

EXECUTIVE SUMMARY

CENTRAL YAVAPAI METROPOLITAN PLANNING ORGANIZATION REGIONAL TRANSPORTATION STUDY

Prepared for: Central Yavapai Metropolitan Planning Organization

Members: City of Prescott
Town of Chino Valley
Town of Prescott Valley
Yavapai County
Arizona Department of Transportation

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INTRODUCTION

Central Yavapai County, located approximately 80 miles northwest of Phoenix, is served by State Routes (SR) 69, 169, 89 and 89A. State Route 69 connects with Interstate 17 (I-17) at Cordes Junction, about 20 miles southeast of the study area. The Central Yavapai Metropolitan Planning Organization (CYMPO) encompasses the communities of Prescott, Prescott Valley, Chino Valley, Dewey-Humboldt, portions of Yavapai County and the Yavapai-Prescott Indian Tribe. Figure 1 shows the location of these communities, the CYMPO planning area, and the study area boundaries. The study area boundaries are larger than the MPO boundaries to encompass influence areas outside the immediate metropolitan area.

CYMPO is located within one of the fastest growing areas of Arizona. While Prescott currently has the largest population among the member communities, Prescott Valley is close behind and projected to surpass Prescott in size by the year 2015. As Figure 1 shows, Prescott is located in the west-central portion of the region; Prescott Valley lies east of Prescott, Chino Valley lies to the north of Prescott, and newly incorporated Dewey-Humboldt is just south of Prescott Valley at the intersection of SR 169 and SR 69. State Routes 69, 89, and 89A serve as the main thoroughfares within the CYMPO area, tie the communities together, and also function as important commercial corridors within each community, an important dual role in this study.

PURPOSE

This effort is the latest in a series of regional planning studies that have been conducted in the region, beginning with the 1995 Central Yavapai County Transportation Study and the subsequent 1998 update of that study. Although the Central Yavapai region was recently designated a Metropolitan Planning Organization, the communities within the region have worked together in the past to tackle regional issues, successfully implementing many of the roadway improvements recommended in the 1995 Plan.

The scope of this study is the creation of a regional transportation system for the 2015 and 2030 planning horizon years, together with a program of short-range projects for 2010. The study includes five major elements:

- Public Involvement
- Current Socioeconomic and Transportation Conditions
- Documentation of a TransCAD Travel Demand Model
- Analysis of Future Conditions
- Multimodal Assessment

The study focused on roadways of regional significance to provide mobility to regional as well as the through traffic. Some local jurisdictional roadways were also included.

