

EXECUTIVE SUMMARY

Compilation of Evaluation Data for Designation of the CANAMEX Corridor Through the Maricopa Region

Prepared for
Arizona Department of Transportation
Maricopa Association of Governments
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and Associates, Inc.

PURPOSE AND OBJECTIVES

The Arizona Department of Transportation (ADOT) and the Maricopa Association of Governments (MAG) are cooperating in the designation of a specific route for the CANAMEX Corridor in the Maricopa Region. As part of the route designation process, ADOT and MAG will perform a high-level evaluation of eight alternative routes that were selected in MAG-sponsored forums with agency representatives and stakeholders from within the MAG region. The evaluation will assess each alternative route using ten evaluation criteria. The evaluation of alternative CANAMEX Corridor routes in the Maricopa Region will result in the selection of a preferred route and a planning-level cost estimate for constructing route improvements.

Kimley-Horn and Associates, under contract to ADOT, provided technical assistance to ADOT and MAG in support of the high-level evaluation of route alternatives. Specifically, available information was compiled for each alternative route according to each evaluation criterion. A field review of route conditions was conducted to supplement and confirm compiled information.

ROUTE ALTERNATIVES

From an initial list of fifteen route alternatives, eight CANAMEX Corridor route alternatives in the Maricopa Region were identified for further consideration. For the purpose of this study, all routes were defined with common termini; the I-10/I-8 interchange near Casa Grande, Arizona on the south and the SR 93/Vulture Mine Road intersection near Wickenburg, Arizona on the north. The Wickenburg Bypass was not directly considered in the definition of CANAMEX route alternatives. However, issues associated with the use of the Wickenburg Bypass, as a segment of the CANAMEX Corridor will be considered in future continuing development of the preferred route alternative. **Exhibit ES1A** and **Exhibit ES1B** illustrate the eight route alternative, between the north and south termini.

EVALUATION CRITERIA

ADOT and MAG will evaluate and select a preferred CANAMEX route from among eight route alternatives using ten evaluation criteria. The evaluation criteria are listed below.

- Costs
- Travel Time
- Length
- Level of Service
- Access to Freight Terminals
- Constructibility
- Safety
- Environmental Impacts
- Title VI and Environmental Justice Impacts
- Major Community Impacts

