

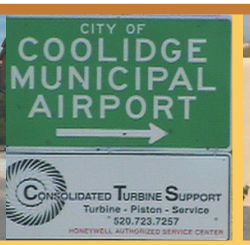








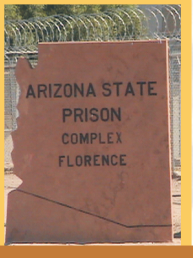

Coolidge - Florence Regional Transportation Plan

A Partnership Among the City of Coolidge, Town of Florence, and ADOT

FINAL REPORT

LIMA & ASSOCIATES
Transportation - G.I.S.

Kimley-Horn and Associates, Inc.

Economic and Real Estate Consulting

April 2008

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1. INTRODUCTION

The Coolidge-Florence Regional Transportation Study developed a regional multimodal transportation system for the Coolidge and Florence planning areas. The study has been a cooperative effort of the City of Coolidge, Town of Florence, and the Arizona Department of Transportation (ADOT) in recognition of the regional growth and the need to develop a coordinated multimodal transportation system. The final product of the study is a regional transportation plan.

The following vision statement was developed in coordination with the stakeholders:

> *The City of Coolidge and Town of Florence will partner with stakeholders to develop and implement a multimodal regional transportation system that will enhance the quality of life and sustainability of the environment. The transportation system will provide for regional safety and mobility for people and goods as well as economic growth while recognizing the unique features and needs of each community. The transportation system will be planned, programmed, designed, and constructed in consideration of community and environmental values.*

While this study included roadway facilities owned and operated by ADOT within the study area, it is important to recognize that improvements to the state highway system can be made only after in-depth planning and engineering studies are conducted by ADOT, and upon approval of the State Transportation Board. All traffic interchange improvements must be approved by the Federal Highway Administration (FHWA). The recommendations made by this study for improvements on state facilities can serve only as suggestions for further study.

BACKGROUND

The study area is comprised of the combined planning areas of the City of Coolidge and the Town of Florence within the eastern portion of Pinal County approximately midway between the City of Phoenix and City of Tucson (see Figure 1-1). A more detail illustration of the study area is illustrated in Figure 1-2. The combined planning areas extend from east of I-10 to well past SR 79 and from SR 87 to Bella Vista including the places of Valley Farms, Cactus Forest, Randolph, La Palma, and Florence Gardens. The 336 square mile study area is larger than the combined incorporated areas (as of 2004) of the East Valley cities including City of Mesa, Town of Gilbert, City of Chandler, Town of Queen Creek, and City of Apache Junction.

Both communities are experiencing rapid growth. Possible population growth in the study area has been projected in the range of 250,000 to 300,000 persons over the next 20 years. Currently, a Pulte Homes development is underway on the West side of the City of Coolidge and Anthem at Merrill Ranch on the northwest side of the Town of Florence, which is transforming the landscape to residential use. Other new developments are also underway in the area. In addition, Westcor has signed a contract to construct a regional Shopping Mall in the future on the eastside of the City of Coolidge.

FIGURE 1-1. REGIONAL LOCATION

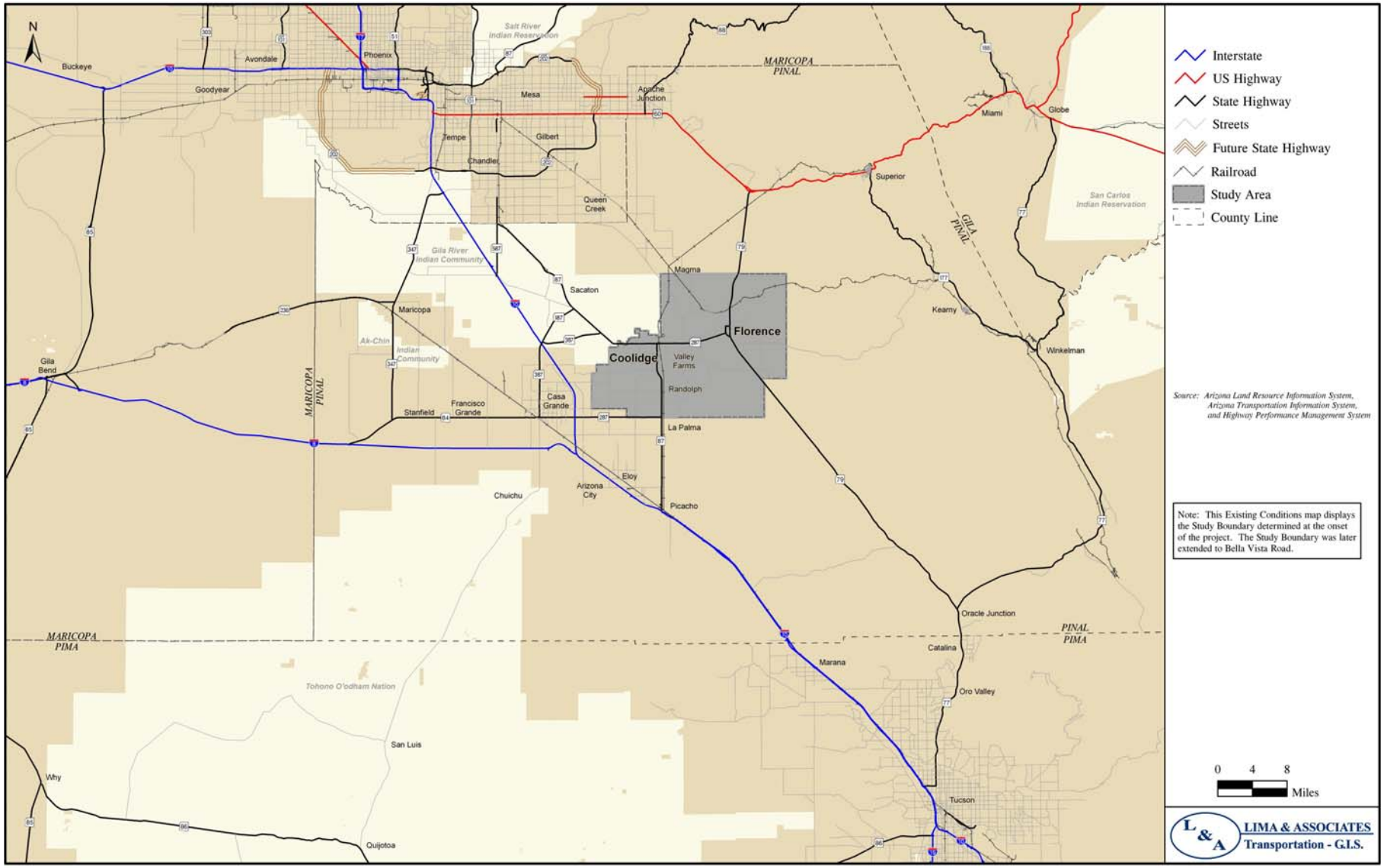
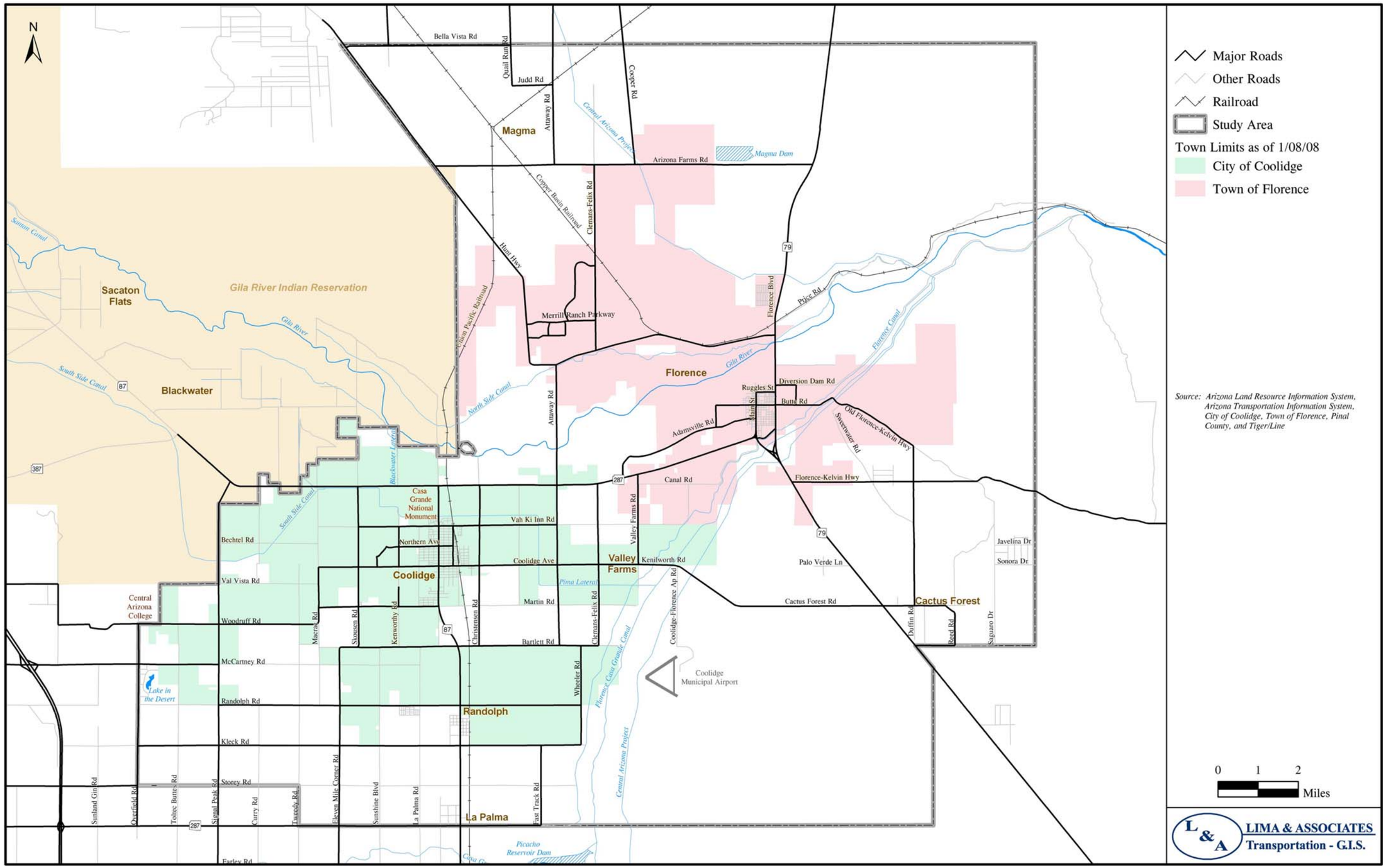


