & Parker Rd	Peters & Nall Rd	Miller Rd	Collector*	Rural	2	3,100	14,700	0.21
White & Parker Rd	Miller Rd	Clayton Rd	Collector*	Rural	2	2,700	14,700	0.18
White & Parker Rd	Clayton Rd	SR 84	Collector*	Rural	2	2,600	14,700	0.18
White & Parker Rd	SR 84	Selma Hwy	Unpaved Road	Rural	2	100	7,600	0.02
Fuqua Rd	Barnes Rd	Kortsen Rd	Arterial	Rural	2	0	22,800	0.00
Fuqua Rd	Kortsen Rd	Clayton Rd	Unpaved Road	Rural	2	0	15,200	0.00
Fuqua Rd	Clayton Rd	SR 84	Unpaved Road	Rural	2	0	7,600	0.00

Table D-2 | Major Roadway Capacity Analysis: Year 2020 (Continued)

Facility Name	From	To	Facility Type	Area Type	# of Lanes	Daily Volume	Theoretical Capacity (1)	Volume-to-Capacity Ratio
North-South Routes – West to East (Continued)								
Fuqua Rd	SR 84	Selma Hwy	Unpaved Road	Rural	2	0	7,600	0.00
Fuqua Rd	Selma Hwy	I-8	Unpaved Road	Rural	2	0	7,600	0.00
Fuqua Rd	I-8	Connelly Rd	Unpaved Road	Rural	2	0	7,600	0.00
Fuqua Rd	Connelly Rd	Battaglia Rd	Unpaved Road	Rural	2	200	7,600	0.03
Hartman Rd	Smith-Enke Rd	Honeycutt Rd	Collector	Suburban	2	0	12,500	0.00
Hartman Rd	Honeycutt Rd	Bowlin Rd	Collector	Suburban	2	3,300	12,500	0.27
Hartman Rd	Bowlin Rd	Bowlin Rd	Collector	Suburban	2	3,500	12,500	0.28
Hartman Rd	Bowlin Rd	Farrell Rd	Unpaved Road	Suburban	2	1,900	6,500	0.29
Hartman Rd	Farrell Rd	Maricopa-Casa Grande Highway	Unpaved Road	Suburban	2	1,900	6,500	0.29
Hartman Rd	Maricopa-Casa Grande Highway	Peters & Nall Rd	Collector	Rural	2	2,200	14,700	0.15
Stanfield Rd	Miller Rd	Barnes Rd	Unpaved Road	Rural	2	100	7,600	0.01
Stanfield Rd	Barnes Rd	Kortsen Rd	Unpaved Road	Rural	2	100	7,600	0.01
Murphy Rd	Smith-Enke Rd	Honeycutt Rd	Unpaved Road	Suburban	2	200	7,000	0.02
Murphy Rd	Honeycutt Rd	Bowlin Rd	Arterial	Suburban	2	2,200	20,800	0.11
Murphy Rd	Bowlin Rd	Farrell Rd	Arterial	Suburban	2	2,400	20,800	0.11
Murphy Rd	Farrell Rd	Steen Rd	Arterial	Suburban	2	3,300	20,800	0.16
Murphy Rd	Steen Rd	Peters & Nall Rd	Arterial	Suburban	2	2,300	20,800	0.11
Murphy Rd	Peters & Nall Rd	Maricopa-Casa Grande Highway	Arterial	Rural	2	2,300	22,800	0.10
Anderson Rd	Farrell Rd	Steen Rd	Unpaved Road	Suburban	2	0	6,500	0.00

Table D-2 | Major Roadway Capacity Analysis: Year 2020 (Continued)

Facility Name	From	To	Facility Type	Area Type	# of Lanes	Daily Volume	Theoretical Capacity (1)	Volume-to-Capacity Ratio
North-South Routes – West to East (Continued)								
Anderson Rd	Steen Rd	Peters & Nall Rd	Unpaved Road	Rural	2	300	7,600	0.04
Anderson Rd	Peters & Nall Rd	Maricopa-Casa Grande Highway	Unpaved Road	Rural	2	800	7,600	0.11
Anderson Rd	Maricopa-Casa Grande Highway	Miller Rd	Arterial	Rural	4	2,100	45,600	0.05
Anderson Rd	Maricopa-Casa Grande Highway	Miller Rd	Collector	Rural	2	2,100	14,700	0.14
Anderson Rd	Miller Rd	Barnes Rd	Arterial	Rural	4	700	45,600	0.01
Anderson Rd	Miller Rd	Barnes Rd	Collector	Rural	2	1,300	14,700	0.09
Anderson Rd	Barnes Rd	Kortsen Rd	Arterial	Rural	4	600	45,600	0.01
Russell Rd	Steen Rd	Peters & Nall Rd	Collector	Rural	2	200	14,700	0.01
Russell Rd	Peters & Nall Rd	Maricopa-Casa Grande Highway	Collector	Rural	2	800	14,700	0.06
Diagonal Routes – Northwest to Southeast								
Maricopa-Casa Grande Hwy	SR 347	4th St	Arterial	Mixed Urban	2	4,200	20,000	0.21
Maricopa-Casa Grande Hwy	4th St	Porter Rd	Arterial	Suburban	2	9,300	20,800	0.45
Maricopa-Casa Grande Hwy	4th St	Porter Rd	Arterial	Mixed Urban	3	9,300	30,400	0.31
Maricopa-Casa Grande Hwy	4th St	Porter Rd	Arterial	Suburban	4	11,800	41,500	0.29

Table D-2 | Major Roadway Capacity Analysis: Year 2020 (Continued)

Facility Name	From	To	Facility Type	Area Type	# of Lanes	Daily Volume	Theoretical Capacity (1)	Volume-to-Capacity Ratio
Diagonal Routes – Northwest to Southeast (Continued)								
Maricopa-Casa Grande Hwy	Porter Rd	Farrell Rd	Arterial	Suburban	2	11,700	20,800	0.56
Maricopa-Casa Grande Hwy	Porter Rd	Farrell Rd	Arterial	Suburban	4	11,700	41,500	0.28
Maricopa-Casa Grande Hwy	Farrell Rd	White & Parker Rd	Arterial	Suburban	2	9,400	20,800	0.45
Maricopa-Casa Grande Hwy	White & Parker Rd	Hartman Rd	Arterial	Suburban	2	8,900	20,800	0.43
Maricopa-Casa Grande Hwy	Hartman Rd	Murphy Rd	Arterial	Suburban	2	9,900	20,800	0.48
Maricopa-Casa Grande Hwy	Murphy Rd	Anderson Rd	Arterial	Rural	2	11,000	22,800	0.48
Maricopa-Casa Grande Hwy	Anderson Rd	Anderson Rd	Arterial	Rural	2	10,800	22,800	0.47
Maricopa-Casa Grande Hwy	Anderson Rd	Russell Rd	Arterial	Rural	2	9,000	22,800	0.40
Maricopa-Casa Grande Hwy	Russell Rd	Val Vista Rd	Arterial	Rural	6	9,300	68,300	0.14
Garvey Ave	Smith-Enke Rd	Green Rd	Unpaved Road	Suburban	2	0	6,500	0.00
Garvey Ave	Green Rd	SR 347	Collector	Mixed Urban	2	400	12,400	0.03
Edison Rd	SR 238	SR 347	Arterial	Suburban	4	4,800	41,500	0.12

Table D-2 | Major Roadway Capacity Analysis: Year 2020 (Continued)

Facility Name	From	To	Facility Type	Area Type	# of Lanes	Daily Volume	Theoretical Capacity (1)	Volume-to-Capacity Ratio
East-West Route – North to South								
SR 238	County Line	Hidden Valley Rd	Arterial	Rural	2	3,000	22,800	0.13
SR 238	County Line	Hidden Valley Rd	Arterial	Rural	4	2,900	45,600	0.06
SR 238	Hidden Valley Rd	Ralston Rd	Arterial	Rural	2	3,600	22,800	0.16
SR 238	Ralston Rd	Garvey Ave	Arterial	Rural	2	4,900	22,800	0.21
SR 238	Garvey Ave	Edison Rd	Arterial	Suburban	2	5,300	20,800	0.25
SR 238	Edison Rd	SR 347	Arterial	Suburban	2	8,800	20,800	0.42
SR 238	Edison Rd	SR 347	Arterial	Mixed Urban	3	8,800	30,000	0.29
SR 238	Edison Rd	SR 347	Arterial	Mixed Urban	4	12,700	40,000	0.32
Smith-Enke Rd	SR 347	Province Pkwy	Arterial	Mixed Urban	4	23,600	40,000	0.59
Smith-Enke Rd	Province Pkwy	Porter Rd	Arterial	Suburban	4	11,300	41,500	0.27
Smith-Enke Rd	Porter Rd	White & Parker Rd	Arterial	Suburban	2	6,200	20,800	0.30
Smith-Enke Rd	Porter Rd	White & Parker Rd	Arterial	Suburban	4	7,300	41,500	0.17
Smith-Enke Rd	White & Parker Rd	Hartman Rd	Arterial	Suburban	2	600	20,800	0.03
McDavid Rd	Green Rd	Hogenes Blvd	Arterial	Suburban	2	900	20,800	0.04
McDavid Rd	Hogenes Blvd	Edwards Ave	Arterial	Suburban	2	4,200	20,800	0.20
Edwards Ave	McDavid Rd	SR 347	Arterial	Mixed Urban	2	22,500	20,000	1.13

Table D-2 | Major Roadway Capacity Analysis: Year 2020 (Continued)

Facility Name	From	To	Facility Type	Area Type	# of Lanes	Daily Volume	Theoretical Capacity (1)	Volume-to-Capacity Ratio
East-West Route – North to South (Continued)								
Honeycutt Rd	SR 347	4th Street	Arterial	Mixed Urban	4	16,400	40,000	0.41
Honeycutt Rd	4th Street	Porter Rd	Arterial	Mixed Urban	4	19,000	40,000	0.47
Honeycutt Rd	Porter Rd	White & Parker Rd	Arterial	Suburban	4	10,500	41,500	0.25
Honeycutt Rd	White & Parker Rd	Santa Cruz Wash	Arterial	Suburban	2	13,200	20,800	0.64
Honeycutt Rd	Santa Cruz Wash	Hartman Rd	Arterial	Suburban	3	13,200	31,100	0.42
Honeycutt Rd	Hartman Rd	Murphy Rd	Arterial	Suburban	2	9,700	20,800	0.47
Honeycutt Rd	Hartman Rd	Murphy Rd	Arterial	Suburban	4	9,700	41,500	0.23
Bowlin Rd	Hogenes Blvd	SR 347	Arterial	Suburban	2	0	20,800	0.00
Bowlin Rd	Hogenes Blvd	SR 347	Arterial	Suburban	4	300	41,500	0.01
Bowlin Rd	SR 347	Smith Rd	Arterial	Suburban	2	1,000	20,800	0.05
Bowlin Rd	Alan Stephens Pkwy	Porter Rd	Arterial	Suburban	2	700	20,800	0.03
Bowlin Rd	Porter Rd	White & Parker Rd	Arterial	Suburban	2	2,900	20,800	0.14
Bowlin Rd	Porter Rd	White & Parker Rd	Arterial	Suburban	4	700	41,500	0.02
Bowlin Rd	White & Parker Rd	Santa Cruz Wash	Unpaved Road	Suburban	2	0	6,500	0.00
Bowlin Rd	Santa Cruz Wash	Hartman Rd	Arterial	Suburban	3	800	31,100	0.02
Bowlin Rd	Santa Cruz Wash	Hartman Rd	Arterial	Suburban	4	800	41,500	0.02
Bowlin Rd	Hartman Rd	Murphy Rd	Unpaved Road	Suburban	2	200	6,500	0.03
Farrell Rd	Hidden Valley Rd	Warren Rd	Unpaved Road	Rural	2	400	7,600	0.05
Farrell Rd	Warren Rd	Ralston Rd	Collector	Rural	2	2,900	14,700	0.20
Farrell Rd	Ralston Rd	Ralston Rd	Collector	Rural	2	4,800	14,700	0.33

Table D-2 | Major Roadway Capacity Analysis: Year 2020 (Continued)

Facility Name	From	To	Facility Type	Area Type	# of Lanes	Daily Volume	Theoretical Capacity (1)	Volume-to-Capacity Ratio
East-West Route – North to South (Continued)								
Farrell Rd	Ralston Rd	SR 347	Collector	Rural	2	4,300	14,700	0.29
Farrell Rd	SR 347	Porter Rd	Collector	Suburban	2	4,300	12,500	0.34
Farrell Rd	Maricopa-Casa Grande Highway	White & Parker Rd	Unpaved Road	Suburban	2	900	6,500	0.14
Farrell Rd	White & Parker Rd	Hartman Rd	Unpaved Road	Suburban	2	1,400	6,500	0.22
Farrell Rd	Hartman Rd	Murphy Rd	Unpaved Road	Suburban	2	1,000	6,500	0.15
Steen Rd	SR 347	Smith Rd	Unpaved Road	Rural	2	900	7,600	0.11
Steen Rd	Smith Rd	Porter Rd	Unpaved Road	Suburban	2	900	6,500	0.13
Steen Rd	Porter Rd	White & Parker Rd	Unpaved Road	Suburban	2	1,100	6,500	0.18
Steen Rd	Murphy Rd	Anderson Rd	Unpaved Road	Suburban	2	600	6,500	0.09
Peters & Nall Rd	Warren Rd	Ralston Rd	Unpaved Road	Rural	2	300	7,600	0.04
Peters & Nall Rd	Ralston Rd	White Rd	Unpaved Road	Rural	2	200	7,600	0.03
Peters & Nall Rd	SR 347	Smith Rd	Collector	Rural	2	1,300	14,700	0.09
Peters & Nall Rd	Smith Rd	Porter Rd	Collector	Rural	2	2,000	14,700	0.14
Peters & Nall Rd	Porter Rd	White & Parker Rd	Collector	Rural	2	1,900	14,700	0.13
Peters & Nall Rd	White & Parker Rd	Hartman Rd	Unpaved Road	Rural	2	1,100	7,600	0.15
Peters & Nall Rd	Murphy Rd	Anderson Rd	Unpaved Road	Rural	2	900	7,600	0.11
Peters & Nall Rd	Anderson Rd	Russell Rd	Unpaved Road	Rural	2	500	7,600	0.07
Papago Rd	Warren Rd	Ralston Rd	Collector	Rural	2	3,700	14,700	0.25
Papago Rd	Ralston Rd	White Rd	Collector	Rural	2	4,200	14,700	0.29
Papago Rd	White Rd	Amarillo Valley Rd	Collector	Rural	2	5,100	14,700	0.34
Papago Rd	Amarillo Valley Rd	Green Rd	Arterial	Rural	3	4,900	34,200	0.14

Table D-2 | Major Roadway Capacity Analysis: Year 2020 (Continued)

Facility Name	From	To	Facility Type	Area Type	# of Lanes	Daily Volume	Theoretical Capacity (1)	Volume-to-Capacity Ratio
East-West Route – North to South (Continued)								
Papago Rd	Green Rd	SR 347	Collector	Rural	2	6,300	14,700	0.43
Trading Post Rd	Peace Pipe Rd	Papoose Rd	Arterial	Rural	6	200	68,300	0.00
Val Vista Rd	Warren Rd	Ralston Rd	Collector	Rural	2	400	14,700	0.03
Miller Rd	Sage St	Warren Rd	Collector	Rural	2	0	14,700	0.00
Miller Rd	Amarillo Valley Rd	Green Rd	Unpaved Road	Rural	2	400	7,600	0.05
Miller Rd	Green Rd	SR 347	Unpaved Road	Rural	2	600	7,600	0.08
Miller Rd	SR 347	White & Parker Rd	Collector	Rural	2	900	14,700	0.06
Miller Rd	Stanfield Rd	Anderson Rd	Unpaved Road	Rural	2	100	7,600	0.01
Barnes Rd	Sage St	Warren Rd	Arterial	Rural	2	1,700	22,800	0.08
Barnes Rd	Fuqua Rd	Stanfield Rd	Unpaved Road	Rural	2	0	7,600	0.00
Barnes Rd	Pala Rd	Anderson Rd	Unpaved Road	Rural	2	0	7,600	0.00
Barnes Rd	Anderson Rd	Russell Rd	Unpaved Road	Rural	2	200	7,600	0.02
Korsten Rd	Fuqua Rd	Stanfield Rd	Arterial	Rural	2	0	22,800	0.00
Century Rd	Warren Rd	Amarillo Valley Rd	Collector	Rural	2	1,800	14,700	0.12
Clayton Rd	Amarillo Valley Rd	Green Rd	Collector	Rural	2	2,000	14,700	0.13
Clayton Rd	Green Rd	SR 347	Collector	Rural	2	2,300	14,700	0.16
Clayton Rd	Fuqua Rd	Stanfield Rd	Unpaved Road	Rural	2	0	7,600	0.00
Clayton Rd	Leland Rd	White & Parker Rd	Collector	Rural	2	400	14,700	0.03
Meadowview Rd	Green Rd	SR 347	Collector	Rural	2	400	14,700	0.03
Meadowview Rd	SR 347	SR 84	Collector	Rural	2	0	14,700	0.00
SR 84	Ralston Rd	Amarillo Valley Rd	Arterial	Rural	2	800	22,800	0.03
SR 84	Amarillo Valley Rd	Green Rd	Arterial	Rural	2	800	22,800	0.04

Table D-2 | Major Roadway Capacity Analysis: Year 2020 (Continued)

Facility Name	From	To	Facility Type	Area Type	# of Lanes	Daily Volume	Theoretical Capacity (1)	Volume-to-Capacity Ratio
East-West Route – North to South (Continued)								
SR 84	Green Rd	SR 347	Arterial	Rural	2	1,600	22,800	0.07
SR 84	SR 347	White & Parker Rd	Arterial	Rural	2	1,900	22,800	0.08
SR 84	White & Parker Rd	Fuqua Rd	Arterial	Rural	2	4,000	22,800	0.17
SR 84	White & Parker Rd	Fuqua Rd	Arterial	Rural	3	3,900	34,200	0.11
SR 84	Fuqua Rd	Stanfield Rd	Arterial	Rural	5	3,900	56,900	0.07
I-8 WB	Amarillo Valley Rd	Fuqua Rd	Freeway	Rural	2	2,100	52,600	0.04
I-8 EB	Amarillo Valley Rd	Fuqua Rd	Freeway	Rural	2	2,200	52,600	0.04
Robin Rd	Warren Rd	Ralston Rd	Arterial	Rural	2	500	22,800	0.02
Selma Hwy	White & Parker Rd	Fuqua Rd	Unpaved Road	Rural	2	100	7,600	0.02
Selma Hwy	Fuqua Rd	Stanfield Rd	Unpaved Road	Rural	2	100	7,600	0.01
Connelly Rd	Fuqua Rd	Stanfield Rd	Unpaved Road	Rural	2	200	7,600	0.03

Prepared by Wilson & Company, February 2015.

Notes:

(1) Derived from MAG travel demand model. Based on facility type, area type, and number of lanes. See Table 5-2.

Level of Service D: Volume-to-Capacity between 0.73 and 0.84, inclusively. Adapted from LOS criteria in Highway Capacity Manual (HCM) 2010.

Level of Service E or F: Volume-to-Capacity greater than or equal to 0.85. Adapted from LOS criteria in HCM 2010.

Table D-3 | Major Roadway Capacity Analysis: Year 2030

Facility Name	From	To	Facility Type	Area Type	# of Lanes	Daily Volume	Theoretical Capacity (1)	Volume-to-Capacity Ratio
North-South Routes - West to East								
Hidden Valley Rd	SR 238	Farrell Rd	Unpaved Road	Rural	2	600	7,600	0.08
Warren Rd	Farrell Rd	Pima Rd	Collector	Rural	2	0	14,700	0.00
Warren Rd	Papago Rd	Val Vista Rd	Arterial	Rural	2	3,900	22,800	0.17
Warren Rd	Val Vista Rd	Miller Rd	Arterial	Rural	2	3,600	22,800	0.16
Warren Rd	Miller Rd	Barnes Rd	Arterial	Rural	2	3,400	22,800	0.15
Warren Rd	Barnes Rd	Century Rd	Arterial	Rural	2	1,600	22,800	0.07
Warren Rd	Century Rd	Robin Rd	Arterial	Rural	2	700	22,800	0.03
Ralston Rd	SR 238	Farrell Rd	Collector	Rural	2	2,100	14,700	0.14
Ralston Rd	Farrell Rd	Peters & Nall Rd	Collector	Rural	2	3,100	14,700	0.21
Ralston Rd	Peters & Nall Rd	Papago Rd	Collector	Rural	2	3,400	14,700	0.23
Ralston Rd	Papago Rd	Teel Rd	Collector	Rural	2	1,200	14,700	0.08
Ralston Rd	Robin Rd	SR 84	Arterial	Rural	2	700	22,800	0.03
White Rd	Peters & Nall Rd	Papago Rd	Arterial	Rural	2	500	22,800	0.02
White Rd	Papago Rd	Val Vista Rd	Arterial	Rural	2	100	22,800	0.00
Amarillo Valley Rd	Papago Rd	Val Vista Rd	Collector	Rural	2	400	14,700	0.03
Amarillo Valley Rd	Century Rd	Clayton Rd	Collector	Rural	2	2,200	14,700	0.15
Amarillo Valley Rd	Clayton Rd	SR 84	Collector	Rural	2	900	14,700	0.06
Green Rd	Smith-Enke Rd	Garvey Ave	Unpaved Road	Suburban	2	0	6,500	0.00
Green Rd	Papago Rd	Miller Rd	Unpaved Road	Rural	2	300	7,600	0.04
Green Rd	Miller Rd	Clayton Rd	Unpaved Road	Rural	2	1,000	7,600	0.14
Green Rd	Clayton Rd	Meadowview Rd	Unpaved Road	Rural	2	900	7,600	0.12
Green Rd	Meadowview Rd	SR 84	Unpaved Road	Rural	2	0	7,600	0.00

Table D-3 | Major Roadway Capacity Analysis: Year 2030 (Continued)

Facility Name	From	To	Facility Type	Area Type	# of Lanes	Daily Volume	Theoretical Capacity (1)	Volume-to-Capacity Ratio
North-South Routes - West to East (Continued)								
Hogenes Blvd	Honeycutt Rd	Bowlin Rd	Arterial	Suburban	2	500	20,800	0.02
SR 347	Casa Blanca Rd	Cobblestone Farms Dr - North	Expressway*	Rural	4	55,900	54,100	1.03
SR 347	Cobblestone Farms Dr - North	Smith-Enke Rd	Arterial	Suburban	5	55,900	51,900	1.08
SR 347	Smith-Enke Rd	Edison Rd	Arterial	Mixed Urban	6	35,700	60,100	0.59
SR 347	Edison Rd	Garvey Ave	Arterial	Mixed Urban	6	54,200	60,100	0.90
SR 347	Garvey Ave	Honeycutt Rd	Arterial	Mixed Urban	6	52,300	60,100	0.87
SR 347	Honeycutt Rd	Maricopa-Casa Grande Highway	Arterial	Mixed Urban	6	50,800	60,100	0.85
SR 347	Maricopa-Casa Grande Highway	Edwards Ave	Arterial	Mixed Urban	6	49,500	60,100	0.82
SR 347	Edwards Ave	Bowlin Rd	Arterial	Mixed Urban	6	23,200	60,100	0.39
SR 347	Bowlin Rd	Farrell Rd	Arterial	Suburban	4	18,200	41,500	0.44
SR 347	Bowlin Rd	Farrell Rd	Arterial	Suburban	5	23,700	51,900	0.46
SR 347	Farrell Rd	Steen Rd	Arterial	Suburban	4	14,800	41,500	0.36
SR 347	Steen Rd	Peters & Nall Rd	Arterial	Rural	4	11,200	45,600	0.25
SR 347	Peters & Nall Rd	Papago Rd	Arterial	Rural	4	12,800	45,600	0.28
SR 347	Papago Rd	Miller Rd	Arterial	Rural	4	5,800	45,600	0.13
SR 347	Miller Rd	Clayton Rd	Arterial	Rural	4	3,800	45,600	0.08
SR 347	Clayton Rd	Meadowview Rd	Arterial	Rural	2	3,300	22,800	0.14
SR 347	Clayton Rd	Meadowview Rd	Arterial	Rural	4	3,500	45,600	0.08

Table D-3 | Major Roadway Capacity Analysis: Year 2030 (Continued)

Facility Name	From	To	Facility Type	Area Type	# of Lanes	Daily Volume	Theoretical Capacity (1)	Volume-to-Capacity Ratio
North-South Routes - West to East (Continued)								
SR 347	Meadowview Rd	SR 84	Arterial	Rural	2	3,700	22,800	0.16
4th St	Maricopa-Casa Grande Highway	Honeycutt Rd	Arterial	Mixed Urban	3	5,800	30,000	0.19
Smith Rd	Steen Rd	Peters & Nall Rd	Unpaved Road	Rural	2	0	7,600	0.00
Porter Rd	Smith-Enke Rd	Honeycutt Rd	Arterial	Mixed Urban	2	12,400	20,000	0.62
Porter Rd	Honeycutt Rd	Bowlin Rd	Arterial	Suburban	4	14,300	41,500	0.35
Porter Rd	Bowlin Rd	Maricopa-Casa Grande Highway	Arterial	Suburban	4	7,100	41,500	0.17
Porter Rd	Maricopa-Casa Grande Highway	Farrell Rd	Arterial	Suburban	4	11,900	41,500	0.29
Porter Rd	Maricopa-Casa Grande Highway	Farrell Rd	Collector	Suburban	2	9,100	12,500	0.73
Porter Rd	Farrell Rd	Steen Rd	Unpaved Road	Suburban	2	3,200	6,500	0.49
Porter Rd	Steen Rd	Peters & Nall Rd	Unpaved Road	Rural	2	400	7,600	0.05
White & Parker Rd	Smith-Enke Rd	Honeycutt Rd	Collector*	Suburban	2	11,000	12,500	0.88
White & Parker Rd	Honeycutt Rd	Bowlin Rd	Collector*	Suburban	2	7,400	12,500	0.59
White & Parker Rd	Bowlin Rd	Bowlin Rd	Collector*	Suburban	2	7,200	12,500	0.58
White & Parker Rd	Bowlin Rd	Farrell Rd	Collector*	Suburban	2	9,300	12,500	0.74
White & Parker Rd	Farrell Rd	Maricopa-Casa Grande Highway	Collector*	Suburban	2	8,500	12,500	0.68

Table D-3 | Major Roadway Capacity Analysis: Year 2030 (Continued)

Facility Name	From	To	Facility Type	Area Type	# of Lanes	Daily Volume	Theoretical Capacity (1)	Volume-to-Capacity Ratio
North-South Routes - West to East (Continued)								
White & Parker Rd	Maricopa-Casa Grande Highway	Steen Rd	Collector*	Suburban	2	9,900	12,500	0.79
White & Parker Rd	Steen Rd	Peters & Nall Rd	Collector*	Rural	2	7,300	14,700	0.50
White & Parker Rd	Peters & Nall Rd	Miller Rd	Collector*	Rural	2	5,000	14,700	0.34
White & Parker Rd	Miller Rd	Clayton Rd	Collector*	Rural	2	4,800	14,700	0.33
White & Parker Rd	Clayton Rd	SR 84	Collector*	Rural	2	4,800	14,700	0.33
White & Parker Rd	SR 84	Selma Hwy	Unpaved Road	Rural	2	500	7,600	0.07
Fuqua Rd	Barnes Rd	Kortsen Rd	Arterial	Rural	2	0	22,800	0.00
Fuqua Rd	Kortsen Rd	Clayton Rd	Unpaved Road	Rural	2	0	7,600	0.00
Fuqua Rd	Clayton Rd	SR 84	Unpaved Road	Rural	2	0	7,600	0.00
Fuqua Rd	SR 84	Selma Hwy	Unpaved Road	Rural	2	200	7,600	0.02
Fuqua Rd	Selma Hwy	I-8	Unpaved Road	Rural	2	0	7,600	0.00
Fuqua Rd	I-8	Connelly Rd	Unpaved Road	Rural	2	0	7,600	0.00
Fuqua Rd	Connelly Rd	Battaglia Rd	Unpaved Road	Rural	2	300	7,600	0.04
Hartman Rd	Smith-Enke Rd	Honeycutt Rd	Collector	Suburban	2	0	12,500	0.00
Hartman Rd	Honeycutt Rd	Bowlin Rd	Collector	Suburban	2	8,300	12,500	0.66
Hartman Rd	Bowlin Rd	Bowlin Rd	Collector	Suburban	2	9,900	12,500	0.79
Hartman Rd	Bowlin Rd	Farrell Rd	Unpaved Road	Suburban	2	6,300	6,476	0.97
Hartman Rd	Farrell Rd	Maricopa-Casa Grande Highway	Unpaved Road	Suburban	2	4,800	6,500	0.75
Hartman Rd	Maricopa-Casa Grande Highway	Peters & Nall Rd	Unpaved Road	Rural	2	2,600	7,596	0.34

Table D-3 | Major Roadway Capacity Analysis: Year 2030 (Continued)

Facility Name	From	To	Facility Type	Area Type	# of Lanes	Daily Volume	Theoretical Capacity (1)	Volume-to-Capacity Ratio
North-South Routes - West to East (Continued)								
Stanfield Rd	Miller Rd	Barnes Rd	Unpaved Road	Rural	2	100	7,600	0.01
Stanfield Rd	Barnes Rd	Kortsen Rd	Unpaved Road	Rural	2	100	7,600	0.01
Murphy Rd	Smith-Enke Rd	Honeycutt Rd	Unpaved Road	Suburban	2	100	6,500	0.02
Murphy Rd	Honeycutt Rd	Bowlin Rd	Arterial	Suburban	2	5,500	20,800	0.27
Murphy Rd	Bowlin Rd	Farrell Rd	Arterial	Suburban	2	7,100	20,800	0.34
Murphy Rd	Farrell Rd	Steen Rd	Arterial	Suburban	2	9,800	20,800	0.47
Murphy Rd	Steen Rd	Peters & Nall Rd	Arterial	Suburban	2	7,500	20,800	0.36
Murphy Rd	Peters & Nall Rd	Maricopa-Casa Grande Highway	Arterial	Rural	2	7,500	22,800	0.33
Anderson Rd	Farrell Rd	Steen Rd	Unpaved Road	Suburban	2	0	6,500	0.00
Anderson Rd	Steen Rd	Peters & Nall Rd	Unpaved Road	Rural	2	1,700	7,600	0.22
Anderson Rd	Peters & Nall Rd	Maricopa-Casa Grande Highway	Unpaved Road	Rural	2	1,600	7,600	0.21
Anderson Rd	Maricopa-Casa Grande Highway	Miller Rd	Arterial	Rural	4	2,600	45,600	0.06
Anderson Rd	Maricopa-Casa Grande Highway	Miller Rd	Collector	Rural	2	2,600	14,700	0.17
Anderson Rd	Miller Rd	Barnes Rd	Arterial	Rural	4	1,500	45,600	0.03
Anderson Rd	Miller Rd	Barnes Rd	Collector	Rural	2	2,600	14,700	0.18
Anderson Rd	Barnes Rd	Kortsen Rd	Arterial	Rural	4	1,400	45,600	0.03
Russell Rd	Steen Rd	Peters & Nall Rd	Collector	Rural	2	300	14,700	0.02

Table D-3 | Major Roadway Capacity Analysis: Year 2030 (Continued)

Facility Name	From	To	Facility Type	Area Type	# of Lanes	Daily Volume	Theoretical Capacity (1)	Volume-to-Capacity Ratio
North-South Routes - West to East (Continued)								
Russell Rd	Peters & Nall Rd	Maricopa-Casa Grande Highway	Collector	Rural	2	2,200	14,700	0.15
Diagonal Routes – Northwest to Southeast								
Maricopa-Casa Grande Hwy	SR 347	4th St	Arterial	Mixed Urban	2	6,300	20,000	0.32
Maricopa-Casa Grande Hwy	4th St	Porter Rd	Arterial	Suburban	2	13,400	20,800	0.65
Maricopa-Casa Grande Hwy	4th St	Porter Rd	Arterial	Mixed Urban	3	13,400	30,000	0.45
Maricopa-Casa Grande Hwy	4th St	Porter Rd	Arterial	Suburban	4	17,100	41,500	0.41
Maricopa-Casa Grande Hwy	Porter Rd	Farrell Rd	Arterial	Suburban	2	17,000	20,800	0.82
Maricopa-Casa Grande Hwy	Porter Rd	Farrell Rd	Arterial	Suburban	4	17,000	41,500	0.41
Maricopa-Casa Grande Hwy	Farrell Rd	White & Parker Rd	Arterial	Suburban	2	12,300	20,800	0.59
Maricopa-Casa Grande Hwy	White & Parker Rd	Hartman Rd	Arterial	Suburban	2	11,200	20,800	0.54
Maricopa-Casa Grande Hwy	Hartman Rd	Murphy Rd	Arterial	Suburban	2	14,600	20,800	0.70
Maricopa-Casa Grande Hwy	Murphy Rd	Anderson Rd	Arterial	Rural	2	17,800	22,800	0.78

Table D-3 | Major Roadway Capacity Analysis: Year 2030 (Continued)

Facility Name	From	To	Facility Type	Area Type	# of Lanes	Daily Volume	Theoretical Capacity (1)	Volume-to-Capacity Ratio
Diagonal Routes – Northwest to Southeast (Continued)								
Maricopa-Casa Grande Hwy	Anderson Rd	Anderson Rd	Arterial	Rural	2	17,800	22,800	0.78
Maricopa-Casa Grande Hwy	Anderson Rd	Russell Rd	Arterial	Rural	2	15,500	22,800	0.68
Maricopa-Casa Grande Hwy	Russell Rd	Val Vista Rd	Arterial	Rural	6	16,300	68,300	0.24
Garvey Ave	Smith-Enke Rd	Green Rd	Unpaved Road	Suburban	2	0	6,500	0.00
Garvey Ave	Green Rd	SR 347	Collector	Mixed Urban	2	2,200	12,300	0.17
Edison Rd	SR 238	SR 347	Arterial	Suburban	4	8,900	41,500	0.21
East-West Routes – North to South								
SR 238	County Line	Hidden Valley Rd	Arterial	Rural	2	5,000	22,800	0.22
SR 238	County Line	Hidden Valley Rd	Arterial	Rural	4	4,800	45,600	0.11
SR 238	Hidden Valley Rd	Ralston Rd	Arterial	Rural	2	5,600	22,800	0.25
SR 238	Ralston Rd	Garvey Ave	Arterial	Rural	2	7,200	22,800	0.32
SR 238	Garvey Ave	Edison Rd	Arterial	Suburban	2	9,600	20,800	0.46
SR 238	Edison Rd	SR 347	Arterial	Suburban	2	12,200	20,800	0.59
SR 238	Edison Rd	SR 347	Arterial	Mixed Urban	3	12,200	30,000	0.41
SR 238	Edison Rd	SR 347	Arterial	Mixed Urban	4	17,100	40,040	0.43
Smith-Enke Rd	SR 347	Province Pkwy	Arterial	Mixed Urban	4	33,000	40,040	0.82
Smith-Enke Rd	Province Pkwy	Porter Rd	Arterial	Suburban	4	17,500	41,532	0.42
Smith-Enke Rd	Porter Rd	White & Parker Rd	Arterial	Suburban	2	10,400	20,800	0.50
Smith-Enke Rd	Porter Rd	White & Parker Rd	Arterial	Suburban	4	11,300	41,500	0.27

Table D-3 | Major Roadway Capacity Analysis: Year 2030 (Continued)

Facility Name	From	To	Facility Type	Area Type	# of Lanes	Daily Volume	Theoretical Capacity (1)	Volume-to-Capacity Ratio
East-West Routes – North to South (Continued								
Smith-Enke Rd	White & Parker Rd	Hartman Rd	Arterial	Suburban	2	800	20,800	0.04
McDavid Rd	Green Rd	Hogenes Blvd	Arterial	Suburban	2	1,700	20,800	0.08
McDavid Rd	Hogenes Blvd	Edwards Ave	Arterial	Suburban	2	5,500	20,800	0.27
Edwards Ave	McDavid Rd	SR 347	Arterial	Mixed Urban	2	27,700	20,000	1.39
Honeycutt Rd	SR 347	4th Street	Arterial	Mixed Urban	4	25,100	40,000	0.63
Honeycutt Rd	4th Street	Porter Rd	Arterial	Mixed Urban	4	26,900	40,000	0.67
Honeycutt Rd	Porter Rd	White & Parker Rd	Arterial	Suburban	4	19,900	41,500	0.48
Honeycutt Rd	White & Parker Rd	Santa Cruz Wash	Arterial	Suburban	2	26,500	20,800	1.27
Honeycutt Rd	Santa Cruz Wash	Hartman Rd	Arterial	Suburban	3	26,500	31,100	0.85
Honeycutt Rd	Hartman Rd	Murphy Rd	Arterial	Suburban	2	19,900	20,800	0.96
Honeycutt Rd	Hartman Rd	Murphy Rd	Arterial	Suburban	4	19,900	41,500	0.48
Bowlin Rd	Hogenes Blvd	SR 347	Arterial	Suburban	2	100	20,800	0.00
Bowlin Rd	Hogenes Blvd	SR 347	Arterial	Suburban	4	1,600	41,500	0.04
Bowlin Rd	SR 347	Smith Rd	Arterial	Suburban	2	1,200	20,800	0.06
Bowlin Rd	Alan Stephens Pkwy	Porter Rd	Arterial	Suburban	2	1,300	20,800	0.06
Bowlin Rd	Porter Rd	White & Parker Rd	Arterial	Suburban	2	5,700	20,800	0.28
Bowlin Rd	Porter Rd	White & Parker Rd	Arterial	Suburban	4	1,400	41,500	0.03
Bowlin Rd	White & Parker Rd	Santa Cruz Wash	Unpaved Road	Suburban	2	0	6,500	0.00
Bowlin Rd	Santa Cruz Wash	Hartman Rd	Arterial	Suburban	3	5,900	31,100	0.19
Bowlin Rd	Santa Cruz Wash	Hartman Rd	Arterial	Suburban	4	5,900	41,500	0.14
Bowlin Rd	Hartman Rd	Murphy Rd	Unpaved Road	Suburban	2	1,600	6,500	0.25
Farrell Rd	Hidden Valley Rd	Warren Rd	Unpaved Road	Rural	2	400	7,600	0.05

Table D-3 | Major Roadway Capacity Analysis: Year 2030 (Continued)

Facility Name	From	To	Facility Type	Area Type	# of Lanes	Daily Volume	Theoretical Capacity (1)	Volume-to-Capacity Ratio
East-West Routes – North to South (Continued								
Farrell Rd	Warren Rd	Ralston Rd	Collector	Rural	2	2,200	14,700	0.15
Farrell Rd	Ralston Rd	Ralston Rd	Collector	Rural	2	5,200	14,700	0.35
Farrell Rd	Ralston Rd	SR 347	Collector	Rural	2	5,100	14,700	0.35
Farrell Rd	SR 347	Porter Rd	Collector	Suburban	2	6,400	12,500	0.51
Farrell Rd	Maricopa-Casa Grande Highway	White & Parker Rd	Unpaved Road	Suburban	2	2,000	6,500	0.30
Farrell Rd	White & Parker Rd	Hartman Rd	Unpaved Road	Suburban	2	3,600	6,500	0.56
Farrell Rd	Hartman Rd	Murphy Rd	Unpaved Road	Suburban	2	3,400	6,500	0.53
Steen Rd	SR 347	Smith Rd	Unpaved Road	Rural	2	1,200	7,600	0.15
Steen Rd	Smith Rd	Porter Rd	Unpaved Road	Suburban	2	1,200	6,500	0.18
Steen Rd	Porter Rd	White & Parker Rd	Unpaved Road	Suburban	2	2,900	6,500	0.45
Steen Rd	Murphy Rd	Anderson Rd	Unpaved Road	Suburban	2	1,200	6,500	0.19
Peters & Nall Rd	Warren Rd	Ralston Rd	Unpaved Road	Rural	2	200	7,600	0.03
Peters & Nall Rd	Ralston Rd	White Rd	Unpaved Road	Rural	2	300	7,600	0.04
Peters & Nall Rd	SR 347	Smith Rd	Collector	Rural	2	2,300	14,700	0.16
Peters & Nall Rd	Smith Rd	Porter Rd	Collector	Rural	2	3,300	14,700	0.23
Peters & Nall Rd	Porter Rd	White & Parker Rd	Collector	Rural	2	3,500	14,700	0.24
Peters & Nall Rd	White & Parker Rd	Hartman Rd	Unpaved Road	Rural	2	2,600	7,600	0.34
Peters & Nall Rd	Murphy Rd	Anderson Rd	Unpaved Road	Rural	2	2,500	7,600	0.32
Peters & Nall Rd	Anderson Rd	Russell Rd	Unpaved Road	Rural	2	1,000	7,600	0.13
Papago Rd	Warren Rd	Ralston Rd	Collector	Rural	2	3,900	14,700	0.27
Papago Rd	Ralston Rd	White Rd	Collector	Rural	2	4,200	14,700	0.29

Table D-3 | Major Roadway Capacity Analysis: Year 2030 (Continued)

Facility Name	From	To	Facility Type	Area Type	# of Lanes	Daily Volume	Theoretical Capacity (1)	Volume-to-Capacity Ratio
East-West Routes – North to South (Continued								
Papago Rd	White Rd	Amarillo Valley Rd	Collector	Rural	2	5,100	14,700	0.35
Papago Rd	Amarillo Valley Rd	Green Rd	Arterial	Rural	3	4,700	34,200	0.14
Papago Rd	Green Rd	SR 347	Collector	Rural	2	7,700	14,700	0.52
Trading Post Rd	Peace Pipe Rd	Papoose Rd	Arterial	Rural	6	300	68,300	0.00
Val Vista Rd	Warren Rd	Ralston Rd	Collector	Rural	2	400	14,700	0.03
Miller Rd	Sage St	Warren Rd	Collector	Rural	2	0	14,700	0.00
Miller Rd	Amarillo Valley Rd	Green Rd	Unpaved Road	Rural	2	800	7,600	0.10
Miller Rd	Green Rd	SR 347	Unpaved Road	Rural	2	1,500	7,600	0.19
Miller Rd	SR 347	White & Parker Rd	Collector	Rural	2	1,600	14,700	0.11
Miller Rd	Stanfield Rd	Anderson Rd	Unpaved Road	Rural	2	100	7,600	0.01
Barnes Rd	Sage St	Warren Rd	Arterial	Rural	2	1,800	22,800	0.08
Barnes Rd	Fuqua Rd	Stanfield Rd	Unpaved Road	Rural	2	0	7,600	0.00
Barnes Rd	Pala Rd	Anderson Rd	Unpaved Road	Rural	2	0	7,600	0.00
Barnes Rd	Anderson Rd	Russell Rd	Unpaved Road	Rural	2	400	7,600	0.05
Korsten Rd	Fuqua Rd	Stanfield Rd	Arterial	Rural	2	0	22,800	0.00
Century Rd	Warren Rd	Amarillo Valley Rd	Collector	Rural	2	2,400	14,700	0.16
Clayton Rd	Amarillo Valley Rd	Green Rd	Collector	Rural	2	3,100	14,700	0.21
Clayton Rd	Green Rd	SR 347	Collector	Rural	2	3,600	14,700	0.24
Clayton Rd	Fuqua Rd	Stanfield Rd	Unpaved Road	Rural	2	0	7,600	0.00
Clayton Rd	Leland Rd	White & Parker Rd	Collector	Rural	2	600	14,700	0.04
Meadowview Rd	Green Rd	SR 347	Collector	Rural	2	800	14,700	0.05
Meadowview Rd	SR 347	SR 84	Collector	Rural	2	0	14,700	0.00

Table D-3 | Major Roadway Capacity Analysis: Year 2030 (Continued)

Facility Name	From	To	Facility Type	Area Type	# of Lanes	Daily Volume	Theoretical Capacity (1)	Volume-to-Capacity Ratio
East-West Routes – North to South (Continued								
SR 84	Ralston Rd	Amarillo Valley Rd	Arterial	Rural	2	1,300	22,800	0.06
SR 84	Amarillo Valley Rd	Green Rd	Arterial	Rural	2	1,300	22,800	0.06
SR 84	Green Rd	SR 347	Arterial	Rural	2	2,100	22,800	0.09
SR 84	SR 347	White & Parker Rd	Arterial	Rural	2	3,400	22,800	0.15
SR 84	White & Parker Rd	Fuqua Rd	Arterial	Rural	2	6,900	22,800	0.30
SR 84	White & Parker Rd	Fuqua Rd	Arterial	Rural	3	6,900	34,200	0.20
SR 84	Fuqua Rd	Stanfield Rd	Arterial	Rural	5	6,900	56,900	0.12
I-8 WB	Amarillo Valley Rd	Fuqua Rd	Freeway	Rural	2	2,900	52,600	0.06
I-8 EB	Amarillo Valley Rd	Fuqua Rd	Freeway	Rural	2	3,500	52,600	0.07
Robin Rd	Warren Rd	Ralston Rd	Arterial	Rural	2	700	22,800	0.03
Selma Hwy	White & Parker Rd	Fuqua Rd	Unpaved Road	Rural	2	600	7,600	0.07
Selma Hwy	Fuqua Rd	Stanfield Rd	Unpaved Road	Rural	2	600	7,600	0.07
Connelly Rd	Fuqua Rd	Stanfield Rd	Unpaved Road	Rural	2	400	7,600	0.05

Prepared by Wilson & Company, February 2015.