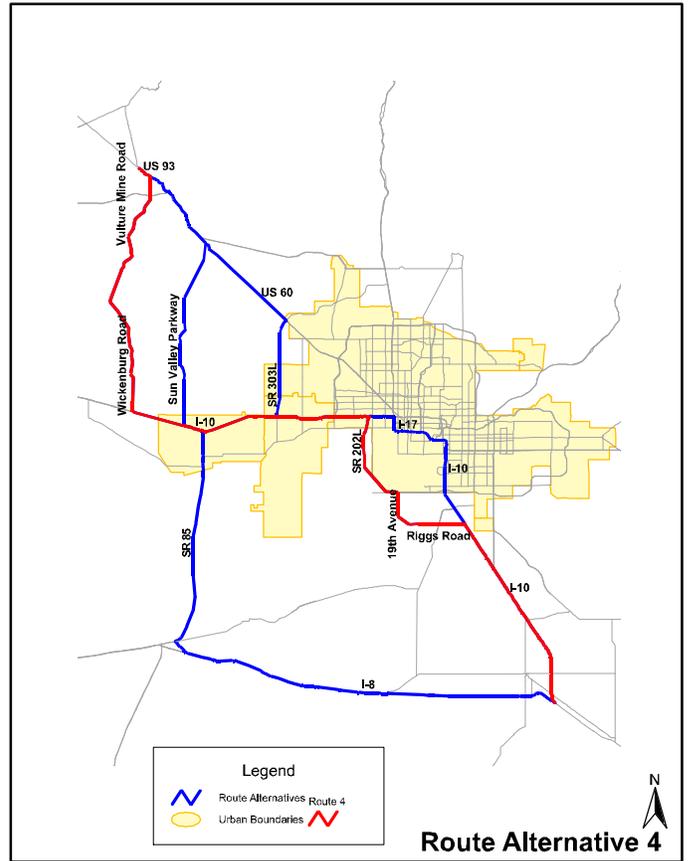
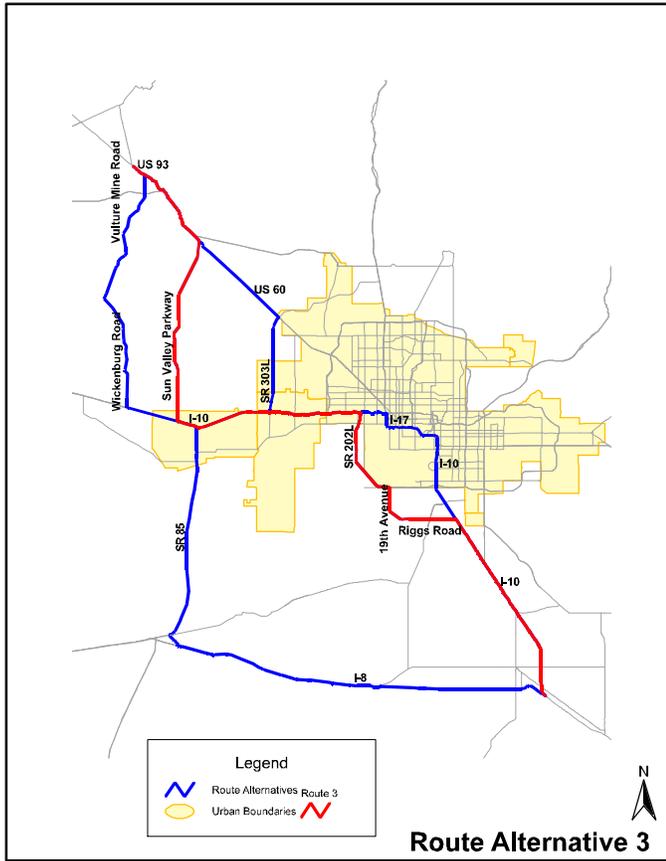
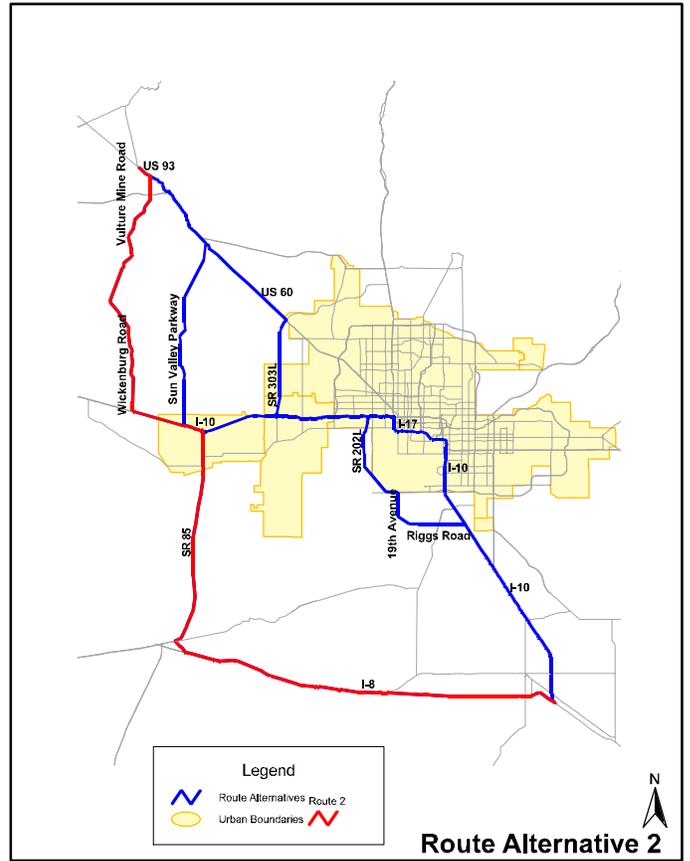
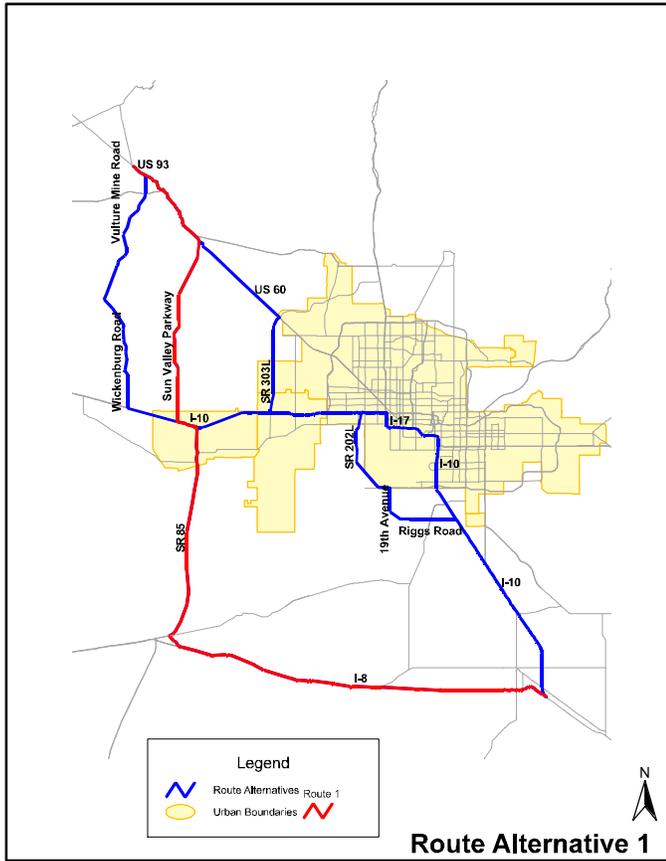


