

February 11, 2014

TO: Members of the Transportation Policy Committee

FROM: Mayor Jackie Meck, Buckeye, Chair

SUBJECT: NOTIFICATION OF MEETING AND TRANSMITTAL OF TENTATIVE AGENDA

Meeting - 12:00 noon
Wednesday, February 19, 2014
MAG Office, Suite 200 - Saguaro Room
302 N. First Avenue, Phoenix

A meeting of the Transportation Policy Committee is scheduled for the time and place noted above. Members of the Committee may attend the meeting either in person, by videoconference, or by telephone conference call. As determined at the first meeting of the Committee, proxies are not allowed. Members who are not able to attend the meeting are encouraged to submit their comments in writing, so that their view is always a part of the process.

For those attending in person, please park in the garage under the building. Bring your ticket to the meeting, parking will be validated. For those using transit, the Regional Public Transportation Authority will provide transit tickets for your trip. For those using bicycles, please lock your bicycle in the bike rack in the garage.

Pursuant to Title II of the Americans with Disabilities Act (ADA), MAG does not discriminate on the basis of disability in admission to or participation in its public meetings. Persons with a disability may request a reasonable accommodation, such as a sign language interpreter, by contacting Valerie Day at the MAG office. Requests should be made as early as possible to allow time to arrange the accommodation.

Refreshments and a light luncheon will be provided. If you have any questions, please contact Dennis Smith, MAG Executive Director, or Eric Anderson, MAG Transportation Director, at (602) 254-6300.

c: MAG Regional Council
MAG Management Committee

**TRANSPORTATION POLICY COMMITTEE
TENTATIVE AGENDA
February 19, 2014**

		<u>COMMITTEE ACTION REQUESTED</u>
1.	<u>Call to Order</u>	
2.	<u>Pledge of Allegiance</u>	
3.	<u>Call to the Audience</u> An opportunity will be provided to members of the public to address the Transportation Policy Committee on items not scheduled on the agenda that fall under the jurisdiction of MAG, or on items on the agenda for discussion but not for action. Citizens will be requested not to exceed a three minute time period for their comments. A total of 15 minutes will be provided for the Call to the Audience agenda item, unless the Transportation Policy Committee requests an exception to this limit. Please note that those wishing to comment on agenda items posted for action will be provided the opportunity at the time the item is heard.	3. Information.
4.	<u>Approval of Consent Agenda</u> Prior to action on the consent agenda, members of the audience will be provided an opportunity to comment on consent items that are being presented for action. Following the comment period, Committee members may request that an item be removed from the consent agenda. Consent items are marked with an asterisk (*).	4. Recommend approval of the Consent Agenda.

ITEMS PROPOSED FOR CONSENT*

*4A.	<u>Approval of the January 29, 2014, Meeting Minutes</u>	4A. Review and approval of the January 29, 2014, meeting minutes.
*4B.	<u>MAG Federally Funded Locally Sponsored Project Development Status Report: January 2014, and Project Changes</u> The MAG Federal Fund Programming Guidelines and Procedures, approved by the MAG Regional Council on October 26, 2011, outlines the	4B. Recommend approval of federal fund projects to be deferred, deleted, and changed; and of the necessary amendments and administrative modifications to the FY 2014-2018 Transportation Improvement Program, 2035 Regional Transportation Plan, and to the FY 2011-2015

requirements for local agencies to submit status information on the development of their federally funded projects. This Project Development Status Report focuses mainly on projects funded with Congestion Mitigation and Air Quality Improvement (CMAQ), and Transportation Alternatives program funds that are programmed in the Fiscal Year (FY) 2011-2015 Transportation Improvement Program (TIP) as of November 2013 to authorize in federal fiscal year (FFY) 2014 and FFY 2015. The Project Development Status Workbook for each project that was sent to member agencies requires that a project development schedule be completed and allows project changes to be requested. This item was recommended by the Street Committee on January 14, 2014, and the Transportation Review Committee on January 30, 2014. This item is on the February 12, 2014, MAG Management Committee agenda. An update will be provided on action taken by the committee. Please refer to the enclosed material.

*4C. Project Changes - Amendment and Administrative Modification to the FY 2014-2018 MAG Transportation Improvement Program, the Regional Transportation Plan, and the FY 2011-2015 Transportation Improvement Program

On January 28, 2014, the MAG Regional Council approved the MAG Transportation Alternatives program ranked order of projects (for fiscal years 2015-2017), the Fiscal Year (FY) 2014-2018 MAG Transportation Improvement Program, and the Regional Transportation Plan. Since then, member agencies have requested general project changes. Additionally, the detailed listing of work phases for the Transportation Alternatives program, and the detailed work phase listings of the proposed PM-2.5 Paving Unpaved Road Projects are included in Table B. This item is on the February 12, 2014, MAG Management Committee agenda. An update will be provided on action taken by the committee. Please refer to the enclosed material.

Transportation Improvement Program as appropriate.

4C. Recommend approval of amendments and administrative modifications to the FY 2014-2018 Transportation Improvement Program, the Regional Transportation Plan, and the FY 2011-2015 Transportation Improvement Program as appropriate.

ITEMS PROPOSED TO BE HEARD

5. Interstate 10/Interstate 17 Corridor Master Plan

On August 12, 2013, the MAG Regional Council Executive Committee amended the FY 2014 MAG Unified Planning Work Program and Annual Budget for \$2,500,000 with Regional Freeway and Highway Program funds to develop the Interstate 10/Interstate 17 Corridor Master Plan. This project is in response to the 2012 decision for suspending the two environmental impact statement (EIS) studies for the corridor between the SR-101L/Agua Fria-Pima "North Stack" and SR-202L/Santan-South Mountain "Pecos Stack" traffic interchanges. By studying both corridors together, rather than separately, certain economies of scale can be realized to establish a common vision and operating principles for accommodating existing and future travel demand. MAG has contracted with HDR, Inc. to deliver the Corridor Master Plan and the project effort has started. The Transportation Policy Committee will be briefed on project's planning process and the schedule for developing the Interstate 10/Interstate 17 Corridor Master Plan.

5. Information and discussion.

6. Interstate 11 and Intermountain West Corridor Study

The Arizona Department of Transportation (ADOT) and the Nevada Department of Transportation (NDOT) have been developing a corridor study for the congressionally designated Interstate 11 corridor between Phoenix and Las Vegas. The corridor study is determining the needs for upgrading existing US-93 between Wickenburg, AZ, and Henderson, NV; providing further research for connections in the metropolitan Phoenix area; and determining how to extend the corridor beyond Phoenix to the south toward Mexico and north of Las Vegas to Canada. The Transportation Policy Committee will be briefed on the progress of this effort and the Level 2 Alternatives that are presently being analyzed by the study team. The corridor study started in July 2012 and will be completed in the

6. Information and discussion.

summer of 2014. Please refer to the enclosed material that provides an overview of the Level 2 evaluation criteria and a description of each of the I-11 alternatives being evaluated for Phoenix Metropolitan area.

7. Designing Transit Accessible Communities Study

The Fiscal Year (FY) 2011 MAG Unified Planning Work Program and Annual Budget, approved by the MAG Regional Council in May 2010, included a study to help provide member agencies with additional tools and guidelines to provide better transit accessibility for pedestrians and bicyclists. The study outcome details the process of categorizing bus stops that addresses the different needs and challenges of the existing built environment. A Designing Transit Accessible Communities tool kit was developed and includes sample policies and best practices specific to the MAG region and geography. The implementation check list is intended for use by development review planners, engineers and transit service planners. The Designing Transit Accessible Communities Study was recommended for acceptance by the MAG Transit Committee on January 9, 2014, and by the MAG Transportation Review Committee on January 30, 2014. This item is on the February 12, 2014, MAG Management Committee agenda. An update will be provided on action taken by the committee. Please refer to the enclosed material.

8. Progress Report on Regional Freeway and Highway Program Construction

Significant progress has been made in delivering the MAG Regional Freeway and Highway Program with the construction of the Loop 303 Freeway, the Loop 101/Maryland Avenue Direct High Occupancy Vehicle (DHOV) traffic interchange, and the initial mile of the SR-24/Gateway Freeway, as well as the rehabilitation and reconstruction of US-60/Grand Avenue from 83rd Avenue to 19th Avenue. Brent Cain, P.E., Deputy State Engineer from the Arizona Department of Transportation, will provide the Transportation Policy Committee

7. Recommend acceptance of the Designing Transit Accessible Communities Study.

8. Information and discussion.

with a status report on the progress made in more than \$500 million of construction activity that has been underway throughout the MAG region since 2011. Mr. Cain will also discuss construction efforts that will be underway shortly for adding a general purpose lane in each direction along the Loop 101/Pima Freeway from Shea Boulevard to Loop 202/Red Mountain Freeway, and adding general purpose lanes and High Occupancy Vehicle (HOV) lanes along Loop 202/Red Mountain Freeway from Loop 101/Pima-Price Freeway to Broadway Road.

9. Legislative Update

An update will be provided on legislative issues of interest.

10. Request for Future Agenda Items

Topics or issues of interest that the Transportation Policy Committee would like to have considered for discussion at a future meeting will be requested.

11. Comments from the Committee

An opportunity will be provided for Transportation Policy Committee members to present a brief summary of current events. The Transportation Policy Committee is not allowed to propose, discuss, deliberate or take action at the meeting on any matter in the summary, unless the specific matter is properly noticed for legal action.

Adjournment

9. Information, discussion, and possible action.

10. Information.

11. Information.

MINUTES OF THE
MARICOPA ASSOCIATION OF GOVERNMENTS
TRANSPORTATION POLICY COMMITTEE MEETING

January 29, 2014
MAG Office, Ironwood Room
Phoenix, Arizona

MEMBERS ATTENDING

Mayor Jackie Meck, Buckeye, Chair	Joseph La Rue, State Transportation Board
Councilmember Jack Sellers, Chandler, Vice Chair	* Lt. Governor Stephen Roe Lewis, Gila River Indian Community
F. Rockne Arnett, Citizens Transportation Oversight Committee	# Mayor Georgia Lord, Goodyear
Ron Barnes, Total Transit	Mayor Mark Mitchell, Tempe
* Dave Berry, Swift Transportation	* Garrett Newland, Macerich
# Jed Billings, FNF Construction	* Mayor Tom Rankin, Florence
Councilmember Cathy Carlat, Peoria	Mayor Marie Lopez Rogers, Avondale
Councilmember Ben Cooper, Gilbert	* Mayor Scott Smith, Mesa
* Supervisor Clint Hickman, Maricopa County	Mayor Greg Stanton, Phoenix
* Mark Killian, The Killian Company/Sunny Mesa, Inc.	* Karrin Kunasek Taylor, DMB Properties
Mayor W. J. "Jim" Lane, Scottsdale	Mayor Jerry Weiers, Glendale
	Mayor Sharon Wolcott, Surprise

* Not present
Participated by telephone conference call + Participated by videoconference call

1. Call to Order

The meeting of the Transportation Policy Committee (TPC) was called to order by Chair Mayor Jackie Meck at 10:03 a.m.

2. Pledge of Allegiance

The Pledge of Allegiance was recited.

Mayor Georgia Lord and Mr. Jed Billings participated in the meeting by telephone.

Chair Meck announced that at each place was a corrected project changes table for agenda item 4D.

Chair Meck requested that members of the public fill out blue cards for Call to the Audience and yellow cards for consent or action items on the agenda. He stated that parking garage validation

and transit tickets for those who purchased transit tickets to attend the meeting were available from staff.

3. Call to the Audience

Chair Meck stated that an opportunity is provided to the public to address the Transportation Policy Committee on items that are not on the agenda that are within the jurisdiction of MAG, or non action agenda items that are on the agenda for discussion or information only. Citizens will be requested not to exceed a three minute time period for their comments. A total of 15 minutes will be provided for the Call to the Audience agenda item, unless the Transportation Policy Committee requests an exception to this limit. Those wishing to comment on agenda items posted for action will be provided the opportunity at the time the item is heard.

No requests for public comment were received.

4. Approval of Consent Agenda

Chair Meck stated that agenda items #4A, #4B, #4C, and #4D were on the consent agenda.

He stated that public comment is provided for consent items, and noted that no public comment cards had been received.

Chair Meck asked members if they would like to remove any of the consent agenda items or have a presentation. No requests were noted.

Mr. Ron Barnes moved to recommend approval of agenda items #4A, #4B, #4C, and #4D on the consent agenda. Vice Chair Jack Sellers seconded, and the motion carried unanimously.

4A. Approval of the October 16, 2013, Meeting Minutes

The Transportation Policy Committee, by consent, approved the October 16, 2013, meeting minutes.

4B. Recommendation of Projects for the MAG Transportation Alternatives Program

The Transportation Policy Committee, by consent, recommended approval of the modified ranked list of projects for Transportation Alternatives funding for Fiscal Year (FY) 2015-2017; amendment of the FY 2011-2015 MAG Transportation Improvement Program; and addition of projects to the Draft FY 2014-2018 MAG Transportation Improvement Program. On September 25, 2013, the MAG Regional Council approved the goals and objectives and evaluation team composition for the Transportation Alternatives (TA) program. That same day, applications for infrastructure projects opened with a due date of October 22, 2013. In total, 33 applications were received from 16 MAG member agencies (Apache Junction, Avondale, Buckeye, Chandler, Cave Creek, Fort McDowell Yavapai Nation, Gilbert, Glendale, Litchfield Park, Maricopa County

Department of Transportation, Mesa, Peoria, Phoenix, Scottsdale, Surprise, and Tempe). Total funding available is approximately \$12 million for FY 2015-2017, while requests for funding totaled more than \$24.5 million. On December 5, 2013, application review and project ranking concluded with presentations to the TA Evaluation Team (two members each of the MAG Bicycle and Pedestrian, Safety, and Street Committees, one member of the Transit Committee, and one representative each from Federal Highway Administration and the Arizona Department of Transportation). On December 12, 2013, the MAG Transportation Review Committee recommended approval of the ranked list with the removal of the Phoenix project (Third Street Promenade: Roosevelt Street to Thomas Road, ranked 14) and the Mesa project (Consolidated Shared-Use Pathway – P2 Lighting, ranked 15), so that all other projects move up in ranking. If additional funds become available (e.g., a project does not obligate), projects will be funded in rank order. On January 8, 2014, the MAG Management Committee recommended approval.

4C. Arterial Life Cycle Program Status Report - May 2013 Through November 2013

The Arterial Life Cycle Program (ALCP) is the financial management tool for the arterial street component of the Regional Transportation Plan (RTP). Management of the program is guided by the ALCP Policies and Procedures, which were approved by the MAG Regional Council on December 9, 2009. The ALCP Policies and Procedures require that a status report is provided to MAG committee members to give an update on all project requirements and financial information. The ALCP Status Report has traditionally been published on a semiannual basis. The May 2013 through November 2013 Status Report is the first for Fiscal Year (FY) 2014. The report provides information on the 48 projects scheduled for work and/or reimbursement this fiscal year. Of these 48 projects, 11 are in the design phase, 13 are in the right-of-way-acquisition phase, and 24 are in the construction phase. It is anticipated that 10 of these projects are or will be completed and open to traffic by July 1, 2014. Scheduled ALCP project reimbursements in FY 2014 total \$78 million. Federal funds comprise \$29 million of the total programmed reimbursements while the remaining balance of \$49 million is programmed with the ½-cent sales tax allocated to arterial roads, known as the Regional Area Road Fund (RARF). Actual RARF revenue collections in FY2013 totaled \$35.9 million, which was slightly higher than what had been projected in the October 2012 Arizona Department of Transportation revenue forecast. Through October 2013, current fiscal year collections have totaled \$12.2 million. A list of ALCP Project Requirements received to date can be found on Pages 4 and 5 of the ALCP Status Report. The report also provides additional detail on the status of projects, revenues, and other relevant program information.

4D. Project Changes - Amendment and Administrative Modification to the FY 2011-2015 MAG Transportation Improvement Program, FY 2014 Arterial Life Cycle Program, the Regional Transportation Plan 2010 Update, and as Necessary, the Draft FY 2014-2018 Transportation Improvement Program

The Transportation Policy Committee, by consent, recommended approval of amendments and administrative modifications to the Fiscal Year (FY) 2011-2015 MAG Transportation Improvement Program, Arterial Life Cycle Program, and as appropriate, to the Regional Transportation Plan 2010 Update and draft FY 2014-2018 Transportation Improvement Program. The FY 2011-2015

MAG Transportation Improvement Program (TIP) and Regional Transportation Plan (RTP) 2010 Update were approved by the MAG Regional Council on July 28, 2010 and have been modified thirty-one times. The last modification was approved on December 4, 2013. Table A includes changes to the FY 2014 Arterial Life Cycle Program. The amendments consist of a correction and schedule update to the Scottsdale Airpark Area project and an adjustment to the Black Mountain Boulevard project reimbursement schedule. The amendments will not adversely impact the balance of programmed reimbursements. Table B includes adjustments to project budgets in the Highway Program. Table C lists a correction to the FY 2013 transit program of projects. Table D contains amendments to the Highway Safety Improvement Program (HSIP). All of the projects to be amended may be categorized as exempt from conformity determinations and administrative modifications do not require a conformity determination. The project changes were recommended for approval by the MAG Transportation Review Committee on December 12, 2013, and by the MAG Management Committee on January 8, 2014.

5A. FY 2014 MAG Final Phase Public Input Opportunity

Jason Stephens, MAG staff, reported on the input received during the Final Phase Input Opportunity. This was input received during the final opportunity for comment on the FY 2014-2018 Draft Transportation Improvement Program, the 2035 Regional Transportation Plan, and the 2014 Conformity Analysis. Mr. Stephens stated that the Final Phase is summarized in the Final Phase Report, which was included in the agenda packet.

Mr. Stephens stated that MAG has a four-phase public involvement process, which is part of the public participation plan adopted by the MAG Regional Council in 2006. He noted that the Final Phase provides residents with their final opportunity to provide input into draft plans and programs before MAG policy committees take action.

Mr. Stephens stated that the public is notified of the public meeting to solicit input on the updated TIP and Plan, through postcards and display advertisements in the Arizona Republic, Arizona Informant and Prensa Hispana newspapers.

Mr. Stephens displayed a summary of comments received and said that all comments received a formal written response. Chair Meck thanked Mr. Stephens for his report. No questions from the Committee were noted.

Chair Meck called for a motion. Vice Mayor Sellers moved to recommend acceptance of the FY 2014 MAG Final Phase Public Input Opportunity. Mr. Barnes seconded, and the motion passed unanimously.

5B. Approval of the Draft FY 2014-2018 MAG Transportation Improvement Program

Teri Kennedy, MAG staff, reported that the Draft FY 2014-2018 MAG Transportation Improvement Program (TIP) includes projects from the Regional Transportation Plan, all regionally significant projects funded with state, local, and private funds, competitively selected projects,

Regional Area Road Fund projects, federally funded transportation projects, projects in the expanded planning boundary (all of Maricopa County and portions of Pinal County).

Ms. Kennedy displayed a summary of the 782 projects contained in the FY 2014-2018 TIP, totaling approximately \$4.4 billion. She noted that the projects are categorized as highway and transit projects. Ms. Kennedy then provided a summary of projected revenues, which total approximately \$8.7 billion. She noted that \$280,000 in the TIP still needs to be programmed.

Ms. Kennedy displayed a graph comparing the project costs of the approved FY 2011-2015 TIP to the draft FY 2014-2018 TIP and noted that for the first time ever in MAG's history, the amount federal formula funds coming to MAG for federal projects has declined. She noted that the amount is 3.9 percent. Ms. Kennedy stated that the sales tax funds are very volatile and change with the economy. She stated that overall, there has been a 23 percent decline from the FY 2011-2015 TIP to the draft FY 2014-2018 TIP and a shift toward operations and maintenance projects and less toward new projects.

Ms. Kennedy followed up on a question at the last TPC meeting asking how many buses were operating in the region. She said that she researched the question and found there are 1,439 buses. Ms. Kennedy stated that Valley Metro conducts the procurement process in coordination with Phoenix Transit and ADOT to combine quantities and receive price discounts.

Ms. Kennedy stated that the TIP will be considered for approval by the MAG Regional Council on January 29, 2014. The approved TIP will then be submitted to Federal Highway Administration, Federal Transit Administration, the Arizona Department of Transportation, and Environmental Protection Agency for review and approval of various areas of the TIP, RTP and Air Quality Conformity Analysis. Ms. Kennedy noted that they anticipate completion of this process in the beginning of March 2014.

Ms. Kennedy stated that current programming activities include FY 2014-17 Highway Safety Improvement Program projects, FY 2015-17, Transportation Alternatives infrastructure projects, FY 2014 PM-10 CMAQ street sweepers, and FY 2013-17 PM-2.5 CMAQ Paving Unpaved Road projects. Future programming includes ADOT Competitive Transit Section 5307 and 5339 projects, Transportation Alternatives Non-Infrastructure projects, Pinal County STP (currently is partially programmed), and MAG Unified Planning Work Program projects (Traffic Signal Optimization Program, Design Assistance Program, and street sweepers).

Chair Meck thanked Ms. Kennedy for her report and asked members if they had questions.

Vice Chair Sellers asked Ms. Kennedy to elaborate on the increase in the private funding shown in the revenue sources slide. Ms. Kennedy replied that a couple of private developers submitted additional projects.

Mayor Lane asked for clarification that the numbers at the bottom of the slide showed the percentages of declining federal, regional, local funding. Ms. Kennedy replied she had developed

the slide the night before and the percentages shown were the declines from the FY 2011-2015 TIP to the FY 2014-2018 TIP.

Mayor Lane asked the anticipated trend for federal funding. Eric Anderson, MAG Transportation Director, replied that the Highway Trust Fund is projected to be bankrupt in the August/September timeframe unless Congress decides to use general fund money or find additional revenue. He added that MAG assumes federal funding will be flat. Mr. Anderson mentioned that there were two factors in MAP-21 that impacted federal funding. He explained that when federal transportation law is reauthorized the most recent decennial census numbers are used, but with MAP-21, the 2000 census numbers were used to allocate federal transportation funds, not the 2010 census numbers. He remarked that this was probably done to simplify the allocation process, but is a disadvantage to fast growing states, such as Arizona. Mr. Anderson explained that another factor impacting federal funds to this region is that a percentage of CMAQ funds is required to come off the top for PM-2.5 areas, for example, Nogales and the City of Maricopa/Casa Grande area. Mr. Anderson stated that reauthorization is on Congress's calendar for this year, and this region should get more funding if the allocation is based on census 2010 numbers in the future.

Mayor Lane asked for clarification of the reauthorization of MAP-21. Mr. Anderson noted that MAP-21 is due to expire September 30, 2014. Mayor Lane asked for clarification that it seemed MAP-21 was a patchwork of funds from a variety of sources, such as pension funds.

Mr. Anderson replied that Mayor Lane was correct. He said that Congress supplemented the Highway Trust Fund with approximately 30 percent of general funds and some other savings they found. He indicated he did not know how reauthorization would work without a new source of funds. Mayor Lane asked for clarification that funding is projected to be flat. Mr. Anderson replied that the Transportation Improvement Program must be fiscally constrained on committed revenue and MAG has kept the assumptions flat to be conservative because there is so much uncertainty at the federal level.

Mayor Mitchell noted the figures on declining federal, regional, and local funding provided in the presentation and suggested that staff provide that information ahead of the meeting so that members have time for review. Mayor Mitchell asked how the declining revenues coupled with an expanded MAG boundary would be handled.

Mr. Anderson explained that the federal revenue coming to MAG includes a proportional increase because the MAG planning area includes a portion of Pinal County. He noted that the current 3.9 percent decline in MAG's federal funds would have been approximately 12 percent decline without the expanded boundary.

Mayor Wolcott stated that it would be helpful to see the breakout of the impacts of increased membership. She indicated she would like to see how the CMAQ number impacts the chart. Mayor Wolcott expressed concern for the numbers and said that it seemed like the trend was not favorable to Maricopa County.

Mr. Smith expressed that he thought the bigger issue was that Western states are high growth states and the 2000 census numbers are protective of the Eastern states. Mr. Smith stated that when reauthorization is being discussed at meetings such as NLC, the position that MAP-21 needs to be fair to the high growth Western states needs to be expressed.

Ms. Kennedy stated that prior to the MAG boundary being expanded, MAG had a 12 percent decrease in federal funds from SAFETEA-LU to MAP-21. She noted that since the boundary was expanded, MAG has received an additional \$1.3 million in Surface Transportation Program funding, \$600,000 in Safety funding, and a small amount of State Planning and Research funds. Ms. Kennedy added that Congress is looking at regional and local agencies building their own infrastructure. She remarked that a decline in federal funds is unprecedented since MAG's inception.

Chair Meck noted that no public comment cards had been received. With no further discussion, he called for a motion.

Mr. Barnes moved to recommend approval of the Draft FY 2014-2018 MAG Transportation Improvement Program (TIP) with the included errata sheet and table correction updates, contingent on a finding of conformity of the Draft TIP and 2035 Regional Transportation Plan with applicable air quality implementation plans. Mr. Arnett seconded, and the motion passed with Mayor Wolcott voting no.

5C. Approval of the Draft 2035 MAG Regional Transportation Plan

Roger Herzog, MAG staff, stated that a regional transportation plan is required to maintain eligibility for federal transportation funding and must be updated at least every four years. He noted that this draft Plan extends through Fiscal Year 2035 and continues the established plans, priorities and policies contained in the current adopted Plan.

Mr. Herzog stated that the Plan is a comprehensive document, reviewing the status and strategies for a range transportation activities in the MAG area. He stated that the Plan identifies the freeway/highway system, the arterial street network, the bus service network, the light rail transit/high capacity transit system, and a number of other transportation activities in the MAG region.

Mr. Herzog stated that activities for review of the draft Plan include opportunities for public input, such as early phase, mid phase, and final phase input opportunities, public meetings and hearings, and committee meetings. He reported that actions to conduct an air quality conformity analysis on the Draft 2035 MAG Regional Transportation Plan were taken by the Transportation Review Committee, Management Committee, Transportation Policy Committee, and Regional Council. Mr. Herzog stated that the air quality conformity analysis has been successfully completed and demonstrated conformity. He said that a public hearing was held on November 25, 2013, and the MAG Air Quality Technical Advisory Committee recommended approval on December 3, 2013. Mr. Herzog advised that the Transportation Review Committee recommended approval of the Draft

2035 Plan on December 12, 2013, and the MAG Management Committee recommended approval on January 8, 2014.

Chair Meck thanked Mr. Herzog for his report. No questions from the Committee were noted. No public comment cards were received.

Mayor Lane moved to recommend approval of the Draft 2035 MAG Regional Transportation Plan (RTP), contingent upon a finding of conformity of the FY 2014-2018 MAG Transportation Improvement Program and the 2035 RTP with applicable air quality plans. Mr. Barnes seconded, and the motion passed unanimously.

6. MAG Regional Transportation Survey Results

Eileen Yazzie, MAG staff, noted that a copy of the PowerPoint presentation was at each place. She noted that at the August 14, 2013, Transportation Policy Committee meeting, an update on transportation revenues was provided. It was noted at the meeting that the current sales tax projections reflected a 40 percent decrease compared to the 2003 projections.

Ms. Yazzie stated that the TPC discussed next steps, including conducting a public opinion survey to gauge public views and sentiment regarding needs and revenue sources. Ms. Yazzie stated that a telephone survey was conducted from December 4-31, 2013, similar to the statewide survey conducted in 2008 and the survey conducted in preparation for Proposition 400. Ms. Yazzie stated that the Regional Transportation Survey focused on high efficacy voters, not general voters, to discover their receptiveness on taxes or fees for transportation.

Ms. Yazzie stated that the Regional Transportation Survey contacted approximately 600 high efficacy in the MAG region (Maricopa County and the MAG portion of Pinal County), who tended to be older, White, and Republican.

Ms. Yazzie said that the survey began with a question on how respondents viewed their financial status in the next year. She noted that most responded that they saw their financial status as remaining the same.

Ms. Yazzie stated that respondents were asked their frequency of travel within the state of Arizona, but outside of their county of residence. She noted that responses mirrored the responses in the 2008 statewide survey. Ms. Yazzie stated that respondents were asked their political perspective, to which most answered very conservative or somewhat conservative. Ms. Yazzie stated that respondents were asked the method used to commute to work and the overwhelming majority answered driving alone. She added that many who drive alone do not have much experience with public transportation.

Ms. Yazzie then introduced Kathy DeBoer from WestGroup Research, Inc., who continued the presentation. Ms. DeBoer stated that the survey asked satisfaction questions. She said that respondents indicated satisfaction with freeways/highways and streets and roads, but indicated a

lot of “do not know” with light rail and buses, probably because they do not have or use these modes of travel. Ms. DeBoer said that respondents in Maricopa County were more satisfied with streets and roads than respondents in Pinal County.

Ms. DeBoer stated that the next question asked the one most important transportation-related issue or problem in the greater Phoenix area today. The top responses included traffic congestion on freeways, lack of bus service/public transit, lack of light rail/access to light rail, traffic congestion on major streets, road maintenance and repair, and not enough freeways/highways. Ms. DeBoer stated that the number one response in the 2008 statewide survey was lack of public transit and the Regional Transportation Survey shows it is still an important issue.

Ms. DeBoer stated that respondents were asked to name the number one most important thing they think could be done to improve the transportation system in their local area. She noted that the most common responses related to public transportation, followed by traffic control, freeways, and streets and roads. Ms. DeBoer noted that improvements rolled up into public transportation included light rail and expanded bus coverage. Improvements rolled up into traffic control issues included better traffic control, synchronized lights, and better law enforcement.

Ms. DeBoer stated that respondents were asked the number one priority and number two priority for the greater Phoenix area transportation system. She said that the components chosen most often by voters include completion of the regional freeway system and expanding the existing light rail system. The next two chosen most often include improving major streets and intersections and implementing a valleywide bus system. Ms. DeBoer remarked that this indicates respondents realize the need for a balance between streets and public transit.

Ms. DeBoer stated that greater than 60 percent of respondents, when asked whether there is enough funding available to cover needed transportation improvements in the greater Phoenix area for the next 20 years, indicated there is “probably not enough” or “definitely not enough” funding.

Ms. DeBoer reported that respondents were asked the importance of the regional transportation system for the region’s economy, with five as extremely important and one not at all important. She said that 78 percent rated it as a five or four, with 48 percent indicating it as a five.

Ms. DeBoer stated that the interviewers read a preamble to the respondents and then asked them questions: “Our transportation system primarily relies on gas taxes and dedicated sales taxes for funding. The Arizona gas tax has been 18 cents a gallon since 1991, which means that the purchasing power of the gas tax is almost 60 percent less due to inflation and increased fuel economy. The 20-year transportation sales tax for Maricopa County, which ends in 2025, is expected to generate 40 percent less than projected due to the recession. Because of lower revenue, maintenance and expansion of major parts of the regional transportation system have been delayed indefinitely.”

Ms. DeBoer said that respondents were asked, based on the previous statement, to rate their level of support for each proposed funding option to improve the transportation system in the greater

Phoenix area. She listed the options from highest level of support to lowest: Extending the current County half cent sales tax for transportation beyond its expiration; Increasing developers' fees; Increasing the gas tax; Taxing service-based businesses; Increasing vehicle registration/licensing fees; Increasing the sales tax; and Increasing the property tax. Ms. DeBoer stated that extending the half cent sales tax for transportation is perceived as something already being done and increasing developers' fees are not perceived as coming out of the respondents' pockets. Support drops when it seems the tax or fee will increase their own costs. She pointed out that those mid-range areas receiving a three rating are areas of opportunity where voters can be persuaded because the mid-range indicates respondents do not feel strongly one way or another.

Ms. DeBoer displayed a table that demonstrates that liberal voters (and in some cases, moderate voters), were generally more likely than conservative voters to support any of the taxes.

Dennis Smith noted that individual cities might trend to more liberal or moderate and could be more receptive to supporting their own tax.

Ms. DeBoer stated that the results from the Regional Transportation Survey regarding the level of support for potential new revenue streams were compared to the 2008 statewide survey. Support for increasing developers' fees decreased, while support for increasing vehicle registration/licensing fees, increasing the sales tax, and increasing the property tax remained about the same. Ms. DeBoer noted that respondents were not asked about extending the half cent sales tax for transportation in 2008.

Ms. DeBoer stated that respondents were asked to rate their level of support for an increase in the taxes dedicated for transportation improvements if it would result in paying approximately \$50 more in taxes spread across the course of a year. She said they were also asked to rate their level of support for increasing the gas tax each year in the future to match the general inflation rate in order to fund transportation system improvements. Ms. DeBoer stated that there was more support for paying \$50 per year. She added that because indexing the gas tax is more unknown element and people are less likely to support it.

Ms. DeBoer reported that the survey then asked respondents which tax they would prefer if they had a choice of paying \$50 more per year in the sales tax or gas tax or 10 cents more per gallon in gas tax. She said that half of the respondents chose the \$50 per year even though the two taxes would amount to the same thing. Ms. DeBoer stated that this is the result of the perception – people lock in on a phrase.

Ms. DeBoer stated that respondents were asked their level of support for additional taxes or fees for different transportation improvements. She said that repairing/maintaining existing roads, repairing/maintaining existing freeways, utilizing technology to make freeways more efficient/reliable, expanding light rail, and building new freeways/lanes received the most support. Ms. DeBoer noted that by their replies, respondents showed that even though they supported expanding light rail, they realized maintaining the freeway and street systems was important.

Mr. Smith noted that this is relevant to the Highway User Revenue Fund (HURF) sweeps issue. He said that the HURF is provided to cities and counties for street maintenance and this survey shows that the public supports street maintenance.

Mr. Arnett asked for clarification of a “three.” Ms. DeBoer replied that three indicates the unknown and does not indicate support or non support by the respondent.

Ms. DeBoer displayed a slide of support for proposed usage of additional fees broken out by political persuasion. She noted that the conservatives were less likely to indicate support than liberals.

Ms. DeBoer stated that respondents were asked how likely they were to support a tax increase if all of the money is used for regional transportation projects that may not be in their community. She said that 57 percent were somewhat likely or very likely to support this, which indicates they realize transportation is a regional issue.

Ms. DeBoer then summarized conclusions from the survey. Voters do not appear to support any new taxes/fees. Voters are not overwhelmingly ready to support the extension of the existing half cent sales tax. There is little interest/support for increasing the gas tax. Many “undecided” or “middle of the road” responses leaves room for education. The majority of the voters understand the link between transportation and the economy, which can be the foundation to build the case for the need for additional funds.

Chair Meck thanked Ms. Yazzie and Ms. DeBoer for their reports and asked members if they had questions.

Mr. Arnett noted that the majority of those surveyed were over the age of 55. He asked if the results of the survey would be expected to be different if the age was lower. Ms. DeBoer replied yes, the average age of high efficacy voters is higher than the age of those who vote mainly in presidential elections. She said they were particularly interested in high efficacy voters, because they consistently vote in all elections, not just the presidential elections. Ms. DeBoer remarked that if this group can be won over, it helps in influencing an election.

Mayor Lane commented that this is the demographic who are the taxpayers and are those that need to be informed. Ms. DeBoer stated that they did a survey for a school bond election that showed 58 percent support by high efficacy voters and the actual voting result was 56 percent. She noted that they usually look for 60 percent support in a survey to have a successful election.

Mayor Mitchell asked the sample size to end up with 602 respondents. Ms. DeBoer replied that they probably dialed tens of thousands of numbers to end up with the 602 respondents. Mayor Mitchell asked the percentage of those reached. Ms. DeBoer replied that she did not have that number with her, but could get it to him after the meeting. Mayor Mitchell also requested a breakdown by Maricopa County and Pinal County, and by geographic areas of Maricopa County because not all areas have all elements, such as light rail. Ms. DeBoer noted that they do have the

information by zip code. Ms. Yazzie noted that results of a breakdown of high efficacy voters by community would be different than the regional results. Mayor Mitchell remarked that he thought this was important to see. Ms. Yazzie remarked on the differences between Maricopa and Pinal respondents regarding public transportation. She stated that a lot of those in the focus groups used public transit for special events, but there were a lot of “do not know” responses for transit.

Councilmember Carlat asked for clarification of the conclusion that there would not necessarily be support for an extension of the sales tax because the number indicating support was less than 60 percent. Ms. DeBoer replied that was correct – there is always slippage. She added that if an election were held today it would be risky.

Mr. Anderson noted that a couple of surveys were conducted in preparation for Proposition 400. An early survey showed support exceeding 70 percent and another survey in 2002-2003 showed 68 percent support, but in the end the vote in support of Proposition 400 was 57 percent. He noted that support usually declines during a campaign. Mr. Anderson noted that if surveys do not show more than 60 percent support, you might want to give pause. He also mentioned the 1994 preliminary surveys that showed 64 or 65 percent support for 1994's Proposition 400 and it ended up being defeated.

Councilmember Carlat asked about the timeframe being 11 years out and would there be more support the closer to the time the tax expires. Mr. Anderson noted that there are similarities between 1994 and now – 11 years was the same timeframe as the 1994 election and the region was coming out of the recession of the early 1990s. He remarked that this is probably not the right time to go forward with an election on a regional tax because there is not a high level of support.

Mr. Smith noted that the split of funding between transportation modes could be different for the extension of the tax than it was for Proposition 400. He noted that the freeway system in this region is close to completion.

Mayor Wolcott stated that she needed more information on reaching voters because the needs of the West Valley are different from the East Valley, especially if cities are being encouraged to go for a local option. She noted that the demographics of the high efficacy voters in the Regional Transportation Survey are similar to the voters in the City of Surprise. Mayor Wolcott spoke of how the quality of life diminishes by the hour as people sit for an hour each way in traffic congestion on the freeway while fumes spew into the air. She said that people want to hear that discussion.

Mr. Anderson stated that they are ready to run the cross-tabs for east, west and central and will discuss the results with member agencies. He said that the one point he did not want to get lost is that people do not have a good understanding of how transportation is funded. Mr. Anderson remarked that the message about the declining gas tax revenue needs to be communicated and a discussion is needed on whether there is a desire to fund transit operations.

Mr. Arnett asked about extending the half cent sales tax for ten years and leveraging against that amount to finish projects. Mr. Anderson replied that could be an option and was the thinking in 1994. He said that the decision would need to be made to expend the dollars and political capital to do that.

Mr. LaRue referenced the 78 percent of respondents who felt that transportation is tied to the economy, but then there is great opposition in the following question that asks if people favor expediting freight across the Mexican border. He remarked that the foundational basis for Interstate 11 is expediting freight.

Mr. Smith stated that the Regional Transportation Survey says that the public needs more information. He said that MAG committees understand how the port of Nogales helps all of us, but there has been no effort to explain the issue to the public so they understand. Mr. Smith stated that Arizona is ninth from the bottom in gas tax and people still do not want to increase it. He said that a mechanism to support the Department of Public Safety is needed, like the special tax on vehicle license fees in California, otherwise, the struggle with funding will continue. Mr. Smith stated that perhaps a federal fix is needed. He added that the gas tax equation is broken. He pointed out that many vehicles now get more than 40 miles per gallon, and HURF collections will only decrease. Mr. Smith stated that the decrease in federal funds shown in the TIP slide was included because this is a policy issue and elected officials need to know this when they go to Washington, DC.

7. Legislative Update

Nathan Pryor, MAG staff, provided an update on legislative issues of interest. Mr. Pryor stated that for some time, MAG has been reporting on declining regional, state, federal transportation revenues. He indicated that the focus of his presentation today is the Highway User Revenue Fund (HURF).

Mr. Pryor stated that over the past decade, the HURF has been subject to more than \$1 billion in sweeps by the state. He said that recently, a number of cities, towns, and other organizations have taken positions opposing HURF sweeps, and MAG staff is suggesting taking a position to stop the HURF sweeps and keeping the statutory limit for transfers to \$20 million annually. Mr. Pryor stated that \$126 million was swept in FY 2014 and \$234 million in FY 2013.

Mr. Pryor stated that leadership and members of the Legislature have indicated their willingness to fully fund the HURF. He noted that the state budget for 2015 is showing HURF sweeps of more than \$125 million. Mr. Pryor noted that keeping the HURF to its statutory limit of \$20 million per year is the simplest short term option.

Mr. Pryor stated that he would be presenting this item to the Regional Council at their meeting later that day. Mr. Pryor stated that one option might be a letter to the Governor signed by the Regional Council. He noted that a letter from Speaker Andy Tobin and Representative Chad Campbell in support of the HURF was provided to the TPC.

Mayor Mark Mitchell moved to recommend that the MAG Regional Council consider sending a letter to the Governor and Legislature regarding Highway User Revenue Fund sweeps. Mayor Marie Lopez Rogers seconded, and the motion passed unanimously.

8. Request for Future Agenda Items

Topics or issues of interest that the Transportation Policy Committee would like to have considered for discussion at a future meeting were requested.

Mr. Smith noted that a further analysis of the Regional Transportation Survey would be presented.

9. Comments from the Committee

An opportunity was provided for Transportation Policy Committee members to present a brief summary of current events. The Transportation Policy Committee is not allowed to propose, discuss, deliberate or take action at the meeting on any matter in the summary, unless the specific matter is properly noticed for legal action.

No comments were noted.

Adjournment

There being no further business, the meeting adjourned at 11:20 a.m.

Chair

Secretary

MARICOPA ASSOCIATION OF GOVERNMENTS

INFORMATION SUMMARY... for your review

DATE:

February 11, 2014

SUBJECT:

MAG Federally Funded Locally Sponsored Project Development Status Report: January 2014, and Project Changes

SUMMARY:

The MAG Federal Fund Programming Guidelines and Procedures, approved by the MAG Regional Council on October 26, 2011, outline the requirements for local agencies to submit status information on the development of their federally funded projects. A Project Development Status Report is produced twice each year, and project changes are completed quarterly or as needed. Monitoring of member agency project schedules and the assurance by each agency that their project(s) will obligate federal funds as noted in the federally approved Transportation Improvement Program (TIP) listing, ensures that the regional suballocation of federal funds will be utilized and not swept from the region. Please note that if an agency cannot make the Arizona Department of Transportation (ADOT) June 30, 2014, deadline to obligate their project(s) as listed in the MAG TIP for fiscal year 2014, the federal funding may be swept from the project. Project changes to the TIP that relate directly to the Status Report are included in Table A.

The Project Development Status Report, January 2014, focuses mainly on projects funded with Congestion Mitigation and Air Quality Improvement (CMAQ) funds that are programmed to authorize in Federal Fiscal Year (FFY) 2014 and FFY 2015. The Project Development Status Workbook (Workbook) that was sent to member agencies required that a project development schedule be completed and project changes could be requested. Workbooks were also sent to agencies that have Transportation Alternatives Program (TA-MAG) funds programmed in the FY 2011-2015 TIP as of November 2013. Based on information submitted by local agencies, information at times was cross checked with the ADOT Local Government section for feasibility, and further inquiries were made by MAG staff as appropriate.

The Project Development Status Report notes that of the 28 CMAQ projects and seven TA-MAG projects programmed to obligate in FY 2014, two projects are requesting a deferral to a later year, three are requesting a second deferral or to be deleted, and 30 projects are expected to obligate in FY 2014 based on the schedules submitted, or if the schedules submitted are modified based on notes in the January 2014 Project Development Status Report.

The Project Development Status Report notes that of the 32 CMAQ projects and one TA-MAG project programmed to obligate in FY 2015, none of the projects are requesting a deferral to a later year, zero projects are requesting a second deferral or to be deleted, and 33 projects are expected to obligate in FY 2015 based on the schedules submitted.

Included in Table A are the requested project changes to the TIP as they relate to the Project Development Status Report, January 2014.

PUBLIC INPUT:

None has been received.

PROS & CONS:

PROS: Approval of this Project Development Status Report will allow the projects to proceed in a timely manner in the year that best fits their project development schedule and will complete Tier 1 of the Federal Project Development Process & Dynamic TIP Process for Nov13/Jan 2014. Approval of this amendment will allow the Tier 2, Dynamic TIP Process to proceed next month if funding is available.

CONS: There is no guarantee that sufficient funds will be available in the following fiscal year to cover any or all of the deferred projects should congress fail to authorize a funding level of obligation authority that can meet programming levels.

TECHNICAL & POLICY IMPLICATIONS:

TECHNICAL: The Project Development Status Report aids the region in making decisions to keep projects in the current year, defer, advance, or delete them from the program. The action for this item includes the necessary amendments or administrative adjustments to the FY 2011-2015 MAG TIP, and to the FY 2014-2018 TIP as appropriate, and Regional Transportation Plan as appropriate to allow the projects to proceed. As the FY 2014-2018 TIP has been submitted for federal final approval, in the event of delay, staff is requesting amendments to the current federally approved FY 2011-2015 TIP, and to the FY 2014-2018 TIP pending federal approval. If this item is approved, this item will be included in the first request to modify the FY 2014-2018 MAG Transportation Improvement Program submitted to ADOT.

POLICY: This Status Report follows the process explained in the approved MAG Federal Fund Programming Guidelines.

ACTION NEEDED:

Recommend approval of federal fund projects to be deferred, deleted, and changed; and of the necessary amendments and administrative modifications to the FY 2014-2018 Transportation Improvement Program, 2035 Regional Transportation Plan, and to the FY 2011-2015 Transportation Improvement Program as appropriate.

PRIOR COMMITTEE ACTIONS:

This item is included on the February 12, 2014 Management Committee agenda. An update will be provided.

This item was presented at the January 30, 2014, Transportation Review Committee. The committee recommended approval.

MEMBERS ATTENDING

- Avondale: David Fitzhugh, Chair
- Phoenix: Rick Naimark, Vice Chair
- ADOT: Kwi-Sung Kang for Floyd Roehrich
- * Buckeye: Scott Lowe
- * Cave Creek: Ian Cordwell

- Chandler: Dan Cook
- El Mirage: Bryce Christo for Jorge Gastelum
- * Fountain Hills: Randy Harrel
- Gila Bend: Ernie Rubi
- Gila River: Tim Oliver

Gilbert: Leah Hubbard
Glendale: Debbie Albert
Goodyear: Cato Esquivel
Litchfield Park: Woody Scoutten
Maricopa (City): David Maestas for Paul Jepson
Maricopa County: John Hauskins
Mesa: Jeff Martin for Scott Butler
* Paradise Valley: Jim Shano

Peoria: Andrew Granger
Queen Creek: Mohamed Youssef
Scottsdale: Paul Basha
Surprise: Dick McKinley
Tempe: Shelly Seyler
Valley Metro: John Farry
Wickenburg: Vince Lorefice
Youngtown: Grant Anderson

EX-OFFICIO MEMBERS ATTENDING

* Street Committee: Charles Andrews, Avondale
* ITS Committee: Catherine Hollow, Tempe
* FHWA: Ed Stillings

* Bicycle/Pedestrian Committee: Denise Lacey, Maricopa County
* Transportation Safety Committee: Renate Ehm, Mesa

* Members neither present nor represented by proxy. + Attended by Videoconference
Attended by Audioconference

This item was presented at the January 14, 2014, Street Committee for review and to comment on by January 17, 2014. No additional comments were received from the committee members.

MEMBERS ATTENDING

Dana Owsiany, Phoenix, Chair Woman
Patrick Stone for Steve Beasley ADOT
Charles Andrews, Avondale
* Jose Heredia, Buckeye
Dan Cook, Chandler
Jorge Gastelum, El Mirage
* Aryan Lirange, FHWA
Wayne Costa, Florence
Tim Oliver, Gila River Indian Community
* Michael Gillespie, Gilbert
Bob Darr, Glendale
Luke Albert for Hugh Bigalk, Goodyear
David Gu for Darryl Crossman, Litchfield Park
Bill Fay, Maricopa City
*

Jack M. Lorbeer, Maricopa County
Maria Angelica Deeb, Mesa
* James Shano, Paradise Valley
Scott Bender, Pinal County
Dab Nissen for Ben Wilson, Peoria
Janet Martin, Queen Creek
* Elaine Cabrera, Salt River Pima-Maricopa Indian Community
Phil Kercher, Scottsdale
Suneel Garg, Surprise
Isaac Chivera, Tempe
* Jason Earp, Tolleson
Grant Anderson, Youngtown

* Those members neither present nor represented by proxy.
#Participated by telephone conference call. + Participated by videoconference call.

CONTACT PERSON:

Teri Kennedy, Transportation Improvement Program Manager, or Stephen Tate (602) 254-6300.

Table A. Project Change Requests from Workbook Report to the Fiscal Year 2014-2018 MAG Transportation Improvement Program, and as appropriate to the FY 2011-2015 MAG Transportation Improvement Program

1/23/2014

HIGHWAY			Project Location	Project Description	Work Year	Est. Date Open	Length (miles)	Lanes Before	Lanes After	Fund Type	Local Cost	Federal Cost	Regional Cost	Total Cost	Requested Change
TIP #	Agency	MAG ID													
GLB12-809	Gilbert		Town of Gilbert	Design and construct bicycle crossings	2014		0	4	0	CMAQ	\$ 210,000	\$ 490,000	\$	\$ 700,000	Amend: Delete Project from the TIP. Project cannot make current schedule and has been previously deferred.
GLB13-902	Gilbert		Consolidated/Ray, Eastern/Williams Field, Powerline/McQueen, Powerline/Val Vista, Powerline/Greenfield, Powerline/Recker	Gilbert Bicycle Crossing Safety and improvement demonstration Phase II Project	2014		22.5	6	6	CMAQ	\$ 255,000	\$ 583,000	\$	\$ 838,000	Amend: Delete Project from the TIP. Project cannot make current schedule and has been previously deferred.
MES11-111C2	Mesa	150	Porter Park Pathway: Mesa Drive and 8th Street near the vicinity of Kino Junior High	Construct paved shared use path	2015	2016	1.1	0	0	TA-MAG	\$ 82,106	\$ 1,358,348	\$ -	\$ 1,440,454	Amend: Defer project from FY 2014 to FY 2015. Project has not previously deferred. Funding for project includes FY 2012 and 2013 SRTS funding. Total project cost is \$1,647,159.
SCT14-104	Scottsdale	14796	Arizona Canal from Chaparral to Indian Bend Wash	Design and Construct multi-use path	2014	2016	2	0	0	CMAQ	\$ 1,911,700	\$ 1,600,000	\$	\$ 3,511,700	Amend: Delete Project from the TIP. Project cannot make current schedule and has been previously deferred. AGENCY HAS requested Second Deferral and will present to Bike/Ped Committee, 2-11-2014.
YTN14-101	Youngtown	29762	Grand Avenue and 111th Avenue to Olive Avenue and Agua Fria Parkway (Approximately 117th Avenue).	Multiuse Path and Peoria Ave straightening to accommodate multiuse path: Construction phase	2015	2016	5	2	2	CMAQ	\$ 157,200	\$ 292,800	\$ -	\$ 450,000	Amend: Defer project from FY 2014 to FY 2015. Project has not previously deferred. Project to align with other city/roadway improvements.



PROJECT STATUS REPORT January 2014

Maricopa Association of Governments

302 N. 1st Ave., Suite 300

Phoenix, AZ 85003

Phone: 602-254-6300

Printed: January, 2016

Purpose and Scope

This report was developed pursuant to the MAG Federal Programming Guidelines as approved on October 26, 2011 by the MAG Regional Council. It is required that project sponsors provide MAG with schedules that show clearly when key milestones are to be achieved and an overall project timeline with periodic reporting that demonstrates that the sponsoring agency is making progress in achieving these milestones.

These requirements apply to a two year moving window of projects in the MAG Transportation Improvement Program that are outside the three 20-year life-cycle programs and that are funded with federal Congestion Mitigation Air Quality (CMAQ) or sub allocated urbanized area Surface Transportation Program (MAG-STP) funds. The June/July report contains current fiscal year follow up information for the end of year closeout.

The data for this report was collected in May/June, 2013 and is the fourth round collected under the Guidelines. It includes only CMAQ and STP-TEA funded projects that were programmed in federal fiscal years 2014, and 2015. It also contains final reports on FY2013 projects. No freeway, transit or arterial life-cycle program projects are included in this report.

Project Milestones and Project Deferrals

The implementation of the Guidelines was phased in during the October 2011 data collection for the January Report, and an extensive effort to reprogram projects was completed. As a result of this, many of the project schedules that were modified are

now on track and the Maricopa County region has greatly reduced the number of deferrals. Because of this, the project schedules shown in this report include very few cases of projects failing to meet key deadlines. On May 9, 2013 the Governor signed the request to expand the MAG boundaries to include parts of Pinal County, the City of Maricopa, the Town of Florence and the Pinal County portion of the Gila River Indian Community. Data collection efforts are currently underway for Pinal County projects. It is anticipated that for the December 2013 data collection effort that all project schedules will be reviewed and updated in the expanded area boundaries to meet key milestones per the MAG Federal Programming Guidelines.

Data Descriptions

Project Information Columns:

1. First Column: This column identifies the project sponsor, the identification number in the MAG Transportation Improvement Program of the project and the Federal Fiscal Year the project is programmed.
2. Location Cell: The location of the project as it appears in the MAG Transportation Improvement Program.
3. Work Cell: The work to be performed for the project as defined in the MAG Transportation Improvement Program.
4. Project Type Cell: This is the type of work to be performed by the projects. These types include: Design, Right-of-Way, Construction and Procurement.

5. Design Process Cell: This indicates whether the design is funded from federal sources. If design is federally funded, a project may not proceed beyond 30 percent plans without an environmental clearance. If the design is locally funded, it may proceed beyond 30 percent plans without an environmental clearance, but may risk substantial revision due to mitigation measures identified in the environmental clearance.
6. Environmental Clearance Cell: The type of environmental clearance anticipated for the project. The actual type of environmental clearance required is determined in the early stages of the design process.
7. CMAQ Cell: The amount of CMAQ funds programmed in the MAG Transportation Improvement Program for the project.
8. Total Cell: The total local and federal funds programmed for the project in the MAG Transportation Improvement Program.

Project Scheduling Information Columns:

1. Design Columns:
 - a. Start Column: The date that design work on the project is to begin.
 - b. 60% Plans Started Column: The date that work on “60 percent plans” began or is anticipated to begin. This field is not applicable for Right-of-Way, procurement or design projects.
 - c. PS&E Completed Column: This is the final plans for the project. For procurement projects this

amounts to the specifications, estimates and deployment plan needed to procure equipment and services using federal funds. This is not applicable for design projects.

2. Environmental Columns:

- a. Tech Docs Started Column: This refers to the date work on the technical documents (hazardous materials, cultural and biological surveys) for the environmental clearance has begun or is expected to begin. This is not applicable for design and procurement projects as this level of analysis is not needed for the environmental clearance. In most cases, it is also not required for right-of-way projects as these studies are completed as part of the design for the overall project.
- b. Clearance Approved Column: The date the environmental clearance for the project is expected to be approved.

3. Right-of-Way Columns:

- a. Inventory Started Column: This is the date that right-of-way inventory began or is expected to begin. This field is not applicable for procurement and design projects and some construction projects that require no right-of-way.
- b. Clearance Approved: The date that the right-of-way clearance was approved or expected to be approved.

4. IGA Approval Column:

The date that the IGA was approved or is expected to be approved for the project. This is not applicable for agencies that are self-certified to manage the federal design and construction process. These agencies include the Cities of Chandler, Phoenix, Scottsdale and Tempe, and Maricopa County.

5. FHWA Authorization Column:

The date that a federal funding for a project was or is expected to be approved by the Federal Highway Administration. No work performed on a project is eligible for federal reimbursement prior to the date of authorization.

Notes Column: The cells in this column contain a note about the project.

Target Dates Row:

The cells in this row identify key dates that are to be achieved for the project to continue in the MAG Transportation Improvement Program and to receive federal funding. They vary by project type (e.g. construction, procurement, etc.), the year the project is programmed and the work activity identified for the column they are located in.

Agency Schedule Rows:

1. Initial Row: The dates provided for the initial status report for the project.
2. Current Row: The dates provided for the most recent information provided for this report.

Schedule Status Rows:

1. Months Ahead Row: The number of months that the current schedule is ahead of the initial schedule provided.
2. Months Behind Row: The number of months that the current schedule is behind the initial schedule provided.
3. Expected Date Row: The date the project is expected to achieve a milestone.
4. Will Meet Target Dates Row: This indicates whether the milestone is expected to meet target deadlines. A checkmark indicates that it is expected to meet the target deadline.