Notes:
(1) Derived from MAG travel demand model. Based on facility type, area type, and number of lanes. See Table 5-2.

Level of Service D: Volume-to-Capacity between 0.73 and 0.84, inclusively. Adapted from LOS criteria in HCM 2010.

Level of Service E or F: Volume-to-Capacity greater than or equal to 0.85. Adapted from LOS criteria in HCM 2010.

Table D-4 | Year 2040 Major Roadway Capacity Analysis: Year 2040

Facility Name	From	To	Facility Type	Area Type	# of Lanes	Daily Volume	Theoretical Capacity (1)	Volume-to-Capacity Ratio
North-South Routes – West to East								
Hidden Valley Rd	SR 238	Farrell Rd	Unpaved Road	Rural	2	2,200	7,600	0.29
Warren Rd	Farrell Rd	Pima Rd	Collector	Rural	2	0	14,700	0.00
Warren Rd	Papago Rd	Val Vista Rd	Arterial	Rural	2	9,600	22,800	0.42
Warren Rd	Val Vista Rd	Miller Rd	Arterial	Rural	2	9,200	22,800	0.40
Warren Rd	Miller Rd	Barnes Rd	Arterial	Rural	2	8,700	22,800	0.38
Warren Rd	Barnes Rd	Century Rd	Arterial	Rural	2	5,200	22,800	0.23
Warren Rd	Century Rd	Robin Rd	Arterial	Rural	2	3,000	22,800	0.13
Ralston Rd	SR 238	Farrell Rd	Collector	Rural	2	3,800	14,700	0.26
Ralston Rd	Farrell Rd	Peters & Nall Rd	Collector	Rural	2	6,800	14,700	0.46
Ralston Rd	Peters & Nall Rd	Papago Rd	Collector	Rural	2	6,700	14,700	0.46
Ralston Rd	Papago Rd	Teel Rd	Collector	Rural	2	2,400	14,700	0.17
Ralston Rd	Robin Rd	SR 84	Arterial	Rural	2	3,100	22,800	0.14
White Rd	Peters & Nall Rd	Papago Rd	Arterial	Rural	2	3,200	22,800	0.14
White Rd	Papago Rd	Val Vista Rd	Arterial	Rural	2	500	22,800	0.02
Amarillo Valley Rd	Papago Rd	Val Vista Rd	Collector	Rural	2	900	14,700	0.06
Amarillo Valley Rd	Century Rd	Clayton Rd	Collector	Rural	2	8,000	14,700	0.55
Amarillo Valley Rd	Clayton Rd	SR 84	Collector	Rural	2	3,500	14,700	0.24
Green Rd	Smith-Enke Rd	Garvey Ave	Unpaved Road	Suburban	2	0	6,500	0.00
Green Rd	Papago Rd	Miller Rd	Unpaved Road	Rural	2	1,900	7,600	0.25
Green Rd	Miller Rd	Clayton Rd	Unpaved Road	Rural	2	3,200	7,600	0.43
Green Rd	Clayton Rd	Meadowview Rd	Unpaved Road	Rural	2	1,900	7,600	0.25
Green Rd	Meadowview Rd	SR 84	Unpaved Road	Rural	2	0	7,600	0.00

Table D-4 | Year 2040 Major Roadway Capacity Analysis: Year 2040 (Continued)

Facility Name	From	To	Facility Type	Area Type	# of Lanes	Daily Volume	Theoretical Capacity (1)	Volume-to-Capacity Ratio
North-South Routes – West to East (Continued)								
Hogenes Blvd	Honeycutt Rd	Bowlin Rd	Arterial	Suburban	2	1,200	20,800	0.06
SR 347	Casa Blanca Rd	Cobblestone Farms Dr - North	Expressway*	Rural	4	64,100	54,100	1.18
SR 347	Cobblestone Farms Dr - North	Smith-Enke Rd	Arterial	Suburban	5	64,100	51,900	1.23
SR 347	Smith-Enke Rd	Edison Rd	Arterial	Mixed Urban	6	44,200	60,100	0.74
SR 347	Edison Rd	Garvey Ave	Arterial	Mixed Urban	6	60,600	60,100	1.01
SR 347	Garvey Ave	Honeycutt Rd	Arterial	Mixed Urban	6	62,700	60,100	1.04
SR 347	Honeycutt Rd	Maricopa-Casa Grande Highway	Arterial	Mixed Urban	6	61,500	60,100	1.02
SR 347	Maricopa-Casa Grande Highway	Edwards Ave	Arterial	Mixed Urban	6	60,400	60,100	1.01
SR 347	Edwards Ave	Bowlin Rd	Arterial	Mixed Urban	6	33,000	60,100	0.55
SR 347	Bowlin Rd	Farrell Rd	Arterial	Suburban	4	29,200	41,500	0.70
SR 347	Bowlin Rd	Farrell Rd	Arterial	Suburban	5	35,600	51,900	0.69
SR 347	Farrell Rd	Steen Rd	Arterial	Suburban	4	23,500	41,500	0.57
SR 347	Steen Rd	Peters & Nall Rd	Arterial	Rural	4	20,400	45,600	0.45
SR 347	Peters & Nall Rd	Papago Rd	Arterial	Rural	4	23,900	45,600	0.52
SR 347	Papago Rd	Miller Rd	Arterial	Rural	4	14,100	45,600	0.31
SR 347	Miller Rd	Clayton Rd	Arterial	Rural	4	8,900	45,600	0.20
SR 347	Clayton Rd	Meadowview Rd	Arterial	Rural	2	10,500	22,800	0.46
SR 347	Clayton Rd	Meadowview Rd	Arterial	Rural	4	10,600	45,600	0.23

Table D-4 | Year 2040 Major Roadway Capacity Analysis: Year 2040 (Continued)

Facility Name	From	To	Facility Type	Area Type	# of Lanes	Daily Volume	Theoretical Capacity (1)	Volume-to-Capacity Ratio
North-South Routes – West to East (Continued)								
SR 347	Meadowview Rd	SR 84	Arterial	Rural	2	11,000	22,800	0.48
4th St	Maricopa-Casa Grande Highway	Honeycutt Rd	Arterial	Mixed Urban	3	7,200	30,000	0.24
Smith Rd	Steen Rd	Peters & Nall Rd	Unpaved Road	Rural	2	0	7,600	0.00
Porter Rd	Smith-Enke Rd	Honeycutt Rd	Arterial	Mixed Urban	2	12,900	20,000	0.64
Porter Rd	Honeycutt Rd	Bowlin Rd	Arterial	Suburban	4	16,400	41,500	0.40
Porter Rd	Bowlin Rd	Maricopa-Casa Grande Highway	Arterial	Suburban	4	10,000	41,500	0.24
Porter Rd	Maricopa-Casa Grande Highway	Farrell Rd	Arterial	Suburban	4	15,200	41,500	0.37
Porter Rd	Maricopa-Casa Grande Highway	Farrell Rd	Collector	Suburban	2	11,900	12,500	0.95
Porter Rd	Farrell Rd	Steen Rd	Unpaved Road	Suburban	2	3,900	6,500	0.60
Porter Rd	Steen Rd	Peters & Nall Rd	Unpaved Road	Rural	2	900	7,600	0.12
White & Parker Rd	Smith-Enke Rd	Honeycutt Rd	Collector*	Suburban	2	11,700	12,500	0.94
White & Parker Rd	Honeycutt Rd	Bowlin Rd	Collector*	Suburban	2	10,100	12,500	0.81
White & Parker Rd	Bowlin Rd	Bowlin Rd	Collector*	Suburban	2	9,900	12,500	0.79
White & Parker Rd	Bowlin Rd	Farrell Rd	Collector*	Suburban	2	13,300	12,500	1.06
White & Parker Rd	Farrell Rd	Maricopa-Casa Grande Highway	Collector*	Suburban	2	12,700	12,500	1.02

Table D-4 | Year 2040 Major Roadway Capacity Analysis: Year 2040 (Continued)

Facility Name	From	To	Facility Type	Area Type	# of Lanes	Daily Volume	Theoretical Capacity (1)	Volume-to-Capacity Ratio
North-South Routes – West to East (Continued)								
White & Parker Rd	Maricopa-Casa Grande Highway	Steen Rd	Collector*	Suburban	2	14,000	12,500	1.12
White & Parker Rd	Steen Rd	Peters & Nall Rd	Collector*	Rural	2	11,400	14,700	0.78
White & Parker Rd	Peters & Nall Rd	Miller Rd	Collector*	Rural	2	8,600	14,700	0.59
White & Parker Rd	Miller Rd	Clayton Rd	Collector*	Rural	2	8,500	14,700	0.58
White & Parker Rd	Clayton Rd	SR 84	Collector*	Rural	2	8,500	14,700	0.58
White & Parker Rd	SR 84	Selma Hwy	Unpaved Road	Rural	2	1,100	7,600	0.14
Fuqua Rd	Barnes Rd	Kortsen Rd	Arterial	Rural	2	0	22,800	0.00
Fuqua Rd	Kortsen Rd	Clayton Rd	Unpaved Road	Rural	2	0	7,600	0.00
Fuqua Rd	Clayton Rd	SR 84	Unpaved Road	Rural	2	0	7,600	0.00
Fuqua Rd	SR 84	Selma Hwy	Unpaved Road	Rural	2	300	7,600	0.04
Fuqua Rd	Selma Hwy	I-8	Unpaved Road	Rural	2	0	7,600	0.00
Fuqua Rd	I-8	Connelly Rd	Unpaved Road	Rural	2	0	7,600	0.00
Fuqua Rd	Connelly Rd	Battaglia Rd	Unpaved Road	Rural	2	400	7,600	0.05
Hartman Rd	Smith-Enke Rd	Honeycutt Rd	Collector	Suburban	2	0	12,500	0.00
Hartman Rd	Honeycutt Rd	Bowlin Rd	Collector	Suburban	2	8,400	12,500	0.67
Hartman Rd	Bowlin Rd	Bowlin Rd	Collector	Suburban	2	10,500	12,500	0.84
Hartman Rd	Bowlin Rd	Farrell Rd	Unpaved Road	Suburban	2	6,800	6,500	1.06
Hartman Rd	Farrell Rd	Maricopa-Casa Grande Highway	Unpaved Road	Suburban	2	5,200	6,500	0.80
Hartman Rd	Maricopa-Casa Grande Highway	Peters & Nall Rd	Unpaved Road	Rural	2	4,200	7,600	0.55

Table D-4 | Year 2040 Major Roadway Capacity Analysis: Year 2040 (Continued)

Facility Name	From	To	Facility Type	Area Type	# of Lanes	Daily Volume	Theoretical Capacity (1)	Volume-to-Capacity Ratio
North-South Routes – West to East (Continued)								
Stanfield Rd	Miller Rd	Barnes Rd	Unpaved Road	Rural	2	300	7,600	0.04
Stanfield Rd	Barnes Rd	Kortsen Rd	Unpaved Road	Rural	2	300	7,600	0.04
Murphy Rd	Smith-Enke Rd	Honeycutt Rd	Unpaved Road	Suburban	2	100	6,500	0.01
Murphy Rd	Honeycutt Rd	Bowlin Rd	Arterial	Suburban	2	7,400	20,800	0.35
Murphy Rd	Bowlin Rd	Farrell Rd	Arterial	Suburban	2	9,600	20,800	0.46
Murphy Rd	Farrell Rd	Steen Rd	Arterial	Suburban	2	13,000	20,800	0.63
Murphy Rd	Steen Rd	Peters & Nall Rd	Arterial	Suburban	2	11,900	20,800	0.57
Murphy Rd	Peters & Nall Rd	Maricopa-Casa Grande Highway	Arterial	Rural	2	9,900	22,800	0.43
Anderson Rd	Farrell Rd	Steen Rd	Unpaved Road	Suburban	2	0	6,500	0.00
Anderson Rd	Steen Rd	Peters & Nall Rd	Unpaved Road	Rural	2	2,600	7,600	0.35
Anderson Rd	Peters & Nall Rd	Maricopa-Casa Grande Highway	Unpaved Road	Rural	2	5,500	7,600	0.73
Anderson Rd	Maricopa-Casa Grande Highway	Miller Rd	Arterial	Rural	4	6,300	45,600	0.14
Anderson Rd	Maricopa-Casa Grande Highway	Miller Rd	Collector	Rural	2	6,300	14,700	0.43
Anderson Rd	Miller Rd	Barnes Rd	Arterial	Rural	4	3,800	45,600	0.08
Anderson Rd	Miller Rd	Barnes Rd	Collector	Rural	2	4,900	14,700	0.33
Anderson Rd	Barnes Rd	Kortsen Rd	Arterial	Rural	4	3,200	45,600	0.07
Russell Rd	Steen Rd	Peters & Nall Rd	Collector	Rural	2	800	14,700	0.06

Table D-4 | Year 2040 Major Roadway Capacity Analysis: Year 2040 (Continued)

Facility Name	From	To	Facility Type	Area Type	# of Lanes	Daily Volume	Theoretical Capacity (1)	Volume-to-Capacity Ratio
North-South Routes – West to East (Continued)								
Russell Rd	Peters & Nall Rd	Maricopa-Casa Grande Highway	Collector	Rural	2	6,200	14,700	0.42
Diagonal Routes – Northwest to Southeast								
Maricopa-Casa Grande Hwy	SR 347	4th St	Arterial	Mixed Urban	2	7,100	20,000	0.35
Maricopa-Casa Grande Hwy	4th St	Porter Rd	Arterial	Suburban	2	15,700	20,800	0.76
Maricopa-Casa Grande Hwy	4th St	Porter Rd	Arterial	Mixed Urban	3	15,700	30,000	0.52
Maricopa-Casa Grande Hwy	4th St	Porter Rd	Arterial	Suburban	4	20,100	41,500	0.48
Maricopa-Casa Grande Hwy	Porter Rd	Farrell Rd	Arterial	Suburban	2	21,400	20,800	1.03
Maricopa-Casa Grande Hwy	Porter Rd	Farrell Rd	Arterial	Suburban	4	21,400	41,500	0.52
Maricopa-Casa Grande Hwy	Farrell Rd	White & Parker Rd	Arterial	Suburban	2	15,900	20,800	0.77
Maricopa-Casa Grande Hwy	White & Parker Rd	Hartman Rd	Arterial	Suburban	2	15,300	20,800	0.74
Maricopa-Casa Grande Hwy	Hartman Rd	Murphy Rd	Arterial	Suburban	2	19,700	20,800	0.95
Maricopa-Casa Grande Hwy	Murphy Rd	Anderson Rd	Arterial	Rural	2	24,800	22,800	1.09

Table D-4 | Year 2040 Major Roadway Capacity Analysis: Year 2040 (Continued)

Facility Name	From	To	Facility Type	Area Type	# of Lanes	Daily Volume	Theoretical Capacity (1)	Volume-to-Capacity Ratio
Diagonal Routes – Northwest to Southeast (Continued)								
Maricopa-Casa Grande Hwy	Anderson Rd	Anderson Rd	Arterial	Rural	2	23,700	22,800	1.04
Maricopa-Casa Grande Hwy	Anderson Rd	Russell Rd	Arterial	Rural	2	18,600	22,800	0.82
Maricopa-Casa Grande Hwy	Russell Rd	Val Vista Rd	Arterial	Rural	6	22,700	68,300	0.33
Garvey Ave	Smith-Enke Rd	Green Rd	Unpaved Road	Suburban	2	1,300	6,500	0.20
Garvey Ave	Green Rd	SR 347	Collector	Mixed Urban	2	6,900	12,300	0.56
Edison Rd	SR 238	SR 347	Arterial	Suburban	4	15,400	41,500	0.37
East-West Routes – North to South								
SR 238	County Line	Hidden Valley Rd	Arterial	Rural	2	14,100	22,800	0.62
SR 238	County Line	Hidden Valley Rd	Arterial	Rural	4	14,000	45,600	0.31
SR 238	Hidden Valley Rd	Ralston Rd	Arterial	Rural	2	14,400	22,800	0.63
SR 238	Ralston Rd	Garvey Ave	Arterial	Rural	2	16,600	22,800	0.73
SR 238	Garvey Ave	Edison Rd	Arterial	Suburban	2	18,500	20,800	0.89
SR 238	Edison Rd	SR 347	Arterial	Suburban	2	14,800	20,800	0.71
SR 238	Edison Rd	SR 347	Arterial	Mixed Urban	3	14,800	30,000	0.49
SR 238	Edison Rd	SR 347	Arterial	Mixed Urban	4	19,400	40,000	0.48
Smith-Enke Rd	SR 347	Province Pkwy	Arterial	Mixed Urban	4	34,200	40,000	0.85
Smith-Enke Rd	Province Pkwy	Porter Rd	Arterial	Suburban	4	17,900	41,500	0.43
Smith-Enke Rd	Porter Rd	White & Parker Rd	Arterial	Suburban	2	10,700	20,800	0.51
Smith-Enke Rd	Porter Rd	White & Parker Rd	Arterial	Suburban	4	12,100	41,500	0.29

Table D-4 | Year 2040 Major Roadway Capacity Analysis: Year 2040 (Continued)

Facility Name	From	To	Facility Type	Area Type	# of Lanes	Daily Volume	Theoretical Capacity (1)	Volume-to-Capacity Ratio
East-West Routes – North to South (Continued)								
Smith-Enke Rd	White & Parker Rd	Hartman Rd	Arterial	Suburban	2	1,100	20,800	0.05
McDavid Rd	Green Rd	Hogenes Blvd	Arterial	Suburban	2	3,600	20,800	0.17
McDavid Rd	Hogenes Blvd	Edwards Ave	Arterial	Suburban	2	7,500	20,800	0.36
Edwards Ave	McDavid Rd	SR 347	Arterial	Mixed Urban	2	29,200	20,000	1.46
Honeycutt Rd	SR 347	4th Street	Arterial	Mixed Urban	4	28,900	40,000	0.72
Honeycutt Rd	4th Street	Porter Rd	Arterial	Mixed Urban	4	28,600	40,000	0.71
Honeycutt Rd	Porter Rd	White & Parker Rd	Arterial	Suburban	4	21,200	41,500	0.51
Honeycutt Rd	White & Parker Rd	Santa Cruz Wash	Arterial	Suburban	2	28,000	20,800	1.35
Honeycutt Rd	Santa Cruz Wash	Hartman Rd	Arterial	Suburban	3	28,000	31,100	0.90
Honeycutt Rd	Hartman Rd	Murphy Rd	Arterial	Suburban	2	20,500	20,800	0.99
Honeycutt Rd	Hartman Rd	Murphy Rd	Arterial	Suburban	4	20,500	41,500	0.49
Bowlin Rd	Hogenes Blvd	SR 347	Arterial	Suburban	2	400	20,800	0.02
Bowlin Rd	Hogenes Blvd	SR 347	Arterial	Suburban	4	7,100	41,500	0.17
Bowlin Rd	SR 347	Smith Rd	Arterial	Suburban	2	1,500	20,800	0.07
Bowlin Rd	Alan Stephens Pkwy	Porter Rd	Arterial	Suburban	2	1,900	20,800	0.09
Bowlin Rd	Porter Rd	White & Parker Rd	Arterial	Suburban	2	7,600	20,800	0.36
Bowlin Rd	Porter Rd	White & Parker Rd	Arterial	Suburban	4	1,800	41,500	0.04
Bowlin Rd	White & Parker Rd	Santa Cruz Wash	Unpaved Road	Suburban	2	0	6,500	0.00
Bowlin Rd	Santa Cruz Wash	Hartman Rd	Arterial	Suburban	3	6,300	31,100	0.20
Bowlin Rd	Santa Cruz Wash	Hartman Rd	Arterial	Suburban	4	6,300	41,500	0.15
Bowlin Rd	Hartman Rd	Murphy Rd	Unpaved Road	Suburban	2	2,100	6,500	0.33
Farrell Rd	Hidden Valley Rd	Warren Rd	Unpaved Road	Rural	2	2,200	7,600	0.29

Table D-4 | Year 2040 Major Roadway Capacity Analysis: Year 2040 (Continued)

Facility Name	From	To	Facility Type	Area Type	# of Lanes	Daily Volume	Theoretical Capacity (1)	Volume-to-Capacity Ratio
East-West Routes – North to South (Continued)								
Farrell Rd	Warren Rd	Ralston Rd	Collector	Rural	2	6,400	14,700	0.44
Farrell Rd	Ralston Rd	Ralston Rd	Collector	Rural	2	11,200	14,700	0.76
Farrell Rd	Ralston Rd	SR 347	Collector	Rural	2	9,100	14,700	0.62
Farrell Rd	SR 347	Porter Rd	Collector	Suburban	2	8,800	12,500	0.70
Farrell Rd	Maricopa-Casa Grande Highway	White & Parker Rd	Unpaved Road	Suburban	2	1,400	6,500	0.22
Farrell Rd	White & Parker Rd	Hartman Rd	Unpaved Road	Suburban	2	4,100	6,500	0.63
Farrell Rd	Hartman Rd	Murphy Rd	Unpaved Road	Suburban	2	4,400	6,500	0.68
Steen Rd	SR 347	Smith Rd	Unpaved Road	Rural	2	1,200	7,600	0.16
Steen Rd	Smith Rd	Porter Rd	Unpaved Road	Suburban	2	1,200	6,500	0.18
Steen Rd	Porter Rd	White & Parker Rd	Unpaved Road	Suburban	2	3,000	6,500	0.47
Steen Rd	Murphy Rd	Anderson Rd	Unpaved Road	Suburban	2	1,600	6,500	0.25
Peters & Nall Rd	Warren Rd	Ralston Rd	Unpaved Road	Rural	2	900	7,600	0.12
Peters & Nall Rd	Ralston Rd	White Rd	Unpaved Road	Rural	2	1,900	7,600	0.24
Peters & Nall Rd	SR 347	Smith Rd	Collector	Rural	2	4,800	14,700	0.33
Peters & Nall Rd	Smith Rd	Porter Rd	Collector	Rural	2	6,100	14,700	0.41
Peters & Nall Rd	Porter Rd	White & Parker Rd	Collector	Rural	2	6,100	14,700	0.41
Peters & Nall Rd	White & Parker Rd	Hartman Rd	Unpaved Road	Rural	2	4,200	7,600	0.55
Peters & Nall Rd	Murphy Rd	Anderson Rd	Unpaved Road	Rural	2	5,100	7,600	0.67
Peters & Nall Rd	Anderson Rd	Russell Rd	Unpaved Road	Rural	2	1,900	7,600	0.25
Papago Rd	Warren Rd	Ralston Rd	Collector	Rural	2	9,600	14,700	0.65
Papago Rd	Ralston Rd	White Rd	Collector	Rural	2	5,600	14,700	0.38

Table D-4 | Year 2040 Major Roadway Capacity Analysis: Year 2040 (Continued)

Facility Name	From	To	Facility Type	Area Type	# of Lanes	Daily Volume	Theoretical Capacity (1)	Volume-to-Capacity Ratio
East-West Routes – North to South (Continued)								
Papago Rd	White Rd	Amarillo Valley Rd	Collector	Rural	2	10,900	14,700	0.74
Papago Rd	Amarillo Valley Rd	Green Rd	Arterial	Rural	3	10,000	34,200	0.29
Papago Rd	Green Rd	SR 347	Collector	Rural	2	12,800	14,700	0.87
Trading Post Rd	Peace Pipe Rd	Papoose Rd	Arterial	Rural	6	1,100	68,300	0.02
Val Vista Rd	Warren Rd	Ralston Rd	Collector	Rural	2	1,500	14,700	0.10
Miller Rd	Sage St	Warren Rd	Collector	Rural	2	200	14,700	0.02
Miller Rd	Amarillo Valley Rd	Green Rd	Unpaved Road	Rural	2	4,500	7,600	0.60
Miller Rd	Green Rd	SR 347	Unpaved Road	Rural	2	5,400	7,600	0.72
Miller Rd	SR 347	White & Parker Rd	Collector	Rural	2	7,200	14,700	0.49
Miller Rd	Stanfield Rd	Anderson Rd	Unpaved Road	Rural	2	300	7,600	0.04
Barnes Rd	Sage St	Warren Rd	Arterial	Rural	2	4,500	22,800	0.20
Barnes Rd	Fuqua Rd	Stanfield Rd	Unpaved Road	Rural	2	0	7,600	0.00
Barnes Rd	Pala Rd	Anderson Rd	Unpaved Road	Rural	2	0	7,600	0.00
Barnes Rd	Anderson Rd	Russell Rd	Unpaved Road	Rural	2	1,600	7,600	0.21
Korsten Rd	Fuqua Rd	Stanfield Rd	Arterial	Rural	2	0	22,800	0.00
Century Rd	Warren Rd	Amarillo Valley Rd	Collector	Rural	2	8,500	14,700	0.58
Clayton Rd	Amarillo Valley Rd	Green Rd	Collector	Rural	2	11,600	14,700	0.79
Clayton Rd	Green Rd	SR 347	Collector	Rural	2	10,700	14,700	0.73
Clayton Rd	Fuqua Rd	Stanfield Rd	Unpaved Road	Rural	2	0	7,600	0.00
Clayton Rd	Leland Rd	White & Parker Rd	Collector	Rural	2	1,000	14,700	0.07
Meadowview Rd	Green Rd	SR 347	Collector	Rural	2	3,200	14,700	0.22
Meadowview Rd	SR 347	SR 84	Collector	Rural	2	400	14,700	0.03

Table D-4 | Year 2040 Major Roadway Capacity Analysis: Year 2040 (Continued)

Facility Name	From	To	Facility Type	Area Type	# of Lanes	Daily Volume	Theoretical Capacity (1)	Volume-to-Capacity Ratio
East-West Routes – North to South (Continued)								
SR 84	Ralston Rd	Amarillo Valley Rd	Arterial	Rural	2	4,400	22,800	0.19
SR 84	Amarillo Valley Rd	Green Rd	Arterial	Rural	2	4,100	22,800	0.18
SR 84	Green Rd	SR 347	Arterial	Rural	2	6,100	22,800	0.27
SR 84	SR 347	White & Parker Rd	Arterial	Rural	2	9,900	22,800	0.44
SR 84	White & Parker Rd	Fuqua Rd	Arterial	Rural	2	14,200	22,800	0.62
SR 84	White & Parker Rd	Fuqua Rd	Arterial	Rural	3	14,100	34,200	0.41
SR 84	Fuqua Rd	Stanfield Rd	Arterial	Rural	5	14,300	56,900	0.25
I-8 WB	Amarillo Valley Rd	Fuqua Rd	Freeway	Rural	2	5,300	52,600	0.10
I-8 EB	Amarillo Valley Rd	Fuqua Rd	Freeway	Rural	2	6,700	52,600	0.13
Robin Rd	Warren Rd	Ralston Rd	Arterial	Rural	2	3,100	22,800	0.14
Selma Hwy	White & Parker Rd	Fuqua Rd	Unpaved Road	Rural	2	1,200	7,600	0.15
Selma Hwy	Fuqua Rd	Stanfield Rd	Unpaved Road	Rural	2	1,100	7,600	0.15
Connelly Rd	Fuqua Rd	Stanfield Rd	Unpaved Road	Rural	2	500	7,600	0.07

Prepared by Wilson & Company, February 2015

Notes:
(1) Derived from MAG travel demand model. Based on facility type, area type, and number of lanes. Refer to Table 5-2 in the body of this report.

Level of Service D: Volume-to-Capacity between 0.73 and 0.84, inclusively. Adapted from LOS criteria in HCM 2010.

Level of Service E or F: Volume-to-Capacity greater than or equal to 0.85. Adapted from LOS criteria in HCM 2010.

APPENDIX E: PROJECT RANKINGS

This appendix presents a prioritization of projects within each study time frame (i.e., Years 2020, 2030, and 2040). The prioritization of projects was based the outputs of the MAG Regional Travel Demand Model obtained in support of this study. Roadway construction projects and corridor studies (denoted with the prefix "S" in the ranking) were ranked based on forecasted volume-to-capacity (*v/c*) ratios. Paving projects (denoted with the prefix "P" in the ranking) were ranked based on forecasted daily volume measured as average daily traffic (ADT). Unpaved roads with higher forecasted daily volumes were assigned a higher ranking, reflecting a near-term need. Tables E-1, E-2, and E-3 present the rankings for planning horizon Years 2020, 2030, and 2040, respectively.

Table E-1 | Year 2020 Project Rankings

Rank	Project Location	Project Description	V/C Ratio or Volume (paving)
1	SR-347, Cobblestone Farm Drive (south) to Cobblestone Farm Drive (north)/Lakeview Drive	Widen to 3 lanes in northbound direction (6 lanes total) including intersection upgrade at SR-347/ Smith-Enke Rd	0.94
S1	SR-347 Edison Rd. to Lakeview Dr.	Conduct Corridor Study to determine the feasibility of upgrading to a 6-lane Urban Arizona Parkway	0.94
S2	SR-347, Lakeview Dr. to I-10	Conduct Corridor Study to determine the feasibility of upgrading to a 6-lane Arizona Parkway with associated improvements at Riggs Rd, Old Maricopa Rd, and I-10 Traffic Interchange	0.90
P1	Hartman Rd, Bowlin Rd to Farrell Rd	Paving	6,800
P2	Anderson Rd, Peters & Nall Rd to Maricopa-Casa Grande Highway	Paving	5,500
P3	Miller Rd, Green Rd to SR-347	Paving	5,400
P4	Hartman Rd, Farrell Rd to Maricopa-Casa Grande Highway	Paving	5,200
P5	Peters & Nall Rd, Murphy Rd to Anderson Rd	Paving	5,100
P6	Miller Rd, Amarillo Valley Rd to Green Rd	Paving	4,500
P7	Farrell Rd, Hartman Rd to Murphy Rd	Paving	4,400
P8	Hartman Rd, Maricopa-Casa Grande Highway to Peters & Nall Rd	Paving	4,200
P9	Peters & Nall Rd, White & Parker Rd to Hartman Rd	Paving	4,200
P10	Farrell Rd, White & Parker Rd to Hartman Rd	Paving	4,100
P11	Porter Rd, Farrell Rd to Steen Rd	Paving	3,900
P12	Green Rd, Miller Rd to Clayton Rd	Paving	3,200
P13	Steen Rd, Porter Rd to White & Parker Rd	Paving	3,000
P14	Anderson Rd, Steen Rd to Peters & Nall Rd	Paving	2,600

Table E-1 | Year 2020 Project Rankings (Continued)

Rank	Project Location	Project Description	V/C Ratio or Volume (paving)
P15	Hidden Valley Rd, SR-238 to Farrell Rd	Paving	2,200
P16	Farrell Rd, Hidden Valley Rd to Warren Rd	Paving	2,200
P17	Bowlin Rd, Hartman Rd to Murphy Rd	Paving	2,100
P18	Green Rd, Papago Rd to Miller Rd	Paving	1,900
P19	Green Rd, Clayton Rd to Meadowview Rd	Paving	1,900
P20	Peters & Nall Rd, Ralston Rd to White Rd	Paving	1,900
P21	Peters & Nall Rd, Anderson Rd to Russell Rd	Paving	1,900
P22	Steen Rd, Murphy Rd to Anderson Rd	Paving	1,600
P23	Barnes Rd, Anderson Rd to Russell Rd	Paving	1,600
P24	Farrell Rd, Maricopa-Casa Grande Highway to White & Parker Rd	Paving	1,400
P25	Garvey Ave, Smith-Enke Rd to Green Rd	Paving	1,300
P26	Steen Rd, SR-347 to Smith Rd	Paving	1,200
P27	Steen Rd, Smith Rd to Porter Rd	Paving	1,200
P28	Selma Hwy, White & Parker Rd to Fuqua Rd	Paving	1,200
P29	White & Parker Rd, SR-84 to Selma Hwy	Paving	1,100
P30	Selma Hwy, Fuqua Rd to Stanfield Rd	Paving	1,100
P31	Porter Rd, Steen Rd to Peters & Nall Rd	Paving	900
P32	Peters & Nall Rd, Warren Rd to Ralston Rd	Paving	900
P33	Connelly Rd, Fuqua Rd to Stanfield Rd	Paving	500

Prepared by Wilson & Company, February 2015.

Table E-2 | Year 2030 Project Rankings

Rank	Project Location	Project Description	V/C Ratio
1	Honeycutt Road, White & Parker Road to Hartman Road	Widen to 4-lane Arterial	1.27
2	SR-347, Lakeview Dr. to I-10	Implement capacity improvements/upgrades as determined by Corridor Study	1.03
3	SR-347, Edison Rd. to Lakeview Dr.	Implement capacity improvements/upgrades as determined by Corridor Study	0.90
4	White & Parker Road, Maricopa-Casa Grande Highway to Smith-Enke Road	Widen to 2 lanes with a center turn lane including intersection improvements	0.88
5	White & Parker Road, Steen Road to Maricopa-Casa Grande Highway	Widen to 4-lane Collector with improved at-grade railroad crossing	0.79
6	Bowlin Road, White & Parker to Anthony Boulevard	Construct 4-lane Arterial with all-weather crossing of Santa Cruz Wash	N/A
7	Anderson Road, Steen Road to ~ ½ mile south	Pave roadway connection	N/A

Prepared by Wilson & Company, February 2015.

Table E-3 | Year 2040 Project Rankings

Rank	Project Location	Project Description	V/C Ratio
1	Maricopa-Casa Grande Highway, White & Parker Road to Russell Road	Reconstruct as a 4-lane AZ Parkway	1.09
2	Maricopa-Casa Grande Highway, Plainview Street Extension to White & Parker Road	Widen to 4-lane Arterial	1.03
3	Porter Road, Santa Rosa Drive to Farrell Road	Widen to 4-lane Collector with all-weather crossing of Santa Rosa Wash	0.95
4	SR-238, Ralston Road to SR-347	Widen to 4-lane Arterial	0.89
5	Papago Road, White Road to SR-347	Widen to 2 lanes with a center turn lane	0.87

Prepared by Wilson & Company, February 2015.

APPENDIX F: RECOMMENDED ROADWAY DESIGN STANDARDS, PLANNING LEVEL UNIT COSTS, AND ACCESS MANAGEMENT

This Appendix presents a brief description of each of the nine different roadway facility types examined and adopted for the Regional Connectivity Plan (RCP). The original specific roadway characteristics identified for the City of Maricopa Regional Transportation Plan (RTP) 2008 have been modified, as appropriate, to reflect current thinking regarding regional connectivity requirements of the future and travel demand within the community. Seven facility types have been defined for the RCP:

Parkway
Principal Arterial I and II
Minor Arterial
Collector
Village Collector
60-Foot Right-of-Way Collector

The principal characteristics of these seven facility types – design and access management – are summarized in the following table.

The Roadway Design and Access Management Guidelines table is followed by a description of each roadway facility type and the recommended cross-section diagram showing the typical design of the roadway. The recommendations represent the highest and best design parameters for each of the seven facility types and incorporate many of the characteristics already established and in practice by the City. Some changes in guidance for access management were made to the RTP table to clarify the desirable degree of permissible roadway access, both for private driveways and public streets, based on current City objectives. Generally, the more important the facility is to community's roadway network, the more strictly access should be managed and limited. Recommendations presented herein cover facilities ranging from expressways, where only the most important cross roads should have access, to local roadways, where intersection and driveway access may be virtually unrestricted.

