

Table 3.6 Quantities for Estimating Cost of Roadway and Transit/Rail Elements (continued)

Facility Type	Improvement	Unit	Quantity by Scenario		
			A	B	C
Arizona Parkway (urban)	New construction (6-lane divided)	Centerline mile	121.4	231.2	136.7
	New construction (8-lane divided)		0	0	0
Principal arterial (urban)	New construction (5 lanes)		0	0	0
	New construction (4 lanes w/ MSCG)		68.5	68.5	28.5
	New construction (6 lanes w/ MSCG)		370.9	370.9	363.1
	Improve 2-lane to 4-lane w/ MSCG		61.7	61.7	46.8
	Add 2 lanes (to existing 2-lane w/ no median)		0	0	0
Improve existing corridor*	37	37	8.4		
Transit	Intercity bus	Length (miles) by route	60.8	294.7	294.7
	Express bus		141.5	138.2	138.2
	Passenger rail (intercity/commuter)		0	67.8	67.8
	Urban park-and-ride lot	Each	0	0	0
	Rural park-and-ride lot		0	0	0
	Transit center		11	15	17

Source: Kimley-Horn and Associates

MSCG = median, sidewalk, curb and gutter.

*Examples of "Improve existing corridor" include: passing lanes, shoulder widening (possibly including bus pullouts), drainage improvements, bus pullouts/shelters, safety improvements, signals and lighting.

3.10 EVALUATION OF SCENARIOS

The following evaluation framework, developed for the regional framework studies, provides a structure to evaluate multimodal transportation alternatives in each of the four regions, in the larger context of smart growth, sustainable development and sound transportation planning.

Planning Factors, Goals, Criteria and How Measured

Table 3.7 shows the planning factors, goals, criteria and measurements that the regional framework consultant teams that were used to evaluate each of the three alternative scenarios (Scenario A, B, and C). The first column, planning factors, lists five elements that a multimodal transportation system should provide or promote: mobility and access, transportation/land use integration, environmental and conservation, economic benefit, and safety. The second column of Table 3.7 shows the goal associated with each planning factor. The third column lists one or more evaluation criteria used to specify objectives that can help meet each goal. Finally, the last column describes how the performance of each scenario was measured with respect to the criteria.

The ADOT management consultant was responsible for the portion of the evaluation that applied criteria based on model output. These were IC, ID, IIIA, IIIB and VA. Each regional consultant was responsible for the remainder of the criteria, whether quantitative (criteria IA1 and IA2) or non-quantitative.

On all the criteria, whether numerically based or not, each scenario was given a rating of:

- (highest rating)
- ◐ (intermediate)
- (lowest rating)

The ratings are relative, i.e., they reflect how the three scenarios fare against one another. A rating of ○ (lowest) does not necessarily indicate that a scenario performs badly on an absolute scale.

Evaluation Matrix and Results

Based on the planning factors, goals, and criteria, an evaluation matrix was developed to rank the alternative scenarios. This matrix is shown in Table 3.8.

Table 3.7 Planning Factors, Goals, Evaluation Criteria and How Measured

Planning Factors	Goals	Evaluation Criteria	How Measured
I. Mobility and Access	Develop functional, flexible mobility for Arizona.	A. Improve multimodal network connectivity.	1. Number of passenger terminals served by two or more modes (including air carrier) other than private vehicle access 2. Number of additional free-flow junctions (e.g., system or directional TIs) compared with the Baseline condition
		B. Increase modal choice and improve mobility options.	Amount of transit and rail passenger service compared with Baseline condition <ul style="list-style-type: none"> ● Many new services and extensive improvements compared with Baseline condition ● Moderate improvements including some new services ○ Incremental improvements only
		C. Protect personal mobility from endemic (including seasonal) congestion.	Daily vehicle hours of delay (thousands) on the regionally significant roadway system, from model output
		D. Protect freight transport from endemic (including seasonal) roadway congestion.	Daily hours of commercial vehicle delay (thousands) on the regionally significant roadway system, from model output

Table 3.7 Planning Factors, Goals, Evaluation Criteria and How Measured (continued)

Planning Factors	Goals	Evaluation Criteria	How Measured
<p>II. Transportation/Land Use Integration</p>	<p>Plan transportation facilities to promote land development patterns that maximize modal choice, minimize trip length and enable multi-purpose trips.</p>	<p>A. Be consistent with county comprehensive plans, city/town general plans, tribal plans, federal land management plans (BLM, USFS) and other adopted land use plans, including development master plans.</p>	<ul style="list-style-type: none"> ● Nearly all improvements are highly consistent with most pertinent plans ● The majority of improvements are consistent with most pertinent plans ○ Some projects are markedly inconsistent with some plans
		<p>B. Be consistent with adopted long-range transportation plans, including tribal plans.</p>	<ul style="list-style-type: none"> ● Nearly all improvements are highly consistent with most pertinent plans ● The majority of improvements are consistent with most pertinent plans ○ Some projects are markedly inconsistent with some plans
		<p>C. <i>Support existing and approved (in local plans) mixed use development.</i></p>	<ul style="list-style-type: none"> ● Transportation improvements provide strong support for mixed use districts and activity centers ● Improvements provide some support ○ Improvements provide little or no support
		<p>D. <i>Support infill development in cities, towns and built-up unincorporated areas that are well served by existing infrastructure.</i></p>	<ul style="list-style-type: none"> ● Transportation improvements provide strong support for infill development ● Improvements provide some support for infill development ○ Improvements provide little or no support for infill development