FIGURE 1-2. COOLIDGE-FLORENCE STUDY AREA



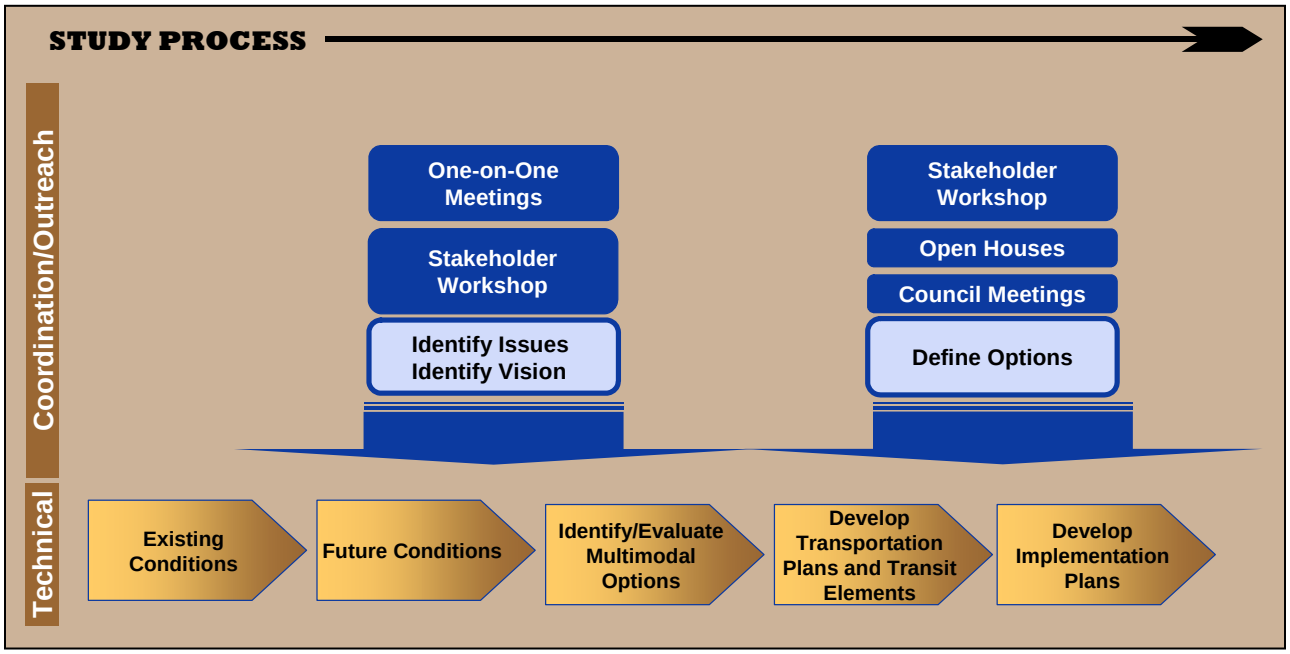
STUDY PROCESS

The study process is illustrated in Figure 1-3. The study was guided by a Technical Advisory Committee comprised of representatives from the City of Coolidge, the Town of Florence, Pinal County, ADOT, the Gila River Indian Community, and the Central Arizona Association of Governments (CAAG). An intensive public participation process was undertaken, including two rounds of stakeholder workshops to identify issues, solicit comments, and receive feedback on the study process and recommendations.

The first step of the technical analysis was to analyze the existing conditions and Environmental Justice concerns. Workshops in Coolidge and Florence were held to identify issues and envision components for the transportation plan. Stakeholders included Public Works Department personnel, Coolidge and Florence personnel, elected officials from the City of Coolidge and the Town of Florence, ADOT, CAAG, Pinal County representatives, and citizens.

Future socioeconomic conditions were projected and a traffic forecasting model of the study area was developed to identify future transportation conditions. Next, multimodal transportation options were identified and evaluated. Based on the results of this analysis, a draft transportation plan was developed including a transit element. A second round of stakeholder workshops was held to review the draft transportation plan and identify constraints to the plan. The findings and recommendations of the study were presented to open houses in Coolidge and Florence for review and comment.

FIGURE 1-3. STUDY PROCESS



ORGANIZATION OF REPORT

Chapter 2 summarizes the process carried out for agency coordination and public involvement. Chapter 3 summarizes the current socioeconomic and transportation conditions within the study area. The next chapter discusses the major transportation issues that the communities are confronted with given the rapid growth in the area. Chapter 5 presents the future socioeconomic conditions and the analysis of future road conditions and alternatives analysis. The next chapter presents the recommended roadway element of the regional transportation plan including road design and access management standards and Chapter 7 presents the public transportation element. Chapter 8 presents the capital improvement program and implementation plan and Chapter 9 discusses funding sources and financing the improvements.

SUMMARY OF FINDINGS

Current Conditions

- The population of the City of Coolidge increased from 7,786 in 2000 to 10,392 in April of 2006. The growth rate averages 4 percent over the six years.
- The population of the Town of Florence (excluding group quarters) increased from 5,224 residents in 2000 to 5,599 residents in January of 2006.
- In 2005, the prison population in Florence was 15,243.
- In 2001, Coolidge had an estimated total employment of approximately 4,336 or total employment of 382 per 1,000 residents. The same year, total employment in Florence had been estimated at approximately 5,325 or a total employment of 998 per 1,000 residents.
- Numerous underground storage tanks are located within the study area, as well as sand and gravel mining operations.
- With respect to air quality, the study area is currently in attainment for PM_{10}, Ozone, CO, NO_2, and lead, but is at risk of becoming a non-attainment area for PM_{10}.
- The study area contains significant cultural resources including the prehistoric Casa Grande Ruins and other archeological sites as well as historic areas such as downtown Florence.
- Sixty-five percent of study area acreage is privately held. Another 27 percent is State Trust land. More than 30 percent of all privately held land is entitled for development.
- The study area is served by Interstate 10 and three state routes: SR 87, SR 287, and SR 79. Other regionally significant roadways serving the study area include Hunt Highway, Arizona Farms Road, Attaway Road, and Signal Peak Road. Two lane roads comprise the majority of road mileage in the study area.
- Ten bridges in the study area have sufficiency ratings of less than 80 percent. Eight of these bridges are located on State Highways.

- The highest traffic volumes in the study area occur on portions of the State Highways. Currently, most of the road segments are operating at LOS B or better.
- Between January 2001 and December 2005 1,389 crashes occurred in the study area. Over half the crashes took place at or near intersections or involved driveway access. Twenty-nine of the crashes resulted in fatalities.
- No scheduled public bus, air, or rail transportation exists within the study area. The "Cotton Express" operated by the City of Coolidge is the only local transit system. A number of special needs transportation services serve the area. In addition, "Pinal Rides", a demonstration project under the "Arizona Rides" program, is operating from the fall of 2007 through the spring of 2008. The closest commercial airport to the study area is Phoenix-Mesa Gateway Airport, 35 miles north.
- No continuous system of pedestrian or bicycle facilities exists within either Coolidge or Florence limits. Three existing trails in the vicinity of the study area include the Arizona Trail, Central Arizona Project Canal, and Juan Bautista de Anza National Historic Trail. A *Parks, Trails and Open Space Master Plan* has been developed for the Town of Florence.

Transportation Issues

- Rapid study area growth is putting extensive pressure on the transportation infrastructure—roadway capacity is inadequate, regional connections are limited, and multimodal facilities are lacking.
- Access by multimodal transportation facilities both locally and regionally to the Central Arizona College Signal Peaks Campus and learning centers is an issue that needs to be addressed as population grows.
- Constructing new regional highway facilities and improving existing facilities is needed to provide mobility and safety for people and goods.
- Constructing adequate internal circulation within new developments will reduce traffic volumes on adjacent arterial roadways and facilitate access for emergency vehicles.
- New Gila River crossings will be needed to provide regional connectivity. Some existing bridges will need to be widened.
- New interchanges on I-10 may be needed to improve the overall regional traffic circulation. Planning for potential new traffic interchanges should be coordinated with the ongoing I-10 Widening Study (Design Concept Report/Environmental Assessment (DCR/EA).
- Improved roadway access and multimodal connections will be needed to facilitate economic development at the Coolidge Airport.
- Access management must be implemented on state highways, municipal streets, and county roads to preserve capacity and maintain safety as development occurs.

- As traffic growth occurs, there will be a growing need for truck routes through the area.
- Transportation Demand Management strategies could include a transportation coordinator to oversee the program, ride-sharing programs, park-and-ride facilities, and parking management.
- A need exists for multimodal facilities of regional significance in addition to streets and highways. As growth occurs, implementation of new public transportation services will be needed. An inter-connected system of paths and trails would add balance to the network.

Future Conditions and Alternatives Analysis

- Population in the study area is growing rapidly, and is anticipated to grow from 35,700 residents in 2005 to 336,500 residents by 2025.
- Employment is also expected to grow substantially by 2025 from 14,700 employees in 2005 to 134,000 employees by the year 2025.
- Major road deficiencies include a lack of road connectivity between activities and limited capacity.
- If growth occurs as expected, the current road network will experience gridlock if major improvements are not made to the road network.
- Alternative networks evaluated in the study will address future deficiencies.

Public Transportation

- Eight modes of transit have been identified as most likely for eventual implementation in the study area.
  - ✓ Dial-A-Ride and Paratransit Services
  - ✓ Regional Bus Service
  - ✓ Modern Streetcar Service
  - ✓ Commuter Rail Service
  - ✓ Deviated Fixed Route Service
  - ✓ Light Rail Service
  - ✓ Regional Rail Service
  - ✓ Excursion Rail Service
- Due to population growth, the needs of area transit-dependent citizens are changing quickly.
- Coolidge and Florence should consider setting aside appropriate spaces for community transit centers.
- Many residential developments within the study area are essentially automobile-oriented in design.

- Pinal Rides, a six-month pilot program to provide human services transportation on two routes in central Pinal County, is operated from fall 2007 through spring 2008 by the Pinal-Gila Council for Senior Citizens.
- Transportation Demand Management can address the needs of those traveling long distances with rideshare options such as vanpools and carpools.
- By 2025, portions of Coolidge and Florence will exhibit combined population and employment densities that may warrant the operation of commuter rail service to Phoenix and Tucson as well as local bus services.
- A number of federal, state, and local funding sources and mechanisms exist for funding public transportation in the study area.

Implementation

- Implementing the multimodal transportation infrastructure within the region presents several major challenges including the following:
  - ✓ Right-of-way needs and right-of-way preservation for roadways
  - ✓ Approved development plans that did not incorporate major transportation facilities
  - ✓ Ability to implement continuous and consistent facilities
  - ✓ Lead time needed to construct facilities
  - ✓ Cost of needed improvements and funding implications
  - ✓ Prioritization of projects as development phases in
  - ✓ Implementation of multimodal projects

Costs

The cost of constructing the 425 miles of road improvements in the study is estimated to be approximately $2.6 billion; $1.09 billion for the Coolidge Planning Area and $1.58 billion for the Florence Planning Area.

RECOMMENDATIONS

While this study included roadway facilities owned and operated by ADOT within the study area, it is important to recognize that improvements to the state highway system can be made only after in-depth planning and engineering studies are conducted by ADOT, and upon approval of the State Transportation Board. All traffic interchange improvements on an Interstate Highway must be approved by the Federal Highway Administration (FHWA). The recommendations made by this study for improvements on state facilities can serve only as suggestions for further study.

Transportation Issues

Many of the roads in the study area are currently owned, operated, and maintained by Pinal County; municipalities must coordinate with the County in developing a street system.

Road Plan

- Implement new continuous roads and widen existing roadways to provide an adequate level-of-service in the study area.
- Implement a functional classification of 425 miles of major arterials, minor arterials, major collectors, and minor collectors tied to specific design and access criteria.
- Implement access management principles to manage access to adjacent properties.

Implementation

Strategies are recommended to implement the regional transportation plan including:

- Plan and Program Adoption
- Coordination
- Land Use Planning
- Road Implementation
- Public Transportation Implementation
- Funding
- Monitoring and Updating

Funding

- Identify high priority funding strategies.
- Coordinate to obtain funding and leverage funds for improvements.

Public Transportation

- The City of Coolidge and the Town of Florence should proactively support the Pinal Rides Pilot Program by participating on the Advisory Council and providing funding.
- The City of Coolidge and the Town of Florence should communicate and coordinate with organizations and agencies that are evaluating and/or advocating inter-regional transit service options affecting the County.
- The City of Coolidge and the Town of Florence should consider development of transit oriented design (TOD) overlays that could be implemented along identified future transit corridors.