Project Status Report (Sorted by Agency, Year and Project Type)

Project Information			Project Scheduling Information										Notes	
			Category		Design			Environmental		Right-of-Way		IGA Approved		FHWA Authorization
					Start	60% Plans Started	PS&E Completed	Tech Docs Started	Clearance Approved	Inventory Started	Clearance Approved			
Apache Junction APJ15-461 (FFY 2015)	Location	City of Apache Junction	Target Dates			NA	NA	NA	NA	NA	NA	9/30/15	None	
	Work	Completion of an ITS Strategic Plan	Agency Schedule	Initial	NA	NA	NA	NA	NA	NA	6/30/15	9/15/15		
	Project Type	Design		Current	NA	NA	NA	NA	NA	NA	6/30/15	9/15/15		
	Design Process	Federally Funded	Schedule Status	Months Ahead	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
	Environmental Clearance	Not Applicable		Months Behind	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
	CMAQ	141,450		Expected Date	NA	NA	NA	NA	NA	NA	6/30/15	9/15/15		
	Total	160,000		Meets Target	NA	✓	✓	✓	✓	✓	✓	✓		
Avondale AVN14-107 (FFY 2014)	Location	Central Avenue (in Avondale): Van Buren Street south to Western Avenue	Target Dates			6/1/13	6/30/14	6/1/13	6/30/14	6/1/13	6/30/14	NA	9/30/14	Technical documents for the environmental clearance and the right-of-way inventory for the project have been completed. It is anticipated that draft 60 percent plans will have been submitted by the time this report is reviewed by the Regional Council.
	Work	Construct multiuse path	Agency Schedule	Initial	12/1/12	4/30/13	12/26/13	1/30/13	7/30/13	6/30/13	3/28/13	8/29/13	2/24/14	
	Project Type	Construction		Current	12/1/12	1/30/14	6/30/14	6/30/13	2/28/14	6/30/13	6/30/14	8/5/13	8/27/14	
	Design Process	Federally Funded	Schedule Status	Months Ahead	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	
	Environmental Clearance	Group 2, Categorical Exclusion		Months Behind	0.0	10.0	7.0	6.0	8.0	0.0	16.0	0.0	7.0	
	CMAQ	1,077,405		Expected Date	12/1/12	1/30/14	6/30/14	6/30/13	2/28/14	6/30/13	6/30/14	8/5/13	8/27/14	
	Total	3,327,405		Meets Target	NA	✗	✓	✗	✓	✗	✓	✓	✓	
Avondale AVN15-441C (FFY 2015)	Location	I-10 and the Agua Fria	Target Dates			6/1/14	6/30/15	6/1/14	6/30/15	6/1/14	6/30/15	NA	9/30/15	None
	Work	Construct asphalt path and underpass	Agency Schedule	Initial	12/30	11/29/13	5/28/14	1/28/14	2/27/14	1/28/14	4/28/14	5/8/14	9/5/14	
	Project Type	Construction		Current	12/30	4/29/14	5/1/15	3/30/14	10/1/14	1/30/14	5/1/15	5/1/15	8/27/15	
	Design Process	Federally Funded	Schedule Status	Months Ahead	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Environmental Clearance	Not Determined at this time		Months Behind	0.0	6.0	12.0	2.0	8.0	0.0	13.0	13.0	13.0	
	CMAQ	1,264,427		Expected Date	12/30/13	4/29/14	5/1/15	3/30/14	10/1/14	1/30/14	5/1/15	5/1/15	8/27/15	
	Total	1,340,856		Meets Target	NA	✓	✓	✓	✓	✓	✓	✓	✓	

Project Status Report (Sorted by Agency, Year and Project Type)

Project Information			Project Scheduling Information										Notes	
			Category		Design			Environmental		Right-of-Way		IGA Approved		FHWA Author-ization
					Start	60% Plans Started	PS&E Completed	Tech Docs Started	Clearance Approved	Inventory Started	Clearance Approved			
Avondale AVN15-461 (FFY 2015)	Location	Dysart Road - Rancho Santa Fe to Indian School Road	Target Dates			NA	6/30/15	NA	6/30/15	NA	NA	NA	9/30/15	None
	Work	Procure, construct and install ITS components	Agency Schedule	Initial	12/30	NA	NA	NA	NA	NA	NA	NA	NA	
	Project Type	Procurement		Current	12/30	4/29/14	5/1/15	3/30/14	10/1/14	1/30/14	5/1/15	5/1/15	8/27/15	
	Design Process	Locally Funded	Schedule Status	Months Ahead	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Environmental Clearance	Group 1, Categorical Exclusion		Months Behind	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	CMAQ	508,579		Expected Date	12/30/13	4/29/14	5/1/15	3/30/14	10/1/14	1/30/14	5/1/15	5/1/15	8/27/15	
	Total	539,320		Meets Target	NA	✓	✓	✓	✓	✓	✓	✓	✓	
Buckeye BKY10-801 (FFY 2014)	Location	Miller Rd: Hazen Rd to I-10 and Monroe Rd (MC-85); Miller Rd to Apache Rd	Target Dates			6/1/13	6/30/14	6/1/13	6/30/14	6/1/13	6/30/14	NA	9/30/14	None
	Work	Interconnect traffic signals	Agency Schedule	Initial	6/30/13	6/17/13	5/20/14	3/15/13	3/30/14	9/15/12	1/30/14	10/16/13	6/1/14	
	Project Type	Construction		Current	6/30/13	12/21/13	6/30/14	9/15/13	3/21/14	11/15/13	1/30/14	8/20/13	6/1/14	
	Design Process	Locally Funded	Schedule Status	Months Ahead	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	
	Environmental Clearance	Group 2, Categorical Exclusion		Months Behind	0.0	7.0	2.0	7.0	0.0	15.0	0.0	0.0	0.0	
	CMAQ	210,000		Expected Date	6/30/13	12/21/13	6/30/14	9/15/13	3/21/14	11/15/13	1/30/14	8/20/13	6/1/14	
	Total	300,000		Meets Target	NA	✗	✓	✗	✓	✗	✓	✓	✓	
Buckeye BKY13-101 (FFY 2014)	Location	7th St: Norton Dr from Beloat Rd	Target Dates			6/1/13	6/30/14	6/1/13	6/30/14	6/1/13	6/30/14	NA	9/30/14	None
	Work	Construct pave unpaved road project	Agency Schedule	Initial	11/7/11	6/7/12	6/28/13	11/7/11	5/14/13	11/7/11	5/23/12	10/1/11	8/1/13	
	Project Type	Construction		Current	11/7/11	6/7/12	7/31/13	11/7/11	5/14/13	11/7/11	5/23/12	10/1/11	10/24/13	
	Design Process	Locally Funded	Schedule Status	Months Ahead	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Environmental Clearance	Group 2, Categorical Exclusion		Months Behind	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	3.0	
	CMAQ	233,226		Expected Date	11/7/11	6/7/12	7/31/13	11/7/11	5/14/13	11/7/11	5/23/12	10/1/11	10/24/13	
	Total	489,785		Meets Target	NA	✓	✓	✓	✓	✓	✓	✓	✓	

Project Status Report (Sorted by Agency, Year and Project Type)

Project Information			Project Scheduling Information										Notes	
			Category		Design			Environmental		Right-of-Way		IGA Approved		FHWA Author-ization
					Start	60% Plans Started	PS&E Completed	Tech Docs Started	Clearance Approved	Inventory Started	Clearance Approved			
Buckeye BKY13-901 (FFY 2014)	Location	Town of Buckeye	Target Dates			6/1/13	6/30/14	6/1/13	6/30/14	6/1/13	6/30/14	NA	9/30/14	<p>ADOT has indicated that the project will need to be divided into a locally funded utility relocation phase and a CMAQ construct phase.</p> <p>It is anticipated that the CMAQ phase will authorize as programmed in FY 2014</p>
	Work	Alarcon Blvd and Kino Place Pedestrian Corridor Project	Agency Schedule	Initial	6/30	9/16/13	6/30/14	9/15/13	1/30/14	9/15/13	3/21/14	8/20/13	9/30/14	
	Project Type	Construction		Current	6/30	9/16/13	6/30/14	9/15/13	1/30/14	9/15/13	3/21/14	8/20/13	9/30/14	
	Design Process	Federally Funded	Schedule Status	Months Ahead	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Environmental Clearance	Group 2, Categorical Exclusion		Months Behind	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	CMAQ	400,000		Expected Date	6/30/13	9/16/13	6/30/14	9/15/13	1/30/14	9/15/13	3/21/14	8/20/13	9/30/14	
	Total	574,572		Meets Target	NA	✗	✓	✗	✓	✗	✓	✓	✓	
Buckeye BKY15-431C (FFY 2015)	Location	Watson Road (650' north of Van Buren to McDowell) PM-10 Paving	Target Dates			6/1/14	6/30/15	6/1/14	6/30/15	6/1/14	6/30/15	NA	9/30/15	<p style="text-align: center;">None</p>
	Work	Pave dirt road	Agency Schedule	Initial	9/1/13	NA	6/30/15	NA	6/30/14	NA	6/30/15	6/30/15	9/15/15	
	Project Type	Construction		Current	9/1/13	NA	6/30/15	NA	6/30/14	NA	6/30/15	6/30/15	9/15/15	
	Design Process	Federally Funded	Schedule Status	Months Ahead	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Environmental Clearance	Group 2, Categorical Exclusion		Months Behind	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	CMAQ	964,532		Expected Date	9/1/13	NA	6/30/15	NA	6/30/14	NA	6/30/15	6/30/15	9/15/15	
	Total	1,049,130		Meets Target	NA	✓	✓	✓	✓	✓	✓	✓	✓	
Cave Creek CVK15-441C (FFY 2015)	Location	Cave Creek Rd: Carefree Hwy to Pima Rd	Target Dates			6/1/14	6/30/15	6/1/14	6/30/15	6/1/14	6/30/15	NA	9/30/15	<p style="text-align: center;">None</p>
	Work	Construct bike lanes	Agency Schedule	Initial	10/1/13	NA	6/30/15	NA	6/30/14	NA	6/30/15	6/30/15	9/15/15	
	Project Type	Construction		Current	10/1/13	NA	6/30/15	NA	6/30/14	NA	6/30/15	6/30/15	9/15/15	
	Design Process	Federally Funded	Schedule Status	Months Ahead	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Environmental Clearance	Group 2, Categorical Exclusion		Months Behind	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	CMAQ	2,938,480		Expected Date	10/1/13	NA	6/30/15	NA	6/30/14	NA	6/30/15	6/30/15	9/15/15	
	Total	3,229,420		Meets Target	NA	✓	✓	✓	✓	✓	✓	✓	✓	

Project Status Report (Sorted by Agency, Year and Project Type)

Project Information			Project Scheduling Information										Notes	
			Category		Design			Environmental		Right-of-Way		IGA Approved		FHWA Author-ization
					Start	60% Plans Started	PS&E Completed	Tech Docs Started	Clearance Approved	Inventory Started	Clearance Approved			
Chandler CHN15-461 (FFY 2015)	Location	City of Chandler	Target Dates			NA	6/30/15	NA	6/30/15	NA	NA	NA	9/30/15	None
	Work	Procure and install 201 traffic signal controllers	Agency Schedule	Initial	NA	NA	9/1/14	6/1/14	9/30/14	6/1/14	9/30/14	NA	10/1/15	
	Project Type	Procurement		Current	NA	NA	9/1/14	6/1/14	9/30/14	6/1/14	9/30/14	NA	10/1/15	
	Design Process	Locally Funded	Schedule Status	Months Ahead	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Environmental Clearance	Group 2, Categorical Exclusion		Months Behind	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	CMAQ	511,766		Expected Date	NA	NA	9/1/14	6/1/14	9/30/14	6/1/14	9/30/14	NA	10/1/15	
	Total	542,700		Meets Target	NA	✓	✓	✓	✓	✓	✓	✓	✓	
El Mirage ELM14-101 (FFY 2015)	Location	Various Arterial Traffic Signals within City of El Mirage	Target Dates			NA	6/30/15	NA	6/30/15	NA	NA	NA	9/30/15	None
	Work	Construct arterial traffic signal enhancements	Agency Schedule	Initial	NA	NA	6/30/15	NA	6/30/15	NA	6/30/15	6/30/15	9/15/15	
	Project Type	Procurement		Current	NA	NA	6/2/14	9/25/13	3/17/14	9/25/13	4/4/14	6/30/14	9/15/15	
	Design Process	Locally Funded	Schedule Status	Months Ahead	0.0	0.0	14.0	0.0	17.0	0.0	16.0	13.0	0.0	
	Environmental Clearance	Group 2, Categorical Exclusion		Months Behind	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	CMAQ	383,495		Expected Date	NA	NA	6/2/14	9/25/13	3/17/14	9/25/13	4/4/14	6/30/14	9/15/15	
	Total	485,300		Meets Target	NA	✓	✓	✓	✓	✓	✓	✓	✓	
Fountain Hills FTH14-101 (FFY 2015)	Location	Shea Blvd. and Downtown Area.	Target Dates			6/1/14	6/30/15	6/1/14	6/30/15	6/1/14	6/30/15	NA	9/30/15	None
	Work	Construct initial deployment of ITS for traffic signals and provide monitoring/control sites at Town Hall and the Street Yard.	Agency Schedule	Initial	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	Project Type	Construction		Current	NA	NA	6/30/15	NA	6/30/15	NA	6/30/15	6/30/15	9/15/15	
	Design Process	Locally Funded	Schedule Status	Months Ahead	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Environmental Clearance			Months Behind	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	CMAQ	922,616		Expected Date	NA	NA	6/30/15	NA	6/30/15	NA	6/30/15	6/30/15	9/15/15	
	Total	1,212,023		Meets Target	NA	✓	✓	✓	✓	✓	✓	✓	✓	

Project Status Report (Sorted by Agency, Year and Project Type)

Project Information			Project Scheduling Information									Notes		
			Category		Design			Environmental		Right-of-Way			IGA Approved	FHWA Author-ization
					Start	60% Plans Started	PS&E Completed	Tech Docs Started	Clearance Approved	Inventory Started	Clearance Approved			
Fountain Hills FTH14-102 (FFY 2014)	Location	Fountain Hills Blvd, Segundo Dr to Pinto Dr	Target Dates			6/1/13	6/30/14	6/1/13	6/30/14	6/1/13	6/30/14	NA	9/30/14	ADOT has indicated that this project may need to be deferred to FY 2015
	Work	Construct/Pave Dirt Shoulders	Agency Schedule	Initial	NA	NA	7/1/14	NA	7/1/13	NA	7/1/14	7/1/14	9/30/14	
	Project Type	Construction		Current	NA	NA	7/1/14	NA	7/1/13	NA	7/1/14	7/1/14	9/30/14	
	Design Process	Locally Funded	Schedule Status	Months Ahead	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Environmental Clearance			Months Behind	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	CMAQ	255,364		Expected Date	NA	NA	7/1/14	NA	7/1/13	NA	7/1/14	7/1/14	9/30/14	
	Total	270,800		Meets Target	NA	✓	✓	✓	✓	✓	✓	✓	✓	
Gilbert GLB13-904 (FFY 2015)	Location	Pecos Rd.-Greenfield to Power Rd, Power Rd-Pecos to Queen Creek Rd, Germann Rd-Power to Sossaman Rd	Target Dates			6/1/14	6/30/15	6/1/14	6/30/15	6/1/14	6/30/15	NA	9/30/15	None
	Work	Install approx. 5 mi. of fiber optic cable and communications equip. to connection the Traffic Operations Centers in Gilbert and Queen Creek.	Agency Schedule	Initial	4/1/14	NA	12/31/14	1/1/14	10/1/14	6/30/15	6/30/15	NA	1/1/15	
	Project Type	Construction		Current	4/1/14	NA	12/31/14	4/1/14	10/1/14	6/30/15	6/30/15	1/1/15	1/1/15	
	Design Process	Locally Funded	Schedule Status	Months Ahead	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Environmental Clearance	Not Determined at this time		Months Behind	0.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	
	CMAQ	137,690		Expected Date	4/1/14	NA	12/31/14	4/1/14	10/1/14	6/30/15	6/30/15	1/1/15	1/1/15	
	Total	196,700		Meets Target	NA	✓	✓	✓	✓	✗	✓	✓	✓	
Gilbert GLB14-102 (FFY 2014)	Location	Seven intersections near Baseline Road & Val Vista Drive (approximately three miles)	Target Dates			6/1/13	6/30/14	6/1/13	6/30/14	6/1/13	6/30/14	NA	9/30/14	None
	Work	Install fiber optic communication lines in existing conduits and add new CCTV cameras, traffic signal video detection, and controllers	Agency Schedule	Initial	10/15	1/1/14	3/1/14	10/15/13	4/1/14	10/15/13	4/1/14	6/30/13	9/1/14	
	Project Type	Construction		Current	10/15	1/1/14	3/1/14	10/15/13	4/1/14	10/15/13	4/1/14	6/30/13	9/1/14	
	Design Process	Federally Funded	Schedule Status	Months Ahead	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Environmental Clearance	Environmental Assessment		Months Behind	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	CMAQ	292,582		Expected Date	10/15/13	1/1/14	3/1/14	10/15/13	4/1/14	10/15/13	4/1/14	6/30/13	9/1/14	
	Total	373,779		Meets Target	NA	✗	✓	✗	✓	✗	✓	✓	✓	

Project Status Report (Sorted by Agency, Year and Project Type)

Project Information			Project Scheduling Information										Notes	
			Category		Design			Environmental		Right-of-Way		IGA Approved		FHWA Author-ization
					Start	60% Plans Started	PS&E Completed	Tech Docs Started	Clearance Approved	Inventory Started	Clearance Approved			
Gilbert GLB12-809 (FFY 2014)	Location	Town of Gilbert	Target Dates			6/1/13	6/30/14	6/1/13	6/30/14	6/1/13	6/30/14	NA	9/30/14	The sponsoring agency has indicated that it cannot obligate the project in FY 2014 and will either request to defer or abandon the project.
	Work	Design and construct bicycle crossings	Agency Schedule	Initial	9/15/14	12/2/13	6/1/14	9/2/13	1/15/14	9/2/13	1/15/14	2/15/14	7/1/14	
	Project Type	Construction		Current	9/15/14	12/2/14	6/1/15	9/2/14	1/15/15	9/2/14	1/15/15	2/15/15	6/30/15	
	Design Process	Locally Funded	Schedule Status	Months Ahead	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Environmental Clearance	Group 2, Categorical Exclusion		Months Behind	0.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	
	CMAQ	490,000		Expected Date	9/15/14	12/2/14	6/1/15	9/2/14	1/15/15	9/2/14	1/15/15	2/15/15	6/30/15	
	Total	700,000		Meets Target	NA	✗	✗	✗	✗	✗	✗	✗	✗	
Gilbert GLB13-902 (FFY 2014)	Location	Consolidated/Ray, Eastern/Williams Field, Powerline/McQueen, Powerline/Val Vista, Powerline/Greenfield, Powerline/Recker	Target Dates			6/1/13	6/30/14	6/1/13	6/30/14	6/1/13	6/30/14	NA	9/30/14	The sponsoring agency has indicated that it cannot obligate the project in FY 2014 and will either request to defer or abandon the project.
	Work	Gilbert Bicycle Crossing Safety and improvement demonstration Phase II Project	Agency Schedule	Initial	9/15/14	12/2/13	6/1/14	9/2/13	1/15/14	9/2/13	1/15/14	2/15/14	7/1/14	
	Project Type	Construction		Current	9/15/14	12/2/14	6/1/15	9/2/14	1/15/15	9/2/14	1/15/15	2/15/15	7/1/15	
	Design Process	Locally Funded	Schedule Status	Months Ahead	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Environmental Clearance	Group 2, Categorical Exclusion		Months Behind	0.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	
	CMAQ	583,000		Expected Date	9/15/14	12/2/14	6/1/15	9/2/14	1/15/15	9/2/14	1/15/15	2/15/15	7/1/15	
	Total	838,000		Meets Target	NA	✗	✗	✗	✗	✗	✗	✗	✗	
Gilbert GLB13-907C (FFY 2015)	Location	Various Mid Block: Consolidated Canal at Baseline Rd, Eastern Canal at Baseline Rd, SRP Powerline at Guadalupe Rd, SRP Powerl	Target Dates			6/1/14	6/30/15	6/1/14	6/30/15	6/1/14	6/30/15	NA	9/30/15	None
	Work	Construct Pedestrian and Bicycle Mid-Block Crossings	Agency Schedule	Initial	9/15/13	4/1/14	3/31/14	9/15/13	11/30/13	9/15/13	4/30/14	4/1/14	11/30/14	
	Project Type	Construction		Current	9/15/13	2/15/14	1/13/15	9/15/13	10/10/14	5/14/14	9/30/14	4/1/14	3/31/15	
	Design Process	Federally Funded	Schedule Status	Months Ahead	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Environmental Clearance	Group 2, Categorical Exclusion		Months Behind	0.0	0.0	10.0	0.0	11.0	9.0	6.0	0.0	4.0	
	STP-TEA	551,970		Expected Date	9/15/13	2/15/14	1/13/15	9/15/13	10/10/14	5/14/14	9/30/14	4/1/14	3/31/15	
	Total	585,334		Meets Target	NA	✓	✓	✓	✓	✓	✓	✓	✓	

Project Status Report (Sorted by Agency, Year and Project Type)

Project Information			Project Scheduling Information										Notes	
			Category		Design			Environmental		Right-of-Way		IGA Approved		FHWA Author-ization
					Start	60% Plans Started	PS&E Completed	Tech Docs Started	Clearance Approved	Inventory Started	Clearance Approved			
Glendale GLN09-610R (FFY 2014)	Location	Glendale Ave to Glenn Dr and 58th Ave to 57th Ave.	Target Dates			6/1/13	6/30/14	6/1/13	6/30/14	6/1/13	6/30/14	NA	9/30/14	None
	Work	Construct Pedestrian Improvements	Agency Schedule	Initial	1/10/11	5/14/11	3/17/14	7/9/11	3/30/14	5/14/11	9/30/11	6/11/12	10/1/14	
	Project Type	Construction		Current	1/10/11	5/14/11	3/17/14	7/9/11	10/14/13	5/14/11	9/30/11	6/11/12	9/15/14	
	Design Process	Locally Funded	Schedule Status	Months Ahead	0.0	0.0	0.0	0.0	6.0	0.0	0.0	0.0	0.0	
	Environmental Clearance	Group 1, Categorical Exclusion		Months Behind	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	CMAQ	315,721		Expected Date	1/10/11	5/14/11	3/17/14	7/9/11	10/14/13	5/14/11	9/30/11	6/11/12	9/15/14	
	Total	553,480		Meets Target	NA	✓	✓	✓	✓	✓	✓	✓	✓	
Glendale GLN08-802C2 (FFY 2014)	Location	Grand Canal in west Glendale, from Loop 101 to New River	Target Dates			6/1/13	6/30/14	6/1/13	6/30/14	6/1/13	6/30/14	NA	9/30/14	Development of draft plans and other documents were delayed due to the FHWA/ADOT decision to not allow self administration. The agency currently has in house 60 percent draft plans and expects to authorize the project in FY 2014.
	Work	Construct multi-use pathway	Agency Schedule	Initial	2/26/09	5/30/11	9/30/13	10/17/09	5/23/11	3/21/10	9/30/13	2/5/14	3/30/14	
	Project Type	Construction		Current	2/26/09	10/24/13	5/16/14	10/17/09	5/23/11	3/21/10	4/11/14	2/5/14	9/15/14	
	Design Process	Locally Funded	Schedule Status	Months Ahead	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Environmental Clearance	Group 2, Categorical Exclusion		Months Behind	0.0	32.0	8.0	0.0	0.0	0.0	7.0	0.0	6.0	
	TA-MAG	132,222		Expected Date	2/26/09	10/24/13	5/16/14	10/17/09	5/23/11	3/21/10	4/11/14	2/5/14	9/15/14	
	Total	140,214		Meets Target	NA	✗	✓	✓	✓	✓	✓	✓	✓	
Glendale GLN12-102D (FFY 2014)	Location	Myrtle Avenue	Target Dates			NA	NA	NA	NA	NA	NA	NA	9/30/14	None
	Work	Design Sidewalk Improvements	Agency Schedule	Initial	12/1/12	12/30/13	9/30/14	6/30/13	6/30/14	6/30/13	6/30/14	12/30/14	9/30/14	
	Project Type	Design		Current	12/1/12	4/30/14	9/30/14	1/2/14	6/30/14	6/30/13	6/30/14	12/1/13	9/15/14	
	Design Process	Federally Funded	Schedule Status	Months Ahead	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.0	0.0	
	Environmental Clearance	None		Months Behind	0.0	4.0	0.0	7.0	0.0	0.0	0.0	0.0	0.0	
	TA-MAG	137,018		Expected Date	12/1/12	4/30/14	9/30/14	1/2/14	6/30/14	6/30/13	6/30/14	12/1/13	9/15/14	
	Total	145,300		Meets Target	NA	✓	✓	✓	✓	✓	✓	✓	✓	

Project Status Report (Sorted by Agency, Year and Project Type)

Project Information			Project Scheduling Information										Notes	
			Category		Design			Environmental		Right-of-Way		IGA Approved		FHWA Author-ization
					Start	60% Plans Started	PS&E Completed	Tech Docs Started	Clearance Approved	Inventory Started	Clearance Approved			
Glendale GLN11-704 (FFY 2014)	Location	Maryland Avenue: 67th-69th & 79th-83rd Avenues	Target Dates			6/1/13	6/30/14	6/1/13	6/30/14	6/1/13	6/30/14	NA	9/30/14	Development of draft plans and other documents were delayed due to the FHWA/ADOT decision to not allow self administration. The agency currently has in house 60 percent draft plans and expects to authorize the project in FY 2014.
	Work	Spot Improvements on Maryland Avenue for Bike Lanes	Agency Schedule	Initial	5/5/10	10/24/13	4/30/14	6/6/11	2/27/12	6/30/10	9/30/13	2/5/14	6/30/14	
	Project Type	Construction		Current	5/5/10	10/24/13	4/30/14	6/6/11	2/27/12	6/30/10	9/30/13	2/5/14	6/30/14	
	Design Process	Locally Funded	Schedule Status	Months Ahead	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Environmental Clearance	Group 2, Categorical Exclusion		Months Behind	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	STP-TEA	369,276		Expected Date	5/5/10	10/24/13	4/30/14	6/6/11	2/27/12	6/30/10	9/30/13	2/5/14	6/30/14	
	Total	391,597	Meets Target		NA	✗	✓	✓	✓	✓	✓	✓	✓	
Goodyear GDY12-801 (FFY 2014)	Location	McDowell Rd: Citrus Rd to PebbleCreek Parkway, and Cotton Lane intersections with Van Buren Street, the I-10 eastbound front	Target Dates			6/1/13	6/30/14	6/1/13	6/30/14	6/1/13	6/30/14	NA	9/30/14	None
	Work	Design and construct fiber-optic interconnection for traffic signals and video	Agency Schedule	Initial	3/1/12	7/1/13	2/1/14	7/3/12	7/1/13	5/11/12	2/1/14	10/1/13	NA	
	Project Type	Construction		Current	3/1/12	10/30/13	2/2/14	7/3/12	1/1/14	5/11/12	12/2/13	10/9/13	NA	
	Design Process	Locally Funded	Schedule Status	Months Ahead	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	
	Environmental Clearance	Group 2, Categorical Exclusion		Months Behind	0.0	4.0	0.0	0.0	7.0	0.0	0.0	0.0	0.0	
	CMAQ	588,809		Expected Date	3/1/12	10/30/13	2/2/14	7/3/12	1/1/14	5/11/12	12/2/13	10/9/13	NA	
	Total	624,400	Meets Target		NA	✗	✓	✓	✓	✓	✓	✓	✓	
Goodyear GDY13-901 (FFY 2014)	Location	Citywide	Target Dates			6/1/13	6/30/14	6/1/13	6/30/14	6/1/13	6/30/14	NA	9/30/14	None
	Work	Design and construction of fiber optic interconnect in existing conduit for traffic management through video surveillance and data collection	Agency Schedule	Initial	12/1/12	8/30/13	6/1/14	2/1/13	12/1/13	2/1/13	3/1/14	10/30/13	8/1/14	
	Project Type	Construction		Current	12/1/12	1/2/14	3/5/14	2/1/13	10/30/13	2/1/13	2/2/14	10/9/13	8/1/14	
	Design Process	Locally Funded	Schedule Status	Months Ahead	0.0	0.0	3.0	0.0	1.0	0.0	1.0	0.0	0.0	
	Environmental Clearance	Group 1, Categorical Exclusion		Months Behind	0.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	CMAQ	700,000		Expected Date	12/1/12	1/2/14	3/5/14	2/1/13	10/30/13	2/1/13	2/2/14	10/9/13	8/1/14	
	Total	742,000	Meets Target		NA	✗	✓	✓	✓	✓	✓	✓	✓	

Project Status Report (Sorted by Agency, Year and Project Type)

Project Information			Project Scheduling Information										Notes	
			Category		Design			Environmental		Right-of-Way		IGA Approved		FHWA Author-ization
					Start	60% Plans Started	PS&E Completed	Tech Docs Started	Clearance Approved	Inventory Started	Clearance Approved			
Goodyear GDY14-101 (FFY 2015)	Location	Van Buren Street - Estrella Parkway to Cotton Lane	Target Dates			6/1/14	6/30/15	6/1/14	6/30/15	6/1/14	6/30/15	NA	9/30/15	None
	Work	Construct traffic signal connection to three existing and one future traffic signal and install CCTV cameras	Agency Schedule	Initial	1/1/13	2/15/15	6/20/15	7/1/14	2/1/15	12/1/13	12/1/14	10/30/14	NA	
	Project Type	Construction		Current	1/1/13	2/15/15	6/20/15	7/1/14	2/1/15	12/1/13	12/1/14	6/1/14	NA	
	Design Process	Locally Funded	Schedule Status	Months Ahead	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0	0.0	
	Environmental Clearance	Group 2, Categorical Exclusion		Months Behind	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	CMAQ	749,164		Expected Date	1/1/13	2/15/15	6/20/15	7/1/14	2/1/15	12/1/13	12/1/14	6/1/14	NA	
	Total	1,000,027		Meets Target	NA	✗	✓	✗	✓	✓	✓	✓	✓	
Goodyear GDY15-461 (FFY 2015)	Location	SR303: McDowell Rd to Camelback	Target Dates			NA	6/30/15	NA	6/30/15	NA	NA	NA	9/30/15	None
	Work	Procure and install fiber and switch hardware	Agency Schedule	Initial	1/1/14	6/1/14	12/1/14	4/1/14	6/1/14	1/1/14	5/1/14	10/30/14	NA	
	Project Type	Procurement		Current	1/1/14	6/1/14	12/1/14	4/1/14	6/1/14	1/1/14	5/1/14	6/1/14	NA	
	Design Process	Locally Funded	Schedule Status	Months Ahead	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0	0.0	
	Environmental Clearance	Group 1, Categorical Exclusion		Months Behind	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	CMAQ	219,876		Expected Date	1/1/14	6/1/14	12/1/14	4/1/14	6/1/14	1/1/14	5/1/14	6/1/14	NA	
	Total	233,167		Meets Target	NA	✓	✓	✓	✓	✓	✓	✓	✓	
Maricopa County MMA14-101 (FFY 2014)	Location	Associated with AZTech Center-to-Center traffic management system located primarily at ADOT and MCDOT	Target Dates			NA	6/30/14	NA	6/30/14	NA	NA	NA	9/30/14	None
	Work	Upgrade the Regional Archive Data Center Equipment and Systems to enhance archiving capacity and the utility of real time traffic data.	Agency Schedule	Initial	NA	NA	4/20/14	10/1/13	3/31/14	NA	12/31/13	NA	6/30/14	
	Project Type	Procurement		Current	NA	NA	4/20/14	1/1/14	3/31/14	NA	3/31/14	NA	6/30/14	
	Design Process	Locally Funded	Schedule Status	Months Ahead	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Environmental Clearance	Group 1, Categorical Exclusion		Months Behind	0.0	0.0	0.0	4.0	0.0	0.0	3.0	0.0	0.0	
	CMAQ	125,937		Expected Date	NA	NA	4/20/14	1/1/14	3/31/14	NA	3/31/14	NA	6/30/14	
	Total	184,437		Meets Target	NA	✓	✓	✓	✓	✓	✓	✓	✓	

Project Status Report (Sorted by Agency, Year and Project Type)

Project Information			Project Scheduling Information										Notes	
			Category		Design			Environmental		Right-of-Way		IGA Approved		FHWA Author-ization
					Start	60% Plans Started	PS&E Completed	Tech Docs Started	Clearance Approved	Inventory Started	Clearance Approved			
Maricopa County MMA14-102 (FFY 2014)	Location	Various locations along MCR85 from Aqua Fria Bridge West Terminal to 75th Ave	Target Dates			6/1/13	6/30/14	6/1/13	6/30/14	6/1/13	6/30/14	NA	9/30/14	None
	Work	Construct/Install ITS traffic management capabilities along MC 85	Agency Schedule	Initial	3/1/12	1/2/13	6/30/14	7/1/13	12/31/13	10/1/12	6/30/14	NA	6/30/14	
	Project Type	Construction		Current	3/1/12	1/2/13	6/30/14	7/1/13	5/1/14	10/1/12	6/30/14	NA	6/30/14	
	Design Process	Locally Funded	Schedule Status	Months Ahead	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Environmental Clearance	Not Determined at this time		Months Behind	0.0	0.0	0.0	0.0	4.0	0.0	0.0	0.0	0.0	
	CMAQ	781,456		Expected Date	3/1/12	1/2/13	6/30/14	7/1/13	5/1/14	10/1/12	6/30/14	NA	6/30/14	
	Total	1,144,456		Meets Target	NA	✓	✓	✗	✓	✓	✓	✓	✓	
Maricopa County MMA14-103 (FFY 2015)	Location	Various Low Volume Roads	Target Dates			6/1/14	6/30/15	6/1/14	6/30/15	6/1/14	6/30/15	NA	9/30/15	None
	Work	Construct/Pave Dirt Roads	Agency Schedule	Initial	NA	6/20/13	10/17/14	6/20/13	1/31/14	6/20/13	6/1/15	NA	6/30/15	
	Project Type	Construction		Current	NA	6/20/13	10/17/14	6/20/13	1/31/14	6/20/13	6/1/15	NA	9/1/15	
	Design Process	Federally Funded	Schedule Status	Months Ahead	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Environmental Clearance			Months Behind	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	
	CMAQ	1,117,455		Expected Date	NA	6/20/13	10/17/14	6/20/13	1/31/14	6/20/13	6/1/15	NA	9/1/15	
	Total	1,185,000		Meets Target	NA	✓	✓	✓	✓	✓	✓	✓	✓	
Maricopa County MMA15-434C (FFY 2015)	Location	New River Area	Target Dates			6/1/14	6/30/15	6/1/14	6/30/15	6/1/14	6/30/15	NA	9/30/15	None
	Work	Pave seven locations (Phase I)	Agency Schedule	Initial	NA	6/20/13	10/17/14	6/20/13	1/31/14	6/20/13	6/1/15	NA	6/30/15	
	Project Type	Construction		Current	NA	6/20/13	10/17/14	6/20/13	4/28/14	6/20/13	6/1/15	NA	6/30/15	
	Design Process	Federally Funded	Schedule Status	Months Ahead	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Environmental Clearance	Not Determined at this time		Months Behind	0.0	0.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	
	CMAQ	1,072,645		Expected Date	NA	6/20/13	10/17/14	6/20/13	4/28/14	6/20/13	6/1/15	NA	6/30/15	
	Total	1,137,481		Meets Target	NA	✓	✓	✓	✓	✓	✓	✓	✓	

Project Status Report (Sorted by Agency, Year and Project Type)

Project Information			Project Scheduling Information										Notes	
			Category		Design			Environmental		Right-of-Way		IGA Approved		FHWA Author-ization
					Start	60% Plans Started	PS&E Completed	Tech Docs Started	Clearance Approved	Inventory Started	Clearance Approved			
Maricopa County MMA15-436C (FFY 2015)	Location	Rockaway Hills Drive, beginning of Maintenance to End of Maintenance	Target Dates			6/1/14	6/30/15	6/1/14	6/30/15	6/1/14	6/30/15	NA	9/30/15	None
	Work	Pave dirt road	Agency Schedule	Initial	NA	6/20/13	10/17/14	6/20/13	1/31/14	6/20/13	6/1/15	NA	6/30/15	
	Project Type	Construction		Current	NA	6/20/13	10/17/14	6/20/13	4/28/14	6/20/13	6/1/15	NA	6/30/15	
	Design Process	Federally Funded	Schedule Status	Months Ahead	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Environmental Clearance	Not Determined at this time		Months Behind	0.0	0.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	
	CMAQ	235,750		Expected Date	NA	6/20/13	10/17/14	6/20/13	4/28/14	6/20/13	6/1/15	NA	6/30/15	
	Total	250,000		Meets Target	NA	✓	✓	✓	✓	✓	✓	✓	✓	
Maricopa County MMA15-441C (FFY 2015)	Location	McDowell Rd: 76th St to Usery Pass Rd	Target Dates			6/1/14	6/30/15	6/1/14	6/30/15	6/1/14	6/30/15	NA	9/30/15	None
	Work	Construct bike lanes	Agency Schedule	Initial	NA	3/22/12	2/7/14	9/30/13	3/30/14	4/12/13	7/27/14	NA	10/30/14	
	Project Type	Construction		Current	NA	3/22/12	2/7/14	9/30/13	3/30/14	4/12/13	7/27/14	NA	10/30/14	
	Design Process	Locally Funded	Schedule Status	Months Ahead	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Environmental Clearance	Not Determined at this time		Months Behind	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	CMAQ	556,747		Expected Date	NA	3/22/12	2/7/14	9/30/13	3/30/14	4/12/13	7/27/14	NA	10/30/14	
	Total	628,667		Meets Target	NA	✓	✓	✓	✓	✓	✓	✓	✓	
Maricopa County MMA15-461 (FFY 2015)	Location	Bell Road	Target Dates			NA	6/30/15	NA	6/30/15	NA	NA	NA	9/30/15	None
	Work	Bell Road Adaptive Signal Control Technology (ASCT) Deployment	Agency Schedule	Initial	NA	NA	3/31/15	12/2/13	6/30/14	7/1/13	2/27/15	NA	4/30/15	
	Project Type	Procurement		Current	NA	NA	3/31/15	12/2/13	6/30/14	7/1/13	2/27/15	NA	6/30/15	
	Design Process	Federally Funded	Schedule Status	Months Ahead	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Environmental Clearance	Group 1, Categorical Exclusion		Months Behind	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	
	CMAQ	2,315,065		Expected Date	NA	NA	3/31/15	12/2/13	6/30/14	7/1/13	2/27/15	NA	6/30/15	
	Total	2,455,000		Meets Target	NA	✓	✓	✓	✓	✓	✓	✓	✓	

Project Status Report (Sorted by Agency, Year and Project Type)

Project Information			Project Scheduling Information										Notes	
			Category		Design			Environmental		Right-of-Way		IGA Approved		FHWA Author-ization
					Start	60% Plans Started	PS&E Completed	Tech Docs Started	Clearance Approved	Inventory Started	Clearance Approved			
Mesa MES12-814 (FFY 2014)	Location	Fiesta Paseo Nodes on Southern Avenue between Alma School and Dobson Road	Target Dates			6/1/13	6/30/14	6/1/13	6/30/14	6/1/13	6/30/14	NA	9/30/14	None
	Work	Construct pedestrian refuge and shelters for the Fiesta Pathway	Agency Schedule	Initial	NA	7/1/12	5/5/14	1/1/14	8/30/13	7/1/12	1/1/14	NA	6/1/14	
	Project Type	Construction		Current	NA	6/19/12	5/5/14	7/15/13	8/23/13	6/19/13	5/5/14	NA	6/1/14	
	Design Process	Locally Funded	Schedule Status	Months Ahead	0.0	0.0	0.0	6.0	0.0	0.0	0.0	0.0	0.0	
	Environmental Clearance	Group 2, Categorical Exclusion		Months Behind	0.0	0.0	0.0	0.0	0.0	13.0	4.0	0.0	0.0	
	CMAQ	998,870		Expected Date	NA	6/19/12	5/5/14	7/15/13	8/23/13	6/19/13	5/5/14	NA	6/1/14	
	Total	1,426,957		Meets Target	NA	✓	✓	✗	✓	✗	✓	✓	✓	
Mesa MES11-111C2 (FFY 2014)	Location	Porter Park Pathway: Mesa Drive and 8th Street near the vicinity of Kino Junior High	Target Dates			6/1/13	6/30/14	6/1/13	6/30/14	6/1/13	6/30/14	NA	9/30/14	The sponsoring agency has requested to defer the project to FY 2015. The project has not previously been deferred.
	Work	Construct paved shared use path	Agency Schedule	Initial	1/31/11	8/21/13	5/5/14	7/3/13	2/15/13	6/12/13	5/5/14	NA	6/1/14	
	Project Type	Construction		Current	1/31/11	8/6/13	7/25/14	2/3/14	4/18/14	6/12/13	5/30/14	NA	8/29/14	
	Design Process	Federally Funded	Schedule Status	Months Ahead	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Environmental Clearance	Group 2, Categorical Exclusion		Months Behind	0.0	0.0	3.0	8.0	16.0	0.0	1.0	0.0	3.0	
	TA-MAG	1,358,348		Expected Date	1/31/11	8/6/13	7/25/14	2/3/14	4/18/14	6/12/13	5/30/14	NA	8/29/14	
	Total	1,440,454		Meets Target	NA	✗	✗	✗	✓	✗	✓	✓	✓	
Mesa MES15-441C (FFY 2015)	Location	Rio Salado Pathway Segment 3	Target Dates			6/1/14	6/30/15	6/1/14	6/30/15	6/1/14	6/30/15	NA	9/30/15	None
	Work	Construct multi-use pathway	Agency Schedule	Initial	12/16	9/23/13	5/31/14	9/23/13	4/16/14	NA	4/25/14	3/31/14	6/30/14	
	Project Type	Construction		Current	12/16	5/12/14	9/30/14	2/3/14	3/24/14	12/16/13	3/10/14	8/29/14	10/15/14	
	Design Process	Federally Funded	Schedule Status	Months Ahead	0.0	0.0	0.0	0.0	1.0	0.0	2.0	0.0	0.0	
	Environmental Clearance	Group 2, Categorical Exclusion		Months Behind	0.0	8.0	4.0	5.0	0.0	0.0	0.0	6.0	4.0	
	CMAQ	999,999		Expected Date	12/16/13	5/12/14	9/30/14	2/3/14	3/24/14	12/16/13	3/10/14	8/29/14	10/15/14	
	Total	1,199,594		Meets Target	NA	✓	✓	✓	✓	✓	✓	✓	✓	

Project Status Report (Sorted by Agency, Year and Project Type)

Project Information			Project Scheduling Information										Notes	
			Category		Design			Environmental		Right-of-Way		IGA Approved		FHWA Author-ization
					Start	60% Plans Started	PS&E Completed	Tech Docs Started	Clearance Approved	Inventory Started	Clearance Approved			
Mesa MES15-461 (FFY 2015)	Location	City of Mesa (Citywide)	Target Dates			NA	6/30/15	NA	6/30/15	NA	NA	NA	9/30/15	None
	Work	Procure: Radio Communications Upgrade	Agency Schedule	Initial	NA	NA	5/18/15	10/13/14	3/2/15	NA	6/30/15	NA	6/1/15	
	Project Type	Procurement		Current	NA	NA	5/18/15	6/1/14	10/1/14	1/15/14	10/1/14	NA	12/31/14	
	Design Process	Locally Funded	Schedule Status	Months Ahead	0.0	0.0	0.0	5.0	5.0	0.0	10.0	0.0	5.0	
	Environmental Clearance	Group 1, Categorical Exclusion		Months Behind	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	CMAQ	233,864		Expected Date	NA	NA	5/18/15	6/1/14	10/1/14	1/15/14	10/1/14	NA	12/31/14	
	Total	248,000		Meets Target	NA	✓	✓	✓	✓	✓	✓	✓	✓	
Peoria PEO13-102 (FFY 2015)	Location	Lake Pleasant Parkway: L303 to SR74	Target Dates			6/1/14	6/30/15	6/1/14	6/30/15	6/1/14	6/30/15	NA	9/30/15	None
	Work	Pave Unpaved Shoulders	Agency Schedule	Initial	7/1/12	5/1/14	3/1/15	8/30/13	5/1/14	6/1/12	3/1/14	10/1/13	6/2/14	
	Project Type	Construction		Current	7/1/12	12/1/14	4/1/15	8/30/13	12/1/14	6/1/12	12/1/14	4/1/14	6/2/15	
	Design Process	Locally Funded	Schedule Status	Months Ahead	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Environmental Clearance	Group 2, Categorical Exclusion		Months Behind	0.0	7.0	1.0	0.0	7.0	0.0	7.0	7.0	12.0	
	CMAQ	401,983		Expected Date	7/1/12	12/1/14	4/1/15	8/30/13	12/1/14	6/1/12	12/1/14	4/1/14	6/2/15	
	Total	426,281		Meets Target	NA	✓	✓	✓	✓	✓	✓	✓	✓	
Peoria PEO13-901 (FFY 2014)	Location	83rd Ave: Lone Cactus and continuing north to Jomax Rd	Target Dates			NA	6/30/14	NA	6/30/14	NA	NA	NA	9/30/14	None
	Work	Install conduit, pull boxes, fiber, and CCTV cameras	Agency Schedule	Initial	9/1/12	3/1/13	9/1/13	1/1/13	1/1/14	9/1/13	5/1/14	8/1/13	7/1/14	
	Project Type	Procurement		Current	9/1/12	3/1/13	9/1/13	1/1/13	1/1/14	9/1/13	5/1/14	8/1/13	7/1/14	
	Design Process	Locally Funded	Schedule Status	Months Ahead	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Environmental Clearance	Group 2, Categorical Exclusion		Months Behind	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	CMAQ	700,000		Expected Date	9/1/12	11/1/13	4/1/14	1/1/13	4/1/14	9/1/13	5/1/14	4/1/13	7/1/14	
	Total	1,000,000		Meets Target	NA	✓	✓	✓	✓	✓	✓	✓	✓	

Project Status Report (Sorted by Agency, Year and Project Type)

Project Information			Project Scheduling Information										Notes	
			Category		Design			Environmental		Right-of-Way		IGA Approved		FHWA Author-ization
					Start	60% Plans Started	PS&E Completed	Tech Docs Started	Clearance Approved	Inventory Started	Clearance Approved			
Peoria PEO13-902 (FFY 2014)	Location	New River Pathway, Northern Ave and Olive Ave	Target Dates			6/1/13	6/30/14	6/1/13	6/30/14	6/1/13	6/30/14	NA	9/30/14	None
	Work	Construct Olive to Northern multi-use path with extension to connect to Glendale path at Northern	Agency Schedule	Initial	6/25/12	4/29/13	1/27/14	7/30/12	7/31/13	NA	11/20/13	5/1/12	3/31/14	
	Project Type	Construction		Current	6/25/12	4/29/13	1/27/14	7/30/12	7/31/13	NA	11/20/13	5/1/12	3/31/14	
	Design Process	Federally Funded	Schedule Status	Months Ahead	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Environmental Clearance	Group 1, Categorical Exclusion		Months Behind	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	CMAQ	700,000		Expected Date	6/25/12	10/1/13	4/1/14	7/30/12	3/1/14	NA	3/1/14	6/1/12	6/1/14	
	Total	742,312		Meets Target	NA	✓	✓	✓	✓	✓	✓	✓	✓	
Peoria PEO14-101 (FFY 2014)	Location	Three Corridors: Peoria Ave, Northern Ave, and Olive Ave	Target Dates			NA	6/30/14	NA	6/30/14	NA	NA	NA	9/30/14	None
	Work	Upgrade the existing cabinets, traffic controllers, existing loop detection to video detection, and hardware and software	Agency Schedule	Initial	NA	NA	7/1/13	9/1/12	9/1/13	5/1/13	10/1/13	10/1/13	7/1/14	
	Project Type	Procurement		Current	NA	NA	7/1/13	9/1/12	9/1/13	5/1/13	10/1/13	10/1/13	7/1/14	
	Design Process	Locally Funded	Schedule Status	Months Ahead	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Environmental Clearance	Group 1, Categorical Exclusion		Months Behind	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	CMAQ	645,831		Expected Date	8/1/13	NA	4/1/14	8/1/13	4/1/14	8/1/14	4/1/14	1/1/13	7/1/14	
	Total	859,616		Meets Target	NA	✓	✓	✓	✓	✓	✓	✓	✓	
Peoria PEO13-903C2 (FFY 2014)	Location	New River Pathway, Northern Ave and Olive Ave	Target Dates			6/1/13	6/30/14	6/1/13	6/30/14	6/1/13	6/30/14	6/1/12	9/30/14	None
	Work	Construct multi-use path	Agency Schedule	Initial	6/25/12	4/29/13	1/27/14	7/30/12	7/31/13	NA	11/20/13	6/1/12	3/31/14	
	Project Type	Construction		Current	6/25/12	4/29/13	1/27/14	7/30/12	7/31/13	NA	11/20/13	NA	3/31/14	
	Design Process	Locally Funded	Schedule Status	Months Ahead	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Environmental Clearance	None		Months Behind	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	TA-MAG	188,600		Expected Date	6/25/12	10/1/13	4/1/14	7/30/12	3/1/14	NA	3/1/14	6/1/12	6/1/14	
	Total	200,000		Meets Target	NA	✓	✓	✓	✓	✓	✓	✓	✓	

Project Status Report (Sorted by Agency, Year and Project Type)

Project Information			Project Scheduling Information										Notes	
			Category		Design			Environmental		Right-of-Way		IGA Approved		FHWA Author-ization
					Start	60% Plans Started	PS&E Completed	Tech Docs Started	Clearance Approved	Inventory Started	Clearance Approved			
Peoria PEO13-902c2 (FFY 2014)	Location	New River Pathway, Northern Ave and Olive Ave	Target Dates			6/1/13	6/30/14	6/1/13	6/30/14	6/1/13	6/30/14	NA	9/30/14	None
	Work	Construct Olive to Northern multi-use path with extension to connect to Glendale path at Northern	Agency Schedule	Initial	6/25/12	4/29/13	1/27/14	7/30/12	7/31/13	NA	11/20/13	5/1/12	3/31/14	
	Project Type	Construction		Current	6/25/12	4/29/13	1/27/14	7/30/12	7/31/13	NA	11/20/13	5/1/12	3/31/14	
	Design Process	Federally Funded	Schedule Status	Months Ahead	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Environmental Clearance	Group 1, Categorical Exclusion		Months Behind	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	STP-TEA	250,000		Expected Date	6/25/12	10/1/13	4/1/14	7/30/12	7/31/13	NA	3/1/14	6/1/12	6/1/14	
	Total	442,577		Meets Target	NA	✓	✓	✓	✓	✓	✓	✓	✓	
Phoenix PHX13-901 (FFY 2015)	Location	Nevitt Park and Western Canal (northwest of 46th St and Vineyard Rd)	Target Dates			6/1/14	6/30/15	6/1/14	6/30/15	6/1/14	6/30/15	NA	9/30/15	None
	Work	Nevitt park Bicycle & Pedestrian Bridge Crossing: Construction Phase	Agency Schedule	Initial	10/1/12	5/1/13	6/30/15	10/1/13	6/30/14	3/1/13	6/30/15	NA	9/15/15	
	Project Type	Construction		Current	10/1/12	5/1/13	6/30/15	10/1/13	6/30/14	3/1/13	6/30/15	NA	9/15/15	
	Design Process	Federally Funded	Schedule Status	Months Ahead	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Environmental Clearance	Group 2, Categorical Exclusion		Months Behind	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	CMAQ	300,395		Expected Date	10/1/12	5/1/13	6/30/15	10/1/13	6/30/14	3/1/13	6/30/15	NA	9/15/15	
	Total	478,500		Meets Target	NA	✓	✓	✓	✓	✓	✓	✓	✓	
Phoenix PHX14-101 (FFY 2015)	Location	Indian School Road: Grand Canal to 16th Street	Target Dates			6/1/14	6/30/15	6/1/14	6/30/15	6/1/14	6/30/15	NA	9/30/15	None
	Work	Construct a 10' wide multi-use pathway; and a pre-fabricated multi-use bridge over the Grand Canal.	Agency Schedule	Initial	5/1/12	9/27/13	10/1/14	7/29/13	3/1/14	3/1/14	10/1/14	NA	2/1/15	
	Project Type	Construction		Current	5/1/12	9/27/13	10/1/14	7/29/13	3/1/14	3/1/14	10/1/14	NA	2/1/15	
	Design Process	Federally Funded	Schedule Status	Months Ahead	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Environmental Clearance	Group 2, Categorical Exclusion		Months Behind	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	CMAQ	873,422		Expected Date	5/1/12	9/27/13	10/1/14	7/29/13	3/1/14	3/1/14	10/1/14	NA	2/1/15	
	Total	1,043,746		Meets Target	NA	✓	✓	✓	✓	✓	✓	✓	✓	

Project Status Report (Sorted by Agency, Year and Project Type)

Project Information			Project Scheduling Information										Notes	
			Category		Design			Environmental		Right-of-Way		IGA Approved		FHWA Author-ization
					Start	60% Plans Started	PS&E Completed	Tech Docs Started	Clearance Approved	Inventory Started	Clearance Approved			
Phoenix PHX14-103 (FFY 2014)	Location	Fiber Optic Backbone Expansion Phase B	Target Dates			NA	6/30/14	NA	6/30/14	NA	NA	NA	9/30/14	None
	Work	To extend Phase B Fiber Optic Backbone, To provide Traffic Signal Interconnect to the City of Phoenix TMC	Agency Schedule	Initial	10/1/13	8/1/13	4/30/14	12/1/13	7/17/12	NA	6/30/14	NA	6/30/14	
	Project Type	Procurement		Current	10/1/13	1/6/14	6/30/14	12/1/13	7/17/12	NA	3/21/14	NA	9/15/14	
	Design Process	Locally Funded	Schedule Status	Months Ahead	0.0	0.0	0.0	0.0	0.0	0.0	4.0	0.0	0.0	
	Environmental Clearance	Group 2, Categorical Exclusion		Months Behind	0.0	6.0	2.0	0.0	0.0	0.0	0.0	0.0	3.0	
	CMAQ	754,700		Expected Date	10/1/13	1/6/14	6/30/14	12/1/13	7/17/12	NA	3/21/14	NA	9/15/14	
	Total	978,143		Meets Target	NA	✓	✓	✓	✓	✓	✓	✓	✓	
Phoenix PHX14-104 (FFY 2014)	Location	Various Alleys	Target Dates			6/1/13	6/30/14	6/1/13	6/30/14	6/1/13	6/30/14	NA	9/30/14	The environmental clearance for this project has been streamlined and uses a Condensed Environmental Clearance
	Work	Construct/Pave Dirt Alleys	Agency Schedule	Initial	1/1/14	NA	7/1/14	NA	5/1/14	2/12/12	6/1/14	NA	8/1/14	
	Project Type	Construction		Current	1/1/14	NA	7/1/14	NA	5/1/14	2/12/12	6/1/14	NA	8/1/14	
	Design Process	Locally Funded	Schedule Status	Months Ahead	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Environmental Clearance	Group 2, Categorical Exclusion		Months Behind	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	CMAQ	1,033,934		Expected Date	1/1/14	NA	7/1/14	NA	5/1/14	2/12/12	6/1/14	NA	8/1/14	
	Total	1,633,934		Meets Target	NA	✓	✓	✓	✓	✓	✓	✓	✓	
Phoenix PHX13-901D (FFY 2014)	Location	Nevitt Park and Western Canal (northwest of 46th St and Vineyard Rd)	Target Dates			NA	NA	NA	NA	NA	NA	NA	9/30/14	None
	Work	Nevitt park Bicycle & Pedestrian Bridge Crossing: Design Phase.	Agency Schedule	Initial	NA	NA	NA	NA	NA	NA	NA	NA	10/15/13	
	Project Type	Design		Current	NA	NA	NA	NA	NA	NA	NA	NA	6/1/14	
	Design Process	Federally Funded	Schedule Status	Months Ahead	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Environmental Clearance	Not Applicable		Months Behind	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.0	
	CMAQ	188,600		Expected Date	NA	NA	NA	NA	NA	NA	NA	NA	6/1/14	
	Total	235,000		Meets Target	NA	✓	✓	✓	✓	✓	✓	✓	✓	

Project Status Report (Sorted by Agency, Year and Project Type)

Project Information			Project Scheduling Information									Notes		
			Category		Design			Environmental		Right-of-Way			IGA Approved	FHWA Author-ization
					Start	60% Plans Started	PS&E Completed	Tech Docs Started	Clearance Approved	Inventory Started	Clearance Approved			
Phoenix PHX13-901RW (FFY 2015)	Location	Nevitt Park and Western Canal (northwest of 46th St and Vineyard Rd)	Target Dates		6/1/14	6/30/15	6/1/14	6/30/15	6/1/14	6/30/15	NA	9/30/15	None	
	Work	Nevitt park Bicycle & Pedestrian Bridge Crossing: ROW Phase	Agency Schedule	Initial	10/1/12	5/1/13	6/30/15	10/1/13	6/30/14	3/1/13	6/30/15	NA		9/15/15
	Project Type	Construction		Current	10/1/12	5/1/13	6/30/15	10/1/13	6/30/14	3/1/13	6/30/15	NA		9/15/15
	Design Process	Federally Funded	Schedule Status	Months Ahead	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
	Environmental Clearance	Group 2, Categorical Exclusion		Months Behind	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
	CMAQ	26,826		Expected Date	10/1/12	5/1/13	6/30/15	10/1/13	6/30/14	3/1/13	6/30/15	NA		9/15/15
	Total	46,075		Meets Target	NA	✓	✓	✓	✓	✓	✓	✓		✓
Phoenix PHX15-431C (FFY 2015)	Location	Phoenix Citywide Alleys	Target Dates		6/1/14	6/30/15	6/1/14	6/30/15	6/1/14	6/30/15	NA	9/30/15	None	
	Work	Dust-Proof Unstabilized Alleys	Agency Schedule	Initial	1/1/14	NA	6/30/15	1/30/14	6/30/15	1/30/14	6/30/15	NA		9/15/15
	Project Type	Construction		Current	1/1/14	NA	6/30/15	1/30/14	6/1/15	1/30/14	6/15/15	NA		8/1/15
	Design Process	Federally Funded	Schedule Status	Months Ahead	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0		2.0
	Environmental Clearance	Group 2, Categorical Exclusion		Months Behind	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
	CMAQ	1,232,662		Expected Date	1/1/14	NA	6/30/15	1/30/14	6/1/15	1/30/14	6/15/15	NA		8/1/15
	Total	1,472,662		Meets Target	NA	✓	✓	✓	✓	✓	✓	✓		✓
Phoenix PHX15-441C (FFY 2015)	Location	Roosevelt Street	Target Dates		6/1/14	6/30/15	6/1/14	6/30/15	6/1/14	6/30/15	NA	9/30/15	None	
	Work	Construct bike and pedestrian improvements.	Agency Schedule	Initial	1/1/14	3/15/14	6/1/15	5/2/14	3/1/15	6/30/14	6/15/15	NA		6/25/15
	Project Type	Construction		Current	1/1/14	NA	8/1/14	1/1/14	6/30/14	NA	10/1/14	NA		10/1/14
	Design Process	Federally Funded	Schedule Status	Months Ahead	0.0	0.0	11.0	4.0	8.0	0.0	9.0	0.0		10.0
	Environmental Clearance	Not Determined at this time		Months Behind	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
	CMAQ	750,260		Expected Date	1/1/14	NA	8/1/14	1/1/14	6/30/14	NA	10/1/14	NA		10/1/14
	Total	795,610		Meets Target	NA	✓	✓	✓	✓	✓	✓	✓		✓

Project Status Report (Sorted by Agency, Year and Project Type)