Roadway Design and Access Management Guidelines

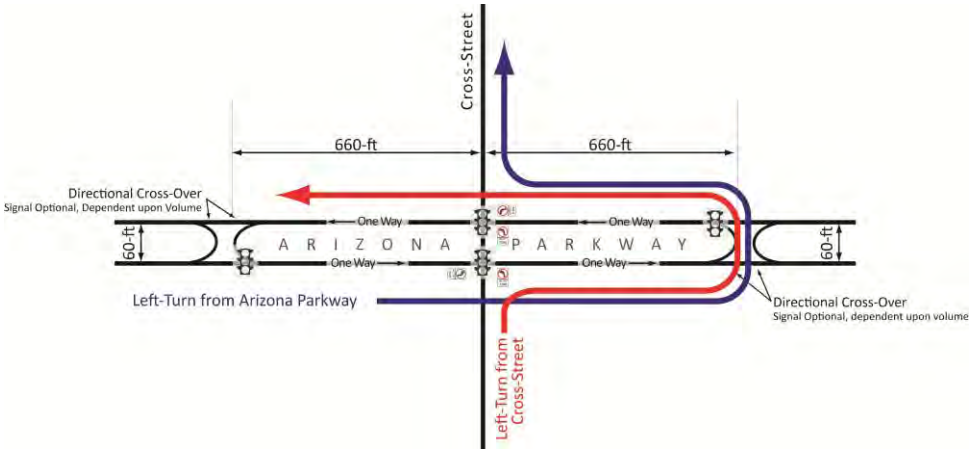
Guidance Criteria	Parkway	Arterials			Collectors		
		Principal Arterial I	Principal Arterial II	Minor Arterial	Collector	Village Collector	60' ROW Collector
Roadway Facility Design Guidlines							
Street Purpose	Mobility	Mobility	Mobility	Mobility	Mobility/Access	Access	Access
Design Speed (MPH)	55	45-55	45-55	45	35	35	35
Posted Speed (MPH)	50	40-45	40-45	35	30	25	25
Right-of-Way Width (FT)	200	150	150	110	81.5	108	60
Number of Lanes	6	6	6	4	3	2	2
Street Width (to back of curb) (FT)	109	109	109	75	51	81	48
Pavement Width (FT)	2 x 42.5	2 x 42.5	2 x 42.5	57	48	78	45
Lane Width (Directional) (FT)	12 - 14	12 - 14	12 - 14	12	12	12	11
Median Width/Left Turn Lane (FT) (P)=Painted, (C)=Curbed	74C	16C Single Left-Turn 28C Double Left-Turn	16C Single Left-Turn 28C Double Left-Turn	16C	14P	14P	None
Design Average Dailyl Traffic (ADT) at LOS 'E' Threshold	70,000	45,000 - 49,200	45,000 - 49,200	29,200	13,000	8,000	4,000
Curb/Edge Treatment	Mountable Curb	Mountable Curb	Mountable Curb	Mountable Curb	Vertical Curb	Vertical Curb	Vertical Curb; Rolled Curb Optional
Pedestrian/Multi-Use Facilities (A)=Attached, (D)=Detached	2 x 12'D (5' Buffer)	10'D with 5' Buffer; 6'D with 5' Buffer	10'D with 5' Buffer; 6'D with 5' Buffer	10'D with 5' Buffer; 6'D with 5' Buffer	10'D with 5' Buffer; 5'D with 5' Buffer	10'D with 5' Buffer; 5'D with 5' Buffer	5'A
Bike Facilities	6 1/2-foot lane \1 (Optional)	6 1/2-foot lane \1 (Optional)	6 1/2-foot lane \1 (Optional)	6 1/2-foot lane \1 (Optional)	6 1/2-foot lane \1 (Optional)	6 1/2-foot lane \1 (Optional)	4-foot lane* (Optional)
Parking	Not Allowed	Not Allowed	Not Allowed	Not Allowed	Not Allowed	10' Parallel and 20' Diagonal withiin Striped Shoulder; Diagonal includes 2-foot buffer to Bike Lane	Parallel within Unstriped Shoulder
Transit Amenities	Far side Bus Pullouts, where warranted \2	Far side Bus Pullouts, where warranted \2	Far side Bus Pullouts, where warranted \2	Far side Bus Pullouts, where warranted \2	Bus Stop	Shuttle or Circulator Service with Bus Stops	Bus Stop
Access Management Guidelines							
Traffic Signal Spacing	1 mile; 1/2 mile, where warranted and permitted	1/2 mile and 1 mile locations, where warranted, fully coordinated and progressed; 1/2 mile Minimum in Urban areas; 1 mile Minimum for highways in Rural areas	1/2 mile and 1 mile locations, where warranted, fully coordinated and progressed; 1/2 mile Minimum in Urban areas; 1 mile Minimum for highways in Rural areas	1/2 mile and 1/4 mile locations, where warranted, fully coordinated and progressed; 1/2 mile Minimum in Urban areas; 1 mile Minimum for highways in Rural areas	1/2 mile locations; 1/4 mile locations, where warranted	1/2 mile locations; 1/4 mile locations, where warranted	1/2 mile locations; 1/4 mile locations, where warranted
Public Street Access Spacing	1/2 mile Minimum; 1 mile Preferred	1/2 mile Minimum; 1 mile Preferred (1/4 mile, if warranted)	1/2 mile Minimum; 1 mile Preferred (1/4 mile, if warranted)	1/8 mile Minimum; 1/2 mile Preferred	No Restrictions	No Restrictions	No Restrictions
Private Direct Access Spacing	N/A	600 feet Minimum; 1,200 feet Preferred	450 feet Minimum for RI/RO; Limit left out to 1/4 mile Minimum spacing for major driveways	450 feet Minimum for RI/RO; Limit left out to 1/4 mile Minimum spacing for major driveways	150 feet minimum 300 feet preferred	150 feet minimum 300 feet preferred	150 feet minimum 300 feet preferred
Driveway Access	Right-in/Right-out only; Left turns are discouraged, but can be accommodated by aligning U-turn crossover with side street or driveway	Right-in/Right-out (RI/RO) preferred; Full access, where approved, but limited	Right-in/Right-out (RI/RO) preferred; Full access, where approved, but limited	RI/RO; Full access, where approved, otherwise limited	Full access, where approved, otherwise limited	Full access, where approved, otherwise limited	Full access, where approved, otherwise limited
Private Access Geometrics	Right turns allowed; Turn lanes may be required	Right turns allowed; Turn lanes may be required	Right turns allowed; Turn lanes may be required	Right turns allowed; Turn lanes may be required	Right turns allowed; Turn lanes may be required	Right turns allowed; Turn lanes may be required	Right turns allowed; Turn lanes may be required
Private Access - Remarks	Per Arizona Parkway Design Guide	Allowed when no other access is available	Allowed when no other access is available	Allowed when no other access is available	One access per parcel; Two for large developments, when spacing standards can be met	One access per parcel; Two for large developments, when spacing standards can be met	One access per parcel; Two for large developments, when spacing standards can be met

\1 Includes 1.5' gutter
\2 See Text for guidance on Transit Stop locations
\3 Manual on Uniform Traffic Control Devices

ROADWAY FACILITY TYPES AND RECOMMENDED CROSS-SECTIONS

PARKWAY

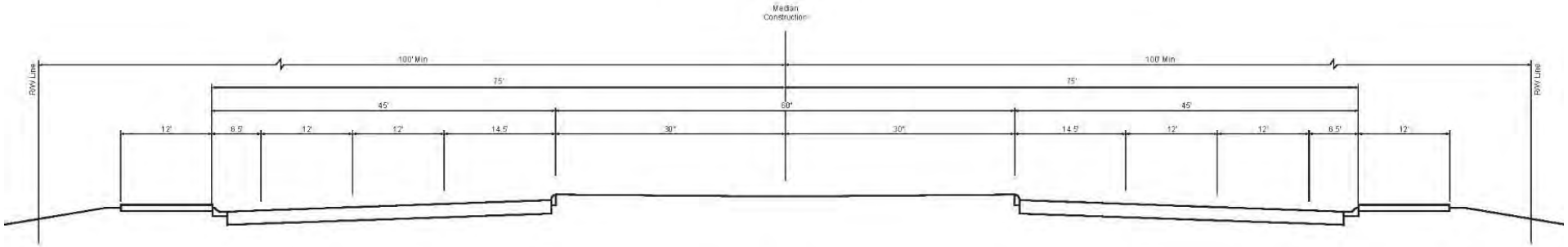
The Parkway, defined here as an Arizona Parkway, is an intermediate type of divided roadway capable of accommodating travel at higher speeds and while carrying greater traffic volumes. The standard right-of-way (ROW) for an Arizona Parkway typically is 200 feet, as shown in the accompanying typical section. The wide ROW permits incorporation of a 60-foot curbed and landscaped median within the cross-section facilitates U-turns and left turns by all vehicle classes at designated locations at or away from signalized intersections with arterials and other parkways. This design permits left turns to be prohibited at major intersections, resulting in an efficient two-phase signal operation accommodating uninterrupted flow of through traffic on the Parkway. Motorists prohibited from turning left are given the opportunity to execute a downstream U-turn at a median break, leading to a right turn upon returning to the intersection, as shown in the graphic at right. This concept, sometimes referred to as the "Michigan indirect left" or "Median U-Turn" intersection, substantially increases the through capacity of a Parkway by comparison with a Principal Arterial. Differences from the cross-sections established as part of the Regional Transportation Plan Update (2008) are:



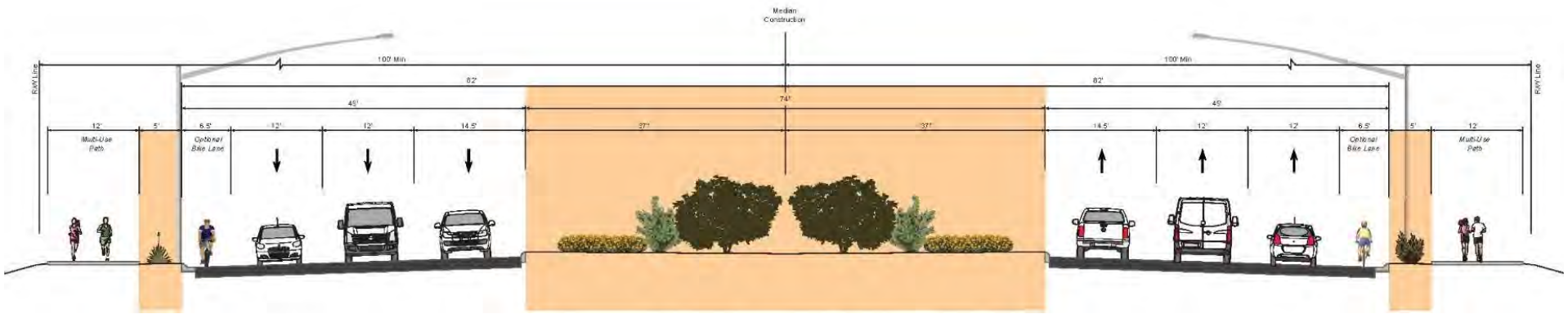
- The median width is increased from 60 feet to 74 feet; and
- A five-foot landscaped buffer is added between the on-street Bike Lane and Multi-Use Path.

If transit service exists or is contemplated, far-side bus pullouts (preferably with sheltered seating) are recommended at selected intersections. The *City of Maricopa Transit Feasibility Review and Implementation Plan* (July 2007) states that "bus stops are generally located on the far side of an intersection to minimize interference with other traffic operations" and that far-side intersection placement of bus pullouts is desirable. Specifically, pullouts are desirable where street traffic speeds are 40 mph or more and one of the following conditions applies: (a) average peak-period boardings exceed five people per bus, (b) average peak-period dwell times exceed 30 seconds per bus, (c) a high frequency of crashes involving buses occurred in the past year, or (d) two traffic lanes or less exist in one direction of travel.

2008 RTP Parkway Section



Proposed Parkway Section



PRINCIPAL ARTERIAL I AND II

Principal Arterial is the highest class of the arterial-type roadway and forms the backbone of the urban roadway system. The primary function of arterials is to provide mobility, i.e., support the movement of a high volume of traffic and higher speeds. The Principal Arterial is shown in the accompanying typical sections with a single left-turn and double left-turn configuration.

The cross section for a Principal Arterial from the 2008 RTP Update was updated to depict the facility's cross section under a single and double left-lane configuration. For the single left –turn configuration, the cross section for a Principal Arterial in the 2008 RTP Update was changed in the following manner:

- The median width is decreased from 20 feet to 16 feet; and
- The Multi-Use Path on at least one side of the roadway is increased in width from six to 10 feet.

The cross section for a Principal Arterial in the 2008 RTP Update was also updated to show a Principal Arterial under a double left –turn configuration:

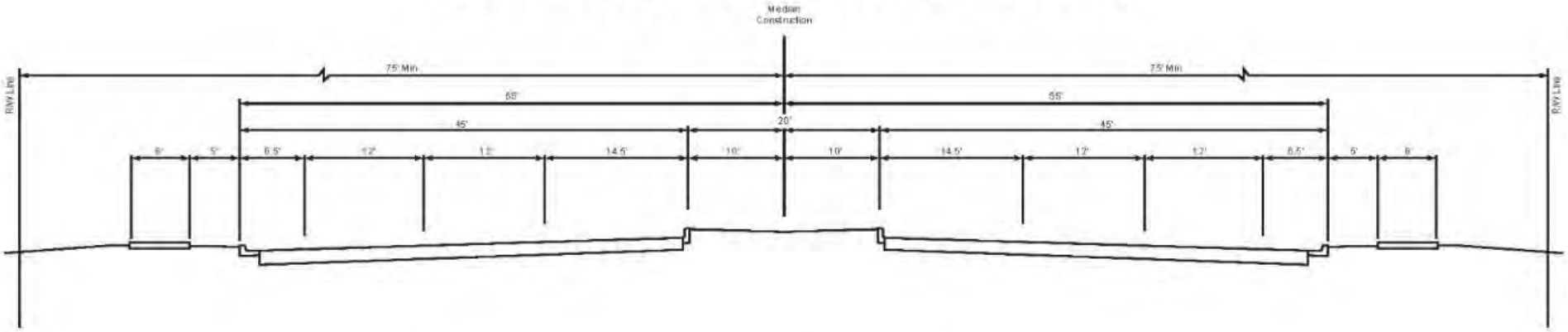
- The median width is increased from 20 feet to 24 feet; and
- The Multi-Use Path on at least one side of the roadway is increased in width from six to 10 feet.

Two types of Principal Arterials have been adopted for the City of Maricopa: Principal Arterial I and Principal Arterial II. Although the cross sections are identical for the two facilities, driveway access standards differ, with Principal Arterial I standards being more restrictive.

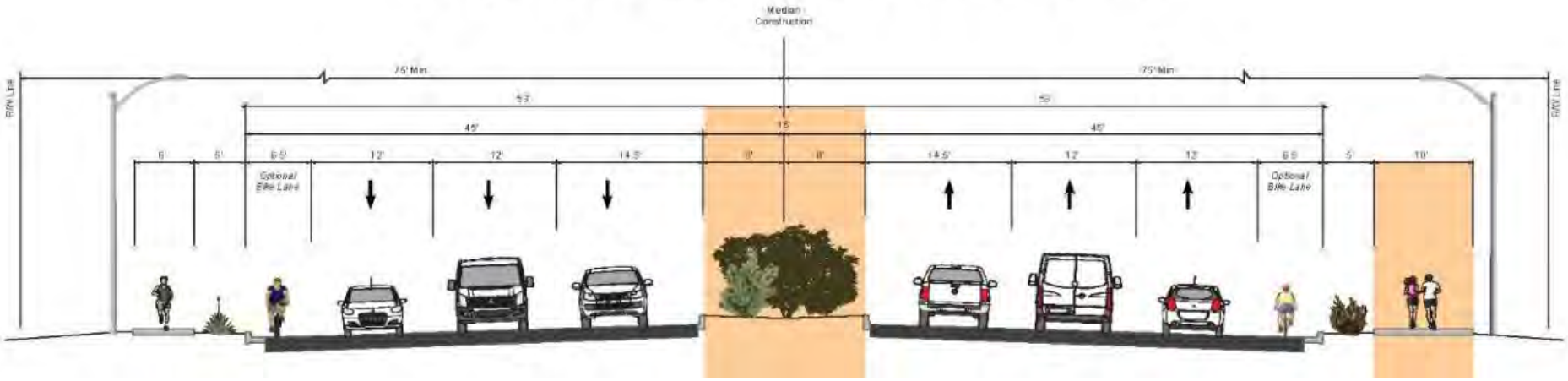
Signalized intersections on a Principal Arterial preferably are spaced at least one-half mile apart and permit access to or the crossing of another arterial facility. Signal progression is established to favor through traffic flow on the Principal Arterial. Although operations generally are the same, due to restriction on driveway acess, the Principal Arterial I may operate at slightly higher design speeds than the Principal Arterial II and carry slightly higher design volumes. Both Principal Arterial I and II often serve established urbanized areas, where substantial direct driveway access already exists.

If transit service exists or is contemplated, far-side bus pullouts (preferably with sheltered seating) are recommended at selected intersections. The *City of Maricopa Transit Feasibility Review and Implementation Plan* (July 2007) states that "bus stops are generally located on the far side of an intersection to minimize interference with other traffic operations" and that far-side intersection placement of bus pullouts is desirable. Specifically, pullouts are desirable where street traffic speeds are 40 mph or more and one of the following conditions applies: (a) average peak-period boardings exceed five people per bus, (b) average peak-period dwell times exceed 30 seconds per bus, (c) a high frequency of crashes involving buses occurred in the past year, or (d) two traffic lanes or less exist in one direction of travel.

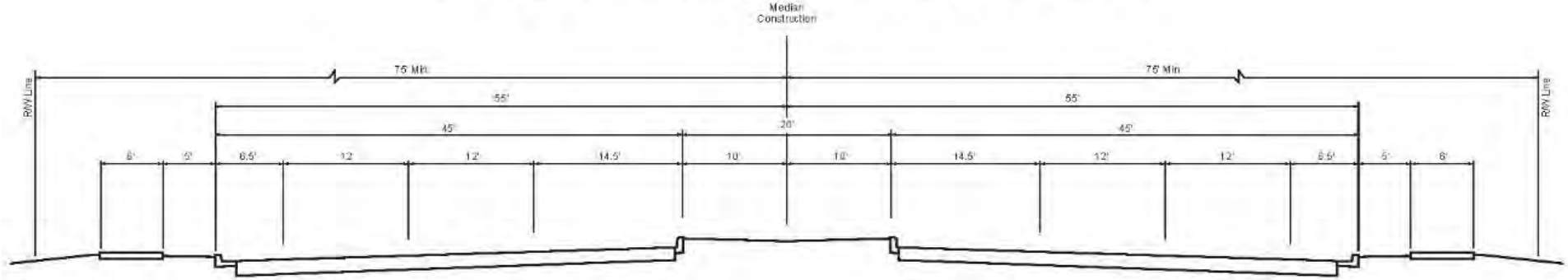
2008 RTP Principal Arterial Section



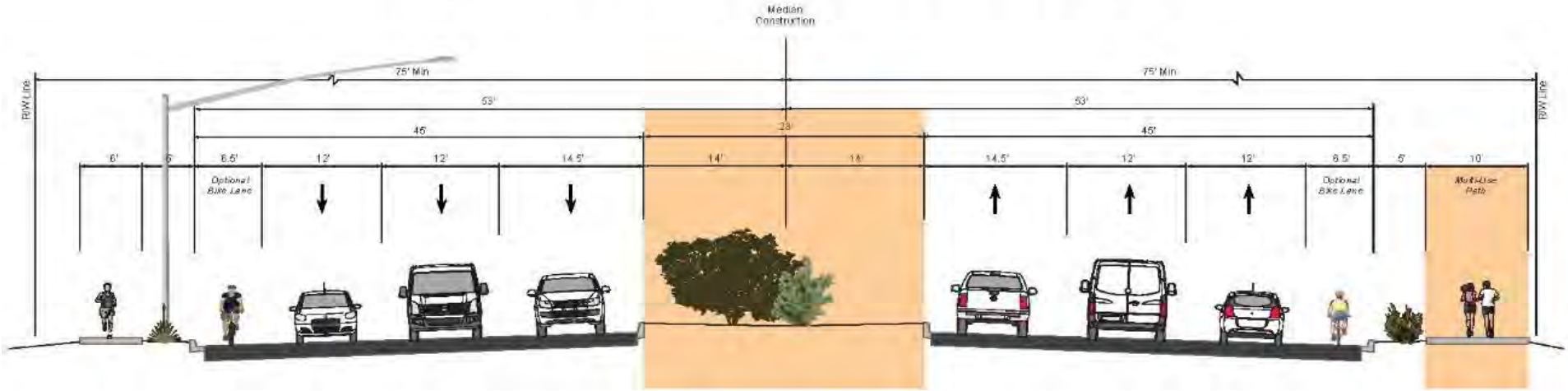
Proposed Principal Arterial Cross-Section (Single Left-Turn)



2008 RTP Principal Arterial Section



Proposed Principal Arterial Cross-Section (Double Left-Turn)



MINOR ARTERIAL

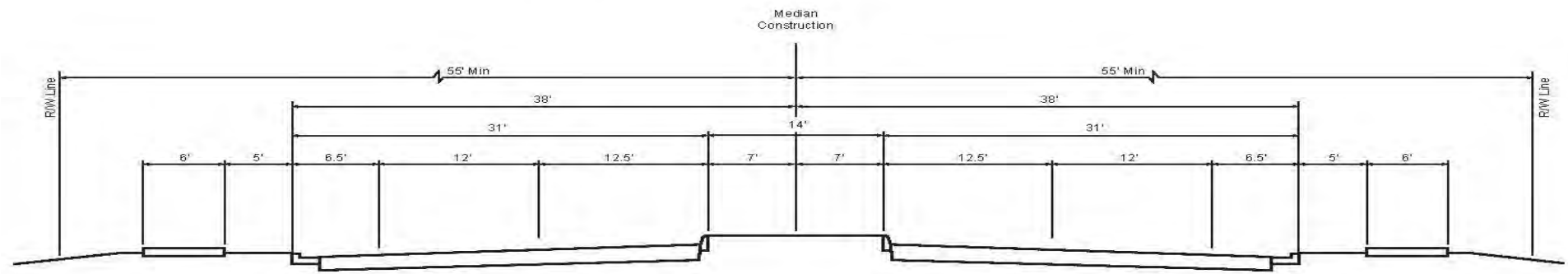
In most urban areas, the Minor Arterial tends to be a four-lane facility, in contrast to the six through lanes typical of Parkways and Principal Arterials. Like all arterials, the Minor Arterial has the primary function of providing mobility, but driveway access may be relatively frequent. Minor Arterials may receive less green time than Principal Arterials at an intersection between the two. Differences from the cross-sections established as part of the Regional Transportation Plan Update (2008) are:

The median width is increased from 14 feet to 16 feet; and

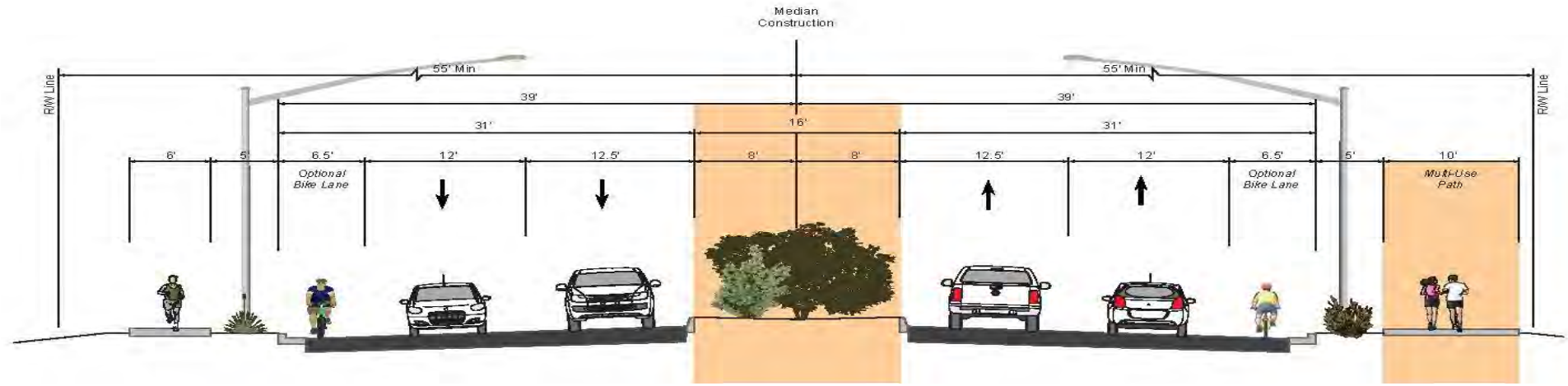
The Multi-Use Path on at least one side of the roadway is increased in width from six to 10 feet.

If transit service exists or is contemplated, far-side bus pullouts (preferably with sheltered seating) are recommended at selected intersections. The City of Maricopa Transit Feasibility Review and Implementation Plan (July 2007) states that "bus stops are generally located on the far side of an intersection to minimize interference with other traffic operations" and that far-side intersection placement of bus pullouts is desirable. Specifically, pullouts are desirable where street traffic speeds are 40 mph or more and either (a) average peak period boardings exceed five people per bus, (b) average peak period dwell times exceed 30 seconds per bus, (c) a high frequency of crashes involving buses occurred in the past year, or (d) two traffic lanes or less exist in one direction of travel.

2008 RTP Minor Arterial Section



Proposed Minor Arterial Section

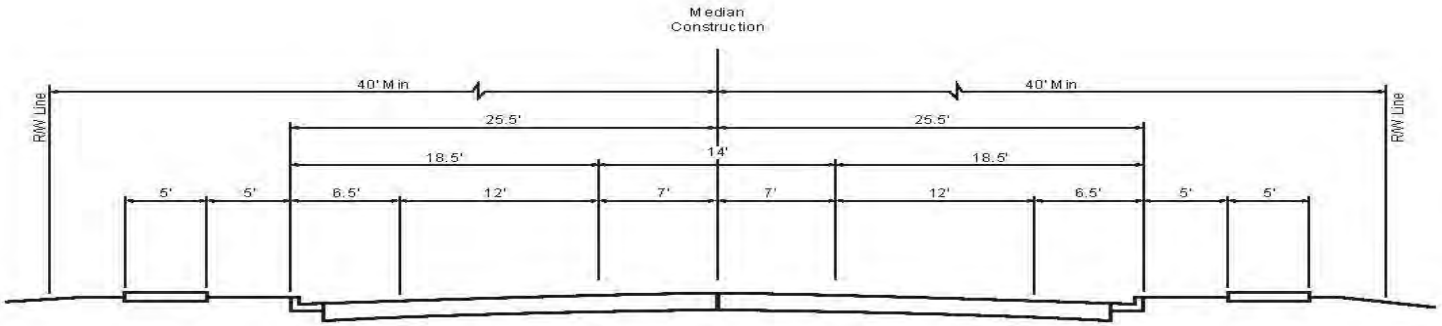


COLLECTOR

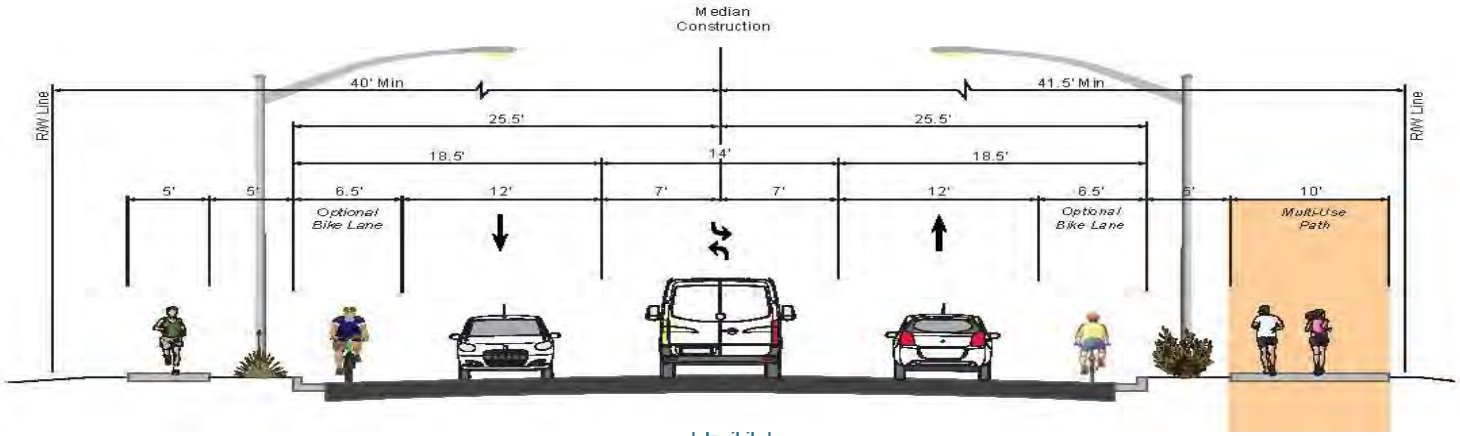
Collectors represent an intermediate classification between Arterials and Local Streets. The typical cross-section of a Collector is shown below. As the name implies, these roadways collect traffic from local streets and distribute it to the arterial network — and vice versa. . Collectors provide mobility for short-distance trips, while also affording access to individual properties abutting the ROW. These facilities provide rapid and efficient access for emergency vehicles to residential areas. Collectors generally have low-to-moderate capacity for traffic. Differences from the cross-sections established as part of the Regional Transportation Plan Update (2008) are:

- The Multi-Use Path on at least one side of the roadway is increased in width from six to 10 feet.

2008 RTP Collector Section



Proposed Collector Section

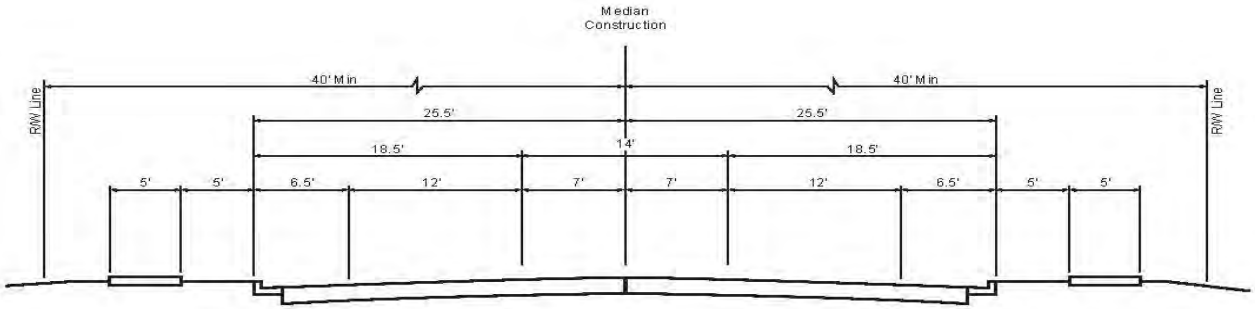


VILLAGE COLLECTOR

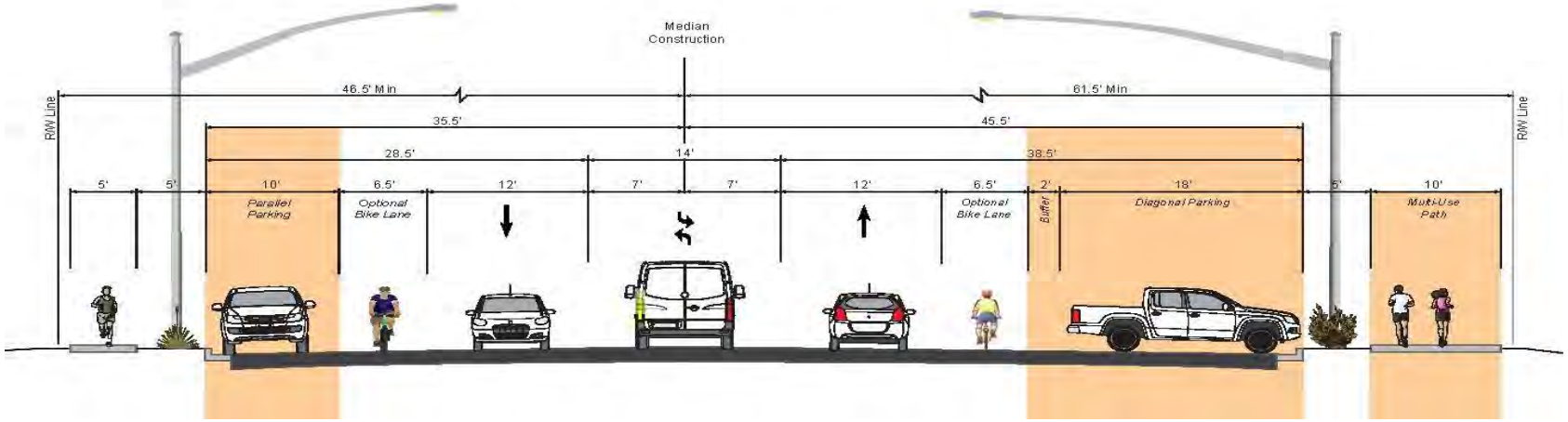
The Village Collector represent is a modification of the typical Collector to serve areas of established development and/or special circumstances (such as larger commercial cores and downtown areas). The typical section, shown below, retains the standard two-lane roadway, but the addition of parking emphasizes access over mobility. Therefore, design and posted speeds deliberately are limited to a modest level. Differences from the cross-section for the Collector roadway established as part of the Regional Transportation Plan Update (2008) are:

- The recommended ROW is increased from 81.5 for the Collector to 108 feet;
- The recommended street width (to back of curb) is 81 feet, an increase from 51 feet;
- The recommended pavement width increases to 78 feet from 48 feet;
- The wider street width is designed to safely accommodate on-street parking – parallel and diagonal;
- The Multi-Use Path on at least one side of the roadway is increased in width from six to 10 feet.

2008 RTP Collector Section



Proposed Village Collector Section with Parking



60-FOOT ROW COLLECTOR

The 60-Foot ROW Collector generally is a two-lane roadway that represents the lowest functional travel need in the community. The primary purpose of the Local Street is to provide access to individual properties and connect these properties to the Collector street system. On-street parking typically is allowed on both sides of the street. This facility type would be common in older, more densely developed areas of the community.

The 60-Foot ROW Collector generally ha a posted speed of 25 miles per hour and a design speed of no more than 35 miles per hour. The recommended typical section for this facility type, as shown below, calls for a ROW of 60 feet with a 48-foot pavement width, including vertical curbs (although rolled curbs may be provided). Attached 5-foot sidewalks are recommended on local streets that serve residential neighborhoods. Differences from the cross-section for the Collector roadway established as part of the Regional Transportation Plan Update (2008) are:

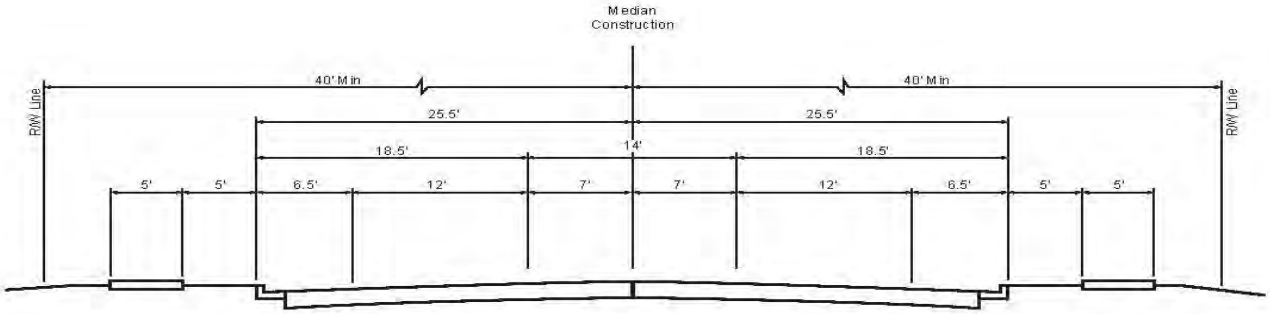
The recommended ROW is decreased to 60 feet from 80 feet;

The recommended street width (to back of curb) is 48 feet, a decrease from 51 feet;

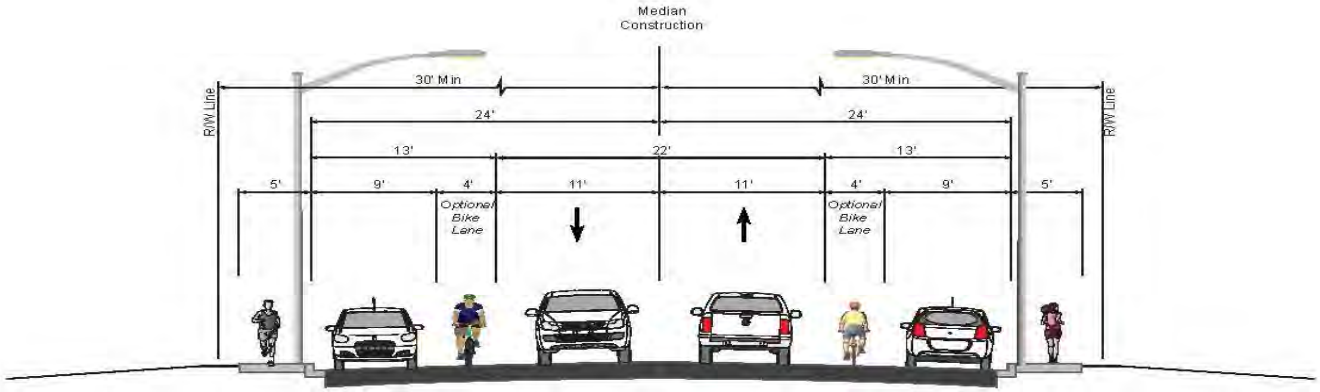
The recommended pavement width decreases to 45 feet from 48 feet; and

The median area is removed and pavement markings are designed to safely accommodate on-street, parallel parking and a bike lane (Optional).

2008 RTP Collector Section



Proposed 60' ROW Collector



ESTIMATED UNIT COST PER LANE-MILE (2015 DOLLARS)

Generalized cost estimates were developed for the RTP Update (2008) based on the cost per lane mile of each facility type, assumed to be new construction. These costs have a reasonable foundation and, therefore, have been carried forward to the RCP. The cost estimates have been adjusted to reflect inflation in construction costs over the period 2007-2015. The inflated costs represent fair and reasonable estimates upon which the City may analyze the cost of proposed projects and associated funding needs. The derivation of the original 2007 cost estimates is presented in the following paragraphs, as modified to reflect the current definitions of facility types identified in the previous section.

The generalized cost per lane mile for construction of a Principal Arterial was based on a project underway at the time the cost estimates were being developed--Maricopa County Highway 85 (MC-85). The MC-85 improvement project involved completely reconstructing the roadway to a six-lane cross-section for a distance of approximately 2.5 miles at an estimated cost of $18 million (2007). This total, however, included improvements to the adjacent cross streets; so, the actual cost of constructing MC-85 to a new six-lane cross-section was estimated to be $12.5 million. The resulting unit cost for completely reconstructing a six-lane major arterial is approximately $830,000 per lane mile ($12.5 million divided by 6 lanes x 2.5 miles). This cost was found to be within 10% of the value recently used by the Maricopa Association of Governments (MAG) for planning-level estimates in support of the *I-10/Hassayampa Valley Roadway Framework Study*.

The study team for the 2008 RTP Update subsequently checked two other planning studies conducted by the Maricopa County Department of Transportation (MCDOT): *Sun Valley Parkway Corridor Study* (28 miles) and *Meridian Road Corridor Study* (13 miles). Both of these 2006 studies included cost estimates for six-lane arterials similar to MC-85. The *Sun Valley Parkway Corridor Study* provided an estimate of $770,000 per lane mile, and the *Meridian Road Corridor Study* established a cost of $1.25 million per lane-mile. Both studies excluded ROW costs from the estimates. The *Sun Valley Parkway Corridor Study* was found to be within eight percent of the $830,000 estimate derived for MC-85; however, the *Meridian Road Corridor Study* reflected a 50 % increase over the MC-85 estimate.

Based on the experience and judgment of the Project Engineer supporting preparation of the RTP Update (2008), the following unit costs (for arterials and collectors) in 2007 dollars can reasonably be inferred from the preceding paragraph (refer to table on the following page).

- **Parkway:** Generally, a Parkway would add 15% to the cost of a Principal Arterial, because there would be slightly more pavement for shoulders, added landscaping, and possibly higher drainage requirements, due to the greater ROW requirements. This would equate to about $950,000 per lane mile (2007$). As the $1.25 million per lane-mile (2007$) is considered to be slightly high for comparable work in Maricopa, it was decided to take an average of these two figures, resulting in an estimated cost of $1.1 million per lane-mile (2007$) for a Parkway.
- **Principal Arterial 1 or 2:** $830,000 per lane mile (2007$), as determined through the analysis of MC-85 (see above).
- **Minor Arterial:** Approximately 90% of the Principal Arterial cost, or $750,000 per lane mile (2007$).
- **Collector:** Approximately 75% of the Principal Arterial cost, or $620,000 per lane mile (2007$).

- **Village Collector:** This facility type would have a higher cost that the Collector, due to the additional street and pavement width; estimated cost per lane mile is 59% greater than the Collector, or $985,000 per lane mile (2007$).
- **60-Foot ROW Collector:** Approximately 60% of the cost of the Principal Arterial cost, or $500,000 per lane mile (2007$).

It is important to note that the estimates cited above were developed in 2007 and do not include ROW cost, major utility work, or major drainage infrastructure improvements.

In the case of relatively simple widening within existing ROW, the cost per lane mile can be reduced by approximately 20% from the cost of new construction. The costs in the table below reflect adjustments for inflation for the period 2007 through 2015.

CITY OF MARICOPA—ESTIMATED ROADWAY COSTS PER LANE-MILE (EXCLUDING ROW)

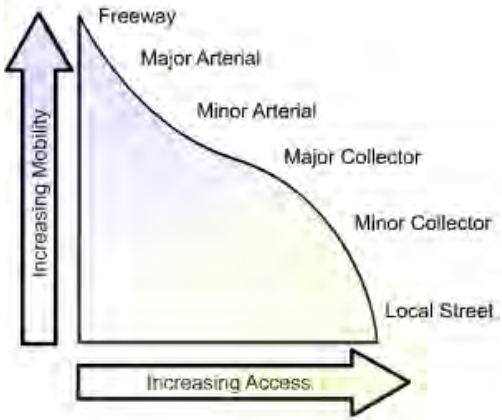
Facility Type	New Construction and Complete Reconstruction Cost per Lane-Mile (Year 2015 Dollars)
Parkway	$1,342,000
Principal 1 Arterial	$1,013,000
Principal 2 Arterial	$1,013,000
Minor Arterial	$915,000
Collector	$757,000
Village Collector	$985,000
60' ROW Collector	$610,000

Source: City of Maricopa Regional Transportation Plan Update (2008) adjusted for inflation using RSMeans Construction Cost Indices for 2007 and 2015 retrieved at http://rsmeansonline.com/References/CCI/3-Historical%20Cost%20Indexes/1-Historical%20Cost%20Indexes.PDF, July 8, 2015.

ACCESS MANAGEMENT GUIDANCE

Access Management focuses on regulating and managing vehicular ingress and egress points to land parcels adjacent to all manner of roadways. It generally is accepted by highway and transportation planning officials that good Access Management promotes safe and efficient use of roadways and the overall roadway network. As such, Access Management supplies the concepts and tools important to maintaining mobility. For example, efficient and effective spacing and design of ingress and egress points to preserve functional integrity of the roadway can assure the overall operational viability of street and road systems is maintained.

The figure at right shows how Access Management is related to the roadway facility types identified and discussed in this Appendix. Increasing mobility is associated with increasing capacity usually associate with Arterial roadways and high-capacity freeways or expressways. By contrast, increasing access is associated with Minor Collectors and Local Streets that have significantly less capacity for traffic movements. An important tenet of Access Management is the adoption of policies and standards that maintain the capability of those facilities with higher capacities to accommodate higher speeds and higher traffic volumes. If access is not controlled, traffic flows can be impeded and the resulting likely will be congestion and less safe traffic movements.



Source: U.S. Department of Transportation, Federal Highway Administration, Office of Operations, Access Management Program Plan, at http://ops.fhwa.dot.gov/access_mgmt/progplan.htm.

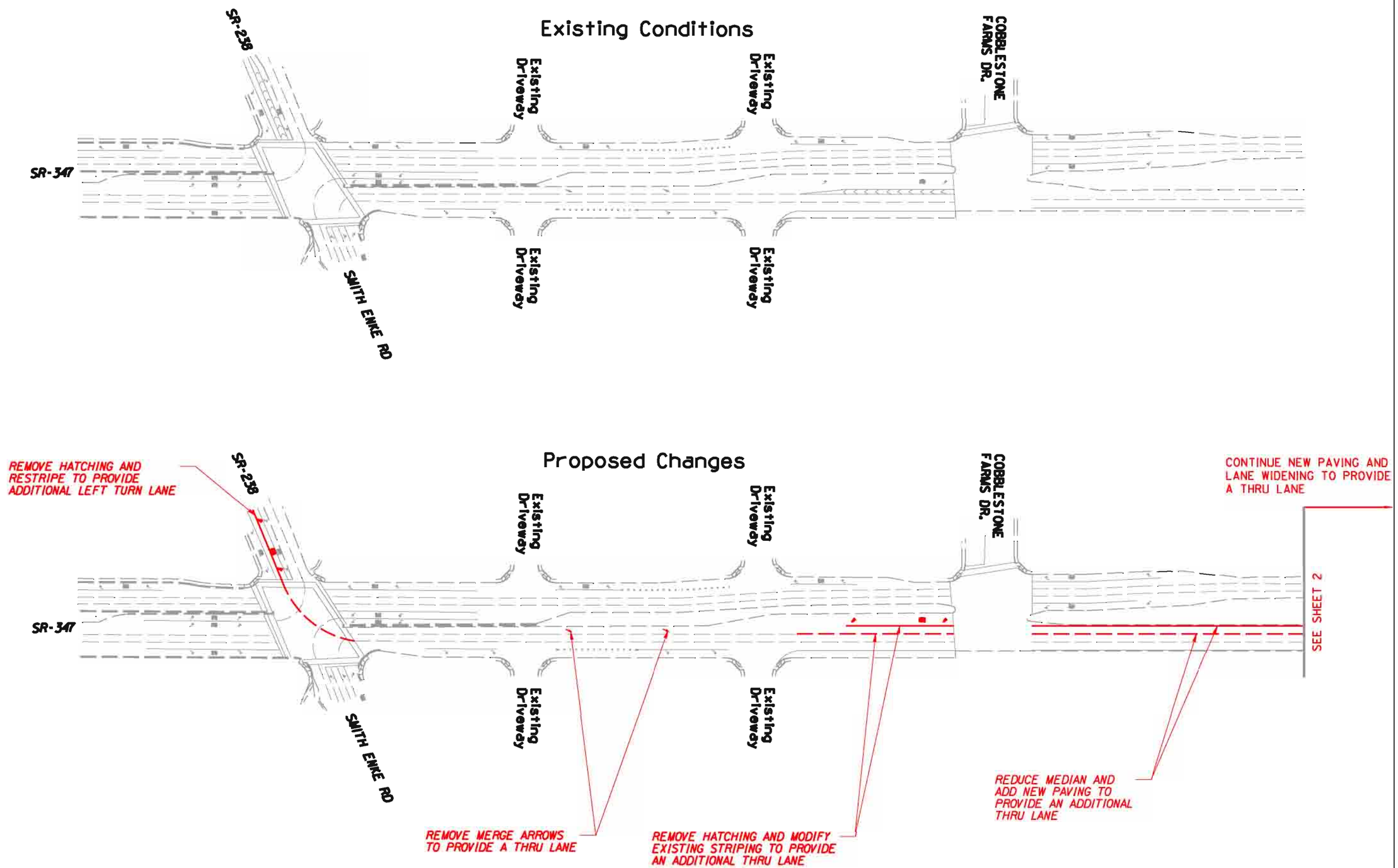
Access Management is achieved through a combination of planning, regulatory, and design strategies. It is necessary to evaluate and consider the full potential effects of introducing driveways or minor streets to the backbone roadway network of Arterials. Beyond the direct effect on traffic progression and safety is the necessity of evaluating and considering potential economic damage to adjoining and nearby parcels. Nevertheless, studies and experience show that a well-designed Access Management Plan, especially for facilities critical to regional connectivity, supports property values and promotes safe and efficient transportation for the traveling public. Basic guidelines relating to Access Management are included in the summary table presented earlier. Comprehensive guidance was developed for the RTP Update (2008) in a Technical Memorandum titled Access Management Guidelines. This document provides adequate guidance for evaluating proposed roadway projects and proposals for access to existing roadways.