Table 3.7 Planning Factors, Goals, Evaluation Criteria and How Measured (continued)

Planning Factors	Goals	Evaluation Criteria	How Measured
II. Transportation/Land Use Integration (continued)		E. Support designated redevelopment and revitalization areas.	<ul style="list-style-type: none"> ● Transportation improvements provide strong support for such areas ● Improvements provide some support ○ Improvements provide little or no support
III. Environmental and Conservation	Protect and enhance the natural and human environment.	A. Promote and increase energy security.	Daily vehicle hours of travel (thousands), as a proxy for fuel consumption
		B. Reduce vehicular greenhouse gas (CO ₂) emissions.	Reduction in daily metric tons of CO ₂ emissions compared with Baseline
		C. Minimize effects on environmentally sensitive areas (e.g., biological, cultural, scenic).	<ul style="list-style-type: none"> ● Minimal effects ● Moderate effects ○ Substantial effects
		D. Minimize effects on natural corridors for wildlife movement (as identified by AZ Game & Fish and other resource management organizations).	<ul style="list-style-type: none"> ● Minimal effects ● Moderate effects ○ Substantial effects
IV. Economic Benefit	Increase economic opportunities in Arizona.	A. Support regional and local (including tribal) economic development plans, priorities, goals and objectives.	<ul style="list-style-type: none"> ● Includes many projects that strongly support economic development priorities throughout the region ● Contains projects that support development priorities in some locations ○ The proposed improvements offer little or no support at the state or local level

Table 3.7 Planning Factors, Goals, Evaluation Criteria and How Measured (continued)

Planning Factors	Goals	Evaluation Criteria	How Measured
IV. Economic Benefit (continued)		B. Support industries considered vital to the region or its communities (e.g., tourism, mining, agriculture, timber, international trade).	<ul style="list-style-type: none"> ● Numerous new or improved facilities and services directly serving key industries or destinations ● Some such improvements ○ Few or no such improvements
		C. Modernize and expand infrastructure that supports freight movement and delivery.	No. of infrastructure projects that directly support freight movement and delivery
V. Safety	Maintain and enhance the safety of the transportation system for all users.	A. Strengthen and expand roadway access management.	<ul style="list-style-type: none"> ● Numerous additional centerline miles with a high level of access management (such as freeways and Arizona parkways), compared with Baseline condition ● A modest number of additional centerline miles with a high level of access management ○ Few or no additional centerline miles with a high level of access management
		B. Provide parallel or alternative transportation routes or services to facilitate emergency access, including evacuation.	<ul style="list-style-type: none"> ● Substantial alternative routing added (from Baseline condition) ● Some alternative routing added ○ Little or no alternative routing added

Source: ADOT Management Consultant Team

- Ratings:
- Highest rating
 - Intermediate rating
 - Lowest rating

Table 3.8 Evaluation of Regional, Multimodal Transportation Alternatives, Year 2050 Central Region

Evaluation Criteria	How Measured	Alternatives			NOTES
		A	B	C	
I. Mobility and Access					
A. Improve multimodal network connectivity.	1. Number of passenger terminals served by two or more modes (including air carrier) other than private vehicle access	☉ 11 (transit centers)	☉ 15 (transit centers)	● 17 (transit centers)	○ 0-10 ☉ 11-15 ● 16+
	2. Number of additional free-flow junctions (e.g., system or directional TIs) compared with the Baseline condition	9 system TIs ●	3 system TIs ☉	3 system TIs ☉	○ 0 ☉ 1-3 ● 4+
B. Increase modal choice and improve mobility options.	Amount of transit and rail passenger service compared with Baseline condition ● Many new services and extensive improvements compared with Baseline condition ☉ Moderate improvements including some new services ○ Incremental improvements only	☉ New transit services: ● HOV lanes along selected freeways, primarily concentrated in western portion of study area ● Fixed route and community circulator transit in communities serving Miami/Globe, Hayden/Winkelman, Mammoth/Oracle, ● Intercity bus (Globe to Apache Junction), extending to Eastern Framework and MAG regions ● Express bus service along freeway corridors and selected principal arterials	● New transit, including passenger rail services: ● HOV lanes along selected freeways, primarily concentrated in western portion of study area ● Passenger rail entering study area on I-10 at Pinal/Pima County line, and proceeding north through Florence before entering Maricopa County ● Local transit service (fixed route and community circulator transit) ● Intercity bus connecting many cities: Apache Junction to Globe, extending to Eastern Framework and MAG regions; service connecting Oracle/Florence Apache Junction, and Oracle/Mammoth/Hayden/Miami/Superior ● Express bus service along freeway corridors and selected principal arterials	● Most new transit, including passenger rail services: ● HOV Lanes along selected freeways, primarily concentrated in western portion of study area ● Passenger rail entering study area on I-10 at Pinal/Pima County line, and proceeding north through Florence before entering Maricopa County ● Local transit service (Fixed route local transit service and Community circulator transit) ● Intercity bus connecting many cities: Apache Junction to Globe, extending to Eastern Framework and MAG regions; service connecting Oracle/Florence Apache Junction, and Oracle/Mammoth/Hayden/Miami/Superior ● Potential light rail and increased transit service in higher density areas, focused in the Eloy to Apache Junction corridor ● Express bus service along freeway corridors and selected principal arterials	
C. Protect personal mobility from endemic (including seasonal) congestion.	Daily Hours of delay (000) on the regionally significant roadway system	● 1098	☉ 1863	○ 2056	● 0-1500 ☉ 1501-2000 ○ >2000
D. Protect freight transport from endemic (including seasonal) roadway congestion.	Daily hours of commercial vehicle delay (000) on the regionally significant roadway system	☉ 65	○ 123	○ 148	● 0-50 ☉ 51-100 ○ >100