Project Information			Project Scheduling Information										Notes	
			Category		Design			Environmental		Right-of-Way		IGA Approved		FHWA Author-ization
					Start	60% Plans Started	PS&E Completed	Tech Docs Started	Clearance Approved	Inventory Started	Clearance Approved			
Phoenix PHX15-446C (FFY 2015)	Location	Regional Bike Share	Target Dates			NA	6/30/15	NA	6/30/15	NA	NA	NA	9/30/15	None
	Work	Implementation of Regional Bike Share	Agency Schedule	Initial	10/1/14	NA	5/1/15	5/1/14	1/1/15	6/30/14	5/15/15	NA	6/15/15	
	Project Type	Procurement		Current	10/1/14	NA	3/30/15	2/1/14	6/15/13	6/15/14	6/30/15	NA	7/1/15	
	Design Process	Locally Funded	Schedule Status	Months Ahead	0.0	0.0	1.0	3.0	20.0	0.0	0.0	0.0	0.0	
	Environmental Clearance	Not Determined at this time		Months Behind	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	1.0	
	CMAQ	1,414,500		Expected Date	10/1/14	NA	3/30/15	2/1/14	6/15/13	6/15/14	6/30/15	NA	7/1/15	
	Total	1,500,000	Meets Target		NA	✓	✓	✓	✓	✓	✓	✓	✓	
Phoenix PHX15-461 (FFY 2015)	Location	Phoenix (Various)	Target Dates			NA	6/30/15	NA	6/30/15	NA	NA	NA	9/30/15	None
	Work	Procure and install Dynamic Message Signs - 7th Ave, Camelback Road, McDowell Road	Agency Schedule	Initial	1/6/14	12/31/13	6/30/14	9/30/13	6/30/14	NA	6/30/14	NA	6/30/15	
	Project Type	Procurement		Current	1/6/14	5/12/14	1/9/15	1/6/14	6/30/14	NA	6/30/14	NA	6/30/15	
	Design Process	Locally Funded	Schedule Status	Months Ahead	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Environmental Clearance	Group 1, Categorical Exclusion		Months Behind	0.0	5.0	7.0	4.0	0.0	0.0	0.0	0.0	0.0	
	CMAQ	854,811		Expected Date	1/6/14	5/12/14	1/9/15	1/6/14	6/30/14	NA	6/30/14	NA	6/30/15	
	Total	906,481	Meets Target		NA	✓	✓	✓	✓	✓	✓	✓	✓	
Phoenix PHX15-463 (FFY 2015)	Location	City of Phoenix (Various)	Target Dates			NA	6/30/15	NA	6/30/15	NA	NA	NA	9/30/15	None
	Work	Procure, install, and provision traffic monitoring cameras	Agency Schedule	Initial	1/6/14	1/1/14	7/31/14	9/15/13	6/30/15	NA	9/1/14	NA	6/30/15	
	Project Type	Procurement		Current	1/6/14	5/12/14	1/9/15	1/6/14	6/30/14	NA	6/30/14	NA	6/30/15	
	Design Process	Locally Funded	Schedule Status	Months Ahead	0.0	0.0	0.0	0.0	13.0	0.0	2.0	0.0	0.0	
	Environmental Clearance	Group 1, Categorical Exclusion		Months Behind	0.0	5.0	6.0	4.0	0.0	0.0	0.0	0.0	0.0	
	CMAQ	730,891		Expected Date	1/6/14	5/12/14	1/9/15	1/6/14	6/30/14	NA	6/30/14	NA	6/30/15	
	Total	776,379	Meets Target		NA	✓	✓	✓	✓	✓	✓	✓	✓	

Project Status Report (Sorted by Agency, Year and Project Type)

Project Information			Project Scheduling Information										Notes	
			Category		Design			Environmental		Right-of-Way		IGA Approved		FHWA Author-ization
					Start	60% Plans Started	PS&E Completed	Tech Docs Started	Clearance Approved	Inventory Started	Clearance Approved			
Queen Creek QNC13-901C (FFY 2014)	Location	Ellsworth Rd and Queen Creek Wash to Chandler Heights Blvd. and Queen Creek Wash.	Target Dates			6/1/13	6/30/14	6/1/13	6/30/14	6/1/13	6/30/14	NA	9/30/14	This project is linked to the following TEA funded project (QNC12-100). It is anticipated that the TEA funded project will not be able to authorize in FY 2014 due to funding issues. For reasons beyond the control of the sponsoring agency the CMAQ funded will need to be deferred to FY 2015.
	Work	Queen Creek Wash and South Bank Paved Path	Agency Schedule	Initial	7/1/12	1/1/14	5/1/14	11/15/12	1/1/14	11/15/12	9/1/14	1/1/13	6/30/14	
	Project Type	Construction		Current	7/1/12	1/1/14	5/1/14	11/15/12	1/1/14	11/15/12	9/1/14	1/1/13	6/30/14	
	Design Process	Federally Funded	Schedule Status	Months Ahead	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Environmental Clearance	Group 2, Categorical Exclusion		Months Behind	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	CMAQ	525,000		Expected Date	7/1/12	1/1/14	5/1/14	11/15/12	1/1/14	11/15/12	9/1/14	1/1/13	6/30/14	
	Total	635,000		Meets Target	NA	✗	✓	✓	✓	✓	✗	✓	✓	
Queen Creek QNC12-100 (FFY 2014)	Location	North Bank Queen Creek Wash: Hawes Rd and Ellsworth	Target Dates			6/1/13	6/30/14	6/1/13	6/30/14	6/1/13	6/30/14	NA	9/30/14	ADOT has indicated that it does not have sufficient TEA funding to authorize this project this fiscal year. It is anticipated that this project will be deferred to FY 2015.
	Work	Construct a one mile 8' wide multi-use path	Agency Schedule	Initial	8/1/13	8/1/13	NA	1/1/14	NA	NA	NA	NA	NA	
	Project Type	Construction		Current	8/1/13	1/1/14	6/30/14	8/1/13	2/1/14	NA	NA	NA	NA	
	Design Process	Locally Funded	Schedule Status	Months Ahead	0.0	0.0	0.0	5.0	0.0	0.0	0.0	0.0	0.0	
	Environmental Clearance	Group 2, Categorical Exclusion		Months Behind	0.0	6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	STP-TEA	486,926		Expected Date	8/1/13	1/1/14	6/30/14	8/1/13	2/1/14	NA	NA	NA	NA	
	Total	516,358		Meets Target	NA	✗	✓	✗	✓	✓	✓	✓	✓	
Salt River Pima-Maricopa Indian Community SRP12-801C (FFY 2015)	Location	Pave Dirt Roads: Center Rd, Mesa Dr, McDonald, and Alma School	Target Dates			6/1/14	6/30/15	6/1/14	6/30/15	6/1/14	6/30/15	NA	9/30/15	None
	Work	Construct: Pave Unpaved Road	Agency Schedule	Initial	11/15	7/1/13	8/1/14	8/1/12	6/30/13	7/28/11	7/1/15	12/1/11	7/1/15	
	Project Type	Construction		Current	11/15	7/1/13	10/1/14	8/1/12	6/30/13	7/28/11	6/30/15	6/30/15	7/1/15	
	Design Process	Federally Funded	Schedule Status	Months Ahead	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Environmental Clearance	Group 2, Categorical Exclusion		Months Behind	0.0	0.0	2.0	0.0	0.0	0.0	0.0	47.0	0.0	
	CMAQ	1,589,595		Expected Date	11/15/11	7/1/13	10/1/14	8/1/12	6/30/13	7/28/11	6/30/15	6/30/15	7/1/15	
	Total	4,099,312		Meets Target	NA	✓	✓	✓	✓	✓	✓	✓	✓	

Project Status Report (Sorted by Agency, Year and Project Type)

Project Information			Project Scheduling Information										Notes	
			Category		Design			Environmental		Right-of-Way		IGA Approved		FHWA Authorization
					Start	60% Plans Started	PS&E Completed	Tech Docs Started	Clearance Approved	Inventory Started	Clearance Approved			
Scottsdale SCT15-401 (FFY 2015)	Location	Shea Blvd: 142nd St to Eagle Mountain Pkwy	Target Dates			6/1/14	6/30/15	6/1/14	6/30/15	6/1/14	6/30/15	NA	9/30/15	None
	Work	Construct 12-ft multi-use path (Scottsdale section) and 8-ft sidewalk (Fountain Hills section)	Agency Schedule	Initial	9/1/13	4/1/14	3/1/14	3/1/14	6/1/14	NA	6/1/14	NA	6/30/15	
	Project Type	Construction		Current	9/1/13	6/1/14	2/1/15	4/1/14	9/1/14	NA	9/1/14	NA	2/1/15	
	Design Process	Locally Funded	Schedule Status	Months Ahead	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0	
	Environmental Clearance	Group 2, Categorical Exclusion		Months Behind	0.0	2.0	12.0	1.0	4.0	0.0	4.0	0.0	0.0	
	CMAQ	273,000		Expected Date	9/1/13	6/1/14	2/1/15	4/1/14	9/1/14	NA	9/1/14	NA	2/1/15	
	Total	390,000		Meets Target	NA	✓	✓	✓	✓	✓	✓	✓	✓	
Scottsdale SCT14-103 (FFY 2014)	Location	Various Dirt Roads: Via Dona Rd: Scottsdale to Pima Rd, Hayden Rd: Dynamite to Via Dona, Pinnacle Vista Dr: 64th St to 69th S	Target Dates			6/1/13	6/30/14	6/1/13	6/30/14	6/1/13	6/30/14	NA	9/30/14	
	Work	Construct/Pave Dirt Roads	Agency Schedule	Initial	2/1/13	7/1/13	5/1/14	2/1/13	7/29/13	8/1/13	10/31/13	NA	1/1/14	
	Project Type	Construction		Current	2/1/13	7/1/13	5/1/14	2/1/13	1/15/14	2/15/14	4/15/14	NA	6/30/14	
	Design Process	Locally Funded	Schedule Status	Months Ahead	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Environmental Clearance	Group 2, Categorical Exclusion		Months Behind	0.0	0.0	0.0	0.0	6.0	7.0	6.0	0.0	6.0	
	CMAQ	1,267,904		Expected Date	2/1/13	7/1/13	5/1/14	2/1/13	1/15/14	2/15/14	4/15/14	NA	6/30/14	
	Total	1,344,543		Meets Target	NA	✗	✓	✓	✓	✗	✓	✓	✓	
Scottsdale SCT14-104 (FFY 2014)	Location	Arizona Canal from Chaparral to Indian Bend Wash	Target Dates			6/1/13	6/30/14	6/1/13	6/30/14	6/1/13	6/30/14	NA	9/30/14	The project required extensive public involvement. The schedule assumes the project will be deferred to 2015 The project has previously been deferred and will be processed through the MAG committee process.
	Work	Design and Construct multi-use path	Agency Schedule	Initial	10/1	2/1/12	10/2/12	6/1/11	4/12/12	NA	4/2/12	NA	6/27/12	
	Project Type	Construction		Current	10/1/12	7/30/14	2/1/15	2/1/15	2/1/15	NA	2/1/15	NA	6/30/14	
	Design Process	Locally Funded	Schedule Status	Months Ahead	0.0	0.0	0.0	0.0	0.0	NA	0.0	NA	0.0	
	Environmental Clearance	Group 2, Categorical Exclusion		Months Behind	0.0	26.0	24.0	38.0	29.0	NA	30.0	NA	21.0	
	CMAQ	1,600,000		Expected Date	10/1/12	7/30/14	2/1/15	2/1/15	2/1/15	NA	2/1/15	NA	6/30/14	
	Total	3,511,700		Meets Target	NA	✗	✗	✗	✗	✗	✓	✗	✓	

Project Status Report (Sorted by Agency, Year and Project Type)

Project Information			Project Scheduling Information										Notes	
			Category		Design			Environmental		Right-of-Way		IGA Approved		FHWA Author-ization
					Start	60% Plans Started	PS&E Completed	Tech Docs Started	Clearance Approved	Inventory Started	Clearance Approved			
Scottsdale SCT15-463 (FFY 2015)	Location	Scottsdale (Various)	Target Dates			NA	6/30/15	NA	6/30/15	NA	NA	NA	9/30/15	None
	Work	Highway advisory radio deployment	Agency Schedule	Initial	6/1/13	12/1/13	6/30/15	10/1/13	2/28/15	10/1/13	6/30/15	NA	9/15/15	
	Project Type	Procurement		Current	6/1/13	12/1/13	6/30/15	10/1/13	6/30/14	NA	6/30/15	NA	12/1/14	
	Design Process	Locally Funded	Schedule Status	Months Ahead	0.0	0.0	0.0	0.0	8.0	0.0	0.0	0.0	10.0	
	Environmental Clearance	Group 1, Categorical Exclusion		Months Behind	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	CMAQ	380,040		Expected Date	6/1/13	12/1/13	6/30/15	10/1/13	6/30/14	NA	6/30/15	NA	12/1/14	
	Total	418,040		Meets Target	NA	✓	✓	✓	✓	✓	✓	✓	✓	
Surprise SUR12-801C (FFY 2014)	Location	Dove Valley Rd: 187th Ave to 203rd Ave	Target Dates			6/1/13	6/30/14	6/1/13	6/30/14	6/1/13	6/30/14	NA	9/30/14	The dates are approximate. Design and right-of-way for the project has authorized.
	Work	Pave Unpaved Road	Agency Schedule	Initial	1/1/11	3/27/12	3/1/14	2/28/12	2/28/12	4/15/12	1/1/14	NA	NA	
	Project Type	Construction		Current	1/1/11	3/27/12	3/1/14	2/28/12	2/28/12	4/15/12	1/1/14	NA	NA	
	Design Process	Federally Funded	Schedule Status	Months Ahead	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Environmental Clearance	Group 2, Categorical Exclusion		Months Behind	0.0	0.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	
	CMAQ	872,275		Expected Date	1/1/11	3/27/12	3/1/14	2/28/12	2/28/12	4/15/12	1/1/14	NA	NA	
	Total	930,000		Meets Target	NA	✓	✓	✓	✓	✓	✓	✓	✓	
Tempe TMP10-620 (FFY 2014)	Location	Broadway Rd: Rural Rd to Mill Ave	Target Dates			6/1/13	6/30/14	6/1/13	6/30/14	6/1/13	6/30/14	NA	9/30/14	None
	Work	Acquire right-of-way and construct pedestrian and bicycle facilities improvements	Agency Schedule	Initial	6/1/09	1/15/11	3/1/14	1/15/11	5/1/14	5/1/11	1/1/14	NA	9/15/14	
	Project Type	Construction		Current	6/1/09	1/15/11	6/1/14	1/15/11	5/1/14	5/1/11	1/1/14	NA	9/15/14	
	Design Process	Locally Funded	Schedule Status	Months Ahead	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Environmental Clearance	Group 2, Categorical Exclusion		Months Behind	0.0	0.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	
	CMAQ	3,857,670		Expected Date	6/1/09	1/15/11	6/1/14	1/15/11	5/1/14	5/1/11	1/1/14	NA	9/15/14	
	Total	5,143,560		Meets Target	NA	✓	✓	✓	✓	✓	✓	✓	✓	

Project Status Report (Sorted by Agency, Year and Project Type)

Project Information			Project Scheduling Information										Notes	
			Category		Design			Environmental		Right-of-Way		IGA Approved		FHWA Author-ization
					Start	60% Plans Started	PS&E Completed	Tech Docs Started	Clearance Approved	Inventory Started	Clearance Approved			
Tempe TMP14-101 (FFY 2014)	Location	Rural Road to Kiwanis Park	Target Dates			6/1/13	6/30/14	6/1/13	6/30/14	6/1/13	6/30/14	NA	9/30/14	The sponsoring agency indicates that the project will authorize in FY 2014
	Work	Construct multiuse path	Agency Schedule	Initial	9/1/13	5/1/14	7/1/14	12/1/13	7/1/14	12/1/13	7/1/14	NA	9/30/14	
	Project Type	Construction		Current	9/1/13	5/1/14	7/1/14	12/1/13	7/1/14	12/1/13	7/1/14	NA	9/30/14	
	Design Process	Locally Funded	Schedule Status	Months Ahead	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Environmental Clearance	Group 2, Categorical Exclusion		Months Behind	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	CMAQ	1,323,000		Expected Date	9/1/13	5/1/14	7/1/14	12/1/13	7/1/14	12/1/13	7/1/14	NA	9/30/14	
	Total	1,501,400		Meets Target	NA	✗	✓	✗	✓	✗	✓	✓	✓	
Tempe TMP14-102 (FFY 2015)	Location	Corridors of Elliot/Guadalupe/ Warner	Target Dates			6/1/14	6/30/15	6/1/14	6/30/15	6/1/14	6/30/15	NA	9/30/15	None
	Work	Construct/Install fiber optic communication to the signals and install wireless radios with CCTVs monitors	Agency Schedule	Initial	12/2/13	5/31/14	6/30/15	5/31/14	12/1/14	NA	11/1/14	NA	9/1/15	
	Project Type	Construction		Current	12/2/13	3/4/14	6/29/15	6/27/14	6/29/15	6/2/14	6/29/15	NA	9/1/15	
	Design Process	Federally Funded	Schedule Status	Months Ahead	0.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Environmental Clearance	Group 2, Categorical Exclusion		Months Behind	0.0	0.0	0.0	1.0	8.0	0.0	9.0	0.0	0.0	
	CMAQ	383,333		Expected Date	12/2/13	3/4/14	6/29/15	6/27/14	6/29/15	6/2/14	6/29/15	NA	9/1/15	
	Total	547,619		Meets Target	NA	✓	✓	✗	✓	✓	✓	✓	✓	
Tempe TMP15-461 (FFY 2015)	Location	City of Tempe (Various)	Target Dates			6/1/14	6/30/15	6/1/14	6/30/15	6/1/14	6/30/15	NA	9/30/15	None
	Work	Fiber Optic Interconnection at Broadway/I-10 and Rio Salado/Loop 101	Agency Schedule	Initial	12/2/13	3/4/14	6/29/15	6/27/14	6/29/15	6/2/14	6/29/15	NA	9/1/15	
	Project Type	Construction		Current	12/2/13	3/4/14	6/29/15	6/27/14	6/29/15	6/2/14	6/29/15	NA	9/1/15	
	Design Process	Federally Funded	Schedule Status	Months Ahead	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Environmental Clearance	Group 2, Categorical Exclusion		Months Behind	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	CMAQ	287,751		Expected Date	12/2/13	3/4/14	6/29/15	6/27/14	6/29/15	6/2/14	6/29/15	NA	9/1/15	
	Total	305,145		Meets Target	NA	✓	✓	✗	✓	✓	✓	✓	✓	

Project Status Report (Sorted by Agency, Year and Project Type)

Project Information			Project Scheduling Information										Notes	
			Category		Design			Environmental		Right-of-Way		IGA Approved		FHWA Author-ization
					Start	60% Plans Started	PS&E Completed	Tech Docs Started	Clearance Approved	Inventory Started	Clearance Approved			
Wickenburg WKN10-801 (FFY 2014)	Location	US93 Bypass at Hassayampa River	Target Dates			6/1/13	6/30/14	6/1/13	6/30/14	6/1/13	6/30/13	NA	9/30/14	Draft 60 percent plans have been developed for the project
	Work	Construct Wickenburg Pedestrian and Bicycle Bridge	Agency Schedule	Initial	NA	6/24/11	6/30/14	3/31/11	8/31/12	6/11/12	6/30/13	10/1/13	9/15/14	
	Project Type	Construction		Current	NA	6/24/11	6/30/14	3/31/11	8/31/12	6/11/12	6/30/13	10/1/13	9/15/14	
	Design Process	Federally Funded	Schedule Status	Months Ahead	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Environmental Clearance	Group 2, Categorical Exclusion		Months Behind	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	STP-TEA	483,279		Expected Date	NA	6/24/11	6/30/14	3/31/11	8/31/12	6/11/12	6/30/13	10/1/13	9/15/14	
	Total	512,491		Meets Target	NA	✓	✓	✓	✓	✓	✓	✓	✓	
Youngtown YTN14-101 (FFY 2014)	Location	Grand Avenue and 111th Avenue to Olive Avenue and Agua Fria Parkway (Approximately 117th Avenue).	Target Dates			6/1/13	6/30/14	6/1/13	6/30/14	6/1/13	6/30/14	NA	9/30/14	The Agency has indicated that it will defer the prject
	Work	Multiuse Path and Peoria Ave straightening to accomodate multiuse path: Construction phase	Agency Schedule	Initial	NA	4/20/12	6/30/14	12/1/13	3/30/14	3/30/14	6/30/14	6/30/14	9/30/14	
	Project Type	Construction		Current	NA	4/20/13	7/30/14	4/20/13	5/15/14	NA	8/15/14	2/1/15	5/1/15	
	Design Process	Federally Funded	Schedule Status	Months Ahead	0.0	0.0	0.0	8.0	0.0	0.0	0.0	0.0	0.0	
	Environmental Clearance	Group 2, Categorical Exclusion		Months Behind	0.0	13.0	1.0	0.0	2.0	0.0	2.0	8.0	8.0	
	CMAQ	292,800		Expected Date	NA	4/20/13	7/30/14	4/20/13	5/15/14	NA	8/15/14	2/1/15	5/1/15	
	Total	450,000		Meets Target	NA	✓	✗	✓	✓	✓	✗	✓	✗	

MARICOPA ASSOCIATION OF GOVERNMENTS

INFORMATION SUMMARY... for your review

DATE:

February 11, 2014

SUBJECT:

Project Changes - Amendment and Administrative Modification to the FY 2014-2018 MAG Transportation Improvement Program, the Regional Transportation Plan, and the FY 2011-2015 Transportation Improvement Program

SUMMARY:

On January 28, 2014, the MAG Regional Council approved the MAG Transportation Alternatives program ranked order of projects (for fiscal years 2015-2017), the Fiscal Year (FY) 2014-2018 MAG Transportation Improvement Program (TIP), and the Regional Transportation Plan (RTP). Since then, member agencies have requested general project changes. The Transportation Review Committee on January 31, 2014 recommended the project changes. This item is included in the Management Committee agenda and an update will be provided. Additionally, the detailed listing of work phases for the Transportation Alternatives program, and the detailed work phase listings of the proposed PM-2.5 Paving Unpaved Road Projects are included. New project change requests that were not reviewed by previous committees and are tinted in **yellow**. Please see Table B.

PUBLIC INPUT:

None has been received.

PROS & CONS:

PROS: Approval will allow the projects to proceed in a timely manner.

CONS: There is no guarantee that sufficient funds will be available in the following fiscal year to cover any or all of the deferred projects should congress fail to authorize a funding level of obligation authority that can meet programming levels.

TECHNICAL & POLICY IMPLICATIONS:

TECHNICAL: Projects that wish to utilize transportation federal funds need to be shown in the TIP in the year that they expect to commence and may need to undergo an air quality conformity analysis or consultation. As the FY 2014-2018 TIP has been submitted for federal final approval, in the event of delay, staff is requesting amendments to the current federally approved FY 2011-2015 TIP, and to the FY 2014-2018 TIP pending federal approval. If this item is approved, this item will be included in the first request to modify the FY 2014-2018 MAG Transportation Improvement Program submitted to ADOT.

POLICY: This amendment and administrative modification request is in accordance with MAG guidelines.

ACTION NEEDED:

Recommend approval of amendments and administrative modifications to the FY 2014-2018 Transportation Improvement Program, the Regional Transportation Plan, and the FY 2011-2015 Transportation Improvement Program as appropriate.

PRIOR COMMITTEE ACTIONS:

This item is on the February 12, 2014, MAG Management Committee agenda. An update will be provided on action taken by the committee.

The ranked list of projects for Transportation Alternatives funding for FY 2015-2017 was approved on January 29, 2014, by the Regional Council.

MEMBERS ATTENDING

- * Mayor Scott Smith, Mesa, Chair
- Mayor Michael LeVault, Youngtown, Vice Chair
- # Vice Mayor Robin Barker, Apache Junction
- Mayor Marie Lopez Rogers, Avondale
- Mayor Jackie Meck, Buckeye
- Councilmember Mike Farrar, Carefree
- * Councilmember Reginald Monachino, Cave Creek
- # Mayor Jay Tibshraeny, Chandler
- # Mayor Lana Mook, El Mirage
- * Mayor Tom Rankin, Florence
- * President Ruben Balderas, Fort McDowell Yavapai Nation
- Mayor Linda Kavanagh, Fountain Hills
- Mayor Steven Holt, Gila Bend
- * Governor Gregory Mendoza, Gila River Indian Community
- Mayor John Lewis, Gilbert
- Mayor Jerry Weiers, Glendale
- # Mayor Georgia Lord, Goodyear
- Mayor Rebecca Jimenez, Guadalupe
- Mayor Thomas Schoaf, Litchfield Park
- Mayor Christian Price, City of Maricopa
- * Supervisor Steve Chucuri, Maricopa County
- * Mayor Scott LeMarr, Paradise Valley
- Councilmember Cathy Carlat, Peoria
- Mayor Greg Stanton, Phoenix
- Supervisor Todd House, Pinal County
- Mayor Gail Barney, Queen Creek
- * President Diane Enos, Salt River Pima-Maricopa Indian Community
- Mayor W. J. "Jim" Lane, Scottsdale
- Mayor Sharon Wolcott, Surprise
- Mayor Mark Mitchell, Tempe
- * Mayor Adolfo Gamez, Tolleson
- Mayor John Cook, Wickenburg
- Victor Flores, State Transportation Board
- Joseph La Rue, State Transportation Board
- Roc Arnett, Citizens Transportation Oversight Committee

* Those members neither present nor represented by proxy.

Attended by telephone conference call.

+ Attended by videoconference

CONTACT PERSON:

Teri Kennedy, Transportation Improvement Program Manager, or Stephen Tate (602) 254-6300.

Table B. Non-ALCP Project Changes, New Transportation Alternatives, and New PM-2.5 Paving Projects to the Fiscal Year 2014-2018 MAG Transportation Improvement Program, and as appropriate to the FY 2011-2015 MAG Transportation Improvement Program

HIGHWAY																			1/28/2014
Agency	Section	Year	TIP ID	MAG ID	Location	Work	Miles	Lanes Before	Lanes After	ALI	In ALCP	TRACS	MAG Mode	Funding	Federal	Regional	Local	Total	Note
ADOT	Highway	2016	DOT09-964	2574	10: SR101L (Aqua Fria) to I-17	Utilities Relocation - Construction	9	10	10	-----	FLCP	-----	Highway	RARF-HURF	\$ -	\$ 13,400,000	\$ -	\$ 13,400,000	Amend: Defer project from FY2015 to FY2016
ADOT	Highway	2014	DOT14-415	New	8: MP 126	Design drainage improvements	0.4	4	4	Q3, 2016	FLCP	-----	Highway	NHPP	\$ 463,956	\$ -	\$ 28,044	\$ 492,000	Amend: Add a new drainage improvement design project in FY 2014 for \$492,000.
Avondale	Highway	2015	AVN14-107	28006	Central Avenue (in Avondale): Van Buren Street south to Western Avenue	Construct multiuse path	1	4	4	2016	No	-----	Bicycle	CMAQ	\$ 1,077,405	\$ -	\$ 2,250,000	\$ 3,327,405	Amend: Defer from FY2014 to FY2015. Based on ADOT PM's schedule, Project will authorized in early FFY2015.
Avondale	Highway	2014	AVN14-401	New	Dysart Rd from Van Buren St to MC85 (Buckeye Rd).	Design ADA compliant sidewalks, ramps, bicycle facilities, pedestrian lighting and rider friendly bus-stop facilities.	1	4	4	-----	No	-----	Bicycle	Local	\$ -	\$ -	\$ 166,730	\$ 166,730	Amend: Add Project to TIP
Avondale	Highway	2015	AVN16-402	New	Dysart Rd from Van Buren St to MC85 (Buckeye Rd).	Install ADA compliant sidewalks, ramps, bicycle facilities, pedestrian lighting and rider friendly bus-stop facilities.	1	4	4	-----	No	-----	Bicycle	TA-MAG	\$ 840,685	\$ -	\$ 100,816	\$ 941,500	Amend: Add Project to TIP
Avondale	Highway	2016	PHX16-410	New	Van Buren St from the Agua Fria River to 113th Ave.	Design multi use path with lighting, landscaping, water fountains, and other pedestrian and bicycle amenities.	1.7	4	4	-----	No	-----	Bicycle	Local	\$ -	\$ -	\$ 364,965	\$ 364,965	Amend: Add Project to TIP
Avondale	Highway	2017	PHX17-406	New	Van Buren St from the Agua Fria River to 113th Ave.	Construct multi use path with lighting, landscaping, water fountains, and other pedestrian and bicycle amenities.	1.7	4	4	-----	No	-----	Bicycle	TA-MAG	\$ 2,011,664	\$ -	\$ 171,596	\$ 2,183,260	Amend: Add Project to TIP
Buckeye	Highway	2014	BKY13-901	8988	Town of Buckeye	Alarcon Blvd and Kino Place Pedestrian Corridor Project	10.5	2	2	-----	No	-----	Pedestrian	CMAQ	\$ 400,000	\$ -	\$ 24,178	\$ 424,178	Amend: Split project into two phases.Total utility and construction is \$896,591.
Buckeye	Highway	2015	BKY13-901C2	8988	Town of Buckeye	Alarcon Blvd and Kino Place Pedestrian Corridor Project	10.5	2	2	-----	No	-----	Pedestrian	Local	\$ -	\$ -	\$ 472,413	\$ 472,413	Amend: Split project into two phases.Total utility and construction is \$896,591. Agency has added additional local match.
Chandler	Highway	2015	CHN15-401	New	Ray Rd, west of 101L: Price Rd, north of Loop 202 interchange; Frye Rd at Dobson (1/8 mile in each direction on Frye); Frye Road at Alma School (1/8 mile in each direction on Frye); Frye Rd between Paseo Canal and Cooper Rd.	Design portions of three different bike lanes on Ray Rd, Frye Rd, Price Rd and related improvements. Add multi-use path to connect Frye Rd. bike route to Cooper Rd.	0	0	0	-----	No	-----	Bicycle	Local	\$ -	\$ -	\$ 70,000	\$ 70,000	Amend: Add Project to TIP
Chandler	Highway	2016	CHN16-4404	New	Ray Rd, west of 101L: Price Rd, north of Loop 202 interchange; Frye Rd at Dobson (1/8 mile in each direction on Frye); Frye Road at Alma School (1/8 mile in each direction on Frye); Frye Rd between Paseo Canal and Cooper Rd.	Construct portions of three different bike lanes on Ray Rd, Frye Rd, Price Rd and related improvements. Add multi-use path to connect Frye Rd. bike route to Cooper Rd.	0	0	0	-----	No	-----	Bicycle	TA-MAG	\$ 231,290	\$ -	\$ 28,980	\$ 260,270	Amend: Add Project to TIP
Glendale	Highway	2014	GLN14-104	11584	59th Avenue and Olive Avenue	Design Intersection Safety Improvements	0.25	5	5	---	No	Planned	Safety	HSIP-MAG	\$ 309,332	\$ -	\$ 22,028	\$ 331,360	Amend: Reduce total project cost by \$285,824. Adjust design by \$69,640 and construction cost by \$346,234; add a right-of-way phase to the project.

Table B. Non-ALCP Project Changes, New Transportation Alternatives, and New PM-2.5 Paving Projects to the Fiscal Year 2014-2018 MAG Transportation Improvement Program, and as appropriate to the FY 2011-2015 MAG Transportation Improvement Program

HIGHWAY																				1/28/2014
Agency	Section	Year	TIP ID	MAG ID	Location	Work	Miles	Lanes Before	Lanes After	ALI	In ALCP	TRACS	MAG Mode	Funding	Federal	Regional	Local	Total	Note	
Glendale	Highway	2016	GLN14-104RW	11584	59th Avenue and Olive Avenue	Right-of-way Intersection Safety Improvements	0.25	5	5	---	No	Planned	Safety	HSIP-MAG	\$ 100,382	\$ -	\$ 130,050	\$ 230,432	Amend: Reduce total project cost by \$285,824. Adjust design by \$69,640 and construction cost by \$346,234; add a right-of-way phase to the project.	
Glendale	Highway	2017	GLN17-402	11584	59th Avenue and Olive Avenue	Construct Intersection Safety Improvements	0.25	5	5	---	No	Planned	Safety	HSIP-MAG	\$ 1,395,146	\$ -	\$ 1,498,166	\$ 2,893,312	Amend: Reduce total project cost by \$285,824. Adjust design by \$69,640 and construction cost by \$346,234; add a right-of-way phase to the project.	
Glendale	Highway	2015	GLN15-401-GLN15-402	New	65TH Ave and Bethany Home Rd.	Design HAWK related improvements -accessible ramps, countdown pedestrian signals, street lighting, and striping.	0.1	4	4	-----	No	-----	Pedestrian	Local	\$ -	\$ -	\$ 135,000	\$ 135,000	Amend: Add Project to TIP, correct to unique ID.	
Glendale	Highway	2017	GLN17-401	New	65TH Ave and Bethany Home Rd.	Construct HAWK related improvements -accessible ramps, countdown pedestrian signals, street lighting, and striping.	0.1	4	4	-----	No	-----	Pedestrian	TA-MAG	\$ 278,110	\$ -	\$ 22,810	\$ 300,920	Amend: Add Project to TIP	
MAG	Highway	2014	MAG14-104	31336	Regionwide	Regional rideshare and telework program	0	0	0	-----	No	-----	Air Quality	CMAQ	\$ 510,032	\$ -	\$ -	\$ 510,032	Admin: FY 2014 Cost savings. Decrease total cost by \$149,967.80, from \$660,000 to \$510,032.	
MAG	Highway	2014	MAG14-106	19975	Regionwide	Trip reduction program	0	0	0	-----	No	-----	Air Quality	CMAQ	\$ 832,993	\$ -	\$ -	\$ 832,993	Admin: FY 2014 Cost savings. Decrease total cost by \$129,353.72, from \$962,347 to \$832,993.	
MAG	Highway	2015	MAG15-432	23273	Regionwide	Regional Rideshare and Telework Program	0	0	0	-----	No	-----	Air Quality	CMAQ	\$ 809,968	\$ -	\$ -	\$ 809,968	Admin: Carry forward from FY 2014 funding. Increase total cost by \$149,967.80, from \$660,000 to \$809,968. Change MAG Mode to Air Quality, incorrectly noted in database as "Other".	
MAG	Highway	2015	MAG15-434	23273	Regionwide	Trip Reduction Program	0	0	0	-----	No	-----	Air Quality	CMAQ	\$ 1,091,701	\$ -	\$ -	\$ 1,091,701	Admin: FY 2014 Cost savings. Increase total cost by \$129,353.72, from \$962,347 to \$1,091,701. Change MAG Mode to Air Quality, incorrectly noted in database as "Other".	
Maricopa City	Highway	2014	MAR14-407	New	Hartman Road from Maricopa Casa Grande Highway to approximately 1.5 miles north.	Design Roadway Paving.	1.5	2	2	-----	No	-----	Street	Local	0	\$ -	\$ 82,303	\$ 82,303	Amend: Add new project to TIP.	
Maricopa City	Highway	2015	MAR15-407	New	Hartman Road from Maricopa Casa Grande Highway to approximately 1.5 miles north.	Pave Unpaved Roadway.	1.5	2	2	-----	No	-----	Street	CMAQ-2.5	\$ 529,522	\$ -	\$ 8,623	\$ 538,145	Amend: Add new project to TIP.	
Maricopa County	Highway	2014	MMA14-104SCT	26776	Frank Lloyd Wright Blvd & Loop 101	Construct/Install adaptive traffic control	3	0	0	-----	No	-----	ITS	CMAQ	\$ 36,328	\$ -	\$ 14,522	\$ 50,850	Amend: Delete Project from TIP. The project is no longer needed.	
Mesa	Highway	2014	MES14-404	New	On the Salt River from 202L Red Mtn Frwy, Mile Post 9 to Dobson Road at Loop 202 Red Mtn Frwy, MP 8.	Design multi use path.	0.67	0	0	-----	No	-----	Bicycle	Local	\$ -	\$ -	\$ 145,915	\$ 145,915	Amend: Add Project to TIP	

Table B. Non-ALCP Project Changes, New Transportation Alternatives, and New PM-2.5 Paving Projects to the Fiscal Year 2014-2018 MAG Transportation Improvement Program, and as appropriate to the FY 2011-2015 MAG Transportation Improvement Program

HIGHWAY																				1/28/2014
Agency	Section	Year	TIP ID	MAG ID	Location	Work	Miles	Lanes Before	Lanes After	ALI	In ALCP	TRACS	MAG Mode	Funding	Federal	Regional	Local	Total	Note	
Mesa	Highway	2016	MES16-404	New	On the Salt River from 202L Red Mtn Frwy, Mile Post 9 to Dobson Road at Loop 202 Red Mtn Frwy, MP 8.	Construct multi use path.	0.67	0	0	-----	No	-----	Bicycle	TA-MAG	\$ 1,585,674	\$ -	\$ 188,475	\$ 1,774,149	Amend: Add Project to TIP	
Phoenix	Highway	2015	PHX15-406	New	200' east and west of the Thomas Road and Grand Canal intersection, and approximately 200' north and south along the Grand Canal.	Design and right-of-way for multi use path segments.	0.1	0	0	-----	No	-----	Bicycle	Local	\$ -	\$ -	\$ 180,000	\$ 180,000	Amend: Add Project to TIP	
Phoenix	Highway	2016	PHX16-421	New	200' east and west of the Thomas Road and Grand Canal intersection, and approximately 200' north and south along the Grand Canal.	Construct multi use path segments.	0.1	0	0	-----	No	-----	Bicycle	TA-MAG	\$ 320,988	\$ -	\$ 19,402	\$ 340,390	Amend: Add Project to TIP	
Phoenix	Highway	2014	PHX16-414D	New	32nd Street Bike Lanes: SR51 to Reach 11.	Design: new bike lanes via pavement stripping improvements.	7	5	4	-----	No	-----	Bike/Ped	LOCAL	\$ -	\$ -	\$ 97,493	\$ 97,493	Amend: Add design phase into the TIP. Construction project is PHX16-414.	
Phoenix	Highway	2014	PHX14-405	New	Desert Foothills Parkway 0.09 mi. north of Thistle Landing Dr. and Central Avenue at Olympic .	Design two HAWKS.	0	0	0	-----	No	-----	Pedestrian	Local	\$ -	\$ -	\$ 145,000	\$ 145,000	Amend: Add Project to TIP	
Phoenix	Highway	2015	PHX15-407	New	Desert Foothills Parkway 0.09 mi. north of Thistle Landing Dr. and Central Avenue at Olympic .	Construct two HAWKS.	0	0	0	-----	No	-----	Pedestrian	TA-MAG	\$ 499,771	\$ -	\$ 75,584	\$ 575,355	Amend: Add Project to TIP	
Phoenix	Highway	2015	PHX15-405	New	First Street: McKinley St to Moreland St.	Design and right-of-way to reduce roadway width, increase sidewalk width and add parking, landscaping, ramps, benches, trash receptacles, bike racks and pedestrian lighting.	0.5	2	2	-----	No	-----	Pedestrian	Local	\$ -	\$ -	\$ 715,806	\$ 715,806	Amend: Add Project to TIP. The Roosevelt to Moreland and the Roosevelt to McKinley projects have been combined in this TIP listing.	
Phoenix	Highway	2016	PHX16-420	New	First Street: McKinley St to Moreland St.	Construct and right-of-way to reduce roadway width, increase sidewalk width and add parking, landscaping, ramps, benches, trash receptacles, bike racks and pedestrian lighting.	0.5	2	2	-----	No	-----	Pedestrian	TA-MAG	\$ 2,008,873	\$ -	\$ 121,427	\$ 2,130,300	Amend: Add Project to TIP. The Roosevelt to Moreland and the Roosevelt to McKinley projects have been combined in this TIP listing.	
Phoenix	Highway	2015	PHX15-404	New	Palm Lane 35th to 37th Avenues and 36th Avenue Palm Lane to McDowell Road; HAWK Project 35th Avenue between Palm Lane and Granada Road.	Design and right-of-way to install missing sidewalk on Palm Lane and HAWK pedestrian signal on 35th Ave.	0.25	0	0	-----	No	-----	Pedestrian	Local	\$ -	\$ -	\$ 185,050	\$ 185,050	Amend: Add Project to TIP	
Phoenix	Highway	2016	PHX17-409	New	Palm Lane 35th to 37th Avenues and 36th Avenue Palm Lane to McDowell Road; HAWK Project 35th Avenue between Palm Lane and Granada Road.	Install missing sidewalk on Palm Lane and HAWK pedestrian signal on 35th Ave.	0.25	0	0	-----	No	-----	Pedestrian	TA-MAG	\$ 620,447	\$ -	\$ 37,503	\$ 657,950	Amend: Add Project to TIP	
Pinal County	Highway	2014	PNL14-409	New	Barnes Road from White & Parker Road to Fuqua Road; Fuqua Road from Barnes Road to Lealand Road.	Design Roadway Paving.	2.5	2	2	-----	No	-----	Street	Local	\$ -	\$ -	\$ 15,960	\$ 15,960	Amend: Add new project to TIP.	

Table B. Non-ALCP Project Changes, New Transportation Alternatives, and New PM-2.5 Paving Projects to the Fiscal Year 2014-2018 MAG Transportation Improvement Program, and as appropriate to the FY 2011-2015 MAG Transportation Improvement Program

HIGHWAY																			1/28/2014
Agency	Section	Year	TIP ID	MAG ID	Location	Work	Miles	Lanes Before	Lanes After	ALI	In ALCP	TRACS	MAG Mode	Funding	Federal	Regional	Local	Total	Note
Pinal County	Highway	2015	PNL15-409	New	Barnes Road from White & Parker Road to Fuqua Road; Fuqua Road from Barnes Road to Lealand Road.	Pave Unpaved Roadway.	2.5	2	2	-----	No	-----	Street	CMAQ-2.5	\$ 1,360,119	\$ -	\$ 82,213	\$ 1,442,332	Amend: Add new project to TIP.
Pinal County	Highway	2014	PLN14-410	New	Midway Rd from Gila Bend Highway to Casa Grande City limits.	Design Roadway Paving.	1.5	2	2	-----	No	-----	Street	Local	\$ -	\$ -	\$ 115,000	\$ 115,000	Amend: add new project to TIP. This project is sponsored by Pinal County on behalf of the City of Casa Grande. Funding for the local match is being provided by the City.
Pinal County	Highway	2015	PLN15-410	New	Midway Rd from Gila Bend Highway to Casa Grande City limits.	Pave Unpaved Roadway.	1.5	2	2	-----	No	-----	Street	CMAQ-2.5	\$ 1,178,750	\$ -	\$ 112,200	\$ 1,290,950	Amend: add new project to TIP. This project is sponsored by Pinal County on behalf of the City of Casa Grande. Funding for the local match is being provided by the City.
Scottsdale	Highway	2015	SCT15-401	New	Crosscut Canal and alleys, between McDowell Rd and Culver St, west of 66th Pl.	Design multi use path and bridge over the Crosscut Canal and related paths and access from two alleys.	0	0	0	-----	No	-----	Bicycle	Local	\$ -	\$ -	\$ 122,000	\$ 122,000	Amend: Add Project to TIP
Scottsdale	Highway	2016	SCT16-403	New	Crosscut Canal and alleys, between McDowell Rd and Culver St, west of 66th Pl.	Construct multi use path and bridge over the Crosscut Canal and related paths and access from two alleys.	0	0	0	-----	No	-----	Bicycle	TA-MAG	\$ 445,407	\$ -	\$ 64,923	\$ 510,330	Amend: Add Project to TIP
Tempe	Highway	2017	TMP17-404	New	Highline Canal from Auto Drive in the City of Tempe to Chandler City limits.	Construct ADA compliant street crossing treatments, bridges, landscaping, lighting and concrete path.	1.5	0	0	-----	No	-----	Bicycle	TA-MAG	\$ 1,866,956	\$ -	\$ 124,849	\$ 1,991,805	Amend: Add Project to TIP
Tempe	Highway	2014	TMP14-402	New	Highline Canal from east of Priest Drive/Avenida Del Yaqui south approximately 2.5 miles.	Design and Right of way for multi use path and associated features such as way-finding signs, lighting, signalized crossings and bike amenities including bike racks.	2.5	0	0	-----	No	-----	Bicycle	Local	\$ -	\$ -	\$ 225,695	\$ 225,695	Amend: Add Project to TIP
Tempe	Highway	2015	TMP15-402	New	Highline Canal from east of Priest Drive/Avenida Del Yaqui south approximately 2.5 miles.	Design ADA compliant street crossing treatments, bridges, landscaping, lighting and concrete path.	1.5	0	0	-----	No	-----	Bicycle	Local	\$ -	\$ -	\$ 330,736	\$ 330,736	Amend: Add Project to TIP
Tempe	Highway	2016	TMP16-402	New	Highline Canal from east of Priest Drive/Avenida Del Yaqui south approximately 2.5 miles.	Construct multi use path and associated features such as way-finding signs, lighting, signalized crossings and bike amenities including bike racks.	2.5	0	0	-----	No	-----	Bicycle	TA-MAG	\$ 1,366,661	\$ -	\$ 100,608	\$ 1,467,269	Amend: Add Project to TIP

Interstate 11 and Intermountain West Corridor Study Draft Level 2 Evaluation Results Summary

This packet provides a summary of documentation of the results of the Level 2 analysis including written explanations or results for each alternative, translated into a simple five-tiered comparative rating scale (very high-high-moderate-low-very low). Just as in the Level 1 screening, the evaluation rating scale is strictly relative – alternatives were considered in relation to each other in the same project segment. If an alternative receives the highest rating, it does not necessarily mean that the alternative will not face any issues or obstacles with respect to that criterion. The color scheme for the qualitative rating scale is as follows:

Very High	High	Moderate	Low	Very Low
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The following table lists the proposed Level 2 criteria. These criteria are based on further development and elaboration of the Level 1 screening criteria. Some, but not all, of the evaluation criteria were amenable to quantitative measurement in Level 2. Those for which suitable numerical data was not available were assessed using professional planning or engineering judgment. The purpose of this evaluation was to identify the reasonable and feasible range of alternatives for further planning and environmental work (in future work efforts) as part of the I-11 project development process.

Level 2 Evaluation Criteria

For use in Congressionally Designated Corridor only.

Each criterion was rated on a qualitative scale of “very low” to “very high.”

Evaluation Category		Criteria	Approach
Modal Interrelationships	1A	How well does this corridor provide sufficient opportunity for a multi-use corridor?	<ol style="list-style-type: none"> 1. Identify if multiple modes can be accommodated within the current corridor 2. If not, identify alternate rail corridors that will meet the same need for future modal implementation 3. Identify implications of each multimodal corridor option
Capacity/Congestion	2A	What are the estimated travel time savings over No-Build (2035)?	Quantitative analysis: based on travel times for each corridor using regional models compared to No-Build
	2B	What are the total long distance vehicles miles traveled (VMT)?	Quantitative analysis: based on corridor VMT using statewide model for long distance trips (>50 miles)
	2C	What are the total vehicle hours of delay (VHD)?	Quantitative analysis based on a comparison of corridor VHD between alternatives
	2D	What is the average travel speed on the corridor?	Quantitative analysis: based on estimated 2035 corridor average PM peak period peak direction travel speeds
Economic Vitality	3A	What are the expected short-term impacts to the regional economy, as measured by the number of jobs (direct, indirect and induced) and economic output from construction related activities?	Quantitative analysis: based on input from IMPLAN model
	3B	What is the cost of delay?	Quantitative analysis: based on delay from the regional model multiplied by nationally accepted factor for cost of delay
Transportation Plans and Policies	4A	How well is this alternative consistent with short-term programmed transportation projects?	Qualitative analysis: based on how much of the alternative is documented in transportation



Level 2 Evaluation Criteria

For use in Congressionally Designated Corridor only.

Each criterion was rated on a qualitative scale of “very low” to “very high.”

Evaluation Category	Criteria		Approach
	4B	How well is this alternative consistent with long-term transportation visions and plans?	plans
Environmental Sustainability	5A	What is the impact to wildlife corridors and/or habitat blocks?	Quantitative analysis: based on GIS data layers and environmental data availability
	5B	What is the impact to land managed for conservation or wildlife purposes?	
	5C	How many linear miles of undisturbed waterways/floodplains are impacted?	
	5D	What is the general impact to air quality conditions with this alternative?	Qualitative analysis: high-level, based on quantitative factors such as vehicle miles traveled and congestion
	5E	What additional environmental concerns were identified by stakeholders?	Qualitative analysis: based on data or input received from resource agencies.
Land Use and Ownership	6A	How consistent is this alternative with regional and local land use plans (including tribal plans, if available)?	Qualitative analysis: based on consistency with land use and resource plans (high/medium/low)
	6B	How compatible is this alternative with major land ownership patterns and resource plans?	Qualitative analysis: based on compatibility with land ownership patterns using GIS data layers (high/medium/low)
Community Acceptance	7A	How well is this alternative accepted by the Core Agency Partners?	Qualitative analysis: based on review of comments received on the alternative corridors
	7B	How well is this alternative accepted by the Stakeholder Partners?	
	7C	How well is this alternative accepted by the general public?	
Cost	8A	What is the order of magnitude cost for this alternative, including construction, maintenance/operations, and right-of-way?	Quantitative analysis: based on NDOT cost estimating tools plus an order of magnitude cost for right-of-way and a factor for operations and maintenance

A summary of the preliminary evaluation results are presented in the following table, listing each alternative evaluated in Level 2 and its summary rating for each evaluation category. These results may change slightly following the next round of outreach and any additional input received from the Core Agency Partners and the Stakeholder Partners. Detailed evaluation results are presented later in this document.

Alternative	Evaluation Category							
	Modal Interrelationships	Capacity/ Congestion	Economic Vitality	Transportation Plans / Policies	Environmental Sustainability	Land Use and Ownership	Community Acceptance	Cost
Phoenix Metropolitan Area Section								
G/H/LL/M M - North	Green	Yellow	Orange	Yellow	Yellow	Green	Yellow	Green
I-North	Yellow	Green	Orange	Red	Orange	Yellow	Yellow	Yellow
G - South	Green	Yellow	Green	Yellow	Orange	Green	Yellow	Red
H - South	Green	Green	Yellow	Green	Green	Green	Yellow	Yellow
I - South	Green	Green	Yellow	Green	Orange	Green	Yellow	Orange
LL - South	Green	Green	Green	Green	Orange	Green	Yellow	Red
MM - South	Green	Green	Green	Green	Yellow	Green	Yellow	Yellow
Northern Arizona/Southern Nevada Section								
Q	Yellow	Green	Green	Green	Green	Green	Yellow	Orange
UU	Yellow	Green	Green	Yellow	Orange	Green	Yellow	Red
Las Vegas Metropolitan Area Section								
Y	Yellow	Yellow	Orange	Yellow	Yellow	Green	Yellow	Green
Z	Yellow	Yellow	Red	Yellow	Green	Yellow	Yellow	Green
BB-QQ	Green	Green	Green	Green	Orange	Green	Yellow	Red

The following summary sheets provide an overview of the Level 2 evaluation for each alternative in the three sections of the Congressionally Designated Corridor, including a map of the alternative, major opportunities/constraints, followed by the detailed evaluation rating scales and notes. Following the summary sheets are maps of corridors of the recommended reasonable and feasible corridors based on the Level 2 evaluation. These corridors are deemed the best candidates to be carried into more detailed NEPA analyses in future studies.