APPENDIX G: SR 347 WIDENING/RESTRIPING SCHEMATICS

This appendix presents two schematic drawings documenting the potential widening/restriping of northbound SR 347 to three lanes from SR 238 north to the Maricopa City Boundary. Under this proposed reconfiguration of SR 347, a third northbound lane would be carried through the intersection with Cobblestone Farms Drive – South, the existing inside median would be reduced to accommodate the third lane while retaining the left-turn lane. The third northbound lane would continue north and be carried through the intersection with Cobblestone Farms Drive – North/Lakeview Drive by modifying the striping of the northbound SR 347 approach to allocate space for an outside through lane, while retaining the right-turn lane. North of Cobblestone Farms Drive – North/Lakeview Drive, SR 347 would transition back to a two-lane roadway. The pavement north of the intersection would be widen to accommodate the additional northbound through lane and a tapered transition into the two-lane roadway. This additional lane north of the intersection also would serve as an acceleration lane for right-turning (northbound) motorist entering SR 347 from Lakeview Drive.

POTENTIAL SR-347 ROADWAY/STRIPING IMPROVEMENTS
SR-238 TO NORTH MARICOPA CITY BOUNDARY

NTS



WILSON & COMPANY
410 North 44th St, Suite 460
Phoenix, Arizona 85008
Phone: (602) 283-2701

REV/DATE	DESC.

Two working days before you dig CALL FOR THE BLUE STAKES
602-263-1100
Blue Stake Center CALL COLLECT

JOB NO.:
1ST SUBMITTAL:
2ND SUBMITTAL:
SCALE: NOT TO SCALE
DESIGN: RM
DRAWN: RM
CHECKED:

PLANNED IMPROVEMENTS

MARICOPA, ARIZONA

PRELIMINARY
NOT FOR
CONSTRUCTION
OR RECORDING

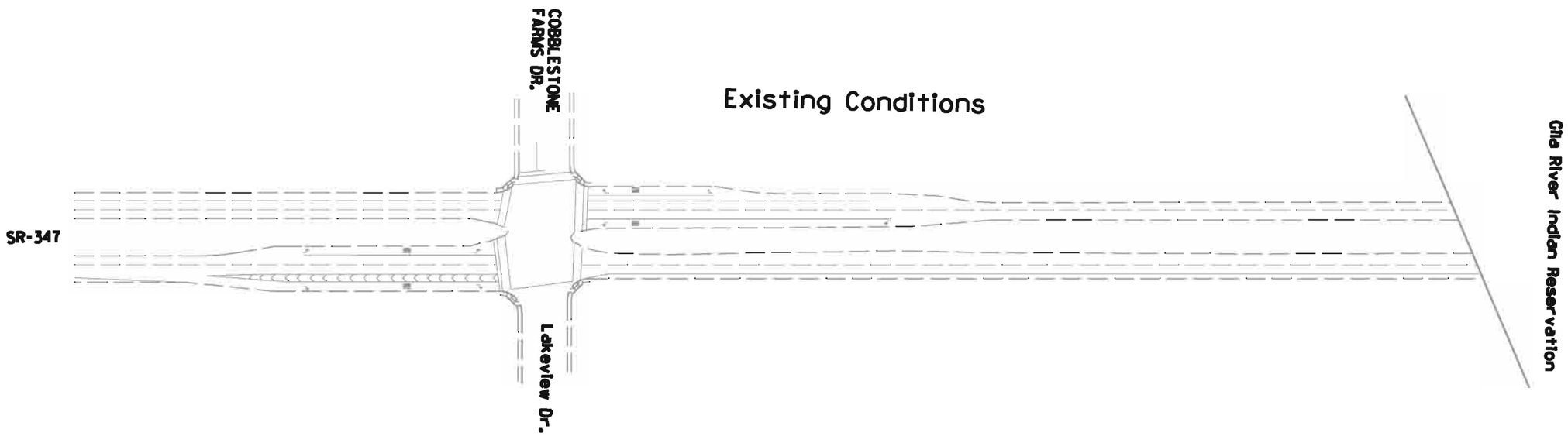
DWG
Appendix G

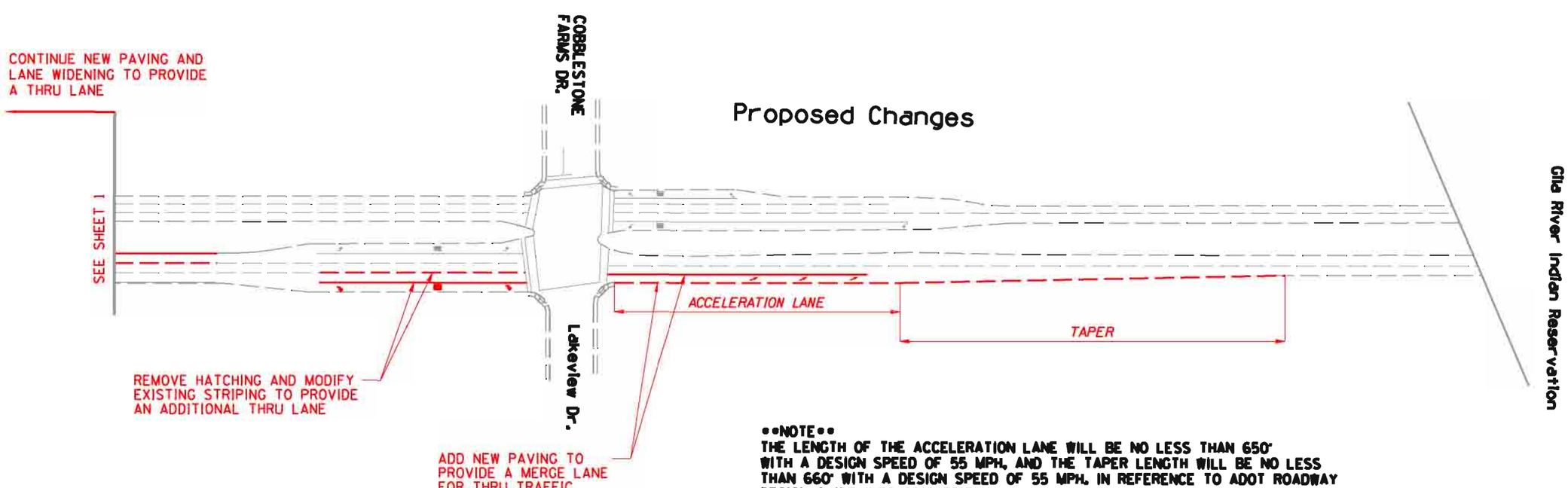
SHEET 1 OF 2

POTENTIAL SR-347 ROADWAY/STRIPING IMPROVEMENTS
SR-238 TO NORTH MARICOPA CITY BOUNDARY

N

NTS





NOTE
THE LENGTH OF THE ACCELERATION LANE WILL BE NO LESS THAN 650' WITH A DESIGN SPEED OF 55 MPH, AND THE TAPER LENGTH WILL BE NO LESS THAN 660' WITH A DESIGN SPEED OF 55 MPH, IN REFERENCE TO ADOT ROADWAY DESIGN GUIDELINES 2012 EDITION.

WILSON & COMPANY
410 North 44th St, Suite 460
Phoenix, Arizona 85008
Phone: (602) 283-2701

REV/DATE	DESC.

Two working days before you dig
CALL FOR THE BLUE STAKES
602-263-1100
Blue Stake Center CALL COLLECT

JOB NO.
1ST SUBMITTAL:
2ND SUBMITTAL:
SCALE: NOT TO SCALE
DESIGN: RM
DRAWN: RM
CHECKED:

PLANNED IMPROVEMENTS

MARICOPA, ARIZONA

PRELIMINARY
NOT FOR
CONSTRUCTION
OR RECORDING

DWG
Appendix G

2 SHEET OF 2

SR 347 CORRIDOR ASSESSMENT

CITY OF MARICOPA

WILSON & COMPANY

July 2015

TABLE OF CONTENTS

BACKGROUND **1**

RELEVANT STUDIES AND PLANS **1**

PURPOSE OF ASSESSMENT **3**

CORRIDOR CHARACTER AREAS **3**

Queen Creek Road/Maricopa Road 5
Maricopa Road - North 6
Maricopa Road - South 7
Maricopa Road/John Wayne Parkway – North 7
Maricopa Road/John Wayne Parkway - North 7

PROBLEM DEFINITION **8**

Level of Service 8
Existing Operational Conditions of SR 347 8
Signalized Intersections *8*
Unsignalized Intersections *8*
Access Drives *14*
Forecast 2040 Operational Conditions of SR 347 14
Base Traffic Network: Existing-Plus-Committed Roadway Network *14*
Potential Mitigation of 2040 Base Network Deficiencies *16*
Future Mitigated Roadway Network Performance *16*
City of Maricopa Growth Implications Associated with SR 347 Capacity *18*

ALTERNATIVE SOLUTIONS FOR UPGRADING SR 347 ..... **22**

High-Capacity Intersection Concepts 22
Arizona Parkway *22*
Queue-Jumping *25*
Center-Exit Interchange or Median Urban Diamond *26*
High-Volume, At-Grade Parkway Intersection *26*
Rural and Urban Arizona Parkway Designs 27
Conceptual Application of Urban Arizona Parkway Designs on SR 347 29
Opportunities for Increasing the Capacity of SR 347 Intersections 34
Riggs Road at SR 347 ..... *34*
SR 347 (Maricopa Road/Queen Creek Road) at Maricopa Road *38*
SR 347/Queen Creek Road at I-10 ..... *40*

ATTACHMENT – INVENTORY OF CORRIDOR FEATURES **1**

Character Area Inventory 1
Available Right-of-Way *1*
Queen Creek Road/Maricopa Road: I-10 to Riggs Road (North GRIC) 1
Maricopa Road: Riggs Road to Casa Blanca Road (Central GRIC) 1
Maricopa Road: Casa Blanca Road to GRIC/City of Maricopa Boundary (South GRIC) 1
Maricopa Road/John Wayne Parkway – GRIC/City of Maricopa Boundary to UPRR (Maricopa) 1
Maricopa Road/John Wayne Parkway – UPRR to Peters & Nall Road (Maricopa) 2
Roadway Cross-Sections/Number of Lanes *2*
Queen Creek Road/Maricopa Road: I-10 to Riggs Road (North GRIC) 2

Maricopa Road: Riggs Road to Casa Blanca Road (Central GRIC) 2
Maricopa Road: Casa Blanca Road to GRIC/City of Maricopa Boundary (South GRIC) 2
Maricopa Road/John Wayne Parkway – GRIC/City of Maricopa Boundary to UPRR (Maricopa) 2
Maricopa Road/John Wayne Parkway – UPRR to Peters & Nall Road (Maricopa) 4
Turn Lanes *6*
Queen Creek Road/Maricopa Road: I-10 to Riggs Road (North GRIC) 6
Maricopa Road: Riggs Road to Casa Blanca Road (Central GRIC) 6
Maricopa Road: Casa Blanca Road to GRIC/City of Maricopa Boundary (South GRIC) 6
Maricopa Road/John Wayne Parkway – GRIC/City of Maricopa Boundary to UPRR (Maricopa) 6
Maricopa Road/John Wayne Parkway – UPRR to Peters & Nall Road (Maricopa) 6
Medians *7*
Queen Creek Road/Maricopa Road: I-10 to Riggs Road (North GRIC) 7
Maricopa Road: Riggs Road to Casa Blanca Road (Central GRIC) 7
Maricopa Road: Casa Blanca Road to GRIC/City of Maricopa Boundary (South GRIC) 7
Maricopa Road/John Wayne Parkway – GRIC/City of Maricopa Boundary to UPRR (Maricopa) 7
Maricopa Road/John Wayne Parkway – UPRR to Peters & Nall Road (Maricopa) 8
Existing Traffic Volumes *9*
Intersections and Access Points *9*
Queen Creek Road/Maricopa Road: I-10 to Riggs Road (North GRIC) 9
Maricopa Road: Riggs Road to Casa Blanca Road (Central GRIC) 9
Maricopa Road: Casa Blanca Road to GRIC/City of Maricopa Boundary (South GRIC) 9
Maricopa Road/John Wayne Parkway – GRIC/City of Maricopa Boundary to UPRR (Maricopa) 9
Maricopa Road/John Wayne Parkway – UPRR to Peters & Nall Road (Maricopa) 10
Structures *11*
Queen Creek Road/Maricopa Road: I-10 to Riggs Road (North GRIC) 11
Maricopa Road: Riggs Road to Casa Blanca Road (Central GRIC) 11
Maricopa Road: Casa Blanca Road to GRIC/City of Maricopa Boundary (South GRIC) 12
Maricopa Road/John Wayne Parkway – GRIC/City of Maricopa Boundary to UPRR (Maricopa) 12
Maricopa Road/John Wayne Parkway – UPRR to Peters & Nall Road (Maricopa) 12

LIST OF FIGURES

Figure 1 | Study Area 2
Figure 2 | Geographic Limits of Character Areas 4
Figure 3 | Year 2014 Existing Operational Conditions on SR 347 10
Figure 4 | SR 347 Signalized Intersection Traffic Geometry 11
Figure 5 | SR 347 Unsignalized Intersection Traffic Geometry 13
Figure 6 | Year 2040 Operational Conditions on SR 347 with No Improvements 15
Figure 7 | Year 2040 Operational Conditions on SR 347 with Improvements 17
Figure 8 | Planning-Level SR 347 Performance Threshold v. Development Potential: No Improvement – Edison Road to Lakeview Drive/Cobblestone Farms Drive – North 19
Figure 9 | Planning-Level SR 347 Performance Threshold v. Development Potential: Additional NB Lane – Edison Road to Lakeview Drive/Cobblestone Farms Drive - North 20
Figure 10 | Planning-Level SR 347 Performance Threshold v. Development Potential: Upgrade to an Arizona Parkway – Edison Road to Lakeview Drive/Cobblestone Farms Drive - North 21
Figure 11 | Planning-Level SR 347 Performance Threshold v. Development Potential: No Improvement – Lakeview Drive/Cobblestone Farms Drive – North to I-10 23
Figure 12 | Planning-Level SR 347 Performance Threshold v. Development Potential: Upgrade to an Arizona Parkway – Lakeview Drive/Cobblestone Farms Drive – North to I-10 24
Figure 13 | Functionality of the Arizona Parkway Operational Concept 25
Figure 14 | Design Concept for a Queue-Jumper Lane 26
Figure 15 | Center-Exit Interchange, Bluff Street at Red Hills Parkway, St. George, Utah 26
Figure 16 | Arizona Parkway Arterial Intersection (APAI) Concept 28
Figure 17 | Conceptual Design Schematic of Urban Arizona Parkway Intersection at SR 347 and Edison Road 31
Figure 18 | Conceptual Design Schematic of Urban Arizona Parkway Intersection at SR 347 and Smith Enke Road 32
Figure 19 | Conceptual Design Schematic of Urban Arizona Parkway Intersection at SR 347 and Lakeview Drive/Cobblestone Farms Drive - North 33
Figure 20 | Arizona Parkway Arterial Interchange (APAI) Design Treatment on SR 347 at Riggs Road 37
Figure 21 | Estimate of Traffic Volume Capacity for Six Intersection Design Treatments 38
Figure 22 | Indirect Left-Turn Intersection at Maricopa Road 39
Figure 23 | Connector Ramps for Queen Creek Traffic at I-10 43

LIST OF TABLES

Table 1 | Qualitative Descriptions of Roadway Level of Service 9
Table 2 | Proposed Improvement Actions to Mitigate Capacity Deficiencies of the 2040 Base Roadway Network 16
Table 3 | Design Parameters of Five Arizona Parkway Categories 30
Table 4 | Traffic Intersection Options: SR 347/Maricopa Road at Riggs Road 35
Table 5 | Service Interchange Options: SR 347/Queen Creek Road at Interstate 10 41

BACKGROUND

SR 347 is the primary connecting roadway between Interstate 10 (I-10) and in south central Maricopa County and I-8 (via SR 84) in western Pinal County. This highway serves as the principal access route to the Phoenix metropolitan area from the Ak-Chin Indian Community (AKIC), the City of Maricopa, and the Gila River Indian Community (GRIC). SR 347 generally is known as Maricopa Road, but also is referred to as the American Indian Memorial Highway on the GRIC and John Wayne Parkway in the City of Maricopa. As a facility on the State Highway System (SHS), SR 347 is operated and maintain by the Arizona Department of Transportation (ADOT).

The SR 347 corridor covers a distance of approximately 29 miles from I-10 to its junction with SR 84 (**Figure 1**). The highway passes through the Maricopa County and the GRIC approximately five miles from its interchange with I-10 before entering Pinal County. SR 347 continues approximately 13.7 miles south within the GRIC before crossing into the City of Maricopa, 1/10 of a mile south of the Hiller Road alignment. The highway then continues south through the City and the Ak-Chin Indian Community (AKIC) to SR 84.

The highway regularly is used for work commute trips to the Phoenix metropolitan area, and vanpool services operating from the City of Maricopa are supported through Valley Metro, the Phoenix area transit system. SR 347 also serves regular trips to/from the Phoenix metropolitan area that are oriented to a variety of social and economic activities, such as shopping, attending sports events, medical appointments, school activities, and church attendance. The highway also has become an important access route from the Phoenix metropolitan area to regional attractions directly south of the City of Maricopa, including Harrah's Ak-Chin Hotel and Casino and the Ak-Chin Multi-tainment complex. SR 347 also serves as a short-cut between the Phoenix metropolitan area and destinations in Southern California, particularly San Diego, and Puerto Peñasco (Rocky Point) in Sonora, Mexico. The short cut allows travelers to shave approximately 29 miles off the alternative route following I-10 and I-8 via Casa Grande, saving approximately 34 minutes of travel.

RELEVANT STUDIES AND PLANS

Central Phoenix Transportation Framework Study, Maricopa Association of Governments (MAG), 2010 to Present.

Maricopa County Major Streets and Routes Plan, MCDOT. Adopted April 18, 2001, Revised September 2004, and June 2011.

Pinal County Transit Feasibility Study, Pinal County, June 2011.

I-8 and I-10 Hidden Valley Transportation Framework Study, MAG in collaboration with multiple state, regional, and local agencies and jurisdictions, August 2009.

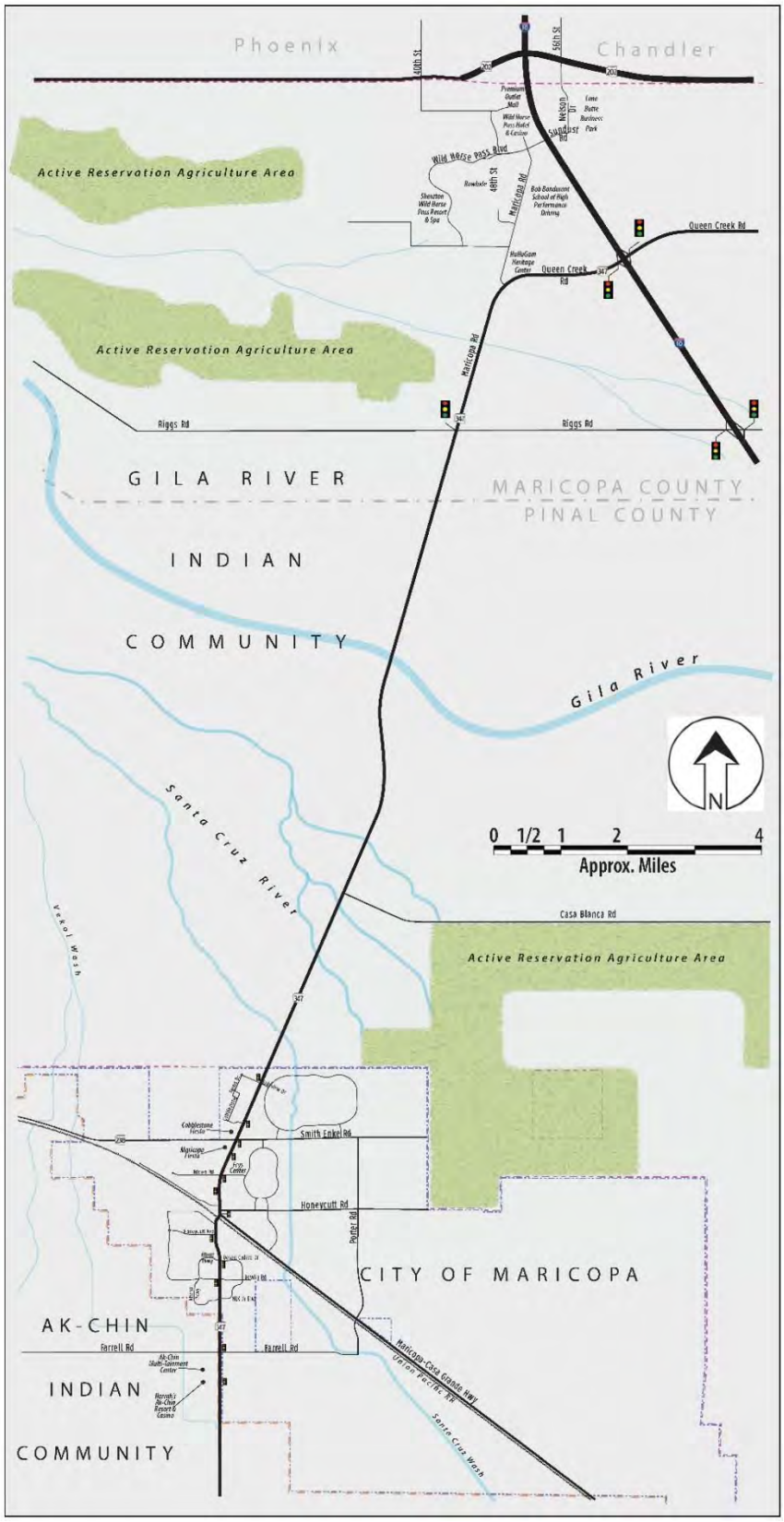
Regional Transit Framework Study, MAG with Building a Quality Arizona (bqAZ) – a cooperative statewide planning body, Valley Metro, and METRO Light Rail, October, 2009.

Pinal County Comprehensive Plan, Pinal County. Adopted November 18, 2009.

Regionally Significant Route Plan for Safety and Mobility (RSRSM), Pinal County, September 2008.

Regional Transportation Plan Update, City of Maricopa, September 2008.

Figure 1 | Study Area



Building a Quality Arizona: Statewide Intrastate Mobility Reconnaissance Study, MAG in cooperation with Building a Quality Arizona (bqAZ), September 2007.

Pinal County Small Area Transportation Study (SATS), Pinal County, August 2006.

City of Maricopa Small Area Transportation Study, City of Maricopa, July 2005.

PURPOSE OF ASSESSMENT

A continuing study by MAG focusing on alternative improvement actions for the core area of the Phoenix metropolitan area – *Central Phoenix Transportation Framework Study* – has resulted in the investigation of numerous potential projects to improve the efficiency and effectiveness of the State's largest urbanized area. Recently, the City of Maricopa joined MAG to improve regional transportation planning functions, and MAG's expansive and varied resources are important sources of information and inspiration. Therefore, it behooves the City to examine the various concepts put forth regarding arterial roadway improvements, as it prepares a second update of the Regional Transportation Plan (RTP) and its first long-term Transportation Master Plan (TMP).

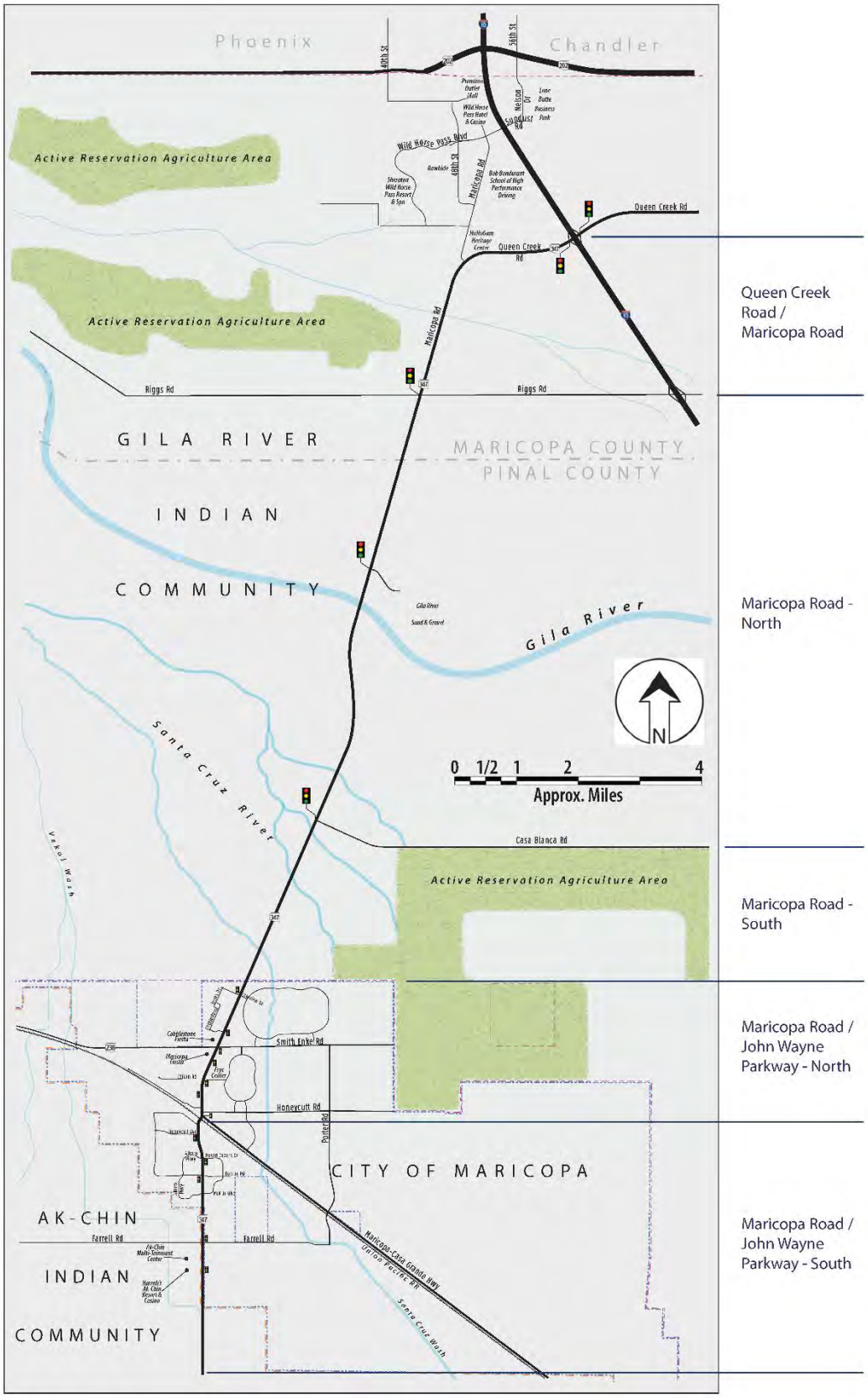
Clearly, SR 347 is strategically important to the regional connectivity of the communities served with the Phoenix metropolitan area. In addition, the City's new affiliation with MAG for transportation planning purposes stresses the need to evaluate the SR 347 corridor for its full length from I-10 through the City to assess the effectiveness, efficiency, and adequacy of this connectivity. The connection is vital to each community's social and economic welfare, a fact that stimulated the City, in particular, to join with MAG for regional transportation planning and programming activities. Many reports and studies have consistently expressed the need for improvements to SR 347. Therefore, this assessment is intended to provide a firm foundation for understanding the operational issues in the corridor and its physical characteristics so that future planning toward realistic solutions may move forward.

The recently revised *Maricopa County Major Streets and Routes Plan* identifies SR 347 as a Future Corridor – Parkway. This is consistent with recommendations presented in the *I-8 and I-10 Hidden Valley Transportation Framework Study*, *Pinal County Comprehensive Plan*, and Pinal County's *Regionally Significant Route Plan for Safety and Mobility* (identified as "High/Critical Priority). Therefore, it follows that potential improvements to the SR 347 corridor should be investigated in more detail to provide a basis for moving forward with the formal planning process. This report attempts to establishment a foundation for understanding development, mobility, and access conditions in the corridor as well as issues potentially associated with future operations as additional growth and development occurs.

CORRIDOR CHARACTER AREAS

SR 347 is a State Highway best described by four corridor Character Areas. Character Areas recognize community boundaries and urban development patterns. The community boundaries are especially relevant when determining appropriate planning actions and identifying funding solutions. **Figure 2** delineates the Character Areas defined for the SR 347 corridor. Each of the Character Areas represents relatively unique or distinguishing factors or features affecting the access and mobility aspects of the SR 347 corridor. Descriptions below attempt to provide a relatively definitive examination of the principal access and mobility features in each area. Additional detailed inventory of physical features of the corridor are provided in the Attachment to this report.

Figure 2 | Geographic Limits of Character Areas



Queen Creek Road/Maricopa Road

I-10 to Riggs Road (North GRIC) – The northernmost portion of SR 347, known as Queen Creek Road, lies wholly within Maricopa County, but is fully contained within boundaries of the GRIC. Maricopa Road originally was constructed as a link between Maricopa and the City of Tempe. The original alignment of Maricopa Road extended north from the current SR 347 at the existing junction with Queen Creek Road, 1.8 miles west of I-10. With construction of I-10 in the early 1970s and other improvements, a connection to I-10 was established via Queen Creek Road. The combined roadway became SR 347 and connectivity with the new freeway enhanced regional travel opportunities. SR 347 continues to bear the name Maricopa Road west of the Queen Creek Road/Maricopa Road junction. The original alignment north from the junction is still referred to as Maricopa Road.

The Queen Creek Road segment between I-10 and Maricopa Road represents an important mobility route for travel to/from the heavily urbanized Phoenix metropolitan area for residents of the largely rural reservation lands of the GRIC, the City of Maricopa, and the AKIC. In addition, Queen Creek Road extends approximately 17 miles to the east of I-10 as a major thoroughfare serving the cities of Chandler and Queen Creek. This connection provides access to numerous economic opportunities, including jobs, shopping, social organizations, and entertainment venues.

An important facet of this Character Area is the connection along Maricopa Road north from the new Maricopa Road/Queen Creek Road junction. The original route leads directly to the major economic hub of the GRIC. West of this segment of the original Maricopa Road is the 2,700-acre Wild Horse Pass hospitality destination managed by the Wild Horse Pass Development Authority. This entertainment center has the developed infrastructure to accommodate a full range of entertainment activities/venues supported by retail and commercial as well as municipal services. Today, it is home to: the Sheraton Wild Horse Pass Resort and Spa, which hosted the New England Patriots for the 2015 Super Bowl; Koli Equestrian Center; Rawhide Western Town and Steakhouse; Whirlwind Golf Club at Wild Horse Pass; and supporting retail establishments. Directly east of this segment of Maricopa Road is the Bob Bondurant School of High Performance Driving at Wild Horse Pass Motorsports Park, which includes a 120-acre lake for high speed boat racing.

Maricopa Road continues north to the Wild Horse Pass Hotel and Casino, and north of this attraction is the Phoenix Premium Outlets. It terminates at Wild Horse Pass Boulevard. Turning east on Wild Horse Pass Boulevard takes one to the Lone Butte Business Park across I-10, which incorporates the Lone Butte Industrial Development Park. The Lone Butte Business Park occupies approximately 1.2 square miles of the southwest quadrant of the I-10/Loop 202 (Santan Freeway) system interchange. Thus, this old segment of the original Maricopa Road is an important access route to these two large, regionally significant economic activity centers for GRIC members, Maricopa residents, members of the AKIC, even visitors from western Arizona and southern California.

This Character Area reflects the transition from the heavily urbanized Phoenix metropolitan area and economic development concentrations on the northern boundary of the GRIC Reservation to the rural, undeveloped reservation lands. Maricopa Road continues south from the Maricopa Road/Queen Creek Road junction to Riggs Road. The area through which SR 347 traverses primarily is undisturbed desert landscape. The junction at Riggs Road/Beltline Road provides a secondary access route between the SR 347 corridor and I-10 to the east. West of this intersection, Riggs Road/Beltline Road traverses the GRIC Reservation for approximately 4.6 miles before heading to the northwest for a connection with

51st Avenue at the western edge of South Mountain. Riggs Road/Beltline Road, west of SR 347, also provides access to some of the Tribe's extensive agricultural pursuits along the north side of the Gila River. Thus, Riggs Road/Beltline Road is an important roadway for the northeastern portion of the reservation, supporting travel north to the Phoenix metropolitan area and east to the tribal center at Sacaton.

Riggs Road is a two-lane rural facility. The intersection with SR 347 is signalized. The northbound and southbound approaches have dedicated left- and right-turn lanes; the eastbound and westbound approaches have dedicated left-turn lanes. An overhead electric (OHE) transmission line parallels the west side of SR 347 south from Maricopa Road/Queen Creek Road junction to Riggs Road. It ties into an electrical substation located in the northwest corner of the SR 347/Riggs Road intersection.

Maricopa Road - North

Riggs Road to Casa Blanca Road (Central GRIC) – This Character Area can be described as undeveloped desert land heavily influenced by periodic flows (sometimes heavy) of the Gila River, Santa Cruz River, and a host of tributary washes. The OHE transmission line crosses Riggs Road then crosses SR 347 to the east directly south of Riggs Road and continues in a southeasterly direction. SR 347 continues south of Riggs Road to the Maricopa/Pinal County Line, a distance of approximately one mile. There is no development (past or present) apparent in this portion of the corridor.

OHE transmission lines cross SR 347 at three locations directly south of the Maricopa/Pinal County Line. Between the Maricopa/Pinal County Line and the Gila River, there are three access points that lead directly into the surrounding desert. Quarry Road is located at the north edge of the Gila River near the river's historic flow limits, approximately 1.7 miles south of the Maricopa/Pinal County Line. There is a full access, stop-controlled 'T'-intersection at Quarry Road.

Directly south of Quarry Road, the Gila River significantly influences this segment of SR 347 over a distance of approximately ¾ of a mile. The 1,253-foot Gila River Bridge sets on two embankments protected by revetments that divert river flows under the bridge. The land directly west of this south embankment has been purposefully modified for the erosion control. Directly east of SR 347 at the Gila River Bridge is the Maricopa Plant of Gila River Sand & Gravel, a large quarry operation established within the limits of the Gila River historic floodplain.

South of the Gila River, SR 347 bends around Pima Butte, continuing south to Casa Blanca Road. There are small areas of undeveloped desert east and west of the highway that exhibit evidence of past agricultural pursuits. Sacate Road intersects SR 347 approximately 1.5 miles south of the Gila River. This dirt road provides access to small neighborhoods associated with large abandoned agricultural fields lining the north side of Casa Blanca Road. It also extends into the hills west of SR 347. Approximately one-half mile south of Sacate Road is another crossing of OHE transmission lines. At this location there is a right-in/right-out (RI/RO) access drive into the desert to the east of the highway and a similar drive allowing access to the desert to the west. About one-quarter mile south of this point, the significant influence of the Santa Cruz River becomes apparent. The Santa Cruz River has a widely dispersed flow pattern through northwestern Pinal County, due to flat and gently sloping topography, leading to the river's confluence with the Gila River about 25 miles to the northwest.

Maricopa Road - South

Casa Blanca Road to City of Maricopa (South GRIC) – There is no development within the expansive Santa Cruz River flow pattern. Which manifests north of Casa Blanca Road and extends to the City of Maricopa. There are five access points through this portion of the highway, the major one being Casa Blanca Road, a two-lane rural facility with a signalized 'T'-intersection at SR 347. A major bridge structure on embankments with protective revetments is located directly south (500 feet) of Casa Blanca Road to accommodate Santa Cruz River (or Wash) flow. A local distribution power line crosses SR 347 approximately 2, 250 feet south of Casa Blanca Road. Approximately 4,000 feet further south is an unnamed road to the west that allows access to a former Federal Government airfield.

A second significant bridge is located approximately 3,000 feet north of the GRIC boundary with the City of Maricopa. This bridge is labeled on the highway sign as Santa Rosa Wash. This wash passes through the core area of the City of Maricopa exiting to the north. The 200-yard-wide bed of the wash is 0.42 miles to the east of SR 347. It exits the City and is channeled from that point under a bridge at SR 347, which provides a channel 75 yards wide. Like the other two bridges, this SR 347 bridge is constructed on embankments with protective revetments. The channelization of Santa Rosa Wash continues for approximately 350 yards west of the bridge.

At the Hiller Road alignment, which is 285 feet north of the GRIC/City of Maricopa boundary, there is a median break with access drives leading into undeveloped land east and west of SR 347. Although the drives are offset, these two drives potentially represent an uncontrolled, full-access intersection.

Maricopa Road/John Wayne Parkway – North

GRIC/City of Maricopa Boundary to UPRR (Maricopa) – This Character Area fully reflects the urban-density residential and commercial development of the City of Maricopa along each side of the roadway. This stretch of SR 347 is an urban roadway with more intensive and complex traffic patterns with multiple access points serving intersecting roadways and abutting properties. SR 347 in the city offers sharp contrast to the northern portion of the corridor, which essentially is a thoroughfare through the desert with few access points.

SR 347 enters the City of Maricopa as a divided, four-lane highway. The roadway widens briefly to five and six lanes south of Cobblestone Farms Drive/Lakeview Drive about 1,300 feet inside the City. The roadway is constrained to four lanes by the time it reaches Hathaway Avenue, 2,200 feet north of the UPRR tracks. The UPRR tracks have represented a significant impediment to travel within the City, but recent actions by ADOT have set in motion a project to grade separate SR 347 from the UPRR tracks and realign the roadway approximately 150 yards to east.

SR 347 remains a four-lane roadway south of the UPRR tracks, until expanding again to six lanes as it approaches Alterra Parkway/Desert Cedars Drive about 3,300 feet to the south. It drops to five lanes south of Bowline Road and then four lanes at Juan Street, the northern boundary of the Ak-Chin Indian Community. It continues south as a four-lane divided highway, except for the final 1,000 yards, to SR 84, which provides a connection to I-8.

Maricopa Road/John Wayne Parkway - North

UPRR to Peters & Nall Road (Maricopa) – This Character Area reflects a mixture of residential subdivisions and undeveloped land served by a four-lane divided highway. The eastern boundary of AKIC begins on the west side of the highway at Juan Street. The roadway continues south to Farrell

Road. Immediately south of Farrell Road on the west side of the roadway are two regional entertainment facilities owned and operated by the AKIC: UltraStar Multi-tainment Center at Ak-Chin Circle and Harrah's Ak-Chin Hotel and Casino. Both attract patrons from throughout central Arizona. SR 347 continues south of these to facilities as a divided highway to Peters and Nall Road.

PROBLEM DEFINITION

The multiple social and economic functions of SR 347 within the City of Maricopa and the regional connectivity function to north of the city, results in the highway being heavily used at almost all hours of the day and night. At times, the highway can get backed up due to general congestion or an incident that blocks traffic flow, such as a crash. It is not unusual for vehicle operators to use the shoulders to escape congested conditions, particularly along the portion of SR 347 within the GRIC.

LEVEL OF SERVICE

Level of service (LOS) is a quantitative method for measuring quality of service provided by a transportation facility or service to a typical traveler. The methodology employed combines measurement of the operational characteristics of traffic with the perception of traffic conditions by both motorists and passengers. The analysis of roadway segment LOS is based on the number of lanes, the functional classification of the roadway, and the roadway capacity expressed in terms of the average daily traffic (ADT) volume (generally average over a full year). A key aspect of LOS analysis is the notion of thresholds, which define the breakpoint between varying levels of service. The qualitative descriptions of the six levels of service are summarized in **Table 1**.

EXISTING OPERATIONAL CONDITIONS OF SR 347

Figure 3 provides a summary of traffic conditions through the corridor and indicates the level of service (LOS) currently attained under those conditions. **Figure 3** shows that average daily traffic flow on the SR 347 ranges from less than 15,000 vehicles per day (vpd) south of the UPRR to 40,200 directly north of the GRIC/City of Maricopa Boundary. This planning-level volume performance analysis reveals four of five segments, which correspond to the Character Areas just described, currently are operating with no notable issues of congestion. The segment between Casa Blanca Road to City of Maricopa is identified as 100 percent congested based on the accepted standards for LOS E and LOS F applied to the facility type and number of lanes.

Signalized Intersections

There are four signalized intersections in the three Character Areas defining SR 347 between I-10 and the GRIC/City of Maricopa Boundary. Within the City, there are an additional 12 signalized intersections. The geometry of these intersections is presented in **Figure 4**.

Unsignalized Intersections

North of the City of Maricopa, there are three unsignalized intersections with a roadway. These are 'T' intersections that permit left and right turns on to the highway via a median break. Within the City, there are an additional five unsignalized intersections. Three intersections allow left-turn, through,

and right-turn movements relative to SR 347. The other two intersections accommodate left- and right-turns. The traffic geometry for these unsignalized intersections is displayed in **Figure 5.**

Table 1 | Qualitative Descriptions of Roadway Level of Service

LOS DESCRIPTION

A **Free Flow.** Level A represents high speed, smooth flow with little or no interference between vehicles.

B **Reasonable Flow.** Lower speeds than LOS A, although flow is still good and little congestion exists. In urban areas, average over-all speeds drop due to intersection delay and vehicular conflicts.