FIGURE 1. STUDY AREA AND 2004 NETWORK

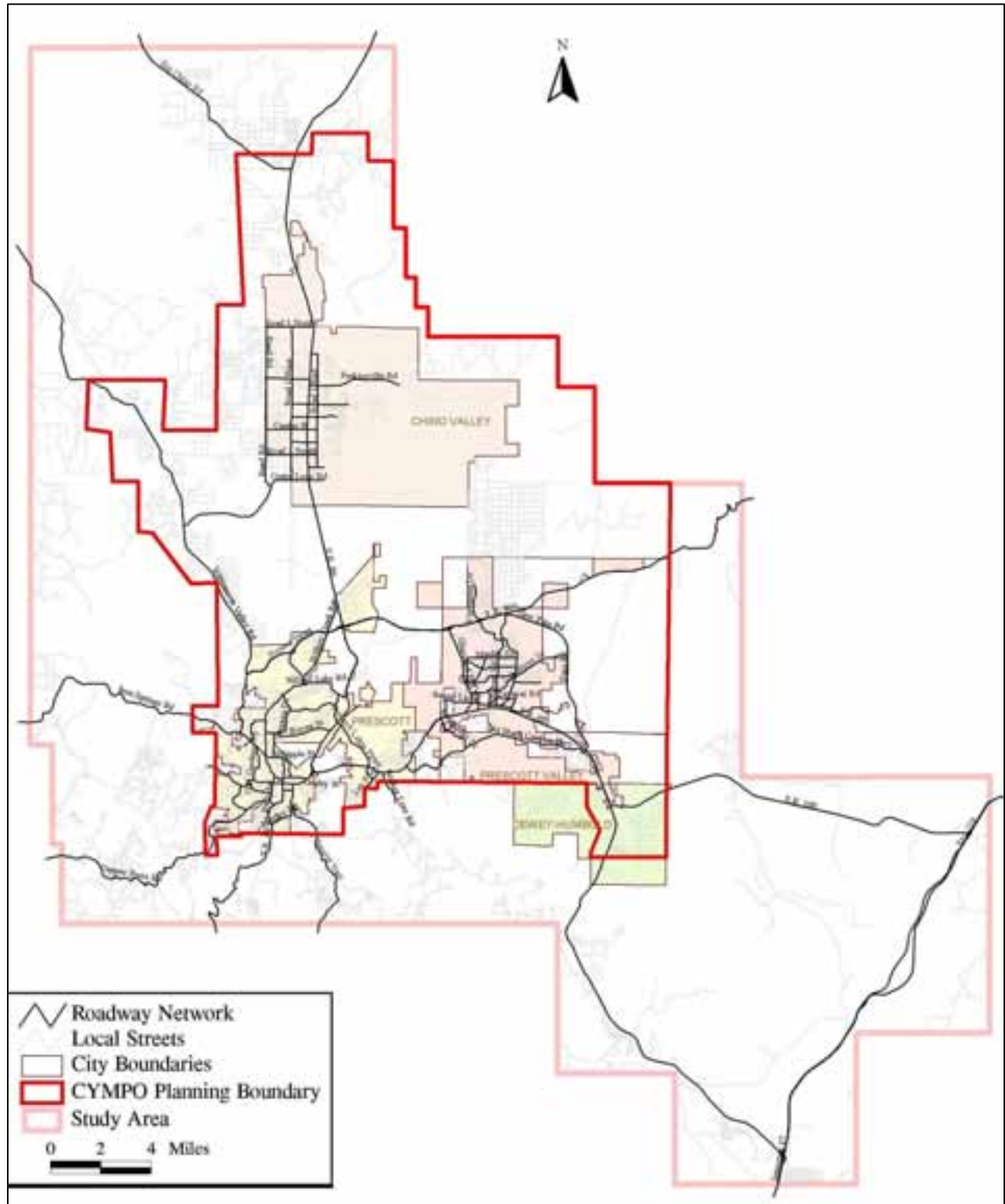


TABLE 1. SUMMARY OF PUBLIC COMMENTS (Continued)
November 15, 16, and 17, 2005

Public Comments	Disposition of Comments
Prescott	75 Participants
<ul style="list-style-type: none"> • A safe crossing of Williamson Valley Road for equestrians, pedestrians, and bicycles using the American Ranch Trail is needed just north of Blackjack Ridge Road. 	Provision of safe roadway crossings for equestrians, pedestrians, and bicyclists is included in the recommendations of the plan.
<ul style="list-style-type: none"> • If residential areas need to be expanded then full consideration should be given to providing berms, foliage, and sound walls. 	Comment referred to local jurisdictions for further disposition.
<ul style="list-style-type: none"> • We must provide for alternative modes of transportation (bicycles, walking, public mass transit). 	Comment referred to local jurisdictions for further disposition.
<ul style="list-style-type: none"> • Make Highway 89 4-lane sooner. 	The consultant concurs that additional north-south lanes are needed in the study area.
<ul style="list-style-type: none"> • Widening Williamson Valley road to 5 lanes does not give priority to preserving the scenic route of the roadway. 	Comment referred to local jurisdictions for further disposition.
<ul style="list-style-type: none"> • Please look at all possible connectors between Williamson Valley Road and SR 89. 	A number of connecting alignments were evaluated in the traffic forecasting process.
<ul style="list-style-type: none"> • Consider future constraints due to water availability when projecting population growth. 	Comment referred to local jurisdictions for further disposition.

March 2006

The second series of public meetings was held in March 2006 to present the study alternatives and the preliminary regional system. Excluding the consultant team who conducted the sessions, a total of 70 persons attended the second set of four open house events. The Prescott sessions had the highest attendance—a combined total of 49 persons. The Chino Valley session had the lowest recorded attendance—4, due to the severe winter weather that evening. Nine comment forms were completed and returned during the sessions. Another half-dozen comments were received later by e-mail.

Tables 2 presents a summary of the public comments.

July and August 2006

Presentations of the proposed regional system were made in July and August 2006 to the individual jurisdiction Councils and to the Yavapai County Board of Supervisors. The public and agency comments were considered in the analysis and development of the proposed plan. Table 3 summarizes the jurisdictional comments.

TABLE 3. SUMMARY OF JURISDICTIONAL PRESENTATION COMMENTS

Jurisdiction	Comments
Yavapai County Presented the Draft Regional Transportation System to the Board of Supervisors	July 5, 2006 Supervisor Davis was concerned with the connection of this future roadway system to the remainder of Yavapai County and what steps need to be taken in order to work with ADOT to achieve better mobility in the County. Overall the Supervisors regarded the plan favorably.
City of Prescott Presented the Draft Regional Transportation System to the City Council	July 25, 2006 City council member expressed strong consensus for the incorporation of transit in the plan and development of a regional land use plan. Additionally, gratitude was expressed for mentioning the large cost anticipated for the implementation of the system, since it is often under estimated.
Town of Prescott Valley Presented the Draft Regional Transportation System to the Town Council	July 27, 2006 The town council members regarded the future roadway system favorably. Transit was a strong concern, but the final transit improvements were deferred to the results of currently ongoing Transit Feasibility Study.
Town of Chino Valley Presented the Draft Regional Transportation System to the Town Council	August 3, 2006 After the presentation, questions arose regarding the integration of the regional roadways system with the Chino Valley transportation plan proposed in the Chino Valley Small Area Transportation Study (SATS). Ron Gritman, the Town Engineer, and the SATS project manager responded to the inquiries.

BACKGROUND

The Central Yavapai Region has grown rapidly at an average estimated rate of four percent per year from 2000 to 2004. The Region is expected to grow from a 2004 population of approximately 117,700 persons to 439,400 persons by 2030, a growth rate of approximately 273 percent in 25 years as shown in Table 4. Employment in the Region is anticipated to grow from approximately 35,850 employees to 85,300 by the year 2030. The highest population growth is anticipated in the unincorporated Yavapai County areas and the Town of Chino Valley. The Town of Prescott Valley and the City of Prescott are expected to display a more moderate growth. The major employment center will remain the City of Prescott with the Town of Prescott Valley following as a close second. The Town of Chino Valley, with their currently adopted General Land Use Plan exhibits a very moderate employment growth, while in the unincorporated County area employment growth is minimal.

TABLE 4. 2004 AND 2030 POPULATION TOTALS BY JURISDICTION

Jurisdiction	Local Estimate 2004	Local Estimate 2030	Increase	Percent Growth
Chino Valley	10,254	30,830	20,576	200.66%
Prescott	44,732	102,339	57,607	128.78%
Prescott Valley	33,504	87,902	54,398	162.36%
Unincorporated Yavapai County	25,371	188,412	163,041	642.63%
Yavapai-Prescott Nation	181	361	180	99.45%
Dewey-Humboldt (Town)	3,629	29,545	25,916	714.14%
Total	117,671	439,389	321,718	273.40%

Note: 2004 jurisdictional estimates were obtained by totaling TAZ data. Some TAZ boundaries do not conform to jurisdictional boundaries and in some instances include County data.

*Dewey-Humboldt incorporated after the 2000 Census, the 2000 population is a best estimate based on TAZ data.