- The City of Coolidge and the Town of Florence should continue to present short- and long-range plans to ADOT Public Transportation Division.
- The City of Coolidge should continue to evaluate the operation of the Cotton Express and plan for service expansion as population growth and development warrant.
- The Town of Florence should conduct a Transit Feasibility and Implementation Study to identify current and future public transportation needs within the town as well as demographic thresholds for implementing future services.
- The Town of Florence should hire a Transportation Coordinator, when needed.
- The Town of Florence should appoint a volunteer Transit Advisory Committee to assist the Town in identifying the desirable attributes of the coordinator position and to work with the coordinator after his or her selection.

2. AGENCY COORDINATION AND PUBLIC INVOLVMENT

This chapter discusses the process carried out for conducting agency coordination and public involvement activities.

TECHNICAL ADVISORY COMMITTEE

A Technical Advisory Committee (TAC) guided the overall conduct of the study, provided background information, and made technical input to the process. The committee was comprised of representatives from the agencies listed in the following table.

TABLE 2-1. TECHNICAL ADVISORY COMMITTEE MEMBERS

City of Coolidge:	**ADOT:**
Public Works Department	Transportation Planning Division
Growth Management Department	Public Transportation Division
	Tucson Engineering District
Town of Florence:	Globe Engineering District
Public Works Department	
Planning and Zoning Department	**Pinal County:**
Administration Department	Public Works Department
Gila River Indian Community	**Central Arizona Association of Governments**

STAKEHOLDER WORKSHOPS

Two stakeholder workshops were held during the study. The general purpose of the meetings was to inform stakeholders about the study results, to obtain feedback on the study outcomes, and obtain recommendations on the direction of the study.

First Stakeholder Workshop

The first workshop was held August 9, 2007, at the Council Chambers, Florence Town Hall. The purpose of the meeting was to review the status of the study, present the existing and future demographic and transportation conditions, and obtain input from the stakeholders. An E-mail announcement was sent to individuals on stakeholder lists for the Town of Florence and the City of Coolidge. Sixty-one individuals attended the meeting.

The meeting was an open house format with display boards available to be reviewed by participants. Comment cards were available for participants to complete. A brief PowerPoint presentation was given at 4:30 p.m. summarizing the study process, reviewing existing and future demographic and transportation conditions, and discussing the planning approach. The

display boards included: 1) Environmental Overview; 2) Land Ownership; 3) Vehicle Crashes; 4) Planned Area Developments; 5) Number of Lanes for Proposed Roadway Network; 6) 2025 Traffic Volumes with or without the Proposed North-South Freeway; and 7) Draft Florence Land Use Map. Display maps and the PowerPoint presentation were placed on the web sites of both the City of Coolidge and Town of Florence.

Questions and Comments

The following questions were asked during the meeting, with the following responses.

What type of funding options are you considering? We will consider the traditional federal, state, local, and private funding mechanisms, as well as innovative funding solutions.

Will the projects be prioritized? Yes, we will develop criteria to prioritize projects and identify projects by priority.

Are the Pinal County Regionally Significant Routes included in the study? Yes, the Regionally Significant Routes are included as potential improvements. Technical Advisory Committee members for this study have been active for the Pinal County Regionally Significant Routes study.

Will access management be a part of the study? Yes, particularly Regionally Significant Routes will follow the spacing standards developed for the Pinal County study of Regionally Significant Routes.

Second Stakeholder Workshop

A stakeholder workshop was held from 4:00 p.m. to 6:00 p.m. on December 12, 2007, for the Coolidge-Florence Regional Transportation Study at the City of Coolidge Council Chambers. The purpose of the workshop was to present the draft road and public transportation elements of the regional transportation plan and obtain feedback from the participants. An E-mail announcement was sent to individuals on stakeholder lists for the Town of Florence and the City of Coolidge. Twenty-two individuals attended the meeting.

The meeting was an open house format with display boards available to be reviewed by participants. A brief presentation was given outlining the study process, vision, and issues. In addition, future conditions, the road element, and public transportation element were presented.

The display boards included:

1) Study Area
2) 2025 Traffic Volumes for Alternative 1
3) Road Element Functional Classification
4) Road Element Number of Lanes
5) Public Transportation Element
8) Public Transportation Options

Display maps and the PowerPoint presentation will be placed on the web sites of both the City of Coolidge and Town of Florence. The attendance list for both meetings are presented in Appendix A.

Questions and Comments

The following questions were asked during the meeting, with the following responses.

One of the display boards shows traffic volumes for Alternative 1. Some of the traffic volumes on the display board are high. Were more than one alternative analyzed? There were various alternatives analyzed during the process in order to reach a draft plan. The resulting roads in the plan are based on the constraints and the entitled developments.

Were alternative roads though the Gila River Indian Community considered? The Community is a member of the Technical Advisory Committee and has been provided study material throughout the process. We did not consider alternatives through the Community. The Community is close to beginning its own Transportation Study.

Were the General Plans for Florence and Coolidge considered in the development plan? Yes, we coordinated closely with the development of both plans.

How were the future demographics determined? We worked closely with Florence and Coolidge to develop the demographics based on proposed development and to determine the possible extent of development in the year 2025.

Written Comments

The following written comments were submitted:

- *Very much needed. Key factors: affordability, timeliness, safety. Can users afford it and city running times and safety on both ends; users and cities.*

- *Our firm represents landowners and developers in the area. We are concerned with elements of the Pinal County Regionally Significant Routes Plan and how that will*

interact with this plan. Specifically we find the access provisions of the Pinal County plan, which limit full turn movements on a majority of arterials to one-half and one mile intervals with no exceptions. This is simply incompatible with commercial development and will cause significant economic damage to various landowners, and will cause many projects to be abandoned. We would request that the Coolidge-Florence Plan recognize this issue and refuse to integrate the access provisions of the Pinal County Plan. A more flexible approach allowing site-specific access decisions is warranted and necessary.

- *It would be better if McCartney Road would go straight to Eleven Mile Corner Road, because Bartlett Rd. between Eleven Mile Corner and Macrae Rd. has 2 wells and a CAP canal and a transfer station and in between the wells north and the canal south, there is not enough room for a 4 or 6 lane road. If it goes straight to Eleven Mile Corner, there are not many obstacles, only a little at Tweedy Rd.*

- *The McCartney Road extension past Signal Peak Rd. should continue straight to Eleven Mile Corner Road. It would require less work and land changes to the area. From Signal Peak to Tweedy Rd., the road corridor is unused and already wide enough for six lanes. From Tweedy to Macrae, the road is narrow with a CAP delivery canal on one side and lower Fields on the Eleven Mile Corner, the road is wide enough for six lanes. The Gin on the south would use the road as a buffer from development. The north is unfarmed and planned for development, then from Eleven Mile Corner to Skousen is again 6 lanes wide. If the road was to follow current alignment, it would require re-leveling 160 acres of ground, relocating 3 wells, a CAP delivery canal, a pump station, and an on-farm delivery ditch as well as all the new ditch required for the re-leveling of the 160 acres.*

OVERVIEW OF OPEN HOUSES

Two public open houses were held in January 2008 to present the Coolidge-Florence Regional Transportation Plan to the public and obtain feedback on the plan. The locations, dates, and times of the open houses are presented below:

Open House Location	Date and Time
City of Coolidge Council Chambers	January 8, 2008 5:00 p.m. to 7:00 p.m.
Town of Florence Council Chambers	January 10, 2008 5:00 p.m. to 7:00 p.m.

The press release for the open house included in the Appendix was distributed to the *Casa Grande Dispatch*, the *Coolidge Examiner*, the *Florence Reminder*, the City of Coolidge Web site, and the Town of Florence Web site. An E-mail announcement of the open house was sent to individuals on stakeholder lists for the Town of Florence and the City of Coolidge and to the Transportation Advisory Committee for the study.

The format for both open houses included display boards available to be reviewed by participants. Members of the study team were available to answer questions. A brief presentation was given outlining the study process, vision, issues, and presenting the roadway and public transportation elements. The display boards included:

1) Study Area
2) 2006 Land Ownership
3) 2025 Traffic Volumes for Alternative 1
4) Proposed Developments
5) 2025 Road Functional Classification
6) 2025 Number of Lanes
7) 2025 Public Transportation Element
8) Public Transportation Options

Display maps and the Power Point presentation were to be placed on the web sites of both the City of Coolidge and Town of Florence. The attendance lists for both meetings are presented in Appendix A.

QUESTIONS AND COMMENTS

The following questions were asked during the meetings, with the following responses.

City of Coolidge

The anticipated population density does not appear to justify transit? While public transportation systems are constructed to respond to dense concentrations of population and employment, they are also sometimes constructed to promote economic development and to catalyze the development of more dense population and employment areas—as is currently taking place along the route of the light rail system in Phoenix. Note, also, that while the overall density of the area might remain low, densities along specific corridors can become quite high, especially if such corridors have been identified in advance as multimodal corridors.

What is the annual growth rate? The annual growth rate for the overall study area is approximately 42 percent.

Why is Signal Peak Road shown as a Major Arterial instead of Curry Road? Signal Peak road should not be a six lane road in the vicinity of SR 287. Signal Peak Road is a continuous alignment that carries high traffic volumes.

There should be an interchange on the North-South corridor located on River road at the Florence Town Core. The interchange location shown at Vai K Inn Road should be located at Kenilworth Road. These comments will be considered.

Korsten Road on the east side of Coolidge should be labeled as Kleck Road. This will be corrected.

Town of Florence

Are you going to identify short term projects and identify cost and time frame? Yes, we will be preparing an implementation plan that will list short-term, mid-term, and long-term projects by cost and schedule.

What would be your number one priority? It would be difficult to pick a number one priority. Some of the higher priorities would be the North-South Corridor, Hunt Highway, and Attaway/Clemens/Felix.

Did you look at the concepts presented by the Morrison Institute? We are aware of the Morrison Institute's report and the Pinal Comprehensive Plan. The road and public transportation elements recognize the core areas of both Florence and Coolidge.

We would like to see passenger rail service to Tucson as well as bus service between Florence and Coolidge. The public transportation plan included in our report will present concepts for rail and bus service.

Would the commuter rail use existing track or an adjacent track? The Union Pacific wants to reserve remaining capacity between Coolidge and Phoenix on the existing track to allow for anticipated growth in rail freight traffic. Hence, a parallel track would likely be constructed on railroad right-of-way for the commuter rail service.

Would the excursion train require an additional track? The Copper Basin Railway, which would host the excursion train on track east of Florence, operates freight trains at night, and would probably be able to operate the excursion without adding more track, with the possible exception of one or more passing sidings.

Written Comments

The following written comments were submitted:

- *Priorities may have to be subjective in nature to avoid bottlenecks. Follow development to provide interconnectivity of the same LOS on arterials/major collectors. Plant Road to be improved in conjunction with any improvement by County or Town to Giles property.*

- *Can you please have someone contact me sometime regarding the proposed Excursion Train along Price Road alignment scheduled on your board for 2025?*

  Where can I see the trails reviewed for East of 79? Any?

  Note: N/S freeway looks to be most important.

- *Do not closely tie the proposed freeway corridor to the existing Town or keep the historic part of Town intact and separate, connected by transit. Plan for lots of transit – great idea for a sustainable future.*

3. CURRENT CONDITIONS

This Chapter summarizes the current conditions in the Study Area. Included are descriptions of socioeconomic conditions, physical and environmental conditions, and the existing transportation network and services. Numerous studies have been undertaken in the study area reflective of the rapid development in the region. The consultant also conducted a comprehensive review of previous studies and programs, as well as traffic impact studies. Overviews of the most recent applicable studies and related findings and recommendations are presented in Working Paper 1-A, Existing Conditions.