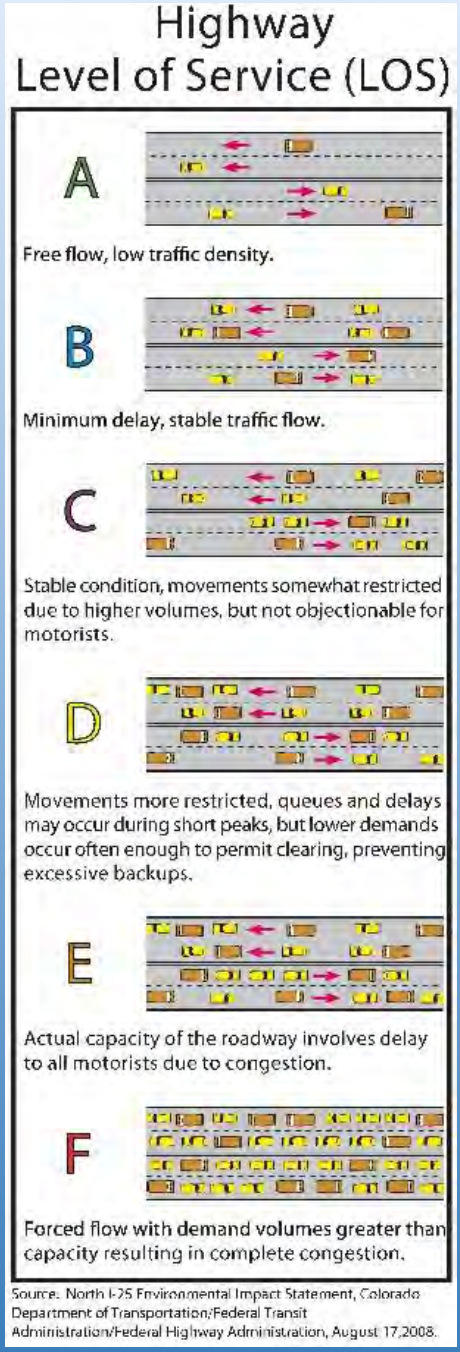
C **Lower Speeds with Delays.** Lower speeds than LOS B, although flow is still good and little congestion exists. Operation is still stable with acceptable delays, but becoming more critical.

D **Congestion with Slight Instability of Flow and Longer Delays.** Level D shows still lower speeds than previous levels. There is some congestion, and conditions become slightly unstable with respect to travel time and delay. The traffic flow is beginning to tax the capabilities of the street section. In urban and suburban areas, delays at intersections may be extensive with some cars waiting two or more cycles.

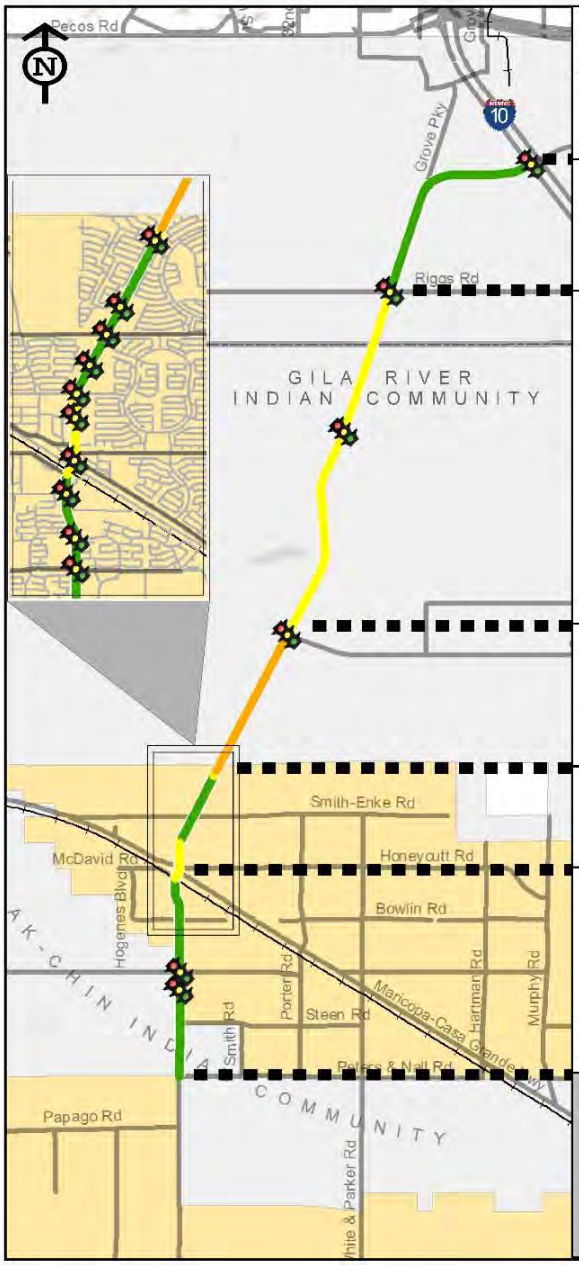
E **Unstable Flow.** Traffic flow is unstable, and traffic volumes are match roadway design capacity. Any momentary stoppage may create an immediate and significant amount of congestion. Traffic is backed up continuously at intersection approaches.

F **Heavy Congestion, Stop-and-Go Flow.** Level of service F is reflected in conditions of heavy congestion and stop-and-go traffic. All intersections are handling traffic in excess of capacity. Vehicular back-ups extend back from signalized intersections, through unsignalized intersections.

Source: Chapter III, *Standards*, Idaho State Highway Plan at http://h237-41.state.id.us/planning/highway/shp/standard.pdf. Annotated for clarity.



Area Transportation Plan 2015



Segment Length	MAG Model Facility Type	Number of Lanes	Capacity, vehicles per day (vpd)	Average Daily Traffic (ADT)	Percent Cngstd. (LOS E or F)
3.89 mi	Expwy	4	54,100	35,600	0%
6.89 mi	Expwy	4	54,100	39,400	0%
2.87 mi	Arterial	4	45,600	40,200	100%
2.07 mi	Arterial	5 6 4	51,900 60,100 41,500	40,100 32,300* 34,800	0%
3.98 mi	Arterial	4 6 5 4	41,500 60,100 51,900 41,500	31,700 11,400 11,900 10,600	0%

Source: 2014 MAG Travel Demand Model
*ADT taken from 2015 ADOT TDMS Count

Legend

- Signals
- Railroad
- Counties
- TMP Study Area

Level of Service

- LOS A-C
- LOS D
- LOS E
- LOS F

0 2 4
Miles

April 24, 2015

Figure 3 | Year 2014 Existing Operational Conditions on SR 347

Figure 4 | SR 347 Signalized Intersection Traffic Geometry

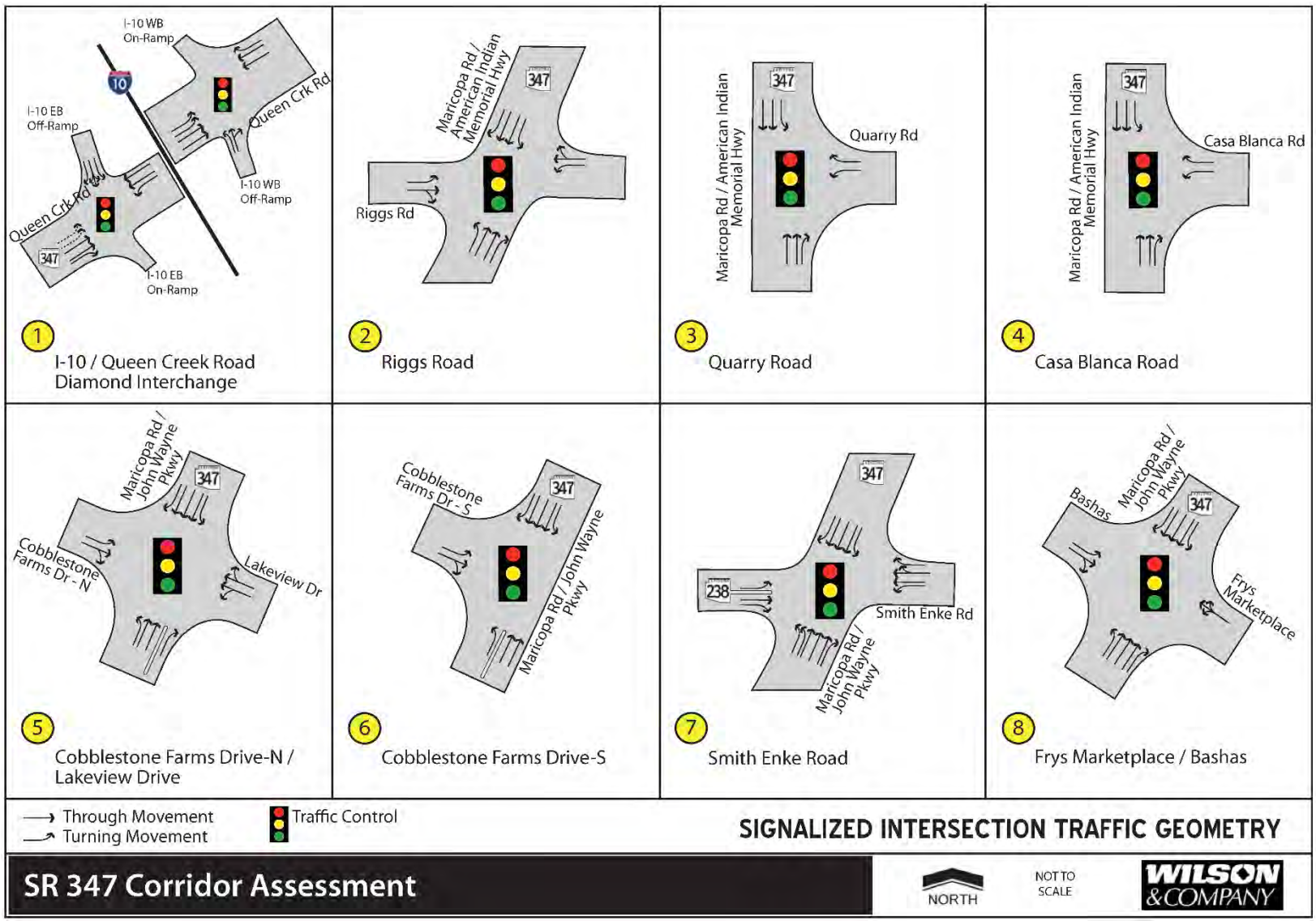
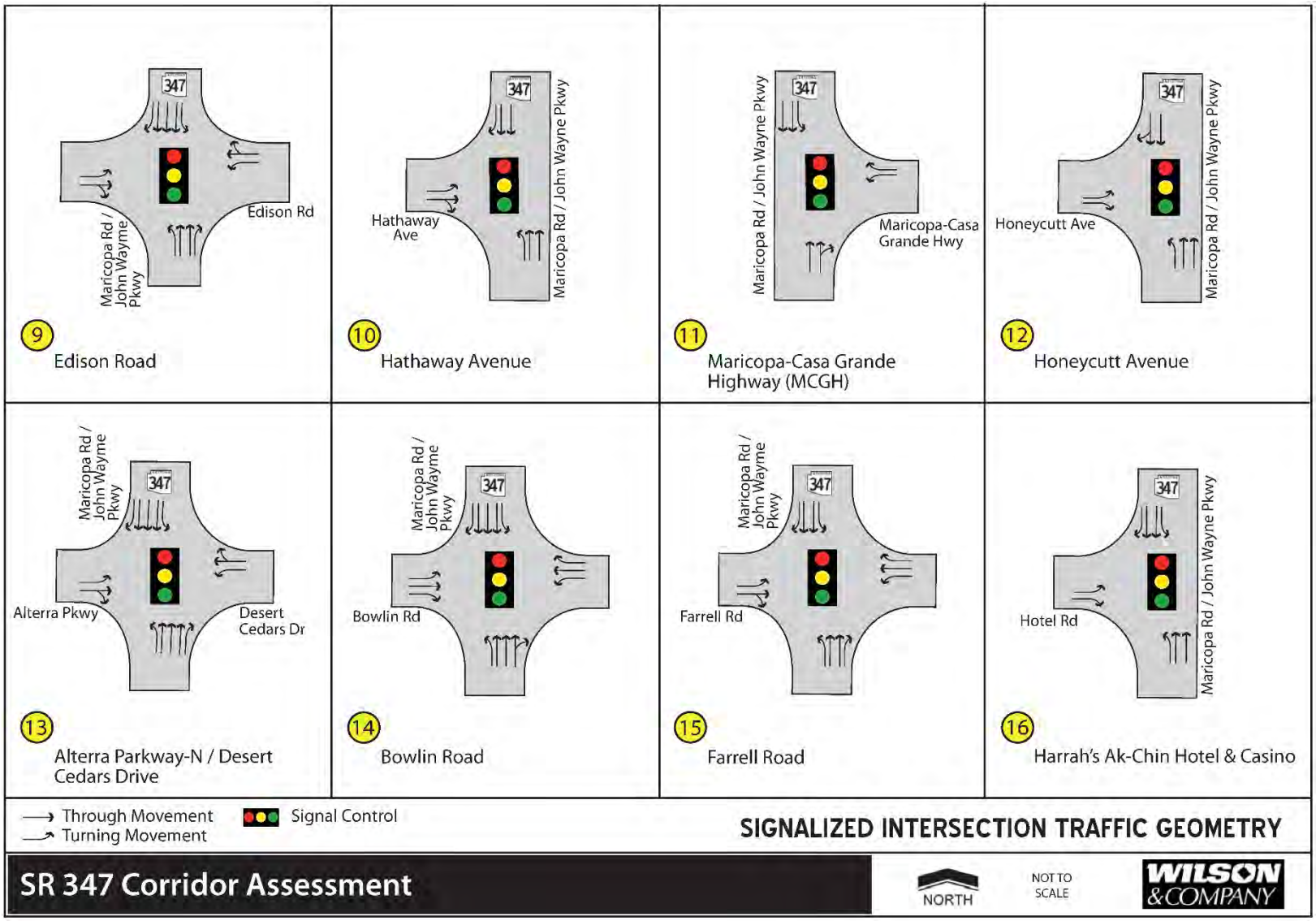


Figure 4 | SR 347 Signalized Intersection Traffic Geometry (Continued)



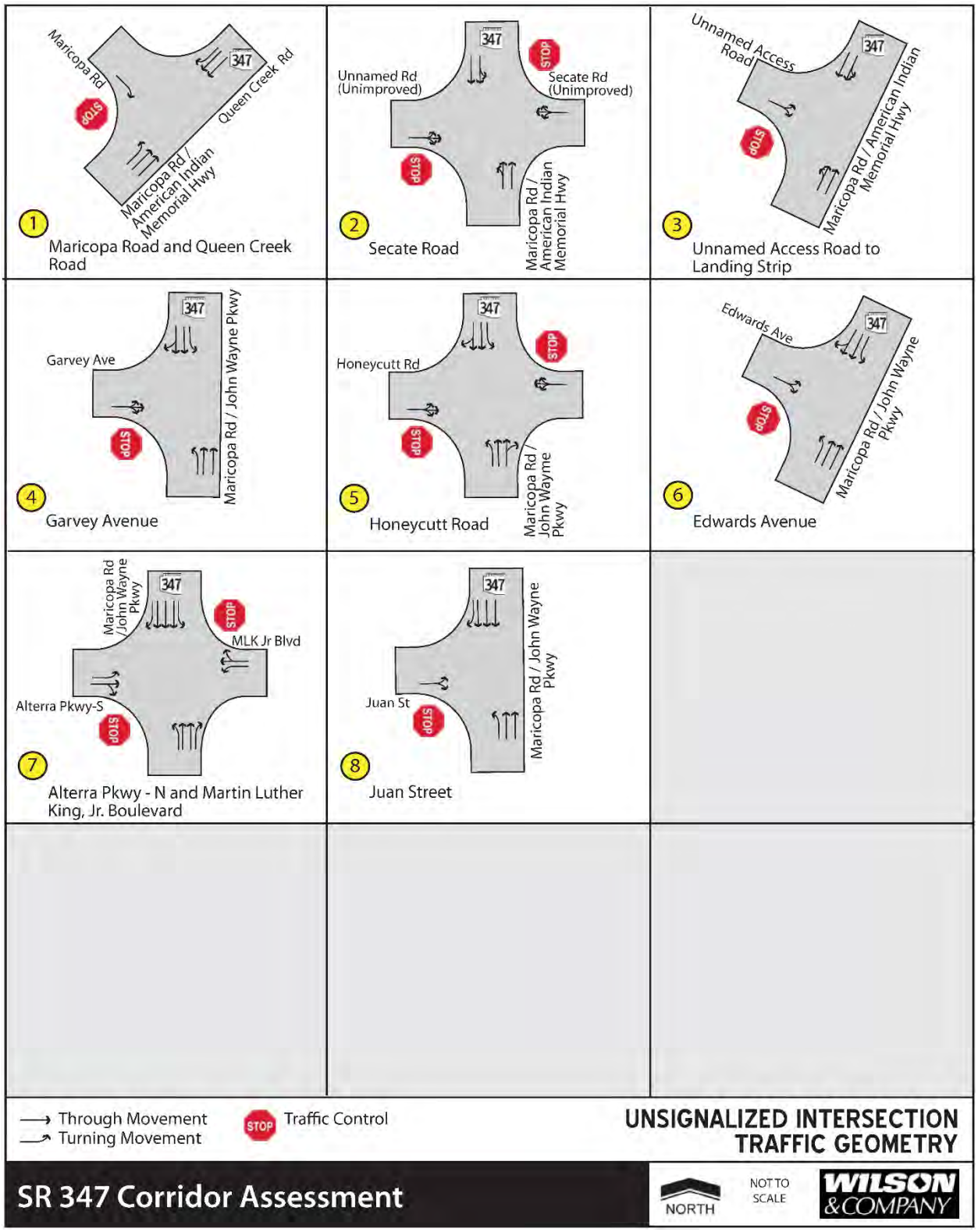


Figure 5 | SR 347 Unsignalized Intersection Traffic Geometry

Access Drives

In addition to formally defined intersections, identified in the previous two sections, there are nine access points associated with the three Character Areas north of the City of Maricopa that do not support travel on connecting roadways, per se, but allow vehicles to enter desert areas adjacent the highway. Two access points support both northbound and southbound movements; the other seven allow only right-in/right-out (RI/RO) movements in the direction of travel.

Within the two Character Areas of the City of Maricopa, there are 17 access points that serve short driveways for multiple parcels or driveways serving commercial centers by providing RI/RO access. Two of these access points have associated left-turn lanes from the highway. An eighteenth access points is RO only. In addition to the driveway-oriented access points, there are 30 access points specifically serving parcels abutting the highway. Eleven of these access points are concentrated in the segment between Garvey Avenue and the UPRR corridor. The remaining 19 are located south of the UPRR corridor.

Forecast 2040 Operational Conditions of SR 347

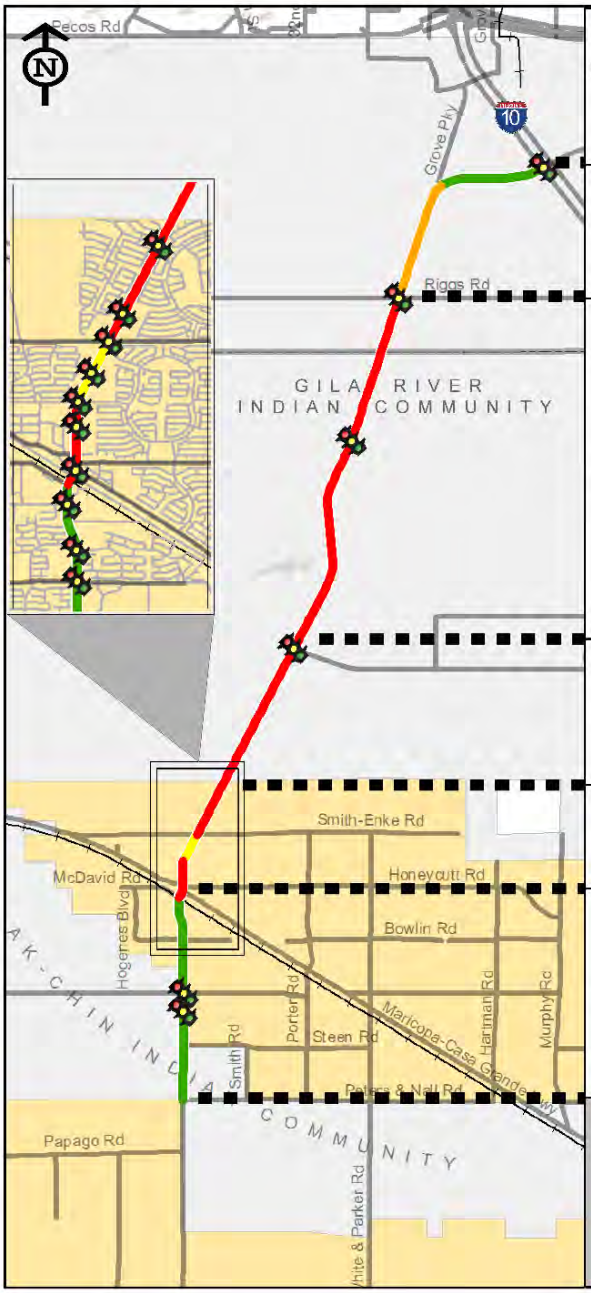
The E+C or Base Roadway Network for the region has been evaluated to determine the adequacy of SR347 relative to anticipated future travel demand. The analyses included traditional examination of travel demand relative to highway capacity in the five Character Areas, based on the identified functional classification. A second examination of potential future SR 347 performance examined the future highway performance relative to the constraint of threshold capacity would have on growth and development in the City of Maricopa.

Base Traffic Network: Existing-Plus-Committed Roadway Network

Figure 6 provides the same information for the SR 347 corridor presented in **Figure 3** for the existing operation conditions of the highway, but based on a forecast of 2040 travel demand prepared utilizing the MAG Regional Travel Demand Model. This figure indicates SR 347 will be operating at LOS F in 2040 between Riggs Road and the GRIC/City of Maricopa boundary, if no improvements to capacity are implemented, the definition of the Base Traffic Network. This is reflected in the ADT being notably greater than the capacity of the roadway based on its current design as a four-lane divided highway. The segment of SR 347 between Riggs Road and Queen Creek Road is forecast to operate under LOS E conditions. The operational status of the segment in the City of Maricopa between Edison Road and Edwards Avenue also is forecast to be LOS E.

Overall, the I-10 to Riggs Road Character Area is expected to operate at LOS E (57% congested), as the worst conditions generally dictate the operational status of a roadway segment. Likewise, the GRIC/City of Maricopa Boundary to UPRR Character Area is expected to have an overall LOS of E with the lower portion of this segment at LOS E and the upper portion at LOS D. These operating conditions indicate a need to identify capacity improvements to avoid severe congestion in 2040. Specifically, capacity improvement or enhancement projects should be given serious consideration for the portion of SR 347 between the City of Maricopa and Queen Creek Road.

Area Transportation Plan 2015



Segment Length	MAG Model Facility Type	Number of Lanes	Capacity, vehicles per day (vpd)	Average Daily Traffic (ADT)	Percent Cngstd. (LOS E, or F)
3.89 mi	Expwy	4	54,100	52,700	57%
6.89 mi	Expwy	4	54,100	61,700	100%
2.87 mi	Arterial	4	45,600	64,100	100%
2.07 mi	Arterial	5 6	51,900 60,100	64,100 62,700	27%
3.95 mi	Arterial	6 5 4	60,100 51,900 41,500	60,400 35,600 29,200	3%

Source: 2040 MAG Travel Demand Model

Legend

- Signals
- Railroad
- Counties
- TMP Study Area

Level of Service

- LOS A-C
- LOS D
- LOS E
- LOS F

0 2 4
Miles

April 24, 2015

Figure 6 | Year 2040 Operational Conditions on SR 347 with No Improvements

Potential Mitigation of 2040 Base Network Deficiencies

Several actions have been identified that would aid in mitigating capacity issues exposed through evaluation of the Base Roadway Network. These actions are summarized in **Table 2.**

Table 2 | Proposed Improvement Actions to Mitigate Capacity Deficiencies of the 2040 Base Roadway Network

Recommended Network Improvements	Mitigation Strategy
Implementation Year: 2020	
Smith-Enke Rd Intersection	Signal Timing/Lane Configuration Optimization
Cobblestone Farm Dr. (South) to Lakeview Dr./ Cobblestone Farm Dr. (North)	Widen to 3 lanes in northbound direction (6 lanes total)
SR-347: Edison Rd. to Lakeview Dr.	Conduct Corridor Study to determine the feasibility of upgrading to a 6-lane Urban Arizona Parkway
SR-347: Lakeview Dr. to I-10	Conduct Corridor Study to determine the feasibility of upgrading to a 6-lane Arizona Parkway with associated improvements at Riggs Rd, Old Maricopa Rd, and I-10 Traffic Interchange
Implementation Year: Post-2020 *	
SR 347: Edison Rd to Lakeview Dr./Cobblestone Farm Dr. (North)	Improve to Urban Arizona Parkway
SR347: Lakeview Dr./Cobblestone Farm Dr. (North) to Interstate 10	Widen and upgrade to 6-lane Arizona Parkway

* The improvements adopted for Post-2020 implementation were used to facilitate capacity and level of service (LOS) planning analyses during preparation of the TMP. Additional analyses and engineering studies will need to be accomplished prior to any final decision regarding improvements of the two segments identified in this table. Other solutions may prove to be more feasible and should be tested.

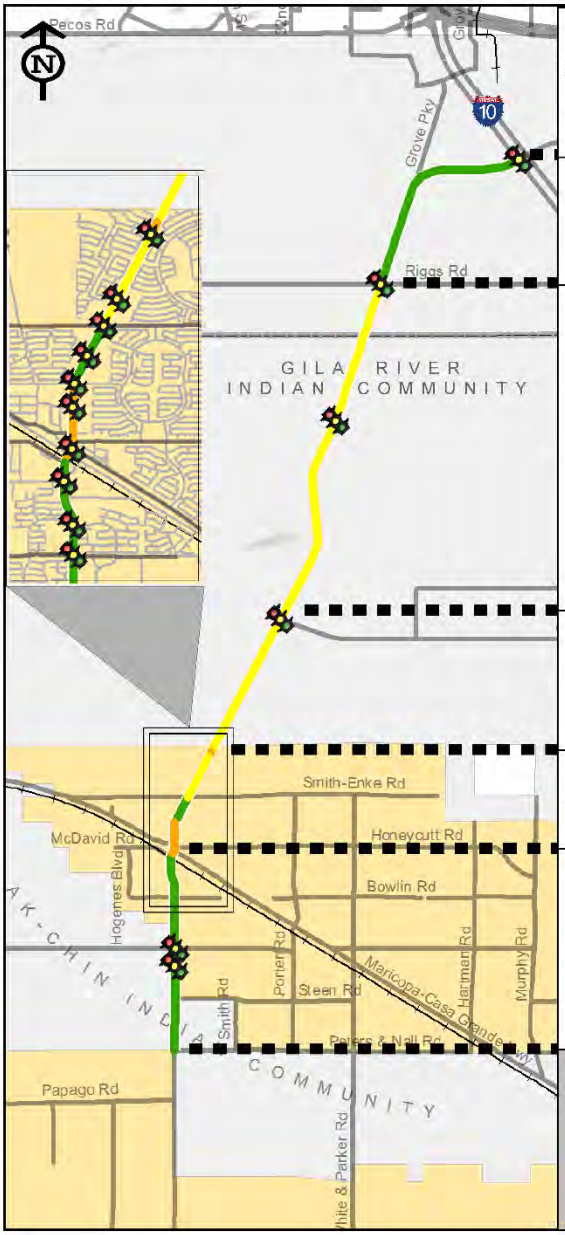
Future Mitigated Roadway Network Performance

The implementation of mitigations actions or improvements presented in the previous section was tested through application of the MAG Regional Travel Demand Model. This analysis included the assumption that SR 347 will be grade-separated at the UPRR tracks. Model results indicate the proposed improvements would mitigate most of the potential Year 2040 congestion issues of SR 347 in the Study Area (**Figure 7**). All congestion issues would be eliminated for the three Character Areas north of the City of Maricopa, if a 6-lane Arizona Parkway is developed. The Arizona Parkway cross-section would provide capacity for 81,200 vpd and the highest forecast volume is 64,100 vpd in the Character Area between Casa Blanca Road and the GRIC/City of Maricopa Boundary.

Most of the congestion issues within the City south of the UPRR corridor would be mitigated, if the Urban Arizona Parkway facility is developed with six lanes dropping to four lanes at Peters & Nall Road. Forecast volumes for this Character Area range from 60,400 vpd at the north end, just below the UPRR corridor to 29,200 vpd at the south end, below the Ak-Chin Resort and Casino. The 6-lane Urban Arizona Parkway would provide capacity for 66,200 vpd at the north end, and the 4-lane Urban Arizona Parkway cross-section would provide capacity for 41,500 vpd at the south end.

Figure 7 | Year 2040 Operational Conditions on SR 347 with Improvements

Area Transportation Plan 2015



Segment Length	MAG Model Facility Type	Number of Lanes	Capacity, vehicles per day (vpd)	Average Daily Traffic (ADT)	Percent Cngstd. (LOS E or F)
3.89 mi	Expwy/ AZ Pkwy	6	81,200	52,700	0%
6.89 mi	Expwy/ AZ Pkwy	6	81,200	61,700	0%
2.87 mi	Expwy/ AZ Pkwy	6	81,200	64,100	0%
2.07 mi	Urban Pkwy	6	66,200	64,100	32%
3.95 mi	Urban Pkwy Arterial Arterial	6 5 4	66,200 51,900 41,500	60,400 35,600 29,200	3%

Source: 2040 MAG Travel Demand Model

Legend

- Signals
- Railroad
- Counties
- TMP Study Area

Level of Service

- LOS A-C
- LOS D
- LOS E
- LOS F

0 2 4
Miles

WILSON & COMPANY

April 24, 2015

Congestion in the northern portion of SR 347 within the City between the GRIC/City of Maricopa Boundary and the UPRR Corridor, if redeveloped as a 6-lane Urban Arizona Parkway with a capacity of 66,200 vpd, would be reduced to 32 percent of the highway segment in this Character Area. However, the highway segment between Edison Road and the UPRR corridor would operate at LOS E, as average volume of 64,100 vpd would exceed 66,200 vpd on this segment.

City of Maricopa Growth Implications Associated with SR 347 Capacity

The capacity of SR 347 to accommodate future traffic is critical to decisonmaking relating to the nature of upgrades and improvements. Therefore, a series of analyses were conducted to determine how the potential constraint on City development in the future based on No Improvements, Focused Improvements, and Upgrade of the highway to an Arizona Parkway. The aim of this analysis was to provide the City with guidance regarding the extent to which SR 347 would need to (or not need) to be improved to fully accommodate expected growth.

Figure 8 presents a graphic that shows the forecast of daily traffic volumes on a segment of SR 347 between Edison Road and Lakeview Drive/Cobblestone Farms Drive – North. The information displayed in this graphic relates the forecast of future traffic volumes within the segment to the addition of dwelling units (DUs) in the community from Year 2014 to Year 2040. It shows that the segment is forecast to carry 51,900 vpd in Year 2025 and would be expected to operate at LOS F with No Improvements. At this level of operations, the City would be able to accommodate an additional of 8,700 new DUs by the Year 2025. That is to say, DU development of that magnitude, which would contribute to an increase in traffic on SR 347, would cause SR 347 to reach the threshold for LOS F. Assuming no improvements are made to the highway and no worse than LOS D is desired, the City would need to hold DU development to approximately 1,500 (that which is expected by 2016-17) to maintain traffic volumes at 44,000 vpd.

Holding back development would not be an effective or wise choice for the City; therefore, a second analysis was performed to determine how Focused Improvements would benefit the desire for continued community growth. **Figure 9** presents a graphic similar to **Figure 8** and shows that the addition of a northbound lane north of Cobblestone Farms Drive – South in the Year 2020 would result in SR 347 staying below the LOS F threshold through the Year 2035. This singular improvement would add 10 years to the life of SR 347. At the same time, the improvement, which would allow SR 347 to accommodate more traffic; in fact, sufficiently more traffic to support the absorption of 21,200 additional DUs into the community.

Recognizing the long-term nature of growth dynamics and the need to fully accommodate expectations reflected by State-formulated growth projections, a third analysis was conducted to assess the benefit of an Upgrade of SR 347 to an Arizona Parkway (Note: Only the subject segment was tested for this sequence of analyses.) **Figure 10** indicates the addition of the northbound lane in the Year 2020 and ultimate upgrading of the highway to an Arizona Parkway in the Year 2030 would push the LOS F threshold beyond the Year 2040. These two improvements would accommodate full projected growth of the community by supporting the additional traffic associated with approximately 27,000 DUs in the Year 2040. As the graphic notes, if the growth trend of the community remains constant past the Year 2040, an additional 31,300 DUs could be accommodated before SR 347 reaches capacity, as defined by LOS F.

Figure 8 | Planning-Level SR 347 Performance Threshold v. Development Potential: No Improvement – Edison Road to Lakeview Drive/Cobblestone Farms Drive – North

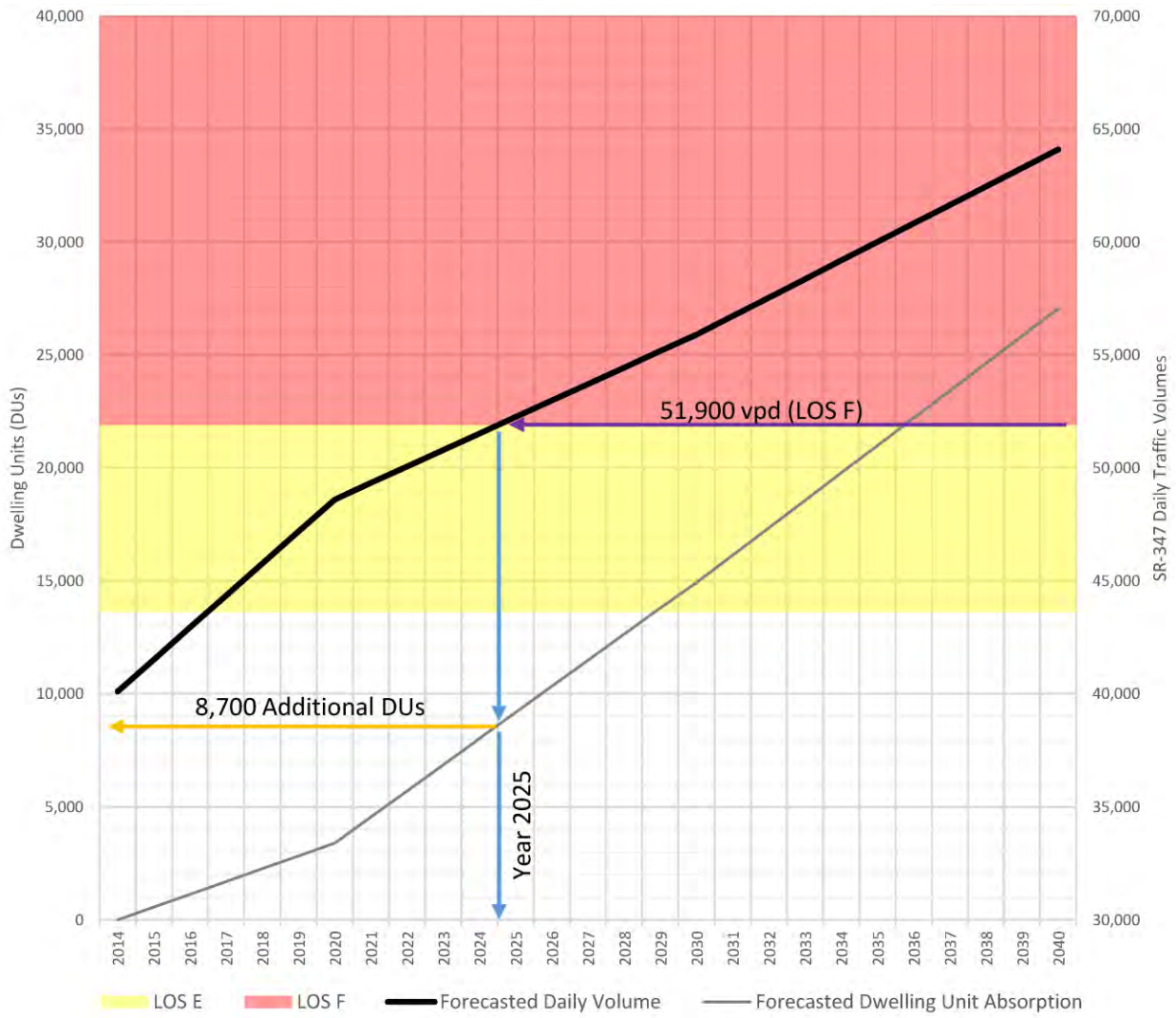


Figure 9 | Planning-Level SR 347 Performance Threshold v. Development Potential: Additional NB Lane – Edison Road to Lakeview Drive/Cobblestone Farms Drive - North

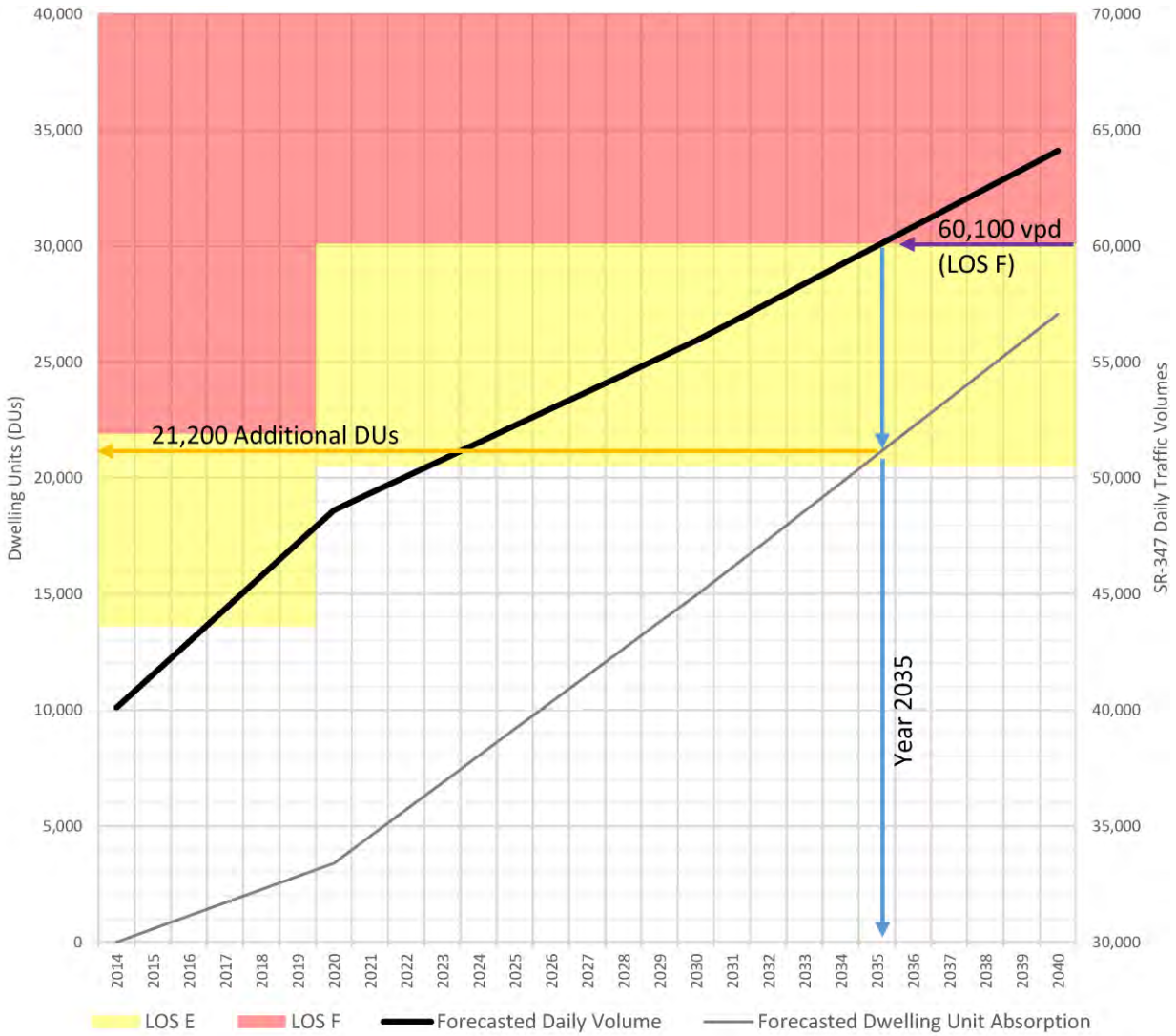
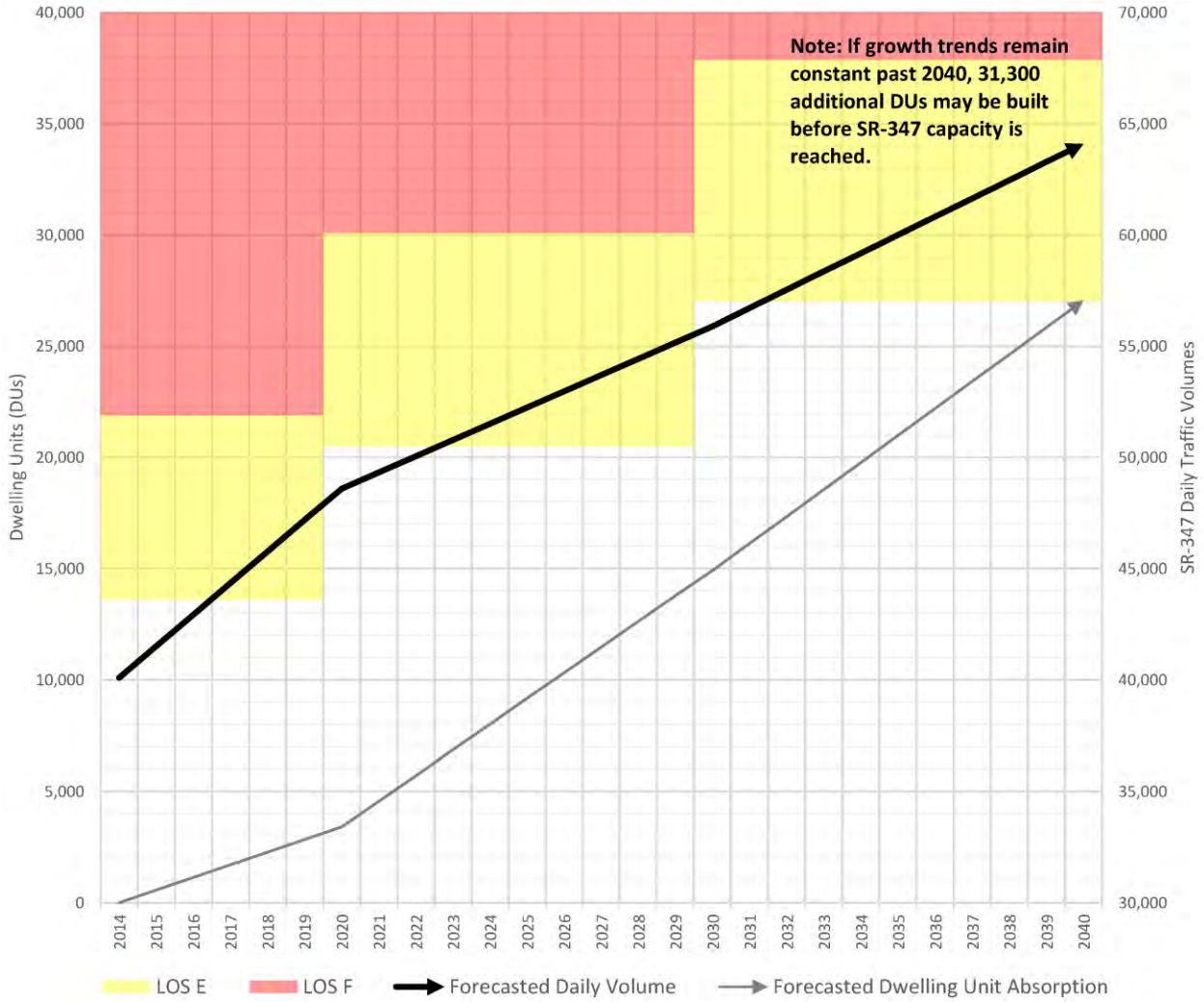


Figure 10 | Planning-Level SR 347 Performance Threshold v. Development Potential: Upgrade to an Arizona Parkway – Edison Road to Lakeview Drive/Cobblestone Farms Drive - North



Two similar analyses were conducted for the segment of SR 347 from Lakeview Drive/Cobblestone Farms – North (the last major signalized intersection in the City prior to entering the GRIC) to I-10. With No Improvement, the traffic forecast this segment of SR 347, which is very critical to the social and economic dynamic of the City of Maricopa, would reach the threshold for LOS F in the Year 2028. **Figure 11** shows that this trend would accommodate an additional 12,000 DUs to be developed. However, it is important to note that the No Improvement scenario for the segment between Edison Road and Lakeview Drive/Cobblestone Farms Drive – North is expected to accommodate only 8,700 DUs in the Year 2025. Thus, the segment within the City would remain the prime constraint on the City's growth. The scenario for the segment north of the City through the GRIC reveals that LOS F within the City would be matched with LOS F north of the City within three years. The expectation is that SR 347 would be operating at LOS F from I-10 to Edison Road by the Year 2028, if the No Improvement scenario is adopted for the future.