Exhibit ES1A - Route Alternatives 1 - 4

Exhibit ES2 summarizes for each route alternative the data gathered for each evaluation criterion. Criterion assessment results are provided below for two of the ten criteria (Environmental Impacts and Major Community Impacts).

To facilitate the review of criteria-related data, criterion definitions (developed by ADOT and MAG) and measure(s) of effectiveness are summarized below for each evaluation criterion.

COSTS

MAG/ADOT CRITERION DEFINITION

Capital cost of land acquisition and construction including all new infrastructure plus any rehabilitation of pavement, shoulders, medians, bridge and culvert structures, and roadway appurtenances.

MEASURES OF EFFECTIVENESS

- Order-of-magnitude (planning-level) capital construction and right-of-way acquisition costs, in 2000 dollars, to upgrade existing roadway facilities or to construct new roadway infrastructure to a minimum pavement cross-section of 40-feet on 200-feet of right-of-way.
- Planning-level design, construction, and right-of-way acquisition costs for route segments currently programmed by MAG or ADOT (i.e., SR 202L).
- Planning-level costs for constructing projects and implementing transportation improvement needs on route segments.

TRAVEL TIME

MAG/ADOT CRITERION DEFINITION

Measured or estimated for peak and off-peak periods, for cross-regional trips.

MEASURES OF EFFECTIVENESS

- Off-peak travel time (based on free-flow speed) expressed in minutes, between route alternative termini.
- Peak period travel time, expressed in minutes, between route alternative termini.

LENGTH

MAG/ADOT CRITERION DEFINITION

Total estimated or measured distance for the route through the Maricopa Region.

MEASURES OF EFFECTIVENESS

- Length in miles between route termini for each route alternative.