SOCIOECONOMIC CONDITIONS

The following section provides an overview of the socioeconomic conditions within the study area. The demographic composition, employment, and commercial developments in both Coolidge and Florence are presented, as well as an environmental justice analysis.

City of Coolidge Socioeconomic Data

Demographic Composition

In 2000, the population in the City of Coolidge was 7,786, a 12 percent increase over the last decade from 6,934. The most recently released draft population estimates from CAAG for the region indicate the onset of rapid growth between the last census and the beginning of 2006. As presented in Figure 3-1, the population increased from 7,786 in 2000 to 10,392 in April of 2006. The growth rate averages 4 percent over the six years, with an increase of more than 18.4 percent over the twelve months previous to April 2006.

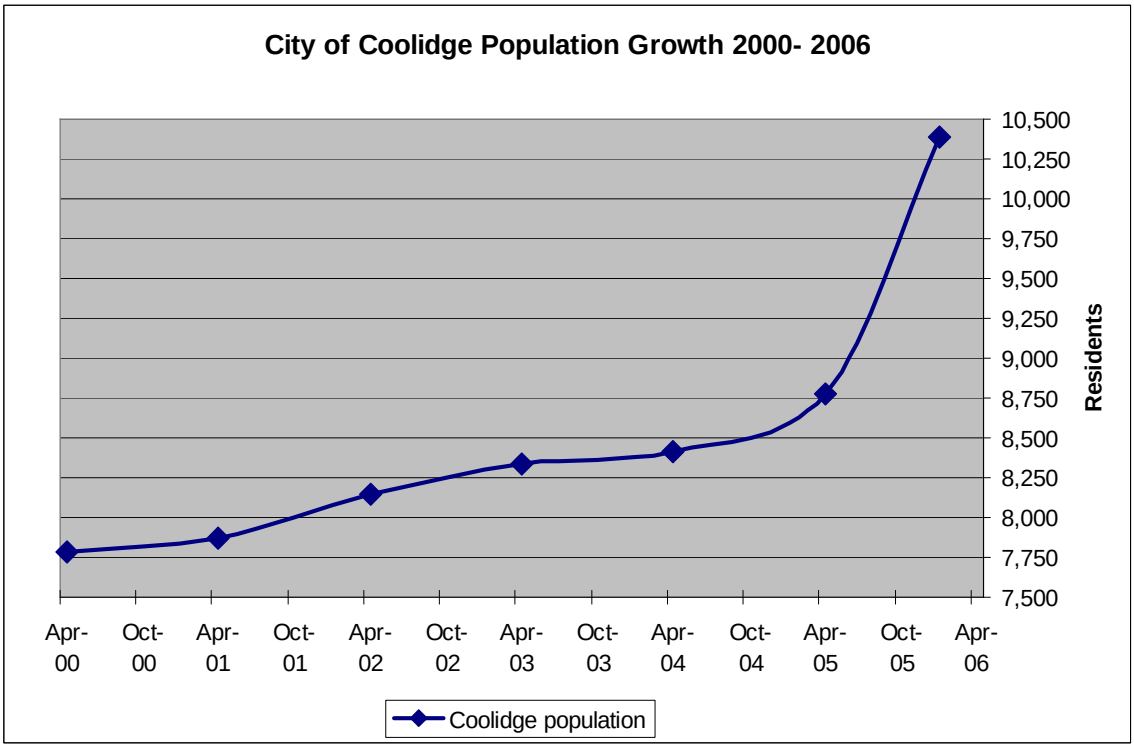
Table 3-1 provides an overview of the demographic composition of Coolidge. Approximately 58 percent of the residents are white, while Hispanics or Latinos constitute 39 percent of the total population and represent the highest minority group. More than half of Coolidge resident are females.

Employment Overview

The Arizona Department of Commerce study – *Economy of Coolidge (ZIP Codes 85228 and 85291),* June 2004 summarizes the employment conditions in Coolidge based on the Zip Codes for the year 2001:

- In 2001, Coolidge had an estimated total employment of approximately 4,336 or total employment of 382 per 1,000 residents.
- Based on the 2000 Census, there were approximately 3,800 employed Coolidge residents, with additional people commuting into Coolidge from nearby communities.

FIGURE 3-1. CITY OF COOLIDGE ESTIMATED POPULATION GROWTH BETWEEN 2000 AND 2006



Source: Draft Population Estimates, Central Arizona Association of Governments, June 2006

TABLE 3-1. COOLIDGE DEMOGRAPHIC OVERVIEW CENSUS 2000

	Coolidge	
Demographic Variable	**Number**	**Percent**
Total population	7,786	100
Male	3,757	48.3
Female	4,029	51.7
White	4,504	57.8
Black or African American	646	8.3
American Indian and Alaska Native	438	5.6
Asian	56	0.7
Hispanic or Latino (of any race)	3,052	39.2
Median age (years)	31.2	

Source: US Census Bureau, Census 2000
Note: Race and ethnicity overlap and do not sum to total population.

Employment in Coolidge was categorized into three major sectors: Agriculture, Government, and Non-Agriculture Private, as displayed in Table 3-2. The government sector constitutes 43 percent of the total employment with the majority of the employment attributed to Central Arizona College (CAC) at Signal Peak Campus.

TABLE 3-2. COOLIDGE EMPLOYMENT BY SECTOR

Sector	Employment	Percentage
Agriculture	775	18%
Government	1,875	43%
Non-Agriculture Private	1,686	42%

Commercial Developments

The majority of commercial activity occurs along SR 87 and Central Avenue with numerous businesses situated along the corridor such as restaurants, gas stations, car dealerships, banks and other financial services and supermarkets.

Other major employers include:

- Wal-Mart Super Center
- Central Arizona College
- Coolidge Unified School District
- State of Arizona Training Program
- City of Coolidge
- Pinal County Health Department

Utilities are provided by Arizona Public Service (APS), Electric District 2, Hohokam Irrigation/Drainage District, and San Carlos Irrigation Project.

Proposed Commercial Developments

***Westcor Mall*:** Preliminary plans call for a 1.2 million square-foot indoor mall similar in size to Chandler Fashion Center, which will consist of a 600,000 square-foot outdoor big box power center and a 60-acre auto mall on a property bordered by Randolph and Bartlett Roads, east of Attaway Road Alignment. Estimated construction will begin once there are 200,000 residents within five miles of the property, or in approximately 15 years.

***Vestar Development on SR 287 and Attaway Road*:** A 180-acre, four-corner development is planned for SR 287 and Attaway Road. Vestar Development has plans for a power center of up to 120 acres at the northeastern corner that is expected to draw business from new developments such as Anthem at Merrill Ranch in Florence and Sandia in Coolidge. Plans call for two anchor stores, such as a SuperTarget or Ross. Evergreen-Devco Inc., through several subsidiaries, plans to develop the other three corners. A 40-acre spot is likely to include retail and a grocery store, a 14-acre site will have mostly offices, and a 6-acre spot will have convenience store type businesses.

Major Institutional Sites

Several institutions provide educational services in the Coolidge planning area, as presented in Table 3-3. The Coolidge Unified School District administers six schools in addition to a

TABLE 3-3. COOLIDGE MAJOR INSTITUTIONAL SITES

Name	Location	Students
Barely Bears Child Development	407 N. 9th St	59
West Elementary School	460 S. 7th St	1,125
Hohokam Middle School	800 N. 9th St	802
McCray Junior High School	450 N. Arizona Blvd	281
Academy of Excellence – Central Arizona	1530 S. Arizona Blvd	39
Coolidge High School	800 W. Northern Ave	868
Coolidge High School Success Center	8470 N. Overfield Rd	61
Central Arizona Community College-Signal Peak Campus	8470 N. Overfield Rd	2,000
	Total	**5,235**

charter high school called Coolidge High School Success Center. Central Arizona Community College, the Signal Peak Campus, is located on the western side of the study area and is considered one of CAC's largest and most comprehensive. The college is connected with the other campuses through the district's distance-learning network and offers upper-division coursework through Northern Arizona University.

Town of Florence Socioeconomic Data

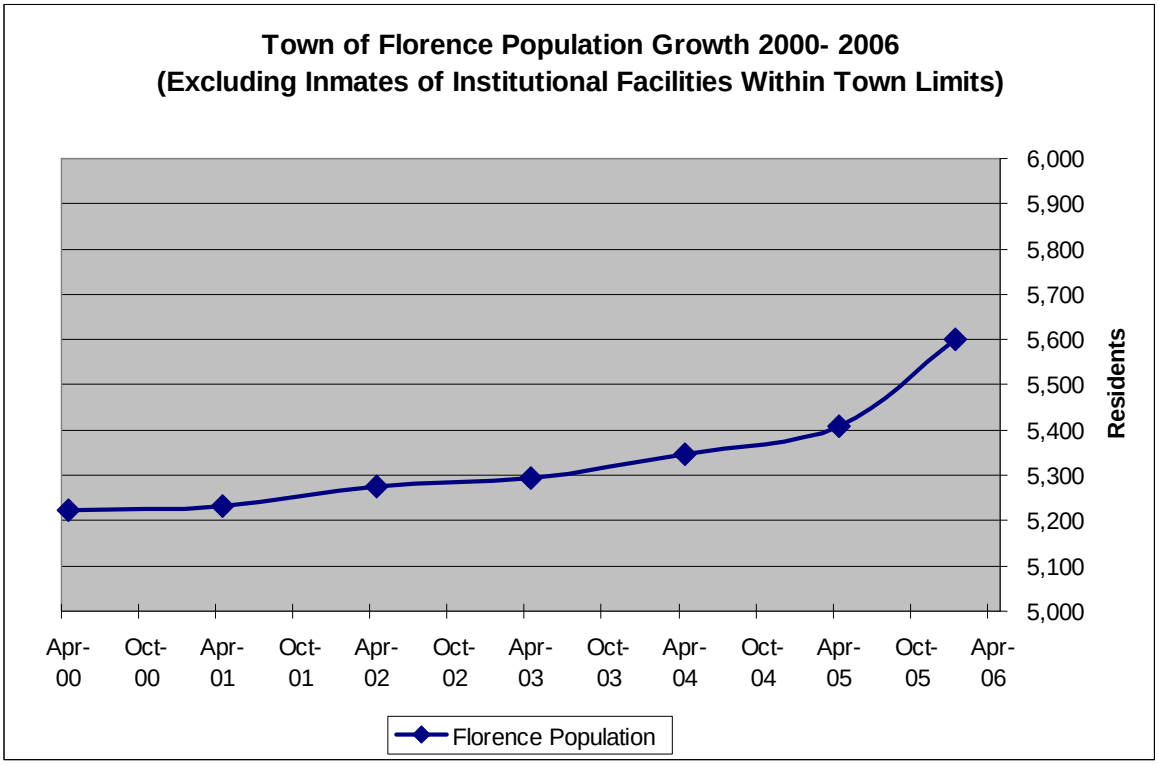
Demographic Composition

The Town of Florence was founded in 1866 and developed along SR 79 as the County Seat and agricultural center of Pinal County. Population grew from 7,321 in 1990 to 17,054 in 2000, and was estimated at 20,261 in April of 2004. However, the majority of population increase is due to the growth of the prison population in Florence. In 2006, approximately 14,662 residents of Florence lived in Group Quarters leaving a resident population of 5,599. The most recently released draft population estimates from CAAG for the region indicate the onset of rapid growth between the last census and the beginning of 2006. As presented in Figure 3-2, population (excluding group quarters) increased from 5,224 residents in 2000 to 5,599 residents in January of 2006. The growth rate averages 1 percent over the six years with an increase of more than 3 percent over the twelve months previous to April 2006.