A final analysis was prepared to determine the potential benefit of an Upgrade of SR 347 to an Arizona Parkway between I-10 and the City of Maricopa through the GRIC. The analysis results displayed in **Figure 12** indicate that the Upgrade, if accomplished prior to the Year 2028, would avoid the occurrence of LOS F and, in fact, assure LOS D or better through the Year 2040. The Upgrade would complement a similar Upgrade of SR 347 with the City and permit the City to accommodate projected growth beyond the Year 2040. The note on the graphic indicates an Upgrade of SR 347 to an Arizona Parkway through this segment would accommodate an additional 52,400 DUs before the highway reaches capacity.

ALTERNATIVE SOLUTIONS FOR UPGRADING SR 347

MAG's recent research, documented in *Review of Transportation Improvement Concepts*, sheds light on potential solutions to constrained urban rights-of-way that inhibit capacity enhancements on arterial roadways. These concepts deserve consideration with respect to SR 347, as the need for additional capacity within the SR 347 corridor will be necessary in the future. The Arizona Parkway concept perhaps is the most applicable, although other roadway design treatments may be appropriate for enhancing capacity. Examining these various concepts for application within the SR 347 corridor was determined both appropriate and necessary to address potential future capacity issues associated with this critical regional connector route.

HIGH-CAPACITY INTERSECTION CONCEPTS

Four potential high-capacity intersection designs are previewed in this section.

Arizona Parkway

The Arizona Parkway is a derivative of the Michigan indirect left-turn boulevard concept, which eliminates left-turns a major intersections. This operational concept requires motorists to pass through what was a traditional signalized intersection, make a U-turn downstream of the intersection, return to the intersection, and make a right-turn (**Figure 13)**. The three-phase signal operation at the revised intersection becomes two-phase, accommodating through movements only and eliminating green time for left turns. ADOT, MCDOT, and MAG have adopted the Arizona Parkway concept for future major thoroughfares in developing areas and encouraged local jurisdictions to preserve rights-of-way (200 feet minimum) for these future transportation facilities.

Figure 11 | Planning-Level SR 347 Performance Threshold v. Development Potential: No Improvement – Lakeview Drive/Cobblestone Farms Drive – North to I-10

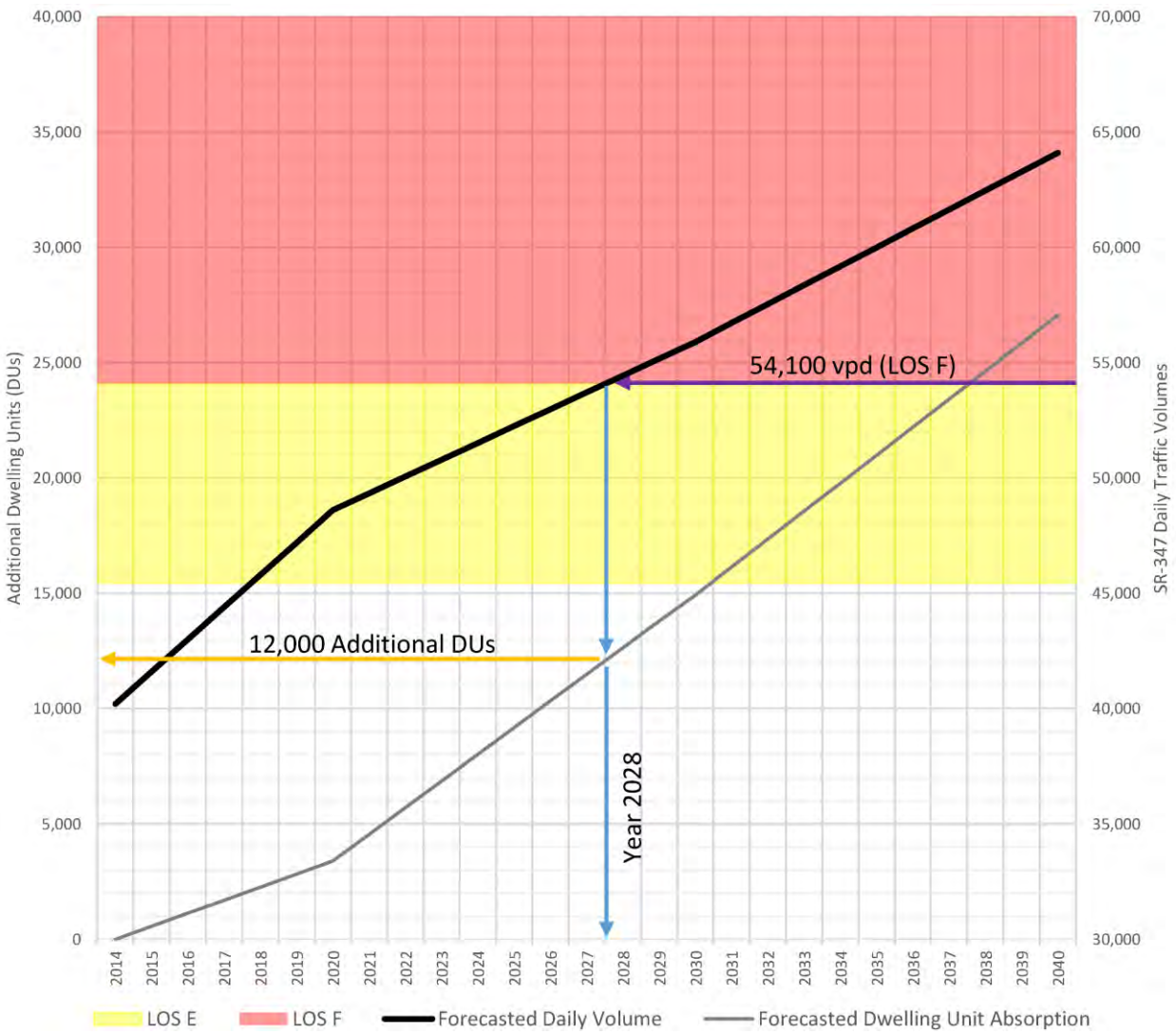


Figure 12 | Planning-Level SR 347 Performance Threshold v. Development Potential: Upgrade to an Arizona Parkway – Lakeview Drive/Cobblestone Farms Drive – North to I-10

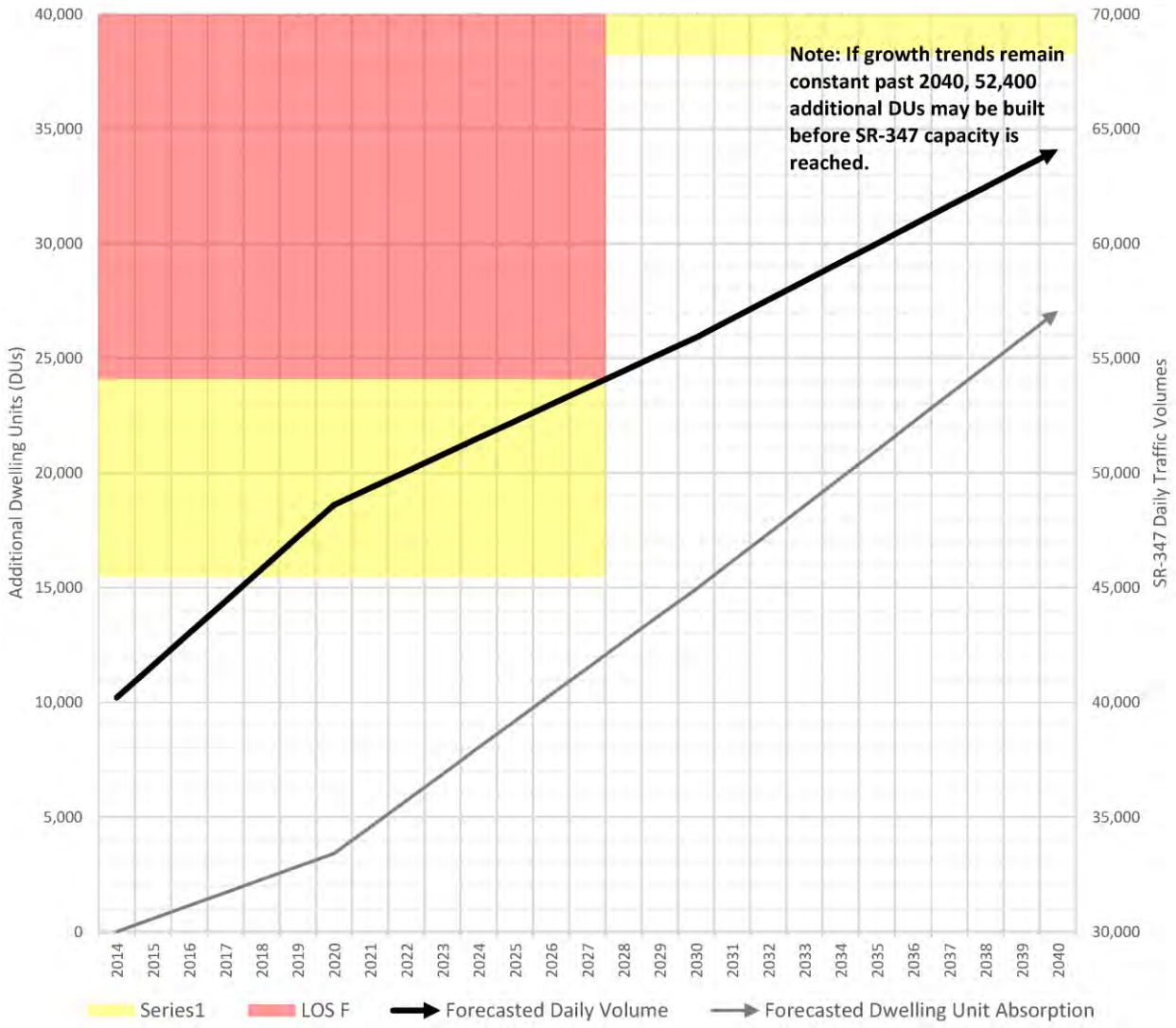
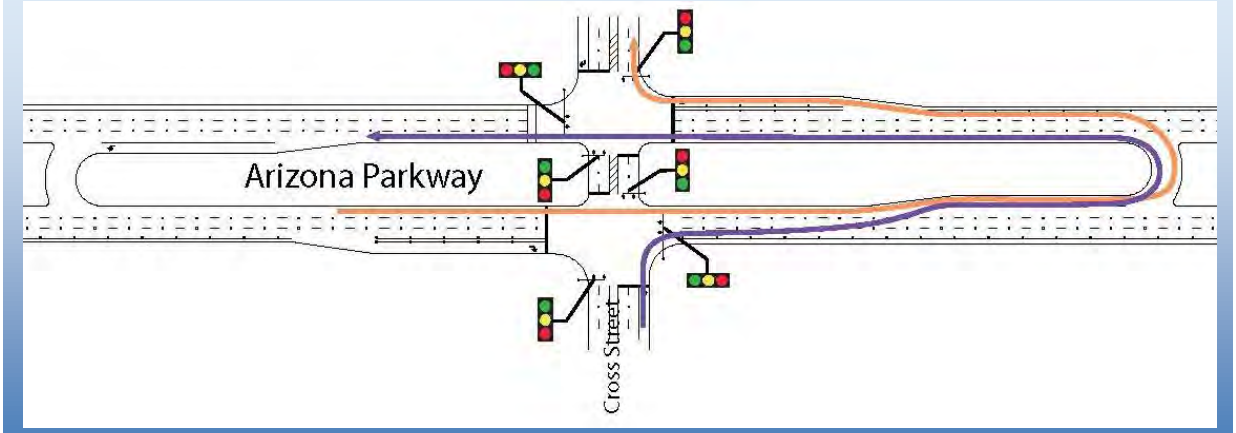


Figure 13 | Functionality of the Arizona Parkway Operational Concept



Source: Technical Memorandum: Strategic Regional Arterial Improvements Concepts. Prepared for Maricopa Association of Governments as part of the Central Phoenix Transportation Framework Study by Wilson & Company, November, 2013.

MAG has concluded in studies of potential arterial improvement concepts that the Arizona Parkway design treatment is flexible, and its application in urban settings may be worthy of consideration, even if the minimum right-of-way is not available. Developing the concept for travel corridors with capacity issues, notable safety concerns, or operational congestion should be investigated as a potential solution to urban travel issues. The studies also revealed that developing the Arizona Parkway operational concept over an extended length, without intervening traditional arterial cross-sections, would aid motorists by maintaining continuity of driver expectations relative to the unique travel pattern created by indirect left turns.

Application of the Arizona Parkway design treatment can have direct effects on adjacent land uses, as there is a need to accommodate the U-turns of trucks as well as cars. This expands the right-of-way requirement and can result in displacement at the U-turn location. This operational concept also needs to be examined during planning and design to ensure intersection and U-turn locations do not create objectionable queuing of vehicles.

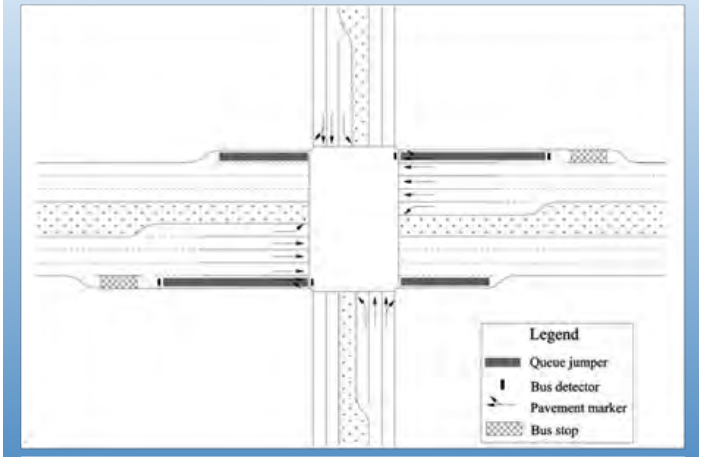
Queue-Jumping

The *Pinal County Transit Feasibility Study* and *Regional Transit Framework Study* identify SR 347 as a prime candidate for high-capacity transit (HCT) service; again, reinforcing and supporting the social and economic affiliation of the City of Maricopa residents with the Phoenix metropolitan area. A queue-jumper intersection could be very appropriate within the SR 347 corridor (**Figure 14**). A specific example might be Riggs Road. Assuming the SR 347/Riggs Road intersection is not grade separated in the near future, HCT service operating on SR 347 would be given a distinct advantage with application of the queue-jumper concept. Queue-jumping provides priority travel for buses on arterial streets, but this does require a separate signal phase to permit transit vehicles jump ahead of over vehicles queued up at an intersection or entering a highway.

Center-Exit Interchange or Median Urban Diamond

The center exit interchange or median urban diamond (MUD), essentially is an inverted urban diamond with entry and exit to the major roadway, such as SR 347, via the innermost left lane, rather than then the outermost right lane. An example of this type of interchange, which is under construction in Utah, is shown in **Figure** 15. This intersection design treatment minimizes right-of-way requirements and aids in separating high volume turning movements from through movements. However, like the urban diamond, this concept requires grade separation of the crossing roadway, i.e., roadway with the least traffic volume with the intersection above or below the major roadway. The MUD concept also requires merging and weaving lanes on the main thoroughfare, much like that provided on freeways.

Figure 14 | Design Concept for a Queue-Jumper Lane



Source: Technical Memorandum: Strategic Regional Arterial Improvements Concepts. Prepared for Maricopa Association of Governments as part of the Central Phoenix Transportation Framework Study by Wilson & Company, November, 2013.

Figure 15 | Center-Exit Interchange, Bluff Street at Red Hills Parkway, St. George,

Source: Interchange Design by Wilson & Company for Utah Department of Transportation (UDOT), June 2010 - November, 2013.

High-Volume, At-Grade Parkway Intersection

The High-Volume, At-Grade Parkway Intersection (HAPI) is an at-grade intersection that derives its form and function from the Parkway Grade-Separated Interchange (PGSI), which was developed in support of an MCDOT study undertaken to assist the agency in evaluating future parkway corridors recommended in the *I-8 and I-10 Hidden Valley Transportation Framework Study* and its predecessor the *I-10/Hassayampa Valley Roadway Framework Study*. These two innovative studies were undertaken to

permit MAG, representing all of Maricopa County, and Pinal County to get out in front of expansive development activity and aid local jurisdictions in prescribing the preservation of rights-of-way for a network of high capacity arterials to serve future travel demand.

The *Arizona Parkway Intersection/Interchange - Operational Analysis and Design Concepts Study* was commissioned later with MCDOT taking the lead to identify needed level of service and establish required rights-of-way for parkway-to-parkway intersections in undeveloped areas of Maricopa County. The high travel demand forecast for some future intersections instigated evaluation of grade separation options to achieve required capacity. As discussed above, the Arizona Parkway has a unique traffic operating pattern and grade-separated interchanges require additional right-of-way exceeding the recommended 200 feet design cross-section for right-of-way preservation purposes. Therefore, an equally unique grade-separated interchange design evolved that incorporated the operational feature of the Arizona Parkway with indirect left turns – the PGSI.

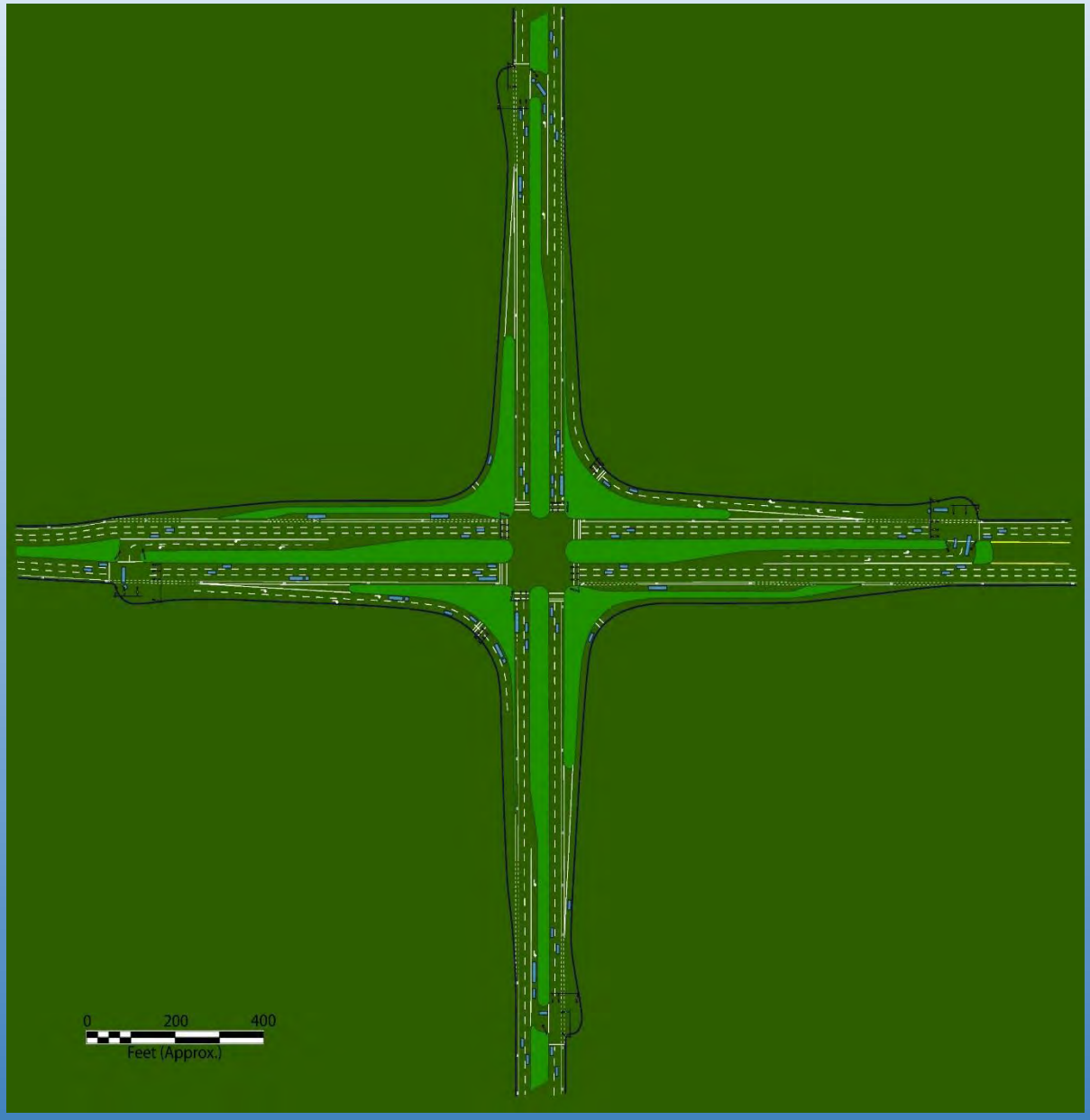
The HAPI adapts the indirect left-turn operational protocol of the Arizona Parkway and PGSI to an at-grade arterial intersection geometry (**Figure 16**). The ramps employed to effect the left-turn downstream of the intersection also accommodate right turns for the opposing traffic. The higher speed ramps become, in a sense, an evolution of the free or expedited right-turns often found at arterial intersections with heavy turning movements. The HAPI incorporates full channelization of the left and right turns, with an acceleration ramp for entry into through traffic.

Rural and Urban Arizona Parkway Designs

MCDOT has taken the lead in the investigation, definition and design of the Arizona Parkway facility. The agency completed a series of five studies culminating in *Design Guideline Recommendations for the Arizona Parkway*, published in August, 2008. Subsequent to this effort, MCDOT proceeded with examination of Arizona Parkway applications in a developed urban setting, in contrast to the undeveloped growth areas where the facility originally was anticipated. The *Arizona Parkway Design Guidelines Supplement – Restricted Right-of-Way Considerations* was completed February, 2013, addresses circumstances where available right-of-way may not be sufficiently adequate to accommodate the minimum 200-foot cross-section. Constraining conditions may exist, due to: topography, sensitive environmental factors, presence of water resources, major utility corridors, or existing development. Five distinct parkway types were defined based on assumed right-of-way restrictions and the need to accommodate turning vehicles.

- **Standard:** The standard parkway follows the design concept and criteria established in *Design Guideline Recommendations for the Arizona Parkway*. All vehicle movements would be accommodated, including WB-50 trucks (Intermediate Semi-Trailer with 42.5-foot trailer; total length - 53 feet) and buses.
- **Tapered:** The tapered parkway has a cross-section that would be applied when right-of-way restrictions do not permit achieving the 200-foot minimum cross-section, and future actions to widen the parkway are not anticipated or would be prohibitive. All vehicle movements would be accommodated.
- **Tapered with Truck Restrictions:** This potential parkway cross-section applies when severe right-of-way restrictions exist, and future actions to widen the parkway are not anticipated or would be prohibitive. This parkway type would not accommodate U-turns by trucks or buses.

Figure 16 | High-Volume, At-Grade Parkway Intersection (HAPI) Concept



Source: Conceptual Interchange Design by Wilson & Company, March 2015.

- **U-bay:** The U-bay parkway cross-section could be adopted for conditions where right-of-way restrictions exist, and future actions to widen the parkway are not anticipated or would be prohibitive. The U-bay (also referred to as a "loon" or "bulb-out") is created by extending the outside curb to augment the width of the median and opposing travel lanes, accommodating the turning radius of all vehicles. The U-bay would be employed on a limited basis, where there is a need to allow trucks and buses to perform U-turns (e.g., local commercial/industrial activities or routing requirements).
- **Thru-way:** The parkway type would apply when conditions include right-of-way restrictions or significant physical constraint (e.g., proposed parkway is on a structure), there is no need to accommodate U-turns (i.e., access is not an issue), and future actions to widen the parkway are not anticipated or would be prohibitive (e.g., bridge is on the route).

Table 3 shows the typical right-of-way requirement, median width, and the maximum constraint on the 200-foot minimum Arizona Parkway right-of-way beyond which the facility would not be feasible. The five parkway types reflect potential application relative to ever decreasing right-of-way availability and diminishing median width. Additional details associated with these five parkway types are presented in the Attachment.

Existing urban development and established rights-of-way clearly are apparent with respect to SR 347 within the City of Maricopa. There also are some constraining conditions north of the City along the route to I-10. Therefore, the MCDOT supplemental guidance is particularly pertinent to the discussion of potential capacity improvements within the SR 347 corridor. The four-, six-, and eight-lane parkway cross-sections, based on the five parkway types provide a framework for accommodating future travel in the SR 347 corridor with a consistent design theme that can fully support automobile and truck traffic.

Conceptual Application of Urban Arizona Parkway Designs on SR 347

Three design schematics have been prepared to show how the urban design concept for the Arizona Parkway can be employed to increase capacity and efficiency on SR 347 in the City of Maricopa. Three intersections were selected to provide a visual reference for the indirect left-turn operational concept associated with the Arizona Parkway. The schematic concepts were fashioned after an actual application of the indirect left-turn intersection operation that has been constructed, and is being constructed, at various points along Grant Road in Tucson, Arizona. The project covers a distance of approximately seven miles and has been implemented to increase the capacity of Grant Road, which connects with Kolb Road to create a loop through central Tucson.

The schematic designs for the three intersections are displayed in **Figure 17** – Edison Road, **Figure 18** – Smith Enke Road, and **Figure 19** – Lakeview Drive/Cobblestone Farms Drive - North. Each figure also shows the urban Arizona Parkway-type intersection constructed at Oracle Road and Grant Road for reference. The Edison Road schematic shows displays the application of a six-lane Arizona Parkway cross-section with bike lanes that accommodates the right-turn lanes providing access to commercial enterprises on each side of SR 347. This type of street plan, although maybe not fully feasible for this segment of SR 347, would be consistent with the objectives of a Complete Streets policy.

Table 3 | Design Parameters of Five Arizona Parkway Categories

Arizona Parkway Category	Number of Through Lanes	Typical Right-of-way Width (feet)	Typical Median Width (feet)	Maximum Width of Right-of-Way Constraint (feet)
Standard	4	200	98	0
	6	200	74	0
	8	200	50	0
Tapered	4	145-155^	51-71^	55
	6	160-170^	42-62^	40
	8	175-185^	33-53^	25
Tapered with Truck Restrictions	4	110-120^	13-33^	90
	6	125-135^	6-24^	75
	8	140-150^	6-19^	60
U-bay	4	115-200*	17	85
	6	135-200*	17	65
	8	155-200*	17	45
Thru-way	4	100	6	100
	6	120	6	80
	8	140	6	60

^Higher number shows the typical right-of-way width at the U-turn location. Lower number shows the typical right-of-way width away from the U-turn location, assuming the median tapers away from the U-turn location at a rate of ten feet of width per 550 feet of length in each direction, subject to a minimum median width of six feet, and assuming 1/8-mile spacing between the U-turn location and the adjacent intersection and that the intersection approach has a 12' right-turn lane and no planter strip.

**Higher number shows the typical right-of-way width at the U-turn location, assuming there are U-bays in both directions of travel. Lower number shows the typical right-of-way width away from the U-turn location where there is no need for U-bays and assumes that the intersection approach has a 12' right-turn lane and no planter strip.*

Source: Table 1 – Arizona Parkway Category Characteristics and Section 4.2 – Parkway Categories in *Arizona Parkway Design Guidelines Supplement – Restricted Right-of-Way Considerations*, Maricopa Department of Transportation (MCDOT), February, 2013.

Figure 17 | Conceptual Design Schematic of Urban Arizona Parkway Intersection at SR 347 and Edison Road

Grant Road at Oracle Road (Tucson, AZ)

0 200 400
Feet (Approx.)

Aerial imagery from Google Earth.

SR 347 at Edison Road (Maricopa, AZ)

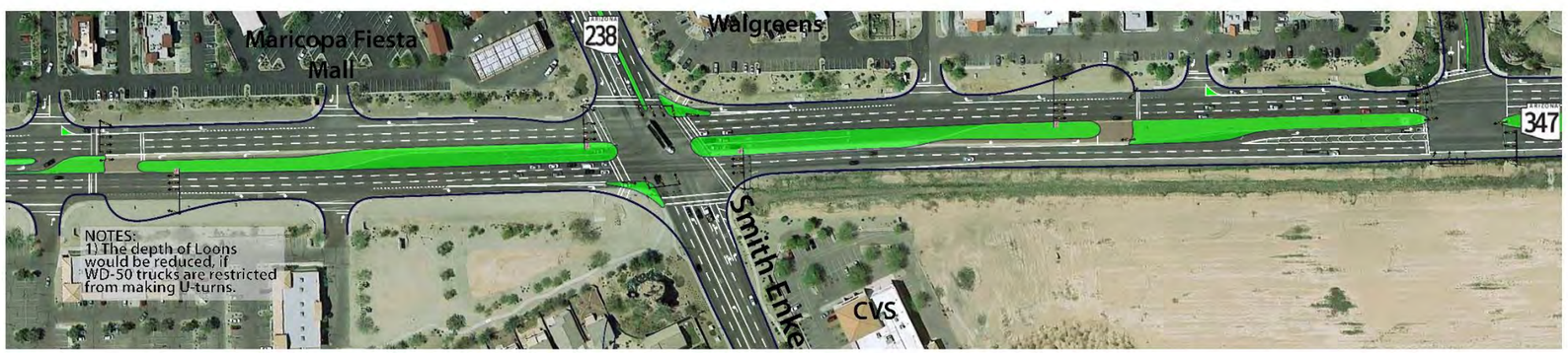
Figure 18 | Conceptual Design Schematic of Urban Arizona Parkway Intersection at SR 347 and Smith Enke Road

Grant Road at Oracle Road

Tucson, AZ

0 200 400
Feet (Approx.)

Aerial imagery from Google Earth.



SR 347 at Smith-Enke Road

Maricopa, AZ

Figure 19 | Conceptual Design Schematic of Urban Arizona Parkway Intersection at SR 347 and Lakeview Drive/Cobblestone Farms Drive - North

Grant Road at Oracle Road

Tucson, AZ

0 200 400
Feet (Approx.)

Aerial imagery from Google Earth.

SR 347 at Lakeview/Cobblestone Farms Drive

Maricopa, AZ

OPPORTUNITIES FOR INCREASING THE CAPACITY OF SR 347 INTERSECTIONS

The Riggs Road, Maricopa Road, and I-10 intersections on SR 347 are forecasted to have potential capacity issues, as growth occurs in Maricopa and commute trips to/from the Phoenix metropolitan area continue to increase. In addition, the intersection with Old Maricopa Road, which leads to the Gila River Entertainment and Industrial complex also will need capacity enhancements. There are multiple design treatments that would add needed capacity at these two intersections. Some of these treatments have been addressed in the MAG *Review of Transportation Improvement Concepts*. Potential opportunities for improving traffic conditions at these three intersections are presented in the section. Two of the conceptual approaches reflect the Arizona Parkway operational treatments.

Riggs Road at SR 347

There are three innovative design treatments that would enhance the capacity of this intersection. **Table 4** summarizes potential capacity solutions, highlighting advantages, disadvantages, and implementation possibilities, which have been adapted from the special MAG report – *Review of Transportation Improvement Concepts* – prepared in support of the *Central Phoenix Transportation Framework Study*. The existing configuration is a four-lane highway (SR 347) intersecting with a two-lane roadway. Dedicated left-turn lanes are present at all four approaches and dedicated right-turn lanes have been provided at the two SR 347 approaches. Increasing the capacity at this intersection could be accomplished by constructing typical indirect left-turns for the higher volume SR 347 facility (refer to Figure 19). This boulevard design treatment for intersections would reduce the number of signal phases at the intersection and the number of potential conflict points. Both attributes would increase the through capacity of the intersection for SR 347 traffic and improve safety.

Upgrading the indirect left-turn boulevard design treatment to an HAPI treatment, as discussed earlier (refer to **Figure 16**), would add capacity in all four directions and improve the efficiency of all movements at the intersection. A design concept for the Riggs Road intersection is shown in **Figure** 20. An evaluation of the entering volume capacity or threshold of various intersection design treatment was conducted for the Maricopa County Department of Transportation (MCDOT) during the *Arizona Parkway Intersection/Interchange - Operational Analysis and Design Concepts Study*. The analyses performed for that study shows how the HAPI (i.e., Indirect Left-Turn Parkway Intersection) improves traffic volume throughput compared to the Typical Arterial Intersection (**Figure 21)**. Although the graphic shows traffic volume information for 8-lane parkways, the relative differential traffic volumes between intersection treatments would be similar for fewer lanes. Thus, the HAPI has the potential of increasing the maximum daily entering volume of the Typical Arterial Intersection by 25 to 30 percent (152,000 vpd v. 119,000 vpd).

Should traffic volumes increase by 2040 beyond the ability of the HAPI design to accommodate, then the intersection could be further upgraded. Figure 21indicates the PGSI design treatment would increase the maximum entering volume approximately 63 percent (247,000 vpd v. 152,000 vpd) over the HAPI. Although substantial increases also would be possible with construction of traditional Diamond, DDI, or SPUI intersection designs, the cost of implementing the PGSI was determined to be 21 to 30 percent less that these three commonly adopted interchange designs.

Table 4 | Traffic Intersection Options: SR 347/Maricopa Road at Riggs Road

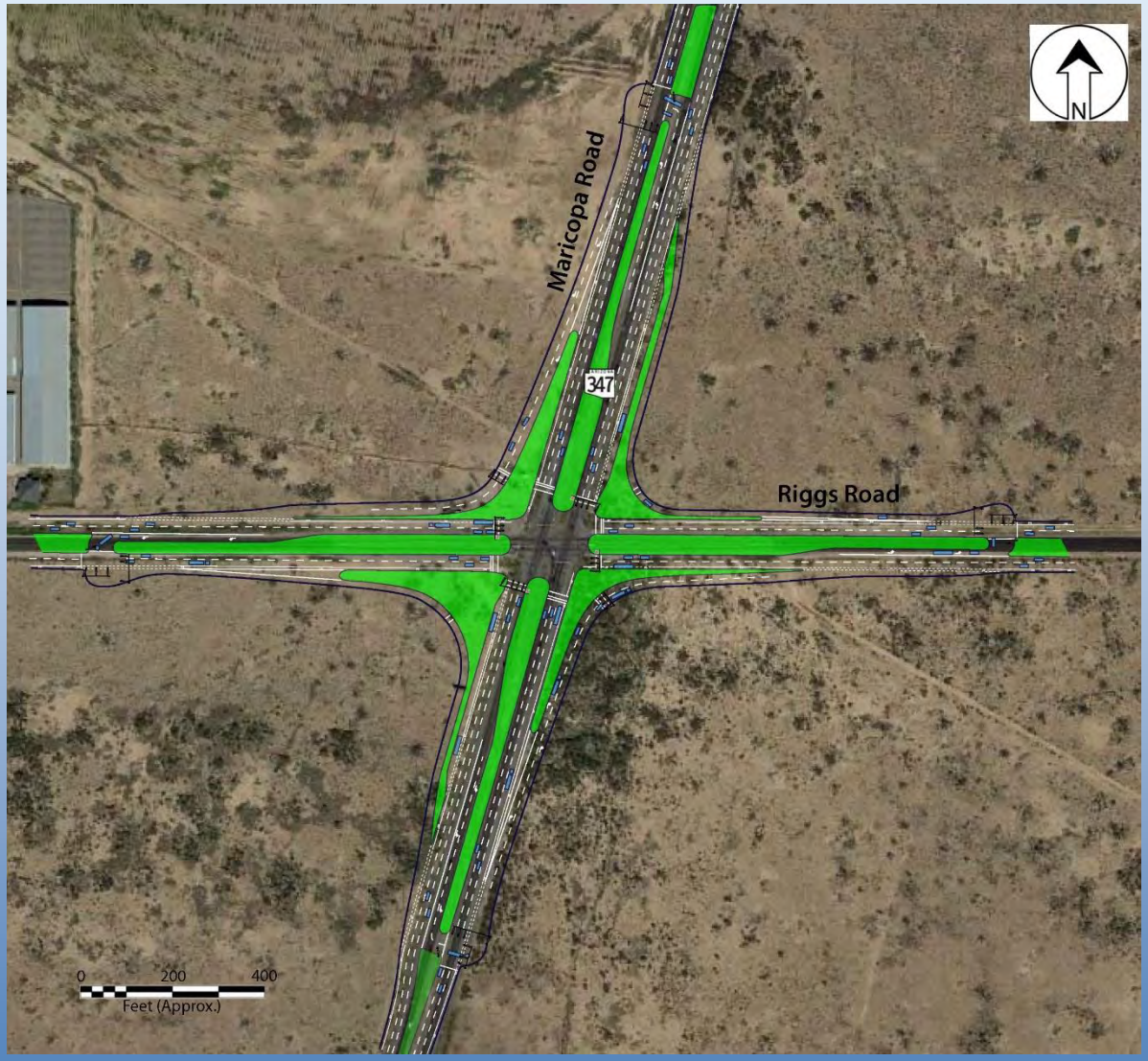
Concept	Description	Advantages	Disadvantages	Implementation
Existing Intersection Aerial image from Google Earth, 060915	Approaches to the intersection from any direction are controlled by automatic signalization. Left turns are permitted; a separate signal phase allows exclusive left turns at all approaches. Separate, dedicated right-turn lanes are provided for the north- and southbound approaches of SR 347.	• Uses less space than intersections more complex design treatments • Generally effective in areas where traffic is light and a more expensive interchange type is not needed	• Where traffic volumes are higher, the separate phase for left-turns reduces green time for through traffic • Additional traffic control measures and extra lanes must be dedicated to turning traffic • Storage for left-turns may be limited, resulting in spillback into through lanes	• Suitable for areas without special constraints • Suitable where entering volumes, especially left-turn traffic, are relatively low
Arizona Parkway Median U-Turn or Indirect Left-Turn Intersection Design Guideline Recommendations for AZ Parkway, MCDOT, August, 2008.	A signalized intersections on a 4- to 8-lane divided roadway with a broad landscaped median Intersecting street is signal- or stop-controlled. Intersection operates on the concept of downstream, indirect left turns, often reference as the Michigan Left-Turn (MLT) design.	• Capacity of 8-lane boulevard is approximately 90,000 vehicles per day (vpd); 975 to 1,025 vph per through lane • Two-phase signalization reduces delay compared to traditional signal-controlled intersection with four approaches and left-turning traffic • Substantially reduces the number of conflict points, theoretically improving safety	• Requires additional right-of-way with extra wide median or side-of-the-road "loon" to accommodate left-turning traffic downstream from intersection • Traffic pattern is unique and can be confusing for drivers not familiar with indirect left-turn maneuvers • Left-turning heavy vehicles can be accommodated, but may be limited where there are right-of-way constraints	• Can support 45 mile-per-hour speed on through lanes • Additional right-of-way must be acquired

Table 4 | Traffic Intersection Options: SR 347/Maricopa Road at Riggs Road (Continued)

Concept	Description	Advantages	Disadvantages	Implementation
High-Volume, At-Grade Parkway Intersection (HAPI) Design concept created by Wilson & Company. Aerial image from Google Earth.	Approaching this hybrid at-grade interchange, right-turning traffic is channelized. This option incorporates the indirect left-turn operational protocol. All traffic crosses through the intersection to a left-turn lane downstream from the signal. Left-turning traffic makes a U-turn across the median under signal control, returning to the intersection where a right turn completes the movement.	• As no left turns must clear opposing traffic and all movements are discrete, this intersection operates with a two-phase signal, allowing short cycle lengths that significantly reduce lost-time and delay • Increases the capacity for both right- and left-turn movements • Substantially reduces the number of conflict points, theoretically improving safety • Pedestrian safety enhanced with presence of safe refuge areas associated with islands	• Drivers may not be familiar with geometry, merging requirements, and reversed-flow traffic operation • Pedestrians required to cross a wider thoroughfare of free-flowing traffic; however, signalized pedestrian movements can be implemented without impacting the two-phase signalization	• Suitable for locations with high left-turning traffic volumes from the crossing or minor roadway to the main highway • Complements the operational environment of the Arizona Parkway, which employs indirect left turns
Parkway Grade-Separated Interchange (PGSI) Design concept created by Wilson & Company. Aerial image from Google Earth.	Incorporates the indirect left-turn movements of an at-grade parkway intersection by directing left turns on to the crossing road (another parkway or minor arterial) downstream from the intersection, where opposing direction right turns also enter the crossing parkway or arterial.	• Parkway-to-parkway movements maintaining operational consistency with indirect, left-turn intersection treatments • Two -phase signal operation • Minimizes left-turn conflicts • Requires significantly less right-of-way than more traditional interchange types	• Less pedestrian friendly if crossings at on- and off-ramps are not signal-controlled	• Free-flowing traffic in both directions • Suitable for accommodating high traffic volumes • Complements the operational environment of the Arizona Parkway, which employs indirect left turns

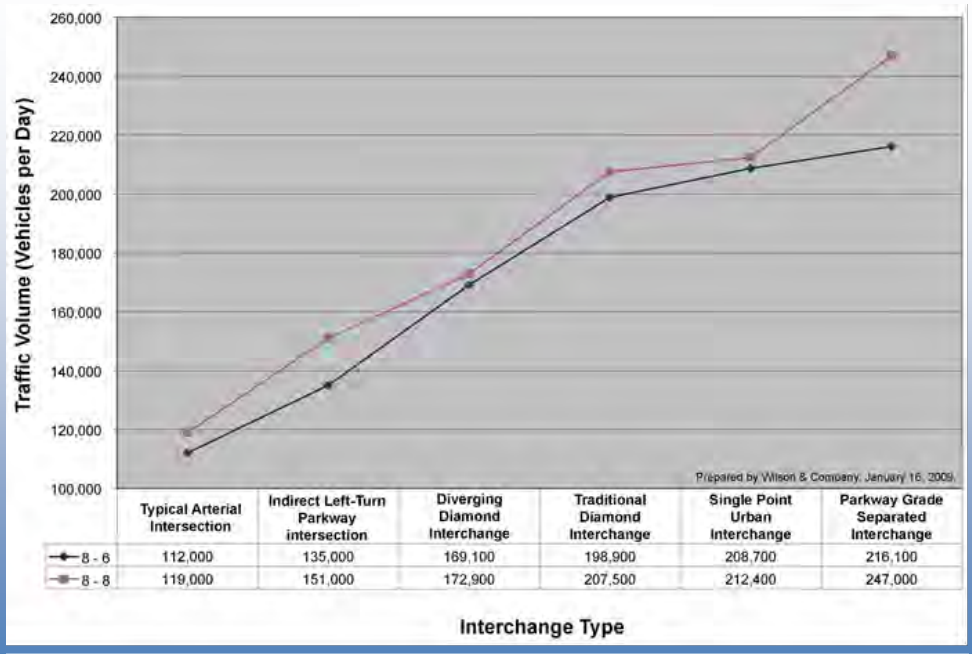
NOTE: Descriptions of the Arizona Parkway Median U-Turn or Indirect Left-Turn Intersection and Parkway Grade-Separated Interchange (PGSI) presented in this table have been adapted from *Review of Transportation Improvement Concepts*, prepared for Maricopa Association of Governments (MAG) during conduct of the *Central Phoenix Transportation Framework Study*, Phase I, by Wilson & Company, Engineers & Architects, December 2010, Revised January and June 2011.