Phoenix Metropolitan Area Section

Due to the similarities and shared segments in the corridors in the Phoenix Metropolitan Area, the alternatives in this section were split north and south of I-10 to perform a more focused evaluation that allowed the identification of targeted issues areas. Under this approach, there are two corridor alternatives north of I-10 (four of the five alternatives utilize the same corridor north of I-10) and five corridor alternatives south of I-10. By identifying more specific areas of impact, this allows the process to form hybrid alternatives, if appropriate, that minimize anticipated impacts. The study team conducted the Level 2 evaluation of the following alternatives in the Phoenix Metropolitan Area based on the recommendations from the Level 1 analysis (see the *Technical Memorandum: Level 1 Evaluation Results Summary*, January 2014):

- Alternative G/H/LL/MM North
- Alternative I North
- Alternative G South
- Alternative H South
- Alternative I South
- Alternative LL South
- Alternative MM South

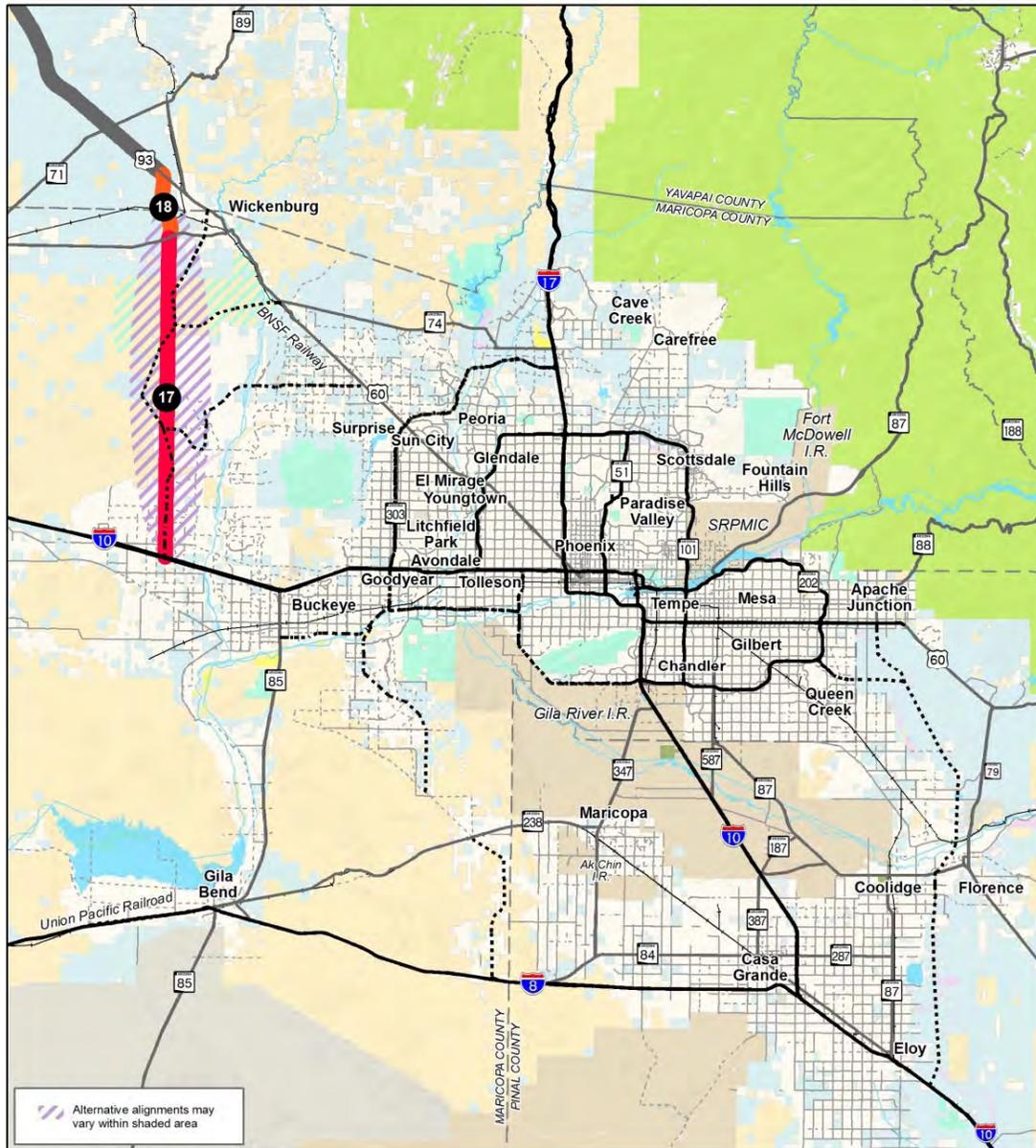
Alternative G/H/LL/MM - North

Opportunities

- Entire corridor included as a future freeway/multimodal corridor in the bqAZ Statewide Transportation Framework Study; reflected in consistency of local transportation and land use plans
- Ability to accommodate multiple modes and uses through all of corridor
- Planned land uses are generally compatible with implementation of a major trade corridor

Constraints

- Potential habitat and land ownership constraints because corridor traverses the planned BLM Vulture Mountains Cooperative Recreation Area
- High Impact anticipated to sensitive species, habitat, wildlife movement and land managed for conservation



ALL INFORMATION IS PRELIMINARY / SUBJECT TO REVISION

Alternative G/H/LL/MM – North

Category	Criteria	Rating	Notes
Modal Interrelationships	1A Opportunity for a multi-use corridor?		Can accommodate multiple modes and uses through the entire corridor.
Capacity/ Congestion	2A Travel time savings over No-Build?		Less than 5 minutes in improvement in overall travel time savings over No-Build
	2B Total long distance VMT?		Less than 10 percent greater long distance VMT than Alternative LL
	2C Total VHD?		10 - 20 percent less delay than Alternative I
	2D Average travel speed?		Average travel speed is greater than 60 mph
Economic Vitality	3A Expected short-term impacts to the regional economy?		Total economic output is between \$800,000,000 - \$1,000,000,000
	3B Cost of delay?		10 - 20 percent less cost of delay than Alternative I
Transportation Plans and Policies	4A Consistent with short-term programmed transportation projects?		Entire corridor (proposed Hassayampa Freeway) not programmed in MAG 2035 RTP (included as an “illustrative corridor”) - not consistent.
	4B Consistent with long-term transportation visions and plans?		Entire corridor included as future freeway in the bqAZ Statewide Framework Study. Majority of corridor defined as proposed Hassayampa Freeway and “potential future Interstate “ - consistent. Overall - consistent.
Environmental Sustainability	5A Impact to wildlife corridors and/or habitat blocks?		Per AGFD, the majority of the corridor is seen to have potentially high impact to wildlife corridors and habitat blocks (proposed Hassayampa Freeway corridor through Maricopa County). Per TNC, this corridor could cause habitat loss or degradation to Sonoran Desert Tortoise, although mitigation opportunities are available.
	5B Impact to land managed for conservation or wildlife purposes?		Per AGFD, a small portion of this corridor is seen to have potentially high impact to land managed for conservation due to the traversal of the planned BLM Vulture Mountain Cooperative Management Recreation Area. Per TNC, the same applies - this corridor would impact the Vulture Mountains ACEC unless altered.
	5C Linear miles of undisturbed waterways/ floodplains impacted?		Traverses approximately 5.6 miles of undisturbed floodplains.
	5D General impact to air quality?		Higher short-term operational impacts from construction than Alternative MM.
	5E Additional environmental concerns identified by stakeholders?		Potential impact to outdoor recreational opportunities, including access.
Land Use and Ownership	6A Consistent with regional and local land use plans (including tribal plans, if available)?		Planned land uses are generally compatible with implementation of a major trade corridor throughout this alternative, including the development of several master plans in Buckeye and Maricopa County oriented toward freeway development (business park, industrial), the proximity of the corridor to the Wickenburg Airport, and growth nodes, as identified by the Town of Wickenburg.
	6B Compatible with major land ownership patterns and resource plans?		Mostly compatible with land ownership patterns (undeveloped private, State Land, and BLM). Corridor portion through planned Vulture Mountain Cooperative Recreation Management Area still under consideration and coordination (BLM, MAG, Maricopa County Parks and Recreation, and Maricopa County Department of Transportation).
Community Acceptance	7A Core Agency Partners?		To be assessed after January 2014 CAP meeting.
	7B Stakeholder Partners?		To be assessed after January 2014 Stakeholders Partners meeting.
	7C General public?		To be assessed after January/February 2014 online public outreach event.
Cost	8A Order of magnitude cost?		Cost is \$657,100,000

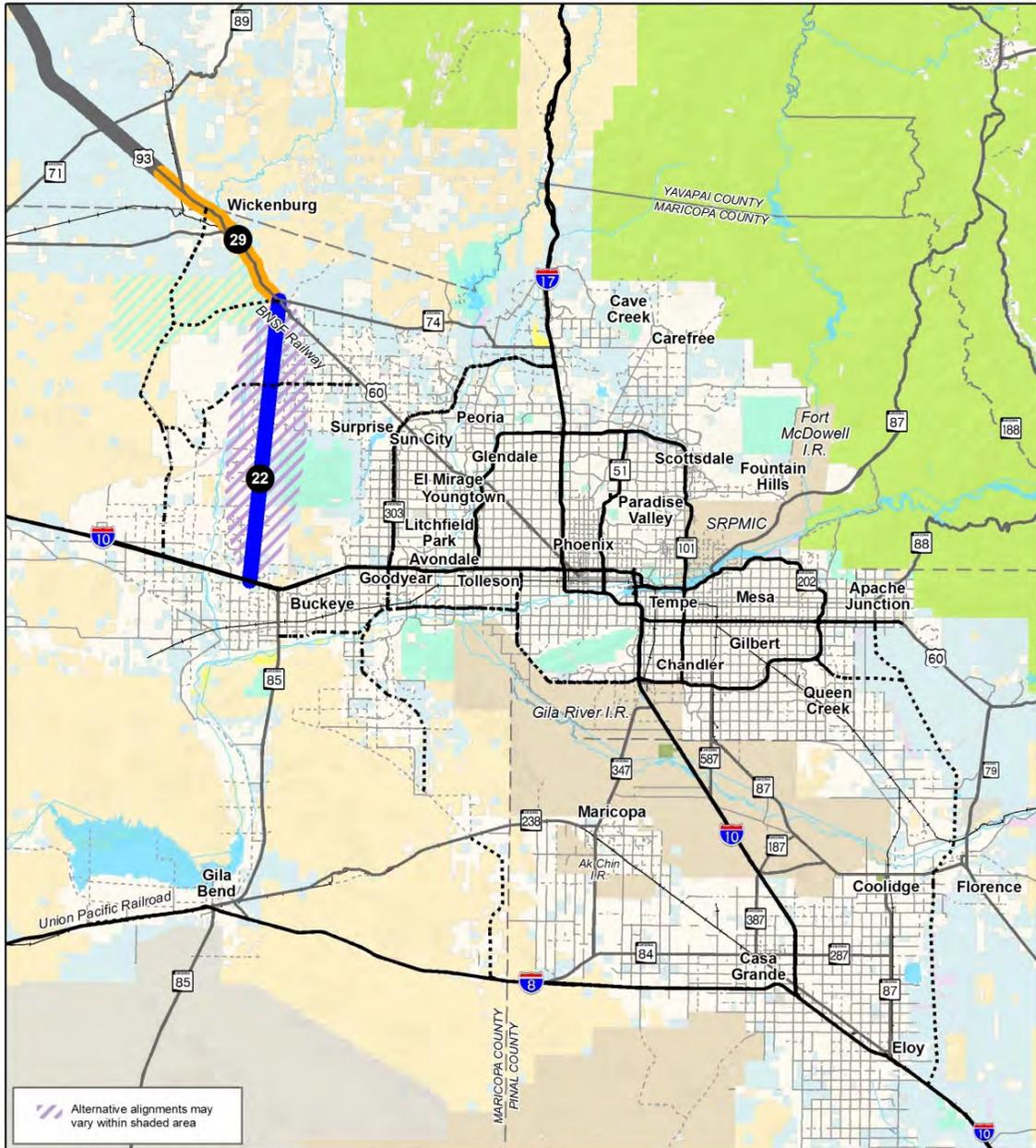
Alternative I - North

Opportunities

- Avoids planned BLM Vulture Mountains Cooperative Recreation Management Area

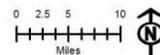
Constraints

- Cannot accommodate multiple modes and uses due to significant right of way and land use constraints
- Not consistent with local, regional, or statewide transportation plans or visions
- High impact anticipated to sensitive species, habitat, wildlife movement, and land managed for conservation



Legend

County Boundary	Major Street	Bureau of Reclamation	Military	U.S. Fish and Wildlife
Freeway	Planned Major Street	Tribal Lands	National Park Service	U.S. Forest Service
Planned Freeway	Railroad	Local or State Parks	Private	Corridor Alternative
State/US Highway	Bureau of Land Management	Future Park	State Land	



ALL INFORMATION IS PRELIMINARY / SUBJECT TO REVISION



Alternative I - North

Category	Criteria	Rating	Notes
Modal Interrelationships	1A Opportunity for a multi-use corridor?		Cannot accommodate multiple modes due to significant right-of-way and land use constraints along the corridor; however reasonable alternate corridors can be developed to accommodate other modes. An alternative corridor could utilize the Arizona Passenger Rail Corridor to central Phoenix, and either the UPRR Wellton Branch to the proposed Hassayampa Freeway or the Grand Avenue/US-60 BNSF corridor to Wickenburg.
	Capacity/ Congestion		
Capacity/ Congestion	2A Travel time savings over No-Build?		Greater than 10 minutes in improvement in overall travel time savings over No-Build
	2B Total long distance VMT?		10 - 20 percent greater long distance VMT than Alternative LL
	2C Total VHD?		Highest total vehicle hours of delay
	2D Average travel speed?		Average travel speed is greater than 60 mph
Economic Vitality	3A Expected short-term impacts to the regional economy?		Total economic output is between \$1,000,000,001 - \$1,200,000,000
	3B Cost of delay?		Highest total cost of delay
Transportation Plans and Policies	4A Consistent with short-term programmed transportation projects?		Segment 22 (Sun Valley/Turner Parkway) not included in MAG 2035 RTP (existing Sun Valley/Turner Parkway shown as a four lane arterial) - not consistent. No programmed improvements for US-60 (currently a four-lane divided highway); not access-controlled - not consistent.
	4B Consistent with long-term transportation visions and plans?		Corridor is not included in bqAZ (Sun Valley/Turner Parkway planned to be upgraded to a parkway only; no plans on US-60) - not consistent.
Environmental Sustainability	5A Impact to wildlife corridors and/or habitat blocks?		Per AGFD, this entire corridor is seen to have potentially high impact to wildlife corridors and habitat blocks, specifically due to the proximity to high quality riparian habitat in the Hassayampa River Preserve. Per TNC, impacts to the Lower Hassayampa River could degrade or cause loss to wildlife and habitat, notably ESA Endangered and Proposed Threatened species, including Bonytail, Southwestern Willow Flycatcher, Western Yellow-billed Cuckoo, and ESA Candidate species Sonoran Desert Tortoise.
	5B Impact to land managed for conservation or wildlife purposes?		Per AGFD, this entire corridor is seen to have potentially high impact to land managed for conservation purposes due to the proximity of the corridor to the planned BLM Vulture Mountain Cooperative Management Recreation Area and White Tank Regional Park. Per TNC, this corridor would impact the Hassayampa River Preserve, an area acquired for conservation purposes.
	5C Linear miles of undisturbed waterways/ floodplains impacted?		Traverses approximately 0.6 miles of undisturbed floodplains.
	5D General impact to air quality?		More long-term operational impacts to populated areas.
	5E Additional environmental concerns identified by stakeholders?		Potential visual impacts related to White Tank Mountain Regional Park.
Land Use and Ownership	6A Consistent with regional and local land use plans (including tribal plans, if available)?		Planned land uses along this alternative are primarily focused toward residential- and resort-oriented master planned community growth (Buckeye/Maricopa County/ASLD) and open space/environmentally-sensitive areas - not that of a major trade corridor. Major employment center planned adjacent to I-10/Sun Valley Parkway interchange.
	6B Compatible with major land ownership patterns and resource plans?		Partially compatible with land ownership patterns (primarily private, State Land, and BLM) in northern portion of corridor. ASLD land, located within White Tanks Master Land Use Plan, and BLM/ASLD land immediately north of I-10/SR-85 interchange would generally be considered incompatible with trade corridor development.
Community Acceptance	7A Core Agency Partners?		To be assessed after January 2014 CAP meeting.
	7B Stakeholder Partners?		To be assessed after January 2014 Stakeholders Partners meeting.
	7C General public?		To be assessed after January/February 2014 online public outreach event.
Cost	8A Order of magnitude cost?		Cost is \$800,000,000

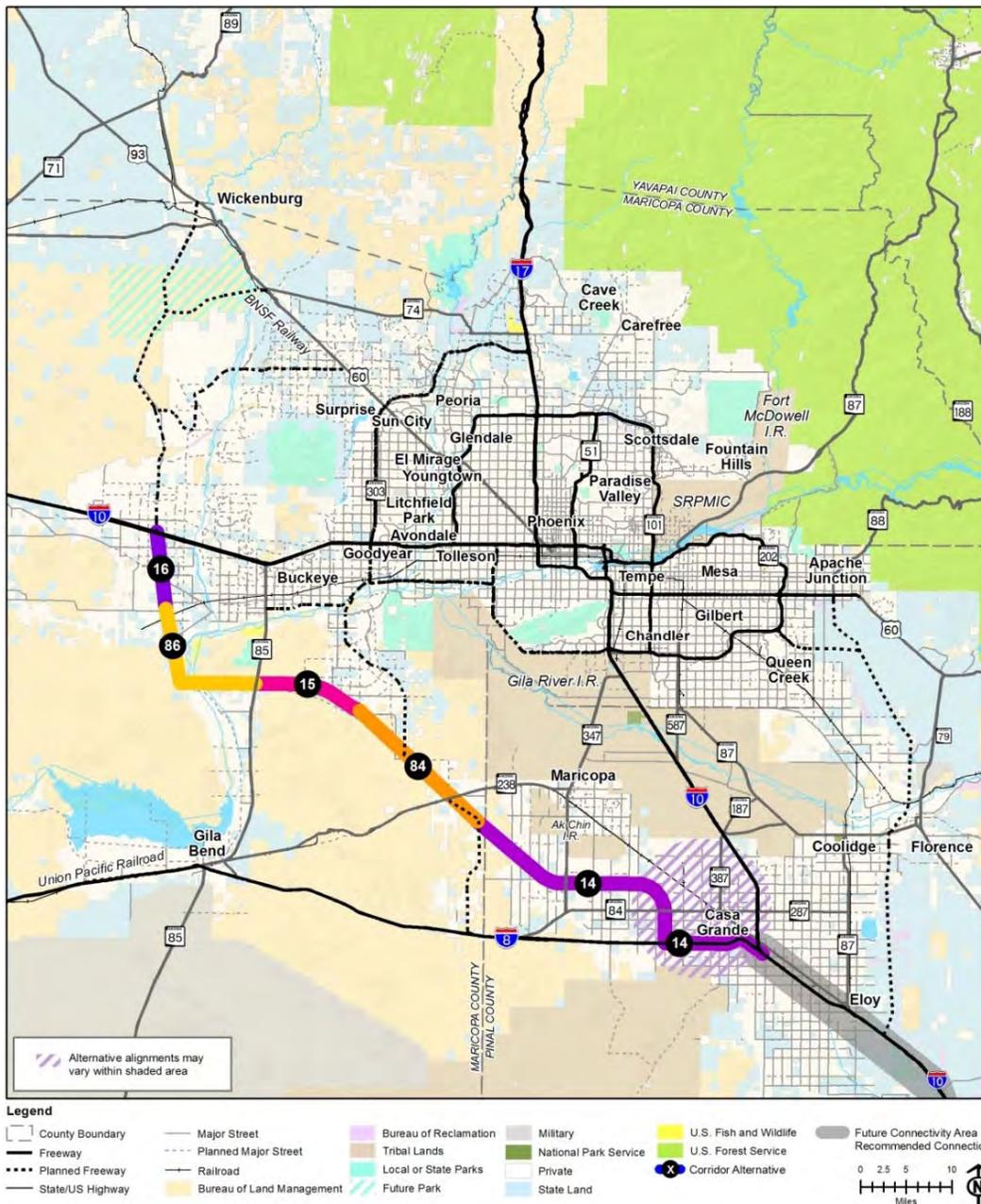
Alternative G - South

Opportunities

- Entire corridor included as a future freeway in the bqAZ Statewide Transportation Framework Study; reflected in consistency of local transportation and land use plans
- Compatibility with major land ownership categories; segments 15 and 84 within Section 368 energy corridor where current regional infrastructure exists and other major facilities are planned
- Ability to accommodate multiple modes and uses through all of corridor

Constraints

- High impact anticipated (particularly in portions of Segment 86) to sensitive species, habitat, wildlife movement, land managed for conservation, and floodplains; potential to form wildlife movement barrier through Sonoran Desert National Monument
- Potential cultural resource impacts



ALL INFORMATION IS PRELIMINARY / SUBJECT TO REVISION



Alternative G - South

Category	Criteria	Rating	Notes
Modal Interrelationships	1A Opportunity for a multi-use corridor?		Can accommodate multiple modes and uses through the entire corridor.
Capacity/ Congestion	2A Travel time savings over No-Build?		Less than 5 minutes in improvement in overall travel time savings over No-Build
	2B Total long distance VMT?		Less than 10 percent greater long distance VMT than Alternative LL
	2C Total VHD?		10 - 20 percent less delay than Alternative I
	2D Average travel speed?		Average travel speed is greater than 60 mph
Economic Vitality	3A Expected short-term impacts to the regional economy?		Total economic output is between \$1,600,000,001 - \$2,200,000,000
	3B Cost of delay?		10 - 20 percent less cost of delay than Alternative I
Transportation Plans and Policies	4A Consistent with short-term programmed transportation projects?		Proposed Hassayampa Freeway portion not programmed in MAG 2035 RTP (included as an "illustrative corridor") - not consistent. I-8 portion of Segment 14 already includes four lanes in each direction with no short-term improvements programmed; excess capacity exists - consistent.
	4B Consistent with long-term transportation visions and plans?		Entire corridor included as future freeway in the bqAZ Statewide Framework Study. Majority of corridor defined as proposed Hassayampa Freeway and "potential future Interstate" - consistent. Overall - consistent.
Environmental Sustainability	5A Impact to wildlife corridors and/or habitat blocks?		Per AGFD, the majority of the corridor is seen to have potentially high impact to wildlife corridors and habitat blocks. The greatest impacts are focused on the proposed Hassayampa Freeway link west of SR-85, with moderate to high impacts on the same corridor throughout Maricopa County (paralleling north border of Sonoran Desert National Monument). This latter link is anticipated to form a new barrier for wildlife movement, which is already pinned in by I-8 and SR-85.
	5B Impact to land managed for conservation or wildlife purposes?		Per AGFD, about half of this corridor is seen to have potentially high impact to land managed for conservation. The proposed Hassayampa Freeway link west of SR-85 traverses the Lower Salt and Gila Rivers Important Bird Area (IBA), as designated by the National Audubon Society. The proposed Hassayampa Freeway link east of SR-85 would significantly impact wildlife conservation in proximity to the Sonoran Desert National Monument and Arlington and Powers Butte Wildlife Areas.
	5C Linear miles of undisturbed waterways/ floodplains impacted?		Traverses approximately 12.4 miles of undisturbed floodplains.
	5D General impact to air quality?		Higher short-term operational impacts from construction than Alternative MM.
	5E Additional environmental concerns identified by stakeholders?		Traverses cultural resource sites at Lower Salt and Gila Rivers IBA. Potential impact to outdoor recreational opportunities, including access.
Land Use and Ownership	6A Consistent with regional and local land use plans (including tribal plans, if available)?		Planned land uses are generally compatible with implementation of a major trade corridor throughout this alternative, including the development of several master plans in Buckeye and Goodyear oriented toward freeway development (business park, industrial), and clusters of employment land uses along Montgomery Road and I-8 in Casa Grande/Pinal County. In addition, Pinal County has designated several high intensity activity centers along this corridor, paired with Casa Grande's designation of commerce/business and manufacturing/industry along this route.
	6B Compatible with major land ownership patterns and resource plans?		Generally compatible with land ownership patterns (primarily undeveloped private, State Land, and BLM); alternative proposed within multi-use utility corridor paralleling northern boundary of Sonoran Desert National Monument where current regional infrastructure exists and other major facilities are planned (Section 368 energy corridor).
Community Acceptance	7A Core Agency Partners?		To be assessed after January 2014 CAP meeting.
	7B Stakeholder Partners?		To be assessed after January 2014 Stakeholders Partners meeting.
	7C General public?		To be assessed after January/February 2014 online public outreach event.
Cost	8A Order of magnitude cost?		Cost is \$1,452,600,000

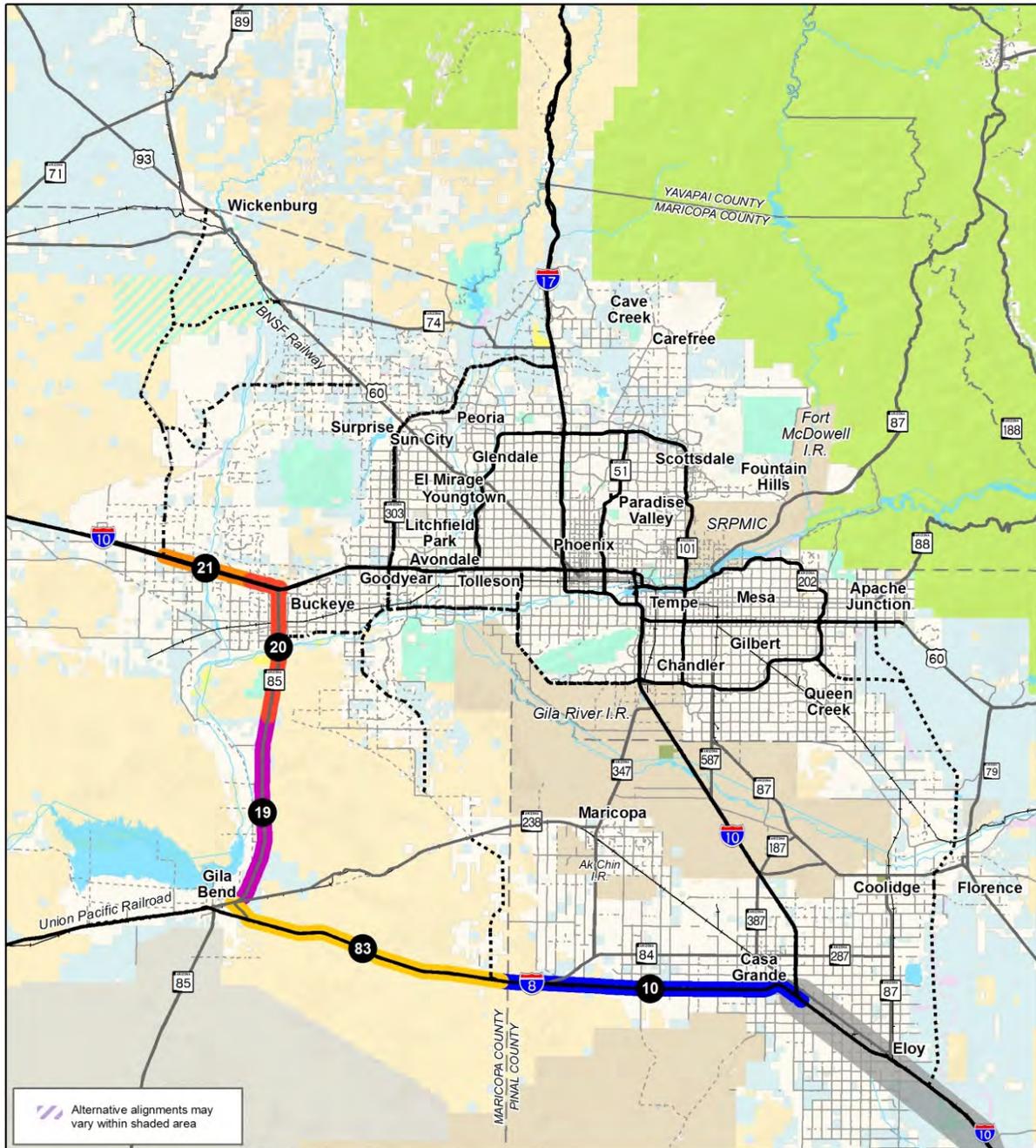
Alternative H - South

Opportunities

- Minimal environmental impacts anticipated due to use of existing corridors; opportunities to improve habitat connectivity through corridor improvement
- Lowest preliminary estimated total cost

Constraints

- Minimal travel time savings over No-Build



ALL INFORMATION IS PRELIMINARY / SUBJECT TO REVISION



Alternative H - South

Category	Criteria	Rating	Notes
Modal Interrelationships	1A Opportunity for a multi-use corridor?		Can accommodate multiple modes and uses through most of the corridor, with the possible exceptions of minor right-of-way and to a lesser extent land use constraints in the urban areas of Gila Bend and Buckeye.
Capacity/ Congestion	2A Travel time savings over No-Build?		Less than 5 minutes in improvement in overall travel time savings over No-Build
	2B Total long distance VMT?		10 - 20 percent greater long distance VMT than Alternative LL
	2C Total VHD?		10 - 20 percent less delay than Alternative I
	2D Average travel speed?		Average travel speed is greater than 60 mph
Economic Vitality	3A Expected short-term impacts to the regional economy?		Total economic output is between \$1,200,000,001 - \$1,600,000,000
	3B Cost of delay?		10 - 20 percent less cost of delay than Alternative I
Transportation Plans and Policies	4A Consistent with short-term programmed transportation projects?		No new improvements currently programmed for I-10. South of I-10, no new improvements programmed for SR-85 (four-lane state highway; limited access) or I-8 (four-lane freeway; access-controlled) in MAG 2035 RTP. Excess capacity available - consistent.
	4B Consistent with long-term transportation visions and plans?		Entire corridor included as future freeways in the bqAZ Statewide Framework Study. SR-85 and I-8 corridors included to be widened/upgraded - consistent. Overall - consistent.
Environmental Sustainability	5A Impact to wildlife corridors and/or habitat blocks?		Per AGFD, moderate habitat impacts are anticipated for this alternative. I-8 through the Sonoran Desert National Monument could have potentially moderate impact to wildlife corridors and habitat blocks.
	5B Impact to land managed for conservation or wildlife purposes?		Per AGFD, a small portion of this corridor is seen to have potentially moderate impact to land managed for conservation due to the proximity of the corridor to the Buckeye Hills Recreation Area and Gila River and Robbins Butte Wildlife Areas.
	5C Linear miles of undisturbed waterways/ floodplains impacted?		Traverses no undisturbed floodplains.
	5D General impact to air quality?		Lower construction impacts than Alternative MM, but more long-term operational impacts to populated areas.
	5E Additional environmental concerns identified by stakeholders?		Potential impact to Title VI/Environmental Justice population in/around Town of Gila Bend (per MAG 2035 RTP).
Land Use and Ownership	6A Consistent with regional and local land use plans (including tribal plans, if available)?		This alternative traverses much land that is not expected to see future development due to its designation for planned open space, and as part of the Sonoran Desert National Monument. Therefore, planned land uses will generally not enhance this corridor as a major trade route. At both alternative termini however, clusters of mixed use, business park, industrial, and employment land uses are seen as compatible with trade corridor development. In addition, Pinal County has designated several low intensity and high intensity activity center locations along I-8, paired with Casa Grande's designation of commerce/business along this route.
	6B Compatible with major land ownership patterns and resource plans?		Compatible with land ownership patterns (primarily private, State Land, and BLM); assumes available right-of-way on I-8 through Sonoran Desert National Monument.
Community Acceptance	7A Core Agency Partners?		To be assessed after January 2014 CAP meeting.
	7B Stakeholder Partners?		To be assessed after January 2014 Stakeholders Partners meeting.
	7C General public?		To be assessed after January/February 2014 online public outreach event.
Cost	8A Order of magnitude cost?		Cost is \$907,100,000

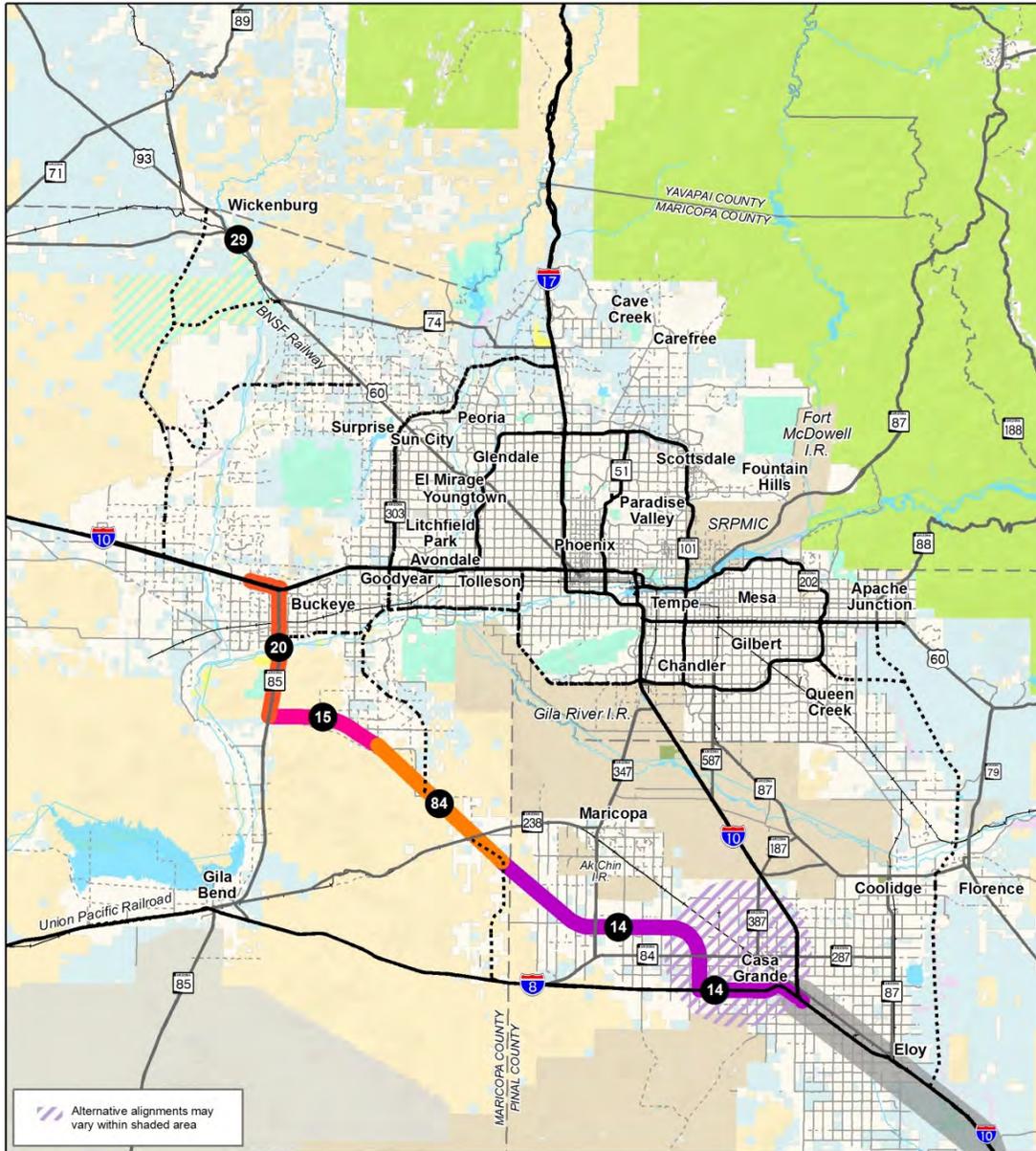
Alternative I - South

Opportunities

- Planned land uses generally compatible with implementation of a major trade corridor
- Compatibility with major land ownership categories; segments 15 and 84 within Section 368 energy corridor where current regional infrastructure exists and other major facilities are planned
- Avoids the major environmental constraints found in segment 86

Constraints

- High impact anticipated to habitat; potential to form wildlife movement barrier through Sonoran Desert National Monument
- More long-term air quality impacts to populated areas anticipated



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Alternative I - South

Category	Criteria	Rating	Notes
Modal Interrelationships	1A Opportunity for a multi-use corridor?		Can accommodate multiple modes and uses through most of the corridor, with the possible exceptions of minor right-of-way and to a lesser extent land use constraints in the urban area of Buckeye.
Capacity/ Congestion	2A Travel time savings over No-Build?		Greater than 10 minutes in improvement in overall travel time savings over No-Build
	2B Total long distance VMT?		10 - 20 percent greater long distance VMT than Alternative LL
	2C Total VHD?		Highest total vehicle hours of delay
	2D Average travel speed?		Average travel speed is greater than 60 mph
Economic Vitality	3A Expected short-term impacts to the regional economy?		Total economic output is between \$1,200,000,001 - \$1,600,000,000
	3B Cost of delay?		Highest total cost of delay
Transportation Plans and Policies	4A Consistent with short-term programmed transportation projects?		No new improvements programmed for SR-85 (four-lane state highway; limited access) or I-8 (four-lane freeway; access-controlled); excess capacity available - consistent. Segments 14, 15, and 84 (proposed Hassayampa Freeway) not programmed in MAG 2035 RTP (included as an "illustrative corridor") - not consistent. No systems interchange planned for SR-85 and I-10. Overall - not consistent north I-10.
	4B Consistent with long-term transportation visions and plans?		SR-85 is included to be upgraded to a freeway - consistent. Remainder of corridor included in bqAZ as proposed Hassayampa Freeway and proposed Montgomery Road Freeway - consistent. The portion of the corridor in Pinal County is consistent with corridor planning for the East-West Corridor Study - consistent. Overall - consistent.
Environmental Sustainability	5A Impact to wildlife corridors and/or habitat blocks?		Per AGFD, the majority of the corridor is seen to have potentially high impact to wildlife corridors and habitat blocks. Greatest impacts are focused on SR-85 near the Buckeye Hills Recreation Area and proposed Hassayampa Freeway link in Maricopa County (paralleling north border of Sonoran Desert National Monument). This latter link is anticipated to form a new barrier for wildlife movement, which is already pinned in by I-8 and SR-85.
	5B Impact to land managed for conservation or wildlife purposes?		Per AGFD, about half of the corridor is seen to have potentially moderate to high impact to land managed for conservation due to the proximity of the corridor to the Buckeye Hills Recreation Area and the Sonoran Desert National Monument.
	5C Linear miles of undisturbed waterways/ floodplains impacted?		Traverses approximately 7.3 miles of undisturbed floodplains.
	5D General impact to air quality?		More long-term operational impacts to populated areas.
	5E Additional environmental concerns identified by stakeholders?		Potential impact to outdoor recreational opportunities, including access.
Land Use and Ownership	6A Consistent with regional and local land use plans (including tribal plans, if available)?		Planned land uses are generally compatible with implementation of a major trade corridor throughout this alternative, including the development of several master plans in Buckeye and Goodyear oriented toward freeway development (business park, industrial), and clusters of employment land uses along Montgomery Road and I-8 in Casa Grande/Pinal County. In addition, Pinal County has designated several high intensity activity centers along this corridor, paired with Casa Grande's designation of commerce/business and manufacturing/industry along this route.
	6B Compatible with major land ownership patterns and resource plans?		Generally compatible with land ownership patterns (primarily undeveloped private, State Land, and BLM); alternative proposed within multi-use utility corridor paralleling northern boundary of Sonoran Desert National Monument where current regional infrastructure exists and other major facilities are planned (Section 368 energy corridor).
Community Acceptance	7A Core Agency Partners?		To be assessed after January 2014 CAP meeting.
	7B Stakeholder Partners?		To be assessed after January 2014 Stakeholders Partners meeting.
	7C General public?		To be assessed after January/February 2014 online public outreach event.
Cost	8A Order of magnitude cost?		Cost is \$1,106,400,000

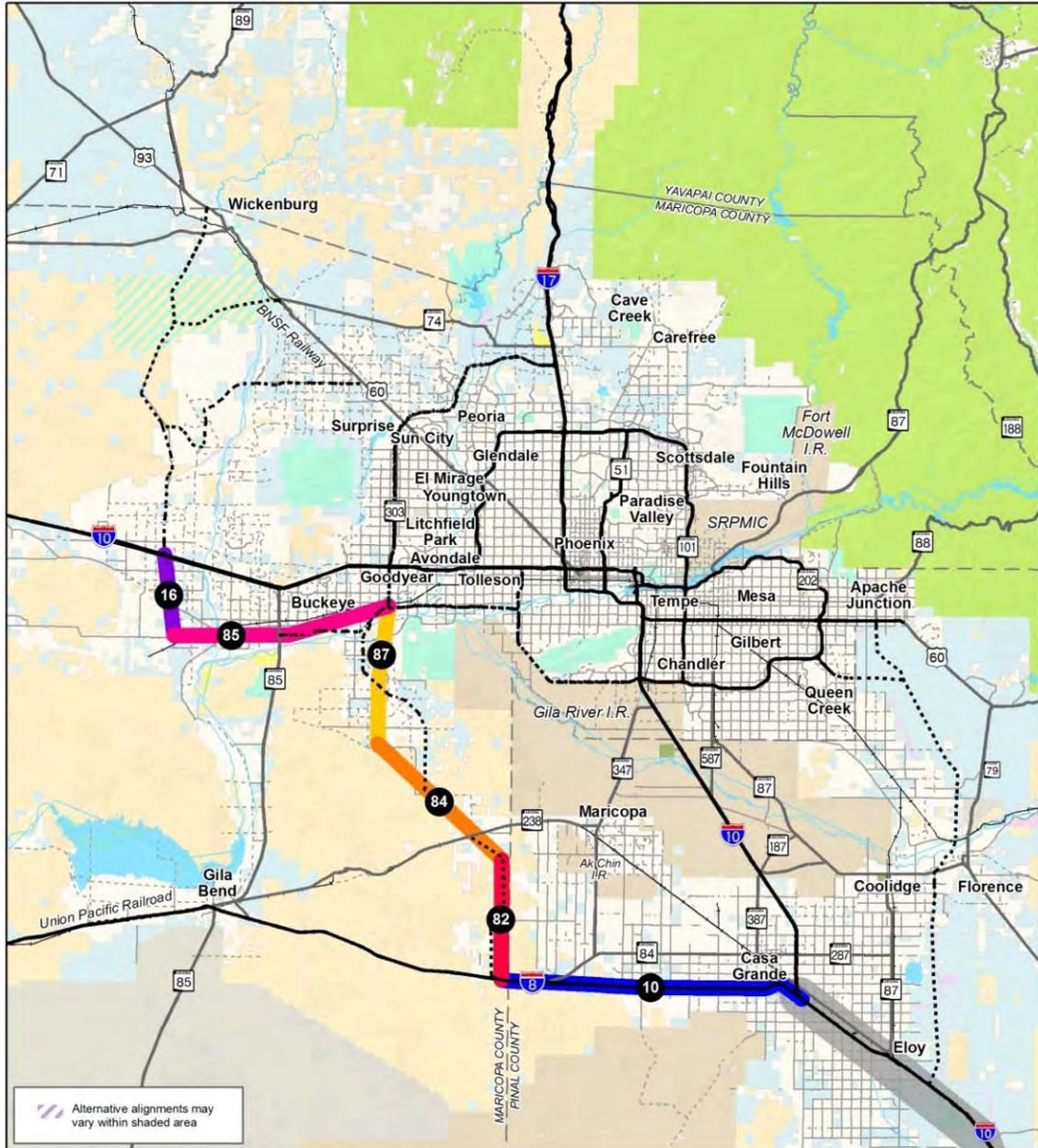
Alternative LL - South

Opportunities

- Entire corridor included as future freeways in the bqAZ Statewide Transportation Framework Study; reflected in consistent local transportation and land use plans
- Ability to accommodate multiple modes and uses through all of corridor

Constraints

- More circuitous route
- Targeted high impact environmental constraints, including habitat loss and degradation due to Segment 82 (Vekol Valley) and contributing to isolate habitat movement to/from the Sonoran Desert National Monument



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Alternative LL - South

Category	Criteria	Rating	Notes
Modal Interrelationships	1A Opportunity for a multi-use corridor?		Can accommodate multiple modes and uses through the entire corridor.
Capacity/ Congestion	2A Travel time savings over No-Build?		Between 5 and 10 minutes in improvement in overall travel time savings over No-Build
	2B Total long distance VMT?		Lowest long distance VMT
	2C Total VHD?		20 - 40 percent less delay than Alternative I
	2D Average travel speed?		Average travel speed is greater than 60 mph
Economic Vitality	3A Expected short-term impacts to the regional economy?		Total economic output is between \$1,600,000,001 - \$2,200,000,000
	3B Cost of delay?		20 - 40 percent less cost of delay than Alternative I
Transportation Plans and Policies	4A Consistent with short-term programmed transportation projects?		Segments 16 and 85 (west of SR-85) not included in MAG 2035 RTP - not consistent. Segment 85 east of SR-85 (planned SR-30) programmed for a two-lane corridor - not consistent. Segments 87 and 84 planned as a four-lane arterial - not consistent. Segment 82 not included in MAG 2035 RTP - not consistent. No new improvements programmed for I-8 (four-lane freeway; access-controlled); excess capacity available - consistent.
	4B Consistent with long-term transportation visions and plans?		Entire corridor included as future freeways in the bqAZ Statewide Framework Study. New corridors include: SR-30, SR-303L extensions, proposed Hassayampa Freeway; existing to be widened/upgraded corridors include I-10, SR-85, I-8 - consistent. Overall - consistent.
Environmental Sustainability	5A Impact to wildlife corridors and/or habitat blocks?		Per AGFD, about half of the corridor is seen to have potentially high impact to wildlife corridors and habitat blocks (proposed SR-30 link and proposed Hassayampa Freeway link/SR-303L Vekol Valley extension). Per TNC, impact to the SR-303L Vekol Valley extension segment would cause habitat loss or degradation to desert tortoise and native habitats. It would also contribute to isolating the northern portion of the Sonoran Desert National Monument.
	5B Impact to land managed for conservation or wildlife purposes?		Per AGFD, about half of the corridor is seen to have potentially moderate to high impact to land managed for conservation due to the proximity of the corridor to the Estrella Mountain Regional Park and the Sonoran Desert National Monument.
	5C Linear miles of undisturbed waterways/floodplains impacted?		Traverses approximately 6.8 miles of undisturbed floodplains.
	5D General impact to air quality?		Largest long-term operational impacts to populated areas.
	5E Additional environmental concerns identified by stakeholders?		Potential impact to outdoor recreational opportunities, including access.
Land Use and Ownership	6A Consistent with regional and local land use plans (including tribal plans, if available)?		Planned land uses are generally compatible with implementation of a major trade corridor, as this alternative follows a series of planned freeways. General plan documents include these planned freeways and have oriented planned land uses to be compatible with and take advantage of freeway frontage opportunities (industrial, commercial, employment, business park) (Buckeye, Goodyear, Pinal County). In addition, Pinal County has designated several low intensity and high intensity activity center locations along I-8, paired with Casa Grande's designation of commerce/business along this route.
	6B Compatible with major land ownership patterns and resource plans?		Generally compatible with land ownership patterns (primarily undeveloped private, State Land, and BLM); alternative proposed within multi-use utility corridor paralleling northern boundary of Sonoran Desert National Monument where current regional infrastructure exists and other major facilities are planned (Section 368 energy corridor).
Community Acceptance	7A Core Agency Partners?		To be assessed after January 2014 CAP meeting.
	7B Stakeholder Partners?		To be assessed after January 2014 Stakeholders Partners meeting.
	7C General public?		To be assessed after January/February 2014 online public outreach event.
Cost	8A Order of magnitude cost?		Cost is \$1,463,000,000

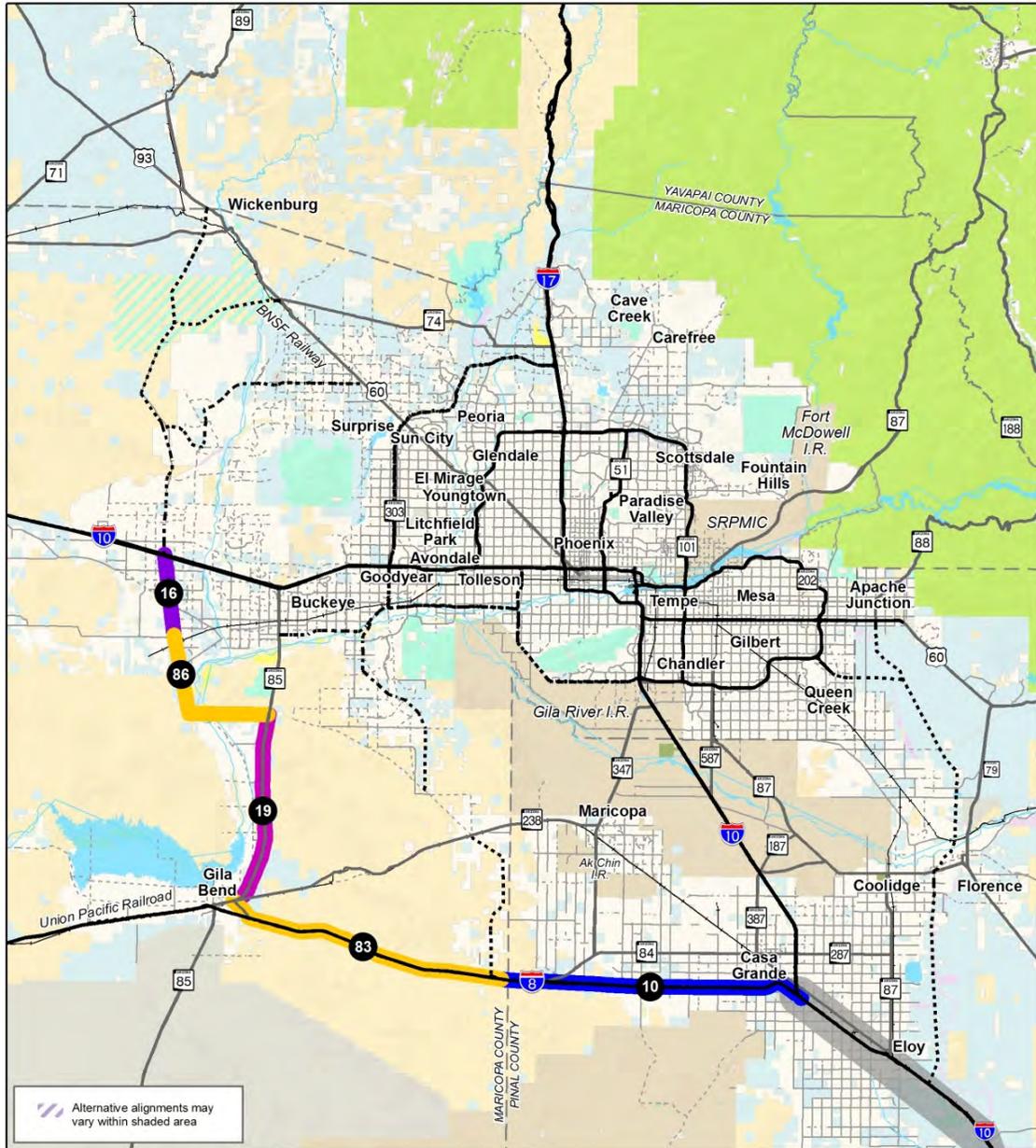
Alternative MM - South

Opportunities

- Uses existing roadways and avoids long-term air quality impacts to populated areas

Constraints

- Moderate to high impact anticipated to sensitive species, habitat, wildlife movement, cultural resources, and land managed for conservation (particularly on segment 86)
- Planned land uses will generally not enhance major trade corridor; traverses much land not expected to see future development due to open space designations



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Alternative MM - South

Category	Criteria	Rating	Notes
Modal Interrelationships	1A Opportunity for a multi-use corridor?		Can accommodate multiple modes and uses through most of the corridor, with the possible exceptions of minor right-of-way and to a lesser extent land use constraints in the urban area of Gila Bend.
Capacity/ Congestion	2A Travel time savings over No-Build?		Greater than 10 minutes in improvement in overall travel time savings over No-Build
	2B Total long distance VMT?		Less than 10 percent greater long distance VMT than LL
	2C Total VHD?		20 - 40 percent less delay than Alternative I
	2D Average travel speed?		Average travel speed is greater than 60 mph
Economic Vitality	3A Expected short-term impacts to the regional economy?		Total economic output is between \$1,600,000,001 - \$2,200,000,000
	3B Cost of delay?		20 - 40 percent less cost of delay than Alternative I
Transportation Plans and Policies	4A Consistent with short-term programmed transportation projects?		Segments 16 and 86 not included in MAG 2035 RTP - not consistent. No new improvements programmed for SR-85 (four-lane state highway; limited access) or I-8 (four-lane freeway; access-controlled); excess capacity available - consistent.
	4B Consistent with long-term transportation visions and plans?		Entire corridor included as future freeways in the bqAZ Statewide Framework Study. SR-85 and I-8 corridors included to be widened/upgraded - consistent. Segment 16 and 86 included as proposed Hassayampa Freeway - consistent. Overall - consistent.
Environmental Sustainability	5A Impact to wildlife corridors and/or habitat blocks?		Per AGFD, about half of the corridor is seen to have potential impact to wildlife corridors and habitat blocks (high impact on the proposed Hassayampa Freeway west of SR-85; moderate impact on I-8 through the Sonoran Desert National Monument).
	5B Impact to land managed for conservation or wildlife purposes?		Per AGFD, a small portion of this corridor is seen to have potentially high impact to land managed for conservation. The proposed Hassayampa Freeway link west of SR-85 traverses the Lower Salt and Gila Rivers Important Bird Area (IBA), as designated by the National Audubon Society, as well as is proximate to the Gila River and Robbins Butte Wildlife Areas.
	5C Linear miles of undisturbed waterways/ floodplains impacted?		Traverses approximately 5.1 miles of undisturbed floodplains.
	5D General impact to air quality?		Uses more existing roadway and avoids long-term operational impacts in populated areas.
	5E Additional environmental concerns identified by stakeholders?		Traverses cultural resource sites at Lower Salt and Gila Rivers IBA. Potential impact to outdoor recreational opportunities, including access. Potential impact to Title VI/Environmental Justice population in/around Town of Gila Bend (per MAG 2035 RTP).
Land Use and Ownership	6A Consistent with regional and local land use plans (including tribal plans, if available)?		This alternative traverses much land that is not expected to see future development due to its designation for planned open space, and as part of the Sonoran Desert National Monument. Therefore, planned land uses will generally not enhance this corridor as a major trade route. At key locations however (SR-85/I-8 junction, I-8/I-10 junction, clusters of mixed use, business park, industrial, and employment land uses are seen as compatible with trade corridor development. In addition, Pinal County has designated several low intensity and high intensity activity center locations along I-8, paired with Casa Grande's designation of commerce/business along this route.
	6B Compatible with major land ownership patterns and resource plans?		Compatible with land ownership patterns (primarily private, State Land, and BLM); assumes available right-of-way on I-8 through Sonoran Desert National Monument.
Community Acceptance	7A Core Agency Partners?		To be assessed after January 2014 CAP meeting.
	7B Stakeholder Partners?		To be assessed after January 2014 Stakeholders Partners meeting.
	7C General public?		To be assessed after January/February 2014 online public outreach event.
Cost	8A Order of magnitude cost?		Cost is \$1,008,700,000

MARICOPA ASSOCIATION OF GOVERNMENTS

INFORMATION SUMMARY... for your review

DATE:

February 11, 2014

SUBJECT:

Designing Transit Accessible Communities Study

SUMMARY:

The Fiscal Year (FY) 2011 Unified Planning Work Program and Annual Budget, approved by the MAG Regional Council in May 2010, included a study to help provide member agencies with additional tools and guidelines to provide better transit accessibility for pedestrians and bicyclists. The study's goal was to better understand the critical needs and explore opportunities to improve the experience of transit users in the MAG region. The study outcome details the process of categorizing of bus stops that addresses the different needs and challenges of the existing built environment. A Designing Transit Accessible Communities tool kit includes sample policies and best practices specific to the MAG region and geography. The implementation check list is intended for use by development review planners, engineers and transit service planners.

PUBLIC INPUT:

The study methodology included intercept surveys and two stakeholder meetings. Intercept surveys were conducted at five locations in the valley during morning and afternoon peak transit hours. The stakeholder discussion included individuals from advocacy groups and non-profit organizations. The study was presented and made available for public input at MAG Transit, Safety, Bicycle and Pedestrian, and Streets committees. No public input was received at the committee meetings.

PROS & CONS:

PROS: Acceptance of the Designing Transit Accessible Communities Study provides MAG member agencies the information and tools by which to improve access for their transit dependent customers and those who rely on the system to employment, health services, and mobility.

CONS: None.

TECHNICAL & POLICY IMPLICATIONS:

TECHNICAL: Each issue addressed was cited as critical to the transit user through the public outreach process. The study final report includes a tool kit that provides policy and planning options to address user's concerns and a implementation check list for technical staff.

POLICY: While the document does not recommend a regional policy, it includes examples of policies that have been successfully implemented in the MAG region. It may also be utilized as a regional planning tool.

ACTION NEEDED:

Recommend acceptance of the Designing Transit Accessible Communities Study.

PRIOR COMMITTEE ACTIONS:

This item is on the February 12, 2014, MAG Management Committee agenda. An update will be provided on action taken by the committee.

On January 30, 2014, the Transportation Review Committee recommended acceptance of the Designing Transit Accessible Communities Study.

MEMBERS ATTENDING

- Avondale: David Fitzhugh, Chair
- Phoenix: Rick Naimark, Vice Chair
- ADOT: Kwi-Sung Kang for Floyd Roehrich
- * Buckeye: Scott Lowe
- * Cave Creek: Ian Cordwell
- Chandler: Dan Cook
- El Mirage: Bryce Christo for Jorge Gastelum
- * Fountain Hills: Randy Harrel
- Gila Bend: Ernie Rubi
- Gila River: Tim Oliver
- Gilbert: Leah Hubbard
- Glendale: Debbie Albert
- Goodyear: Cato Esquivel
- Litchfield Park: Woody Scoutten
- Maricopa (City): David Maestas for Paul Jepson
- Maricopa County: John Hauskins
- Mesa: Jeff Martin for Scott Butler
- * Paradise Valley: Jim Shano
- Peoria: Andrew Granger
- Queen Creek: Mohamed Youssef
- Scottsdale: Paul Basha
- Surprise: Dick McKinley
- Tempe: Shelly Seyler
- Valley Metro: John Farry
- # Wickenburg: Vince Lorefice
- Youngtown: Grant Anderson

EX-OFFICIO MEMBERS ATTENDING

- *Street Committee: Charles Andrews, Avondale
- *ITS Committee: Catherine Hollow, Tempe
- * FHWA: Ed Stillings
- * Bicycle/Pedestrian Committee: Denise Lacey, Maricopa County
- * Transportation Safety Committee: Renate Ehm, Mesa

* Members neither present nor represented by proxy. + Attended by Videoconference
Attended by Audioconference

On January 9, 2014, the Transit Committee recommended acceptance of the Designing Transit Accessible Communities Study.

MEMBERS ATTENDING

- * ADOT: Nicole Patrick
- Avondale: Kristen Sexton for Rogene Hill
- * Buckeye: Andrea Marquez
- Chandler: Dan Cook for RJ Zeder
- El Mirage: Bryce Christo for Sue McDermott
- Gilbert: Leslie Bubke
- Glendale: Matthew Dudley for Cathy Colbath
- * Goodyear: Cato Esquivel
- #Maricopa: David Maestas
- Maricopa County DOT: Mitch Wagner
- Mesa: Jeff Martin for Jodi Sorrell
- * Paradise Valley: Jeremy Knapp
- * Peoria: Maher Hazine
- Phoenix: Maria Hyatt
- Queen Creek: Muhamed Youssef for Chris Anaradian
- Scottsdale: Madeline Clemann, Chair
- Surprise: David Kohlbeck
- * Tempe: Robert Yabes
- * Tolleson: Chris Hagen
- Valley Metro: Ben Limmer for Wulf Grote
- Youngtown: Grant Anderson

*Members neither present nor represented by proxy. + - Attended by Videoconference
- Attended by Audioconference

CONTACT PERSONS:

Alice Chen, Transportation Planner III or Teri Kennedy, Transportation Programming Manager, (602) 254-6300.

DESIGNING TRANSIT ACCESSIBLE COMMUNITIES study



June, 2013



Final Report



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■ Acknowledgements



Project Manager:
Maricopa Association of Governments
Alice Chen

Consultant Team:



410 North 44th Street, Suite 460
Phoenix, Arizona 85008



PO Box 1062
La Jolla, California 92038



201 Santa Monica Blvd, Suite 500
Santa Monica, California 90401



4600 E Washington St, Suite 366
Phoenix, Arizona 85034



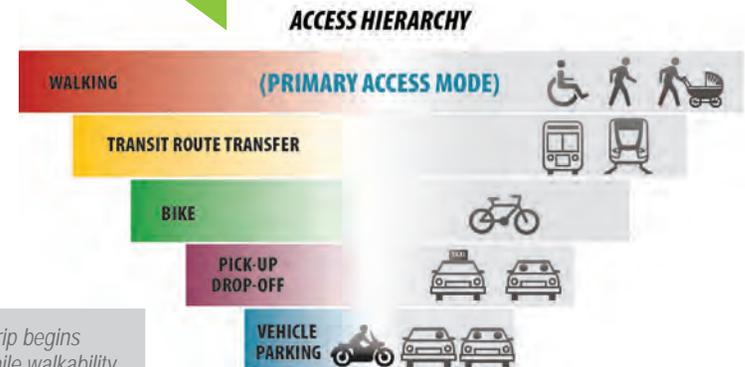
1.0 Introduction

Currently in the Maricopa Association of Governments (MAG) region, approximately 97 percent of all transit users approach the transit system by walking, biking, carpooling, or via kiss-and-ride; the remaining three percent drive alone and park in designated lots. Of all transit users, about 90 percent of them approach the system strictly by walking or bicycling. Regardless of the initial approach to transit, all connecting trips at the destination are made at the pedestrian level. Therefore, while there should be efforts to balance accessibility for all users, pedestrian connectivity should be addressed for all modes. Accessibility, for this study, is not defined as the ability to access transit service generally, but rather eliminating barriers transit patrons face as they access transit stops.

Typically, the average transit user is willing to walk one-quarter (¼) mile to a station or stop, although external factors can affect this distance. There are both soft and hard factors that affect the experience of the pedestrian transit user. Hard factors include the street design, land use, and frequency of transit service. Soft factors include weather protection, landscaping, social experience, and personal safety. MAG and its partners have conducted various previous studies related to transit user needs and transit facilities. Key studies include the Sustainable Transportation and Land Use Integration Study, the Regional Transit Framework Study, Regional Public Transit Authority (RPTA) Bus Stop Handbook (1993), Complete Streets Guide (2011), and the MAG Pedestrian Policies and Design Guidelines. The Designing Transit Accessible Communities Study (DTAC) is intended to augment findings and recommendations of these previous studies to provide guidance that can be utilized by agencies in the MAG region to improve the safety, comfort, and experience of pedestrians and bicyclists accessing transit.

"Transit Accessibility is... the segment of an individual trip that occurs between an origin or destination point and the transit system."

-Source: American Public Transit Association



"With rare exceptions, every transit trip begins and ends with a walk. As a result, while walkability benefits from good transit, good transit relies absolutely on walkability."

"These fixes simply give pedestrians a fighting chance, while also embracing bikes, enhancing transit, and making [downtown] living attractive to a broader range of people. Most are not expensive – some require little more than yellow paint. Each one individually makes a difference; collectively, they can transform a city and the lives of its residents."

- Source: Walkable City: How Downtown Can Save America, One Step at a Time, Jeff Speck, 2012

Jeff Speck outlines ten steps to walkability:

1. Put cars in their place
2. Mix the uses
3. Get the parking right
4. Let transit work
5. Protect the pedestrian
6. Welcome bikes
7. Shape the spaces
8. Plant trees
9. Make friendly and unique building faces
10. Pick your winners

An intercept survey was conducted at five case study locations during this project. Of those surveyed, 88% arrived via:

- walking (61%),
- bicycle (22%), or
- public transit (5%).