NEEDS AND DEFICIENCIES

The forecasted population growth will further stress the already strained transportation system even if all the currently planned jurisdictional future improvements materialize. To address the future travel demand, significant road improvements will be needed to alleviate anticipated congestion. Level-of-service (LOS) is a qualitative measure that characterizes operational conditions within a traffic stream and their perception by motorists and passengers. Levels of service range from LOS A to LOS F where LOS A represents free flow traffic conditions with minimum interruptions and delay, and LOS F represents forced traffic flow with significant delay. Figure 2 presents a visual representation of LOS by travel mode in an urban environment. In general, level-of-service C is acceptable for rural roadways and LOS D is acceptable in urban areas for the automobile mode. Figure 3 illustrates the level-of-service (LOS) anticipated in the year 2030 with the planned improvements. Figure 4 depicts and compares the travel demand and capacity with the currently planned improvements. North-south demand exceeds capacity by 13 arterial lanes, while meeting the east-west demand would require 17 additional arterial lanes.

FIGURE 2. EXAMPLE OF LEVEL-OF-SERVICE BY TRAVEL MODES



FIGURE 3. 2030 LOS WITH PLANNED IMPROVEMENTS

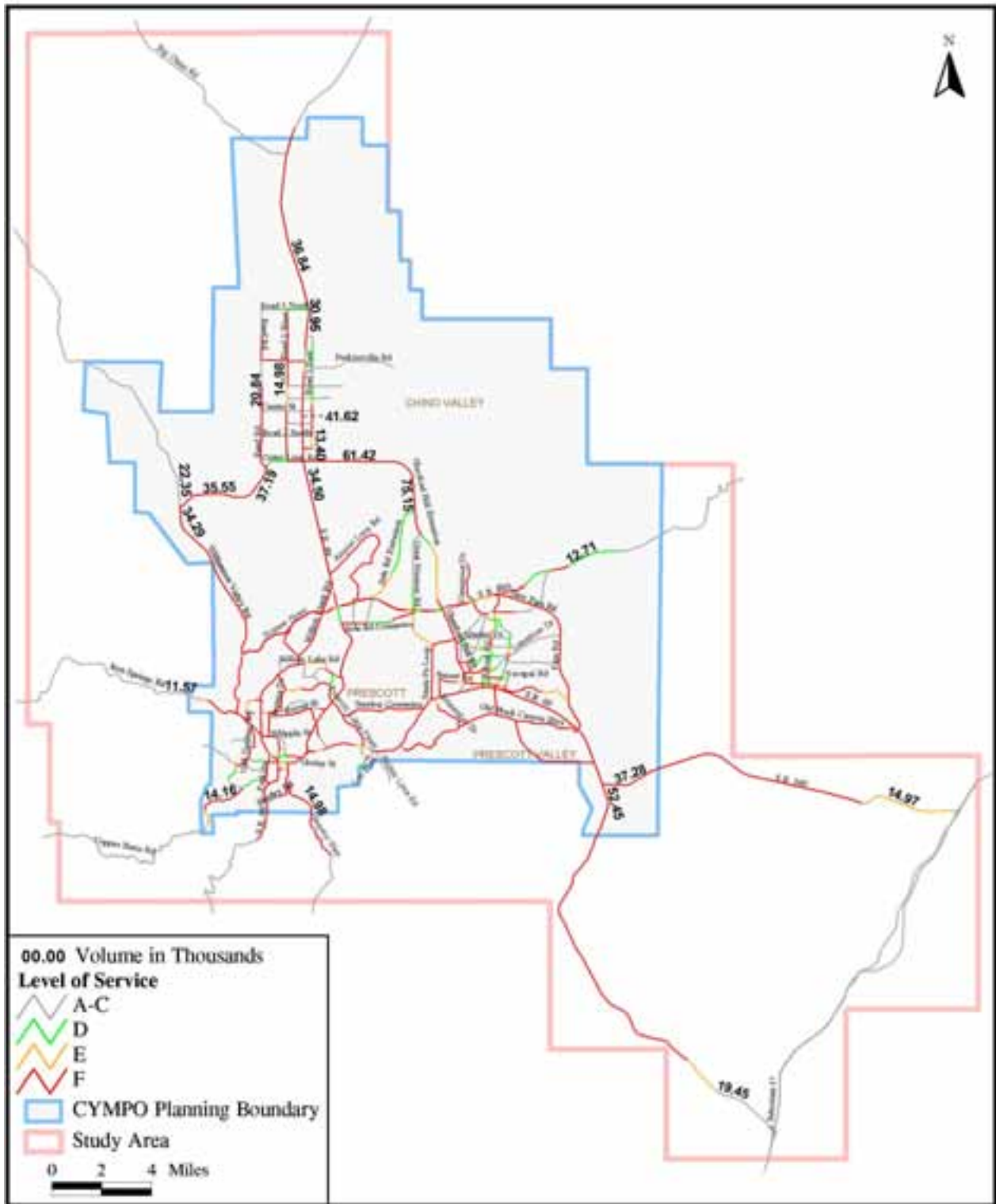
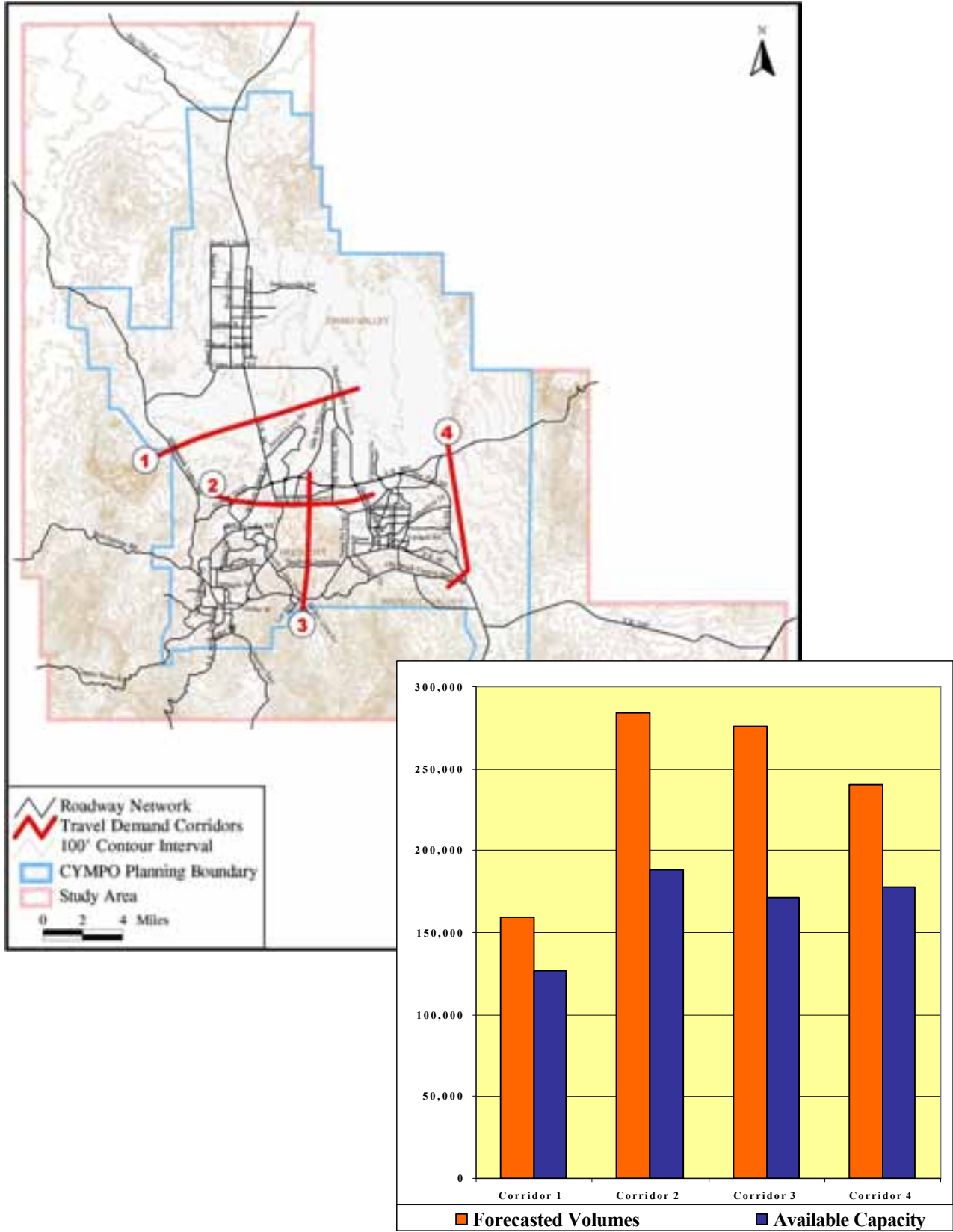