As Table 3-4 presents, in 2000 the actual resident population of Florence excluding prison population was 5,224. The majority of the population are white (81 percent), in contrast 26 percent of the population are of Hispanic ethnicity. Similar to Coolidge, women constitute over half the population at 53 percent.

As of July 1, 2007, the prison population in Florence was 15,243. Arizona Department of Corrections, Pinal County, and the U.S. Department of Homeland Security administer correctional facilities in Florence, which includes those listed in Table 3-5.

FIGURE 3-2. FLORENCE ESTIMATED POPULATION GROWTH BETWEEN 2000 AND 2006



Source: Draft Population Estimates, Central Arizona Association of Governments, June 2006

TABLE 3-4. FLORENCE DEMOGRAPHIC OVERVIEW CENSUS 2000

Demographic Variable	Florence	
	Number	Percent
Total population	5,224	100
Male	2,465	47.2
Female	2,759	52.8
White	4,211	80.6
Black or African American	221	4.2
American Indian and Alaska Native	177	2.2
Asian	23	0.4
Hispanic or Latino (of any race)	1,383	26.5
Median age (years)	35.4	

Source: US Census Bureau, Census 2000
Note: Race and ethnicity overlap and do not sum to total population.

TABLE 3-5. FLORENCE AREA CORRECTIONAL FACILITIES

Facility	Population
Arizona State Prison Complex-Eyman	4,021
Arizona State Prison Complex-Florence	3,779
Arizona State Prison Complex-Florence West	724
Central Arizona Detention Center	3,147
Florence Correctional Center	1,736
Pinal County Adult Detention	1,024
Pinal County Juvenile Detention	46
Homeland Security ICE	1,211
Total	**15,688**

Source: Town of Florence (as of July 1, 2007)

Employment Overview

The Arizona Department of Commerce study – *Economy of Florence (ZIP Codes 85232), June 2004* summarizes the employment conditions in Florence's based on the Zip Code for the year 2001:

- In 2001, total employment in Florence had been estimated at approximately 5,325 or a total employment of 998 per 1,000 residents.
- Residents from other communities commute to Florence for work due to the availability of extra employment.

Employment in Florence was categorized into three sectors: Agriculture, Government, and Non-Agriculture Private as shown in Table 3-6. Government accounts for 69 percent of the total employment; the high percentage of government employment is partly due to the three state run prison facilities and Pinal County facilities in Florence. Privately owned prisons are not included in the Government sector, but account for 70 percent of 1,454 Non-Agriculture Private Employment.

TABLE 3-6. FLORENCE EMPLOYMENT BY SECTOR

Sector	Employment	Percentage
Agriculture	200	4%
Government	3,680	69%
Non-Agriculture Private	1,454	27%
Total	**5,334**	**100%**

Arizona Department of Commerce, *Economy of Florence, June 2004*

Commercial Developments

The majority of commercial activity occurs along Main Street, SR 79, and SR 287 with businesses such as restaurants, banks, other financial services, and stores.

Other major employers within Florence include:

- Correction Corporation of American
- Correctional Services Corporation
- Arizona Department of Corrections
- Pinal County
- U.S. Department of Homeland Security
- Florence Unified School District
- Town of Florence

Utilities are provided by APS, San Carlos Irrigation Project, SRP, and Southwest Gas Corporation.

Major Educational Sites

Florence Unified School District administers two schools within the study area, as presented in Table 3-7. Central Arizona Community College also has a center located in Florence along Butte Avenue.

TABLE 3-7. FLORENCE MAJOR EDUCATIONAL SITES

Name	Location	Students
Florence K-8 School	225 S. Orlando St	862
Anthem K-8 School	2700 N. Anthem Way	622
Florence High School	1000 S. Main St	1,111
Central Arizona College-Florence Center	800 E. Butte Ave	175
	Total	2,770

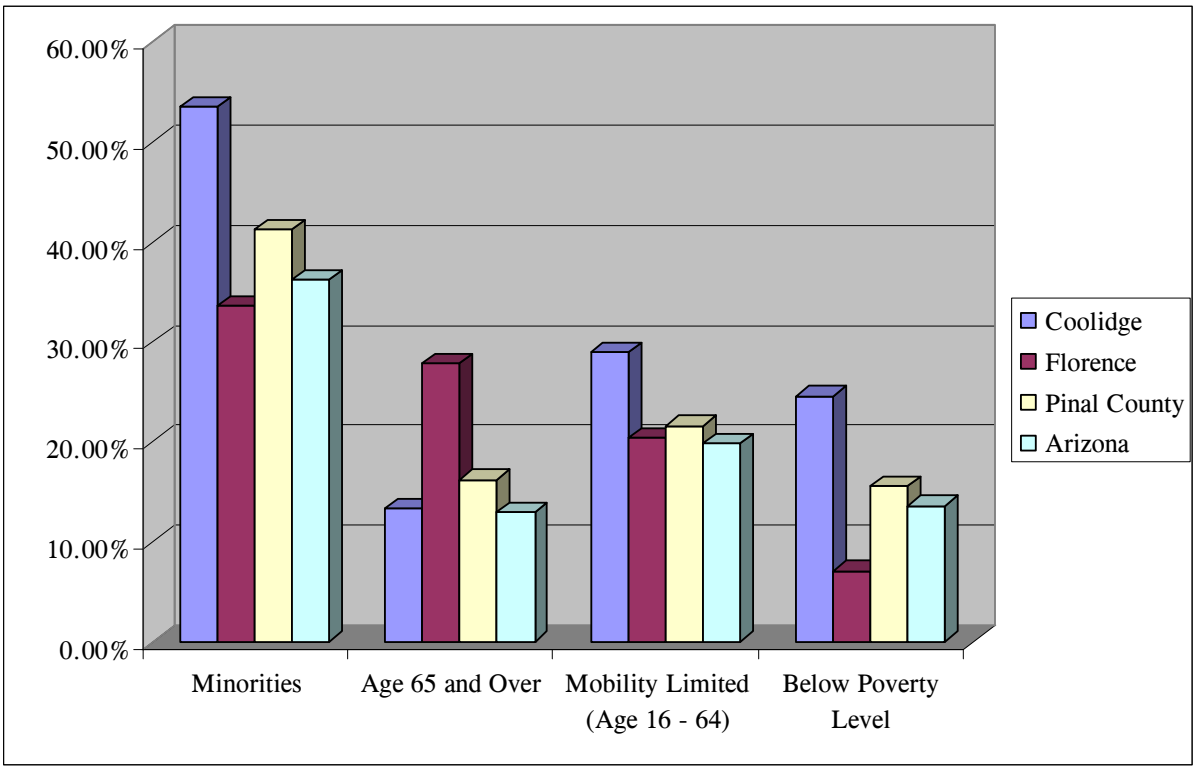
Source: Florence Unified School District, As November 9, 2006

Title VI and Environmental Justice Considerations

Title VI of the Federal Civil Rights Act specifically refers to discrimination on the basis of race, color, national origin, and income. Proposed transportation improvements and projects that use public monies are required to include a review of socioeconomic conditions near and surrounding the project. Affected populations covered in this review include: persons aged 65 and over, minorities, people living below the poverty level, mobility limited persons, and households without access to a vehicle.

Figure 3-3 compares the percentages of the four Title VI populations within Coolidge and Florence with the percentages of the same four populations for Pinal County and the State as a whole. A complete review of this subject, including maps depicting the distributions of these population groups, is included in Working Paper 1-A, Existing Conditions.

FIGURE 3-3. COMPARISON OF ENVIRONMENTAL JUSTICE VARIABLES FOR COOLIDGE AND FLORENCE (NON-INSTITUTIONALIZED POPULATION)



Source: U.S. Census 2000, SF1 tables, and SF3 tables

PHYSICAL CONDITIONS

The physical condition of the study area is presented in this section. An overview of the biotic communities, hydrology, national monuments, historic properties, areas of environmental concern, air quality, and current land use is discussed in turn.

Physical Character

The study area is located in the basin and range province of southern Arizona. This geological province consists of expansive valleys with dispersed mountain ranges. The erosion of the mountain ranges led to deep alluvial fill of the basins. The planning area is generally on flat terrain at an average elevation of 1,450 feet. The highest point is found at Signal Peak at an elevation of 2,282 feet in the Sacaton Mountain range in the northwestern corner of the study area. The majority of the planning area is gently sloped to the Gila River in the north and to the Casa Grande Valley to the southwest.

OVERVIEW OF ENVIRONMENTAL AND CULTURAL RESOURCES

Figure 3-4 presents an environmental overview of the study area. The figure includes the topographical contours, predominant vegetation, major rivers, and washes in the study area. In addition, the figure illustrates the location of underground storage tanks, waste management facilities, sand and gravel and other mines.

The Ashurst-Hayden Diversion Dam northeast of Florence diverts the Gila River waters into the Florence/Casa Grande and Florence Canals, which run south to the Picacho Reservoir, then westward towards Casa Grande. The Pima Lateral Canal flows from south of Valley Farms westward through Coolidge to the Gila River Indian Community. The South Side Canal branches off from the Pima Lateral Canal near the intersection of SR 87 and Macrae Road in the northwest portion of the Coolidge city limits; the canal travels southwest before turning north out of the study area. In addition, the Central Arizona Project canal (CAP) enters the study area from the north and travels eastward, crossing the Florence/Casa Grande Canal east of Florence. From the crossing point onward, the CAP parallels the Florence Casa Grande Canal and the Florence Canal forming a band of three canals through the study area until reaching the Picacho Reservoir Dam.

The study area is also part of the Pinal Active Management Area (AMA), as defined by the Arizona Department of Water Resources. The Pinal AMA extends over 4,000 square miles and is comprised of five sub-basins. The study area is located in the Eloy sub-basin. As of year 2000, the Pinal AMA showed an overdraft of 77,000 acre-feet of groundwater. Possible consequences of groundwater overdraft include land subsidence and subsequent fissures; however, this condition does not exist within the study area. Based on the Coolidge and Florence General Plans, the Gila River and the adjacent area are identified as a 100-year flood hazard area. The area south of Kenilworth/Cactus Forest Road and north of Coolidge Municipal Airport is also considered a flood hazard within Florence.