Table 3.8 Evaluation of Regional, Multimodal Transportation Alternatives, Year 2050 Central Region (continued)

Evaluation Criteria	How Measured	Alternatives			NOTES
		A	B	C	
II. Transportation / Land Use Integration					
A. Be consistent with county comprehensive plans, city/town general plans, tribal plans, federal land management plans (BLM, USFS) and other adopted land use plans, including development master plans.	<ul style="list-style-type: none"> ● Nearly all improvements are highly consistent with most pertinent plans. ● The majority of improvements are consistent with most pertinent plans ○ Some projects are markedly inconsistent with some plans. 	<p style="text-align: center;">●</p> <p>Consistency with local general land use plans was a major consideration in development of Scenario A. The scenario largely assumes that land use will to develop similarly as it has in the past.</p> <p>The transportation improvements proposed in Scenario A were derived from completed studies including the Pinal County Regionally Significant Routes Study, ADOT Corridors Definitions Studies, Small Area Transportation Studies, and ADOT Design Concept Reports.</p> <p>Several of the new corridors improvements proposed in Scenario A are under consideration in General Plans as they are being updated (e.g. Pinal County Comprehensive Plan), but have not yet been formally adopted. There are some new corridors recommendations, such as the SR 77 Reliever that are not contained in local jurisdiction plans (e.g. Oro Valley General Plan nor in Pima County Comprehensive Plan). Another example is the Western I-10 Parallel Corridor. These two corridors in particular were identified as needed ADOT Corridor Definition Studies, but may conflict with the Sonoran Desert Conservation Plan.</p>	<p style="text-align: center;">●</p> <p>Consistency with local plans general land use plans was a major consideration in development of Scenario B. The scenario largely assumes that land use will develop similarly as it has in the past, but that the extensive transit services proposed in Scenario B will influence land use and development patterns.</p> <p>Many of the transportation improvements in Scenario B were derived from completed studies including the Pinal County Regionally Significant Routes Study, ADOT Corridors Definitions Studies, Small Area Transportation Studies, and ADOT Design Concept Reports. However, because of the investment in transit, many of the new corridors are shown as "parkways" instead of "freeway" facilities, as proposed in many of the previously completed studies.</p> <p>Several of the new corridors improvements proposed are under consideration in General Plans as they are being updated (e.g. Pinal County Comprehensive Plan), but they have not yet been formally adopted. There are some new corridors recommendations, such as the SR 77 Reliever that are not contained in local jurisdiction plans (e.g. Oro Valley General Plan nor in Pima County Comprehensive Plan). Another example is the Western I-10 Parallel Corridor. These two corridors in particular were identified as needed ADOT Corridor Definition Studies, but may conflict with the Sonoran Desert Conservation Plan. These two corridors are shown as "parkways" instead of "freeways" because of the increased opportunity for transit.</p> <p>Many of the transit improvements proposed in Scenario B are under consideration in Pinal County Comprehensive Plan.</p>	<p style="text-align: center;">○</p> <p>The basic land use assumptions in Scenario C are not consistent with existing General Plans and Comprehensive Plans, particularly to the degree to which land use density is assumed in Scenario C.</p> <p>However, all of the transportation corridors shown in Scenario C are either on existing alignment, or they are corridors that are proposed in the Pinal County Regionally Significant Routes Study. The Pinal Comprehensive Plan Update (on-going) largely incorporates recommendations from the Pinal County Regionally Significant Routes Study.</p>	

Table 3.8 Evaluation of Regional, Multimodal Transportation Alternatives, Year 2050 Central Region (continued)