ES2 - Summary of Evaluation Data

Criteria	Construction Cost of Land and Construction (1)		Travel Time				Route Length	Level of Service				Access to Freight Terminals (2)		Constructability		Safety	Environmental Impacts	Title VI (2)										Major Community Impacts
								Existing		Future		Existing		Construction Difficulty	Construction Impacts on Surrounding Area			Low Income		Minority		Elderly		Disabled		Gender		
								Length (miles)	Percentage (of total)	Length (miles)	Percentage (of total)	Length (miles)	Percentage (of total)					Length (miles)	Percentage (of total)									
1	\$25	\$0	156	156	139	131	145.4	1.0	1%	13.4	9%	0.0	0%	Moderate	Low	72	See Environmental Impacts Section of this Report	0.0	0%	0.0	0%	0.0	0%	0.0	0%	0.0	0%	See "Joint Recommendation for the CANAMEX Corridor Through
2	\$121	\$0	155	155	157	157	149.9	0.5	0%	10.9	7%	0.0	0%	Low	Moderate	74		0.0	0%	0.0	0%	0.0	0%	0.0	0%	0.0	0%	
3	\$31	\$225	154	152	150	120	138.0	9.9	7%	48.7	35%	0.7	1%	Moderate	Low	241		2.9	2%	14.0	10%	0.0	0%	6.2	4%	2.5	2%	
4	\$132	\$225	153	151	168	146	142.6	9.4	7%	46.2	32%	0.7	1%	Low	Moderate	243		2.9	2%	14.0	10%	0.0	0%	6.2	4%	2.5	2%	
5	\$18	\$225	154	152	148	120	126.2	9.9	8%	57.5	46%	0.7	1%	Low	High	261		3.7	3%	14.6	12%	0.8	1%	9.0	7%	2.8	2%	
6	\$121	\$0	151	146	188	153	141.5	13.1	9%	64.5	46%	11.4	8%	Low	Moderate	540		10.1	7%	20.8	15%	1.0	1%	9.1	6%	5.9	4%	
7	\$25	\$0	153	147	169	126	136.9	13.6	10%	67.0	49%	11.4	8%	Moderate	Low	538		10.1	7%	20.8	15%	1.0	1%	9.1	7%	5.9	4%	
8	\$7	\$0	152	147	167	126	125.1	13.6	11%	75.8	61%	11.4	9%	Low	High	558		10.9	9%	21.3	17%	1.8	1%	12.0	10%	6.2	5%	

Notes

(1) Does not include construction costs for upgrading SR 303 to parkway facility or for constructing the Wickenburg Bypass.

(2) Only data within MAG Planning Region were available for this criterion.

LEVEL OF SERVICE

MAG/ADOT CRITERION DEFINITION

Qualitative measure of highway operation under given traffic, physical, and operational conditions.

MEASURES OF EFFECTIVENESS

- Percentage of total miles for each route alternative exceeding ADOT level of service criteria for urban and rural roadways under current traffic, physical, and operational conditions.
- Percentage of total miles for each route alternative exceeding level of service D under 2020 traffic, physical, and operational conditions.

ACCESS TO FREIGHT TERMINALS

MAG/ADOT CRITERION DEFINITION

Route within acceptable distance to terminal destinations.

MEASURE OF EFFECTIVENESS

- Percentage of total miles for each route alternative located within or adjacent to areas with trucking and warehouse facility densities of greater than 0.41 sites per square mile.

CONSTRUCTIBILITY

MAG/ADOT CRITERION DEFINITION

Minimal difficulty in constructing a project and minimal significant short-term impacts on the immediate surrounding area.

MEASURES OF EFFECTIVENESS

- Qualitative rating of relative degree of construction difficulty expressed as high, moderate, or low levels of difficulty.
- Qualitative rating of relative adverse impacts of construction on surrounding areas expressed as high, moderate, or low levels of adverse impacts.

SAFETY

MAG/ADOT CRITERION DEFINITION

Suitable geometrics and environment for truck traffic and crash history.