FIGURE 4. 2030 LOS AND TRAVEL SUPPLY AND DEMAND



RECOMMENDED MULTIMODAL TRANSPORTATION PLAN

Figure 5 illustrates the proposed roadway transportation plan while Figure 6 depicts a conceptual transit service scenario. Table 5 identifies the possible improvements recommended in the plan. The proposed system includes committed and previously planned road improvements, new additional improvements, and a transit component. Among the major proposed roadway improvements are the widening of SR 89 and SR 89A and SR 69 to six lanes with limited or controlled access. Figure 7 and 8 depicts the proposed regional system LOS and daily traffic volumes.

Table 6 presents a long range Transportation Improvement Program and Table 7 provides a unit cost for the various types of improvements. Funding for these items can be from numerous sources including but not limited to: State funding including the Highway User Revenue Fund and Local Transportation Assistance Fund; County, City, and Towns taxes already in place, development impact fees; federal highway funds; private contributions; general tax revenues; and tolls.

By the 2030 horizon year, portions of Central Yavapai County are estimated to exceed density thresholds used for implementing some types of public transportation. Future Central Yavapai County transit service may include dial-a-ride and paratransit services, deviated fixed route local circulators, and/or bus rapid transit, together with ride-sharing programs. It is also important to include transit centers where the various transit and shuttle services could connect with one another for increased mobility. Since CYMPO is currently conducting a comprehensive transit feasibility and implementation study, the findings of that study will supersede the recommendations of this study.

OTHER RECOMMENDATIONS

Major recommendations of the study update are summarized as follows:

- The 2030 Regional System shown in Figure 5 should be adopted and further augmented by the implementation of the CYMPO Transit Feasibility Study.
- CYMPO and its member agencies should develop a regional land use plan for the CYMPO planning boundary and surrounding areas of influence.
- Right-of-way corridors for the proposed limited and controlled-access highways must be preserved now.
- New roads of regional significance should be designated as limited or controlled-access facilities.
- CYMPO transit study recommendations should be adopted and implemented.
- Local jurisdictions should continually evaluate growth and assumptions and continue to forecast transportation needs.
- Begin corridor studies and design of the facilities in the recommended plan.