Evaluation Criteria	How Measured	Alternatives			NOTES
		A	B	C	
B. Be consistent with adopted long-range transportation plans, including tribal plans.	<ul style="list-style-type: none"> ● Nearly all improvements are highly consistent with most pertinent plans ● The majority of improvements are consistent with most pertinent plans ○ Some projects are markedly inconsistent with some plans 	<p style="text-align: center;">●</p> <p>Consistency with local and regional long range transportation plans was a major consideration in development of Scenario A.</p> <p>The transportation improvements in Scenario A were derived from completed studies including the Pinal County Regionally Significant Routes Study, ADOT Corridors Definitions Studies, Small Area Transportation Studies, and ADOT Design Concept Reports.</p> <p>However, some of the proposed corridors, particularly those that connect Pima and Pinal Counties, are not shown in the PAG Long Range Transportation Plan. These include the SR 77 Reliever, and the Western I-10 Parallel. These two corridors in particular were identified as needed ADOT Corridor Definition Studies, but may conflict with the Sonoran Desert Conservation Plan</p>	<p style="text-align: center;">●</p> <p>Consistency with local plans general land use plans was a major consideration in development of Scenario B.</p> <p>Many of the transportation improvements in Scenario B were derived from completed studies including the Pinal County Regionally Significant Routes Study, ADOT Corridors Definitions Studies, Small Area Transportation Studies, and ADOT Design Concept Reports. However, because of the investment in transit, many of the new corridors are shown as "parkway" instead of "freeway" facilities, as proposed in many of the previously completed studies.</p> <p>However, some of the proposed corridors, particularly those that connect Pima and Pinal Counties, are not shown in the PAG Long Range Transportation Plan. These include the SR 77 Reliever, and the Western I-10 Parallel. These two corridors in particular were identified as needed ADOT Corridor Definition Studies, but may conflict with the Sonoran Desert Conservation Plan. In Scenario B, these two corridors are shown as "parkways" instead of "freeways" because of the increased opportunity for transit.</p> <p>Many of the transit improvements proposed in Scenario B are under consideration in Pinal County Comprehensive Plan</p>	<p style="text-align: center;">●</p> <p>The transportation corridors proposed in Scenario C are all derived from previously completed transportation plans. The only major new freeway corridors in Scenario C are the North-South corridor, Williams Gateway, and the US 60 Re-Route. Each of these corridors is consistent with local jurisdiction plans, including the Pinal County Regional Significant Routes (RSR) Study. Scenario C removed some of the recommended corridors in the Regionally Significant Routes Study, particularly those that were recommended in the Pinal County RSR Study in eastern Pinal County that cross sensitive environmental areas.</p> <p>The emphasis in Scenario C was to concentrate infrastructure improvements to western Pinal County. As such, all of the transportation corridors shown in Scenario C are either on existing alignments, or they are corridors that are proposed in the Pinal County Regionally Significant Routes Study.</p>	
C. Support existing and approved (in local plans) mixed use development.	<ul style="list-style-type: none"> ● Transportation improvements provide strong support for mixed use districts and activity centers ● Improvements provide some support ○ Improvements provide little or no support 	<p style="text-align: center;">●</p> <p>The transit improvements proposed in Scenario A will support mixed use development, including new Local Transit Service in:</p> <ul style="list-style-type: none"> ● Oracle/San Manuel /Winkelman ● Hayden/Kearny ● Globe/Miami ● Superior ● Service area extending from Eloy to Apache Junction <p>However, emphasis of roadways in Scenario A will lead toward land development patterns similar to today's patterns, including auto-oriented travel and land uses largely designed for automobile accessibility.</p>	<p style="text-align: center;">●</p> <p>The transit improvements proposed in Scenario B will support mixed use development, including new Local Transit Service in:</p> <ul style="list-style-type: none"> ● Oracle/San Manuel /Winkelman ● Hayden/Kearny ● Globe/Miami ● Superior ● Service area extending from Eloy to Apache Junction <p>Mixed use development will increase throughout the region as transit service; particularly high capacity transit (e.g. passenger rail) is developed. Mixed land use will develop in nodes surrounding transit centers.</p>	<p style="text-align: center;">●</p> <p>The transit improvements and land use assumptions Scenario C are most conducive to mixed use development. Local Transit Service in the following communities will encourage mixed use development:</p> <ul style="list-style-type: none"> ● Oracle/San Manuel /Winkelman ● Hayden/Kearny ● Globe/Miami ● Superior ● Service area extending from Eloy to Apache Junction <p>Mixed use development will increase throughout the region as transit service (e.g. passenger rail) is developed. Mixed land uses will develop in nodes surrounding transit centers. Urban 'area of higher densities' that consist largely of mixed use development will emerge.</p>	

Table 3.8 Evaluation of Regional, Multimodal Transportation Alternatives, Year 2050 Central Region (continued)