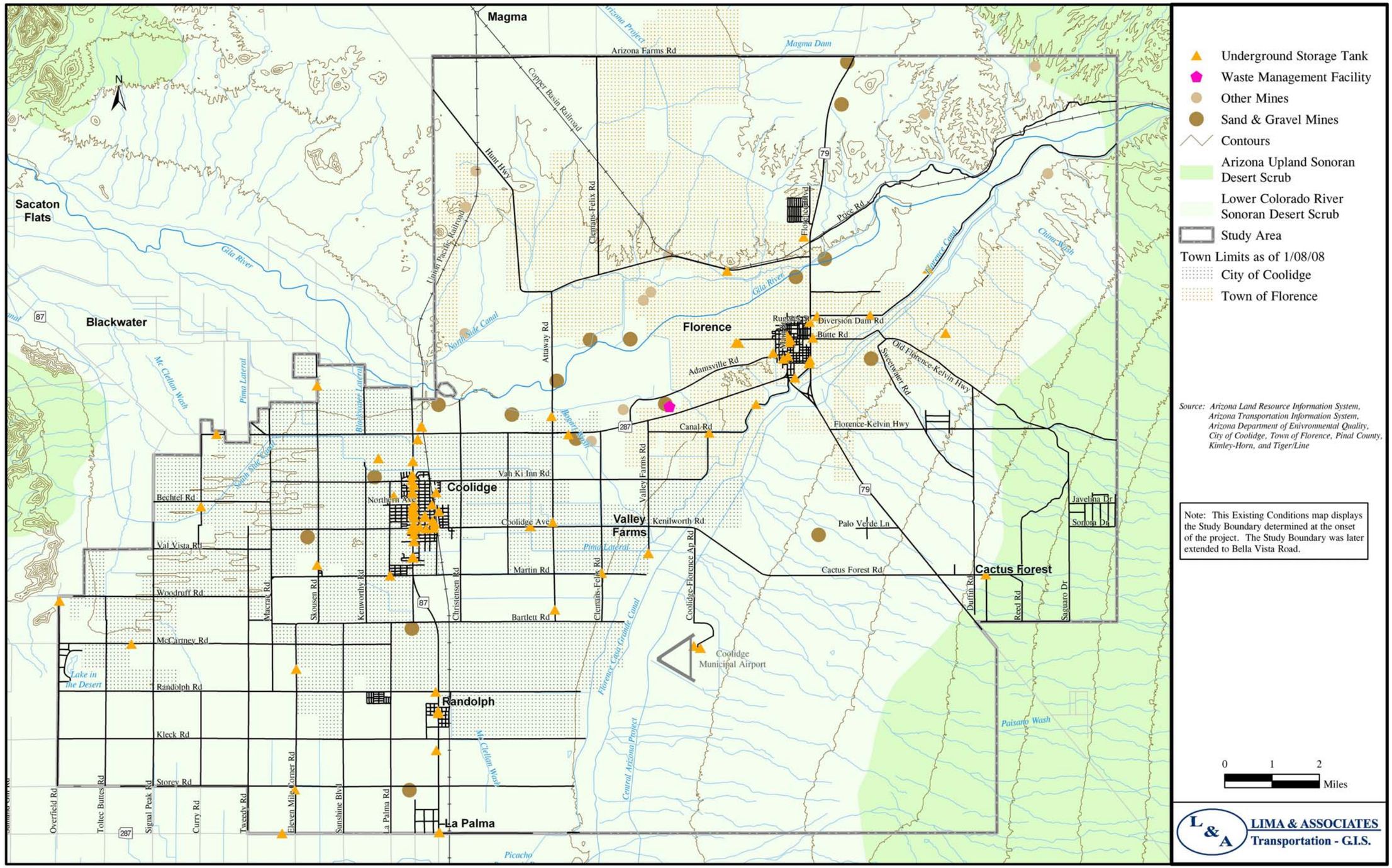
Solid Waste Sites

The only waste management facility (Figure 3-4) within the study area is the Ironwood Landfill located in the vicinity of SR 287 and Adamsville Road. The landfill is owned by Waste Management.

Areas of Environmental Concern

Numerous underground storage tanks (Figure 3-4) are located within the study area. A very high concentration is located along SR 87/287 within the town center of Coolidge. In addition, Heritage Environmental Services operates an 80-acre fuel recycling, hazardous waste treatment, and disposal facility located on East Storey Road.

FIGURE 3-4. ENVIRONMENTAL OVERVIEW



Mining Operations

Sand and Gravel operations are an industrial activity with numerous sites in the study area, primarily along the Gila River bed as presented in Figure 3-4. Sand and Gravel operations extract sediments from the alluvial deposits typical for the basin and range formation. Production involves excavating loose alluvial material from the riverbed or its banks, sorting and grading the material, and hauling it in trucks from the site.

The primary environmental impacts from such mines are degraded air quality from stack emissions and disturbed areas on the site of the gravel operation and groundwater usage. The most recognized health hazards from these mines involve airborne particulate emissions such as PM_{10}. Another important impact of aggregate and stone mining is aesthetic degradation of view sheds.

Transmission and Pipelines Lines

Several existing 115 kilovolt (kV) and 230 kV transmission lines transverse through the study area. The Southeast Valley/Browning project (PW-SEV/BRG) is a proposed 500 kV transmission line that will serve Pinal and Maricopa Counties. Figure 3-5 presents the approved alignment of the PW-SEV/BRG, which consists of 1,000 feet of right-of-way. Construction of the estimated $160 million project will likely begin in late 2006 and is slated to be completed by 2011.

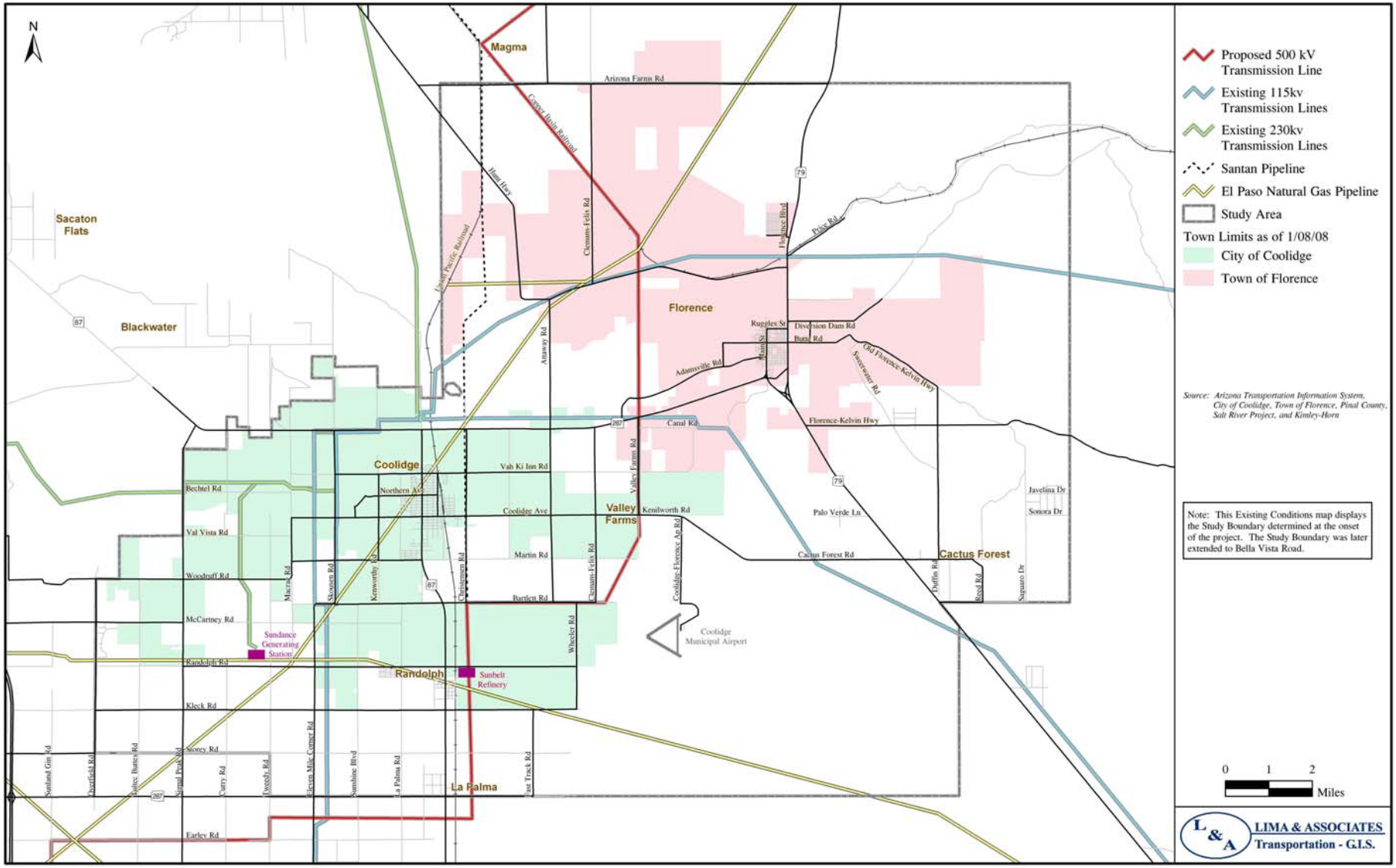
Through an existing 230 kv transmission line, Sundance Generating Station near Coolidge is tied to the APS network. Sundance Generating Station is a 450-megawatt, simple-cycle, natural gas-fueled station consists of 10 quick-start combustion turbines and is located within the vicinity of Randolph Road and Tweedy Road. The generating station is primarily used to provide peak capacity for APS customers.

Santan Pipeline connects to the Sun Belt Refinery east of Randolph, which opened in 1989 on 37 acres. Initially the facility was hailed as pioneer in the refining industry for production of diesel and jet fuel in Arizona for consumption by Arizonans. The refinery is owned by Valero's Sunbelt Refining Co. in a partnership with Huntway Refining Co. of Wilmington, California and is currently not in operation. El Paso Natural Gas also operates a pipeline through the study area. An out-of-service Kinder-Morgan six-inch pipeline parallels Christensen Road through Coolidge. According to the company, it will never be re-activated to transport petroleum products but may ultimately be leased as a conduit for fiber optic or other cable use.

Air Quality Attainment Status

Based on maps created by the Pinal County Air Quality Department, the study area is in attainment for PM_{10}, Ozone, CO, NO_2, and lead.

FIGURE 3-5. EXISTING TRANSMISSION LINES AND PIPELINES IN STUDY AREA



The study area is at risk of becoming a non-attainment area for PM_{10}, especially with agriculture activities such as tillage, harvesting, and cattle feedlots that produce fugitive dust emissions. Fugitive dust is also caused by wind erosion of disturbed surface material from agricultural fields, undisturbed vacant land and desert, and fluvial channels. In addition, increases in vehicle traffic as well as construction activity will likely increase fugitive dust emissions from both paved and unpaved roads; this is particularly true in places like Coolidge and Florence that are rapidly developing.

CULTURAL RESOURCES AND HISTORIC PROPERTIES

Cultural Resources

Archaeological evidence such as village sites and ancient irrigation systems indicate that the area along the Salt and Gila Rivers has been inhabited by humans since at least 300 B.C. Modern-day Pimas may be descended from those ancient farmers, the "Hohokam", which means "those who are gone". In villages along the Gila River, the Pima and Maricopa grew crops of corn, several types of beans, tobacco and squash, as well as cotton that was woven into cloth. As indicated in Figure 3-6, numerous archeological sites identified along the Gila River are indicative of the historical settlement of the area. The ruins of their dwellings are preserved at the Casa Grande Ruins and Gila Cliff Dwellings National Monuments. Figure 3-6 illustrates the cultural resources in the study area.