Figure 20 | High-Volume, At-Grade Parkway Intersection (HAPI) Design Treatment on SR 347 at Riggs Road



Source: Conceptual Intersection Design by Wilson & Company, March 2015. Aerial image from Google Earth.

Figure 21 | Estimate of Traffic Volume Capacity for Six Intersection/Interchange Design Treatments



	Typical Arterial Intersection	Indirect Left-Turn Parkway intersection	Diverging Diamond Interchange	Traditional Diamond Interchange	Single Point Urban Interchange	Parkway Grade Separated Interchange
8 - 6	112,000	135,000	169,100	198,900	208,700	216,100
8 - 8	119,000	151,000	172,900	207,500	212,400	247,000

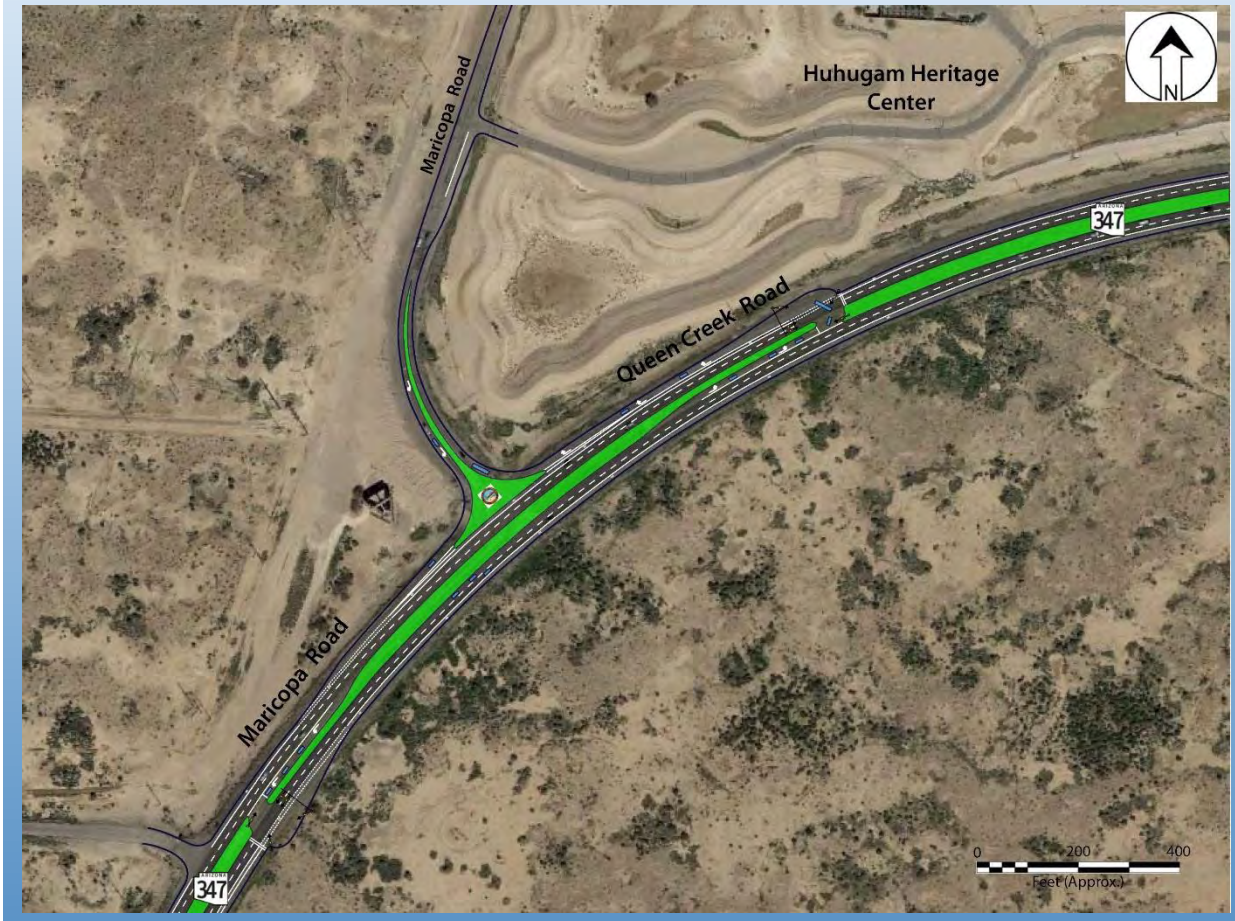
Source: Figure 4.2, Maximum Daily Entering Volume Threshold by Interchange Type Including the PGSI, *Arizona Parkway Intersection/Interchange - Operational Analysis and Design Concepts Study*, Maricopa County Department of Transportation (MCDOT, Final Report, August 2009).

SR 347 (Maricopa Road/Queen Creek Road) at Maricopa Road

This existing intersection permits only right turns in the southbound direction from Maricopa Road to SR 347/Maricopa Road. The southbound SR 347/Queen Creek Road approach has two through lanes and a dedicated right-turn lane. The northbound SR 347/Maricopa Road approach has two through lanes and a dedicated left-turn lane. Because traffic movements, in general, are mirrored (i.e., the bulk of traffic coming from a particular direction at some point will return in that direction), the lack of a left-turn capability from Maricopa Road to northbound SR 347/Queen Creek Road eventually may need to be addressed. This can be accomplished without interrupting traffic flow through the intersection by installing two median U-turns (or indirect left-turns) downstream from the intersection, as shown in **Figure 22**.

The conceptual design treatment is based strictly on the existing roadway (potential widening to six lanes was not addressed). It intends to show that a significant improvement can be accomplished with minimal impact on right-of-way. The channelized right-turn lanes are shown to indicate that when traffic volumes warrant signalization of this intersection, the indirect left-turn protocol associated with the Arizona Parkway would allow traffic to flow under a two-phase signal, minimize conflicts with turning vehicles, and limit delays with free flowing right turns. This would maintain the right-turn-only restriction, but allow traffic to proceed to northbound on SR 347/Queen Creek Road for access to I-10, Chandler, and points east. The design concept also shows accommodation of the future bicycle route on SR 347 incorporated in the MAG *Regional Bikeway Master Plan* (July 2007).

Figure 22 | Indirect Left-Turn Intersection at Maricopa Road



Source: Conceptual Intersection Design by Wilson & Company, March 2015. Aerial image from Google Earth.

SR 347/Queen Creek Road at I-10

There three innovative design treatments that would enhance the capacity of this interchange when traffic volumes warrant improvement. **Table 5** summarizes potential capacity solutions, highlighting advantages, disadvantages, and implementation possibilities, which have been adapted from the special MAG report – *Review of Transportation Improvement Concepts* – prepared in support of the *Central Phoenix Transportation Framework Study*. The existing configuration is a standard diamond interchange supporting connections between I-10 and Queen Creek Road to the east and SR 347/Queen Creek Road to the west (refer to Figure 4 for traffic geometry of the two intersections). The interchange provides double left-turn lanes from eastbound SR 347/Queen Creek Road to westbound I-10, indicating a very high number of left turns is occurring at the intersection in the AM peak period. Similarly, there are two right-turn lanes at the intersection of the eastbound I-10 off-ramp with SR 347/Queen Creek Road (the center lane is a right-turn/through lane) to accommodate returning traffic in the afternoon/evening peak period.

Future travel demand likely will put greater pressure on the dominant left-turn/right-turn traffic pattern at this interchange, as growth in commuting traffic increases between Maricopa and the Phoenix metropolitan area. In addition, MAG is proposing the implementation of Express Bus service, and possibly Bus Rapid Transit (BRT) service, to serve travel through the SR 347 corridor. While expeditious bus service will aid in reducing commuter traffic, the larger vehicles operate less efficiently relative to intersection turning movements. Two of the potential solutions to backups and congestion shown in **Table 5** would require wholesale reconstruction of the interchange to increase capacity to meet potential future travel demand. The third solution – Direct Connector Ramps – would fully accommodate the dominant left-turn/right-turn pattern and preclude major reconstruction of the interchange.

Figure 23 shows a conceptual design treatment for this interchange that would better accommodate the dominant left-turn/right-turn traffic pattern and alleviate potential congestion without substantial reconstruction of the interchange. One Direct Connector Ramp would be constructed to accommodate the left-turn movements of eastbound SR 347/Queen Creek Road to westbound I-10. This two-lane ramp would cross over the center of the existing interchange taking traffic from the outside lanes of SR 347/Queen Creek Road to the outside lanes of I-10. Additional right-of-way likely would be required to construct the outside Direct Connector Ramps. Both I-10 and SR 347 have been shown as widened to six-lanes consistent with long-tern plans of ADOT. The afternoon/evening peak period right-turns from eastbound I-10 to southbound SR 347/Queen Creek Road would be accommodated by the channelized two-lane right-turn ramp at the grade of the existing interchange or at ground level, whichever option offers the least cost.

Alternatively, the ramp could be constructed in the median of the two roadways, if a high-occupancy vehicle (HOV) lane were to be considered with a connection to the existing HOV lanes at the I-10/Santan Freeway interchange. The combination of widening both roadways to six-lanes and installing the Direct Connector Ramp in the medians would likely require the acquisition of additional right-of-way for the entire length of the ramp. The conceptual design treatment assumes widening both roadways to six lanes, exclusive of the ramp, would be possible within existing right-of-way.

Table 5 | Service Interchange Options: SR 347/Queen Creek Road at Interstate 10

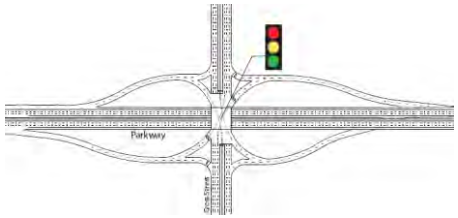
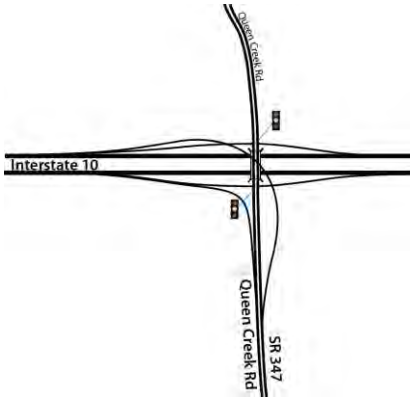
Concept	Description	Advantages	Disadvantages	Implementation
Existing Diamond Interchange	Approaching the interchange from either direction, an off-ramp diverges slightly from the freeway and runs directly across the minor road, becoming an on-ramp that returns to the freeway in similar fashion. An intersection or ramp terminal is developed at the crossing minor road.	• Uses less space than most types of freeway interchanges • Avoids interweaving traffic flows that occur in interchanges • Most effective in areas where traffic is light and a more expensive interchange type is not needed • Ramp intersections (or terminals) may also be configured as a pair of roundabouts	• Where traffic volumes are higher, the two intersections (or ramp terminals) at the crossing minor road often require additional traffic control measures, such as signals and extra lanes dedicated to turning traffic • Storage for left-turns to the freeway on-ramps may be limited, resulting in spillback to adjacent ramp terminal; alternatively the minor road bridge structure may be widened to accommodate additional turn lanes	• Suitable for areas without special constraints • Not suitable where there is a high volumes of left-turning traffic
Single-Point Urban Interchange (SPUI) 	Approaching the interchange, the off-ramp diverges and splits at the crossing minor road. Left-turns are signal-controlled; right-turns yield to crossing traffic or may be signal controlled. Left-turning traffic from both off-ramps are able to turn simultaneously without crossing the path of the opposing left turns. Left-turning traffic to both on-ramps occurs in the same fashion.	• Allows opposing left turns to proceed simultaneously by compressing the two ramp terminal intersections of a diamond into one single intersection over or under the freeway or other free-flowing roadway • Traffic passing through the interchange can be controlled by a single three-phase signal. • SPUIs also allow for wider turns, easing movement for large vehicles, such as buses, trucks, and RVs.	• Increased cost due to the need for a longer or wider bridge, if above the freeway or free-flowing roadway • Very large area of uncontrolled pavement in the middle of the intersection • Traffic signals need a longer yellow and red phase to clear the intersection. • Pedestrians and bicyclists may not able to pass through the intersection on a single green light	• Suitable for areas with limited right-of-way • Suitable for intersections with high volumes of left-turning traffic • Driver familiarity is high in the Phoenix Metro area

Table 5 | Service Interchange Options: SR 347/Queen Creek Road at Interstate 10 (Continued)

Concept	Description	Advantages	Disadvantages	Implementation
Direct Connector Ramps 	Approaching the interchange on the arterial, the outside lane(s) diverge to accommodate the left-turn movement via a high-speed connector ramp to the freeway. Through traffic on the arterial continues to the two signalized intersections at the ramp terminals. Motorists on the freeway desiring to exit and turn right at the arterial for the return trip diverge to channelized right-turn ramps. All other movements still are permitted with the Diamond Interchange.	• Permits dominant left-turn and right-turn movements to flow unopposed from one facility to the other • Traffic passing through the two signalized ramp terminal intersections is reduced • Removing left turns from the on-ramp terminal intersection improves green time for through traffic • Eliminates potential backup of queue at the on-ramp terminal intersection through the off-ramp terminal intersection	• Additional cost associated with exclusive channelized ramps • Combined merge of on-ramp traffic and left-turning traffic for freeway access	• Suitable for interchanges where there is a dominate traffic flow that is causing congestion or backup into the off-ramp terminal intersection • Suitable for intersections with high volumes of left- or right-turning traffic
Diverging Diamond Interchange (DDI)	Approaching the interchange, the off-ramp diverges and splits at the crossing minor road. Both directions of traffic on the minor road cross to the opposite side on both sides of the freeway overpass. As no left turns must clear opposing traffic and all movements are discrete, the interchange operates with a two-phase signal.	• Two -phase signal with short cycle lengths, significantly reduces delay • Lower design speed theoretically provides safety enhancements • Increases the capacity of turning movements to and from freeway ramps • Reuse of existing bridge structure minimizes right-of-way impacts • Substantially reduces the number of conflict points • Improves pedestrian safety via center median between the opposed through lanes or on the outside of the lanes	• Drivers may not be familiar with geometry, different merging requirements, and unique opposing-flow traffic operation • Pedestrians required to cross free-flowing traffic on freeway ramps; however, signalized pedestrian movements can be implemented without impacting the two-phase signalization • Free-flowing traffic in both directions on the minor road is impossible; signals cannot be green at both intersections for both directions simultaneously	• Suitable for locations with high left-turning traffic volumes from the crossing or minor roadway to the main highway

NOTE: Descriptions of the SPUI and DDI presented in this table have been adapted from *Review of Transportation Improvement Concepts*, prepared for Maricopa Association of Governments (MAG) during conduct of the *Central Phoenix Transportation Framework Study*, Phase I, by Wilson & Company, Engineers & Architects, December 2010, Revised January and June 2011.

Figure 23 | Connector Ramps for Queen Creek Traffic at I-10

Source: Conceptual Intersection Design by Wilson & Company, March 2015. Aerial image from Google Earth.

ATTACHMENT – INVENTORY OF CORRIDOR FEATURES

NOTE: The information provided in this Attachment was developed for planning purposes only and is not suitable for design or development decisions. All distance measurements were taken using the Ruler function available with Google Earth for purposes of generally estimating approximate locations of apparent features. Although every effort was made to establish a reasonable inventory of corridor features, some features may not have been apparent in available aerial imagery. Additional, more detail examination of the corridor and surveying would be required prior to developing findings or conclusions regarding the potential feasibility of any contemplated improvements.

CHARACTER AREA INVENTORY

Available Right-of-Way

Queen Creek Road/Maricopa Road: I-10 to Riggs Road (North GRIC)

- 240 feet at the I-10 Interchange
- 175 feet, standard roadway
- ≈185 feet on the southbound approach to the original Maricopa Road
- ≈185 feet on the northbound approach to the original Maricopa Road
- 175 feet, standard roadway
- ≈185 feet on the southbound approach to the original Maricopa Road
- ≈185 feet on the northbound approach to the original Maricopa Road
- 180 feet south of original Maricopa Road
- 190 feet at SB approach to Riggs Road

Maricopa Road: Riggs Road to Casa Blanca Road (Central GRIC)

- 180 feet south of Riggs Road
- ROW at Quarry Road indeterminate
- 300 feet north and south of Gila River Bridge
- 200 feet south of Gila River Bridge
- 190 feet further south of Gila River Bridge
- 225 feet north of Casa Blanca Road

Maricopa Road: Casa Blanca Road to GRIC/City of Maricopa Boundary (South GRIC)

- 215 feet south of two Santa Cruz River (or Wash) Bridges
- 190 feet further south 1,500 feet south of the two Santa Cruz River (or Wash) Bridges
- 175 feet at un-name roadway to deserted Federal landing strip
- 220 feet 1,000 feet north of City of Maricopa boundary

Maricopa Road/John Wayne Parkway – GRIC/City of Maricopa Boundary to UPRR (Maricopa)

- Nominal 250 feet inside City of Maricopa boundary
- 215 feet south of Lakeview Dr./Cobblestone Farms Dr. – North
- 210 feet directly north of Cobblestone Farms Dr. – South
- 210 feet south of Cobblestone Farms Dr. – South
- 212 feet north of Smith-Enke intersection
- 200 feet south of Smith-Enke intersection
- 215 feet at Edison Road
- 260 feet south of Edison Road
- Tapers to 200 feet 240 feet north of Hathaway Avenue
- Constricted to 120 feet 240 feet north of Hathaway Avenue, reduced to 125 feet 165 feet north of Garvey (Pinal County GIS Parcel Map source indicates the difference in ROW on the east side is still under the control of private landowners; it is possible an easement has been obtained).
- Reduced to 80 feet 165 feet north of Garvey Avenue
- Unknown ROW (76 feet??) through inactive/non-operational portion of UPRR corridor
- 110 feet at north side of active/operational portion of UPRR corridor

Maricopa Road/John Wayne Parkway – UPRR to Peters & Nall Road (Maricopa)

- 110 feet directly south of active/operational portion of UPRR corridor
- Tapers to less than 100 feet at Tapps Road
- 120 feet south of Honeycutt Avenue (including 20-foot easement on west side)
- Reduces to less than 100 feet 660 feet south of Honeycutt Road
- Expands to 155 feet 540 feet to the south
- Expands to 165 feet 290 feet north of Alterra Parkway/Desert Cedars Lane
- Expands to 175 feet 40 feet north of Alterra Parkway/Desert Cedars Lane
- 200 feet south of Alterra Parkway/Desert Cedars Lane
- SR 347 coexists with drainage easements south of Bowlin Road creating 300-foot ROW; highway proper occupies center portion with width of 100 feet
- Available public ROW within which SR 347 coexists with drainage ranges from 245 feet north of Alterra Parkway/Martin Luther King Jr Boulevard; 235 feet at Horse Mesa Road alignment; 226 feet at Sage Brush Drive alignment (includes 84-foot drainage easement on the west side)
- 146-foot ROW coincident with Ak-Chin Indian Community (ACIC) at Juan Street; buffered on the east by public open space of Palo Brea Homeowners Association; buffered on west by ACIC dedicated open space, SR 347west-side shoulder encroaches on ACIA open space/buffer for 945 feet; highway occupies west side of ROW
- 160-foot ROW south of Ferrell Road
- Expands to 188 feet between the southern edge of Harrah's Ak-Chin Resort and Casino and ACIC boundary one-half mile to the south

End of Project

Roadway Cross-Sections/Number of Lanes

Queen Creek Road/Maricopa Road: I-10 to Riggs Road (North GRIC)

- I-10 to original Maricopa Road: four 12-foot travel lanes; two SB and two NB
- Original Maricopa Road to Riggs Road: four 12-foot travel lanes; two SB and two NB

Maricopa Road: Riggs Road to Casa Blanca Road (Central GRIC)

- Four 12-foot travel lanes; two SB and two NB

Maricopa Road: Casa Blanca Road to GRIC/City of Maricopa Boundary (South GRIC)

- Four 12-foot travel lanes; two SB and two NB

Maricopa Road/John Wayne Parkway – GRIC/City of Maricopa Boundary to UPRR (Maricopa)

- Three lanes SB and two NB 385 feet 395 feet prior to Lakeview Dr./Cobblestone Farms Dr. - North
- South of Lakeview Dr./Cobblestone Farms Dr. – North: three lanes SB (36 feet); two lanes NB (24 Feet); 10-foot turn lanes; 12-foot lane divider separates dedicated right-turn lane from through lanes
- South of Lakeview Dr./Cobblestone Farms Dr. – South: three lanes SB (36 feet); two lanes NB (24 Feet); 10-foot turn lanes; 12-foot lane divider separates dedicated left-turn lane from through lanes; continuous dedicated right turn lane

- NB approach to Smith-Enke: three 12-foot through lanes; two 12-foot dedicated left-turn lanes; 11.5-foot dedicated right-turn lane. NB north of intersection: two through lanes (33 feet in width)
- SB approach to Smith-Enke: three 12-foot through NB lanes; two 10.5-foot dedicated left-turn lanes, and one 10-foot dedicated right-turn lane. SB lanes south of intersection: three 12-foot through lanes.
- Smith-Enke to Edison Road: Three 12-foot SB and NB through lanes; two dedicated right-turn lanes (SB and NB). SB lanes are: three through lanes; Continuous right-turn lanes on both sides of the roadway between Smith-Enke an Edison Road, with exception of 535 feet on east side north of Edison Road.

    - WB approach of Smith-Enke: WB – dedicated left-turn (11.5 feet), one through lane (15 feet), one through-right lane (11 feet), and one right-turn lane (12.5 feet); EB – two 12-foot through lanes.
    - EB approach of Smith-Enke: EB – dedicated left-turn lane (12.5 feet), lane separator (12 feet), one through lane (12-foot), and one right-turn lane (15 feet).

- At Maricopa Fiesta/Maricopa Marketplace Loop Roads: three 12-foot through SB and NB lanes (36 feet); dedicated left-turn lane on each approach (11.5 feet), dedicated right-turn lane on each approach (11 feet).

    - Maricopa Fiesta Loop Road (EB approach): EB – one left-turn lane (11.5 feet), one through-right lane (12.5 feet); WB – 11-foot through lane.
    - Maricopa Marketplace Loop Road: WB – one left-through-right lane (22 feet); WB – one 14-foot through lane.

- SB approach to Edison Road: three 12-foot through lanes; one 10-foot dedicated left-turn lane; 12-foot dedicated right-turn lane. NB north of intersection: three through lanes (35 feet in width) with dedicated right-turn lane starting immediately south of Edison Road; 153 feet to access to parcel southwest corner of intersection; right-turn lane continues south to second access to parcel
- NB approach to Edison Road: two 12-foot through lanes; one 11.5-foot dedicated left-turn lane; one 11.5-foot dedicated right-turn lane. SB south of intersection: three through lanes (36 feet in width)

    - Edison Road, EB approach: EB – one left-turn lane (11.5 feet), one through-right lane (11.5 feet); WB – one through lane (13 feet)
    - Edison Road, WB approach: WB – one left-turn (13 feet), one through-right lane (12 feet); WB – one through lane (12 feet).

- 600 feet south of Edison Road: SB – one 12-foot right-turn lane, two 12-foot through lanes, 13-foot left-turn lane; NB – 2 12-foot through lanes
- SB approach to Hathaway Avenue: one 12-foot right-turn lane, one 13-foot through lane, one 12-foot through lane; NB north of intersection – one 12-foot through lane, one 13-foot through lane, one 11-foot right-turn lane (175 feet in length)

- NB approach to Hathaway Avenue: two 12-foot through lanes, one 12-foor-left turn lane; SB south of Hathaway Avenue, two 12-foot through lanes
- South of Hathaway Avenue: two 12-foot SB through lanes; one 12-foot NB through lane; one 13-foot NB through lane, one 13-foot center left-turn lane
- North of Garvey Avenue: one 12.5-foot SB through lane; one 12-foot SB thought lane; one 11-ffot NB through lane; one 13-foot NB through lane; one 13-foot center left-turn lane
- South of Honeycutt Road: one 11.5-foot SB through lane; one 12-foot SB through lane; one 11.75-foot SB left-turn lane; one 12-foot NB through lane; one 14-foot NB through lane
- South of MCGH: two 13-foot SB through lanes; one 12.5-foot through lane; one 13.5-foot through lane

Maricopa Road/John Wayne Parkway – UPRR to Peters & Nall Road (Maricopa)

- South of UPRR corridor centerline: one 14-foot SB through lane; one 10.25-foot SB through lane; one 10.5-foot NB through lane; one 12-foot NB through lane
- South of Edwards Avenue: one 12.5-foot SB through lane; one 11.5-foot SB through lane; one 11.5-foot NB through lane; one 12.5-foot NB through lane
- South of Honeycutt Avenue: one 13-foot SB through lane; one 11-foot SB through lane; one 11-foot NB through lane; one 13-foot NB through lane
- South of Edwards Avenue: one 12.5-foot SB through lane; one 11.5-foot SB through lane; one 11.5-foot NB through lane; one 12.5-foot NB through lane
- 780 feet north of Alterra Parkway/Desert Cedars Drive: one 12.5-foot SB through lane; one 11.5-foot SB through lane; one 11-foot left-turn lane; one 11.5-foot NB through lane; one 12.5-foot NB through lane
- SB approach to Alterra Parkway/Desert Cedars Drive: SB – one 13-foot right-turn lane, three 12-foot through lanes, one 12-foot left-turn lane; NB (north of Alterra Parkway/Desert Cedars Drive) – three 12-foot through lanes
- NB approach to Alterra Parkway/Desert Cedars Drive: NB – one 13-foot right-turn lane, three12-foot through lanes, one 12-foot left-turn lane; SB (south of Alterra Parkway/Desert Cedars Drive) – three 12-foot through lanes
- 330 feet south of Alterra Parkway/Desert Cedars Drive: three 12-foot SB lanes; three 12-foot NB lanes
- SB approach to Bowlin Road: SB – one 13-foot right-turn lane, one 13-foot through lane, two 12-foot through lanes, one 13-foot left-turn lane; NB (north of Bowlin Road) – one 13-foot through lane, two 12-foot through lanes; Right-turn bay directly north of intersection- east side
- NB approach to Bowlin Road: NB – three 12-foot through lanes, one 13-foot left-turn lane; SB (south of Bowlin Road) – two 12-foot through lanes; one 13-foot through lane
- SB approach to Alterra Parkway/Martin Luther King Boulevard: SB – one 12-foot right-turn lane, one 14-foot through lane, two 12-foot through lanes, one 11-foot left-turn lane; NB (north of intersection) – two 12-foot through lanes; one 12-foot shoulder, east side from Bowlin Road to Martin Luther King Boulevard
- South of Alterra Parkway/Martin Luther King Boulevard: SB – One 14-foot through lane, two 12-foot through lanes; NB – two 12-foot through lanes; 10-foot shoulder from Alterra Parkway/Martin Luther King Boulevard to Juan Street (ACIC northern boundary)

- SB approach to Juan Street: SB – one 12-foot right-turn lane and three 12-foot through lanes; NB (north of intersection) – two 12-foot through lanes
- NB approach to Juan Street: two 12-foot through lanes and one 12-foot left-turn lane; SB (south of intersection) – two 12-foot through lanes with 700-foot merge
- 700 feet south of Juan Street intersection: SB – two 12-foot through lanes; NB – two 12-foot through lanes
- Access intersection between Pablo Avenue and Vincent Avenue: SB – one 12-foot right-turn lane ns two 12-foot through lanes; NB (north of intersection) – one 12-foot through lane and one 19-foot through lane; 11-foot shoulders both sides, expanding to 16 feet at access intersection between Pablo Avenue and Vincent Avenue
- Access intersection between Pablo Avenue and Vincent Avenue: NB – one 21-foot through lane and one 11-foot through lane; SB (south of intersection) – two 12-foot through lanes; 15-foot east side shoulder and 13-foot west side shoulder
- Access intersection to 426 feet north of Ferrell Road: SB – two 13-foot through lanes; NB – 14-foot through lane and 25-foot through lane
- SB approach to Farrell Road: SB – 8-foot shoulder, one 12-foot right-turn lane, two 12-foot through lanes, one 13- foot left-turn lane; NB (north side of intersection) – two 12-foot through lanes, one 12.5-foot auxiliary right-turn-from-Ferrell-Road (NB) merge lane, 15-foot shoulder
- NB approach to Ferrell Road: NB – 10-foot outside shoulder, 12-foot right-turn lane, two 12-foot through lanes, one 12-foot left-turn lane; SB (south of intersection) – 10-foot outside shoulder, 2-12-foot through lanes
- At north entrance to Ak-Chin Multi-tainment Center: SB approach – 5-foot shoulder, 12-foot right-turn lane, two 12.5-foot through lanes; south of intersection SB – 10-foot shoulder, two 13-foot through lanes, 6-foot inside shoulder
- SB approach to south entrance to Ak-Chin Multi-tainment Center and Harrah's Ak-Chin Resort and Casino: 3-foot outside shoulder, 12-foot right-turn lane, two 12.5-foot through lanes, 6-foot inside shoulder
- South of entrance to Ak-Chin Multi-tainment Center and Harrah's Ak-Chin Resort and Casino: 12-foot outside shoulder, two 12.5-through lanes, 6-foot inside shoulder
- SB approach to main entrance Harrah's Ak-Chin Resort and Casino: SB – 4-foot outside shoulder, 12.5-foot right-turn lane, two 12-foot through lanes, 12-foot left-turn/U-turn lane; NB (north of intersection): 6-foot inside shoulder, two 12-foot through lanes, 10-foot shoulder
- NB approach to main entrance Harrah's Ak-Chin Resort and Casino: SB – 12-foot left-turn lane, two 12-foot through lanes, 11-foot outside shoulder; SB (south of intersection) – 10-foot outside shoulder, two 12-foot through lanes, 4-foot inside shoulder
- 380 feet south of main entrance Harrah's Ak-Chin Resort and Casino: SB – 10-foot outside shoulder, two 12-foot through lanes, 5-foot inside shoulder; NB – 5-foot insider shoulder, two 12-foot through lanes, 10-foot outside shoulder

End of Project

Turn Lanes

Queen Creek Road/Maricopa Road: I-10 to Riggs Road (North GRIC)

- The interconnection of SR 347/Queen Creek Road and SR 347/Maricopa Road with the original Maricopa Road alignment has a dedicated southbound (SB) right-turn lane and dedicated northbound (NB) left-turn lane. The original Maricopa Road alignment continues north from this intersection to Wild Horse Path Boulevard, which also has an interchange with I-10. This connection provides access from the south to the Wild Horse Pass Hotel & Casino, which is owned and operated by the Gila River Indian Community. The southbound approach of the original Maricopa Road at the intersection permits only a right turn onto SB SR 347/Maricopa Road.
- Riggs Road intersection has dedicated left- and right-turn lanes for both the SB and NB approaches.

Maricopa Road: Riggs Road to Casa Blanca Road (Central GRIC)

- SB left-turn lane and NB right-turn lane at Quarry Road.
- Casa Blanca Road has dedicated SB left-turn lane and dedicated NB right-turn lane

Maricopa Road: Casa Blanca Road to GRIC/City of Maricopa Boundary (South GRIC)

- Un-named road to closed Federal landing strip 1.5 miles north of City of Maricopa boundary

Maricopa Road/John Wayne Parkway – GRIC/City of Maricopa Boundary to UPRR (Maricopa)

- Lakeview Dr./Cobblestone Farms Dr. – North: Dedicated left-turn lane SB and NB; Dedicated right-turn lane NB and SB. Dedicated EB left-turn lane on EB Cobblestone Farms Dr. – North
- Cobblestone Farms Dr. – South: Dedicated SB right-turn lane and dedicated SB lane left-turn (with no destination, future Dignity Health Campus). Dedicated NB left-turn lane to Cobblestone Farms Dr. - South. Dedicated left-turn lane on EB Cobblestone Farms Dr. – South. Dedicated NB left-turn lane separated from through lanes by striped median.
- Dedicated right-turn lane at Cobblestone Farms Shopping Center, 375 feet south of Cobblestone Farms Dr. – South
- Dedicated right-turn lane into Maricopa Professional Village, 396 feet north of Smith-Enke.
- Dedicated right-turn and 2 left-turn lanes at SB and NB approaches to Smith-Enke
- Dedicated right-turn and 2 left-turn lanes at NB approach to Edison Road
- Dedicated left-turn lane and right-turn lane at SB approach to Edison Road
- Dedicated right-turn lane extends south from Edison Road 968 feet to Hathaway Avenue
- Dedicated right-turn lane from Hathaway Avenue 175 feet north
- Center left-turn lane beginning 360 south of Hathaway Avenue, extending 105 feet south of Honeycutt Road
- Left-turn lane at SB approach to MCGH intersection

Maricopa Road/John Wayne Parkway – UPRR to Peters & Nall Road (Maricopa)

- Center left-turn lane beginning 180 feet south of UPRR corridor centerline, continuing to SB approach to Honeycutt Avenue
- Left-turn and right-turn lanes at Honeycutt Avenue NB approach

- Left-turn lane at east side access (First Baptist Church of Maricopa), 630 feet north of Alterra Parkway/Desert Cedars Drive
- Left- and right-turn bays on SB and NB approaches to Alterra Parkway/Desert Cedars Drive
- Left-turn and right-turn lanes at Honeycutt Avenue SB approach
- Left-turn lane at Honeycutt Avenue SB approach
- Left-turn lane at Bowlin Road SB approach
- Right- and left-turn lanes SB and NB approaches at Alterra Parkway/Martin Luther King Boulevard
- Juan Street: SB right-turn lane; NB left-turn lane
- Pablo/Vincent avenues access: SB right-turn lane; NB left-turn lane
- Farrell Road: SB right- and left-turn lanes; NB right- and left-turn lanes
- North entrance to ACIC Multi-tainment Center: SB right-turn lane
- Entrance to ACIC Multi-tainment Center and Harrah's Ak-Chin Resort and Casino: SB right-turn lane
- Main entrance to Harrah's Ak-Chin Resort and Casino: SB right-turn lane; left/U-turn lane; NB left-turn lane

End of Project

Medians

Queen Creek Road/Maricopa Road: I-10 to Riggs Road (North GRIC)

- Nominal 26-foot median width, with nominal 3-foot inside shoulders
- Nominal 9-foot outside shoulders
- Nominal 45-foot median width, with nominal 5-foot inside shoulders, and nominal 10- to12-foot outside shoulders to Riggs Road
- 33- to 34 feet north and south of Riggs Roads with 9- to 12-foot outside shoulders

Maricopa Road: Riggs Road to Casa Blanca Road (Central GRIC)

- 45- to 47-foot median with 4- to 6-foot inside shoulders, and 11-foot outside shoulders
- 32-foot median on SB approach to Quarry Road
- 45-foot median on NB approach to Quarry Road
- 45- foot median north of Gila River Bridge with 4-foot inside shoulders, and 11- to 12-foot outside shoulders; same south of the bridge.
- 45- foot median south of Gila River Bridge with 4-foot inside shoulders, and 11- to 12-foot outside shoulders

Maricopa Road: Casa Blanca Road to GRIC/City of Maricopa Boundary (South GRIC)

- 45- foot median with 4-foot inside shoulders, and 11- to 12-foot outside shoulders

Maricopa Road/John Wayne Parkway – GRIC/City of Maricopa Boundary to UPRR (Maricopa)

- 45- foot median entering City of Maricopa to 564 feet before Lakeview Dr./Cobblestone Farms Dr. – North intersection; 10-11-foot shoulders
- 33-34-foot median at SB approach to Lakeview Dr./Cobblestone Farms Dr. – North; right shoulder ends 575 feet north of intersection

- 33-34-foot median at NB approach to Lakeview Dr./Cobblestone Farms Dr. – North. 12-foot lane divider separating dedicated right-turn lane from through lanes
- 45-foot median 453 feet south of Lakeview Dr./Cobblestone Farms Dr. – North intersection; NB 10-12-foot shoulder starts 614 feet south of intersection
- 23-foot median at south approach to Cobblestone Farms Dr. – South intersection; NB 10-12-foot shoulder
- Median tapers from 39 feet to 22 feet on south approach (NB) to Cobblestone Farms Dr. – South intersection for dedicated left-turn lane and 10.5-foot lane separator
- Median tapers from 39 feet to 11.5 feet, starting 455 feet north of Smith-Enke intersection.
- Median south of Smith-Enke is 9 feet; expands to 32 feet 462 feet south of Smith-Enke at Maricopa Fiesta Shopping Center (access points on both sides of the roadway).
- 32-foot median extends south 424 feet
- Median reduced to 9 feet to accommodate left-turn bay in to Maricopa Fiesta Shopping Center.
- 9-foot median maintained to 260 feet south of Maricopa Fiesta/Maricopa Marketplace Loop Roads to accommodate dedicated SB and NB left-turn bays at the loop roads
- 19-foot median 350 feet south of Loop Roads, extends 370 south. Tapers to 9-foot median to accommodate dedicated left-turn bay for SB approach at Edison Road
- 8-foot median south of Edison Road; expands to 18 feet 462 feet south of Edison Road; continues for 128 feet, tapering to 7 feet at dedicated left-turn bay to Maricopa Groves Self-Storage; expands to 20 feet after left-turn bay, tapers to 15 feet at Hathaway Avenue
- Center left-turn lane begins 370 feet south of Hathaway Avenue, extending to 105 south of Honeycutt Avenue
- 11-foot median extending from MCGH to UPRR corridor centerline

Maricopa Road/John Wayne Parkway – UPRR to Peters & Nall Road (Maricopa)

- 11-foot median extending 128 feet south of UPRR corridor centerline
- 14-foot center left-turn lane begins 128 feet south of UPRR corridor centerline to Honeycutt Avenue
- 14-foot center left-turn lane begins 240 feet south of Honeycutt Avenue to 812 feet north of Alterra Parkway/Desert Cedars Drive
- 278-foot 12-foot median begins 588 feet north of Alterra Parkway/Desert Cedars Drive; tapers to 8-foot median at the intersection
- 6-foot median for 200 feet south of Alterra Parkway/Desert Cedars Drive, expands to 18 feet, a width maintained to 350 feet north of Bowlin Road, where it tapers of 5 feet on SB approach to intersection.
- 5-foot median south of Bowlin Road, expands to 20 feet 415 feet south of Bowlin Road for a distance of 532 feet, tapers to 9-foot median at SB approach to Alterra Parkway/Martin Luther King Boulevard
- 9-foot median at NB approach to Alterra Parkway/Martin Luther King Boulevard; expands to 21 feet 346 feet south of Alterra Parkway/Martin Luther King Boulevard; 21-foot median continues to AK-Chin Indian Community boundary at Juan Street
- South of Juan Street: 9-foot median, expands to 18 feet 325 feet south of the intersection

- 18-foot median continues to access for Pablo/Vincent avenues
- 9-foot medina south of access for Pablo/Vincent avenues, continues to Ferrell Road
- South of Ferrell Road: 10-foot median, expanding to 28 feet at north entrance to Ak-Chin Multi-tainment Center; expands to 46 feet at south entrance to Ak-Chin Multi-tainment Center and north entrance to Harrah's Ak-Chin Resort and Casino.
- Median tapers back to 32 feet at SB approach to Harrah's Ak-Chin Resort and Casino main entrance.
- 34 feet south of Harrah's Ak-Chin Resort and Casino main entrance; expands to 45 feet 355 feet south of intersection

End of Project

Existing Traffic Volumes

Table showing data for four Character Areas

Intersections and Access Points

Queen Creek Road/Maricopa Road: I-10 to Riggs Road (North GRIC)

- Original Maricopa Road, Unsignalized
- RIRO access SB at 915 feet south of original Maricopa Road Junction
- Riggs Road, Signalized

Maricopa Road: Riggs Road to Casa Blanca Road (Central GRIC)

- RIRO SB at utility easement 2,285 feet south of Maricopa/Pinal County Line
- RIRO NB at utility easement 2,928 feet south of Maricopa/Pinal County Line
- Full access across median (Indian Rt. 60/Goodyear Road- Dirt/Unimproved) 5,450 feet south of Maricopa/Pinal County Line
- Quarry Road, full access Signalized 'T' intersection from the east
- Sacate Road , full access, Unsignalized 'T' intersection from the east
- RIRO access NB 2,720 feet south of Sacata Road
- RIRO access SB 2,974 feet south of Sacata Road
- RIRO access NB 3,280 feet north of Casa Blanca Road
- Casa Blanca (Bapchula) Road, Signalized, 'T' intersection from the east

Maricopa Road: Casa Blanca Road to GRIC/City of Maricopa Boundary (South GRIC)

- RIRO access NB 1,945 feet south of Casa Blanca Road
- RIRO access SB 2,282 feet south of Casa Blanca Road
- Full access, Unnamed Road, Unsignalized, 'T' intersection from the west
- Full access NB, 364 feet north of Maricopa City Limits
- Full access SB, 340 feet north of Maricopa City Limits

Maricopa Road/John Wayne Parkway – GRIC/City of Maricopa Boundary to UPRR (Maricopa)

- Lakeview Dr./Cobblestone Farms Dr. – North, Signalized
- Cobblestone Farms Dr. – South, Signalized
- RIRO access to/from Cobblestone Fiesta Shopping Center 375 feet south of Cobblestone Farms Dr. – South.