Evaluation Criteria	How Measured	Alternatives			NOTES
		A	B	C	
D. Support infill development in cities, towns and built-up unincorporated areas that are well served by existing infrastructure.	<ul style="list-style-type: none"> ● Transportation improvements provide strong support for infill development ● Improvements provide some support for infill development ○ Improvements provide little or no support for infill development 	<p style="text-align: center;">●</p> <p>The transit improvements proposed in Scenario A will support infill development, including new local transit service in:</p> <ul style="list-style-type: none"> ● Oracle/San Manuel/Winkelman ● Hayden/Kearny ● Globe/Miami ● Superior ● Service area extending from Eloy to Apache Junction <p>However, as the vast majority of the study area is currently undeveloped, the majority of new development will occur in areas outside of current development. In addition, emphasis of this scenario on new roadways facilitates regional travel -more new roadways support regional travel, and will likely lead to development in currently undeveloped areas:</p> <ul style="list-style-type: none"> ● 9 new freeways ● 3 new parkways ● New or improved arterials on regionally significant routes and state highways 	<p style="text-align: center;">●</p> <p>The transit improvements proposed in Scenario B will support infill development, including:</p> <ul style="list-style-type: none"> ● Passenger Rail extending from Phoenix to Tucson ● Local transit service <ul style="list-style-type: none"> - Oracle/San Manuel/ Winkelman - Hayden/Kearny - Globe/Miami - Superior - Service area extending from Eloy to Apache Junction ● Intercity bus service <p>However, more new or improved roadway facilities will support more regional travel, such as:</p> <ul style="list-style-type: none"> ● 3 new freeways ● 7 new parkways ● New or improved arterials on regionally significant routes and state highways 	<p style="text-align: center;">●</p> <p>Scenario C based on Smart Growth Principles. There are more transit services, providing more support for infill.</p> <ul style="list-style-type: none"> - Less emphasis on new or improved roadways. -1 new freeway -3 new parkways -fewer new or improved arterials on regionally significant routes, located east of SR 79, and state highways. <p>Smart Growth will provide more opportunities for pedestrian and bicycles trips as well as transit.</p>	
E. Support designated redevelopment and revitalization areas.	<ul style="list-style-type: none"> ● Transportation improvements provide strong support for such areas ● Improvements provide some support ○ Improvements provide little or no support 	N/A	N/A	N/A	
III. Environment and Conservation					
A. Promote and increase energy security.	<i>Daily vehicle hours of travel (000) as a surrogate for reduction in fuel consumption</i>	● 2257	○ 2916	○ 2948	<ul style="list-style-type: none"> ● 0-2000 ● 2001-2500 ○ >2500
B. Reduce vehicular greenhouse gas (CO ₂) emissions.	<i>Reduction in daily metric tons of emissions compared w/ Baseline</i>	○ 1011	○ 2483	● 3642	<ul style="list-style-type: none"> ● >6000 ● 3001-6000 ○ ≤3000

Table 3.8 Evaluation of Regional, Multimodal Transportation Alternatives, Year 2050 Central Region (continued)