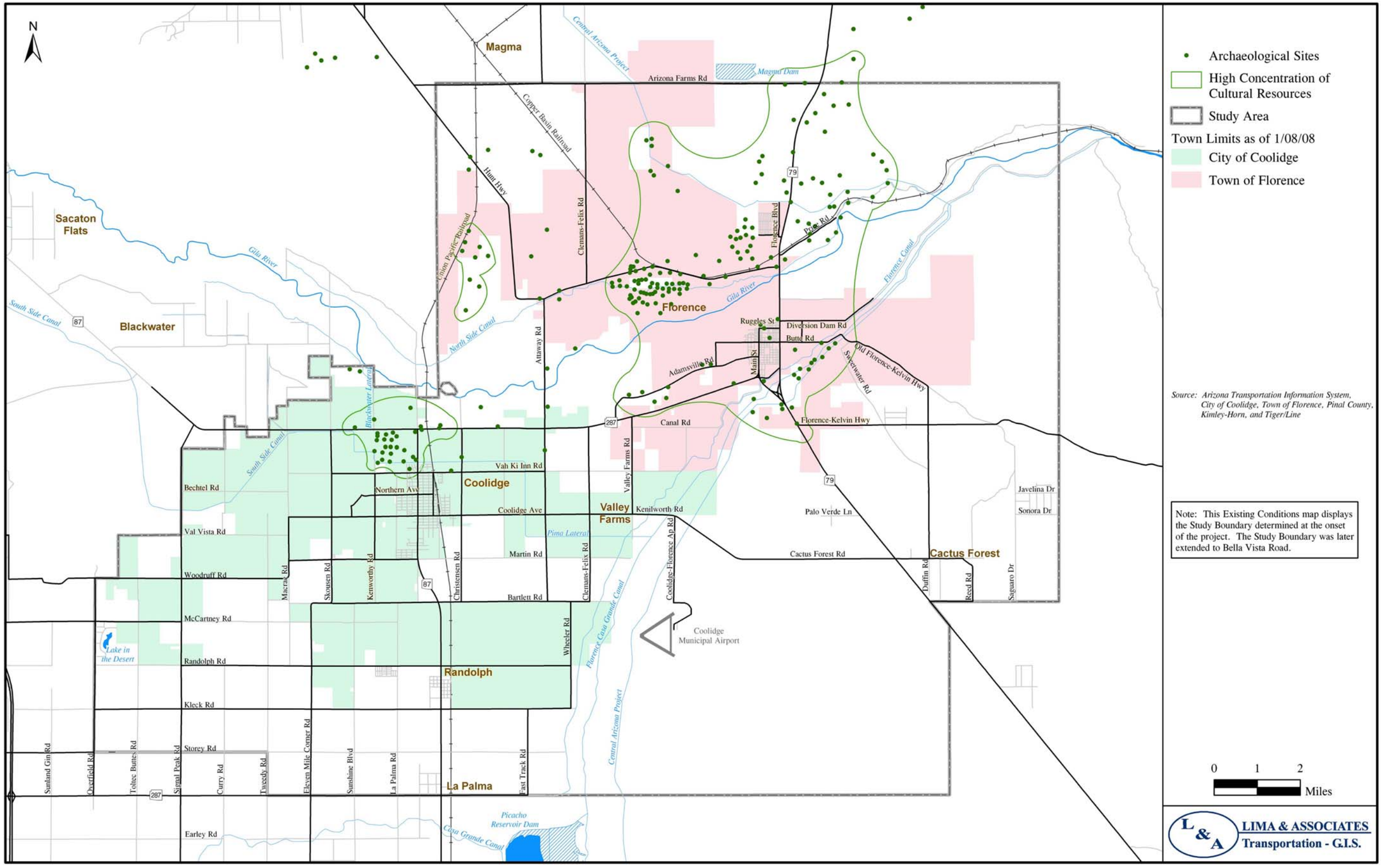
National Monuments

The Casa Grande National Monument encompasses some 470 acres and is administered by the National Park Service. The site is located in the northern part of Coolidge west of SR 87/287 and south of SR 87. The Casa Grande Ruins is the first archeological site to be preserved by the federal government and the fifth oldest unit in the National Park Service. The site was set aside as a federal land reserve in 1892 and then as a National Monument in 1918. Annual visitation was 97,214 in 2005.

Historic Properties

The Town of Florence Historical District has a total of 139 structures listed on the National Register including Silver King Hotel, the first Pinal Courthouse, and McFarland State Park. The Historical District is bounded by 3rd Street, Florence Street, Butte Avenue, and Central Avenue. Additional structures are located within a larger area of: Bush Street, Adamsville Road, 3rd Street, and SR 79. The Coolidge Women's Club, located on Main Street and Vah Ki Inn Road is the only structure in the City currently listed on the National Register. According to the General Plan, an additional commercial building on Main Street and the Vah Ki Inn itself have been nominated to the Register. According to the Plan, the Historical District in Coolidge runs along Coolidge Avenue, Main Street, and Central Avenue.

FIGURE 3-6. CULTURAL RESOURCES IN STUDY AREA



CURRENT LAND USE

The developed portions of Coolidge extend along SR 87/287 from Martin Road to SR 87 and SR 287 intersection. The city developed as a Main Street community and most commercial activity is found along SR 87/287 with residential development to the east and west of the corridor. Unlike Coolidge, Florence was established in the 19th Century and was a stop on the Phoenix to Tucson stage route. Rail service arrived in the early 1900s, followed by the establishment of Highways. Hence, the highways in Florence frame the "old town" area, rather than bisecting it, preserving the frontier character of Main Street. Newer developments have abutted the State Highways and connecting farm section roads.

Land Ownership

As previously mentioned, the study area covers more than 184,000 acres or 287 square miles. Land ownership within the study area is presented in Figure 3-7. Sixty-five percent of this acreage is privately held. Another 27 percent is State Trust land, including the majority of non-Tribal land north of the Gila River and most of the acreage south and east of the Central Arizona Project (CAP) Aqueduct. The Bureau of Land Management administers approximately 3 percent of the study area, while the Bureau of Reclamation owns less than 2 percent of land, mostly parallel to the CAP Canal. The Florence National Guard Military range encompasses close to nine square miles or 3 percent of land within the study area.

Land Use

The General Plans for Coolidge and Florence reflect anticipated changes in land use from historical agricultural uses to those of a large urbanized area. The land use plan included in the Coolidge General Plan is depicted in Figure 3-8, and the land use plan included in the Florence General Plan is shown in Figure 3-9. The majority of land is planned for low to medium residential densities.

Coolidge Planned Area Development

Figure 3-10 presents the known developments in the Coolidge area. In total, about 25 square miles are entitled for development, with more than 51,266 planned dwelling units within the Coolidge planning area alone. Combined with entitled developments in Florence, more than 30 percent of all privately held land is entitled. Within the Coolidge area, approximately 2,051 units per square mile are planned. However, actual build out numbers might be as much as 20 percent lower than the planned gross density.