Important factors affecting transit accessibility are addressed in this study and include:

- lighting
- information signage
- wayfinding
- seating
- shelter
- shading
- adjacent land use
- bicycle access
- bicycle parking
- pedestrian crossing
- sidewalk



■ 1.1 Purpose of Study

Transit stops are the gateways to public transportation. Each one welcomes riders into the system and provides a transition point of entry into the community. The Valley Metro Fact Sheet (Issue 6, July 2009 – June 2010) indicates there are over 7,000 bus stops serving over 55.5 million bus boardings annually. Therefore, it is important that the bus stops provide a consistent, safe, and accessible environment. Currently, bus stops in the MAG region give riders mixed messages, depending on accessibility and how safe each stop feels. MAG and its partners understand that safe and accessible transit stops are an integral

part of the public transit system. As such, MAG has initiated this study to furnish member agencies with additional tools and guidance to promote and sustain better planning associated with improving existing deficiencies and deploying future stops that are more accessible and supportive of adjacent neighborhood needs. Despite how transit patrons primarily arrive at a stop, in the end all are pedestrians. Thus, this study will focus on challenges faced by pedestrians and bicyclists as they access transit at the stop level. Goals of the study include:

- identify challenges faced by users getting to transit;
- recommend improvement concepts, policies, and guidelines to enhance transit accessibility;
- provide a toolkit of measures and strategies for local governments to create transit accessible and livable neighborhoods; and
- identify options and provide a regional framework for applying for federal grants.

■ 1.2 Local & Regional Implementation Strategies

The resulting deliverable of this study is a regionally significant toolkit that provides guidance on best practices for designing transit accessible communities (see Chapter 6). The following list provides an overview of implementation strategies for local and regional agencies. These strategies should be considered when implementing multi-modal improvements in transit catchment areas and when addressing transit accessibility issues in future and existing programs. The strategies are divided into four primary categories: Prioritize, Outreach, Funding, and Policy and Guidance.

TABLE 1: Local & Regional Implementation Strategies

Local	Prioritize	Identify the projects/locations that have the great need and put them in a plan. In the event that regional or federal grants are made available, it puts your agency in a greater position of competing for gaining funding when it is in a plan.
		Identify gaps in the system. Accessibility is only as good as the weakest link.
		Start with "low hanging fruit" that can be implemented at a low nominal cost. Signs and paint can provide a great deal of utility to the transit user at a nominal cost.
	Outreach	Talk to your clients. They are the individuals on the street waiting for transit. Conduct your outreach at the ground level. Be willing to experience transit as the local transit user.
		Work with advocacy groups and businesses to understand the economic, social and health benefits of Transit Accessible Communities.
		Talk to your partners. Communicate with all those involved in the decision making process in order to maximize everyone's expertise.
	Funding	Identify discretionary funding sources to utilize in joint projects when they do occur. Improvements are less costly when done at the time of the retrofit and redevelopment, even if the agency has to pay for the cost. A small budget can go a long way in those situations.
	Policy and Guidelines	Incorporate guidelines or codes that can leverage improvements from new or redevelopments such as additional easements or right-of-way.
		Review, analyze and update codes to support livable communities (DTAC, Complete Streets, Transportation Master Plan, etc.)
Regional	Prioritize	Prioritize regional transit accessibility corridors and neighborhoods.
		Incorporate strategies and projects into the Regional Transportation Plan.
		Identify conflicts between current policies and transit accessibility design concepts.
	Outreach	Continue regional best practices workshop discussions and outreach efforts.
		Coordinate with agency staff and leaders to align local policies with transit accessible design concepts.
	Funding	Include funding for Transit Accessibility and Complete Streets in future regional funding priorities and Regional Transportation Plans.
	Policy and Guidelines	Identify elements that can be incorporated into the MAG Specs and Details guidebook.



■ 1.3 Outreach

STAKEHOLDER OUTREACH

Stakeholder outreach was designed to gain knowledge and address concerns to interested parties throughout the region. MAG identified 38 stakeholders to participate in the study that represented four primary groups: Special Needs, Facilities, Human Services, and Transportation. Techniques used to engage the stakeholders included committees, workshops, and interviews. From the stakeholder information, communication techniques and MAG review/acceptance processes were followed to incorporate the findings of these meetings into the plan. The stakeholders met at key milestones in the process as determined by the project team and the Technical Working Group (TWG).

TECHNICAL WORKING GROUPS

The Technical Working Groups (TWG) consisted of members from 6 different MAG committees: Bike and Pedestrian, POPTAC, Transit, Street, Elderly and Disability, and Safety. The role of the TWG was to provide technical guidance to the study team during the conduct of the study. Initially, the TWG provided input on the project goals and objectives that fed into the technical work of categorizing the metropolitan area bus stops. From there the TWG directed the study team efforts for the case studies, stop field reviews and transit user survey. Towards the conclusion of the project, the TWG provided key input on the Transit Accessibility Toolkit elements including lighting, signage, wayfinding, seating, shelters, shade, adjacent land use, bicycle access, bicycle parking, pedestrian crossings, and sidewalk considerations.

STAKEHOLDER INVOLVEMENT TECHNIQUES

MAG Committees: The committees were used to inform and solicit input from various MAG committees as needed including Transit, Bicycle and Pedestrian, Human Services, Street, Population Technical Advisory (POPTAC), Transportation Review, Transportation Policy, Management, and Regional Council.

Workshops: The purposes of the workshops are to solicit or address specific issues or concerns. The goal for participants was to work cooperatively to find innovative solutions to an issue(s) in a setting where quick, open and candid discussion is encouraged.

WORKSHOP 1

MAG identified key stakeholders from the region to actively participate in a study workshop. The first stakeholder workshop was convened February 7, 2012, to solicit input and expertise from largely local agency staff. Workshop 1 provided an overview of the study to the group to establish a familiarity with project goals and objectives. The larger group was then divided into four smaller groups to better engage each member. Approximately 35 participants attended the workshop. They were assembled into focus group settings, where they were asked to engage in a facilitated discussion about several key topics related to accessing bus stops.

The stakeholder workshop yielded significant insights into issues related to accessing bus transit by a variety of groups, including the general population,

the elderly, and the disabled. Issues identified during the stakeholder workshop provided a framework for exploring the characteristics and qualities of access to bus stops during the case study process. The key issues or topic areas identified during the stakeholder workshop include the following:

- American with Disabilities Act (ADA)
- Bicycle Facilities
- Sidewalk/Walkability
- Street Crossings
- Funding
- Policy
- Environment
- Information Systems
- Transit Systems
- Bus Stop Areas

Following the general session, each stakeholder group reconvened in a separate room with a designated Group Facilitator and a DTAC Study Team member to discuss various transit accessibility issues. Group participants were encouraged to provide input to the study at this time. To help foster discussion among the group members, a list of questions was provided to focus their comments (Table 2). However, each Group Facilitator was free to explore other pertinent issues as they arose. Each group provided a series of comments, issues, and concerns that were recorded by the Group Facilitator; these responses are summarized in Table 3.



TABLE 2: Focus Group Topic for Discussion

Project Goal	Question
1. Identify the challenges faced by users getting to transit.	What are transit users' challenges in accessing transit? How can these challenges be addressed?
2. Recommend improvements, policies and guidelines to enhance transit accessibility.	What type of bicycle and pedestrian facilities should be provided near transit stops in the MAG region? What does ADA not address when considering bus/transit stops?
3. Provide measures and strategies helpful in creating transit accessible neighborhoods.	What obstacles do communities face in planning and implementing transit accessibility improvements? What ideas do you have to help communities better plan and implement improvements for transit accessibility?
4. Provide a cost analysis and framework for funding options and prioritization of improvements.	If the region were to invest in transit accessibility improvements, what would you list as the most important criteria in prioritizing improvements and why? What are the challenges in funding accessibility improvements and how can we overcome them?



TABLE 3: Summary of Workshop 1 Breakout Sessions

Issue	Facilities	Human Services	Special Needs	Transportation
Americans with Disabilities Act (ADA)	<ul style="list-style-type: none"> • Accessible path of travel – someone with disabilities. • Provide ample areas for those maneuvering onto the bus with wheelchairs or mobility devices. • Provide a pad for convenient waiting. • Improve “stop” network, minimize specialized ADA transport. • Recent stops are of higher standard, need to retrofit and agree on one uniform standard. 	<ul style="list-style-type: none"> • No safe place to accommodate a transfer of paratransit users to fixed route bus (i.e. Hospital and Sun City Route 106) • ¼ mile is the limit those with disability can traverse, when there are no other fixed routes in the area. • The larger metro areas around the light rail transit (LRT) get better transit amenities than those outside the area. • Mobility Center is good, lessens anxiety for those accessing transit with special needs. 	<ul style="list-style-type: none"> • Those with special needs take longer to access transit. It seems a long distance to travel. • Dial-A-Ride is not reliable to arrive on time. • Not all stops are ADA compliant. • Have volunteers help those with disabilities access transit. • If federal government classifies someone as disabled, they should qualify for transit assistance and not just rely on the Mobility Center for training. • Increase ADA compliance in areas with significant amounts of older populations. 	<ul style="list-style-type: none"> • Dial-A-Ride provides a safety net. • Access for wheel chairs • Gated communities have green belts to access bus stops more easily; however, these are not always ADA accessible.
Bicycle	<ul style="list-style-type: none"> • Have bike lanes linked to bus stops -collector/arterial. • Local streets are bikeable. • Need racks installed at bus stops in case bus rack is full and bike must be secured. 	<ul style="list-style-type: none"> • Racks on busses are desirable and fill up fast. • Lack of bike paths near bus stops and transit in general. 		<ul style="list-style-type: none"> • LRT is crowded with bikes. • Bike racks on transit vehicles often are full. • Bike to transit is an issue especially for transit dependent; design to increase bike storage capacity. • Bike sharing program. • Bike lockers. • More frequent service can reduce crowding and capacity issues.



Issue	Facilities	Human Services	Special Needs	Transportation
Sidewalk/ Walkability	<ul style="list-style-type: none"> • Improve safety of sidewalks (8th most dangerous for pedestrians in USA). • Too spread out and too many traffic lanes (not walkable). • Streetscape Scottsdale has high standards, calling for 10 foot sidewalks; five-foot categories give a pleasant and safe feel. • Provide wider and smoother sidewalks. • Avoid rough spots (i.e. decorative or excessively winding). 	<ul style="list-style-type: none"> • Continuous sidewalk is missing in many areas. • Distance too long between stops. • Lack of trails near bus stops. • Improve transitions from areas without sidewalk to sidewalks with smooth surfaces. 	<ul style="list-style-type: none"> • Stray animals make pedestrians and those with disabilities feel uncomfortable walking to transit. • Differences in the terrain surrounding the area (i.e. gravel, grass, incomplete sidewalks). 	<ul style="list-style-type: none"> • More density increases need for pedestrian access. • Lack of accessible sidewalks. • Master planned communities lack interconnectivity. • Historical areas want to remain rural (bridal paths, no sidewalk improvements, etc), but they are in the heart of the city. • Difficult to cross streets (especially seniors and disabled). • Short signal phases. • Wide, car focused streets. • Road construction detours pedestrians. • Obstacles in public right-of-way.
Street Crossing	<ul style="list-style-type: none"> • High intensity Activated crosswalk (HAWK) signaling system is safer than mid-block crossings. • Too many lanes to cross at wide arterials and collectors. • Too few mid-block crossings. 	<ul style="list-style-type: none"> • Few mid-block stops have crosswalks or have safe crossing areas nearby, particularly along arterials and wider streets. • Utilize HAWK signaling system at mid-block crossings to create higher awareness. • Crossing time at traffic signals not long enough for seniors. 	<ul style="list-style-type: none"> • Mid-block stops tend to not be close to a signal or safe crossing. • Pedestrians are forced to cross wide, multi-lane arterials, particularly at mid block crossing, where traffic signals do not exist. • Transfer times are too short when crossing wide arterials. • Motorists are inattentive to transit patrons crossing unsignalized crosswalks. • Wide streets are a barrier to pedestrians and those with disabilities. 	<ul style="list-style-type: none"> • Signal timing for pedestrians. • Engineers must be more aware of pedestrians. • Traffic calming to reduce vehicle speeds. • HAWK – rethink need to move pedestrian crossings.
Funding	<ul style="list-style-type: none"> • Mesa prepared a "Bus Stop Improvement Plan," but Congestion Management and Air Quality (CMAQ) Improvement Program will not fund ADA only plans. • Bus stop improvements have a point system or warrant for Phoenix area. Does a project meet the warrant (criteria)? Is it worthwhile to try for federal grants for highest priority projects or wait for major street or land use projects? 	<ul style="list-style-type: none"> • Funding tends to go to the population centers and leaves the outskirts without sufficient improvement funding. 	<ul style="list-style-type: none"> • Funding for stops. • Operational cost to maintain is high, especially if trash containers, water fountains were added. 	<ul style="list-style-type: none"> • Adopt a Bus Program. • Gasoline money/use of Highway User Revenue Fund (HURF). • Next Prop 400 bus improvements. • Need for flexible funding programs. • Currently tough economic times. • Address: Better shelter design, pedestrian focused design guidelines, education of users and officials, change people's perspective (buses aren't just a social service). • Consider stop location early on, collaboration between all parties. • Funding has been traditionally auto-focused - distribute more money to transit.



Issue	Facilities	Human Services	Special Needs	Transportation
Policy	<ul style="list-style-type: none"> • ADA ramp compliance issues. • Stop shading. • No region wide standard. • Need to prioritize: safety, communication, shade, lighting, benches, distance between stops, land use design and transit stop locations, and smooth continuous sidewalk. 	<ul style="list-style-type: none"> • Unincorporated areas may be lower priority for stop improvements. 	<ul style="list-style-type: none"> • Encourage policy makers to talk with and take into account the needs of transit users. • Develop regional level policy for stop design and placement. • Need standardized regional policy for stop placement. • Include mobility issues in conversation. 	<ul style="list-style-type: none"> • Promote implementation of the “Complete Streets” concept to benefit all users. • Bike racks on transit vehicles (i.e. bikes on board program).
Environment		<ul style="list-style-type: none"> • Weather protection is needed at stops. • Shelters and shading are important to those using medication with sun exposure and heat exposure side effects. 	<ul style="list-style-type: none"> • Have volunteers provide water at stops frequented by those with special needs or seniors. • Better shade needed around stops. • Extreme temperatures can be fatal for persons with a disability. 	<ul style="list-style-type: none"> • Misters to deal with the heat. • Shade needed.
Information System	<ul style="list-style-type: none"> • Develop a master database of bus stops that are ADA accessible. • Stop locator needs to include interactive web based map to look at each site not just list the stop. • The system needs to add attributes of the stops. • Each city needs to maintain its own database. • Transit accessible communities should be identified, (not all communities are served by transit). • NEXT STOP is good, gives real time arrival of next bus. 		<ul style="list-style-type: none"> • Have drivers and others assist those with special needs or disabilities in understanding how to use the bus. 	<ul style="list-style-type: none"> • Remove mystery; make transit service information more accessible.
Transit System	<ul style="list-style-type: none"> • Get feedback from users. 	<ul style="list-style-type: none"> • Too far between stops. Consider making more mid block stops to shorten distance to nearest stop. 	<ul style="list-style-type: none"> • Not enough transit connectivity to outlying unserved communities. • No transit service to Sun City. • Not enough options for transit in the Northwest Valley and the outlying areas of the region. • Coordinate route timetables with adjoining cities – some neighboring cities have differing headways on same street making transfers more difficult. • Consider placement of transfers points, both ADA and non-ADA, across jurisdictional boundaries. • Explore “same as” models. 	<ul style="list-style-type: none"> • More density increases need for enhanced pedestrian access. • More frequent service reduces crowding and capacity issues. • Way finding challenges. • Infrequent service. • Car focused transportation system. • Need for “complete” streets, transit friendly. • “Road diet” to reduce street size and lower speeds in neighborhoods to increase safety.



Issue	Facilities	Human Services	Special Needs	Transportation
Stops	<ul style="list-style-type: none"> Shade stops only every mile or transfer point. Standardize color of stops, tan structures, blue signs. Some stops don't look like stops. Encourage cities to improve stops during general plan updates. Local communities should upgrade stops. Encourage private partnerships to build stops. Every area has different stop designs which make it difficult to look unified. When upgrading stops consider; location wait time, number of boardings, if it is a transfer stop, and maintenance costs. If art shelters are built they should be mobile so that they can be relocated if the stop becomes obsolete. 	<ul style="list-style-type: none"> Need covered seating to get out of sun or inclement weather. Lighting should be provided at stops. Too far between stops. Consider making more mid block stops to shorten distance to nearest stop. 	<ul style="list-style-type: none"> Poor shelter design does not block the sun. Make sure all stops are ADA accessible (improved or otherwise). Place stops closer to entrances to medical facilities to shorten walking distance for those with special needs. Optimize the distance between stops to increase travel time and improve efficiency. Place stops at large activity centers. Inventory all stops to document what amenities they have, and the usage. Seating is important to the elderly and those with special needs. Revisit usage of stops – demographic change. Standardize stops to assist with maintenance. 	<ul style="list-style-type: none"> Material/composition can be uncomfortable; metal heats up. Braille at bus stops. Provide misters to deal with the heat. Orient amenities to provide shelter and shade. Some locations don't have the space in the ROW for a bus stop. Somewhere to sit is important.

WORKSHOP 2

Workshop 2 was held at the MAG offices on April 11, 2013. The goal of this workshop was to conduct a charrette-style exercise where participants would identify transit accessibility improvements at the case study locations while considering the constraints of a limited budget. The stakeholder participants were divided into smaller groups to conduct this exercise. Groups were provided an aerial print of the case study catchment area, case study location survey results and photographs, a table with case study characteristics and constraints, a budget sheet, a laptop to use Google Earth for additional information gathering and calculate their budget, stickers with symbols representing improvements, and the Transit Accessibility Toolkit. Figures 1-5 illustrates the results of this workshop exercise.



FIGURE 1: 16th Street & Thomas Road Workshop Results (Urban Core)

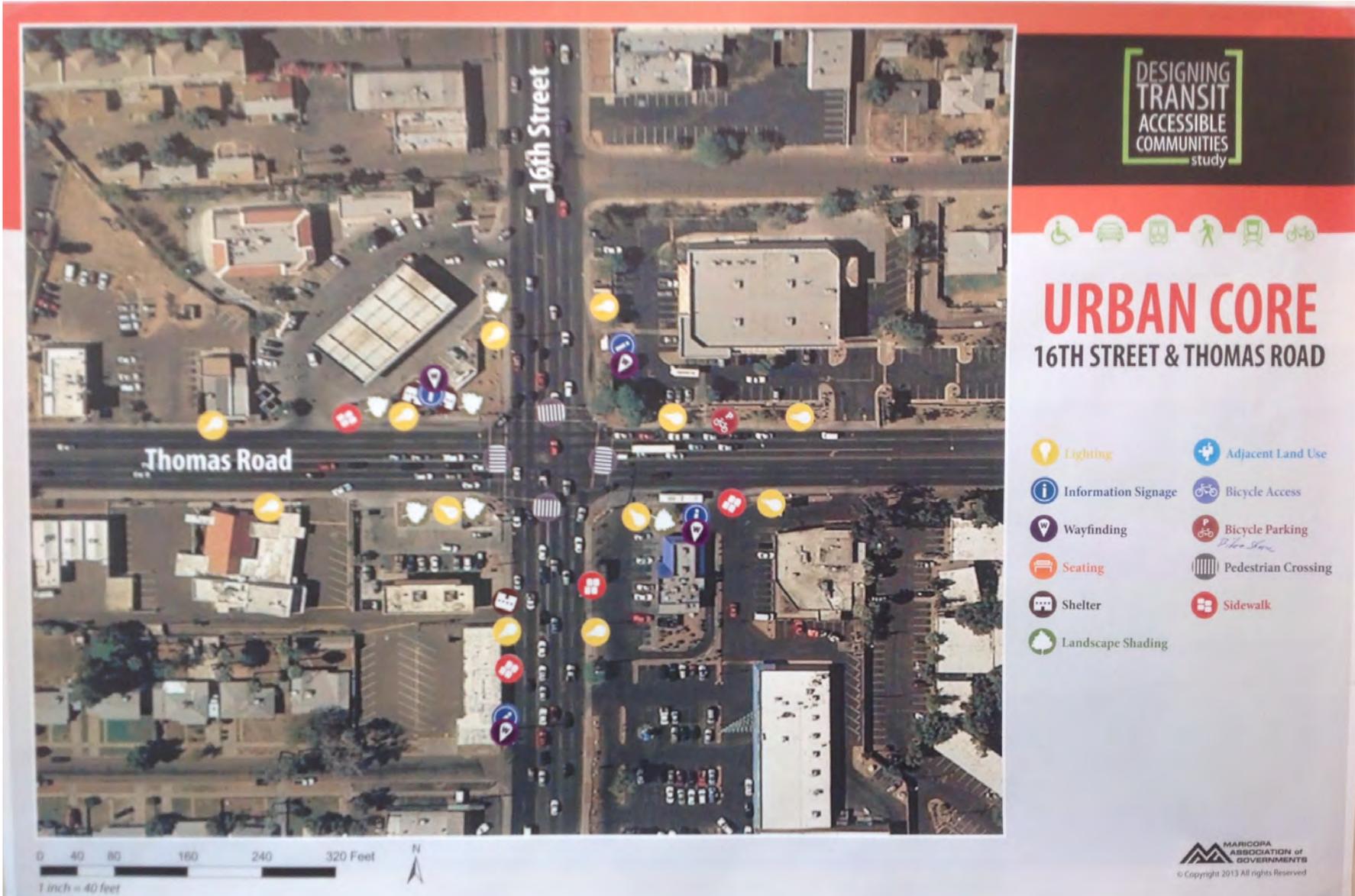




FIGURE 2: 90th Street & Shea Boulevard Workshop Results (Urban Retail)





FIGURE 3: 19th Street & Southern Avenue Workshop Results (Urban Residential)

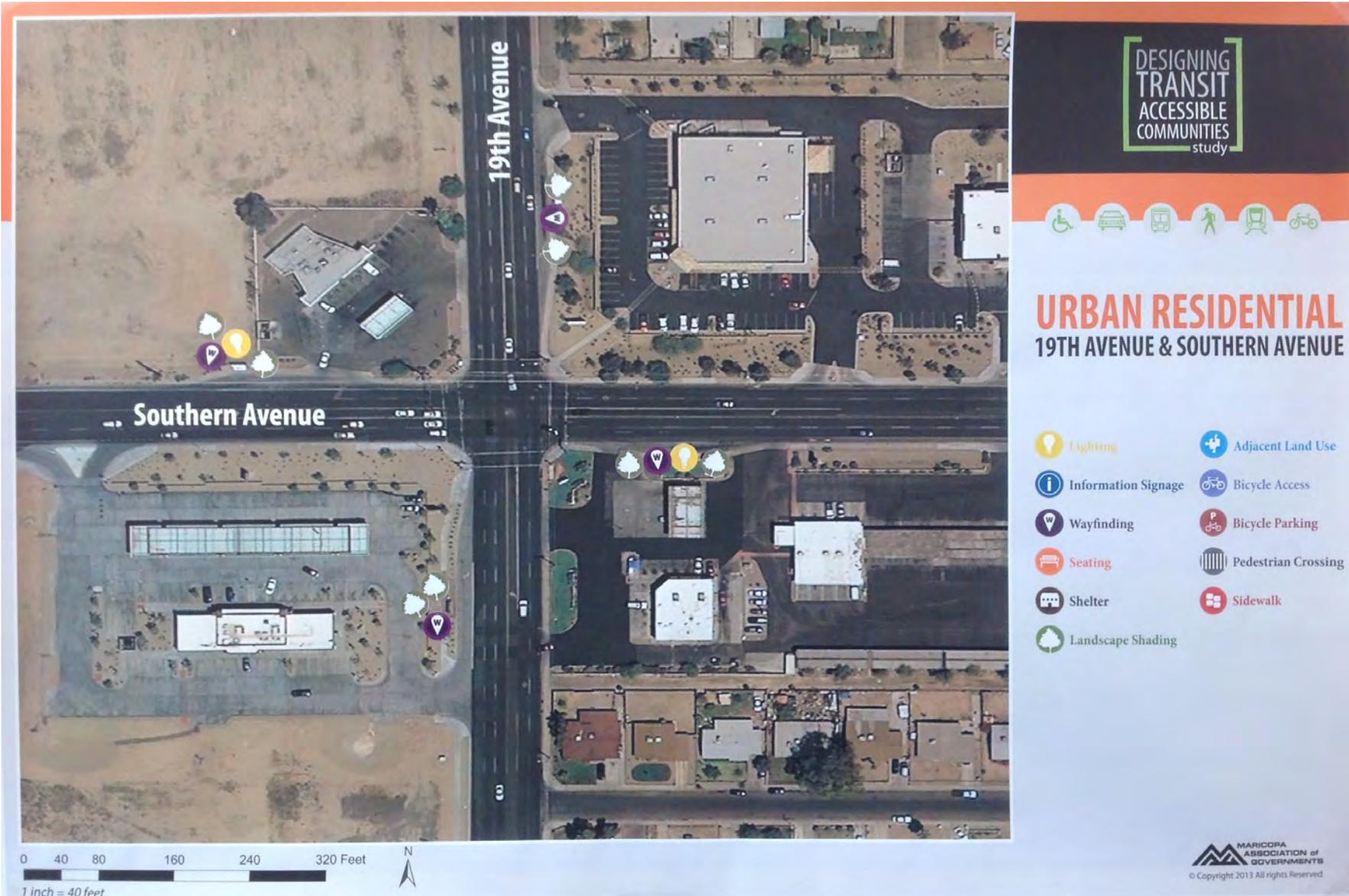


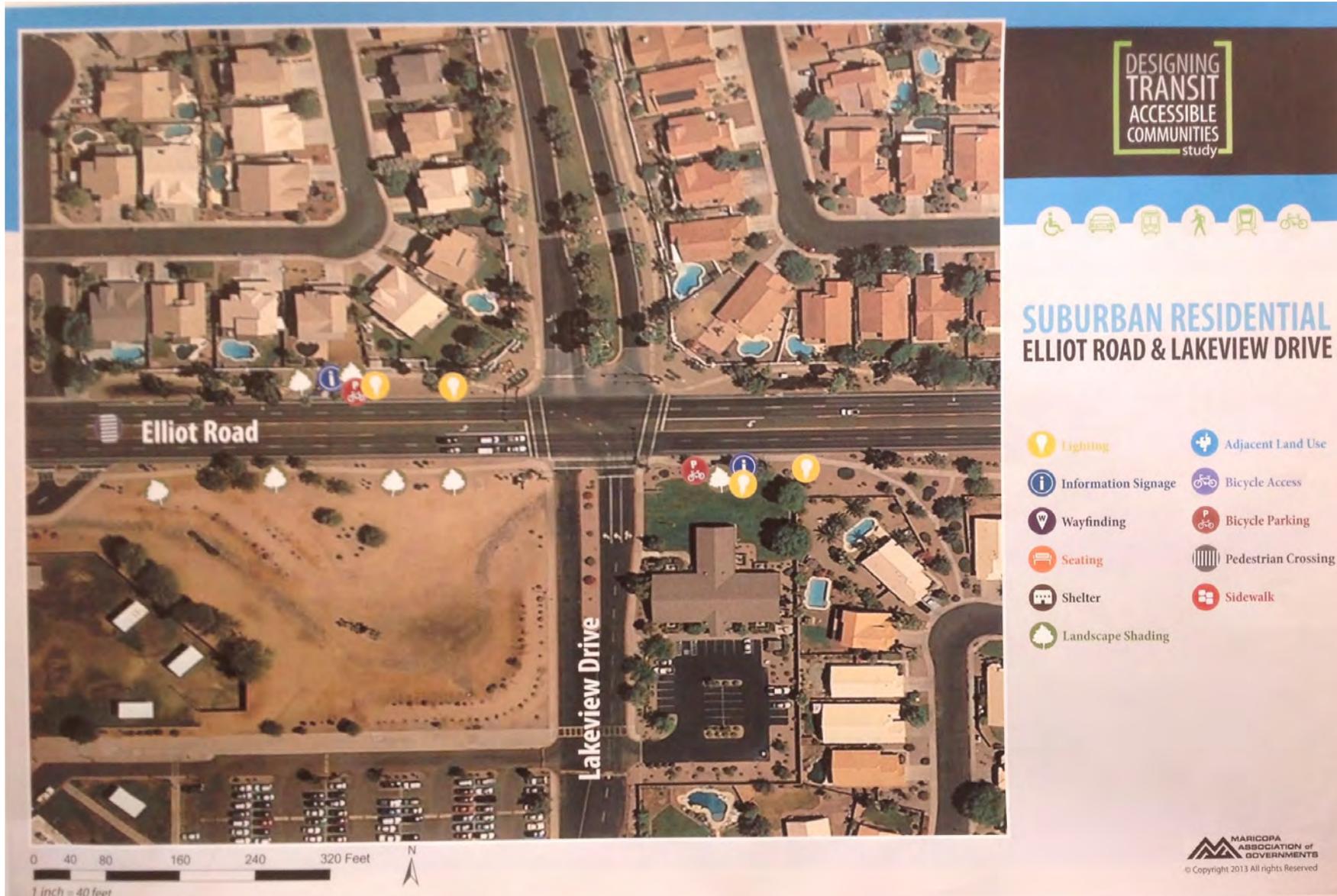


FIGURE 4: 75th Street & Bell Road Workshop Results (Suburban Retail)





FIGURE 5: Elliot Road & Lakeview Drive Workshop Results (Suburban Residential)





INTERCEPT SURVEYS

In addition to obtaining input from local agency stakeholders, an intercept survey was developed and administered in person at the five case study bus stop locations. The survey primarily was focused on asking bus riders about their experience accessing – both arriving to and departing from – bus stops. The survey questions generally fell into the following topic areas:

- Mode of access to the bus stop
- Trip purpose
- Trip origin/destination
- Estimated travel distance and time to the bus stop
- Desired improvements for the route to/from the bus stop
- Level of comfort and safety while traveling to/ from the bus stop
- Demographic information

Table 4 summarizes the total number of surveys collected by case study location. As shown, a total of 221 surveys were collected, with 188 “Arriving To” surveys and 33 “Departing From” surveys. A majority of the surveys, or 109 surveys, were collected at the 16th Street and Thomas Road case study location, with the next highest rate of survey collection, 55 surveys, occurring at the 19th Avenue and Southern Avenue case study location.

TABLE 4: Number of Surveys Collected by Case Study Location

Case Study Location	Number of “Arriving To” Surveys	Number of “Departing From” Surveys	Total Surveys
16th Street & Thomas Road	101	8	109
19th Avenue & Southern Avenue	45	10	55
90th Street at Scottsdale Fiesta (south of Shea Boulevard)	9	6	15
75th Avenue & Bell Road	26	8	34
Elliot Road & Lakeview Drive (alternative locations at 46th & Broadway and 67th & Baywood)	7	1	8
TOTAL SURVEYS	188	33	221

Source: Chen Ryan Associates; July 2012.

Table 5 presents survey respondent’s ranking of bicycle and pedestrian enhancement types by bus stop category. The percentage value reflects the portion of total survey respondents who agreed that the specific enhancement type would “likely” or “very likely” influence more frequent walking or cycling to bus transit stops. For each bus stop category, the proposed bicycle/pedestrian elements are presented in order of decreasing influence.

TABLE 5: Transit Rider Survey Results: Bicycle/Pedestrian Element Rankings by Bus Stop Category

Urban Core		Urban Residential		Urban Retail		Suburban Retail		Suburban Residential	
Shade Trees	57%	Streetslights	70%	Shade Trees	89%	Bus schedule Information	41%	Shade Trees	72%
Bus Schedule Information	52%	Bus Schedule Information	69%	Streetslights	78%	Shade Trees	37%	Bus Schedule Information	72%
Streetslights	42%	Shade Trees	65%	Bus Schedule Information	56%	Bicycle Lanes	34%	Streetslights	57%
Bicycle Parking	39%	Bicycle Lanes	53%	Medians	56%	Bicycle Parking	30%	Landscaping	43%
Bicycle Lanes	39%	Landscaping	49%	Bicycle Lanes	56%	Curb Extensions	26%	Curb Extensions	43%
Landscaping	38%	Curb Extensions	47%	Bicycle Parking	56%	Streetslights	19%	Art	29%
Curb Extensions	37%	Bicycle Parking	42%	Landscaping	44%	Landscaping	19%	Bicycle Parking	29%
Decorative Pavement	29%	Decorative Pavement	40%	Decorative Pavement	33%	Art	15%	Bicycle Lanes	29%
Art	28%	Art	31%	Curb Extensions	22%	Decorative Pavement	11%	Decorative Pavement	29%
Medians	28%	Medians	31%	Art	11%	Medians	7%	Medians	29%

Source: Chen Ryan Associates; October 2012.



■ 2.0 Existing Conditions Summary (*Working Paper 1*)

In 1985, the Arizona Legislature passed a law enabling the citizens of Maricopa County to vote on a sales tax increase to fund regional transportation improvements. The law also provided for creation of the Regional Public Transportation Authority (RPTA), now known as Valley Metro/RPTA. Elected officials from local governments comprise the RPTA Board of Directors. Public transportation in the Valley now includes several different modes of travel and services provided under the Valley Metro brand, including:

- METRO light rail;
- Valley Metro LINK;
- RAPID service;
- Express Bus;
- Local-limited stop service;
- local route service;
- neighborhood circulators; and
- rural connectors.

There are 54 park-and-ride lots and more than 7,000 transit stops throughout the metro area that support commuting patterns throughout the valley, providing linkages for more than 69,600,000 boardings per year

(July 1, 2009 – June 30, 2010). In addition, there are other transportation and mobility opportunities that have been devised to accommodate the segment of the traveling public with special needs. Dial a Ride systems provide special access/mobility options for those without vehicles or who are significantly disadvantaged, handicapped or disabled, and are unable to provide for their own transportation. Working Paper 1 discusses the importance of pedestrian connectivity for all transportation modes. In the MAG region approximately 90% of all transit users approach the system by walking or biking. Regardless of how transit users approach a system, all connecting trips are made at a pedestrian level. Street design, land use, transit frequency, weather, landscaping, social factors, and safety play a significant role in pedestrian comfort. Transit stops are the gateways to public transportation. To enhance transit riders' experience, bus stops should welcome and transition riders into a community; they should provide a convenient, safe, and accessible environment to all users.

The focus of this paper is on safe and accessible transit stops which are an integral part of the public transit system. The paper documents existing transit conditions, organizes data for analysis, and sets the foundation for pursuing categorization of bus stops with case studies.



3.0 Bus Stop Categorization (Working Paper 2)

Working Paper 2 defines bus stop categorizations so groupings of bus stop areas can be established for the MAG region. The categorizations are intended to create prototypical pedestrian and bicycle improvement concepts that could be developed and recommended. This working paper describes the methodology employed to develop categorizations of bus stops in local jurisdictions within the MAG region. The paper is divided into three sections: Previous Studies, Methodology, and Analysis Results. These sections summarize related studies and techniques and describe the methodology to present new categories and information found during the analysis and selection process. Table 6 summarizes the variables used to categorize the bus stops in the valley. Figures 6-13 displays each of the categorization input variables for the MAG region. A summary interpretation of each figure follows.

Figure 6 shows the density of the 2010 population by census block group. As shown in Table 2, population density in the MAG region ranges from 0 to 32.1 persons per acre by census block group, with a mean density of 7.8 persons per acre. The eight data ranges were defined using the Natural Breaks classification method in ArcEditor.

Figure 7 shows the density of 2009 employment by census block group. Employment density in the MAG region ranges from 0 to 93.8 jobs per acre, with a mean density of 5.7 jobs per acre. The eight data ranges in Figure 2 were defined using the Natural Breaks classification method in Arc Editor 10.

Figure 8 shows the presence of retail land use across the MAG region in 2009. Presence of retail in the quarter-mile buffer was included as a dichotomous variable in the cluster analysis, i.e., as “yes” (1) or “no” (0) retail within the buffer.

Figure 9 shows the density of zero-vehicle households (HHs) in 2010 by census block group. The density of zero vehicle households in the MAG region ranges from 0 to 4.1 HHs per acre, with a mean density of 0.32 HHs per acre. A value of zero for this variable means that all households in the census block group have at least one vehicle.

The eight data ranges in Figure 2 were defined using the Natural Breaks classification method in ArcEditor 10.

Figure 10 shows the density of population and employment by census block group. This variable was used to reflect transit “trip end” potential. In other words, the location of a person’s residence or work place is a good approximation of the majority of potential transit trip origins and destinations that might occur across the region. The density of the sum of population and employment ranges from 0 to about 101 persons and jobs per acre by census block group. The seven data ranges in Figure 5 were defined using the Natural Breaks classification method in ArcEditor 10.

Figure 11 shows the number of routes by bus stop across the MAG region. This variable is a measure of transit service quality, assuming that a greater number of routes serving a given bus stop would provide higher levels of system connectivity. The number of routes by bus stop ranges from 1 to 12 routes, with a mean of 1.2.

Figure 12 shows those bus stops across the MAG region situated at arterial-arterial intersection locations. This was used as a measure of the quality of bus transit service. Like the presence of retail land use, the presence of a route or routes at an arterial arterial intersection was included as a dichotomous variable in the cluster analysis, i.e., as “yes” (1) or “no” (0) route serving the intersection.

TABLE 6: Bus Stop Categorization Variables

Project Goal	Question	
Transit/Bike/ Pedestrian Demand	1. 2010 Population per Acre by Census Block Group	American Community Survey -- US Census
	2. 2009 Employment per Acre by Census Block Group	Longitudinal Employer-Household Dynamics (LEHD) Program -- US Census
	3. Sum of Population and Employment by Census Block Group	(see above)
	4. Presence of Retail	MAG Land Use
	5. 2010 Density of Zero-Vehicle Households by Census Block Group	American Community Survey -- US Census
Bus Service Quality	6. Number of Routes per Bus Stop Area	MAG GIS
	7. Location of Bus Stop at Arterial-Arterial Intersection	MAG GIS
	8. Frequency of Bus Service at Bus Stop Area for all Routes	MAG Transit Frequency

Source: Chen Ryan Associates; May 2012.



Figure 13 shows the frequency of service by bus stop. For purposes of this study, high frequency bus service was defined as an operating headway of 20 minute or less at the bus stop. Routes passing bus stops were classified into four operational categories, including: Multiple All Day, High Frequency Routes; a Single All Day, High Frequency Routes; High Frequency Service during the Peak Periods Only; and No High Frequency Routes.