FIGURE 5. PROPOSED REGIONAL SYSTEM

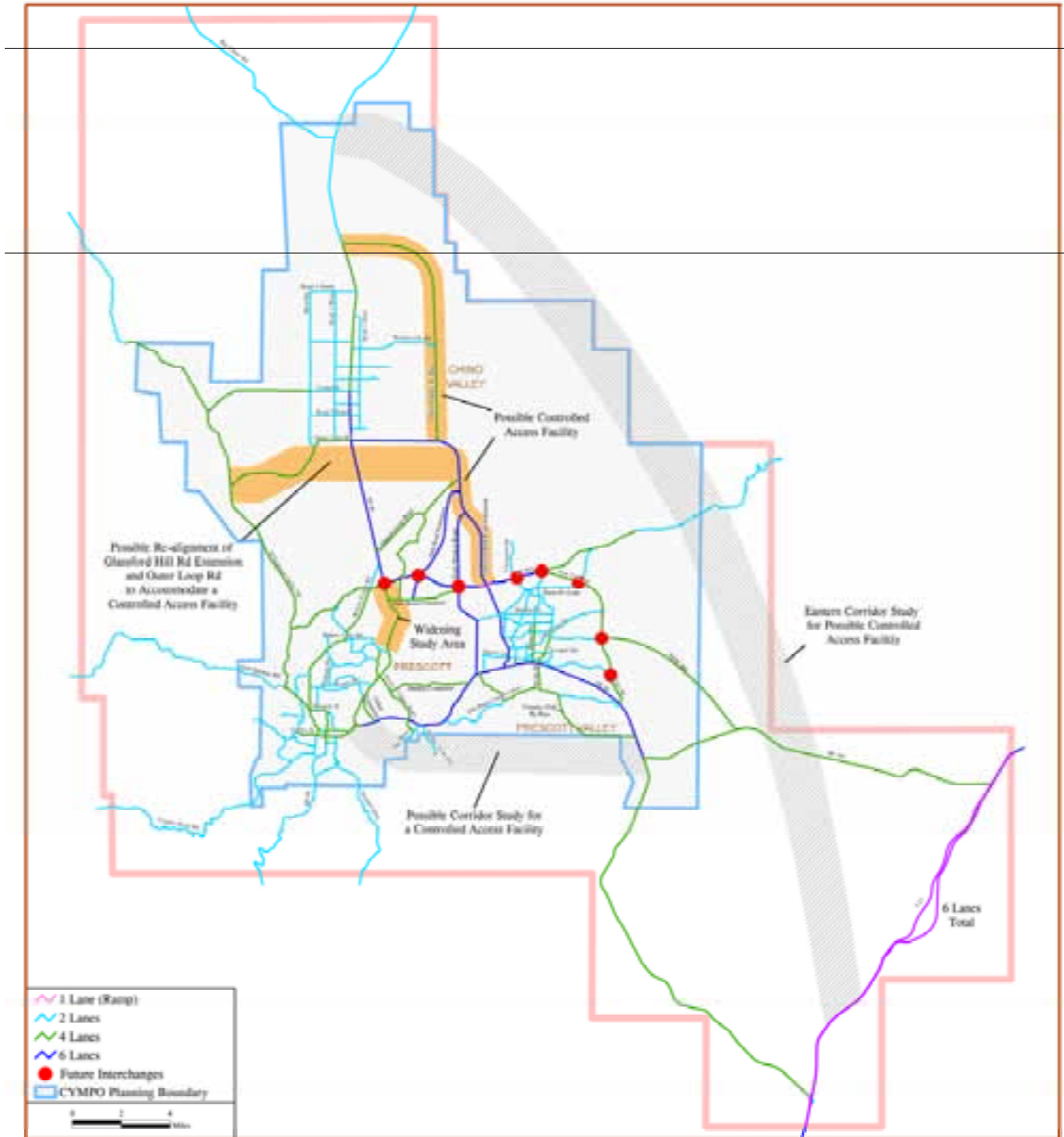


FIGURE 6. PROPOSED TRANSIT SERVICE SCENARIOS

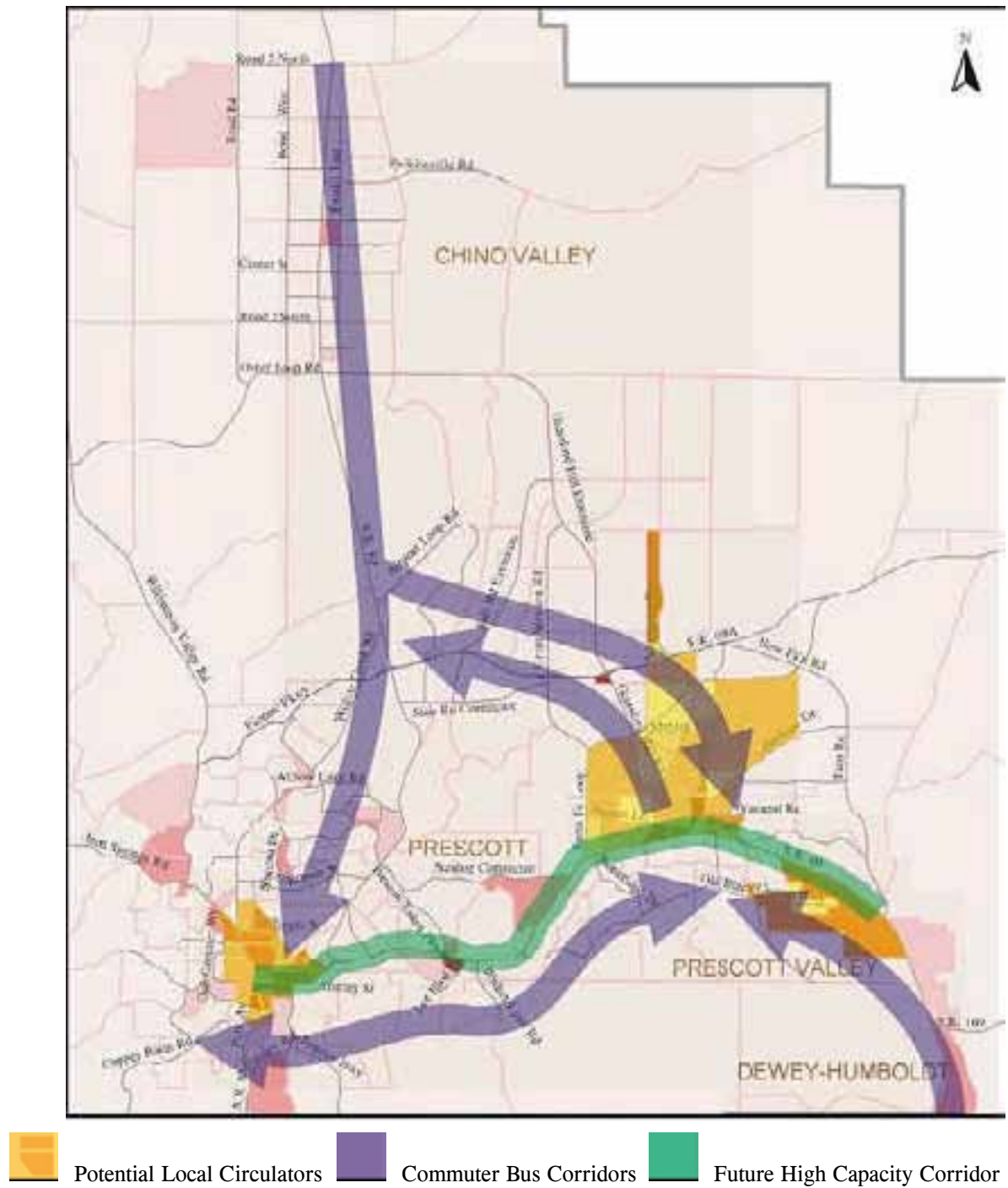


TABLE 5. PROPOSED 2030 ROADWAY IMPROVEMENTS

Limited/Controlled Access Roads Six Lanes (new or improved)