Evaluation Criteria	How Measured	Alternatives			NOTES
		A	B	C	
C. Minimize effects on environmentally sensitive areas (e.g., biological, cultural, scenic).	<ul style="list-style-type: none"> ● Minimal effects ● Moderate effects ○ Substantial effects 	<p style="text-align: center;">●</p> <p>Input from the Nature Conservancy is that only the Florence-Kelvin Highway is of significant concern with respect to environmentally sensitive lands. Review of Natural Infrastructure maps by the study team shows the following:</p> <p>Freeways that cross sensitive biological lands, include:</p> <ul style="list-style-type: none"> ● Western Parallel, ● SR79, ● SR77 Reliever, ● North-South II, ● I-10 <p>Parkways that cross sensitive biological lands include:</p> <ul style="list-style-type: none"> ● Bartlett Rd, ● Selma Hwy and ● Park Link Dr <p>Arterials that cross sensitive biological lands include:</p> <ul style="list-style-type: none"> ● North-South arterial (east of SR 79), ● Greenes Reservoir Rd, ● Pretzer Rd, ● Wheeler Rd, and ● Redington Rd <p>Improvements(widening) to US 60, SR 77, SR 177, SR 188 and US 70 may impact sensitive biological lands</p> <p>Sensitive biological lands may include grasslands, priority conservation areas, or wildlife linkages. It is assumed that proposed alignments will avoid historic districts. Impacts to cultural resource sites cannot determine at this stage.</p> <p>Several new freeway alignments do traverse areas with cultural resource sites:</p> <ul style="list-style-type: none"> ● Several freeways cross areas with cultural resource sites ● North-South Freeway alignment traverses areas with cultural resource sites. 	<p style="text-align: center;">●</p> <p>Input from the Nature Conservancy is that only the Florence-Kelvin Highway is of significant concern with respect to environmentally sensitive lands. Review of Natural Infrastructure maps by the study team shows the following:</p> <p>Freeways that cross sensitive biological lands.</p> <ul style="list-style-type: none"> ● I-10 <p>Parkways that cross sensitive biological lands:</p> <ul style="list-style-type: none"> ● SR 77 Reliever, ● Western Parallel, ● Bartlett Rd, ● Selma Hwy, and ● Park Link Dr and ● North-South II <p>Arterials that cross sensitive biological lands:</p> <ul style="list-style-type: none"> ● New north-south arterial facility (east of SR 79), ● Greenes Reservoir Rd, ● Pretzer Rd, ● Wheeler Rd, and ● Redington Rd <p>Improvements to US 60, SR 77, SR 79, SR 177, SR 188 and US 70 may impact sensitive biological lands</p> <p>Sensitive biological lands may include grasslands, priority conservation areas, or wildlife linkages.</p> <p>It is assumed that proposed alignments will avoid historic districts. Impacts to cultural resource sites cannot determine at this stage.</p> <p>Several new freeway alignments do traverse areas with cultural resource sites:</p> <ul style="list-style-type: none"> ● Several freeways cross areas with cultural resource sites ● North-South Freeway alignment traverses areas with cultural resource sites. 	<p style="text-align: center;">●</p> <p>Input from the Nature Conservancy is that only the Florence-Kelvin Highway is of significant concern with respect to environmentally sensitive lands. Review of Natural Infrastructure maps by the study team shows the following:</p> <p>Freeways that cross sensitive biological lands.</p> <ul style="list-style-type: none"> ● I-10 <p>Parkways that cross sensitive biological lands include:</p> <ul style="list-style-type: none"> ● Baumgartner Rd, ● Selma Hwy <p>Arterials that cross sensitive biological lands:</p> <ul style="list-style-type: none"> ● Greenes Reservoir Rd, ● Pretzer Rd, ● Wheeler Rd and ● Redington Rd <p>Improvements to US 60, SR 77, SR 79, SR 177, SR 188 and US 70 may impact sensitive biological lands. Sensitive biological lands may include grasslands, priority conservation areas, or wildlife linkages. It is assumed that proposed alignments will avoid historic districts.</p> <p>Impacts to cultural resource sites cannot determine at this stage:</p> <ul style="list-style-type: none"> ● N-S freeway alignment traverses areas with cultural resource sites 	<p>Input from Nature Conservancy was to not pave Florence-Kelvin Highway. Input from Pinal County is that Florence-Kelvin Highway must be paved.</p>

Table 3.8 Evaluation of Regional, Multimodal Transportation Alternatives, Year 2050 Central Region (continued)

Evaluation Criteria	How Measured	Alternatives			NOTES
		A	B	C	
D. Minimize effects on natural corridors for wildlife movement (as identified by AZ Game & Fish and other resource management organizations).	<ul style="list-style-type: none"> ● Minimal effects ● Moderate effects ○ Substantial effects 	<p style="text-align: center;">●</p> <p>Review of the Wildlife Linkage maps reveals of the following:</p> <p>Freeways that cross wildlife linkage zone include:</p> <ul style="list-style-type: none"> • I-10 • Western I-10 Parallel • North-South II (southern end only, near Red Rock) • SR 79 • SR 77 Reliever <p>Parkways that cross wildlife linkage zone include:</p> <ul style="list-style-type: none"> • Bartlett Rd • Selma Hwy • Park Link Dr <p>Arterials that cross wildlife linkage zone include:</p> <ul style="list-style-type: none"> • North-South Arterial (east of SR 79) • Extension of Freeman Rd • Redington Rd <p>Improvements (widening) to US 60, SR 77, SR 177, SR 188 may impact wildlife linkage zone.</p>	<p style="text-align: center;">●</p> <p>Review of the Wildlife Linkage maps reveals of the following:</p> <p>Freeways that cross wildlife linkage zone include:</p> <ul style="list-style-type: none"> • I-10 <p>Parkways that cross wildlife linkage zone include:</p> <ul style="list-style-type: none"> • North-South II (southern end only, near Red Rock) • Western I-10 Parallel • SR 77 Reliever • Bartlett Rd • Selma Hwy • Park Link Dr <p>Arterials that cross wildlife linkage zone include:</p> <ul style="list-style-type: none"> • North-South Arterial (east of SR 79) • Extension of Freeman Rd • Redington Rd <p>Improvements (widening) to US 60, SR 77, SR 79, SR 177, SR 188 may impact wildlife linkage zone.</p>	<p style="text-align: center;">●</p> <p>Review of the Wildlife Linkage maps reveals of the following:</p> <p>Freeways that cross wildlife linkage zone include:</p> <ul style="list-style-type: none"> • I-10 <p>Parkways that cross wildlife linkage zone include:</p> <ul style="list-style-type: none"> • Selma Hwy • Park Link Dr <p>Arterials that cross wildlife linkage zone include:</p> <ul style="list-style-type: none"> • Redington Rd <p>Improvements (widening) to US 60, SR 77, SR 79, SR 177, SR 188 may impact wildlife linkage zone.</p>	Data source: Potential Linkage Zones, ADOT, http://www.azdot.gov/Highways/OES/AZ_Wildlife_Linkages/index.asp
IV. Economic Benefit					
A. Support regional and local (including tribal) economic development plans, priorities, goals and objectives.	<ul style="list-style-type: none"> ● Includes many projects that strongly support economic development priorities throughout the region ● Contains projects that support development priorities in some locations ○ The proposed improvements offer little or no support at the state or local level 	<p style="text-align: center;">●</p> <p>Scenarios were developed with local input on development priorities: including major new freeways:</p> <ul style="list-style-type: none"> • I-10 Widening • North-South Corridor • Safety Improvements to SR 177, SR 77, US 60 to support mining operations • I-10 Western Parallel provides relief to I-10, reducing congestion for trucks. <p>Includes projects to facilitate east-west connectivity (Florence-Kelvin Highway), improving economic connectivity of eastern and western Pinal County</p>	<p style="text-align: center;">●</p> <p>Scenarios were developed with local input on development priorities, including major new freeways:</p> <ul style="list-style-type: none"> • I-10 Widening • North-South Corridor • Safety Improvements to SR 177, SR 77, US 60 to support mining operations <p>Passenger rail will improve economic connectivity to both the Pima and Maricopa regions.</p> <p>This scenario includes fewer freeway facilities, resulting in less overall benefit to the trucking industry.</p>	<p style="text-align: center;">●</p> <p>Scenarios were developed with local input on development priorities, including major new freeways:</p> <ul style="list-style-type: none"> • I-10 Widening • North-South Corridor • Safety Improvements to SR 177, SR 77, US 60 to support mining operations <p>Passenger rail will improve economic connectivity to both the Pima and Maricopa regions.</p> <p>This scenario includes fewer freeway facilities, resulting in less overall benefit to the trucking industry.</p> <p>Economic growth may largely be concentrated in central/western Pinal County, as few new transportation facilities are proposed in eastern Pinal County in Scenario C.</p>	