MEASURE OF EFFECTIVENESS

- Truck-involved crash frequency for the period, November 1996 through October 1999

ENVIRONMENTAL IMPACTS

MAG/ADOT CRITERION DEFINITION

Air quality, visual impacts, species habitat impacts, sensitive noise receptors, proximity to existing/future historic properties, or high-density archaeological sites, and proximity to wilderness areas.

MEASURES OF EFFECTIVENESS

- Listing of fatal environmental flaws that preclude upgrading a particular route segment or selecting a particular route alternative.
- Rating of significance of environmental regulatory requirements (in the form of a regulatory compliance matrix).

CRITERION ASSESSMENT RESULTS

Information for this criterion was compiled based on limited field review, limited research, and environmental judgement based on experience with similar projects. It is therefore difficult to make absolute projections about regulatory issues. While this regulatory assessment and field review did not note fatal flaws that would prevent the upgrading of a particular route nor preclude the selection of any route alternative, further analysis may identify significant impediments to upgrade and/or selection of a specific route alternative. Additional study of the preferred route alternative is recommended to determine more precisely the status of the various regulatory issues, as well as to insure that other previously unidentified regulatory issues are not overlooked.

Specific design details will affect regulatory compliance. As an example, if the preferred route alternative requires minimal upgrading of the existing roadway and limited construction activity it will be less likely to have significant regulatory compliance issues. Conversely, if the preferred route is requires substantial upgrading, with extensive construction activity, the regulatory compliance issues will be more complex.

Exhibit ES3 summarizes the results of the regulatory compliance evaluation.

Exhibit ES3 - Regulatory Compliance Summary

Route	Regulatory Constraint				
	Clean Water Act	Endangered Species Act	National Historic Prevention Act	NEPA	Prime Otherwise Designated Soils
Route 303	Low	Low	Low	Low	Moderate
Sun Valley Parkway	Low	Low/Moderate	Low	Low	Low
Wickenburg Vulture Mine	Significant	Significant	Significant	Significant	Low
Riggs Road/19th Ave.	Low	Low	Moderate/Significant	Moderate	Low

It should be noted that the rating system is not a ranking system (i.e. a significant rating is not three times as difficult as a low rating), but is meant to convey the potential level of regulatory compliance complexity that the various routes may encounter. No matter what rating each route segment is assigned, it will require some level of documentation. A low rating is anticipated to require less evaluation, documentation, and potential compensatory mitigation as a high rating. While these ratings do take in to account the potential applicability of each regulation for each route, a low rating is not meant as a final indication that a regulation is not applicable.

TITLE VI AND ENVIRONMENTAL JUSTICE IMPACTS

MAG/ADOT CRITERION DEFINITION

Impacts on persons who have limited transportation opportunities, including elderly, disabled, and low-income individuals.

MEASURES OF EFFECTIVENESS

- Percent of total route length within or adjacent to areas with greater than 21 percent racial minority population, as tabulated in the 1995 special census.
- Percent of total route length within or adjacent to areas with greater than 20 percent population aged 60 years and older, as tabulated in the 1995 special census.
- Percent of total route length within or adjacent to areas with one or more household in poverty per acre, as tabulated in the 1995 special census.
- Percent of total route length within or adjacent to areas with greater than 3 percent population with disability or transportation limitations, as tabulated in the 1995 special census.
- Percent of total route length within or adjacent to areas which are comprised of 50 percent or more females, as tabulated in the 1995 special census.

MAJOR COMMUNITY IMPACTS

MAG/ADOT CRITERION DEFINITION

Major impacts, including economic development to existing and planned residential neighborhoods located near the corridor.

MEASURES OF EFFECTIVENESS

- Public perceptions on advantages and disadvantages of each route alternative.
- Public support and opposition for each route alternative.

CRITERION ASSESSMENT RESULTS

Assessment of agency, stakeholder, and public input during the route designation and development process is an ongoing responsibility of MAG and ADOT. Refer to the “Joint Recommendation for the CANAMEX Corridor Through the Maricopa Region” for a summary of public input.