FIGURE 6: 2010 Population Densities By Census Block Group

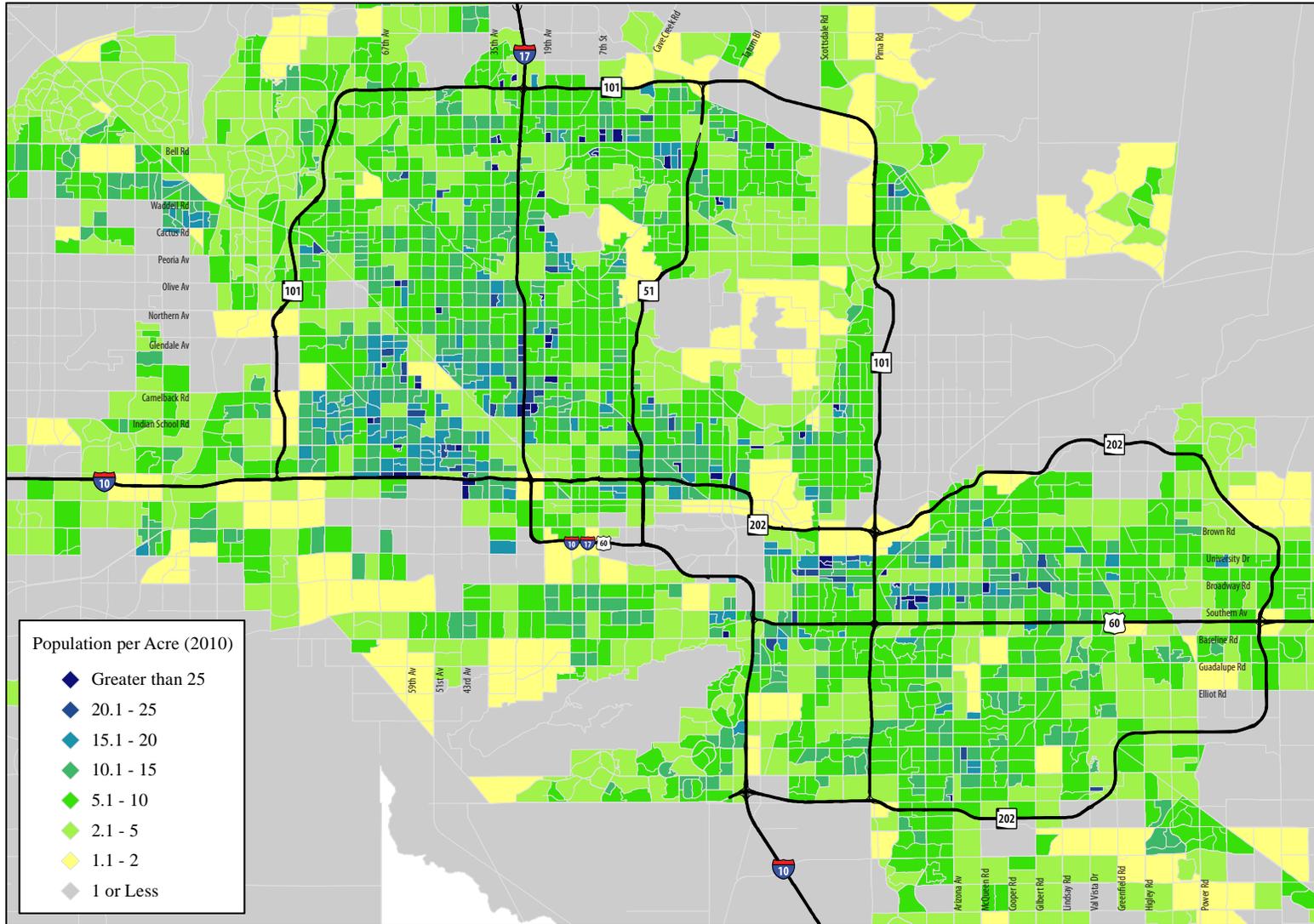




FIGURE 7: 2009 Employment Densities by Census Block Group

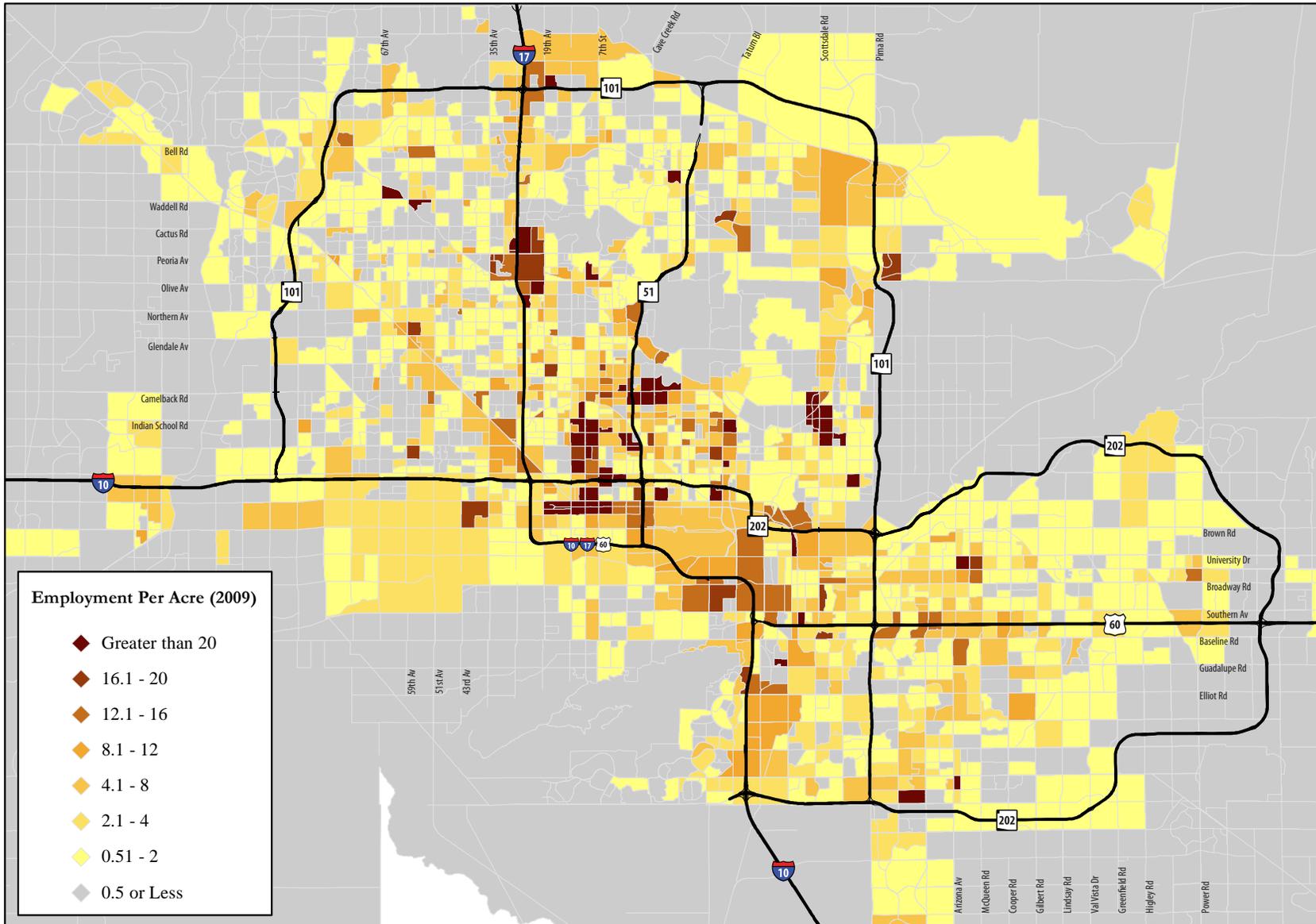




FIGURE 8: 2009 Retail Land Use

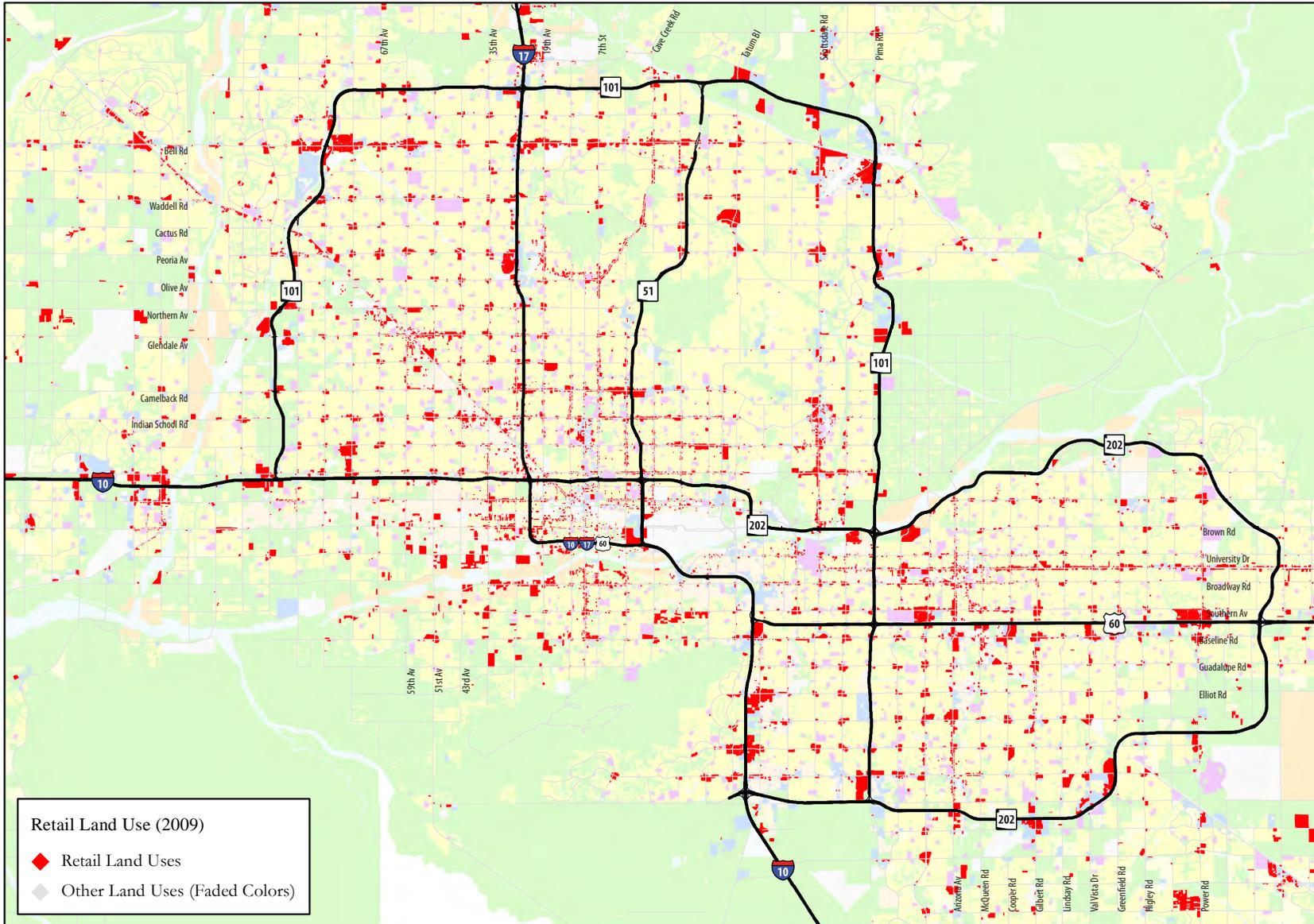




FIGURE 9: 2010 Density of Zero Vehicle Households by Census Block Group

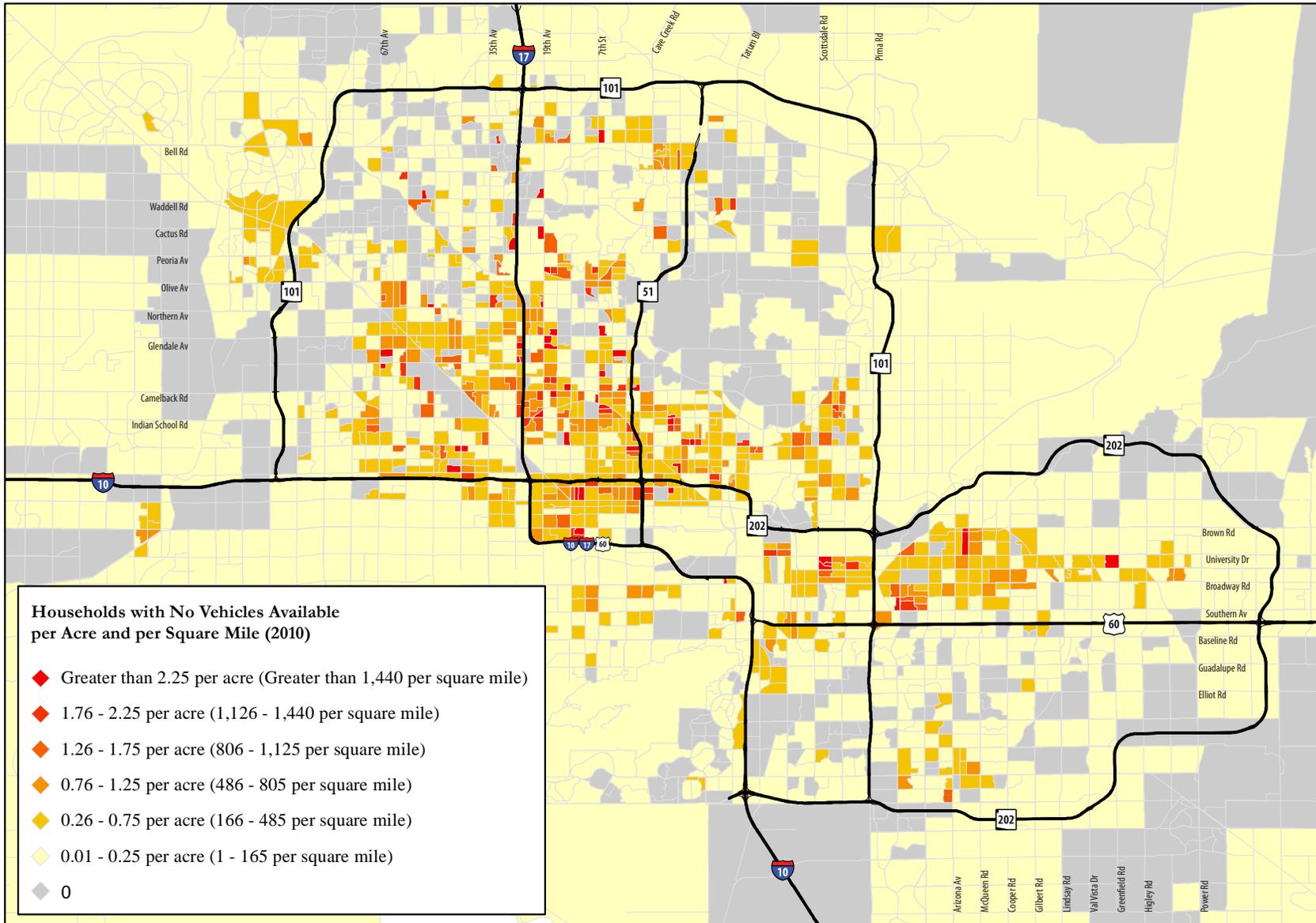




FIGURE 10: Total Sum of Population and Employment by Census Block Group

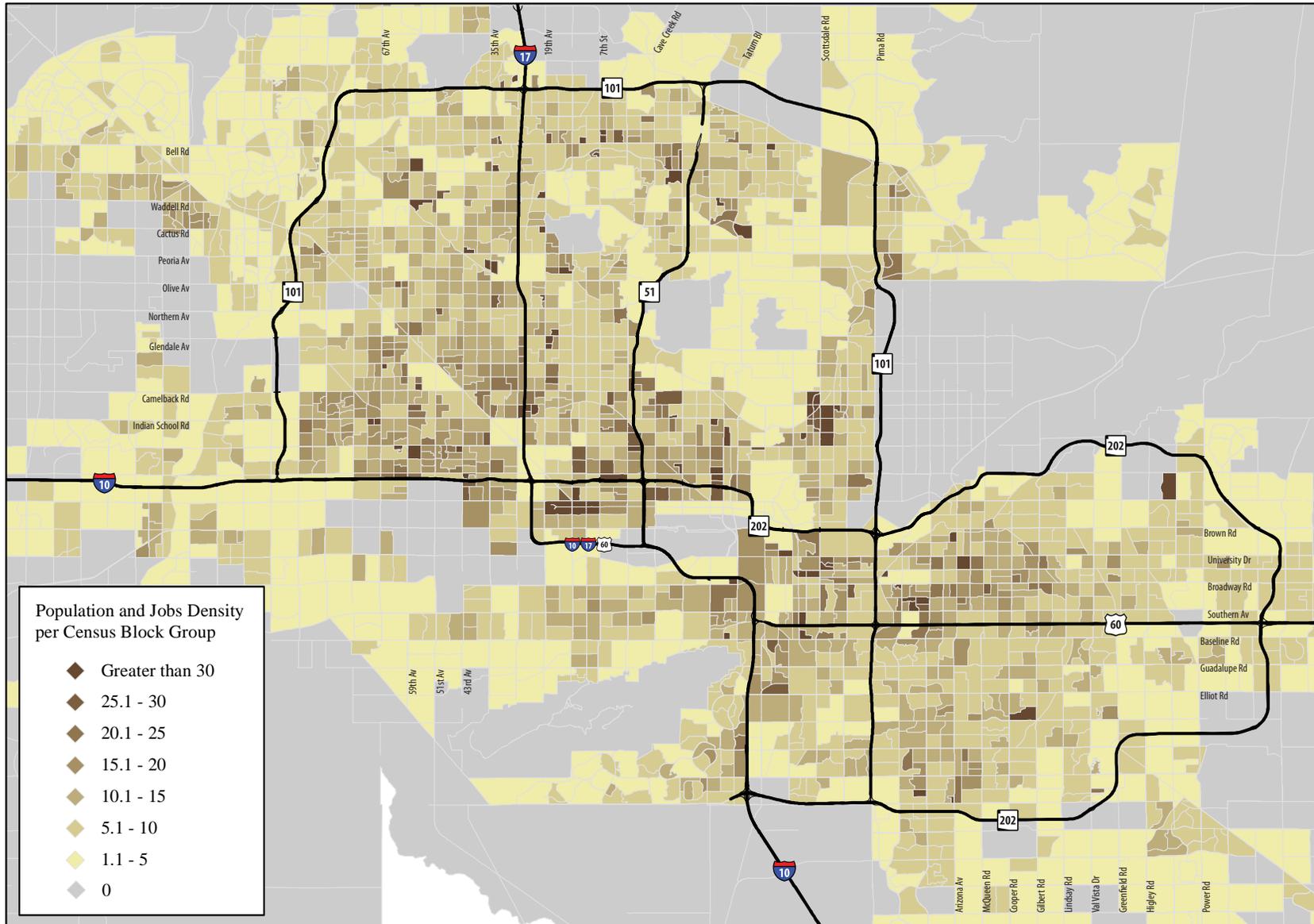




FIGURE 11: Number of Routes Per Bus Stop Area

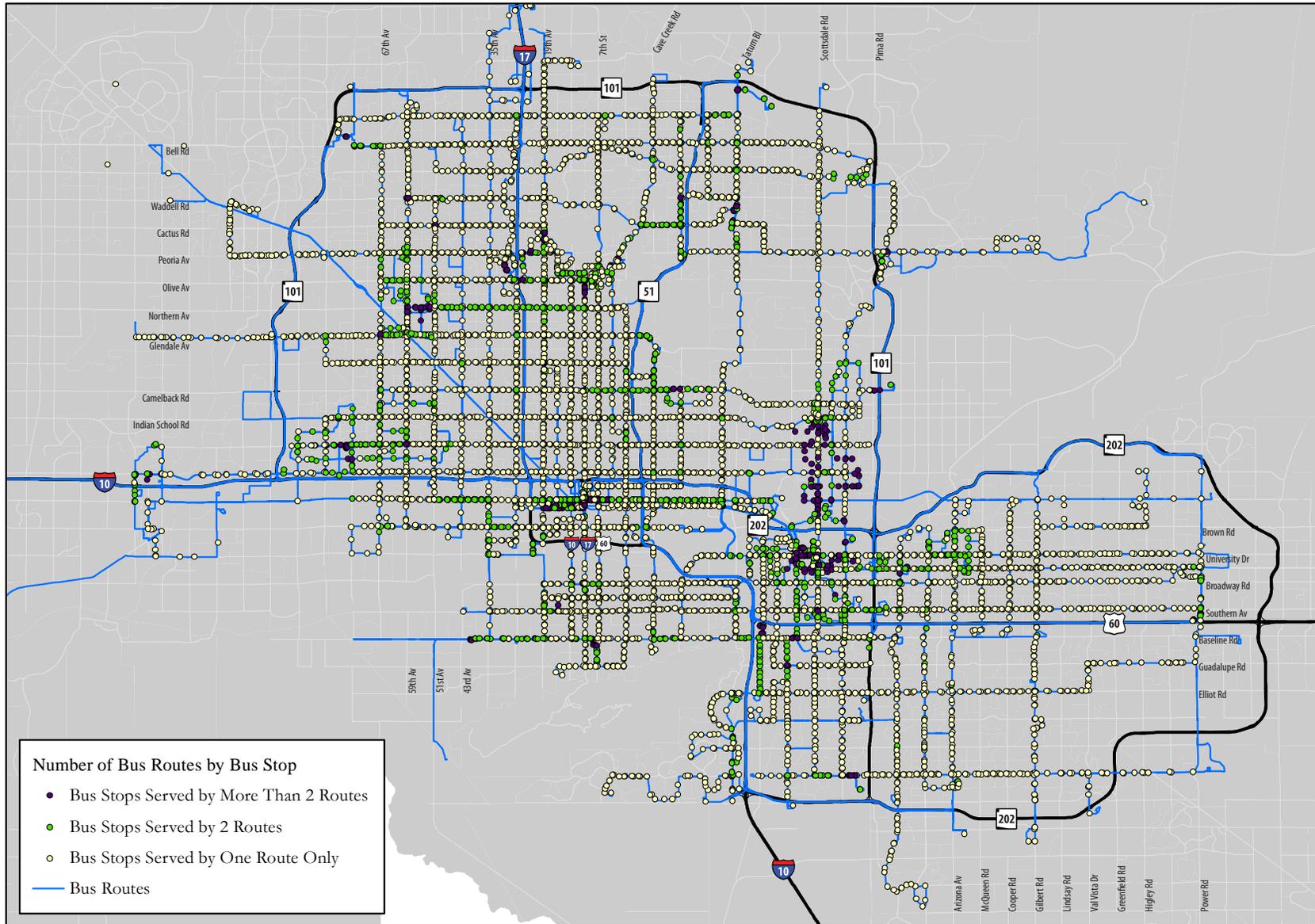




FIGURE 12: Locations of Bus Stop Areas At Arterial-Arterial Intersections

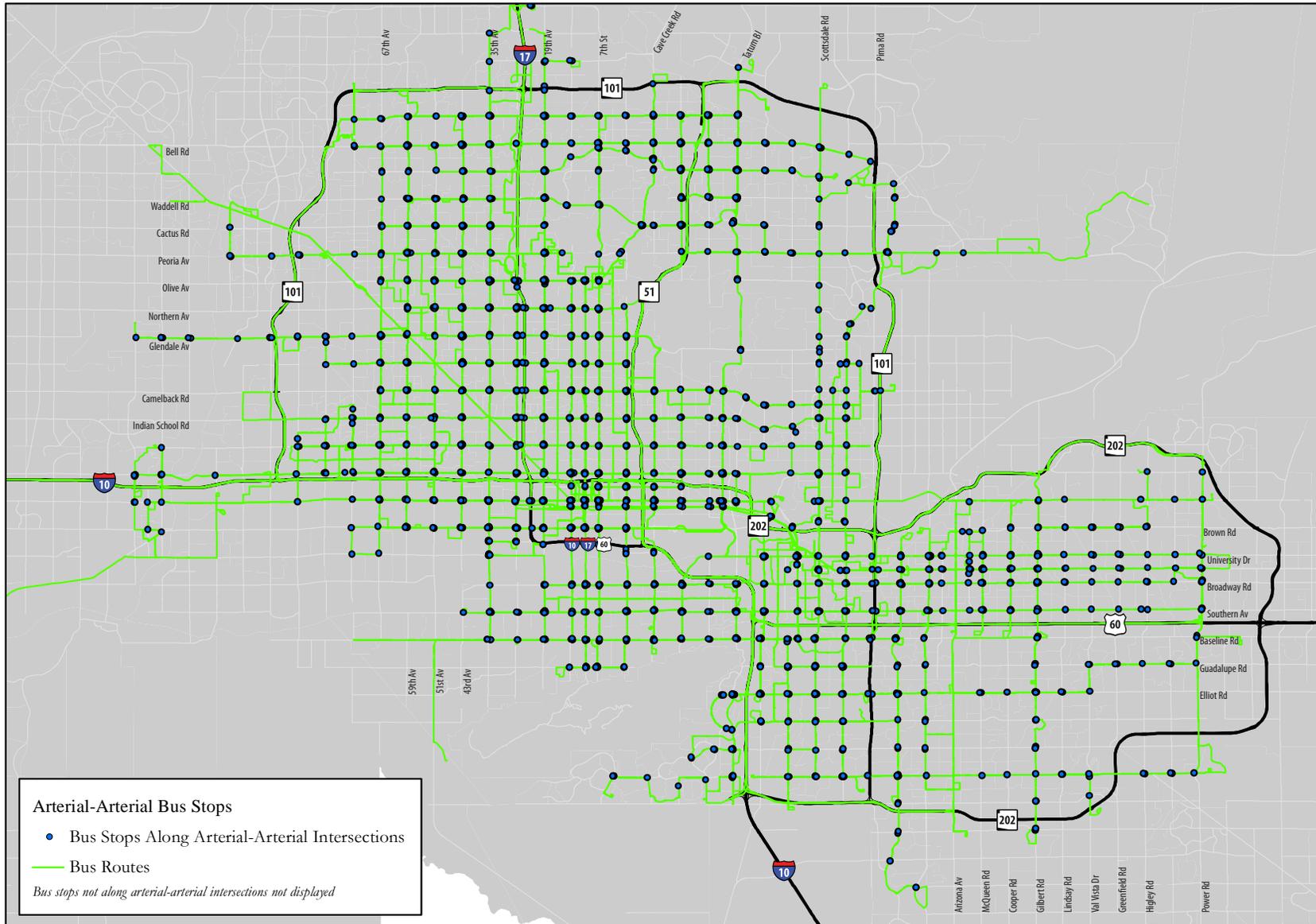
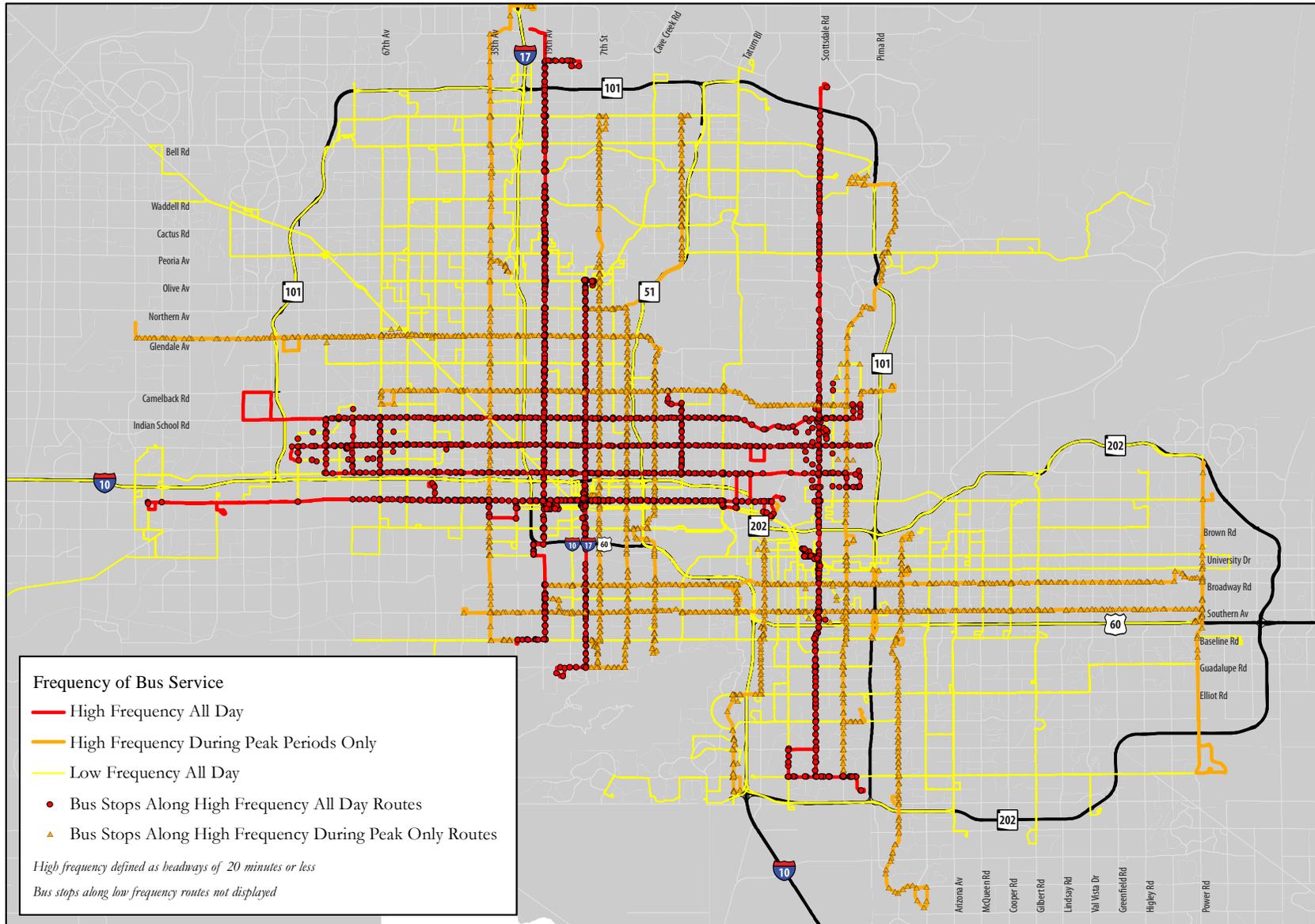




FIGURE 13: Frequency of Bus Transit Route Service at Bus Stop Areas





Given the broad geographic scope and the sheer number of locations considered (over 7,000 bus stop areas across the MAG region), a statistical cluster analysis was considered to be the most appropriate method for identifying categories of bus stop areas.

Table 7 shows how each model run performed relative to two key factors used to assess the reliability of cluster analysis output, namely: the number of clusters and the silhouette measure. Number of clusters provides an indication of how many natural or meaningful groupings can be identified within the database. The MAG DTAC study team looked for approximately five to 10 clusters or categories of bus stops to support development of a reasonable number of prototypes to characterize the different bus stop areas. The silhouette measure, as calculated with the statistical software SPSS, provides an indication of the

cohesion or strength within groupings and the degree of separation between groupings, e.g., bus stops A D in Group 1 are very similar and differ notably from bus stops H-M in Group 5. The value of the silhouette measure ranges from 0 to 1: '1' represents perfect clustering and '0' represents no clustering.

Table 7 presents these output measures as a way to support the assessment of each model run and determine which provides the most reliable representation of similarities and differences among and between groups of bus stops. As shown in Table 7, a total of ten model runs were performed to identify two runs that provided both a desirable number of clusters and a high silhouette measure. Model Run #10 was selected as the cluster model for use in defining transit bus stop area categories.

TABLE 7: Demand, Transit System Service, and Combined Variables for Cluster Model Runs #1--#10 with Number of Clusters and Silhouette Measure

Run #	Pop. Den.	Emp. Den.	Zero VEH HH Den	Retail	Pop. + Emp. Den	# of Routes	Freq.	Art. - Art.	# of Clusters	Silhouette Measure (cohesion & separation)
Demand			Transit System					Cluster Assessment		
1	✓	✓	✓	✓					2	Good (0.7)
2	✓	✓	✓						2	Fair (0.5)
3			✓		✓				2	Good (0.7)
4			✓	✓	✓				3	Good (0.8)
5						✓	✓	✓	10	Good (0.8)
6			✓	✓	✓	✓	✓	✓	2	Fair (0.5)
7			✓	✓	✓	✓	✓		5	Fair (0.4)
8			✓		✓		✓		3	Good (0.7)
9					✓		✓		4	Good (0.8)
10				✓	✓		✓		7	Very Good (0.9)

Source: Chen Ryan Associates; May 2012.

Resulting from Model Run #10 was a breakdown of seven initial categories which were later simplified into five categories. A brief interpretation of each of the seven bus stop categories is provided below, and summarized in Table 8. Figure 14 depicts how each bus stop included in this analysis was categorized.

TABLE 8: Hierarchy of Bus Stop Area Categories

Category Ranking	Category Name	Defining Characteristics	# of Stops	% of Total
1	Metropolitan Core	Some Retail; Very High Employment; Multiple High Frequency Transit	223	4%
2	Urban Transit Corridors	Retail; High Frequency Transit; High Population and Employment	675	12%
3	Suburban Transit Corridors	No Retail; High Frequency Transit; Medium Population and Employment	456	8%
4	Suburban Peak Hour Transit Corridors	Retail; Limited High Frequency Transit; High Population and Employment	865	15%
5	Suburban Transit Connectors	Retail; No High Frequency Transit; Medium Population and Employment	1,302	22%
6	Low Suburban Peak Hour Transit Corridors	Retail; No High Frequency Transit; Low Population and Employment	653	11%
7	Low Suburban Transit Connectors	No Retail; No High Frequency Transit; Low Population and Employment	1,648	28%

Source: Chen Ryan Associates; May 2012.



- **Metropolitan Core:** Bus stop areas have some retail land use, along with very high employment (ranging from 0.5 jobs per acre to 94 jobs per acre) and multiple all-day, high frequency transit routes. Four percent of the bus stop areas across the MAG region fall into this category.
- **Urban Transit Corridor:** Bus stop areas have retail land uses, at least one all day, high frequency transit route service, and a relatively high density of population and employment (ranging from 2 persons + jobs per acre to 36 persons + jobs per acre). This category accounts for 12 percent of all bus stop areas.
- **Suburban Transit Corridor:** Bus stop areas in this category are similar to those related to the Urban Transit Corridor, except there is no retail land use present, and the mean density of population and employment is lower than for a Urban Transit Corridor (12 persons + jobs per acre versus 13 persons + jobs per acre). Eight percent of all bus stop areas fall into this category.
- **Suburban Peak Hour Transit Corridor:** Bus stop areas have retail land use present, high frequency transit route service confined to peak periods only, and high population and employment density. This category accounts for 15 percent of all bus stop areas in the MAG region.
- **Suburban Transit Connectors:** Bus stop areas in this category have retail land use present and medium population and employment density; however, there are no high frequency transit routes serving these locations. This type of bus stop area accounts for the second highest share – 22 percent – of all bus stop areas in the MAG region.
- **Low Suburban Peak Hour Transit Corridor:** Bus stop areas have no retail land use present, high frequency transit route service limited to the peak period, and, importantly, low population and employment density (ranging from 0.5 to 23 persons + jobs per acre, with a mean value of 11). Eleven percent of all bus stop areas fall into this bus stop area category.
- **Low Suburban Transit Connector:** Bus stop areas have no retail land use present, no high frequency transit route service, and low population and employment density. This category is the most common type of bus stop area, accounting for the greatest share of bus stop areas in the MAG region. Twenty eight percent, or 1,648 bus stop areas, fall within this category.

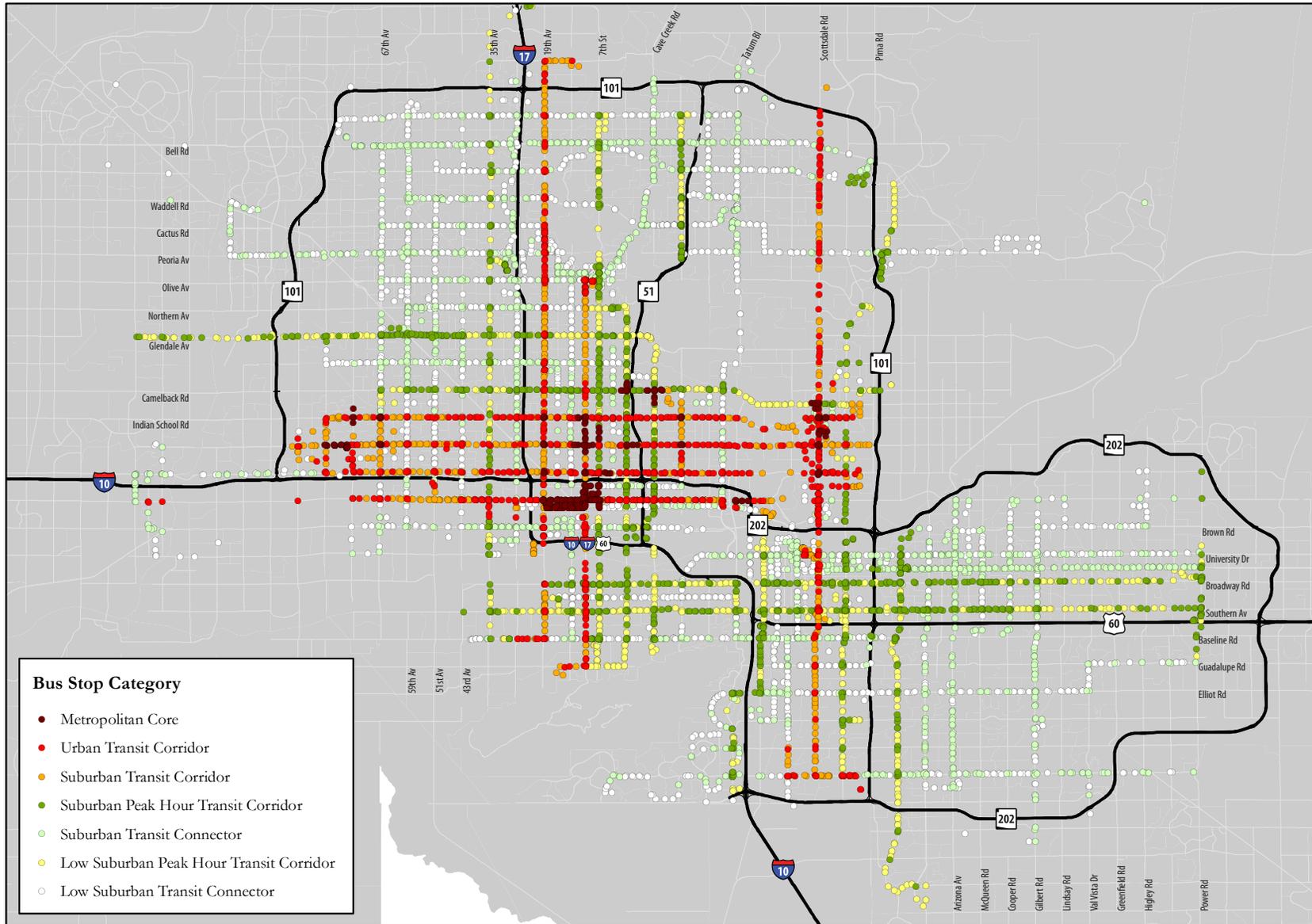
After the categories were reviewed by the TWG and the DTAC study team, some of categories were collapsed. Additionally, all categories were renamed to better reflect the built environment of the bus stop’s catchment area. In particular, the Metropolitan Core and Urban Transit Corridor categories were collapsed into one category and renamed Urban Core. Also, the Suburban Transit Connector and Low Suburban Transit Connector were collapsed and renamed Suburban Residential. Subsequent to consolidation of bus stop area categories, five locations were selected as case study locations to be field-checked for reasonableness. Table 9 displays the final typology of bus stop area categories and locations selected for case study analysis.

TABLE 9: Final Case Study Locations

Category Ranking	Category Name	Location
1	Urban Core	16th Street & Thomas Road, Phoenix
2	Urban Retail	90th Street, South of Shea Boulevard, Scottsdale
3	Urban Residential	19th Avenue & Southern Avenue, Phoenix
4	Suburban Retail	75th Avenue & Bell Road, Glendale
5	Suburban Residential	Elliot Road & Lakeview Drive, Gilbert



FIGURE 14: Summary of Bus Stop Categorization Process





■ 4.0 Case Studies (*Working Paper 3*)

One of the initial tasks for this project was to create an inventory of available digital data types, including socio-economic, transportation infrastructure, land use, and travel data. The data collection effort is documented in Working Paper 1. A subset of these data types was used during the categorization process. The subset included: population density, employment density, vehicle ownership rates, land uses, bus stops, and bus transit service frequencies (see figures 6-13). This information was helpful in establishing the context for the case study locations as defined by the built environment and transportation system elements. These general characteristics were mapped and tabulated for each of the case study locations to establish an overall sense of each bus stop category's catchment area.

Working Paper 3 presents the results of case study analysis that were used to provide a basis for identifying opportunities and constraints at bus stops in the MAG region. Case studies consisted of two components:

- surveying bus system patrons to evaluate their experience associated with access to the bus stop and use of the bus transit system (see section 1.2.7), and
- field reviews and photography to verify the physical conditions associated with the three geographic points: the bus stop, the immediate vicinity of the stop, and patron catchment area.

The MAG DTAC study team employed field reconnaissance to verify and establish the validity and reliability of information gathered through the data collection process. Each of the selected case study locations (as well as preliminary candidate locations) was visited to (1) acquire knowledge of their specific land use and transportation attributes and (2) obtain a photographic record of the location's features. The field review process was supplemented with examination of aerial photography available on the internet through Google Earth and Bing maps. This work established a foundation for developing a toolkit of improvements that can enhance the comfort and safety of patrons of the Valley Metro bus system, as they travel to and from bus stops. Figures 15-24 illustrate the case study analysis conducted by the consultant team and confirmed by the TWG.

The case studies are intended to uncover issues and opportunities related to the specific bus stop areas, riders' experiences accessing bus stops, and the general catchment areas within a ¼ mile to two mile area of the bus stop. This section summarizes issues and opportunities identified during the field reviews and through the team's survey of bus riders. Based upon the field reviews and the stakeholder and bus transit user's input, issues and opportunities at the case study locations were identified within the following general topic areas:

- Shading, Landscaping, Weather Protection
- Waiting Areas, Bus Shelters and Stop Location
- Safety and Security
- Access to/from Bus Stop and Adjacent Land Uses



■ 4.1 16th Street & Thomas Road (*Urban Core*)

Figure 15 illustrates the case study analysis conducted for the Urban Core bus stop category, located at 16th Street and Thomas Avenue in the City of Phoenix.

- 16th Street is a 5-lane, north-south arterial in central Phoenix. It currently carries an average daily traffic (ADT) volume of approximately 27,000 vehicles per day (vpd) at a posted speed of 35 miles per hour (mph). This roadway is an important north-south connector between the Dreamy Draw area of north central Phoenix and the central business district (CBD). The cross-section measures approximately 72 and consists of two lanes in the both direction with a center left turn lane.
- Thomas Road is 6-lane east-west urban arterial currently with an ADT of 36,000 vpd at a posted speed limit of 35 mph. This roadway provides an important connection between the Phoenix Uptown area and West Phoenix, Avondale, and Litchfield Park to the west and East Phoenix and Scottsdale to the east. The cross-section measures approximately 76 feet east of 16th Street and 84 feet west of 16th Street. The roadway consists of two lanes in the westbound direction, three lanes in the eastbound direction, and a center left-turn lane.

There are far-side bus stops with shelters on each of the intersection legs. There are diagonal curb ramps accommodating wheelchairs at each of the intersection corners. Each leg of the intersection has a standard cross-walk and a pedestrian signal head indicating the walk phases.

Five-foot sidewalks are consistently found throughout the bus stop area. With the exception of a short segment on the south side of Thomas Road west of 16th Street, sidewalks are directly adjacent to vehicle travel lanes creating a fairly uncomfortable experience for pedestrians. There are no landscaping strips or on street parking to buffer pedestrians from the high-volume of vehicular traffic along these two roadways. In addition, there are no bike lanes in this bus study area.

Land uses immediately adjacent to this bus stop location include: a small shopping center with a Burger King, a Walgreens Drug Store, and two gas station/convenience markets. Land uses generally are set back from the sidewalks, requiring pedestrians to traverse the parking lots or landscaped areas to access buildings.

Figure 16 displays a comprehensive overview of the findings within each topic area at the 16th & Thomas case study location, with associated issues and opportunities.



FIGURE 15: 16th Street & Thomas Road Case Study Analysis (Urban Core Location)





FIGURE 16: 16th Street & Thomas Road Case Study Analysis (Urban Core Location)

 16TH STREET & THOMAS ROAD 						
ISSUES	STOP		SURROUNDING AREA		CATCHMENT AREA	
	FAVORABLE CONDITIONS	DEFICIENCIES	FAVORABLE CONDITIONS	DEFICIENCIES	FAVORABLE CONDITIONS	DEFICIENCIES
SHADING LANDSCAPING WEATHER PROTECTION	 <ul style="list-style-type: none"> • Structure provides shade • Additional shade from walls, trees, or signs 	 <ul style="list-style-type: none"> • Requires people to stand in dirt • Only provides shade at certain times of day 	 <ul style="list-style-type: none"> • Adjacent stores provide some shade 	 <ul style="list-style-type: none"> • No shade for walk 	 <ul style="list-style-type: none"> • Adjacent stores provide some shade 	 <ul style="list-style-type: none"> • Feeder streets have no shade
AMENITIES BUS SHELTERS SHELTER PAD STOP LOCATION	 <ul style="list-style-type: none"> • Seating • Trash cans 	 <ul style="list-style-type: none"> • Not enough seating • No destination or schedule information 	 <ul style="list-style-type: none"> • Newspaper racks near stops • Cross walks and food locations 	 <ul style="list-style-type: none"> • No lighting 	 <ul style="list-style-type: none"> • Newspapers and trash cans along walks • Few front facing parking lots to walk by (some shallow lots on 16th North of Thomas) 	 <ul style="list-style-type: none"> • Sparse and deserted store fronts • No activity along residential streets
SAFETY AND SECURITY STREET CROSSINGS LIGHTING SIDEWALKS BIKE LANES	 <ul style="list-style-type: none"> • Bus stop pull out 	 <ul style="list-style-type: none"> • No bike lanes • Poor lighting • Looking out onto street to see next bus 	 <ul style="list-style-type: none"> • Well marked cross walks 	 <ul style="list-style-type: none"> • Poor lighting • Unsafe land uses • Alley connections • No bike lanes 	 <ul style="list-style-type: none"> • Offset sidewalk on Edgemont and Windsor 	 <ul style="list-style-type: none"> • Poor midblock crossings on Thomas and 16th • Abandoned stores on Thomas, walls on 16th, and apartment on Cambridge all lead to low pedestrian activity
AFTER THE STOP ADJACENT LAND USE ACCESS PEDESTRIAN/BICYCLE EASEMENTS TRANSFERS PASSENGER INFORMATION	 <ul style="list-style-type: none"> • Connection to adjacent land uses 	 <ul style="list-style-type: none"> • No connecting route information • Difficult to cross street in time to catch next bus 	 <ul style="list-style-type: none"> • Well connected to bus stop • Food and shops accessible 	 <ul style="list-style-type: none"> • Little activity on streets • No bike lanes 	 <ul style="list-style-type: none"> • Stores, housing and apartments close by • Connecting bus stops • Alternate routes 	 <ul style="list-style-type: none"> • No express routes • No bike lanes



■ 4.2 90th Street & Shea Boulevard (*Urban Retail*)

Figure 17 illustrates the case study analysis conducted for the Urban Retail bus stop category, located at 90th Street and Shea Boulevard in the City of Scottsdale.

- 90th Street is a 4-lane, north-south arterial in the City of Scottsdale with an ADT of 19,200 vpd at a posted speed limit of 40 mph. This roadway is a critical north-south link between SR 101/Pima Freeway and Shea Boulevard. It provides access to the Scottsdale Fiesta Shopping Center, Scottsdale Healthcare North Campus, and numerous commercial enterprises developed in concert with McCormick Ranch, one of the first master planned communities in the country. The cross-section measures 78-84 feet north of Mountain View Road and consists of two lanes in both directions with a center median and multiple right and left-turn bays. South of Mountain View Road, the roadway has a 70 foot, 5 lane cross-section, which consists of two lanes in each direction and a center left-turn lane. North of Shea Boulevard, the roadway has a two-lane cross-section and the speed limit drops to 25 mph. This portion of 90th Street serves commercial properties.
- Shea Boulevard is a six lane east west arterial roadway with an ADT of 60,150 vpd at a posted speed limit of 45 mph. Shea Boulevard is a major regional roadway, connecting with SR 101/Pima Freeway and SR 51/Piestewa Freeway. It also connects Fountain Hills, 10

miles to the east with Scottsdale and Phoenix. The roadway cross-section measures 140 feet north and consists of three lanes in both directions with a center median and dedicated right and left-turn bays; double left-turn bays are provided in the westbound direction at 90th Street.

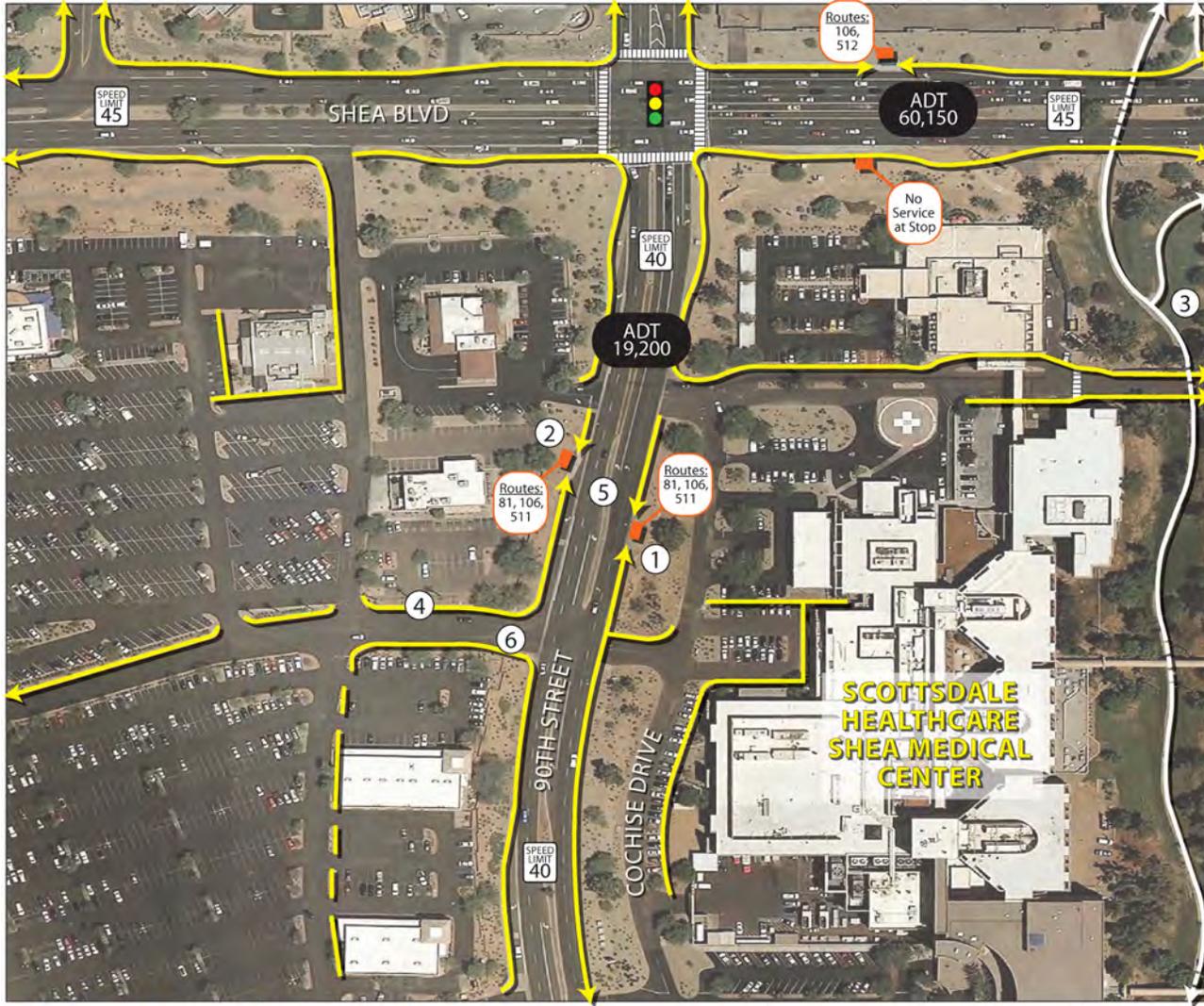
Eight-foot sidewalks are consistently found throughout the case study location area. Sidewalks typically are five feet south of Mountain View Road. Sidewalks are, for the most part, directly adjacent to the vehicular travel lanes, causing a fairly uncomfortable experience for pedestrian movements. There is ample amount of landscaping in the bus stop area; however, the landscaped strips are between the sidewalks and adjacent buildings. There is no on street parking to buffer the pedestrian from high-volume of vehicular traffic along these two roadways. In addition, there are no bike lanes in this case study location area.

Adjacent land uses include a shopping center, gas station/convenience markets, restaurants, and a major hospital complex. Land uses generally are set back from the sidewalks, requiring pedestrians to traverse landscaped buffer areas and parking lots to access buildings.

Figure 18 displays a comprehensive overview of the findings within each topic areas at the 90th and Shea case study location, with associated issues and opportunities.



FIGURE 17: 90th Street & Shea Boulevard Case Study Analysis (Urban Retail Location)



① NB Bus Stop



② SB Bus Stop



③ Bike Path



④ Sidewalk Access to Scottsdale Fiesta



⑤ Jay Walking Between Stops



⑤ Jay Walking Between Stops



⑥ Unmarked Crosswalks



⑥ Unmarked Crosswalks

90th/Scottsdale Fiesta

Date: 7/2/2012



FIGURE 18: 90th Street & Shea Boulevard Case Study Analysis (Urban Retail Location)

90TH STREET AT SCOTTSDALE FIESTA							MARICOPA ASSOCIATION of GOVERNMENTS DESIGNING TRANSIT ACCESSIBLE COMMUNITIES STUDY			
ISSUES	STOP		SURROUNDING AREA		CATCHMENT AREA					
	FAVORABLE CONDITIONS	DEFICIENCIES	FAVORABLE CONDITIONS	DEFICIENCIES	FAVORABLE CONDITIONS	DEFICIENCIES	FAVORABLE CONDITIONS	DEFICIENCIES		
SHADING LANDSCAPING WEATHER PROTECTION	 • Structure provides shade • Additional shade from nearby trees	 • No direct lighting of the shelter	 • Adjacent landscaping provides some shade	 • No shade for sidewalk	 • Landscaping provides some shade • Misters nearby	 • Local street does not have bike lane				
	AMENITIES BUS SHELTERS SHELTER PAD STOP LOCATION	 • Instructions visible at night • Seating	 • Waiting patron stands in dirt behind the shelter	 • Bicycle racks at nearby hospital	 • Development pattern less conducive to pedestrian/bicycle activity • No destination or schedule information	 • Proximity to commercial center • Proximity to employment center	 • Development pattern less conducive to pedestrian and bicycle activity			
		SAFETY AND SECURITY STREET CROSSINGS LIGHTING SIDEWALKS BIKE LANES	 • Right-turn lane adapted to incorporate bus stop and pull out	 • No bus stop pull out	 • Wide sidewalks approaching the stop along both 90th Street and Shea Boulevard	 • Poor lighting • Some lighting from nearby land uses	 • Signalized intersection with well marked crosswalks	 • Mid-block street crossing practices are common		
			AFTER THE STOP ADJACENT LAND USE ACCESS PEDESTRIAN/BICYCLE EASEMENTS TRANSFERS PASSENGER INFORMATION	 • Connection to adjacent land uses	 • Minimal transit system information	 • Some connections to bus stop • Food and shops accessible	 • No marked crosswalk • No bike lanes • Long transfer distances • No destination or schedule information	 • Citywide bike/pedestrian path close to stop	 • No direct sidewalk access to/from adjoining land uses • Long transfer distances • Nearby bus stops closed	



■ 4.3 19th Avenue & Southern Avenue (*Urban Residential*)

Figure 19 illustrates the case study analysis conducted for the Urban Residential bus stop category, located at 19th Avenue and Southern Avenue in the City of Phoenix.

- 19th Avenue is a 5/6-lane, north south arterial, currently carrying an average daily traffic (ADT) volume of approximately 25,409 vpd at a posted speed of 40 mph north of Southern Avenue and 45 mph south of Southern Avenue. This roadway is an important north-south arterial for South Phoenix, providing access to the State Capitol area, the Arizona State Fairgrounds, and industrial/commercial employment centers at Peoria Avenue and the Deer Valley Airport. The cross-section measures approximately 76 feet north of Southern Avenue and 84 feet south of Southern Avenue. North of Southern Avenue, the roadway consists of three lanes in the southbound direction and two lanes in the northbound direction with a center left-turn lane. South of Southern Avenue, the roadway has two lanes in both directions, with a center left-turn lane.
- Southern Avenue is a 4-lane east-west urban arterial with an ADT of 14,230 vpd at a posted speed limit of 45 mph west of 19th Avenue and 40 mph east of 19th Avenue. This roadway is an important arterial for South Phoenix, providing access to the Phoenix CBD, the industrial area of southeast Phoenix/ west Tempe, Tempe, and Mesa. The cross-

section measures approximately 76 feet east of 16th Street and 84 feet west of 16th Street. The roadway consists of two lanes in the westbound direction, three lanes in the eastbound direction, and a center left-turn lane. In addition, there are bike lanes on the north and south sides of the roadway.

There are far-side bus stops with shelters and bus pull outs on each of the intersection legs. There are two perpendicular curb ramps accommodating wheelchairs at each of the intersection corners. Each leg of the intersection legs has a standard cross-walk and a pedestrian signal head indicating the pedestrian walk phases.

Five-foot sidewalks are consistently found throughout the bus stop area. However, sidewalks are directly adjacent to vehicular travel lanes, causing a fairly uncomfortable experience for pedestrians. There are no landscaping strips or on street parking to buffer pedestrian movements from high-speed, high-volume vehicular traffic along these two roadways. Bike lanes have been provided only on Southern Avenue.

Adjacent land uses include three gas station/ convenience markets on three corners and a Walgreens on the fourth corner. Land uses generally are set back from the sidewalk requiring pedestrians to traverse the parking lots and landscaping to access buildings. The Walgreens on the northeast corner of the intersection has direct sidewalk access from the intersection corner to the building site, thereby making pedestrian access more comfortable.

Figure 20 displays a comprehensive overview of the findings within each topic areas at the 19th and Southern case study location, with associated issues and opportunities.



FIGURE 19: 19th Avenue & Southern Avenue Case Study Analysis (Urban Residential Location)





FIGURE 20: 19th Avenue & Southern Avenue Case Study Analysis (Urban Residential Location)

19TH AVENUE & SOUTHERN AVENUE							 <small>DESIGNING TRANSIT ACCESSIBLE COMMUNITIES STUDY</small>	
ISSUES	STOP		SURROUNDING AREA		CATCHMENT AREA			
	FAVORABLE CONDITIONS	DEFICIENCIES	FAVORABLE CONDITIONS	DEFICIENCIES	FAVORABLE CONDITIONS	DEFICIENCIES		
SHADING LANDSCAPING WEATHER PROTECTION	 • Shaded bench	 • Not good for all times of day • No landscape shading	 • Some arterial streets have partial shade	 • Little to no shade for walk	 • Some arterial streets have partial shade	 • Residential streets have no shading • Mostly empty lots • Few trees provide little shade		
	AMENITIES BUS SHELTERS SHELTER PAD STOP LOCATION	 • Advertising • Trash cans • Complete transit system signage	 • Not enough seating • No real time bus information • No newspapers	 • Some landscaping • Detached sidewalks • Convenience stores	 • Empty lots	 • Alleys to the North provide connectivity and relocate trash barrels • Detached sidewalks	 • Empty lots • No activity along streets • No landscaping • No bike lanes	
		SAFETY AND SECURITY STREET CROSSINGS LIGHTING SIDEWALKS BIKE LANES	 • Bus stop pull out • Detached sidewalks	 • No bike lanes or bike racks	 • Adjacent stores provide good lighting • Preferred land uses	 • Poor lighting after store hours	 • Pedestrian crosswalks • Eastbound bike lanes • Traffic calming devices in neighborhoods to the West	 • Inactive streets
			AFTER THE STOP ADJACENT LAND USE ACCESS PEDESTRIAN/BICYCLE EASEMENTS TRANSFERS PASSENGER INFORMATION	 • Network map provided	 • Some locations with attached sidewalk	 • Connection to adjacent land use • Good crosswalks	 • Crossing signage but no crosswalk	 • Eastbound bike lanes • Large tracts of vacant/undeveloped property



■ 4.4 75th Avenue & Bell Road (*Suburban Retail*)

Figure 21 illustrates the case study analysis conducted for the Suburban Retail bus stop category, located at 75th Avenue and Bell Road in the City of Glendale.

- 75th Avenue is a 4-lane, north-south arterial in the City of Glendale with an ADT of 19,700 vpd and a posted speed limit of 40 mph. This roadway is a critical north-south link between northern portions of Glendale and southern portions of Glendale between Camelback Road and Northern Avenue. It provides access to Arrowhead Towne Center on the north side of Bell Road and makes connections with SR 101/Agua Fria Freeway, US 60/Grand Avenue, and the I 10/Papago Freeway corridor in west Phoenix. The cross-section measures 130 feet north of Bell Road and consists of two lanes in the northbound directions and three lanes in the southbound direction with a center median and multiple right and left-turn bays. South of Bell Road, the roadway becomes a five-lane facility. The 135 foot cross-section at Bell Road narrows to 80 feet at the Skunk Creek Bridge, where there are two lanes in each direction with a center left-turn lane.
- Bell Road is an east west arterial roadway with an ADT of 56,500 vpd and a posted speed limit of 40 mph. This major regional roadway connects with SR 101/Agua Fria Freeway to the west and I 17/Black Canyon Freeway, SR 51/Piestewa Freeway, and SR 101/Pima Freeway to the east. As a major regional arterial, Bell Road is dominated by

commercial development stretching from the Surprise and Glendale in the western portion to Phoenix and Scottsdale in the eastern portion. The roadway cross-section measures 145 feet east of 75th Avenue and consists of three lanes in both directions with a center median and dedicated right and left-turn bays. Double left-turn bays are provided in the westbound direction at 75th Avenue. West of 75th Avenue the cross-section expands to 190 feet, accommodating four lanes in both directions, right turn bays, and a median sufficiently wide to permit double left-turn bays at 75th Avenue, 83rd Avenue, and every intersection in between.

Sidewalks constructed six to seven feet in width are consistently found throughout the case study location area. Sidewalks on 75th Avenue, north of Bell Road, generally are separated from vehicular travel lanes by a landscaped buffer five to seven feet in width. South of Bell Road, this buffer is less consistent, and it disappears south of the Skunk Creek Bridge, which results in a less than favorable experience for the pedestrian. A five-foot pedestrian walkway has been incorporated on both sides of Skunk Creek Bridge. Sidewalks on Bell Road are separated from vehicular travel lanes by a 12 foot landscaped buffer, which buffers the pedestrian from high-speed, high-volume vehicular traffic. Bell Road crosses Skunk Creek east of 75th Avenue. This bridge does not include pedestrian walkways. There are no bike lanes in this case study location area.

Adjacent land uses include a regional mall, a power center, shopping centers, restaurants, and fast food establishments. Land uses generally are set back from the sidewalk area requiring pedestrians to traverse the landscaped areas and parking lots to access buildings.

Figure 22 displays a comprehensive overview of the findings within each topic areas at the 75th and Bell case study location, with associated issues and opportunities.



FIGURE 21: 75th Avenue & Bell Road Case Study Analysis (Suburban Retail Location)



① Connections to Adjacent Land Use



② Pedestrian Refuge



③ Bus Bay



④ Unused Bus Stop



⑤ NB Bus Stop



⑥ Pedestrian Passageway



⑦ Pedestrian Crosswalk



⑧ Detached Sidewalk

75th/Bell

Date: 7/10/2012





FIGURE 22: 75th Avenue & Bell Road Case Study Analysis (Suburban Retail Location)

75TH AVENUE AND BELL ROAD							MARICOPA ASSOCIATION of GOVERNMENTS DESIGNING TRANSIT ACCESSIBLE COMMUNITIES STUDY	
ISSUES	STOP		SURROUNDING AREA		CATCHMENT AREA			
	FAVORABLE CONDITIONS	DEFICIENCIES	FAVORABLE CONDITIONS	DEFICIENCIES	FAVORABLE CONDITIONS	DEFICIENCIES	FAVORABLE CONDITIONS	DEFICIENCIES
SHADING LANDSCAPING WEATHER PROTECTION	 <ul style="list-style-type: none"> Landscaping near stop Additional shade from nearby trees 	 <ul style="list-style-type: none"> No shelter Few trees 	 <ul style="list-style-type: none"> Adjacent landscaping provides some shade 	 <ul style="list-style-type: none"> Unused bus bay and shelter pad Little to no shade on sidewalks 	 <ul style="list-style-type: none"> Shade and weather protection nearby, if needed 	 <ul style="list-style-type: none"> Little to no shade on sidewalks 		
AMENITIES BUS SHELTERS SHELTER PAD STOP LOCATION	 <ul style="list-style-type: none"> Seating at shelter Route information visible 	 <ul style="list-style-type: none"> Overflowing trash bin at shelter 	 <ul style="list-style-type: none"> Pedestrian crosswalk within nearby shopping center 	 <ul style="list-style-type: none"> Few pedestrian connections to adjacent development Development pattern less conducive to bicycle/pedestrian activity 	 <ul style="list-style-type: none"> Proximity to commercial activity center Bike racks in surrounding shopping centers 	 <ul style="list-style-type: none"> Few pedestrian connections to adjacent development Development pattern less conducive to bicycle/pedestrian activity 		
SAFETY AND SECURITY STREET CROSSINGS LIGHTING SIDEWALKS BIKE LANES	 <ul style="list-style-type: none"> Signalized intersection with safety island for pedestrian crossing of wide thoroughfare 	 <ul style="list-style-type: none"> High traffic area Multiple traffic zones Multiple traffic directions No bike lanes 	 <ul style="list-style-type: none"> Wide sidewalks Landscaped buffer separates sidewalks from street and traffic 	 <ul style="list-style-type: none"> Unmarked pedestrian crossing Lack of lighting at intersection Attached sidewalks No bike lanes Small pedestrian refuges 	 <ul style="list-style-type: none"> Protected crossing of Skunk Creek on 75th Avenue south of stop (Note: Similar pedestrian facility does not exist on Bell Road east of stop) 	 <ul style="list-style-type: none"> Eight-lane roadway No bike lanes Attached sidewalks 		
AFTER THE STOP ADJACENT LAND USE ACCESS PEDESTRIAN/BICYCLE EASEMENTS TRANSFERS PASSENGER INFORMATION	 <ul style="list-style-type: none"> Direct connection with adjacent land uses Food and shops accessible 	 <ul style="list-style-type: none"> Lack of schedule information Technology-based information not available to all patrons 	 <ul style="list-style-type: none"> Wide sidewalk connections with stop 	 <ul style="list-style-type: none"> No bike lanes Few transfer opportunities 	 <ul style="list-style-type: none"> Retail and commercial land uses nearby 	 <ul style="list-style-type: none"> No bike lanes Sidewalks with no connections Wide setbacks and parking lots 		



■ 4.5 Elliot Road & Lakeview Drive (*Suburban Residential*)

Figure 23 illustrates the case study analysis conducted for the Suburban Residential bus stop category, located at Elliot Road and Lakeview Drive in the City of Gilbert.

- Elliot Road is a 4-lane east-west arterial with an ADT of 17,697 vpd and a posted speed limit of 45 mph. Elliot Road is an important east-west arterial, connecting the eastern portions of Gilbert to Chandler to the east and Tempe and Phoenix to the west. The roadway connects with SR 202/Santan Freeway to the east and SR 101/Price Freeway and I 10/Maricopa Freeway to the west. The roadway cross-section measures approximately 66 feet, accommodating two lanes in both directions with a center left-turn lane and bike lanes. The roadway has been developed within a right-of-way of 145 feet, which has allowed development of wide landscaped buffers on both sides of the roadway.
- Lakeview Drive is a two-lane roadway that extends less than one quarter mile north of the intersection with Elliot Road, transitioning into a loop road serving Wind Drift Development. It has a posted speed limit of 35 mph. Traffic levels on the north segment are associated with the residential development, and it has a posted speed limit of 35 mph. Lakeview Drive has a wide landscaped median developed

within a cross-section of approximately 68 feet that expands to 92 feet at Elliot Road. The right-of-way ranges from 110 to 140 feet, allowing for wide landscaped buffers on both sides of the roadway. Bike lanes are provided on both sides of the roadway. South of Elliot Road, Lakeview Drive essentially is the entry drive for Gilbert High School with speed limit of 25 mph. Traffic levels are associated with Gilbert High School and, therefore, seasonal.

Five-foot sidewalks are consistently found throughout the case study location area. The sidewalks in this case study location have been developed with the landscaped buffers and, therefore, pedestrians are separated from moving traffic. The landscaped buffer provides pedestrians with a more comfortable walking experience, as they are not forced to travel adjacent to moving vehicular vehicles.

Adjacent land uses include Gilbert High School and single-family residential developments. Residential land uses mostly are walled off from the main roadway and landscaped buffers, where there are sidewalks. This requires residents of the area to ingress/egress their developments through limited points of access.

Figure 24 displays a comprehensive overview of the findings within each topic areas at the Elliot and Lakeview case study location, with associated issues and opportunities.



FIGURE 23: Elliot Road & Lakeview Drive Case Study Analysis (Suburban Residential Location)



Elliot Lakeview

Date: 7/2/2012





FIGURE 24: Elliot Road & Lakeview Drive Case Study Analysis (Suburban Residential Location)

 ELLIOT ROAD & LAKEVIEW DRIVE 								
DESIGNING TRANSIT ACCESSIBLE COMMUNITIES STUDY								
ISSUES	STOP		SURROUNDING AREA		CATCHMENT AREA			
	FAVORABLE CONDITIONS	DEFICIENCIES	FAVORABLE CONDITIONS	DEFICIENCIES	FAVORABLE CONDITIONS	DEFICIENCIES		
SHADING LANDSCAPING WEATHER PROTECTION	 <ul style="list-style-type: none"> • Structure provides shade • Additional shade from nearby trees 	<p>No Notable Deficiencies</p>	 <ul style="list-style-type: none"> • Adjacent landscaping provides some shade 	 <ul style="list-style-type: none"> • No shade for sidewalk 	 <ul style="list-style-type: none"> • Safe pedestrian pathway • Available shade 	 <ul style="list-style-type: none"> • Minimal shade along sidewalk 		
	AMENITIES BUS SHELTERS SHELTER PAD STOP LOCATION	 <ul style="list-style-type: none"> • Seating • Trash receptacles • Newspaper rack 	 <ul style="list-style-type: none"> • Waiting patron stands in area lite by street light 	 <ul style="list-style-type: none"> • Pedestrian connections to Century Avenue and Sandstone Street 	 <ul style="list-style-type: none"> • Not all subdivisions have pedestrian connections to the bus stop 	 <ul style="list-style-type: none"> • Proximity to school and park 	 <ul style="list-style-type: none"> • Long connection distances to subdivisions • No land use interactions 	
		SAFETY AND SECURITY STREET CROSSINGS LIGHTING SIDEWALKS BIKE LANES	 <ul style="list-style-type: none"> • Signalized intersection with well-marked crosswalk • Available bike lane • Street lighting 	 <ul style="list-style-type: none"> • No direct lighting of the shelter 	 <ul style="list-style-type: none"> • Shaded sidewalks provide access to the stop along Elliot Road • Enhanced crosswalks • Bike lanes 	 <ul style="list-style-type: none"> • Large intersections 	 <ul style="list-style-type: none"> • Bike lanes • Sidewalks on all roads 	 <ul style="list-style-type: none"> • Large intersections • Lighting spaced too far for pedestrians • No street-facing properties
			AFTER THE STOP ADJACENT LAND USE ACCESS PEDESTRIAN/BICYCLE EASEMENTS TRANSFERS PASSENGER INFORMATION	 <ul style="list-style-type: none"> • Connection to adjacent land uses 	 <ul style="list-style-type: none"> • Minimal transportation system signage • No route or schedule information 	 <ul style="list-style-type: none"> • Large, detached sidewalks • Enhanced crosswalks 	 <ul style="list-style-type: none"> • Long connection distances to subdivisions • No transfer opportunities • Poor access to school 	 <ul style="list-style-type: none"> • ADA-compliant curbing in nearby residential area



■ 5.0 Bus Stop Prototypes & Toolkit Development (*Working Paper 4*)

Working Paper 4 is divided into four sections: Developing Bus Stop Prototypes, Bus Stop Prototypes, Transit Accessibility Toolkit, and Implementation Checklist. These sections describe the development of prototypical bus stop areas or Bus Stop Prototypes for the MAG region. These Bus Stop Prototypes reflect optimal or recommended streetscape and roadway infrastructure improvements intended to support safe and comfortable bus stop accessibility via foot and by bicycle. Given the high rates of non-motorized access to the bus system found during the study, MAG recognizes the importance of supporting local agencies in their efforts to plan for environments that are safe, comfortable and inviting. Working Paper 4 defines the prototypes, a toolkit, and a checklist that provide a roadmap for improvements and new development for different bus stop areas throughout the region.

The Bus Stop Prototypes presented in this section provide a framework for enhancing the comfort and safety of non-motorized travelers accessing the transit system. This section recognizes the constraints at the case study locations and attempts to give alternatives within those constraints. Not all stops will fit precisely into a single case study category. The following subsections describe each of the bus stop categories and presents the related Bus Stop Prototype with pedestrian and bicycle access improvement considerations. Previous working papers defined the process to categorize bus stops across the MAG region and the process of selecting case study locations.

Figures 25-29 and tables 11-15 illustrate the prototypical improvements at case study locations as conducted and confirmed by the DTAC study team. Table 10 provides descriptions for the symbols illustrated in tables 11-15; this table is comprehensive in nature and does not necessarily provide the specific improvement recommendations or exact locations. Each improvement type is elaborated upon in the Transit Accessibility Toolkit shown in Chapter 6.



TABLE 10: Prototype Improvement Considerations

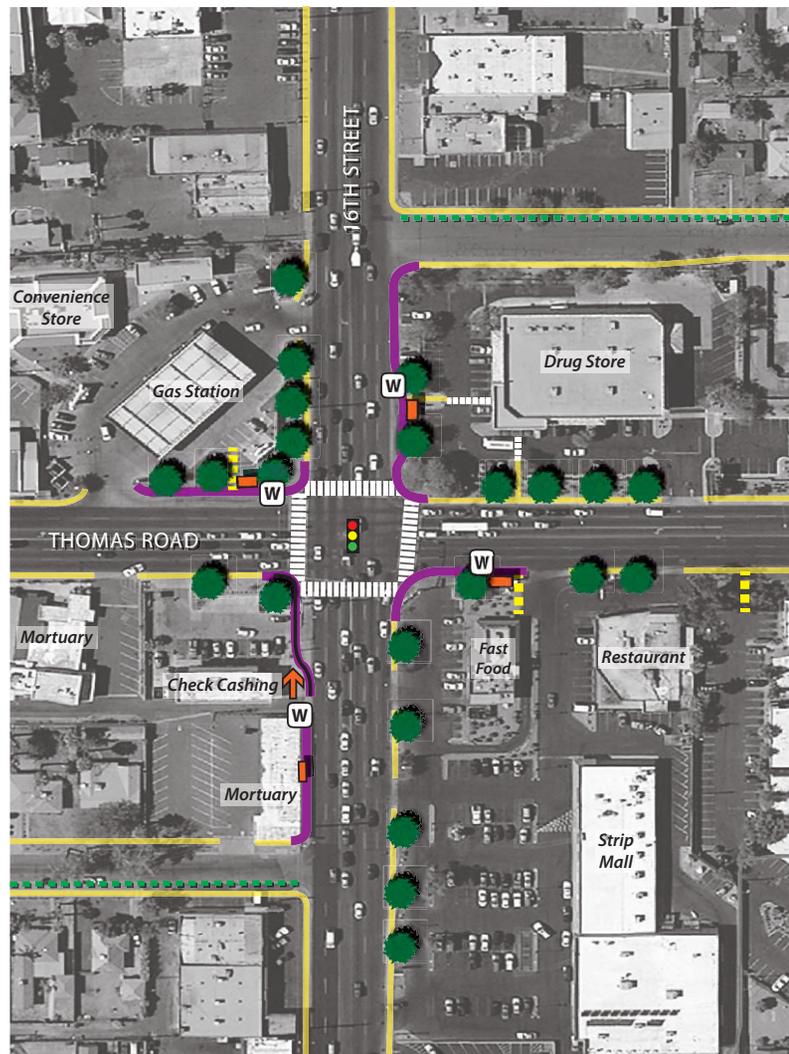
Category Ranking	Category Name	Defining Characteristics
	Connection to Adjacent Use	Create pedestrian passageways where the street network provides few pedestrian and bicycle connection opportunities.
	Enhanced Sidewalk	10' wide sidewalks that are detached from driving lanes when adjacent to major street intersections or when adjacent to a bus stop provide greater mobility for pedestrians. In some locations an expanded bus pad could extend to back side of shelter to accommodate additional seating and shade opportunities. ADA and bicycle access to be provided along all off-street and on-street identified and designated routes.
	Crosswalk/ Reduced Corner Radii	Stripe crosswalks according to ADA standards and have a signalized crossing system, advanced yield lines, and wider cross walks that improve safety for pedestrians crossing the street. Some locations may allow for reduced turning radius at intersection. Pedestrian refuges are encouraged on multi-lane roadways with significant traffic volumes and intermediate- to high-travel speeds. Establish mid-block signalized pedestrian crossings in non-intersection high transit use locations.
	Lighting	Provide pedestrian-scale lighting near transit facility to improve safety. Pedestrian-scale lighting along off-street pedestrian and bicycle routes improve safety.
	Relocate Transit Stop / Unused Transit Shelter	Relocate bus stop to the intersection to ease route transfers and connections, to take advantage of existing lighting at the intersection, and/or to utilize existing setback space. Existing unused transit facilities exist within some bus stop catchment areas. Should the transit system be expanded, these existing facilities may provide ideal locations for future bus stops.
	Seating	Provide highly visible seating under a nearby shade tree improves pedestrian comfort. Lower walls provide additional seating in high transit usage areas.
	Landscape Shading	Provide shade trees to maximize shade along pedestrian/bicycle routes. In urban areas, provide shade trees with grates to establish a larger sidewalk space for strollers and pedestrians near transit stops. Trees maximize shade along pedestrian/bicycle routes.
	Bicycle Access	Bicycle lanes serve as an additional route of travel for bicyclists in a safe environment. The addition of a bicycle lane would require further narrowing of travel lanes which may not be feasible at all locations. Wayfinding directs cyclists to low traffic volume roadways/ collector streets.
	Bicycle Parking	Provide bicycle racks or other parking facilities where bicycle ridership is high.
	Bicycle/ Pedestrian Wayfinding	Wayfinding directs pedestrians or bicyclists to nearby destinations and pedestrian/bicycle friendly routes including nearby local/collector streets.
	Information Signage	Install improved signage at bus stops to notify riders of the bus schedule and the bus routes.
	Reduced Building Setback	Encourage buildings adjacent to transit stops to frame the street and maintain a minimal setback to allow for shade opportunities and improved pedestrian access. Locate surface parking to the side or back of building, not adjacent to the street.
	Maintenance	Additional improvements and repairs.