Table 3.8 Evaluation of Regional, Multimodal Transportation Alternatives, Year 2050 Central Region (continued)

Evaluation Criteria	How Measured	Alternatives			NOTES
		A	B	C	
B. Support industries considered vital to the region or its communities (e.g., tourism, mining, agriculture, timber, international trade).	<ul style="list-style-type: none"> Numerous new or improved facilities and services directly serving key industries or destinations Some such improvements <ul style="list-style-type: none"> Few or no such improvements 	<p style="text-align: center;">●</p> <ul style="list-style-type: none"> Scenario A upgrades arterial facilities and provides more east-west roads to serve the mining industries. Safety improvements to SR 177, SR 77, US 60 support mining operations Improvements to I-10 and North-South corridor will support international trade and better access for tourism. 	<p style="text-align: center;">◐</p> <ul style="list-style-type: none"> Scenario B upgrades arterial facilities and provides more east-west roads to serve the mining industries. Safety improvements to SR 177, SR 77 and US 60 support mining operations. Improvements to I-10 and North-South corridor support international trade and better access for tourism. But some corridors shown as freeways in A become parkways in B. Parkway have less capacity than freeways, making them less able to accommodate trucking and trade. 	<p style="text-align: center;">◑</p> <p>Safety improvements to SR 177, SR 77, and US 60 support mining operations.</p> <p>Improvements to I-10 and North-South corridor will support international trade and better access for tourism. Less new east-west access</p>	
C. Modernize and expand infrastructure that supports freight movement and delivery.	No. of infrastructure projects that directly support freight movement and delivery	<p style="text-align: center;">◑</p> <p>Relevant projects:</p> <ul style="list-style-type: none"> 1 improved freeway 9 new freeways 3 new parkways Many new or improved arterials (Pinal County RSRs) 	<p style="text-align: center;">◑</p> <p>Relevant projects:</p> <ul style="list-style-type: none"> 1 improved freeway 3 new freeways 7 new parkways Many new or improved arterials (Pinal County RSRs) 	<p style="text-align: center;">○</p> <p>Relevant projects:</p> <ul style="list-style-type: none"> 1 improved freeway 1 new freeway 3 new parkways Many new or improved arterials (Pinal County RSRs) 	<p>○ 0-10</p> <p>◐ 11-20</p> <p>● 21+</p>
V. Safety					
A. Strengthen and expand roadway access management.	Number of additional centerline miles with a high level of access management (such as freeways and "Arizona parkways"), compared with Baseline condition	<p style="text-align: center;">●</p> <p>355 miles</p>	<p style="text-align: center;">◐</p> <p>295 miles</p>	<p style="text-align: center;">○</p> <p>215 miles</p>	<p>○ <250 centerline miles</p> <p>◐ 250-350 miles</p> <p>● >350 miles</p>
B. Provide parallel or alternative transportation routes or services to facilitate emergency access, including evacuation.	<ul style="list-style-type: none"> Substantial alternative routing added (from Baseline condition) Some alternative routing added Little or no alternative routing added 	<p style="text-align: center;">●</p> <p>Substantial alternative routing added, including:</p> <ul style="list-style-type: none"> 9 new freeways 3 new east-west parkways New arterials 	<p style="text-align: center;">●</p> <p>Substantial alternative routing added, including:</p> <ul style="list-style-type: none"> 3 new freeways 7 new parkways New arterials 	<p style="text-align: center;">◐</p> <p>Some alternative routing added, including:</p> <ul style="list-style-type: none"> 1 new freeways 3 new parkways New arterials 	

Sources: Kimley-Horn and ADOT Project Management Team

- = highest rating
- ◐ = intermediate rating
- = lowest rating



Conclusion

Relative advantages and disadvantages of each scenario are summarized below.