- Construct Glassford Hill Road Extension from SR 89A to Outer Loop Road or other alignment to be determined
- Widen Glassford Hill Road from SR 69 to SR 89A
- Construct Side Road
- Construct Great Western Boulevard
- Widen SR 89A from SR 89 to Robert Road
- Widen SR 69 from SR 169 to SR 89
- Widen SR 89 from Center Street to SR 89A

Proposed Four-Lane Roadway Facilities (new or improved)

- Construct Chino Valley By-Pass from Glassford Hill Extension to Road 7 North east of SR 89
- Construct Sundog Connector
- Construct Tribal Connector
- Widen Fain Road from SR 69 to SR 89A (Controlled Access Facility)
- Widen Williamson Valley Road from Iron Springs to Hootenanny Holler
- Widen SR 89 from Road 3 North to Road 7 North
- Widen SR 89 from SR 89A to SR 69; detailed analysis will be required to determine feasibility/accessibility within the Granite Dell area
- Widen Outer Loop Road
- Construct Side Road Connector
- Build Country Club By-Pass
- Widen Old Black Canyon Highway from Country Club By-Pass to Stoneridge
- Construct a new road from Williamson Valley Road to Center Street (final location to be determined)
- Construct new roadway connecting Airport Loop Road to the Glassford Hill Road Extension
- Construct new limited access facility from SR 169 to Lakeshore Drive in Prescott Valley
- Widen SR 169 from I-17 to SR 69
- Construct Navajo Drive from SR 69 to Old Black Canyon Highway
- Construct/Widen Airport Loop Road

Proposed Two lanes Roadway Facilities (new or improved)

- Construct Santa Fe Loop
- Construct Viewpoint Drive
- Connect Perkinsville Road to the Chino Valley Bypass

Proposed Transit Service Scenario

- Local Circulators in the City of Prescott, Town of Prescott Valley and the Town of Dewey-Humboldt
- Commuter bus service between the major jurisdictions in the Tri-City area
- High Capacity Corridor opportunities along SR 69

Proposed Traffic Interchanges

- SR89 & SR89A
 - SR 89A & Side Road
 - SR 89A & Great Western Blvd
 - SR 89A & Viewpoint Drive
 - SR 89A & Robert Road
 - Fain Road & Santa Fe Loop
 - Fain Road & Superstition Drive
 - Fain Road & Valley Road
-