- RIRO access to/from Maricopa Professional Village 400 feet north of Smith-Enke.
- Smith-Enke, Signalized:
- RIRO access 453 south of Smith-Enke to/from Maricopa Fiesta Shopping Center (west side) and Fry's Marketplace (east side).
- RIRO access 916 south of Smith-Enke to/from Maricopa Fiesta Shopping Center (middle, west side) and Fry's Marketplace (middle, east side).
- RIRO access 916 south of Smith-Enke to/from Maricopa Fiesta Shopping Center (middle, west side) and Fry's Marketplace (middle, east side).
- Maricopa Fiesta/Maricopa Marketplace Loop Roads, Signalized: SB and NB approaches – dedicated left- and right-turn lanes
- RIRO access 400 feet south of Maricopa Fiesta/Maricopa Marketplace Loop Roads west side and east side
- RIRO access 132 feet north of Edison Road, both sides
- Edison Road, Signalized
- RIRO 236 feet south of Edison Road (SB)
- RIRO 462 feet south of Edison Road (SB)
- Hathaway Avenue, Signalized
- RI west side frontage road (SB) 120 south of Hathaway Avenue
- RIRO at Maricopa Animal Hospital (west side) 445 feet south (SB) of Hathaway Avenue
- Full access to west side frontage road (SB) 220 feet north of Garvey Avenue
- Full access east side parcels (NB) at Garvey Avenue
- Full access SB at 100 feet south of Garvey Avenue
- Full access SB at to west side 195 feet south of Garvey Avenue
- Full access east side parcels (NB) at 84 feet south of Garvey Avenue
- Full access east side parcels (NB) at 155 feet south of Garvey Avenue
- Full access east side parcels (NB) at 250 feet south of Garvey Avenue
- Honeycutt Road, unsignalized (two-lane roadway)
- Full access SB to west side 90 feet south of Honeycutt Road
- Full access east side parcels (NB) at 80 feet south of Honeycutt Road
- Full access east side parcels (NB) at 153 feet south of Honeycutt Road
- Full access east side parcels (NB) at 200 feet south of Honeycutt Road
- Full access SB to west side 192 feet south of Honeycutt Road
- Full access SB at MCGH west side 192
- Maricopa-Casa Grande Highway, signalized
- UPRR, signalized and gated

Maricopa Road/John Wayne Parkway – UPRR to Peters & Nall Road (Maricopa)

- Full access SB to west side 254 feet north of Edwards Avenue
- Full access east side parcels (NB) at 256 feet north of Edwards Avenue
- Full access east side parcels (NB) at 156 feet north of Edwards Avenue
- Full access SB to west side 100 feet south of Edwards Avenue
- Full access SB to west side 160 feet south of Edwards Avenue
- Full access SB to west side 230 feet south of Edwards Avenue

- Full access east side parcels (NB) at 390 feet south of Edwards Avenue
- Full access east side parcels (NB) at 499 feet south of Edwards Avenue
- Honeycutt Avenue, signalized
- Full access east side parcels (NB) at 420 feet south of Honeycutt Avenue
- Full access east side parcels (NB) at 500 feet south of Honeycutt Avenue
- Full access SB to west side 645 feet south of Honeycutt Avenue
- Full access SB to west side 665 feet south of Honeycutt Avenue
- Full access SB to west side 815 feet south of Honeycutt Avenue
- Full access east side parcels (NB) at 705 feet south of Honeycutt Avenue
- Full access east side parcels (NB) at 830 feet south of Honeycutt Avenue
- Full access east side parcels (NB) at 660 feet north of Alterra Parkway/Desert Gardens Drive
- Alterra Parkway/Desert Gardens Drive, signalized
- Full access east side parcels (NB) at 305 feet north of Bowlin Road
- Bowlin Road, signalized
- Alterra Parkway/Martin Luther King Jr Boulevard, unsignalized
- Juan Street, unsignalized
- Full access SB to Pablo/Vincent avenues west side 635 feet north of Ferrell Road
- RIRO SB at north entrance Ak-Chin Multi-tainment Center 700 feet south of Ferrell Road
- RIRO SB at north entrance Ak-Chin Multi-tainment Center and Harrah's Ak-Chin Hotel and Casino 1,320 feet south of Ferrell Road
- Main entrance to Harrah's Ak-Chin Hotel and Casino, signalized

End of Project

Structures

Queen Creek Road/Maricopa Road: I-10 to Riggs Road (North GRIC)

- 50-foot Culvert 6,745 feet north of Riggs Road
- 10-foot Culvert 110 feet north of Riggs Road

Maricopa Road: Riggs Road to Casa Blanca Road (Central GRIC)

- OHE Line on south side of Riggs Road
- 20-foot Culvert 936 feet south of Riggs Road
- 45-foot Culvert 3,550 feet south of Riggs Road
- OHE Line at 1.3 miles south of Riggs Road
- OHE Line at 1.5 miles south of Riggs Road
- OHE Line at 1.55 miles south of Riggs Road
- 20-foot Culvert 1.6 miles south of Riggs Road
- Gila River Bridge 3.25 miles south of Riggs Road: 2x12-foot lanes on NB and SB bridge structures with 7-foot inside shoulders, and 12-foot outside shoulder. The NB an SB bridges are 1,253 feet in length. Bridges are separated by 32 feet.
- 9-foot Culvert 1,480 feet north of Sacate Road
- OHE Line at 6,300 feet north of Casa Blanca Road

- 35-foot Culvert 4,400 feet north of Casa Blanca Road

Maricopa Road: Casa Blanca Road to GRIC/City of Maricopa Boundary (South GRIC)

- Santa Cruz River (or Wash) Bridges over drainage channel 500 feet south of Casa Blanca Road; NB and SB structures are 158 feet in length. Separation is 32 feet.
- OHE Line at 2,260 feet south of Casa Blanca Road
- 27-foot Culvert 3,000 feet south of Casa Blanca Road
- Culvert, width unknown, 4,900 feet south of Casa Blanca Road
- Santa Rosa Wash Bridges – Two bridges over drainage channel 3,000 feet north of City of Maricopa boundary; NB and SB structures are 243 feet in length. Separation is 32 feet.
- 50-foot Culvert (outlet) 390 feet north of Maricopa City Limits, west side of highway
- 26-foot Culvert (inlet) 220 feet north of Maricopa City Limits

Maricopa Road/John Wayne Parkway – GRIC/City of Maricopa Boundary to UPRR (Maricopa)

- Multiple culverts associated with urban curb and gutter cross-section transferring runoff from the west side of the highway to drainage channel on the east side of the highway, flow is to the north.

Maricopa Road/John Wayne Parkway – UPRR to Peters & Nall Road (Maricopa)

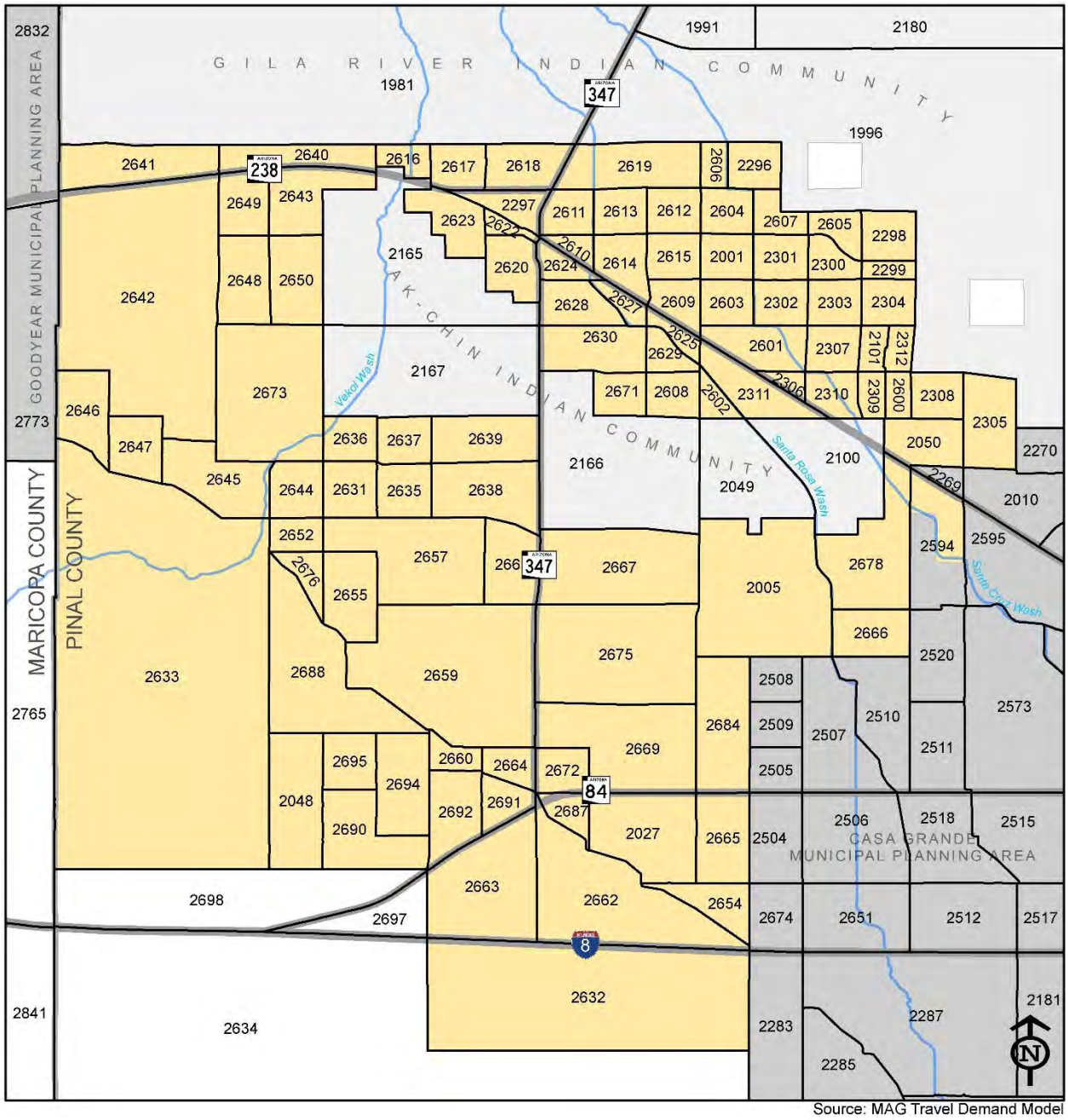
- Multiple 3- to 7-foot culverts, from 95 feet north of Alterra Parkway/Desert Cedars Drive to Juan Street
- 55-foot Culvert (inlet), southwest corner of SR 347 and Bowlin Road
- 28-foot Culvert (outlet), southeast corner of SR 347 and Bowlin Road
- Drainage channel along east side from Bowlin Road to Steen Road
- 85-foot Culvert, at Steen Road

End of Project

APPENDIX I: BUILDOUT TAZ SOCIOECONOMIC DATA

This appendix contains the socioeconomic data for all Traffic Analysis Zones (TAZs) in the ATP study area for the Buildout scenario. A map of the study area shows the boundaries of the TAZs labeled with ID numbers. Tabular data presents the forecasted socioeconomic values (i.e., population, employment, and dwelling units) for each TAZ under Buildout conditions. The column in the table titled MPA, indicates the Municipal Planning Area each TAZ is associated with: “MA” represents Maricopa, “AK” denotes Ak-Chin, and “CG” abbreviates Casa Grande.

TAZ Map



Source: MAG Travel Demand Model

Legend

- TAZ
- Major Roadways
- XXXX - TAZ ID
- Counties
- Railroad
- Major Washes
- TMP Study Area

0 2 4
Miles

WILSON & COMPANY

March 30, 2015

Buildout Socioeconomic Data

MPA	TAZ ID#	Population	Employment	Dwelling Units
MA	2001	4,560	5,220	1,620
MA	2005	4,370	31,890	1,550
MA	2027	11,650	870	4,140
MA	2048	4,270	0	1,480
AK	2049	50	670	20
MA	2050	500	13,020	210
AK	2100	60	780	20
MA	2101	2,370	350	860
AK	2165	1,020	1,440	280
AK	2166	220	1,850	70
AK	2167	180	2,510	60
MA	2296	0	120	0
MA	2297	2,760	5,380	920
MA	2298	0	20	0
MA	2299	0	0	0
MA	2300	4,820	560	1,620
MA	2301	5,740	560	2,030
MA	2302	5,550	790	1,940
MA	2303	4,500	1,110	1,620
MA	2304	0	0	0
MA	2305	120	25,750	40
MA	2306	1,880	610	670
MA	2307	4,860	0	1,730
MA	2308	2,850	280	1,010
MA	2309	3,160	0	1,120
MA	2310	5,630	320	2,000
MA	2311	7,700	2,900	2,740
MA	2312	1,920	10	680
MA	2600	2,610	220	930
MA	2601	10,300	820	3,660
MA	2602	850	2,490	300
MA	2603	6,100	3,250	2,220
MA	2604	3,180	660	1,130
MA	2605	5,320	20	1,830
MA	2606	20	20	10
MA	2607	0	50	0

Buildout Socioeconomic Data (Continued)

MPA	TAZ ID#	Population	Employment	Dwelling Units
MA	2608	5,670	700	2,010
MA	2609	3,030	9,230	1,075
MA	2610	4,020	340	1,020
MA	2611	6,340	1,450	1,900
MA	2612	5,950	160	2,040
MA	2613	5,350	60	1,930
MA	2614	6,350	2,620	1,950
MA	2615	4,270	3,880	1,520
MA	2616	0	30	0
MA	2617	8,480	1,570	3,240
MA	2618	4,180	12,220	1,290
MA	2619	13,520	740	4,250
MA	2620	9,090	1,490	2,670
MA	2622	230	2,690	80
MA	2623	5,270	6,000	1,900
MA	2624	2,320	1,110	750
MA	2625	1,300	9,000	460
MA	2627	1,710	350	600
MA	2628	6,750	630	2,370
MA	2629	3,610	0	1,280
MA	2630	12,380	1,800	4,410
MA	2631	1,450	80	490
MA	2632	7,780	6,230	2,760
MA	2633	23,350	240	8,170
MA	2635	2,440	30	850
MA	2636	830	40	240
MA	2637	6,340	590	2,250
MA	2638	11,960	700	4,250
MA	2639	8,720	690	3,100
MA	2640	50	12,480	20
MA	2641	980	17,980	350
MA	2642	10,290	4,610	3,640
MA	2643	5,010	11,130	1,780
MA	2644	2,110	0	730
MA	2645	12,040	750	4,280
MA	2646	1,010	0	350
MA	2647	4,570	0	1,620

Buildout Socioeconomic Data (Continued)

MPA	TAZ ID#	Population	Employment	Dwelling Units
MA	2648	9,240	190	3,300
MA	2649	3,360	4,650	1,190
MA	2650	10,610	130	3,770
MA	2652	1,780	350	620
MA	2654	2,990	970	1,060
MA	2655	6,910	670	2,470
MA	2657	18,920	9,010	6,760
MA	2659	46,750	8,350	16,890
MA	2660	2,120	180	750
MA	2662	5,190	12,000	1,840
MA	2663	7,280	9,260	2,580
MA	2664	5,440	9,290	1,930
MA	2665	8,690	840	3,090
MA	2666	4,230	740	1,510
MA	2667	32,630	8,300	11,600
MA	2668	10,110	1,860	3,590
MA	2669	9,240	2,680	3,280
MA	2671	5,550	270	1,970
MA	2672	2,980	10	1,040
MA	2673	17,220	430	6,160
MA	2675	39,650	6,140	14,090
MA	2676	1,660	0	590
MA	2678	12,220	6,560	4,310
MA	2684	17,130	2,410	6,090
MA	2687	2,410	320	840
MA	2688	12,030	460	4,250
MA	2690	5,490	350	1,950
MA	2691	4,390	380	1,570
MA	2692	5,160	470	1,800
MA	2694	4,690	10	1,640
MA	2695	1,710	0	600
MA/CG	2594	21,730	3,850	7,720

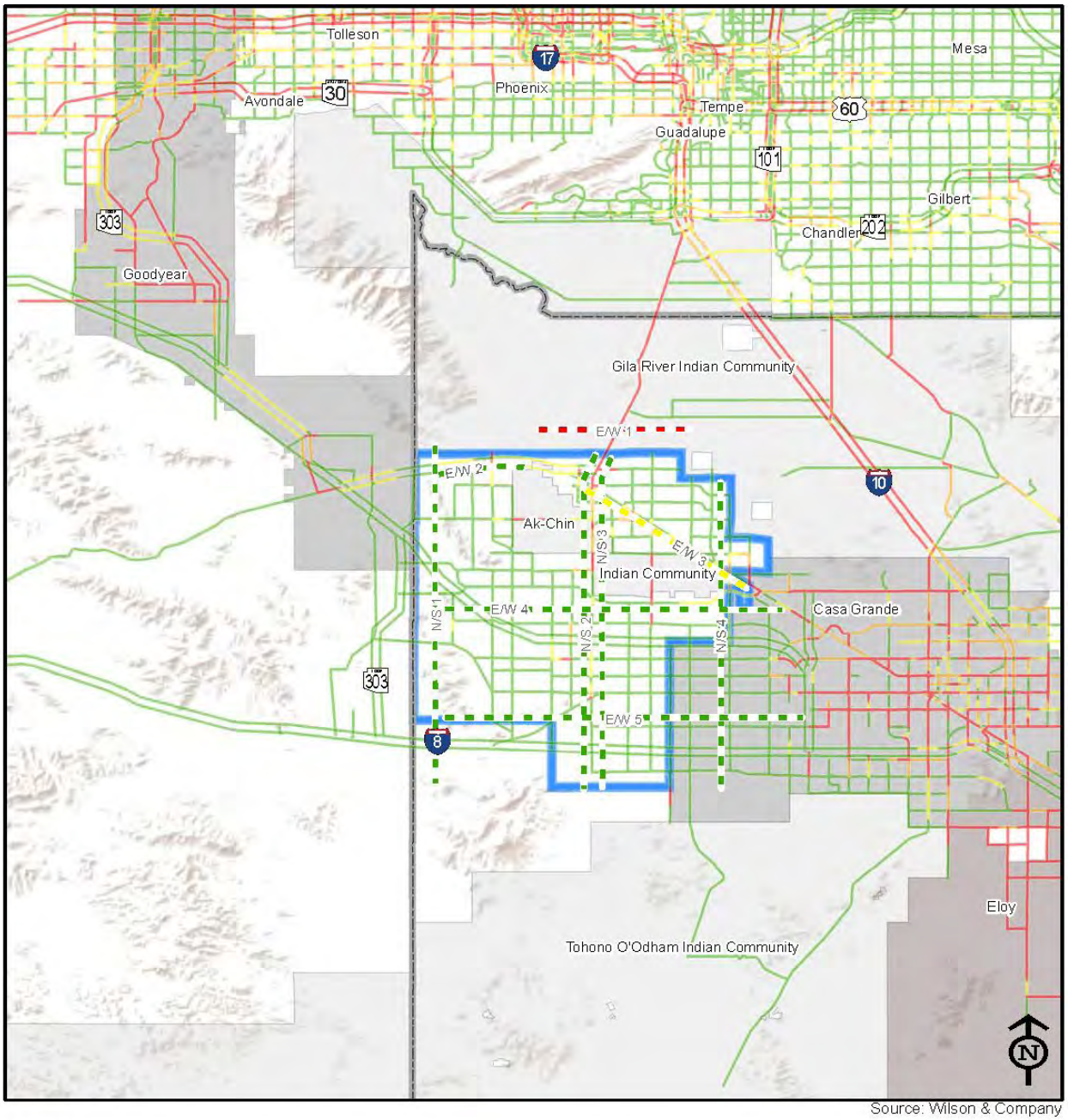
Prepared by Wilson & Company, February 2015.

APPENDIX J: CUTLINE ANALYSIS FOR BUILDOUT SCENARIO

This appendix provides a map showing the locations of cutlines used to evaluate the capacity of travel corridors. A cutline analysis is used to compare forecasted volumes on major roadways serving a particular direction of travel with the capacity of those roadways. This comparison allows planners to assess whether the capacity of the proposed future roadway network will satisfy forecasted travel demand for travel in the direction of travel, which is perpendicular to the cutline. The comparison of multiple travel corridors crossing a cutline may be evaluated in terms of the volume-to-capacity (v/c) ratios. The higher the v/c ratio, i.e., the greater the volume compared to rated or design capacity of facilities intersected by the cutline, the more congested the roadways will be and, therefore, mobility in the travel direction measured would be expected to be constrained.

This appendix also includes the tabular data associated with the cutlines and facilities intersected by the cutlines, as shown in the map. These data and *v/*c values were used to evaluate the adequacy of the Buildout network to accommodate travel demand associated with the Buildout population and employment projections. The facility type, forecasted daily traffic, capacity, and volume to capacity ratios are provided for each facility that intersects the cutlines. The aggregated volume-to-capacity (*v/*c) ratios for each cutline, both with and without the capacity provided by the proposed I-11 facility, also are included.

Cutlines Identified to Assess the Adequacy of the Buildout Network



Source: Wilson & Company

0 5 10
Miles

Legend

Cutline Level of Service	Link Level of Service	
LOS A - C	LOS A-C	TMP Study Area
LOS D	LOS D	Railroad
LOS E	LOS E	Counties
LOS F	LOS F	

WILSON & COMPANY

October 27, 2015

Results of Cutline Analysis for Buildout Scenario

Cutline	Facility (North to South & East to West)	Facility Type	Lanes	Forecasted ADT	Capacity	Facility V/C Ratio	Cutline V/C Ratio	Cutline V/C Ratio without I-11
N/S 1	WB SR-238	Freeway	3	56,714	78,240	0.72	0.39	0.56
	WB SR-238 HOV	HOV	1	12,322	25,275	0.49		
	EB SR-238 HOV	HOV	1	12,315	25,275	0.49		
	EB SR-238	Freeway	3	56,642	78,240	0.72		
	Farrell Rd	Arterial	4	16,172	40,040	0.40		
	Papago Rd Extension	Arterial	4	11,075	41,532	0.27		
	NB I-11	Freeway	3	26,406	83,808	0.32		
	NB I-11 HOV	HOV	1	11,109	28,808	0.39		
	SB I-11 HOV	HOV	1	11,013	28,808	0.38		
	SB I-11	Freeway	3	23,117	83,808	0.28		
	Val Vista Rd Extension	Arterial	4	8,457	45,556	0.19		
	Meadowview Rd Extension	Arterial	4	5,494	45,556	0.12		
	WB I-8	Freeway	2	14,631	55,872	0.26		
	WB I-8 HOV	HOV	1	11,274	28,808	0.39		
	EB I-8 HOV	HOV	1	12,491	28,808	0.43		
	EB I-8	Freeway	2	15,508	55,872	0.28		
N/S 2	WB SR-238	Freeway	3	49,473	81,831	0.60	0.50	0.63
	WB SR-238 HOV	HOV	1	14,238	27,367	0.52		
	EB SR-238 HOV	HOV	1	13,832	27,367	0.51		
	EB SR-238	Freeway	3	48,284	81,831	0.59		
	Edison Rd	Arterial	4	19,733	40,040	0.49		
	McDavid	Arterial	4	15,531	40,040	0.39		
	Bowlin Rd	Arterial	4	17,774	40,040	0.44		
	Farrell Rd	Collector	2	12,303	14,688	0.84		
	Papago Rd	Arterial	4	38,325	40,040	0.96		
	Val Vista Rd	Parkway	6	28,374	66,210	0.43		
	Miller Rd	Arterial	4	27,551	40,040	0.69		
	NB I-11	Freeway	3	31,749	81,831	0.39		
	NB I-11 HOV	HOV	1	11,497	27,367	0.42		
	SB I-11 HOV	HOV	1	11,147	27,367	0.41		
	SB I-11	Freeway	3	28,398	81,831	0.35		
	Kortsen Rd	Arterial	4	22,329	40,040	0.56		
	Clayton Rd	Arterial	4	8,048	40,040	0.20		

N/S 2 (Cont.)	Meadowview Rd	Arterial	6	28,063	60,060	0.47		
	SR-84	Arterial	4	60,382	40,040	1.51		
	WB I-8	Freeway	2	13,947	55,872	0.25		
	WB I-8 HOV	HOV	1	11,014	28,808	0.38		
	EB I-8 HOV	HOV	1	11,891	28,808	0.41		
	EB I-8	Freeway	2	14,902	55,872	0.27		
N/S 3	Smith-Enke Rd	Arterial	4	46,235	40,040	1.15	0.41	0.52
	Honeycutt Rd	Arterial	4	20,406	40,040	0.51		
	MCGH	Arterial	6	35,254	60,060	0.59		
	Bowlin Rd	Arterial	4	3,598	40,040	0.09		
	Farrell Rd	Parkway	6	26,214	66,210	0.40		
	Steen Rd	Arterial	4	5,182	45,556	0.11		
	Peters & Nall Rd	Arterial	4	19,797	45,556	0.43		
	Val Vista Rd	Parkway	6	49,426	66,210	0.75		
	Miller Rd	Arterial	4	30,094	40,040	0.75		
	NB I-11	Freeway	3	29,223	81,831	0.36		
	NB I-11 HOV	HOV	1	11,288	27,367	0.41		
	SB I-11 HOV	HOV	1	10,971	27,367	0.40		
	SB I-11	Freeway	3	26,511	81,831	0.32		
	Kortsen Rd	Arterial	4	6,103	40,040	0.15		
	Clayton Rd	Arterial	4	7,631	40,040	0.19		
	Meadowview Rd	Parkway	6	18,724	66,210	0.28		
	SR-84	Arterial	4	19,623	40,040	0.49		
	Selma Hwy	Arterial	4	20,850	41,532	0.50		
	WB I-8	Freeway	2	14,170	55,872	0.25		
	WB I-8 HOV	HOV	1	11,014	28,808	0.38		
	EB I-8 HOV	HOV	1	11,891	28,808	0.41		
	EB I-8	Freeway	2	14,679	55,872	0.26		
N/S 4	Honeycutt Rd	Arterial	4	3,089	41,532	0.07	0.40	0.52
	Farrell Rd	Arterial	4	8,867	41,532	0.21		
	Steen Rd	Arterial	4	7,673	40,040	0.19		
	Peters & Nall Rd	Arterial	4	21,157	45,556	0.46		
	MCGH	Parkway	8	84,764	108,296	0.78		
	Val Vista Rd	Parkway	6	50,168	66,210	0.76		
	Miller Rd	Arterial	4	9,265	40,040	0.23		
	NB I-11	Freeway	3	29,705	81,831	0.36		
	NB I-11 HOV	HOV	1	11,310	27,367	0.41		
	SB I-11 HOV	HOV	1	11,291	27,367	0.41		

N/S 4 (Cont.)	SB I-11	Freeway	3	27,380	81,831	0.33		
	Kortsen Rd	Arterial	4	7,152	40,040	0.18		
	Clayton Rd	Arterial	4	8,457	41,532	0.20		
	SR-84	Parkway	6	39,918	67,872	0.59		
	Selma Hwy	Arterial	4	6,744	41,532	0.16		
	WB I-8	Freeway	2	20,219	52,626	0.38		
	WB I-8 HOV	HOV	1	12,251	28,808	0.43		
	EB I-8 HOV	HOV	1	12,308	28,808	0.43		
	EB I-8	Freeway	2	20,740	52,626	0.39		
	Connelley Rd	Arterial	4	11,310	45,556	0.25		
E/W 1	SR-347	Parkway	6	132,349	81,222	1.63	1.63	1.63
E/W 2	Hidden Valley Rd	Arterial	4	3,853	37,956	0.10	0.61	0.61
	Warren Rd	Parkway	8	71,427	85,576	0.83		
E/W 3	SR-347	Parkway	6	57,193	66,210	0.86	0.84	0.84
	Porter Rd	Arterial	4	41,530	37,956	1.09		
	Farrell Rd	Parkway	6	57,063	64,182	0.89		
	Hartman Rd	Arterial	4	16,477	40,040	0.41		
	Anderson Rd	Parkway	8	76,935	88,280	0.87		
E/W 4	Sage St	Arterial	4	20,477	41,532	0.49	0.36	0.51
	SB I-11	Freeway	3	13,652	83,808	0.16		
	SB I-11 HOV	HOV	1	10,937	28,808	0.38		
	NB I-11 HOV	HOV	1	11,054	28,808	0.38		
	NB I-11	Freeway	3	16,764	83,808	0.20		
	Warren Rd	Arterial	4	10,481	41,532	0.25		
	Ralston Rd	Parkway	8	20,824	90,496	0.23		
	Amarillo Valley Rd	Arterial	4	6,707	40,040	0.17		
	Green Rd	Arterial	4	11,401	40,040	0.28		
	SR-347	Parkway	6	45,917	66,210	0.69		
	Porter Rd	Arterial	4	12,460	40,040	0.31		
	White & Parker Rd	Arterial	6	7,431	60,060	0.12		
	Anderson Rd	Parkway	8	73,156	88,280	0.83		
	Indian Valley Rd	Arterial	4	17,889	40,040	0.45		
E/W 5	Warren Rd	Arterial	4	7,317	45,556	0.16	0.34	0.34
	Ralston Rd	Arterial	4	6,243	41,532	0.15		
	Amarillo Valley Rd	Arterial	4	11,335	41,532	0.27		
	SR-84	Arterial	4	18,250	41,532	0.44		
	SR-347	Parkway	6	35,436	66,210	0.54		
	Porter Rd	Arterial	4	14,218	40,040	0.36		

E/W 5 (Cont.)	White & Parker Rd	Arterial	4	15,942	41,532	0.38		
	Fuqua Rd	Arterial	4	6,428	41,532	0.15		
	Stanfield Rd	Collector	2	6,169	12,524	0.49		
	Anderson Rd	Parkway	6	28,543	67,872	0.42		
	Indian Valley Rd	Arterial	4	15,151	40,040	0.38		

###	Level of Service F
###	Level of Service E
###	Under-Capacity Parkway

APPENDIX K: STAKEHOLDER AND PUBLIC OUTREACH

This appendix contains records of public and stakeholder outreach. Detailed stakeholder correspondence is available upon request.

CITY OF MARICOPA
PROUD HISTORY · PROSPEROUS FUTURE

Area Transportation Plan
Public Open House – March 17, 2015

Name	Address	Phone Number	Email
Philip "Mot" Hartman	14291 N. Anderson Rd. Maricopa		
CHRIS WEBB	7144 E. STETSON DR., STE 300 SCOTTSDALE, AZ 85251	(480) 240-5648	CWEBB@ROSELAWGROUP.COM
Jay Koesters	177 N Church Ave Tucson	520 838 3407	koesters@qtworld.net
Scott Cole	8300 E Dixileta DR. Unit 302 Scottsdale AZ 85266	480 614 1535	SCole@Colepartnerships.com
Brad Hinton	426 N. 44th St Phoenix	602 955 2424	bhinton@eldoradoholdings.net
PAUL HOSKIN	6245 N. 24TH PARKWAY, SUITE 100 PHOENIX, AZ 85016	602 252-8388	PAULH@HOSKINRYAN.com
JOEL SAUREY	2045 S. VINEYARD AVE #101 MESA AZ 85210	480.503.2250	joel.saurey@epsgroupinc.com
Bob Marsh	44181 W BUCKHORN TRL MARICOPA AZ 85138	520-568-1900	bobmarsh@alum.mit.edu
Bass Aja	45450 W. Portabella Rd. Maricopa Az 85139.		Baja@PinalFeeding.com
Phil Bodine	40936 W Hopper Drive	520-280-4141	box444@gmail.com

CITY OF MARICOPA
PROUD HISTORY · PROSPEROUS FUTURE

Area Transportation Plan
Public Open House – March 17, 2015

Name	Address	Phone Number	Email
Irene Higgs	211 N. Florence Street Casa Grande, Az 85122	520-705-5143	ihiggs@scmpo.org
JoAnne Miller	17212 N. Rosa Dr. Maricopa, AZ 85138	520-568-4025	joanne_alan_miller@hotmail.com
Denis Home	5911 E. Tierra Buena Scottsdale	602-350-4335	dlhome@centelus.com
Chris Lubye	43913 W Kramer Ln Maricopa, AZ 85138	602 405-8173	LABYE3@MSN.COM
Sandra Shade	42507 W. Peters + Nall Rd. Ak-Chin Indian Community Maricopa, AZ 85138	520-568-1070	sandra.shade@ak-chin.nsn.us
Dr John Donohue	P.O. Box 1287 Maricopa, AZ 85139	520-494-7788	drjohnd1@yahoo.com

CITY OF MARICOPA
Proud History · Promising Future

Area Transportation Plan
Developer Outreach Forum – April 28, 2015

Name	Address	Phone Number	Email
TED YOCUM	44220 W. BUCKHORN TRAIL MARICOPA, AZ 85138	520-494-7655	pappy_yoc@yahoo.com
KELLY ANDERSON	17245 N FREELAND MARICOPA AZ 85138	520-560-1506	APFARMS@GMAILBOX.COM
Raquel Hendrickson	P.O. Box 1018 Maricopa AZ 85139	520-568-0040 ext 3	raquel@inmaricopa.com
Brad Hinton		602 955 2424	bhinton@eldoradoholdings.net
Kelly Hall	16 Spur Circle Scottsdale AZ 85251	480 220 7393	khall@pmcaz.com
Mike Winer	City ED	520-316-6942	michael.winer@maricopa-az.gov
Denyse Airheart	City of Maricopa- Economic Development	520.316.6993	denyse.airheart@maricopa-az.gov
David R. Maestas	City- Development Services	520-316-6948	david.maestas@maricopa-az.gov
TRAVIS ASHBAUGH	31 NORTH PINAL STREET PO BOX 727 FLORENCE, AZ 85132	520-866-6934	travis.ashbaugh@pinalcountyaz.gov
Jim Jordan	41357 W. Cielo Ln Maricopa AZ 85138	520-208-4379	jjordan999@gmail.com
Seth Keeler	1121 W. Warner Rd Ste 109 Tempe AZ 85284	480-831-2000	sethk@wholdings.com

CITY OF MARICOPA
PROUD HISTORY • PROSPEROUS FUTURE

Area Transportation Plan
Developer Outreach Forum – April 28, 2015

Name	Address	Phone Number	Email
Chris Labye	43913 W Kramer Ln, Maricopa AZ 85138	602-405-8173	LABYE3@msn.com
Sandra Shade	42507 W. Peters + Nall Rd. Maricopa, AZ 85138 — AK-Chin Indian Community Planning & Development	520.568.1069	Sandra.shade@ak-chin.nsn.us

CITY OF MARICOPA
PROUD HISTORY · PROSPEROUS FUTURE

Area Transportation Plan
Public Open House – May 5, 2015

Name	Address	Phone Number	Email
Ron Batt	45031 W. Woody RD. Maricopa	480-215-2174	batt@q.com
Joan Garrett	44214 W. Granite Dr. Maricopa 85139	520-568-4859	joanardell@hotmail.com
Kelly Hall	16 Spur Circle Scottsdale AZ 85251	480 220 7393	khall@pmcaz.com.
Jim Jordan	41357 W. Cielo Ln Maricopa AZ 85138	520-208-4375	jjordan9999@gmail.com
Anthony Smith	21911 N. Lakeside Dr. 85138	520 866 3960	anthony.smith@pinalcountyaz.gov
Dana Burkhardt	COM	520-316-6942	dana.burkhardt@maricopa-az.gov
KAZI HAQUE	COM	520-316-6985	KAZI.HAQUE@maricopa-AZ.gov
JOEL SAUREY	44361 W. ADOBE CIR MARICOPA AZ 85139	520.568.8282	joel.saurey@epsgroupinc.com

follow upon → county dev. impact fees

CITY OF MARICOPA
PROUD HISTORY · PROSPEROUS FUTURE

Area Transportation Plan
Public Open House – August 4, 2015

Name	Address	Phone Number	Email
Dallas & Kathy Paulsen	43270 W Oakland Ct Maricopa 85138	520-568-7811	sleepylane@earthlink.net
Pastor Jim & Terry Johnson	43245 W. Alexandria Ct / 18705 N. John Wayne Maricopa, AZ 85138	520-251-2858	pastor@fbcmaricopa.org
Irene Higgs	311 N. Florence St. Casa Grande Az	520-705-3143	ihiggs@scmpo.org
Don Frank	41830 W. Bravo Ct. Maricopa 85138	602.321.0251	dcfrank1@gmail.com
Scott Cole	8300 E Dixileta DR #302 Scottsdale AZ	602 738 0065	SCOLE@COLEPARTNERSHIPS.COM
JOEL SAUREY	44361 W. ADOBE CIR. MARICOPA AZ 85139	480.383.3919	jpsaur72@gmail.com
Jim Jordan	41357 W. Cielo Ln Maricopa AZ 85138	520-208-4379	jjordan9999@gmail.com
Lee Anne Clark	42942 Whimsical MARICOPA	520 494 7901	plumgrl@aol.com
Ray & Joan Koczo	44401 W. Buckhorn Tr. MARICOPA	520 494-1605	JAK213N@yahoo.com
Kelly Hall	16 Spur Circle, Scottsdale AZ 85251	480 220 7393	khall@pmcaz.com.

CITY OF MARICOPA
Proud History · Prosperous Future

Area Transportation Plan
Public Open House – August 4, 2015

Name	Address	Phone Number	Email
Ken Austin	Province		
Rob Tuttle	SandBox Development.	(480) 252-4819	Rob@SandBoxDevelopment.com

CITY OF MARICOPA
PROUD HISTORY · PROSPEROUS FUTURE

Area Transportation Plan

The City of Maricopa has embarked on an effort to identify future roadway, transit, pedestrian, and bicycle facility needs. We are interested in getting your thoughts on how travel both within Maricopa and to/from adjacent communities can be improved. Please take a few moments you complete the following:

1. What are the most important transportation issues in the City of Maricopa that need to be address right now?

planning roadways that are in alignment with approved PAD zoning cases in the City of Maricopa or Pinal County.

2. Do you have suggestions regarding:

- Pedestrian/Bicycle Needs (sidewalks, crosswalks, trails, paths, safety issues):

Good Ideas

- Transit Needs (routes, stops)

Good Ideas

- Roadway Needs (streets, intersections, traffic signals, stop signs, new roadway connections)

Good Ideas

3. What do you think should be done right now to plan for the future?

plan smart, use correct planning principles, & integrated approved zoning cases as part of the roadway network.

Please feel free to include any additional comments on the reverse side of this form.

Area Transportation Plan

Additional Comments:

1. Steen Road & Smith Rd directly east of the 347 need to comply with the approved Avalea property.

2 347 + Farrell - East West Corridor needs to stay on Farrell road + NOT Swoop down + cut our property in half.

Optional – If you are interested in receiving study updates, please complete the following:

Seth Keeler
Name

1121 W. Warner Rd Ste 109
Address Tempe AZ 85284

480 - 831 - 2000
Phone

sethk@wholdings.com
Email

Comments may be returned to City of Maricopa Town Hall.

Study Contact Information

David R. Maestas, MPA
Transportation/Transit Planner
Tel: 520-316-6948
Email: david.maestas@maricopa-az.gov

Area Transportation Plan

Additional Comments:

RCP - East West Corridor alignment at White & Parker Rd.
Don't want the plan to reflect the detail that the actual E-W corridor study does at the White & Parker Rd location (just east of) where it leaves the MCG Hwy alignment and splits our property (Eagle Shadow Ph. 2). Study process of the E-W Corridor is not complete/finalized.

Optional – If you are interested in receiving study updates, please complete the following:

Brad Hinton	426 N. 44th St. Phoenix Az
Name	Address
602 955-2424	bhinton@eldoradoholdings.net
Phone	Email

Comments may be returned to City of Maricopa Town Hall.

Study Contact Information

David R. Maestas, MPA
Transportation/Transit Planner
Tel: 520-316-6948
Email: david.maestas@maricopa-az.gov

CITY OF MARICOPA
PROUD HISTORY · PROSPEROUS FUTURE

Area Transportation Plan

The City of Maricopa has embarked on an effort to identify future roadway, transit, pedestrian, and bicycle facility needs. We are interested in getting your thoughts on how travel both within Maricopa and to/from adjacent communities can be improved. Please take a few moments you complete the following:

1. What are the most important transportation issues in the City of Maricopa that need to be address right now?

Move the train station down far enough to allow cars to cross the tracks while the train is parked at the station for loading.

2. Do you have suggestions regarding:

- Pedestrian/Bicycle Needs (sidewalks, crosswalks, trails, paths, safety issues):

You must provide a crosswalk for kids from Copper Sky Recreation Center Park to nearby residential areas or some day a poor child will be struck down by a vehicle while he is running across the road at twilight. Especially with so many people with night vision impairments.

- Transit Needs (routes, stops)

- Roadway Needs (streets, intersections, traffic signals, stop signs, new roadway connections)

Please provide a "designated right turn lane" from Porter to Honeycutt. Also, we need one from Smith-Enke to Porter.

3. What do you think should be done right now to plan for the future?

We definitely need 3 lanes each direction from Maricopa to Queen Creek Rd up north.

Please feel free to include any additional comments on the reverse side of this form.

Area Transportation Plan

Additional Comments:

Optional – If you are interested in receiving study updates, please complete the following:

Phil Bodine	40936 W Hopper Dr. Maricopa, AZ 85138
Name	Address
520-280-4141	box444@gmail.com
Phone	Email

Comments may be returned to City of Maricopa Town Hall.

Study Contact Information

David R. Maestas, MPA
Transportation/Transit Planner
Tel: 520-316-6948
Email: david.maestas@maricopa-az.gov