Scenario A, which assumes personal vehicles will be used for most trips, ranks highly in mobility and access. Scenario A improvements result in the lowest level of personal and commercial vehicle delay (on the regionally significant roadway system) of the three scenarios, while providing somewhat increased transit service compared with base conditions.

Scenario A contains the largest amount of new road construction, and assumes that alternative vehicle fuels and technologies will lower greenhouse gas emissions by 2050. The high level of road construction results in the least vehicle congestion and vehicle hours traveled; the latter is a surrogate for fuel consumption. However, this scenario has the lowest reduction in greenhouse gas emissions. The transportation improvements in Scenario A will strongly support economic development by providing better access, especially for freight, to numerous industries. Scenario A enhances safety and access management through the provision of numerous limited-access facilities and routes for emergency access.

Scenario B enhances mobility and access in a number of ways. It provides more new transit services and facilities than Scenario A, including HOV lanes, local transit, intercity and express bus, and passenger rail. Because it includes fewer freeway facilities than (A), it is associated with more delay and vehicle hours of travel in 2050. However, it also provides a greater reduction in greenhouse gas emissions than Scenario A.

Scenario B may result in slightly less economic benefit than Scenario A because it has fewer freeways, resulting in less benefit to trucking and freight flow, and less support for industries considered vital to the region, such as mining, agriculture, and tourism. Scenario B increases safety by adding 295 centerline miles with a high level of access management—60 fewer than the 355 miles in Scenario A. It also provides substantial alternative routing for emergency access.

Scenario C assumes a shift in focus from personal vehicles to local travel using transit, bicycling, and walking. This scenario emphasizes transportation services that support a non-auto dependent lifestyle, with a mix of land uses close to one another. Transportation improvements encourage less dispersed urban growth patterns and follow Smart Growth principles.

Scenario C, like B, provides more new transit services and facilities than (A), including HOV lanes, local transit, intercity and express bus, and passenger rail. It goes beyond (B) by showing potential high-capacity transit in areas of high-intensity land use. Because Scenario C contains the fewest freeway miles, however, it has the largest amount of passenger and freight vehicle delay.

Although Scenario C is the least consistent with existing general and comprehensive plans, it supports mixed-use districts and activity centers that are currently in local plans. In addition to emphasizing transit, this scenario focuses on roadway corridors proposed in previously completed transportation plans, such as the North-South Freeway, improvement of I-10 to five lanes in each direction, and several new parkways.

Because of its emphasis on transit and support of infill development, Scenario C has the greatest reduction in greenhouse gas emissions. On the other hand, it has the most vehicle hours of travel, indicating a higher level of congestion and a lower reduction in fuel consumption than other scenarios.

Scenario C adds 215 new centerline miles with a high level of access management--fewer than the 355 miles in (A) and 295 in (B). Scenario C also provides a lower level of alternative routes for emergencies than (A) or (B).

3.11 PHASING AND POLICY RECOMMENDATIONS FOR ALL SCENARIOS

The Central regional framework team developed preliminary phasing recommendations for the three scenarios, based on projected travel demand, related plans and studies, and other considerations. ADOT and its management consultant will refine the phasing recommendations in the final statewide framework.

The improvements were assigned one of three phases:

- Short - Phase I (2010-2020)
- Medium - Phase II (2020-2030)
- Long - Phase III (2030-2050)

Considerations in the development of phasing recommendations were:

Road Improvements on Existing Alignments

- Safety improvements (shoulders, passing lanes, drainage) on all existing roadways (freeways, highways, and arterials) are considered short-term.
- Input from the Critical Needs Definition process, and Pinal County input on road improvement priorities were used in the development of phasing for road projects.
- Road widening on existing alignments adding more than two lanes is generally considered medium-term, because it involves fairly detailed environmental analysis and the likely need for right-of-way acquisition.

Road Improvements on New Alignments

- Freeways and Arizona Parkways on new alignments, which typically involve the most environmental work and design concept evaluation, are generally considered Phase III or long-term improvements.
- The proposed North-South corridor was considered to be a medium term project, since planning for that corridor is underway.
- New arterials on developed areas were generally considered as medium-term projects. New arterials in less developed areas were considered to be long term projects.
- HOV lanes will be constructed as part of the freeway projects.

Transit and Rail Improvements

- Local transit improvements are generally considered short-term projects.
- Establishment of intercity bus routes were considered to be short term projects.