FIGURE 7. 2030 PROPOSED PLAN LEVEL-OF-SERVICE AND DAILY TRAFFIC VOLUMES

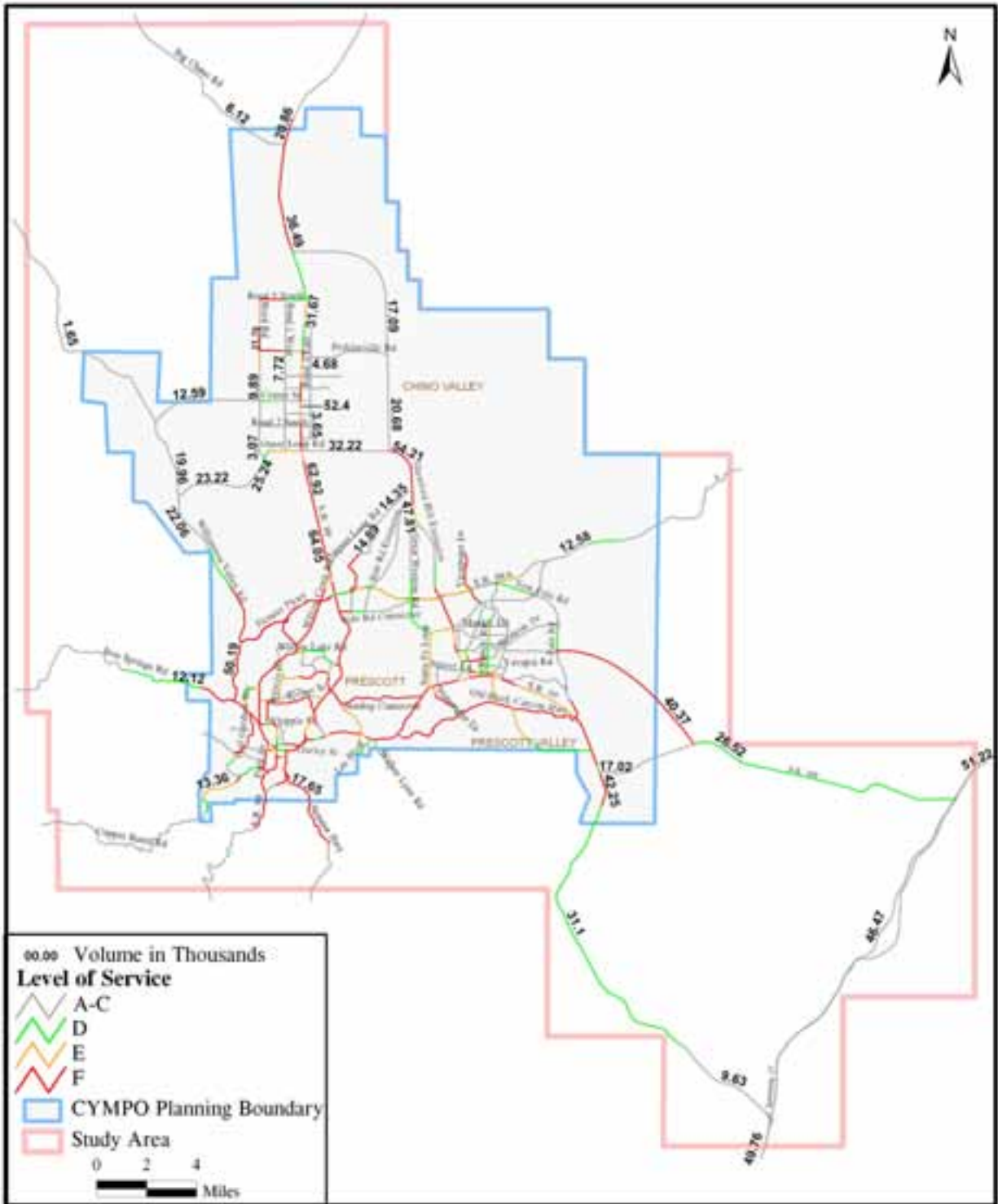


FIGURE 8. 2030 PROPOSED PLAN LEVEL-OF-SERVICE AND DAILY TRAFFIC VOLUMES (INSET)