5.1 16th Street & Thomas Road (Urban Core)

An Urban Core bus stop area is highly accessible and primarily within the core metropolitan area. The area usually has a traditional street network and these bus stops types are typically located along arterial streets or within the urban core. The area has multi-family housing units as well as neighborhood retail with few parking spaces and is typically oriented toward the main arterials. This area is usually serviced by both low local, express, and circulatory transit service although high frequency service is the predominant service type. The area will have anywhere from low to high population density but all urban core bus stop types will have high employment density. This stop type makes up 15.4% of all the bus stops in the MAG region. The case study location for the Urban Core bus stop is 16th Street and Thomas Road. Figure 25 and Table 11 illustrates the optimal improvements at the 16th and Thomas case study location given existing constraints.

FIGURE 25: 16th Street & Thomas Road Prototype Improvements (Urban Core Location)



16TH / THOMAS POTENTIAL TRANSIT ACCESSIBILITY IMPROVEMENTS

- EXISTING**
- Existing Sidewalks**
The existing grid street network and sidewalk facilities serves as a great pedestrian network.
 - Bicycle Access**
Adjacent collector and local roadways provide an alternative route for bicyclists. These routes often have low travel speeds and low traffic volumes providing for a safe bicycling environment. A dedicated bicycling lane is not possible unless the number of lanes is reduced.
 - Bus Shelter**
Bus shelters are provided with seating and shade at transit stops.
- IMPROVEMENT CONSIDERATIONS**
- Enhanced Sidewalks**
Provide 10' wide sidewalks to enhance pedestrian mobility at intersections and near bus stops.
 - Connection to Adjacent Land Use**
Create pedestrian passageways that connect adjacent development to the primary street.
 - Acceleration Lane**
Provide an acceleration lane to provide a bus bay for loading/unloading transit riders.
 - Crosswalks**
Stripe and maintain crosswalks according to MUTCD standards and provide additional pedestrian signal crossing time at locations without medians.
 - Landscape Shading**
Provide shade trees with ground grates near bus stops and along ROW-constrained pedestrian routes to provide shade while not reducing walking space.
 - Relocate Transit Stop**
Relocate southbound 16th Street stop closer to the Thomas Road intersection in order to improve lighting, sidewalk width, and adjacent land use connectivity. This location can also provide an acceleration lane/bus bay.
 - Bicycle/Pedestrian Wayfinding**
Install bicycle/pedestrian wayfinding signage near bus stops and along other bicycle/pedestrian friendly routes not only direct the bicyclist/pedestrian towards nearby destinations but indicate where nearby bicycle/pedestrian friendly routes are located.





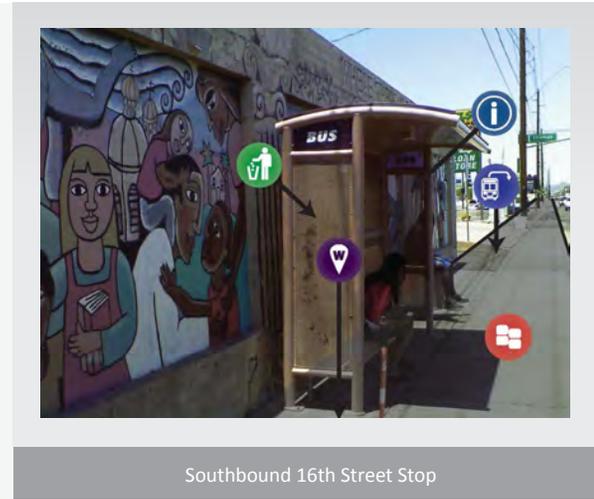
TABLE 11: 16th Street & Thomas Road Prototype Improvements (*Urban Core Location*)



Northbound 16th Street Stop



Northbound 16th Street Stop



Southbound 16th Street Stop



16th Street and Thomas Road Intersection



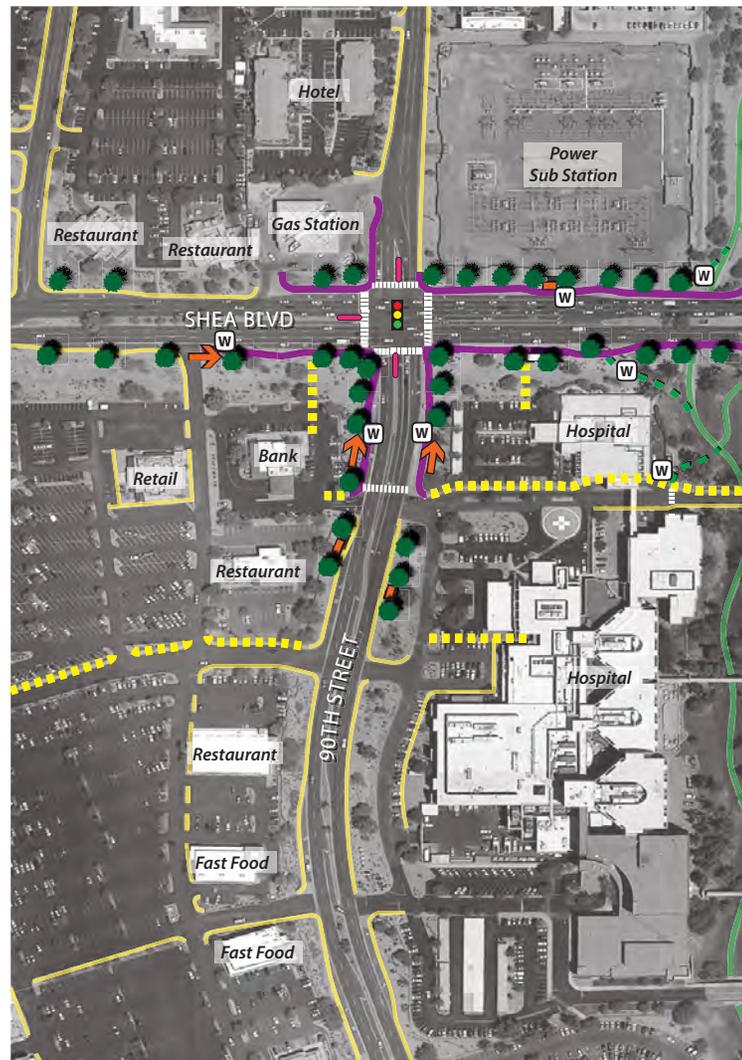
Northbound 16th Street Stop



5.2 90th Street & Shea Boulevard (Urban Retail)

An Urban Retail bus stop has retail land use present, high frequency transit route service confined to peak periods only, and medium population and employment density. This category accounts for 14.8% of all bus stop areas in the MAG region. The stop areas have a mix of traditional and conventional street networks and bus stops are concentrated along arterial streets. The surrounding land use is typically made up of medium-sized shopping centers and strip malls. The case study location for the Urban Retail bus stop is 90th Street and Shea Boulevard. Figure 26 and table 12 illustrate the optimal improvements at the 90th and Shea Boulevard case study location given existing constraints.

FIGURE 26: 90th Street & Shea Boulevard Prototype Improvements (Urban Retail Location)



90TH / SHEA BLVD

POTENTIAL TRANSIT ACCESSIBILITY IMPROVEMENTS

EXISTING
The existing street network and sidewalk facilities serves as a great pedestrian network.

Enhanced Sidewalks
Provide 10' wide sidewalks enhance pedestrian mobility at intersections and near bus stops.

Connection to Adjacent Land Use
Create pedestrian passageways that connect adjacent development to the primary street.

Trail Connection
An existing off-street bicycle path provides a regional connection, supports multimodal transportation, and enhances transit connectivity. Provide new pathways to connect the stop and the trail.

Crosswalks
Stripe and maintain crosswalks according to MUTCD standards and provide additional pedestrian signal crossing time at locations without medians.

Pedestrian Refuge
Create pedestrian median refuges at multi-lane intersections with significant traffic volumes and intermediate- to high-travel speeds. A minimum width of 4'; although a 6' to 8' median is preferred.

Landscape Shading
Provide shade trees near bus stops and along primary routes used to make transit connections/transfers.

Bus Shelter
Provide bus shelters with seating and shade at transit stop locations.

Unused Bus Shelter
Some stop locations may have shelters that are currently not being used. Identify the future use of the stop or move to an existing stop.

Relocate Transit Stop
Relocate transit stops to be closer to the intersection to allow for easier bus transfers, pedestrian signal crossings, and improved lighting.

Bicycle/Pedestrian Wayfinding
Install bicycle/pedestrian wayfinding signage near bus stops and along other bicycle/pedestrian friendly routes not only direct the bicyclist/pedestrian towards nearby destinations but indicate where nearby bicycle/pedestrian friendly routes are located.

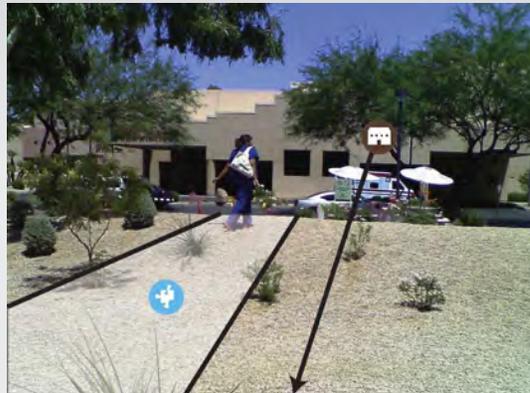
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TABLE 12: 90th Street & Shea Boulevard Prototype Improvements (Urban Retail Location)



South of Shea Boulevard, Bicycle Path



90th Street at Scottsdale Healthcare



90th Street



Southbound 90th Street Stop



Southbound 90th Street Stop



Northbound 90th Street Stop



5.3 19th Avenue & Southern Avenue (Urban Residential)

An Urban Residential bus stop is similar to the Urban Core, except there is no retail land use present, and there is only a medium population and employment density. This category accounts for 7.8% of all bus stops in the MAG region. All bus stops in the Urban Residential category are served by just one all-day high frequency transit route. The surrounding area has a mix of traditional and conventional street networks with bus stops located along arterials streets. The area would have a mix of traditional neighborhoods with single- and multi-family homes. The case study location for the Urban Residential bus stop is 19th Avenue and Southern Avenue. Figures 27 and table 13 illustrate the optimal improvements at the 19th and Southern case study location given existing constraints.

FIGURE 27: 19th Avenue & Southern Avenue Prototype Improvements (Urban Residential Location)

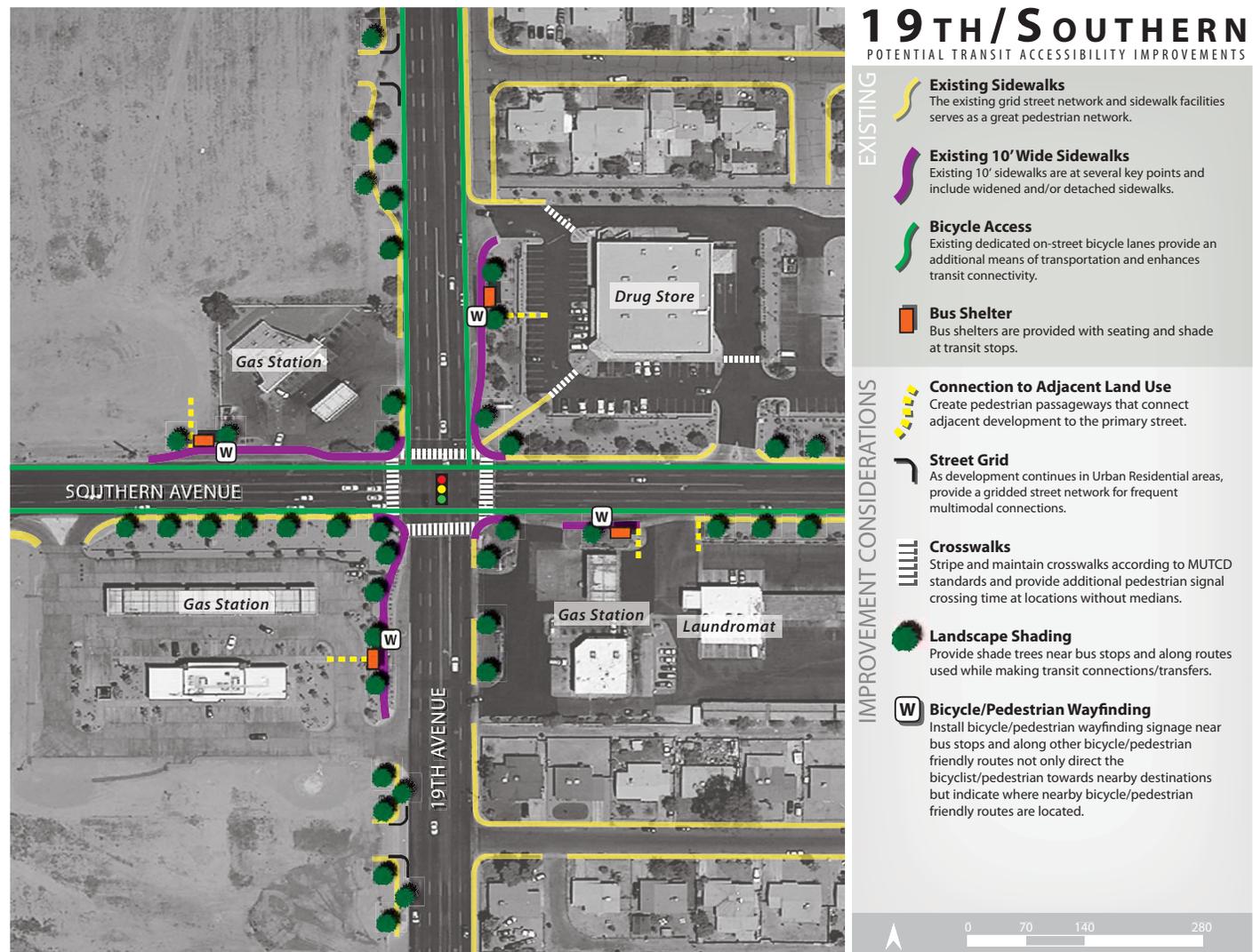




TABLE 13: 19th Avenue & Southern Avenue Prototype Improvements (*Urban Residential Location*)

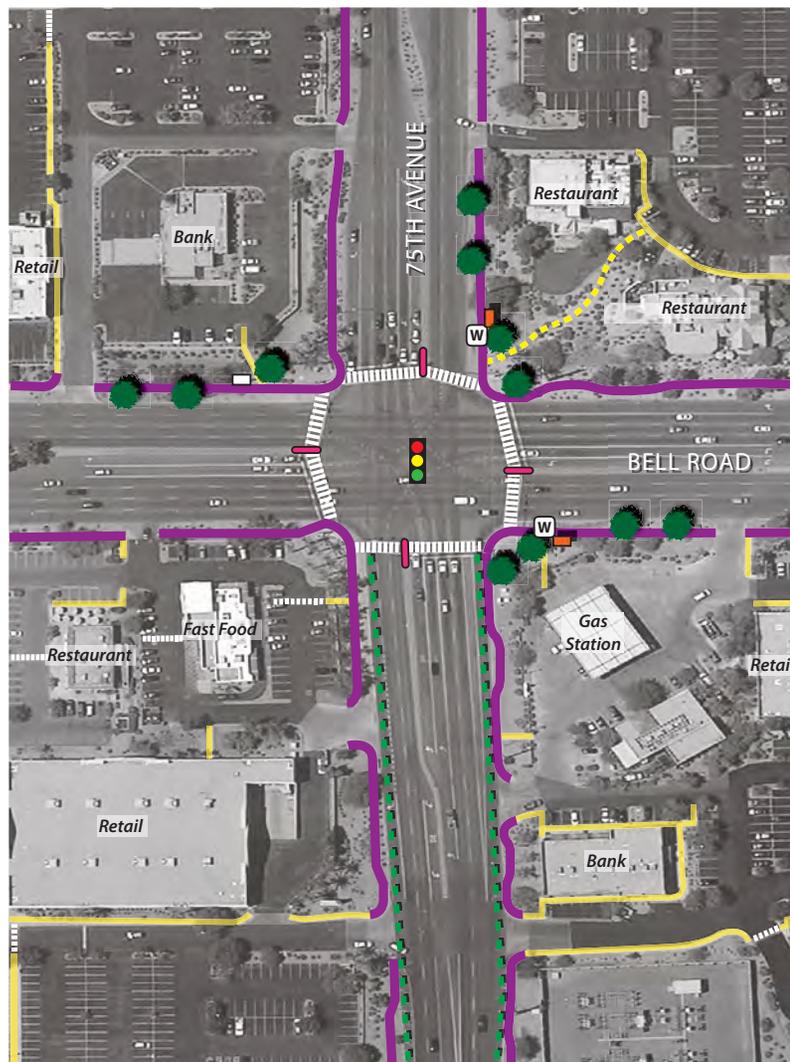
<p>Northbound 19th Street Stop</p>	<p>Southern Avenue Bicycle Access</p>	<p>Eastbound Southern Avenue Stop</p>
<p>Westbound Southern Avenue Stop</p>	<p>Northbound 19th Street Stop</p>	



5.4 17th Avenue & Bell Road (Suburban Retail)

A Suburban Retail bus stop area has retail land use present and low population and employment density; however, there are no high frequency transit routes serving these locations. This type of bus stop area accounts for the second highest share – 22.3% – of all bus stop areas in the MAG region. Surrounding these bus stop types is a conventional street network with nearby large shopping centers and big box stores with large parking areas. The stops are dispersed throughout the MAG region, with no geographic concentration. The case study location for the Suburban Retail bus stop is Bell Road and 75th Avenue. Figures 28 and table 14 illustrate the optimal improvements at the 75th and Bell case study location given existing constraints.

FIGURE 28: 75th Avenue & Bell Road Prototype Improvements (Suburban Retail Location)



75TH / BELL ROAD

POTENTIAL TRANSIT ACCESSIBILITY IMPROVEMENTS

EXISTING

- Existing Sidewalks**
The existing street network and sidewalk facilities serves as a great pedestrian network.
- Enhanced Sidewalks**
Provide 10' wide sidewalks to enhance pedestrian mobility at intersections and near bus stops.
- Connection to Adjacent Land Use**
Create pedestrian passageways that connect adjacent development to the primary street.
- Bicycle Access**
Skunk Creek Trail is located just south of the 75th and Bell case study location. It provides a regional connection, and enhances transit connectivity. Improve bicycle access between the transit stop and the trail by reducing lane widths to accommodate an on-street route.
- Crosswalks**
Stripe and maintain crosswalks according to MUTCD standards and provide additional pedestrian signal crossing time at locations without medians.
- Improved Pedestrian Refuge**
Create pedestrian median refuges at multi-lane intersections with significant traffic volumes and intermediate- to high-travel speeds. A minimum width of 4'; although a 6-8' median is preferred and must comply with ADA standards.
- Landscape Shading**
Provide shade trees near bus stops and along primary routes used to make transit connections/transfers.
- Bus Shelter**
Provide bus shelters with seating and shade at transit stops.
- Unused Bus Shelter**
Some stop locations may have shelters that are currently not being used. Identify the future use of the stop, or move to an existing stop.
- Bicycle/Pedestrian Wayfinding**
Provide bicycle/pedestrian wayfinding signage near bus stops and along other bicycle/pedestrian friendly routes not only direct the bicyclist/pedestrian towards nearby destinations but indicate where nearby bicycle/pedestrian friendly routes are located.

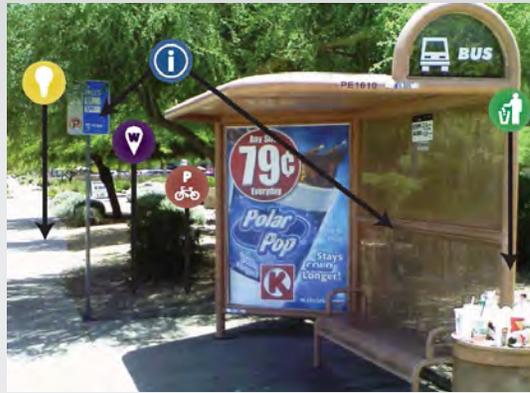
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TABLE 14: 75th Avenue & Bell Road Prototype Improvements (Suburban Retail Location)



Eastbound Bell Road Stop



Eastbound Bell Road Stop



Bell Road Crossing



Future Westbound Bell Road Stop



Northbound 75th Avenue Stop



Southwest Corner Pedestrian Access



5.5 Elliot Road & Lakeview Drive (Suburban Residential)

A Suburban Residential bus stop has no retail land use present. These stops are typically only serviced by limited stop, express service, or no local service at all. The surrounding area has low population and employment density. This category is the most common type of the bus stop types, accounting for the greatest share of bus stop areas in the MAG region; 39.5% of bus stops fall within this category. The surrounding area includes a conventional street network with master planned communities, many of which are gated or walled subdivisions. The Suburban Residential bus stops are typically dispersed throughout the MAG region and have no geographic concentration. The case study location for the Suburban Residential bus stop is Lakeview Drive and Elliot Road. Figures 29 and table 15 illustrate the optimal improvements at the Elliot and Lakeview case study location given existing constraints.

FIGURE 29: Elliot Road & Lakeview Drive Prototype Improvements (Suburban Residential Location)



ELLIOT/LAKEVIEW

POTENTIAL TRANSIT ACCESSIBILITY IMPROVEMENTS

EXISTING

- Existing Sidewalks**
The existing grid street network and sidewalk facilities serves as a great pedestrian network.
- Bicycle Access**
Existing dedicated on-street bicycle lanes provide an additional means of transportation and enhances connectivity to the transit system.
- Bus Shelter**
Bus shelters are provided with seating and shade at transit stops.

IMPROVEMENT CONSIDERATIONS

- Enhanced Sidewalks**
Provide 10' wide sidewalks to enhance pedestrian mobility at intersections and near bus stops.
- Connection to Adjacent Land Use**
Create pedestrian passageways that connect adjacent development to the primary street.
- Acceleration Lane**
Provide an acceleration lane to provide a bus bay for loading/unloading transit riders.
- Crosswalks**
Stripe and maintain crosswalks according to MUTCD standards and provide additional pedestrian signal crossing time at locations without medians.
- Landscape Shading**
Provide shade trees near bus stops and along routes used while making transit connections/transfers.
- Relocate Bus Shelter**
Relocate the existing westbound transit stop on Elliot Road closer to the intersection of Elliot Road and Lakeview Drive to ease route transfers, bus connections and to take advantage of existing lighting at the intersection.
- Bicycle/Pedestrian Wayfinding**
Install bicycle/pedestrian wayfinding signage near bus stops and along other bicycle/pedestrian friendly routes not only direct the bicyclist/pedestrian towards nearby destinations but indicate where nearby bicycle/pedestrian friendly routes are located.

0 70 140 280



TABLE 15: Elliot Road & Lakeview Drive Prototype Improvements (Suburban Residential Location)



Eastbound Elliot Road Stop



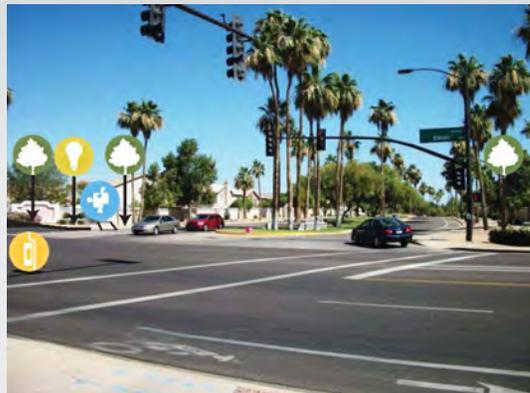
Pedestrian Access to Park



Elliot Road Sidewalk



Elliot Road and Lakeview Drive Intersection



Elliot Road and Lakeview Drive Intersection



Southwest Corner



6.0 TRANSIT ACCESSIBILITY TOOLKIT

This section presents a toolkit of pedestrian and bicycle improvement recommendations linked to specific prototypes and intended to be used by local jurisdictions to support positive change in coordinating and integrating roadway and land use environments near bus stops. Involving professional staff from various organizations is paramount to the bus stop location's success. Consult with individuals from facilities, community/plan review, transportation/streets, and transit when coordinating improvements to bus stops and their catchment areas.

The improvement measures described in the toolkit were selected to address common access issues based on best practices nationally as well as more specific local access issues, particularly the need for shade at and around transit stops. The toolkit measures are organized into the following categories or elements:

-  **Lighting**
-  **Adjacent Land Use**
-  **Information Signage**
-  **Bicycle Access**
-  **Wayfinding**
-  **Bicycle Parking**
-  **Seating**
-  **Pedestrian Crossing**
-  **Shelter**
-  **Sidewalk**
-  **Landscape Shading**

The toolkit includes discussions of applicability to different transit stop typologies and context-sensitive implementation strategies.

Transit stops are the gateways to public transportation. Each one welcomes riders into the system and provides a transition point for entry into the community. The Valley Metro Fact Sheet (Issue 6, July 2009 – June 2010) indicates there are over 7,000 bus stops serving over 55.5 million bus boardings annually. It is important, therefore, that the bus stops provide a consistent, safe, and accessible environment. Currently, bus stops in the MAG region give riders mixed messages, depending on accessibility and how safe each stop feels. MAG and its partners understand that safe and accessible transit stops are an integral part of the public transit system. As such, MAG has initiated this study to furnish member agencies with additional tools and guidelines to promote and sustain better planning associated with improving existing deficiencies and deploying future stops that are more accessible and supportive of adjacent neighborhood needs. Despite how transit patrons primarily arrive at a stop, in the end all are pedestrians. Thus, this study will focus on challenges faced by pedestrians and bicyclists as they access transit at the stop level.

“Transit Accessibility is... the segment of an individual trip that occurs between an origin or destination point and the transit system.”

Source: American Public Transit Association



Lighting

ISSUE

Street and pedestrian lighting is an important feature at bus stops and nearby crossing locations for the safety and comfort of pedestrians and transit users. Additionally, adequate lighting promotes safety and security in urban areas and increases the quality of life of a community by extending the hours in which activities can safely take place along a street.

IMPORTANCE

When asked “How likely is it that you would walk or ride a bicycle to this bus stop more frequently if there were more street lights?”, **60% of the respondents cited that improved lighting would increase their likelihood of walking or riding a bicycle.**

At most case study locations, good pedestrian lighting was not provided. Instead lighting was provided by adjacent street lights which were often too far from the transit stop. Some stops provided a back lit advertisement which provides lighting within the shelter; however, many shelters of this design had advertisement lighting that was not in operation. Additionally, lighting in more urban areas might come from adjacent land use; however, in areas with larger setbacks this did not provide a good sense of security.

IMPROVEMENT CONSIDERATIONS

Pedestrian-oriented street lighting can be implemented using a variety of designs and configurations. The types of lighting shown below are higher cost and would be most appropriate for more urban bus stops.



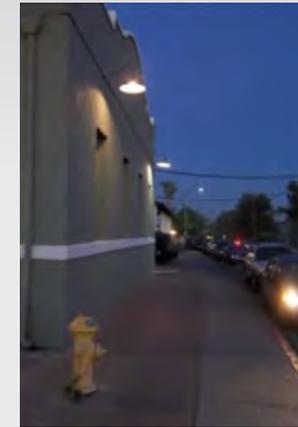
Freestanding pedestrian-oriented lighting at bus stops.



Pedestrian light mounted to street light pole.



Attached to street light pole in catchment area.



Attached to building face in catchment area.

Freestanding Pedestrian Light | Freestanding pedestrian lighting is typically provided in addition to street lighting. These pedestrian lights must be located within closer proximity to each other so to minimize pedestrian dark areas; typically every 50' as opposed to a typical street light spacing of 200'.

Pedestrian Light Mounted to Street Light | A pedestrian lighting arm may be attached an existing street light pole using a special SS band designed for this purpose. In addition to mounting to existing street lights additional pedestrian lighting may be necessary. Pedestrian lights must be located within closer proximity to each other so to minimize pedestrian dark areas; typically every 50' as opposed to a typical street light spacing of 200'. Depending on the integrity

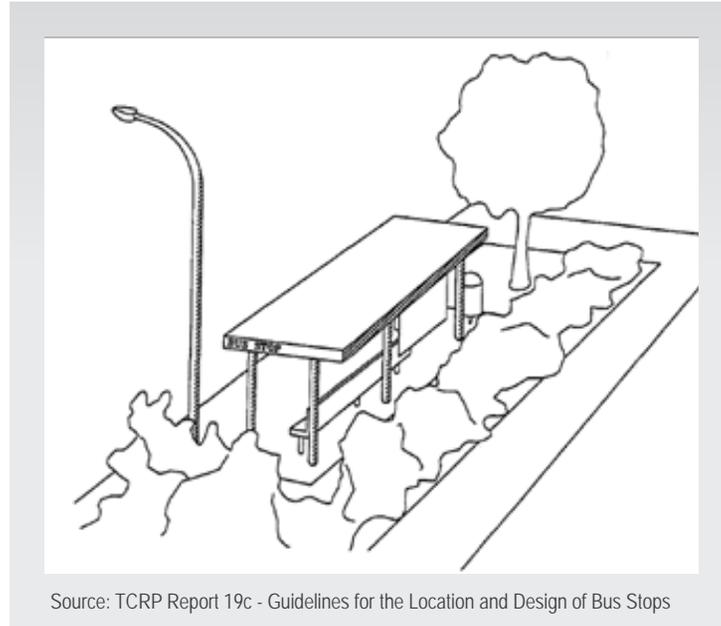
of the existing street light pole and the method used for construction/installation, this method may be more costly than providing a freestanding pedestrian light.

Pedestrian Light Mounted to Building | Mounting pedestrian-scale lighting to building facades is a cost efficient technique as often that cost is paid by the developer or property owner. However, this strategy requires that local design guidelines require such lighting be installed. This lighting technique would only work with buildings with small setbacks whose lit façade is directly adjacent to the pedestrian walkway; buildings with larger setbacks would not be able to provide lighting for the adjacent walkways.



PLANNING/POLICY GUIDANCE

- Perform lighting study to conform to current lighting standards.
- Site bus stops and bus shelters to take advantage of overflow lighting from existing street lights (see graphic at right).
- Provide solar lighting in locations where connecting to power can be costly.
- Position backlit information kiosks to illuminate the interior of a bus shelter.
- Provide pedestrian level lighting either by retrofitting existing streetlight poles with a new lighting arm or by installing new/additional lighting.
- Consider low cost lighting solutions such as LED and other technologies.



COST

The table below lists the estimated unit construction costs for lighting features that may be included at transit stops. The potential application of each feature by prototype is highlighted.

Table 16: Cost of Lighting & Potential Prototype Application

Feature	Description	Unit	Unit Cost	Application for Prototypes				
				Urban Core	Urban Retail	Urban Res.	Sub. Retail	Sub. Res.
Security/ Lighting	Luminaire adjacent to shelter	Each	\$10,000					
	Pedestrian lighting attached to existing street light pole	Each	\$7,500					
	Pedestrian lighting along walkway; 80' spacing	Each	\$5,500					
	Electrical circuit / wire	Foot	\$2					
	CCTV camera (1)	Each	\$5,000					

1. Cost for real-time traveler information and CCTV does not include any necessary communications backbone or central processing system.



i Information Signage

ISSUE

To have an effective transit system, riders need to have easy, reliable, and up-to-date information regarding the transit service. Providing bus service information at bus stops is important to transit users and can be used effectively to increase ridership by retaining existing riders and encouraging the use of transit by new riders, infrequent riders, and disabled individuals.

IMPORTANCE

During the field survey, transit riders were asked if an increase in schedule information would make them more likely to ride the bus more often; **64% of transit riders said they would ride the bus more often if adequate schedule information was provided.**

At most case study locations bus stops had little to no information signage. The existing signage offered at all bus stops includes a bus route number sign only. Several locations also included a sign providing the bus stop number and a phone number that transit riders can call to get additional information about the bus stop location and routes offered at that stop. Few locations offered a full transit system map. One location (90th and Shea) provided park-and-ride location information. None of the case study locations provided a bus schedule, route destinations, or real-time travel information.

Table 17: Information Signage Elements

Information Content	Station/stop, route, schedule, service alert, real-time location, destination, vehicle load factor.
Information Format	Map, table, website, trip planner, electronic message, phone text.
Information Delivery Media	Telephone, personal computer, mobile device, signage, kiosk.

IMPROVEMENT CONSIDERATIONS

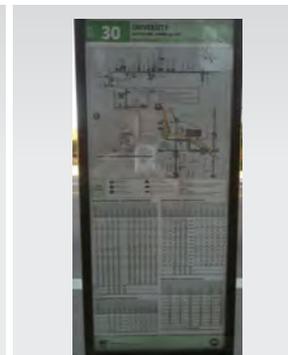
Information signage can be implemented in several formats and with various combinations of information. It is highly encouraged that transit stops include a full bundle of information for transit riders including: a bus stop number, route(s) number and destinations, transit system schedule, transit system map, transit system provider's contact information, and if applicable, the park-and-ride location. Furthermore, bus stops and routes with high ridership volumes can consider adding real-time travel information. The types of information signage shown below are but a few examples of the possible design and format to provide the information. Overall, transit system information signage should be as consistent as possible throughout the entire transit system.



Freestanding information kiosk with detailed route and schedule information.



Existing post-mounted bus stop sign with bus route numbers and destinations.



Post-mounted information box with route map.

Bus Stop Sign with Route(s) Number and Destinations | As stated in the table above, the existing post-mounted bus stop sign includes the bus route number. These signs can be enhanced to include the route name and the primary destination along the route.

Information Kiosk | Each bus stop can include an information kiosk houses the transit system schedule and the system map. This may be another location to consider for the transit provider's contact information.

Contact Information Signage | Each bus stop can include the transit provider's contact information with the bus stop number. This sign provides another means for riders to get information regarding their bus route and bus stop. Many bus stops in the greater Phoenix area already include this sign. In addition to providing a phone number, these signs can be enhanced to include a QR code which would direct smart phone users to a website providing updated information on the bus route and bus stop.

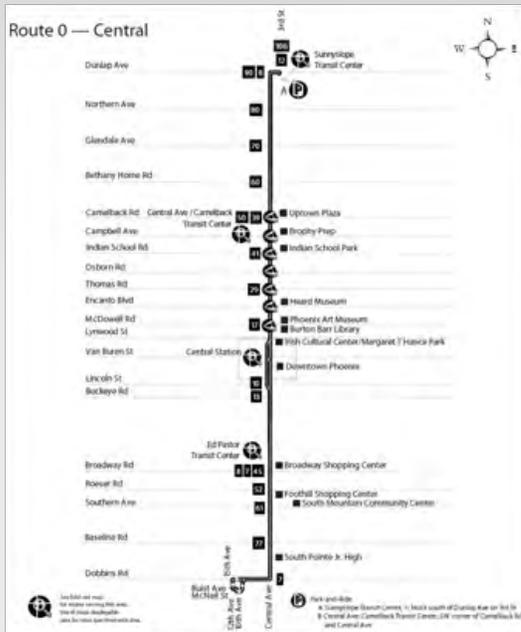


Park-and-Ride Signage | Signage can be provided at bus stops directing transit riders to nearby park-and-ride facilities.

Real-time Travel Information | Bus routes and stops with high ridership volumes can be enhanced to include real-time travel information, further enhancing the customer service quality of the transit system. Vehicle tracking systems, such as Automatic Vehicle Location (AVL) systems, can also be used to process information and provide next bus arrival predictions.

PLANNING/POLICY GUIDANCE

- Consider incorporating transit-related information technologies (i.e. smart phone apps, phone text lines).
- In addition to improvements made at specific bus stop locations, a destination-based route map can be used throughout the transit system in the MAG region. The sample below shows an example of what that map may include.
- Install specific route information for transit users, particularly when low frequency service is provided. Install route information on separate signs if cost effective.



The sample destination-based route map shown above could serve as an example for the MAG region.

COST

Of the improvement considerations listed above the freestanding kiosk has the highest capital cost. The post mounted signs provide the lowest cost option, but also the lowest level of information—typically a route number and final destination only. Adding information boxes with real time travel information through web-based (QR codes) or text messaging requires displaying printed schedule information and replacing schedule materials in the field whenever route schedules are modified. The table below lists the estimated unit construction costs for information signage that may be included at transit stops. The potential application of each feature by prototype is highlighted.

Table 18: Cost of Information Signage & Potential Prototype Application

Feature	Description	Unit	Unit Cost	Application for Prototypes				
				Urban Core	Urban Retail	Urban Res.	Sub. Retail	Sub. Res.
Information Signage	Real-time information display (1)	Each	\$5,000					
	Static information display	Each	\$500					

1. Cost for real-time traveler information and CCTV does not include any necessary communications backbone or central processing system.



Wayfinding

ISSUE

Wayfinding is an important component in guiding bicyclists, pedestrians and transit riders to nearby destinations. Wayfinding includes physical and visual elements that orient and aid people in reaching their destination including paths, landmarks, nodes, edges and districts. These physical and visual elements are further described in the FTA report titled *Traveler Information Systems and Wayfinding Technologies in Transit Systems* listed in *Appendix A: Reference Material*.

IMPORTANCE

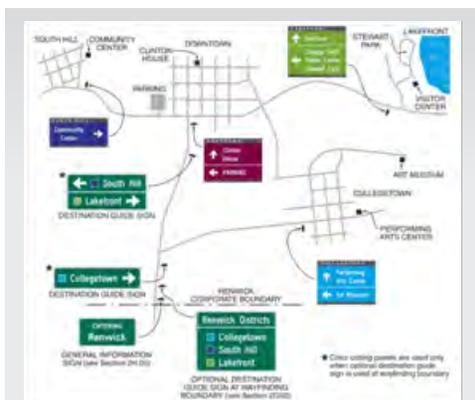
The field survey did not ask specific questions related to wayfinding. However, when asked if there were interesting things to see on their trip to the bus, only 19% indicated that there was something interesting to see along their route. None of the case study locations provided transit, bicycle or pedestrian wayfinding.

"...Wayfinding signage plays an important role in the overall success of a rail authority. Not only does effective signage help create an environment where passengers feel informed and secure, it also provides an unrestricted opportunity for the authority to create and/or maintain a defining image with its riders and the surrounding community. Essentially, wayfinding signage is the most prominent and, therefore, the most vital communication tool of any public transit system..."

Source: "Design & Placement: The Defining Elements of Successful Wayfinding Signage" (Owens, Ron)

IMPROVEMENT CONSIDERATIONS

Bicycle and pedestrian wayfinding signage near bus stops and along other pedestrian/bicycle friendly routes would not only direct the pedestrian or bicyclist towards nearby destinations but would indicate where nearby pedestrian/bicycle friendly routes are located, and would be used to direct potential riders to nearby bus stop locations. Where it is not possible to provide a bike path or lane, bicycle improvements can focus on wayfinding which would connect transit stops with off-street routes and nearby local or collector streets where traffic volumes and speeds are more conducive to bicycle travel.



Transit stop wayfinding can be provided as part of a larger community wayfinding signage program.

Source: MUTCD 2009, Ch. 2D



The MUTCD provides general information signs that may be used to identify transit stops/stations.

Source: MUTCD 2009, Ch. 2H



Bicycle wayfinding signs may also indicate the direction of transit station.

Source: City of Long Beach

Transit Stop Wayfinding | Transit, pedestrian and bicycle wayfinding can be created or can be added to an existing community wayfinding program.

Transit Stop Directional Signage | These general information signs can be used to throughout a community to direct users to nearby transit stop locations.

Bicycle Wayfinding | Bicycle wayfinding can be used to direct bicyclist to nearby bicycle friendly routes, to destinations, and to transit stop locations.

Table 19: Example of Destination Classifications

Primary	Downtown and adjoining jurisdictions (signed at a distance up to five miles).
Secondary	Transit stations and districts (signed at a distance up to two miles).
Tertiary	Parks, landmarks, colleges, hospitals, and high schools (signed at a distance up to one mile).



PLANNING/POLICY GUIDANCE

- Consider incorporating a comprehensive, city-wide wayfinding signage program in the local community and consider transit riders, bicyclists, and pedestrians when designing the wayfinding system.
- Use an interdisciplinary team to design and develop wayfinding systems.
- Include an evaluation component into the implementation of wayfinding to understand how customers use them and assess effectiveness.
- Consider establishing a uniform set of regional transit wayfinding guidelines or standards.
- Establish a hierarchy that classifies destinations as primary, secondary and tertiary destinations.

Table 20: Wayfinding Strategies by Level of Technology

Uses	Basic	State-of-the-Practice	State-of-the-Art	Future
Signage	Signage – static fixed signage (ER, AS)	Signage – dynamic and mobile signage (ER, AS)	Remote Infrared Audible Signage (RIAS) (AS)	
Routes	Routes (ALL)	Route choices/Best Route (PT)	Real-time route info (ALL)	
Stations/Stops	Station/Stops (ALL)	Station Access (ALL)		
Fare	Schedules (ALL)	Travel mode & route fare/ cost options - Financial Comparisons (PT)	Financial Comparison (PT)	
Service Alerts	Elevator/excalator station access (ALL) signaige/oral instructions (AS)	Service alerts (ALL)	Customized service alerts (ALL)	
Real-Time Location		Self (ER, AS)	Transit Vehicles (ER, AS)	All Vehicles (ALL)
Destinations	Station/stop names (ALL)	Non-integrated (PT) Landmarks/Points of interests (PT)	Integrated (ALL)	
Vehicle Passenger Load	Seasonal surveys (PT)	Using APC for plannign (PT)		Vehicle passenger load available to passenger (ALL)

Trip Stages: Pre-Trip (PT), En Route (ER), At-station/Stop (AS), All Trip Stages (ALL)

Source: FTA, Traveler Information Systems and Wayfinding Technologies in Transit Systems, 2011

COST

The table below lists the estimated unit construction costs for wayfinding features that may be included at transit stops. The potential application of each feature by prototype is highlighted.

Table 21: Cost of Wayfinding Signage & Potential Prototype Application

Feature	Description	Unit	Unit Cost	Application for Prototypes				
				Urban Core	Urban Retail	Urban Res.	Sub. Retail	Sub. Res.
Wayfinding	Wayfinding sign	Each	\$250					



Seating

ISSUE

Seating is typically included in shelter design, but where installation of a shelter is not justified a bench with a shade tree provides comfort and convenience at bus stops. Factors used in determining installation and locations of bus stop seating include:

- Available space
- Stops with long headways
- Landowner/developer was denied permission to install a shelter
- Stops frequently used by elderly and the disabled
- Evidence of riders sitting on nearby land or structures

IMPORTANCE

The field survey did not ask specific questions related to seating. In “Evaluating Transit Stops and Stations from the Perspective of Transit Users” 749 transit users were surveyed at 12 transit stops and stations around metropolitan Los Angeles; in terms of provided amenities, **respondents selected “enough places to sit” as fourth out of five in rank of importance** (Isekis, H., Taylor, B. D., 2010).

Most case study locations provided seating via a bus shelter. One location provided additional benches outside of the shelter. And one location provided no seating at the bus stop.

IMPROVEMENT CONSIDERATIONS

Bus stop seating may be provided independent of bus shelters, offering comfort and convenience at bus stops. Seating at bus stops is often provided based on existing or projected ridership.

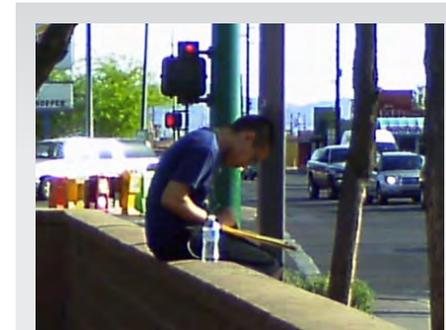
Bench | Seating provided independent of bus shelters would typically be provided where ridership is below those justifying a bus shelter. The quality, financing and siting of benches may vary according to the needs and resources of the responsible agency and local community. Locate benches near shade trees whenever possible to maximize shade or plant shade trees near the bench location. Coordinate bench locations with street lighting to increase visibility and enhance security. Do not locate benches in undeveloped areas of the right-of-way or near driveways to improve pedestrian safety and comfort. Locate benches on a non-slip, properly drained, concrete pad.

Seat Wall | Street walls can be designed at lower heights to serve as additional seating from transit patrons (aka Seat Walls). Seat walls can be integrated into pedestrian refuges. Shade trees should be planted near seat walls to provide the maximum amount of shade. Install skate stops or skate blocks along seat walls to avoid damage that may occur to wall.

Public Art/Gateway Monument | Seating can be incorporated as public art or as part of a gateway monument.



Bench with no advertising (shade from tree and building)



Seating provided on adjacent street wall, also known as a seat wall.



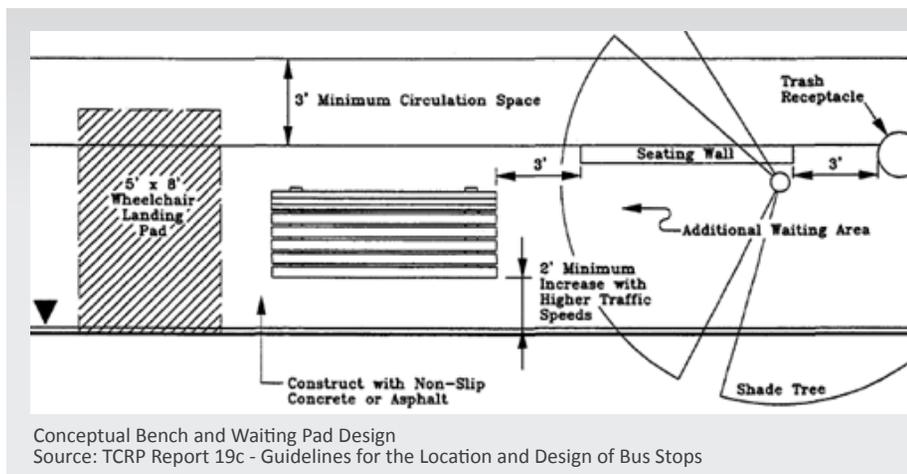
Seating provided on adjacent street wall, also known as a seat wall.



PLANNING/POLICY GUIDANCE

- TCRP Report 19c provides detailed guidance on the siting of bus benches. The siting of bus stop benches in the MAG region should consider:
 - distance from intersection,
 - distance from street light,
 - proximity to existing shade,
 - distance from driveways,
 - speed limit,
 - ADA mobility clearances, and
 - proximity and access to surrounding destinations.

- Seating may also be incorporated into the design of the adjacent development including designing street walls along the property line to be at a height that allows passengers to use the wall as seating.



COST

The table below lists the estimated unit construction costs for seating that may be included at transit stops. The potential application of each feature by prototype is highlighted. Refer to the *RPTA Bus Stop Program and Standards, 2008*, for bus stop design information.

Table 22: Cost of Seating & Potential Prototype Application

Feature	Description	Unit	Unit Cost	Application for Prototypes				
				Urban Core	Urban Retail	Urban Res.	Sub. Retail	Sub. Res.
Seating	Standard shelter w/ seating, lighting, bicycle rack, concrete pad, trash receptacle	Each	\$16,000					
	Enhanced shelter w/ seating, side screens, lighting, bicycle rack, concrete pad, trash receptacle	Each	\$25,000					
	Custom shelter w/ seating, side screens, interior lighting, stop area lighting, bicycle rack, concrete pad, trash receptacle	Each	\$35,000					
	Bench w/ concrete pad, shade	Each	\$3,000					
	Bench w/ concrete pad, shade, lighting, trash receptacle	Each	\$6,000					



Shelter

ISSUE

Bus shelters provide protection shade, seating, protection from the elements, and serve as a visual guide for transit stops. The Transportation Research Board published a report titled *Guidelines for the Location and Design of Bus Stops* which demonstrated the importance of shelter location, design, and pavement materials used. The report states that both **asphalt and concrete increase air temperature by several degrees because of the material's ability to retain and reflect heat. Temperatures at bus stops can often exceed actual air temperature by several degrees.** The report also states where shelters should be located based on accessibility factors such as bus stop transfer distances.

Within the MAG region, local jurisdictions determine bus shelter designs. There are a variety of designs that can accommodate different passenger volumes and various site demands. In the MAG region, sun protection is a key function of shelters. Depending on the orientation of the bus shelter (south facing, north facing, etc.), time of day and transit service time, a typical bus shelter may or may not provide relief from direct sunlight. In these circumstances other shading strategies such as locating the shelter near an existing tree can also be considered.

IMPORTANCE

The field survey did not ask specific questions related to shelter. In *Evaluating Transit Stops and Stations from the Perspective of Transit Users* 749 transit users were surveyed at 12 transit stops and stations around metropolitan Los Angeles; **69% of respondents reported shelter to protect them from the sun or rain as being important, also, it was the highest ranking in terms of importance of all five amenities surveyed** (Isekis, H., Taylor, B. D., 2010).

Most case study locations provided bus shelters and bus stops. Some locations had bus shelters installed but bus service was not provided. At these locations bus transfer distances were long which resulted in riders missing transfers or cutting through developments to reach the next bus stop. One location had no shelter, only a bus sign and a shade tree. None of the case study locations included shelters designed for southern climates.

IMPROVEMENT CONSIDERATIONS

Like bus benches, bus shelters may be supported by advertising or constructed using entirely public funds. Transparent screening is an important element of both of the examples below, as visibility is an important security feature and it also allows passengers to see approaching buses from behind the screen.

Furthermore, **shelters can be coordinated with landscaping to provide maximum protection from the elements** and to enhance the visual quality of the bus stop. Shade trees reduce heat at a site and provide additional shade for patrons waiting outside the shelter. To increase rider comfort consider using low heat gain materials and finishes.

Standard Bus Shelter | Transit agency requirements for bus shelters may include:

- Shelter location,
- Pedestrian access (i.e., direct sidewalk to the shelter),
- Visibility for vehicles and waiting passengers,
- ADA accessibility, and
- Signage.

Development-funded Bus Shelter | Local jurisdictions may require developers to install bus shelters. Additionally, ownership and maintenance of the shelter may be handled by the local jurisdiction or the developer. The designs of such shelters can vary from the typical bus shelter type to coordinate the design with major design features of the building or development.

Southern Climate Shelters | Shelters designed for southern climates are designed with the goal of alleviating uncomfortable conditions caused by heat and sun exposure. Shelters can be configured with a screen placed between the street and bench to protect waiting passengers from direct sunlight; this configuration would be most applicable for east or west facing stops and where there are few trees or buildings to block the sun. Prefabricated trellis panels may be used in the construction of transit shelters which offer both aesthetic and thermal benefits. Vertical panels and seating areas can be staggered to maximize shade opportunities throughout the day.



4:00 p.m.
EAST FACING



12:00 p.m.
EAST FACING

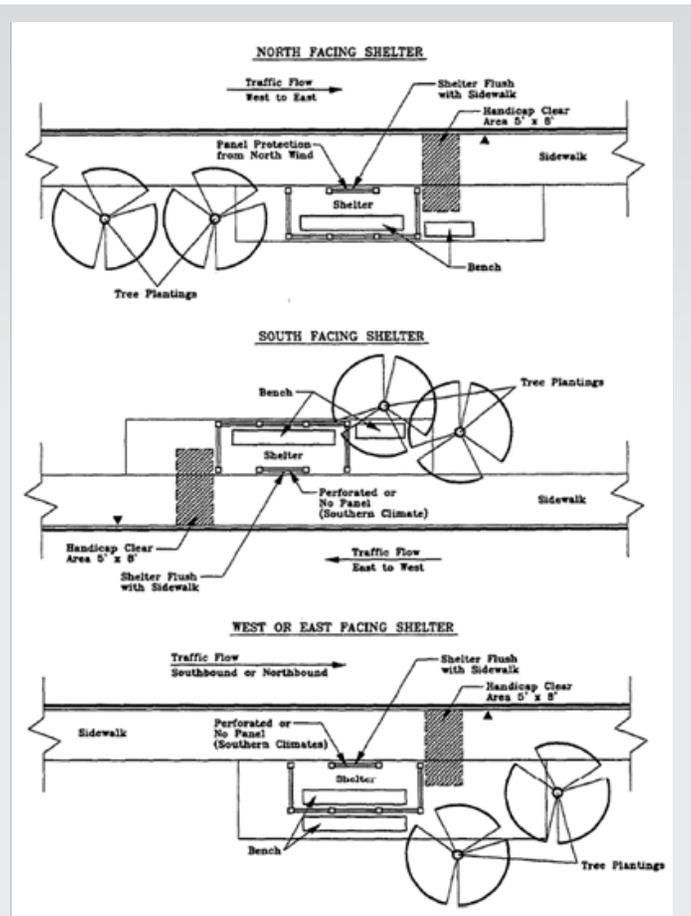


2:00 p.m.
EAST FACING



9:00 a.m.
EAST FACING

The City of Scottsdale conducted a sun exposure study as part of the conceptual design for standard bus shelters in the city. The resulting design is similar to concept designs included in TCRP Report 19c (referenced above).



Conceptual Shelter Design for Southern Climates
Source: TCRP Report 19c - Guidelines for the Location and Design of Bus Stops



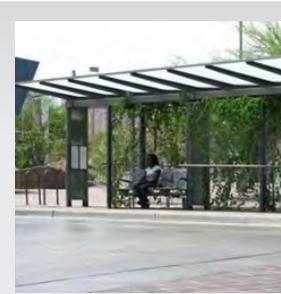
PLANNING/POLICY GUIDANCE

- Consider requiring private developers to install and/or maintain bus shelters.
- Consider establishing a southern climate shelter standard for bus stops and create a program to convert local shelters to shelters with enhanced protection from the sun.
- Consider the local transit agency's criteria to determine if a shelter should be provided at a bus stop and consider steps to be made to prove the need for a shelter at a stop location. Common factors in determining shelter need include:
 - Number of passenger boardings
 - Transit service type and frequency
 - Number of transfers
 - Available space
 - Number physically challenged individuals in the area
 - Adjacent land use compatibility
 - Shelters exclusively served by peak period express transit services will have different shade requirements than shelters utilized by all day services.

Coated Pavement | Emerald Cities, a Scottsdale-based environmental company, has created a pastel-hued coating that is sprayed over asphalt and lasts for five to eight years. The lighter color attracts and reflects less heat. The company measured the temperature of the surface of asphalt and compared it to their pastel-coated surface and saw an 80 degree difference in surface temperature.

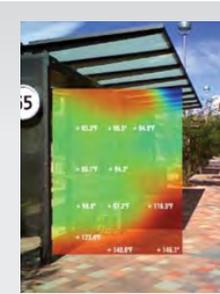


Coated, light color pavement attracts and retains less heat.
Source: <http://emeraldcoolpavements.com/>



Prefabricated trellis panels may be used in the construction of transit shelters, offering aesthetic and thermal benefits.
Source: greenscreen.com

Other Shade Structures | At locations with high pedestrian activity additional shade structures can be installed which may or may not act as a transit shelter.



COST

The table below lists the estimated unit construction costs for shelter that may be included at transit stops. The potential application of each feature by prototype is highlighted.

Table 23: Cost of Shelter & Potential Prototype Application

Feature	Description	Unit	Unit Cost	Application for Prototypes				
				Urban Core	Urban Retail	Urban Res.	Sub. Retail	Sub. Res.
Shelter	Standard shelter w/ seating, lighting, bicycle rack, concrete pad, trash receptacle	Each	\$16,000					
	Enhanced shelter w/ seating, side screens, lighting, bicycle rack, concrete pad, trash receptacle	Each	\$25,000					
	Custom shelter w/ seating, side screens, interior lighting, stop area lighting, bicycle rack, concrete pad, trash receptacle	Each	\$35,000					
	Sidewalk, concrete	Sq. Ft.	\$4.00					
	Coated Pavement	Sq. Ft.	\$1.50					
	Concrete pavers	Sq. Ft.	\$7.00					



Shading

ISSUE

Adequate shading can improve uncomfortable environmental conditions like heat and sun. In the MAG region, sun protection is a key function of shelters. Depending on the orientation of the bus shelter (south facing, north facing, etc.), time of day, and transit service time, a typical bus shelter may or may not provide relief from direct sunlight. In these circumstances other shading strategies such as locating the bus stop near an existing tree can be considered. *TCRP Report 19c* provides detailed guidance on the shade of bus stop areas.