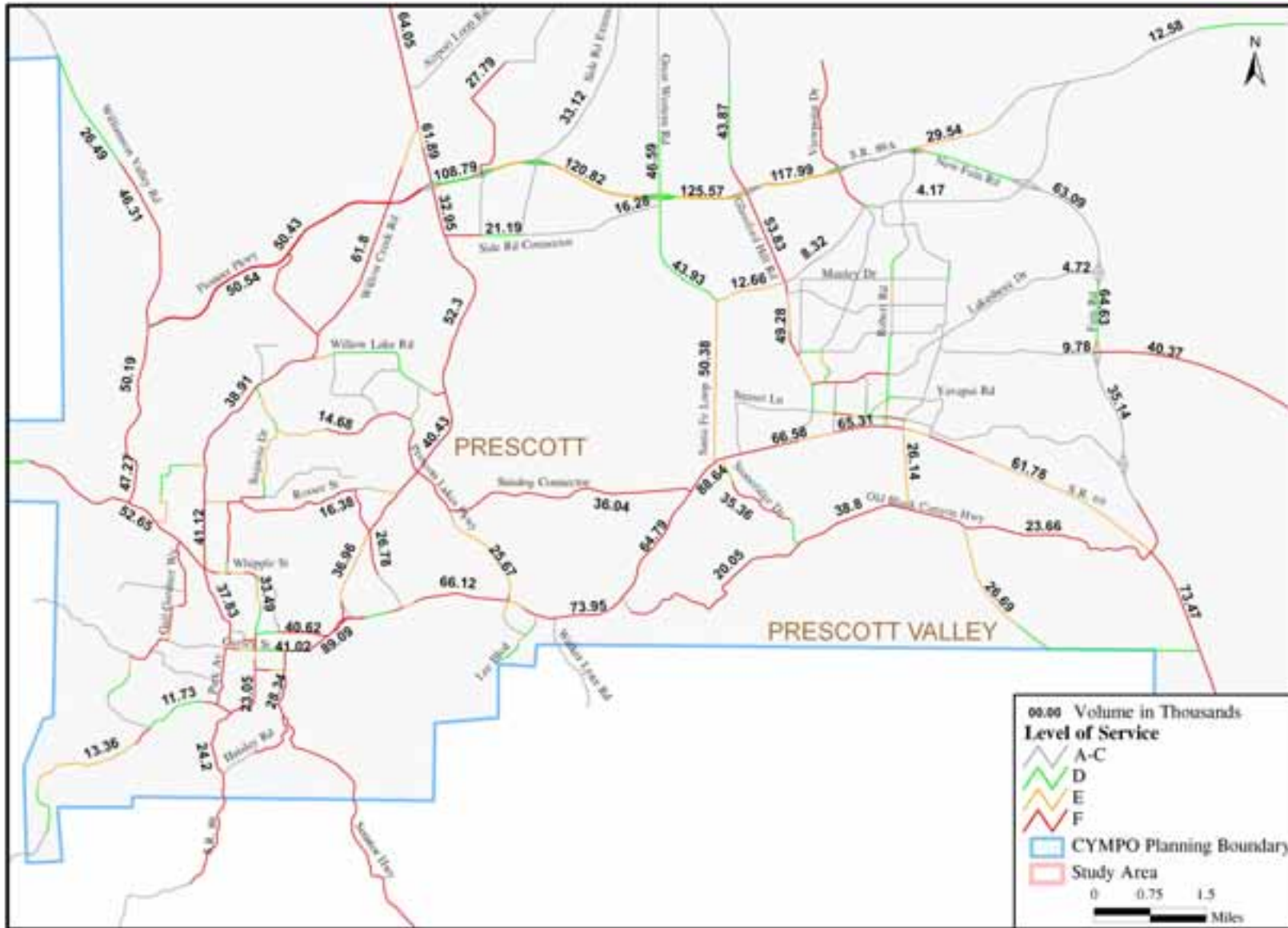


TABLE 6. IMPROVEMENT PROGRAM

Facility	FY 2006-2011	FY 2012-2020	FY 2021-2030
State Route 69 (ADOT)	Design to six lanes from SR 169 to SR 89. ADOT Request for project scoping	Construct from SR 169 to SR 89 as a six lane facility	
SR 69/SR 89 Interchange (ADOT)	Construct TI		
State Route 89 A (ADOT)	Construct TI at Viewpoint Drive Construct TI at Side Road Design and construct TI at Robert Road	Design and construct TI at Fain Rd Design to six lanes from SR 89 to Fain Rd	
SR 89A/SR 89 Interchange (ADOT)	Construct TI		
State Route 89A (ADOT)		Design and right-of-way acquisition for four lanes from Fain Rd to milepost 329.	Construct four lanes from Fain Rd to milepost 329
State Route 89 (ADOT)	Design and acquire right-of-way for six lanes. Widen to four-lanes from SR 89A to milepost 324.3 (Phase II)	Perform capacity enhancement alternative study for SR 89 in the Granite Dells area	Design and widen to four lanes from milepost 314 to SR 89A
State Route 89 (ADOT)	Reconstruct as four-lane roadway from milepost 324.3 to Center Street (Phase I)		Widen to six lanes from SR 89A to Center Street. Design to a four lane facility from Road 3 north to Road 7 north
State Route 169 (ADOT)		Design to a four-lane facility	Construct the facility
I-17 (ADOT)		Design to a six-lane facility from Cordes Junction to SR 169	Construct to a six-lane facility from Cordes Junction to SR 169
Fain Road (Yavapai County)	Design and construct to a four lane controlled access facility with interchanges as needed		
Glassford Hill Road Extension (Yavapai County)	Study to determine the feasibility of a controlled access facility from SR 89A to SR 89 to Williamson Valley road Design and right-of-way acquisition for the entire corridor	Construct facility from SR 89A to SR 89	Construct facility from SR 89 to Williamson Valley Road
Glassford Hill Road (Prescott Valley)		Design to a six-lane facility and construct from SR 69 to SR 89A	
Great Western Blvd (Prescott)		Design and right-of-way acquisition from SR 69 to Glassford Hill Extension Construct from SR 69 to SR 89A	Construct the facility from SR 89A to Glassford Hill Extension
Williamson Valley Rd (Yavapai County)	Widen to four lanes from Pioneer Pkwy to Iron Springs Road. Widen to four lanes from Pioneer Pkwy to Outer Loop Road	Design, right-of-way acquisition, and widen to four lanes from Outer Loop to Hootenanny Holler	
Tribal Connector (Yavapai Apache Nation)	Design and construct a four-lane facility		

Note: The listed agency in the “Facility” column is the possible lead agency, not the responsible implementation agency.

TABLE 6. IMPROVEMENT PROGRAM (Continued)

Facility	FY-2006-2011	FY-2012-2020	FY-2021-2030
Side Road Extension (Prescott)	Design and construct Phase I from SR 89A northerly (terminus to be determined)	Design and construct Phase II to Great Western Blvd	Construct facility
Side Road (Prescott)	Design and construct six lanes from SR 89A to Side Road Connector		
Side Road Connector (Prescott)	Design and construct four lanes Phase I (terminus to be determined)	Design and construct four lanes Phase II (limits to be determined)	
Sundog Connector (Prescott)	Right-of-way acquisition from SR 69 to Prescott Lakes Pkwy	Design and construct	
New Facility from SR 169 to Lakeshore Drive (Prescott Valley)	Perform feasibility study the determine roadway alignment	Design, right-of-way acquisition, and construct the facility	
Chino Valley Bypass (Chino Valley)		Design and right-of-way acquisition from Glassford Hill Extension to Road 7 North	Construct facility and connect to Perkinsville Road
New Facility from Williamson Valley Rd to Center Street (or location to be determined) (Yavapai County)		Design and right-of-way acquisition	Construct facility
County Club Bypass (Prescott Valley)		Design to a four-lane facility and right-of way acquisition	Construct facility
Navajo Drive (Prescott Valley)		Design concept and location study from SR 69 to Old Black Canyon Highway	Acquire right-of-way and construct two-lane roadway
Airport Loop Road (Prescott)	Design and right-of-way acquisition for a four-lane facility	Construct facility	
Santa Fe Loop (Prescott Valley)		Design and right-of-way acquisition	Construct facility
Viewpoint Drive (Prescott Valley)		Design and construct the remaining portion of Viewpoint Drive	
Old Black Canyon Highway (Prescott Valley)		Design and right-of-way acquisition for a four-lane facility from County Club Bypass to Stoneridge	Construct facility
Outer Loop Road (Yavapai County)		Design, right-of-way acquisition, and widen to four lanes, if the Glassford Hill Road Extension to Williamson Valley Road is not feasible	
Corridor Studies		Perform study to evaluate the feasibility of the Eastern Corridor and the SR 69 Bypass Corridor	
Transit	Consider recommendations from the CYMPO Transit Feasibility Study		
Trail & Bicycle Paths	Make provisions for safe crossing of major arterial	Cross-sections of new major roadways should also provide for non-motorized corridors	

Note: The listed agency in the “Facility” column is the possible lead agency, not the responsible implementation agency.

TABLE 7. PLANNING UNIT COSTS

Item	Cost (2006 Dollars)
Design and construct two additional freeway lanes	\$4,000,000/mi
Design and construct interchange	\$10,000,000 ea
Design and widen a county or municipal roadway from two to four lane (level terrain)	\$3,000,000/mi
Design and widen a county or municipal roadway from two to four lane (rolling terrain)	\$5,000,000/mi
Design, grade, and pave a City roadway with curb, gutter, and sidewalk	\$1,500,000 – 3,000,000/mi
Bridge widening from two to four lanes	\$3,000,000 ea

A very preliminary cost estimate in 2006 dollars for implementing the 2030 regional plan is approximately \$1.2 billion. This estimate is exclusive of right-of-way costs. The estimate assumes the roadway alignments depicted in Figure 4. Funds are available for implementing some of the short-term (2006-2011) projects. Table 8 presents the preliminary attempt at prioritizing both the need for corridor preservation and access control for some of the proposed roadways.

TABLE 8. RECOMMENDED PRIORITIES FOR CORRIDOR PRESERVATION AND ACCESS CONTROL

Importance of Roadway	Corridor Preservation	Access Control
High		
SR 69, SR 89, SR 89A, Fain Rd, Glassford Hill Extension to Williamson Valley Rd, Chino Bypass, New Road from SR 169 to Fain Road	High priority	Varies from managed access to full access control. Prepare an Access Management Plan, where applicable
Medium		
Great Western Blvd, Side Road, Sundog Connector, Tribal Connector, Santa Fe Loop	Moderate priority	Limited access. Prepare an Access Management Plan, where applicable
New road Connecting Williamson Valley Rd to Center Street	Moderate priority	Moderate level of access control
Low		
Navajo Drive, Viewpoint Drive	Low priority	Low level of access control