It is important to recognize that the movement of the sun will impact the effectiveness of the shade improvement. Before selecting a treatment visit the site during the period(s) of peak activity. Stop level transit ridership data and pedestrian counts will be useful in determining the periods of peak activity.

IMPORTANCE

During the field survey, transit riders were asked if an increase in shade trees would make them more likely to ride the bus more often; **68% of transit riders said they would ride the bus more often if additional shade was provided.** Only 21% of riders thought there were a lot of trees and plants.

At all case study locations only partial shade was provided during certain periods of the day but not during all hours of daylight. At most case study locations at least partial shade was provided from the bus shelter; at bus stops where a shelter was not provided a nearby shade tree provided partial shade. None of the case studies had adequate shade pedestrian or bicycle routes in the catchment area.

IMPROVEMENT CONSIDERATIONS

Various strategies for providing shade at transit stops have been discussed in previous sections including the siting of benches to take advantage of existing shade and the design and orientation of shelters. In addition to shade at the bus stop location, consideration should be given to providing adequate shade on bicycle and pedestrian routes that connect to bus stops.

Street Trees with Grates | Shade trees planted in tree wells are common in urban areas where on-street parking may be directly adjacent to the planting area. Shade trees with grates can be installed which maintain a larger sidewalk space for pedestrian, strollers and handicapped individuals.



Tree wells are typically used in urban areas or areas with high turnover of street parking.



A landscaped strip between the curb and sidewalk is more common in suburban settings.

Landscape Strip | Streets with a landscape strip can be enhanced by planting street trees in the space between the sidewalk and curb. This location can provide shade both to the sidewalk and to on-street bicycle lanes (if applicable). When sidewalks are detached, shade trees can be planted on both sides of the sidewalk to provide shade throughout the day.

Landscape strips that will be planted with shade trees need to be at least 3' wide to allow for a minimum 2'6" clearance radius around the base of the tree. Evaluate tree litter, fruit characteristics, smell, growth rate, proximity to building structures and utilities, root spread, and seasonal growth when determining tree species. Certain species can have major impacts on building foundations, sidewalks, cars, pedestrians, and utilities.

Shade Trees | Whenever possible, landscape transit, pedestrian and bicycle areas with shade trees rather than palm trees. Palm trees provide little to no shade.

Sidewalk-oriented Buildings | The design and orientation of buildings, particularly with regard to setback and height, can have a significant impact on the level of shade provided at transit stop and along sidewalks in the transit stop catchment area. Structures may also be built over sidewalks for short stretches to provide pockets of relief from direct sun exposure. Depending upon the orientation of the building (i.e. north, south, east, west) and the location of the sun, buildings with a zero setback line or small setback line can provide shade for the sidewalk. A two-story building has a comparable height to a mature shade tree.

Canopies | Canopies are typically used on private property. They may be erected to provide shade between the building entrance and the public sidewalk. Canopies have also been used on roadways in some urban settings.



PLANNING/POLICY GUIDANCE

- Install trees to maximize shade opportunities while considering the natural and built environmental impacts.
- Some cost effective strategies for planting street trees include:
 - Locating bus stops in locations where they will benefit from existing shade trees.
 - Prioritizing the planting of street trees that will serve existing bus shelters and sidewalks.
- Wide and/or detached sidewalks allow for a buffer zone that can include tree wells in urban areas or a continuous landscaped strip in more suburban settings.
- Shade can be a consideration during private development design and review and the implementation of public improvements within the public right-of-way. Identifying the appropriate strategy requires consideration of capital cost, maintenance and contextual factors such as aesthetics and the number of pedestrians and transit users who will actually benefit from the investment.
- Provide appropriate landscaping that does not interfere with pedestrian and bicycle accessibility.



The combination of tree wells and sidewalk-oriented buildings provides consistent shade throughout most of the day.



Sidewalk oriented development provides shaded connection between bus stops and building entrances.
Source: City of Chandler, Green Building Program



Canopies provide shade from the public sidewalk to the building entrance.

COST

The table below lists the estimated unit construction costs for shade that may be included at transit stops. The potential application of each feature by prototype is highlighted.

Table 24: Cost of Shade & Potential Prototype Application

Feature	Description	Unit	Unit Cost	Application for Prototypes				
				Urban Core	Urban Retail	Urban Res.	Sub. Retail	Sub. Res.
Shading	Standard shelter w/ seating, lighting, bicycle rack, concrete pad, trash receptacle	Each	\$16,000					
	Enhanced shelter w/ seating, side screens, lighting, bicycle rack, concrete pad, trash receptacle	Each	\$25,000					
	Custom shelter w/ seating, side screens, interior lighting, stop area lighting, bicycle rack, concrete pad, trash receptacle	Each	\$35,000					
	Shade tree (irrigated)	Each	\$750					
	Landscape buffer w/ shade tree (irrigated)	Sq. Ft.	\$3.00					
	Tree well with cover	Each	\$250					
	Custom shade structure	Each	\$5,000					



Adjacent Land Use

ISSUE

Adjacent land use is an important element to consider when creating or improving a pedestrian environment. Developments with large setbacks, retaining walls, or gated communities all act as barriers separating pedestrians and bicyclists from the development.

IMPORTANCE

During the field survey, transit riders were asked if the bus stop was close to home, work, or shopping; 34% of riders thought the bus stop was close to their origin or destination point.

Of the case study locations, only the Urban Core stop provided direct access to adjacent land uses. The Urban Residential stop provided direct access to some adjacent uses but no direct access to the surrounding residential areas. All other case study locations had no direct access to adjacent land uses. The Suburban Residential stop had walled subdivisions with access only at subdivision roads that were far from the bus stops.

Recent research has concluded that land use and development patterns have a significant impact on transit systems and stops:

“The results of this research suggest there are three primary means available to planners to enhance transit ridership through land use planning: increase residential density in the areas near transit corridors, concentrate mixed-use development within an eighth mile of the transit corridors, and channel a greater proportion of the retail development within a quarter mile of transit lines. In fact, this analysis suggests that transit planners would increase ridership to a greater degree through catalyzing retail, mixed-use and multifamily development than increasing transit service.”

- Bus Transit and Land Use: Illuminating the Interaction

IMPROVEMENT CONSIDERATIONS

Urban planners and transit planners should consider locating bus stops adjacent to land uses that generate the most activity or “eyes on the street” to enhance personal safety of transit users. Transit-stop-adjacent land uses can be compatible with high levels of pedestrian activity and provide services that may be useful to transit users, which also provide an economic development return on the transit investment.

Sidewalk-oriented Development | The design and orientation of buildings, particularly with regard to setback and height, can have a significant impact on the comfort of the pedestrian environment. Buildings with minimal or zero-setback lines create an ideal pedestrian environment and shorten the connecting distance for pedestrians from the street to the development. Many developments in the MAG region include a setback with surface parking between the building and the street; these developments can be improved by designing the site so that parking is provided on the side or rear of the building.

Where parking is located along the side or rear of a building, locate at least one building entrance at or near the street side of the building to allow for ease of pedestrian access.

Sidewalk/Pedestrian Paths | Should buildings have a setback, sidewalks or pedestrian paths can be installed which direct pedestrians to the easiest route to the building or development.

Street Walls | Street walls are a common urban design tool used to improve a development with a setback; however, these street walls can also disconnect street activity from the development. It is important that these street walls be designed with openings at key locations that provide easy access for pedestrians and bicyclists to access the development. Many subdivisions in the MAG region are walled, these walls can be designed with openings at strategic locations that provide easy access for pedestrians and bicyclists to both enter and exit the subdivision.



Sidewalk-oriented development provides shade and direct access to building entrances.



In Metro core locations, a minimal setback is encouraged, such as this example in Tempe.



The City of Tempe has several means by which to encourage pedestrian- and transit- friendly development. The *City of Tempe Transportation Master Plan* includes design criteria for new development (excerpt at right). Additionally, the City's Public Works Department enforces the City's *Engineering Design Criteria* which includes right-of-way dedication/improvement requirements (excerpt below).

Pedestrian-friendly Design Criteria for New Development

The [City of Tempe Transportation Master Plan](#) (pp. 2-2 & 2-3) includes design criteria for new development promoting pedestrian-friendly design:

- Encourage pedestrian and transit-user access to buildings by locating buildings at the minimum setback for arterial and arterial to collector intersections. The distance between bus stops and building entrances shall be minimized by using minimum setback requirements for locations of buildings on the site.
- Encourage pedestrian and bicycle access to the main building entrances from all sides of the site by providing more links to street frontages.
- Encourage buildings to locate closer to street intersections by minimizing the amount of parking allowed at street frontages, or by locating all parking behind or to the side of buildings.
- Encourage mixed-use development, allowing people to work where they live.
- New and existing cul-de-sacs and dead-end streets can be enhanced by providing connecting pedestrian and bicycle paths to the major streets.

Table 25: Cost of Wayfinding Signage & Potential Prototype Application

Right-Of-Way (ROW) Dedication/Improvement		Manufacturing/Industrial			Commercial/Retail			Residential		
		Large 70,000+ SF	Medium 18,000-70,000 SF	Small 0-18,000 SF	Large 45,000+ SF	Medium 8,000-45,000 SF	Small 0-8,000 SF	Large 75+ Units	Medium 25-75 Units	Small 0-25 Units
1. Public Health and Safety Requirements or Requests	1a. ROW/Install turning lane	R	R	R	R	R	N	R	R	N
	1b. Install looped water system where pressure/supply problems would otherwise exist.	R	R	R	R	R	R	R	R	R
2. Trip Generation Rate Requirements or Requests	2a. ROW for arterial street.	R	R	N	R	R	N	R	R	N
	2b. Full arterial half-street improvements (see 1b & 1e)	R	R	N	R	R	N	R	R	N
3. Individualized Determination or Requests	3a. Bus pad dedications for bench	R	R	N	R	R	N	R	R	N
	3b. Bus pad installation for bench	R	N	N	R	N	N	R	N	N
	3c. Bus shelter dedication	R	R	N	R	R	N	R	R	N
	3d. Bus shelter installation	R	N	N	R	N	N	R	N	N
	3e. Bus bay dedication (Arterial/Aterial, Arterial/Collector)	R	R	R	R	R	R	R	R	R
	3f. Bus bay installation (Arterial/Aterial, Arterial/Collector)	R	N	N	R	N	N	R	N	N
	3g. Multi-use path easement	R	N	N	R	N	N	R	N	N
	3h. Multi-use path construction (including lighting)	N	N	N	R	N	N	R	N	N
3i. Construction of looped water main where existing pressure/supply is inadequate to service subject property.	N	N	N	N	N	N	N	N	N	



Where setbacks are used, a clear path from the sidewalk to the building entrance is to be provided.



Pedestrian connection through a parking lot provides a solution for large setbacks and parking lots.
Source: City of Chandler, Green Building Program



Partial street closures act as “dead ends” for vehicles while allowing bicyclists and pedestrians to continue along the roadway. This is a good solution for subdivisions with cul-de-sac, hammerheads, and dead end streets.

PLANNING/POLICY GUIDANCE

- Consideration should be given to locating bus stops opposite convenience stores wherever practical as these stores provide a quick stop for transit riders.
- The best way to ensure adjacent land uses are compatible with transit stops is through the regulation of design or form of development. Two key urban design issues include:
 - Orientation of buildings relative to the sidewalk
 - Orientation of building entrances relative to sidewalk
 - Establishment of direct connections between the sidewalk and building entrances.
- Surface parking between the sidewalk and building entrances can be minimized or eliminated by locating surface parking lots at the rear or side of the building.
- Develop land use ordinances to better accommodate transit/ pedestrians through reducing parking requirements, reducing minimum setback, increasing the percentage of permitted lot coverage, and create more flexible ordinance that encourages innovation in design and greater density.

COST

The table below lists the estimated unit construction costs for adjacent land use access improvements that may be included at transit stops. The potential application of each feature by prototype is highlighted.

Table 26: Cost of Adjacent Land Use & Potential Prototype Application

Feature	Description	Unit	Unit Cost	Application for Prototypes				
				Urban Core	Urban Retail	Urban Res.	Sub. Retail	Sub. Res.
Adjacent Land Use	Provide opening in street wall	Each	\$1,000					
	Sidewalk (concrete)	Sq. Ft.	\$4.00					
	Path (asphalt)	Sq. Ft.	\$2.00					



Bicycle Access

ISSUE

Bicycle access is important in any city and within the MAG region. Access is an important extension of any transit system as it improves mobility, extends and enhances transit service quality, and reduces reliance on automobiles. Some of the common challenges to providing good bicycle access include street crossings, lack of bicycle lanes or paths, perceived dangerous roadways, constrained right-of-way, station characteristics, network connectivity, transit agency policies, and surrounding land uses.

IMPORTANCE

When asked if certain improvements would increase their use of transit, **52% of riders indicated adding a bicycle lane would increase their use of the transit system.**

Of the case study locations only the Urban Residential and Suburban Residential stops provided direct access for bicyclists to the bus stops via on-street bicycle lanes. The Suburban Retail stop had an off-street bicycle trail but no means of connecting from the trail to the bus stop. In addition to on-street and off-street facilities, bicyclists can often safely ride along local and collector streets that have lower traffic volumes and lower traffic speeds; however, none of the case study bus locations provided bicycle access from collector and local streets to the bus stop.

IMPROVEMENT CONSIDERATIONS

Bicycle access improvements may include on-street or off-street bicycle facilities and can be focused on gaps or weak links in the bikeway network, particularly those situated between a transit stop and a major activity center. Existing or proposed bicycle paths can provide wayfinding signage to nearby transit stops and include marked and/or signalized crossings of major roadways to facilitate the use of bicycle paths to access transit.



Bicycle lanes on Southern Avenue in addition to vehicular travel lanes. Bicycle lanes can be installed by reducing the number of vehicular lanes from four to three or reducing vehicle travel lane widths.



Interim FHWA approved green paint denotes the "conflict zone" where buses and motorists will cross the bicycle lanes in order to pick up passengers or make right turns.



Buffered or protected bicycle lanes create greater separation between bicyclists and adjacent vehicular traffic and have been shown to attract new riders.

Bicycle Lanes | Bicycle lanes may be provided along major arterials and other roadways if there is sufficient roadway width. Because bicyclists in bicycle lanes often cross paths with buses and turning motorists near intersections, treatments such as interim FHWA approved green paint are being used increasingly at these locations to highlight the conflict zone. Designated bicycle routes or shared roadways may include a variety of treatments including signage, pavement markings, and traffic calming treatments.

Bike Lanes and On-Street Parking | A major component of bicycle access is on-street parking. On-street parking creates many hazards to cyclists when bike lanes are located behind parked cars. Where ROW permits, buffer space should be considered between parking and bike lanes.

Bicycle Paths | Bicycle paths are off-street routes that provide additional comfort and safety for the bicyclist. These facilities should be well lit with landscaping whenever possible.

Crossings | Street crossing locations are one of the major safety issues for bicyclists. Well lit and signalized bicycle crossings can improve safety. Crossings that occur at street intersections can be coordinated with pedestrian crossing signals. Local regulations determine allowable bicycle travel and crossing treatments, increased signage and standards can improve cyclist's awareness. Where bicycles cross at mid-block locations, HAWK signals, Rapid rectangular flashing beacons, and in-road flashing beacons can provide additional safety. To increase driver awareness incorporate lighted bike zone signs at intersections with high volumes of traffic. See the Crossings section of this toolkit for additional details.



Bicycle paths such as the Sun Circle Trail may facilitate access to transit if connections are made between the path and nearby transit stops. This bicycle and pedestrian crossing is signaled via a HAWK signal.



Bicycle paths will include lighting and landscaping wherever possible and have clearly marked and/or signalized crossings at major roadways.



Bike Sharing is a service where bicycles are made available for use for individuals who do not own them.

Bike Share | Bike sharing provides users point-to-point transportation for distances typically ranging between 1/2 and 3 miles. Bike Sharing can be provided and organized by a local community group or non-profit organization (Community Bike Program) or it can be provided and organized by government agencies, often through public-private partnerships (Smart Bike Program). Users have the ability to pick up a bicycle and return it to any self-serve bicycle station in the network. Common components and terminology of a bike share network include:

- Bike Sharing Stations;
- Docks;
- Customer Kiosks;
- 'Last Mile' Trips;
- Members;
- Membership Dues;
- Ridership/Usage Fees;
- Service Areas; and
- Rebalancing/Redistribution.

Bike Sharing in the United States: State of the Practice and Guide to Implementation further elaborates on planning, implementation, and evaluation of a bike share system.

Transit Connections | Off-street paths that are located at mid-block locations may have difficulty connecting to transit stations that are often located near street intersections. Whenever possible, improve bicycle access that connects off-street bicycle paths to the transit stops or to bike lanes that connect to transit centers/destinations.

Pavement Markings | Properly mark on-street bicycle pathways including dedicated bicycle lanes, bicycle boulevards and shared lanes to most recent MUTCD standards. The AASHTO Guide for the Development of Bicycle Facilities includes illustrations for correct bicycle lane markings at intersections that help minimize conflicts between cyclists and vehicles in right turn lanes, bus lanes, and trap lanes.

Bicycle Boulevards | Bicycle Boulevards are streets with low automobile traffic volumes and speeds. Many local streets offer these basic components and can be easily enhanced to create a bicycle boulevard. Bicycle Boulevards are commonly designed to give bicycles the highest priority by using the following measures:

- Route Planning;
- Signs and Pavement Markings;
- Speed Management;
- Volume Management;
- Minor and Major Street Crossings;
- Offset Crossings; and
- Green Infrastructure.

The NACTO Urban Bikeway Design Guide further elaborates on these recommended measures for Bicycle Boulevards.

Constrained Right-of-way | Adding bicycle lanes to existing roadways requires further narrowing of travel lanes which may not be feasible on all roadways. In such circumstances there may be few solutions including bicycle wayfinding that would direct bicyclists to nearby local and collector streets or off-street paths. For signage and wayfinding, see the Information Signage



Recent research on the safety of 10-foot versus 12-foot travel lanes has concluded that:

“...there is no indication that crash frequencies increase as lane width decreases for arterial roadway segments or arterial intersection approaches. These findings suggest that the AASHTO Green Book is correct in providing substantial flexibility for use of lane widths narrower than 3.6 m (12 ft) on urban and suburban arterials. Use of narrower lanes in appropriate locations can provide other benefits to users and the surrounding community including shorter pedestrian crossing distances and space for additional through lanes, auxiliary and turning lanes, bicycle lanes, buffer areas between travel lanes and sidewalks, and placement of roadside hardware. Interpretation of design policies as rigidly requiring the use of 3.6 m (12 ft) lanes on urban and suburban arterials may miss the opportunity for these other benefits without any documentable gain in safety.”

- Relationship of Lane Width to Safety for Urban and Suburban Arterials, TRB2007 Annual Meeting

sections later in the toolkit. The examples in this section intend to increase bicyclist comfort by slowing traffic and/or reducing traffic volumes on local streets.

Lane Narrowing and Lane Removal | Bicycle lanes or cycle tracks can be considered on arterial or urban roadways. The installation of bicycle lanes may be achieved most cost effectively through lane narrowing or lane removal. On roadways with multiple 12-foot travel lanes, the narrowing of lanes to as narrow as 10 feet may provide sufficient width to stripe 5 to 6 foot bicycle lanes.

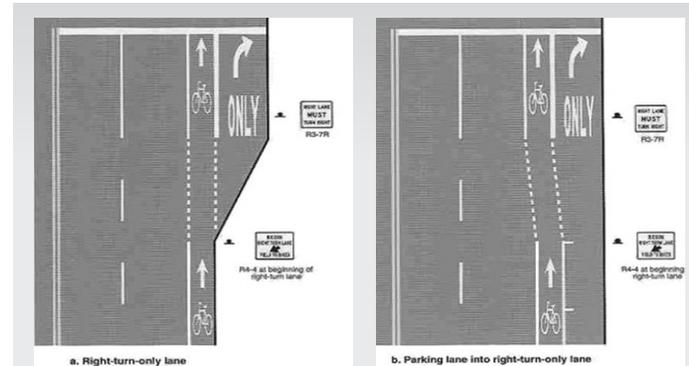
Traffic Calming and Diversion | Traffic calming devices can be used on local and collector streets to reduce both traffic volumes and travel speeds. Such treatments can greatly improve perceived and real pedestrian and bicycle safety.

City of Scottsdale Restriping Program

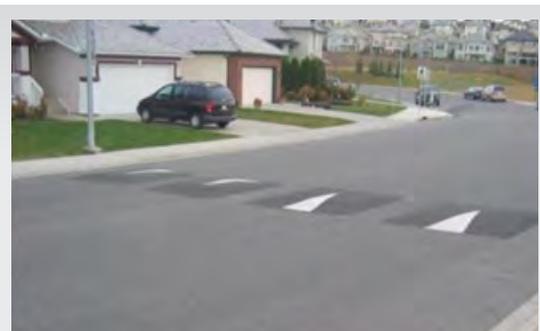
As an example, the City of Scottsdale has been actively restriping major streets with maintenance overlays to add bicycle lanes where feasible.

“They generally allow 11 foot wide through lanes and 10 foot wide turn lanes to accomplish this. In some cases the City of Scottsdale will accept 10 foot wide through lanes, but only on streets with lower speed limits and limited truck traffic.”

-Street Engineer



Source: AASHTO Guide for the Development of Bicycle Facilities, 4th Ed., 2012



Speed bumps may be designed with a spacing that allows wide axle emergency vehicles to straddle the humps. Bicyclists may also ride through the gaps to avoid being impacted.



Mini traffic circles can be used to replace all-way stops, allowing cyclists to legally maintain momentum through minor low volume intersections.



Shared lane markings have been approved by FHWA and are included in the 2009 MUTCD.



Large custom bicycle boulevard pavement markings are used in some jurisdictions.



PLANNING/POLICY GUIDANCE

- Bicycle lanes or cycle tracks can be considered on arterial or urban roadways. The installation of bicycle lanes may be achieved most cost effectively through lane narrowing or lane removal. Lane removal can be considered in cases where a roadway is determined to have excess capacity.
- Bicycle lanes or shared lane markings can be considered on all collector or local streets that connect neighborhoods and commercial areas to major transit corridors, particularly in cases where parallel arterial roadways cannot accommodate bicycle lanes. Shared lane markings do not require the narrowing or removal of travel lanes and are generally suitable for roadways with speed limits of 35 miles per hour or less.
- Traffic calming measures can be implemented in a way that discourages “cut-through” traffic by motorists, but facilitates bicycle through traffic. This strategy of implementing traffic calming improvements combined with bicycle-oriented improvements such as signage and pavement markings on local streets is often referred to as the development of “bicycle boulevards” or “neighborhood greenways.”



Traffic diverters reduce through traffic by forcing vehicles to turn at some intersections, while allowing bicyclist through movements.
Sources: pedbikeimages.org



Partial street closures act as “dead ends” for vehicles while allowing bicyclists and pedestrians to continue along the roadway.

COST

The table below lists the estimated unit construction costs for bicycle access improvements that may be included at transit stops. The potential application of each feature by prototype is highlighted.

Table 27: Cost of Bicycle Access & Potential Prototype Application

Feature	Description	Unit	Unit Cost	Application for Prototypes				
				Urban Core	Urban Retail	Urban Res.	Sub. Retail	Sub. Res.
Bicycle Access	Add bicycle lane by restriping travel lanes	Mile	\$15,000					
	Bicycle path (asphalt)	Sq. Ft.	\$2.00					
	Mid-block crossing	Each	\$10,000					
	Mid-block crossing w/ flashing beacon	Each	\$50,000					
	Mid-block crossing signal (HAWK)	Each	\$100,000					
	Pavement markings (sharrow, Bicycle Blvd, etc)	Each	\$300					
	Bicycle wayfinding sign	Each	\$500					



P
Bicycle

Bicycle Parking

ISSUE

Bicycle access can also address the need for bicycle parking and on-board accommodations (exterior and interior). Allowing bicycles on buses and providing bicycle accommodations at bus stops can greatly expand the service area of a transit system. Throughout the MAG region there is a lack of safe and secure bicycle parking facilities. Currently, buses in the MAG region provide exterior bicycle racks on most of their bus fleet. However, additional consideration should be given to routes and stops with high bicycle activity and when the exterior bicycle racks are at capacity.

IMPORTANCE

When asked if certain improvements would increase their use of transit, **51% of riders indicated that adding bicycle parking would increase their use of the transit system.**

Of the case study locations, few bus stops provided bicycle racks or other bicycle parking facilities. Occasionally adjacent private developments would provide a bicycle rack. Exterior bicycle racks on buses were often at or near capacity and the transit agency does not accommodate interior bicycle storage. Additional bicycle racks may be needed, particularly at locations with low frequency transit service.

IMPROVEMENT CONSIDERATIONS

Information signage can be implemented in several formats and with various combinations of information. It is highly encouraged that transit stops include a full bundle of information for transit riders including: a bus stop number, route(s) number and destinations, transit system schedule, transit system map, transit system provider's contact information, and if applicable, the park-and-ride location. Furthermore, bus stops and routes with high ridership volumes can consider adding real-time travel information. The types of information signage shown below are but a few examples of the possible design and format to provide the information. Overall, transit system information signage should be as consistent as possible throughout the entire transit system.

Bicycle Racks | Bicycle racks that fit universal bicycle design standards can be installed in the landscape or furniture zone of the sidewalk so that they do not obstruct the path of pedestrians.

Bicycle Corrals | Bicycle corrals are typically installed in an on-street parking space. This option is attractive to some business owners who see the conversion of a single car parking space into 8-12 bicycle parking spaces as an opportunity.

Bicycle Cellar/Transportation Station | Bicycle stations are major investments that are typically incorporated into larger transportation facilities. They can include a variety of bicycle parking options such as racks, lockers, and bike sharing facilities as well as personal lockers, showers, bicycle repair, rentals, and accessories, as well as other pedestrian amenities. The Bicycle Cellar at Tempe Transportation Station is an example of this type of facility.

Bicycle Lids and Lockers | A bicycle lid or locker is a secured box that stores a single bicycle which can be locked to prevent theft and vandalism and protect the bicycle from environmental conditions. This improvement is commonly considered one of the highest standards of bicycle safety and can be placed at locations where numerous cyclists are parking and storing their bicycles for extended periods of time.



Sidewalk bicycle racks.



Bicycle corrals.



Tempe Transportation Station



PLANNING/POLICY GUIDANCE

- Consider implementing a bikes-on-board program for interior, on-board bicycle storage for transit routes that have high volumes of bicyclists and when exterior bicycle storage is at or near capacity. Such bus vehicle improvements would need to be properly marked and have fixtures used to secure bicycles when the bus is in motion. The determination of if a bicycle can be properly stored on-board a bus is at the discretion of the bus driver.
- Universal design of bicycle parking on private property can be required by ordinance with clear guidance on design and siting. Design guidelines can promote use of racks similar to those used in the public right-of-way as this will facilitate standardization and ease of use. Locating guidelines can focus on visibility and the location of racks relative to main building entrances.
 - Bicycle parking should be clearly visible from the bus stop or building entrance.
 - The bicycle parking area should be located within 50 feet of the bus stop or building entrance it is intended to serve and no further than the closest (non-disabled) automobile parking space.
 - Under no circumstances should walls, fencing or landscaping be used to “screen” bicycle parking from view, as that will create an environment that facilitates bicycle theft.
- Consider Bicycle Lids for highest frequency access stops (and LRT stations). Bicycle Lids provide more secure parking that discourages theft. Bicycle Lids securely protect the whole bicycle while costing less than actual bicycle lockers.
- Consider ordinances that require locating bicycle parking facilities in highly visible locations along establishments located on arterial streets.



Bicycle Lockers and Bicycle Lids provide additional storage and protection for bicycles.

COST

The table below lists the estimated unit construction costs for bicycle parking/storage that may be included at transit stops. The potential application of each feature by prototype is highlighted.

Table 28: Cost of Bicycle Parking & Potential Prototype Application

Feature	Description	Unit	Unit Cost	Application for Prototypes				
				Urban Core	Urban Retail	Urban Res.	Sub. Retail	Sub. Res.
Bicycle Parking	Bicycle rack	Each	\$400					
	Bicycle lockers	Each	\$2,500					
	Bicycle shelter	Each	\$5,000					
	Bicycle lid	Each	\$1,500					



Pedestrian Crossing

ISSUE

Pedestrian and cyclists are most vulnerable at pedestrian crossings. Typical crossings include crossing at street intersections or at mid-block locations. Particular attention should be paid to locations with high vehicle-pedestrian conflicts and accidents.

IMPORTANCE

During the field survey, transit riders were asked how they arrived to the bus stop; 61% of riders said they arrived by foot which is slightly higher than the national figure of less than 59%. **When asked if curb extensions would increase their use of transit, 50% of riders indicated adding these improvements would increase their use of the transit system. And when asked if installation of medians would increase their use of transit, 43% of riders indicated adding these improvements would increase their use of the transit system.**

None of the case study locations included curb extensions and just one location (the Suburban Retail case study) had pedestrian refuges although they were too narrow to accommodate a waiting pedestrian with stroller or a wheelchair. None of the case study locations included formal mid-block crossings; however, several locations experience a high amount of illegal mid-block crossings.

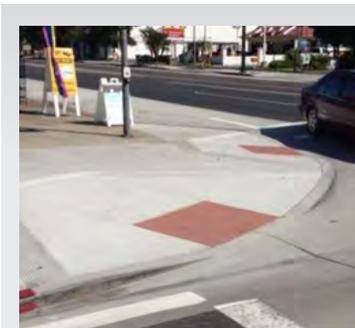
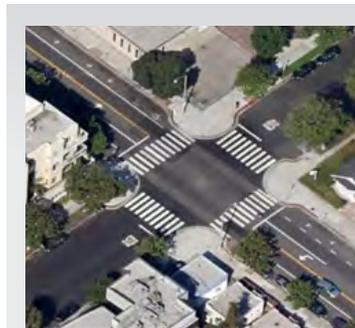
IMPROVEMENT CONSIDERATIONS

When planning for access to transit stops, desired crossing locations can be identified and enhanced to support safe and comfortable crossing of roadways by transit users. Such improvements can include marked crosswalks, traffic signals, pedestrian refuges, and curb extensions. Pedestrian crossings should be as short as possible, reducing the time exposure of pedestrians to cross traffic.

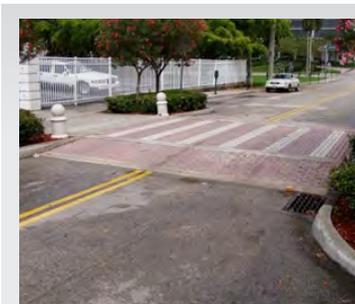
Reduced Curb Radii | Shortened crossing distances through reduced curb radii or curb extensions are encouraged where such improvements would meet minimum design standards.

Curb Extensions | Curb extensions shorten crossing distances and can be installed on streets where on-street parking is allowed. Curb extensions also create additional space at street corners that can facilitate the installation of dual curb ramps. This provides the mobility impaired and pedestrians with strollers and other wheeled devices a shorter crossing distance. Neither curb extensions nor the adjacent gutter pan can extend into the bicycle lane at intersections. Drainage must be considered when designing curb extensions.

Mid-block Crossings | Mid-block crossings are discouraged, but when necessary can be enhanced to improve pedestrian safety. Whenever possible, locate bus stops near intersections where crossings already exist and not at mid-block locations. When bus stops are located mid-block, a pedestrian crossing can be added to facilitate safe and legal crossings. Unsignalized mid-block crossings can use high visibility crosswalk markings and include median refuge islands wherever possible. The path through the median refuge should be angled to turn pedestrian to the right to face traffic before making the second stage of the crossing. The desired minimum width for a median refuge is six feet as that



Curb extensions shorten crossing distances for pedestrians and can create additional space at street corners that can facilitate the installation of dual curb ramps.



This mid-block crossing includes a raised median refuge, high contrast crosswalk, and in-pavement flashers.
Source: pedbikeimages.org

Raised crosswalks may be appropriate at some locations where reducing traffic speed is desirable. The impact on drainage must be considered.
Source: pedbikeimages.org



Rapid rectangular flashing beacons.
Source: pedbikeimages.org



Scottsdale HAWK signal.



In-road flashing beacons. Source: crosswalks.com

provides sufficient space for most bicyclists, pedestrians pushing strollers, and wheelchairs. Raised crosswalks can also be considered and are intended to slow vehicle traffic at the crossing locations while providing pedestrians, bicyclists and wheelchair users with a level crossing path.

Traffic Signals and Flashing Beacons | Flashing beacons can be considered at locations with sight distance issues and with nighttime crossing activity. Such improvements are based on the local jurisdiction's preference. Along high-volume arterials, either a traffic signal or HAWK signal (see above) may be required. HAWK signals are activated by crossing pedestrians; motorists may proceed during the flashing red phase after pedestrians clear the crosswalk. User activated rectangular rapid flashing beacons (RRFBs) may be considered at mid-block crossing to alert approaching motorists in advance. In-road flashing beacons alert drivers of crossing pedestrians and enhance the pedestrian crosswalk by improving visibility in the evening hours.

COST

The table below lists the estimated unit construction costs for pedestrian crossings that may be included at transit stops. The potential application of each feature by prototype is highlighted.

Table 29: Cost of Pedestrian Crossings & Potential Prototype Application

Feature	Description	Unit	Unit Cost	Application for Prototypes				
				Urban Core	Urban Retail	Urban Res.	Sub. Retail	Sub. Res.
Pedestrian Crossing	Mid-block crosswalk w/ pedestrian refuge	Each	\$10,000					
	Mid-block crosswalk w/ flashers	Each	\$50,000					
	Mid-block pedestrian signal	Each	\$100,000					
	Sidewalk, concrete	Sq. Ft.	\$4.00					
	Concrete pavers	Sq. Ft.	\$7.00					
	Curb extension	Each	\$5,000					

PLANNING/POLICY GUIDANCE

- Pedestrian safety cannot be compromised to accommodate greater auto volumes. Traffic engineering techniques such as double right-turn lanes and free right-turn lanes are discouraged along primary pedestrian routes and near bus stops.
- Bus stops at mid-block can be located based on an evaluation of ridership and crossing opportunities and should not be determined by the ¼ mile spacing distance as it is currently. Through collaboration with the community the local jurisdiction may be able to determine alternative options for bus stop placement or they may determine that the identified location is a critical need location.
- Establish policies that prioritize improvements in locations that do not meet ADA standards.



Sidewalk

ISSUE

Sidewalks are the means by which pedestrians access transit stops. Creating a comfortable pedestrian environment is important to a transit system's success. Unsafe and unfriendly pedestrian environments such as narrow or damaged sidewalks, poor landscaping, and poor lighting deter walking activity.

Design sidewalk ramps to continue in a straight or direct line across intersections. Currently, many sidewalks force pedestrians (and bicyclists) to walk out of their way to cross the street. This reduces visibility of the pedestrian for drivers and makes the pedestrian circulation less efficient by putting more distance between destinations.

IMPORTANCE

During the field survey, transit riders were asked how they arrived to the bus stop; 61% of riders said they arrived by foot which is slightly higher than the national figure of less than 59%. When asked if there were good or bad sidewalks and walkways; **just 38% of riders classified the sidewalks and walkways as good.**

All of the case study locations included 4-to-5-foot wide sidewalks along arterial roads which provide a network for pedestrian connectivity. The Urban Retail case study location included enhanced sidewalks along several segments of roadway including near the arterial street intersection and adjacent to bus stops. These enhanced sidewalks were 10 feet wide and detached from the street curb providing a landscape strip for shade trees.

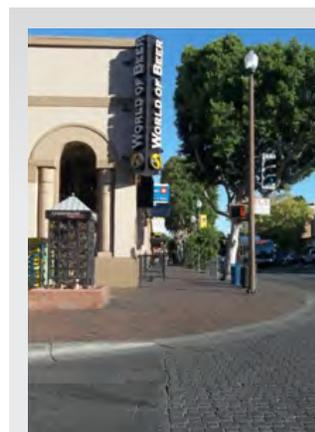
IMPROVEMENT CONSIDERATIONS

Widening and detaching the sidewalk accommodates a heavier flow of traffic and provides a buffer which improves real and perceived pedestrian safety. Additionally, wide sidewalks with "buffer zones" make additional pedestrian improvements possible. The buffer zone may take very different forms in urban and suburban contexts.

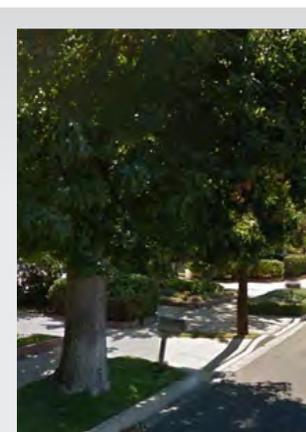
Urban Sidewalk | In urban areas, sidewalk buffer zones are used for the placement of trees, bicycle parking, street furniture, signage, lighting and other elements while maintaining a clear path for pedestrians. Trees planted in tree wells with grates provide shade while increasing surface area for pedestrians, wheelchairs, and strollers. On-street parking increases pedestrian comfort by creating an additional buffer between pedestrians and traffic. The clear zone for pedestrians can be a minimum of ten feet in urban areas.

Suburban Sidewalk | In suburban areas the buffer zone typically takes the form of a landscape strip between the street and sidewalk, providing space for trees and other landscaping, fire hydrants, mailboxes, and utility poles. The clear zone for pedestrians can be a minimum of five feet in suburban areas.

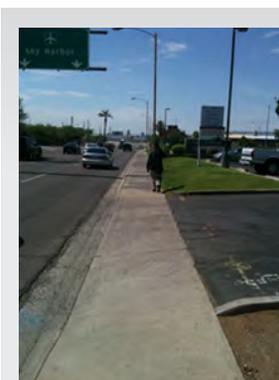
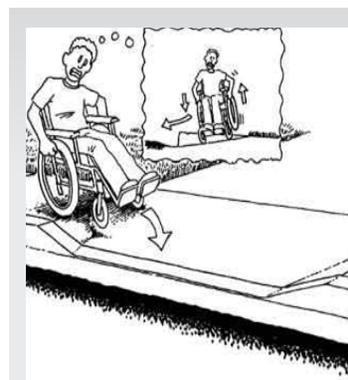
Driveway Ramps | Driveway ramps on narrow attached sidewalks are of particular concern because the resulting cross slope can be steep and turns wheelchair users toward the roadway and moving traffic. The issue of cross slope can be addressed in all new developments either through the installation of detached sidewalks with buffer zone or by designing a route around the driveway ramp providing wheelchair users with a flat surface when crossing driveways.



Urban area with sidewalk buffer zone.



Suburban area with landscape strip buffer zone.



When cross-slopes change rapidly over a short distance, wheelchair use becomes extremely unstable.



PLANNING/POLICY GUIDANCE

- Consider 10-foot wide paved pedestrian surfaces when bus stops are present between the intersection/pedestrian crossing and the first driveway or bus stop, whichever is furthest from the intersection.
- Sidewalks can always be included in road construction projects. Stand-alone projects cost more than the same work performed as part of a larger project. Sidewalks can be piggybacked to projects such as surface preservation, water or sewer lines, or placing utilities underground. Besides the monetary savings, the political fallout is reduced, since the public doesn't perceive an agency as being inefficient. It is typically very noticeable if an agency works on a road, then comes back to do more work later. The reduced impacts on traffic are an additional bonus to integration.
- A cost-savings can be achieved by combining several small sidewalk projects into one big one. This can occur even if the sidewalks are under different jurisdictions, or even if different localities, if they are close to each other. The basic principle is that bid prices drop as quantities increase.
- Establish policies that prioritize improvements in locations that do not meet ADA standards.

COST

The table below lists the estimated unit construction costs for sidewalk improvements that may be included at transit stops. The potential application of each feature by prototype is highlighted.

Table 30: Cost of Enhanced Sidewalk & Potential Prototype Application

Feature	Description	Unit	Unit Cost	Application for Prototypes				
				Urban Core	Urban Retail	Urban Res.	Sub. Retail	Sub. Res.
Enhanced Sidewalk	Sidewalk (concrete)	Sq. Ft.	\$4.00					
	Concrete pavers	Sq. Ft.	\$7.00					
	Shade tree (irrigated)	Each	\$750					
	Landscape buffer w/ shade tree	Sq. Ft.	\$3.00					
	Tree well cover	Each	\$250					
	Trash receptacle	Each	\$500					
	Bench w/ concrete pad, shade	Each	\$3,000					
	Bench w/ concrete pad, shade, lighting, trash receptacle	Each	\$6,000					



\$ Prototype Costs

OTHER COST CONSIDERATIONS

The cost to implement improved transit access, regardless of area type, can vary substantially depending upon the types of features desired, the potential need for additional right-of-way, physical site improvements (i.e. grading, retaining wall, etc) that may be required, proximity to electric service, utility impacts, the amount of sidewalk required to provide connectivity, as well as other factors specific to a particular site. The following points address strategies for minimizing implementation costs, as well as other cost considerations.

Right-of-way | The need for additional right-of-way to implement a given prototype can be minimized or eliminated through design. However, in addition to meeting ADA requirements, location and design of transit stops and connecting pedestrian/bicycle facilities must not compromise safety and should provide sufficient capacity (i.e. seating, shade area) to comfortably accommodate the expected demand and allow ample room for passengers, particularly wheelchairs, to board and alight from transit vehicles. Limited right-of-way is more often an issue in urban areas as opposed to suburban. Strategies for minimizing potential right-of-way costs include obtaining needed right-of-way as adjacent properties develop or as part of other roadway improvement projects, such as roadway widening or intersection reconstruction.

Utilities | Since utility relocation within the public right-of-way is typically the responsibility of each utility, unless a utility has prior rights, the cost impact is expected to be minimal. It is usually possible to design the transit stop and access improvements

UNIT CONSTRUCTION COSTS

Table 31 lists the estimated unit construction costs for various features that may be included at transit stops. The potential application of each feature by prototype is highlighted. For example, a standard shelter would be appropriate at any of the prototypes, while a custom shelter might only be appropriate at high visibility and/or high activity stops within the urban core, urban retail, and suburban retail prototypes. Note that all shelters are assumed to include a concrete pad, side screens to provide shade, and a trash receptacle. Similarly, implementation of bike storage facilities, including a bike rack or bike lockers, are most appropriate at urban residential and suburban retail and residential prototype stops, where commuters might wish to leave their bicycles.

Table 31: Cost of Transit Stop Features and Potential Prototype Application

Feature	Description	Unit	Unit Cost	Application for Prototypes				
				Urban Core	Urban Retail	Urban Res.	Sub. Retail	Sub. Res.
Security/ Lighting	Luminaire adjacent to shelter	Each	\$10,000					
	Pedestrian lighting attached to existing street light pole	Each	\$750					
	Pedestrian lighting along walkway; 80' spacing	Each	\$2,500					
	CCTV camera (1)	Each	\$5,000					
Information Signage	Realtime information display (1)	Each	\$5,000					
	Static information display	Each	\$500					
Seating/ Shelter	Standard shelter w/seating ; concrete pad, lighting, bicycle rack, trash receptacle	Each	\$16,000					
	Enhanced shelter w/seating and side screens, concrete pad, lighting, bicycle rack, trash receptacle	Each	\$25,000					
	Custom shelter w/ seating, side screens, concrete pad, lighting, bicycle rack, trash receptacle	Each	\$35,000					
	Bench w/ concrete pad, shade	Each	\$3,000					
	Bench w/ concrete pad, shade, lighting, trash receptacle	Each	\$6,000					
Landscape/ Shade	Shade tree (irrigated)	Each	\$750					
	Landscape buffer w/shade trees (irrigated)	Sq. Ft.	\$3.00					
	Tree well cover	Each	\$250					
Adjacent Land Use	Custom shade structure	Each	\$5,000					
	Provide opening in street wall	Each	\$1,000					
	Sidewalk (concrete)	Sq. Ft.	\$4.00					
	Path (asphalt)	Sq. Ft.	\$2.00					



to avoid costly utility relocations (i.e. electric service cabinets or power poles), however if the relocation of a utility is needed, additional right-of-way may be required for the utility to move into. The costs for minor adjustments to manholes, water valve boxes, and electric/communication pull boxes are typically borne by the improvement project.

Electric Service | The cost to provide electric service for security and pedestrian walkway lighting, as well as transit stop amenities (lighting, real-time information display, CCTV camera) can be significant depending upon the location an appropriate service hook-up. At signalized intersections, it is often possible to obtain power from the signal electric service cabinet. At mid-block locations, it may be possible to tie into an existing street lighting system. Solar power systems can be a cost effective alternative for transit shelter lighting, pedestrian flashers, HAWK signals, and pedestrian lighting.

Component Costs | Standardizing transit stop components, including shelters, trash receptacles, bicycle racks, etc., can substantially reduce costs by allowing multiple vendors to provide bids and allowing for bulk purchasing. While one size/type may not be feasible across all jurisdictions in the Phoenix metro area, establishing 3-4 standard transit shelter configurations is reasonable.

Maintenance | Proper and frequent maintenance of transit stops and shelters is a valued service to existing transit users and an important consideration for potential transit users. Weekly trash pick-up and scheduled cleaning (power washing), graffiti abatement, and landscape maintenance can be included in the transit system program.

Feature	Description	Unit	Unit Cost	Application for Prototypes				
				Urban Core	Urban Retail	Urban Res.	Sub. Retail	Sub. Res.
Bicycle Access	Add bicycle lane by restriping travel lanes	Mile	\$15,000					
	Bicycle path (asphalt)	Sq. Ft.	\$2.00					
	Mid-block crossing	Each	\$10,000					
	Mid-block crossing w/ flashing beacon	Each	\$50,000					
	Mid-block crossing signal (HAWK)	Each	\$100,000					
	Pavement markings (sharrow, Bicycle Blvd, etc)	Each	\$300					
	Bicycle wayfinding sign	Each	\$500					
Bicycle Parking	Bicycle rack	Each	\$400					
	Bicycle locker	Each	\$2,500					
	Bicycle shelter	Each	\$5,000					
	Bicycle lid	Each	\$1,500					
Sidewalk & Crossings	Sidewalk, concrete	Sq. Ft.	\$4.00					
	Coated Pavement	Sq. Ft.	\$1.50					
	Concrete pavers	Sq. Ft.	\$7.00					
	Wayfinding sign	Each	\$250					
	Curb extension	Each	\$5,000					
	Mid-block crosswalk w/pedestrian refuge	Each	\$10,000					
	Mid-block crosswalk w/ flashing beacon	Each	\$50,000					
Mid-block pedestrian signal	Each	\$100,000						
Miscellaneous	Trash receptacle	Each	\$500					

1. Costs for real-time traveler information and CCTV does not include any necessary communications backbone or central processing system.



PLANNING LEVEL PROTOTYPE COSTS

Planning level implementation costs for each prototype are provided in Table 32. Low, mid, and high cost levels are provided based on assumed features. These costs include construction, design, and administration. Design and administration costs are assumed to be 20% of construction cost. Additional costs that may be required for right-of-way, potential utility relocation, and ancillary site improvements are not included.

REFERENCE MATERIALS

Local, state and national best practices documents were referenced to develop the Bus Stop Prototypes and Transit Accessibility Toolkit. These references are further described in *Appendix A: Reference Materials*. The Reference Materials Appendix also provides a listing of reference materials by toolkit element.

Table 32: Planning Level Costs for each Prototype

Prototype	Lower Cost	Moderate Cost	Higher Cost
Urban Core	Shelter: standard Information Signage: static display Bicycle Parking: bicycle rack Sidewalk: no additional sidewalk Lighting: none added Shade Tree: none added Cost: \$19,800	Shelter: enhanced Information Signage: static display Bicycle Parking: bicycle rack Sidewalk: add sidewalk (500') Lighting: adjacent luminaire Shade Tree: shade trees Cost: \$60,600	Shelter: custom Information Signage: real-time display Bicycle Parking: bicycle rack Sidewalk: add sidewalk (500'); Lighting: adjacent luminaire, CCTV camera Shade Tree: shade trees Cost: \$89,400
Urban Retail	Shelter: standard Information Signage: static display Bicycle Parking: bicycle rack Sidewalk: no additional sidewalk Lighting: none added Shade Tree: none added Cost: \$19,800	Shelter: enhanced Information Signage: static display Bicycle Parking: bicycle rack Sidewalk: add sidewalk (500') Lighting: adjacent luminaire Shade Tree: shade trees Cost: \$60,600	Shelter: custom Information Signage: real-time display Bicycle Parking: bicycle rack Sidewalk: add sidewalk (500'); way finding signage Lighting: adjacent luminaire, CCTV camera Shade Tree: shade trees Cost: \$94,800
Urban Residential	Shelter: standard Information Signage: static display Bicycle Parking: bicycle rack Sidewalk: no additional sidewalk Lighting: none added Shade Tree: none added Cost: \$19,800	Shelter: standard Information Signage: static display Bicycle Parking: bicycle rack Sidewalk: added sidewalk (500'); mid-block cross walk Lighting: adjacent luminaire Shade Tree: shade trees Cost: \$61,800	Shelter: enhanced Information Signage: static display Bicycle Parking: bicycle rack Sidewalk: added sidewalk (500'); Lighting: pedestrian walkway lighting (500') Shade Tree: buffer (5000 sq ft) Cost: \$81,000
Suburban Retail	Shelter: standard Information Signage: static display Bicycle Parking: bicycle rack Sidewalk: no additional sidewalk Lighting: none added Shade Tree: none added Cost: \$19,800	Shelter: standard Information Signage: static display Bicycle Parking: bicycle rack Sidewalk: added sidewalk (500'); Lighting: adjacent luminaire Shade Tree: shade trees Cost: \$49,800	Shelter: enhanced Information Signage: real time display Bicycle Parking: bicycle lockers Sidewalk: added sidewalk (500'); wayfinding signage, mid-block cross walk Lighting: adjacent luminaire Shade Tree: buffer (5000 sq ft) Cost: \$95,000
Suburban Residential	Shelter: standard Information Signage: static display Bicycle Parking: bicycle rack Sidewalk: no additional sidewalk Lighting: none added Shade Tree: none added Cost: \$19,800	Shelter: standard Information Signage: static display Bicycle Parking: bicycle rack Sidewalk: added sidewalk (500'); Lighting: adjacent luminaire Shade Tree: shade trees Cost: \$49,800	Shelter: enhanced Information Signage: static display Bicycle Parking: bicycle lockers Sidewalk: added sidewalk (500'); mid-block crosswalk Lighting: pedestrian walkway lighting (500') Shade Tree: buffer (5000 sq ft) Cost: \$96,000

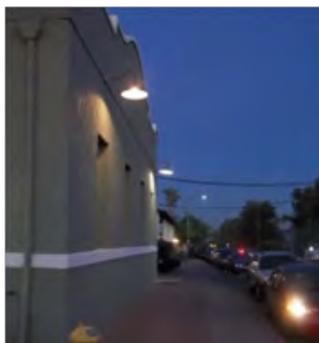


6.1 Implementation Checklist

Included in the following pages is a checklist of topics that have been recommended when considering the placement, replacement or upgrade of bus transit stops. The checklist is for all stakeholders in the design, development, installation, and maintenance of bus transit stops, including: planners, transit providers, city design review staff, and private developers. Below is a checklist illustrating all topics to be taken into consideration when planning for, locating, and building a bus transit stop. The checklist includes core elements identified in the DTAC study that make an effective transit stop.

Topics for Consideration	Check All That Apply
Have you coordinated with member agency staff?	<input type="checkbox"/> Transit operations staff <input type="checkbox"/> Facilities staff <input type="checkbox"/> Street planner/engineer <input type="checkbox"/> Development review/services <input type="checkbox"/> Safety/Safe Routes to School <input type="checkbox"/> Bicycle/Pedestrian <input type="checkbox"/> Other/parks and recreation/maintenance, etc
Did you consider location ?	<input type="checkbox"/> At intersection (bus bay/acceleration lane). <input type="checkbox"/> Mid-block (with pedestrian crossing). <input type="checkbox"/> Close to targeted development. <input type="checkbox"/> Ease of transit transfer. <input type="checkbox"/> Potential conflict with pedestrian/bicyclists/auto users
Did you consider lighting ?	<input type="checkbox"/> Reviewed applicable lighting standards. <input type="checkbox"/> Freestanding street light located near bus stop. <input type="checkbox"/> Freestanding pedestrian light. <input type="checkbox"/> Pedestrian light attached to street light pole. <input type="checkbox"/> Pedestrian light attached to building.

Lighting Examples





Did you consider information signage?

- Freestanding information kiosk with detailed route and schedule information.
- Pole-mounted bus stop sign with associated bus route number(s)/ destinations and NextRide information.
- Pole-mounted information box with route map.
- Wayfinding signage to local attractions, libraries, schools, public spaces, transit centers, light rail.
- Bicycle wayfinding signage to iconic routes (major crossings, off street paths, canals, etc).

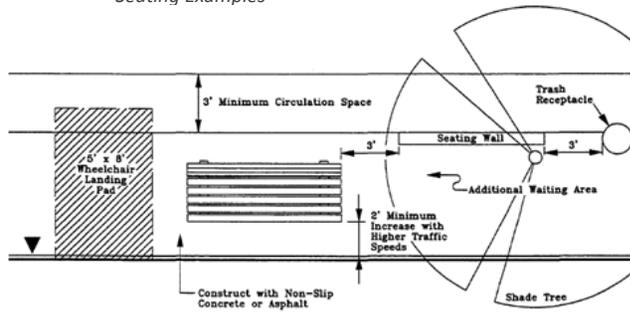
Information Signage Examples



Did you consider seating?

- Bench under tree.
- Bench in shelter.
- Seating wall.

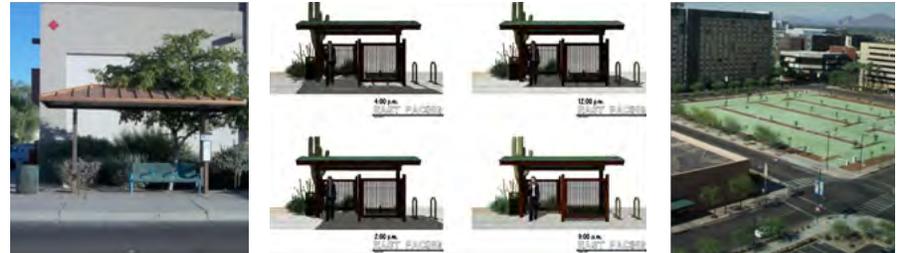
Seating Examples



Did you consider shelter?

- Shelter designed for southern climates.
- Enhanced paving/surface coating.

Shelter Examples



Did you consider shade?

- Street trees that also create a buffer.
- Adjacent building structure.
- Other shade structure.
- Transit shelter that is appropriately oriented for southern climates.
- Shade/landscaping that minimizes interference to pedestrian and bike access.
- Interference to built/natural environment.

Shade Examples





Did you consider adjacent development (retail/commercial)?

- Sidewalk-oriented development.
- Pedestrian-oriented building entrance.
- Minimal setback with direct path.
- Path to building entrance.
- Shade at building entrance.
- Safe and shaded pedestrian pathway through parking lot.
- Awning or shade structure that shades the public ROW (TOD structures).
- Pedestrian and bicycle circulation between parcels.
- Multi use path or sidewalk easement (8-10' preferred).
- Safe pedestrian path from transit stop location to building access points.

Adjacent Development (Retail/Commercial) Examples



Did you consider adjacent development (residential)?

- Pedestrian and bicycle access from walled residential communities to the transit system.
- Pedestrian and bicycle infrastructure within the community and to transit access point.

Adjacent Development (Residential) Examples



Did you consider bicycle access routes and multi-use paths?

- On-street bicycle lane.
- Off-street bicycle path connected by wayfinding in catchment area.
- Local or collector road connected by wayfinding in catchment area.
- Bicycle crossings.
- Bicycle/pedestrian lighting.
- "Conflict zone" lane painting.
- Bicycle lane buffer.
- Pavement markings.
- Traffic calming and diversion.

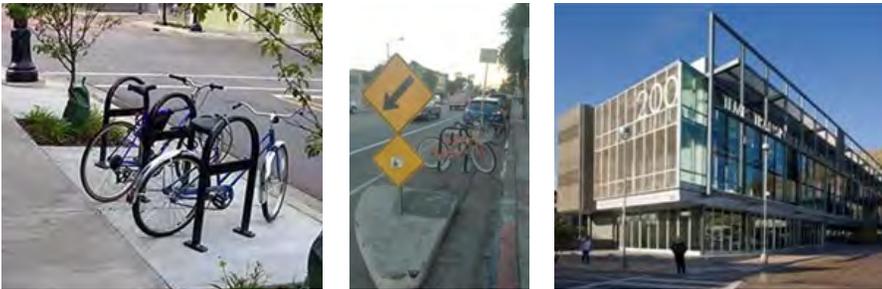
Bicycle Access Examples





Did you consider bicycle parking?	<input type="checkbox"/> Sidewalk bicycle rack.
	<input type="checkbox"/> Bicycle corral.
	<input type="checkbox"/> Bicycle rack at development entrance.
	<input type="checkbox"/> Other bicycle parking (e.g. lockers).
	<input type="checkbox"/> Transit frequency and use.
	<input type="checkbox"/> Bike visibility and site location access.
	<input type="checkbox"/> Shade for bicycles.

Bicycle Parking Examples



Did you consider enhanced sidewalk?	<input type="checkbox"/> Urban buffer zone with tree wells.
	<input type="checkbox"/> Suburban buffer zone with landscape strip (Only in suburban/ collector streets. Not preferred in locations limited R.O.W.)
	<input type="checkbox"/> ADA accessibility.
	<input type="checkbox"/> Maximize sidewalk width (8-10').

Enhanced Sidewalk Examples



Did you consider pedestrian crossings?	<input type="checkbox"/> Provide safe connects between pedestrian desire lines.
	<input type="checkbox"/> Curb extensions.
	<input type="checkbox"/> Median refuge.
	<input type="checkbox"/> Raised crosswalk.
	<input type="checkbox"/> Rapid rectangular flashing beacons.
	<input type="checkbox"/> HAWK signal at mid-block crossing.
	<input type="checkbox"/> In-road flashing beacons.
	<input type="checkbox"/> Transit stop placement proximity to safe street crossing.
<input type="checkbox"/> Diagonal/direct pedestrian crossing.	

Pedestrian Crossing Examples