FIGURE 3-7. LAND OWNERSHIP

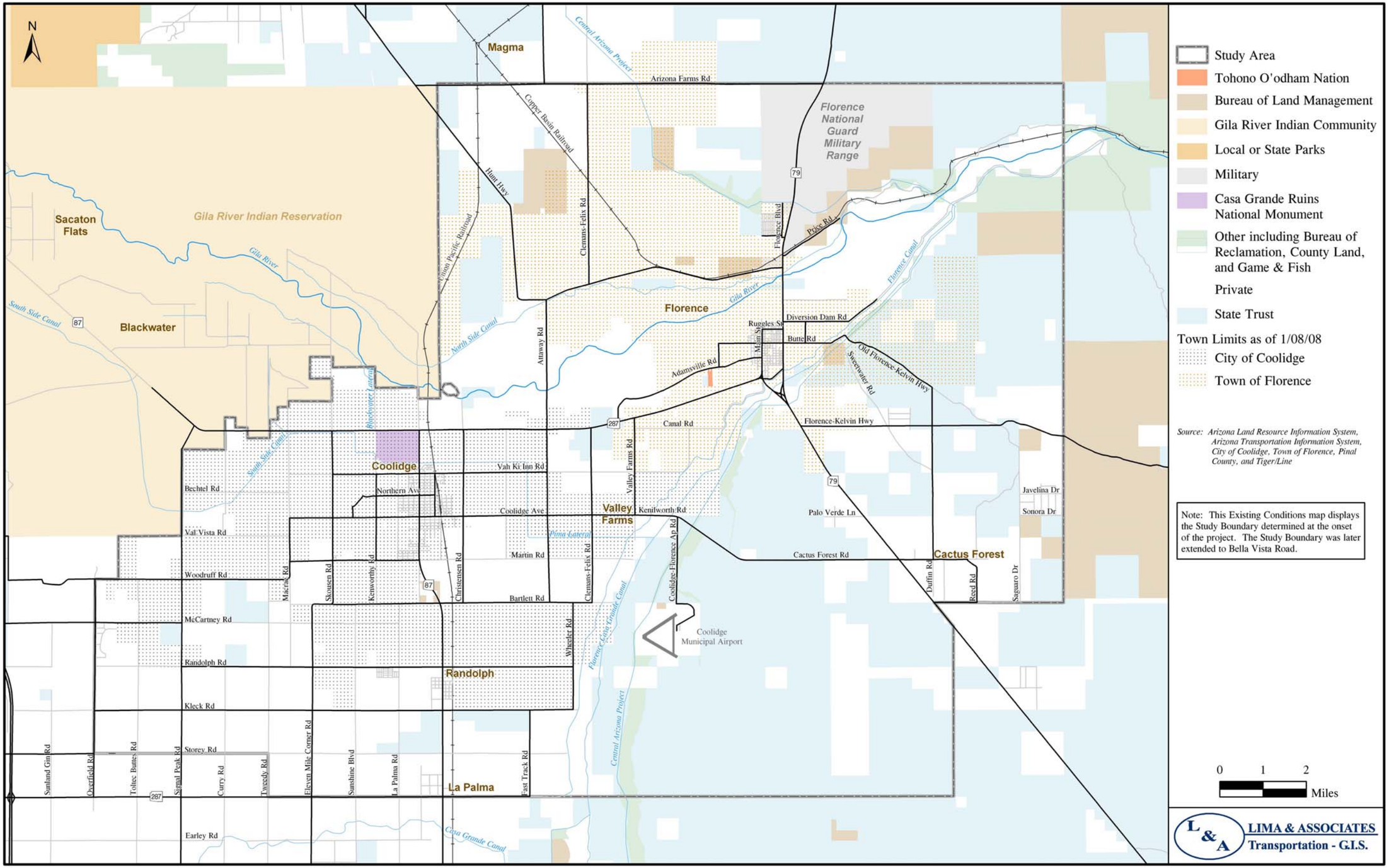


FIGURE 3-8. COOLIDGE GENERAL PLAN LAND USES

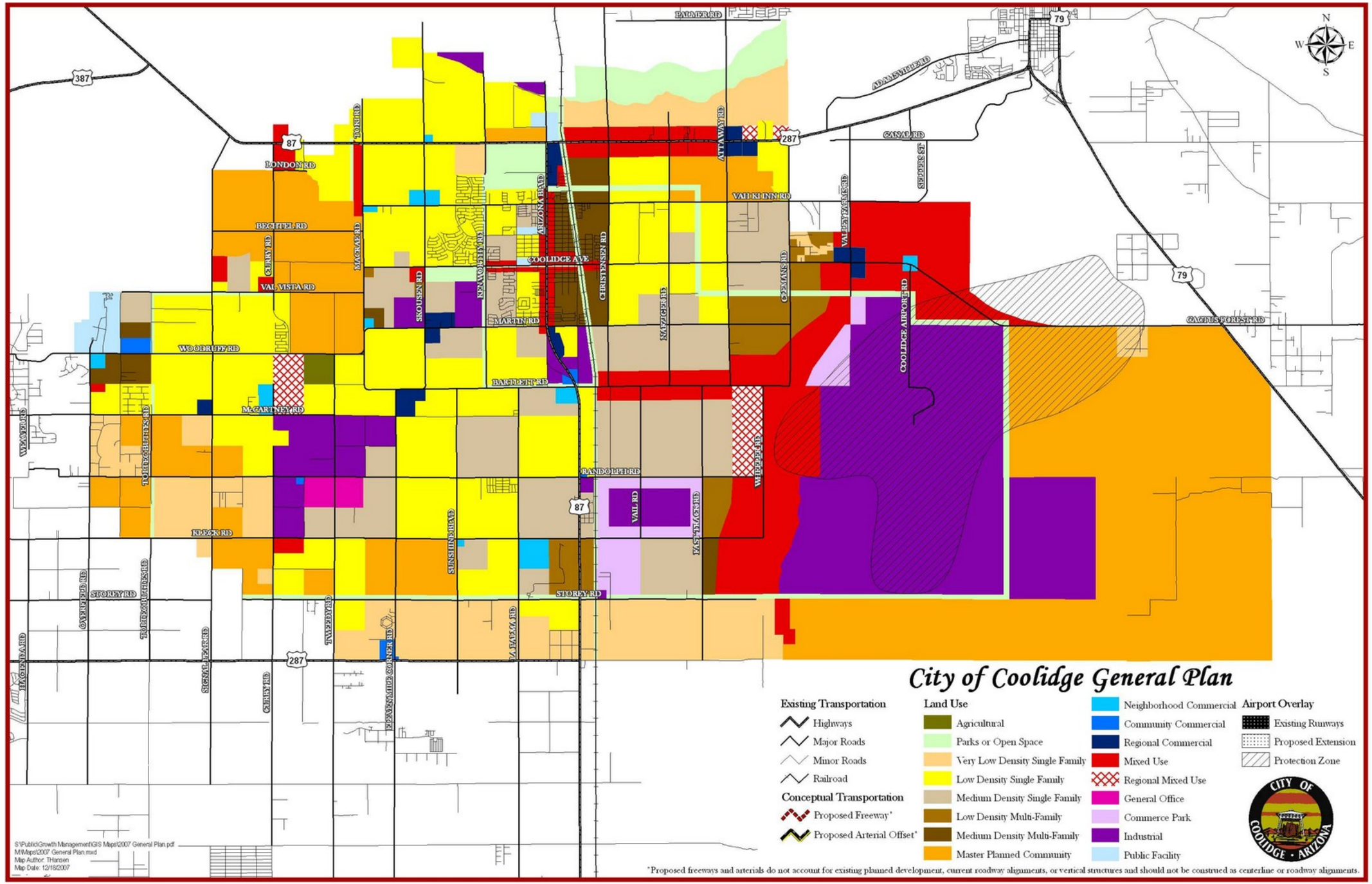
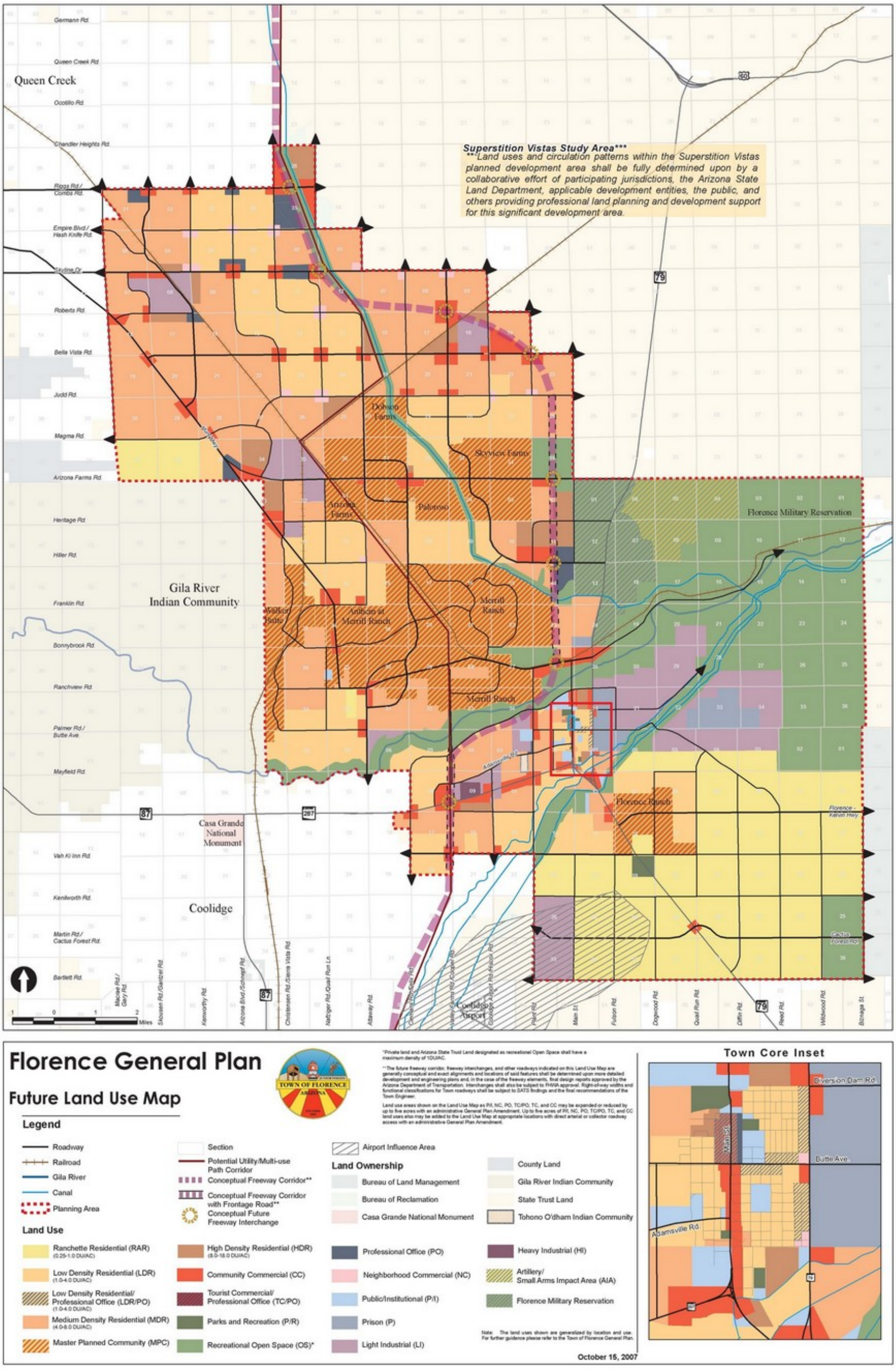
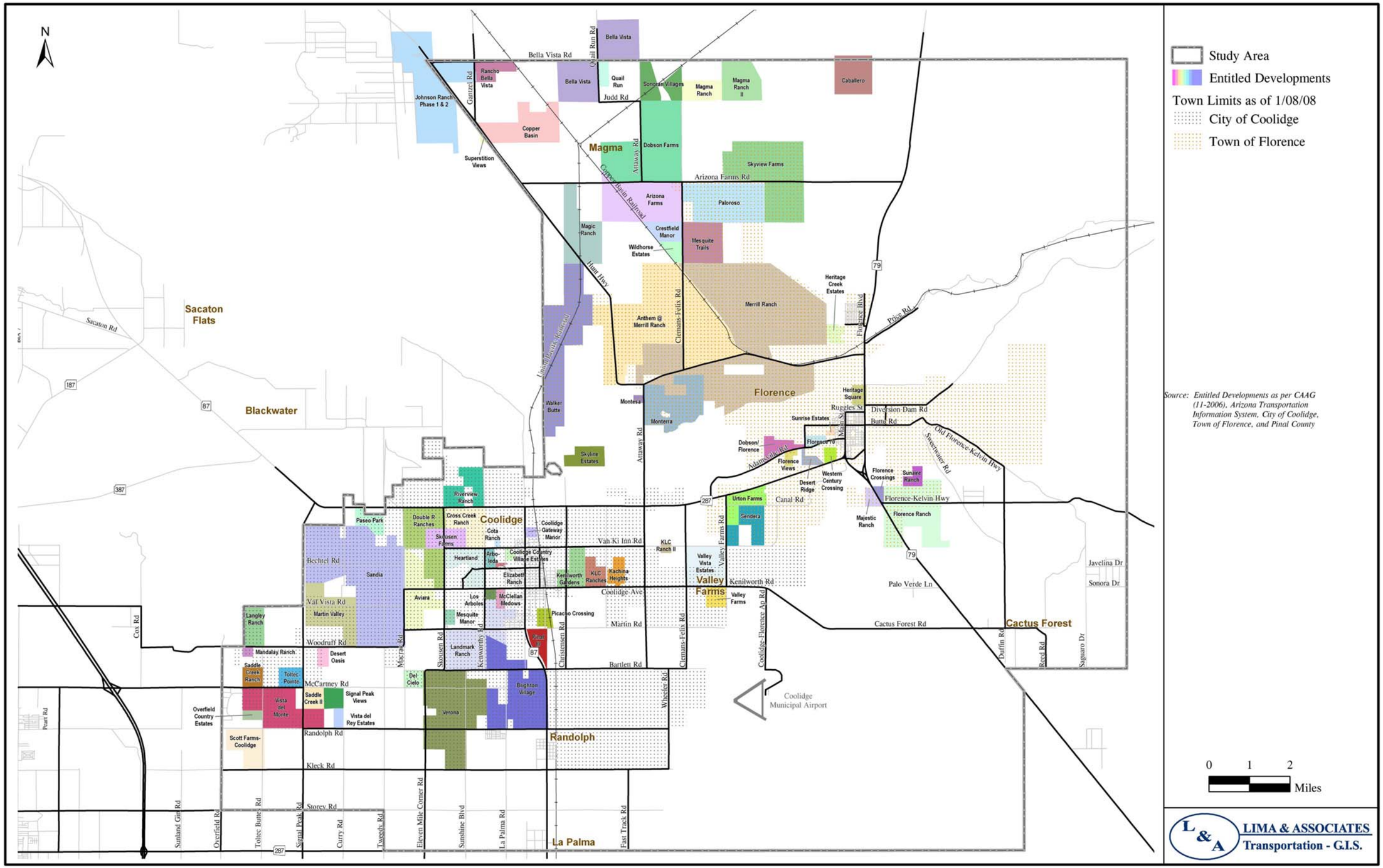


FIGURE 3-9. FLORENCE LAND USE PLAN



Source: Town of Florence General Plan

FIGURE 3-10. PROPOSED AND ENTITLED DEVELOPMENTS



Florence Planned Area Development

Figure 3-10 includes the known developments in the Florence area. About 27 square miles are entitled for development with 78,433 planned dwelling units. A density of roughly 2,905 units per square mile is planned. Actual build out numbers might be as much as 20 percent lower than the planned gross density.

Established residential areas are located primarily between SR 79 and Main Street together with outlying low-density development such as the Cactus Forest community. Other particular residential uses include the Desert Gardens RV Park, a 174 RV lot on 142 acres that is located in the Cactus Forest area; Caliente Casa De Sol RV Park; and the Florence Gardens Mobile Home development. Florence Gardens is an adult community located west of SR 79 approximately 3 miles north of Florence downtown and consists of 857 properties that are owned on an individual basis.

Florence National Guard Military Range

Florence National Guard Military Range (FMR) is located north of Florence, covers over 40 square miles, and is bisected by SR 79. The FMR is managed by the Arizona Army National Guard in cooperation with other state and federal agencies. The military reservation is home to artillery and small-arms training ranges. Camp Florence is the main training site for the Arizona Army National Guard, primarily for weekend and two-week annual training periods. A multiple use policy allows for cattle grazing, hunting, camping, birding, and other outdoor recreation, as well as military training. On-range firing and artillery targets are limited to federal land on the southern part of the military reservation.

CURRENT TRANSPORTATION CONDITIONS

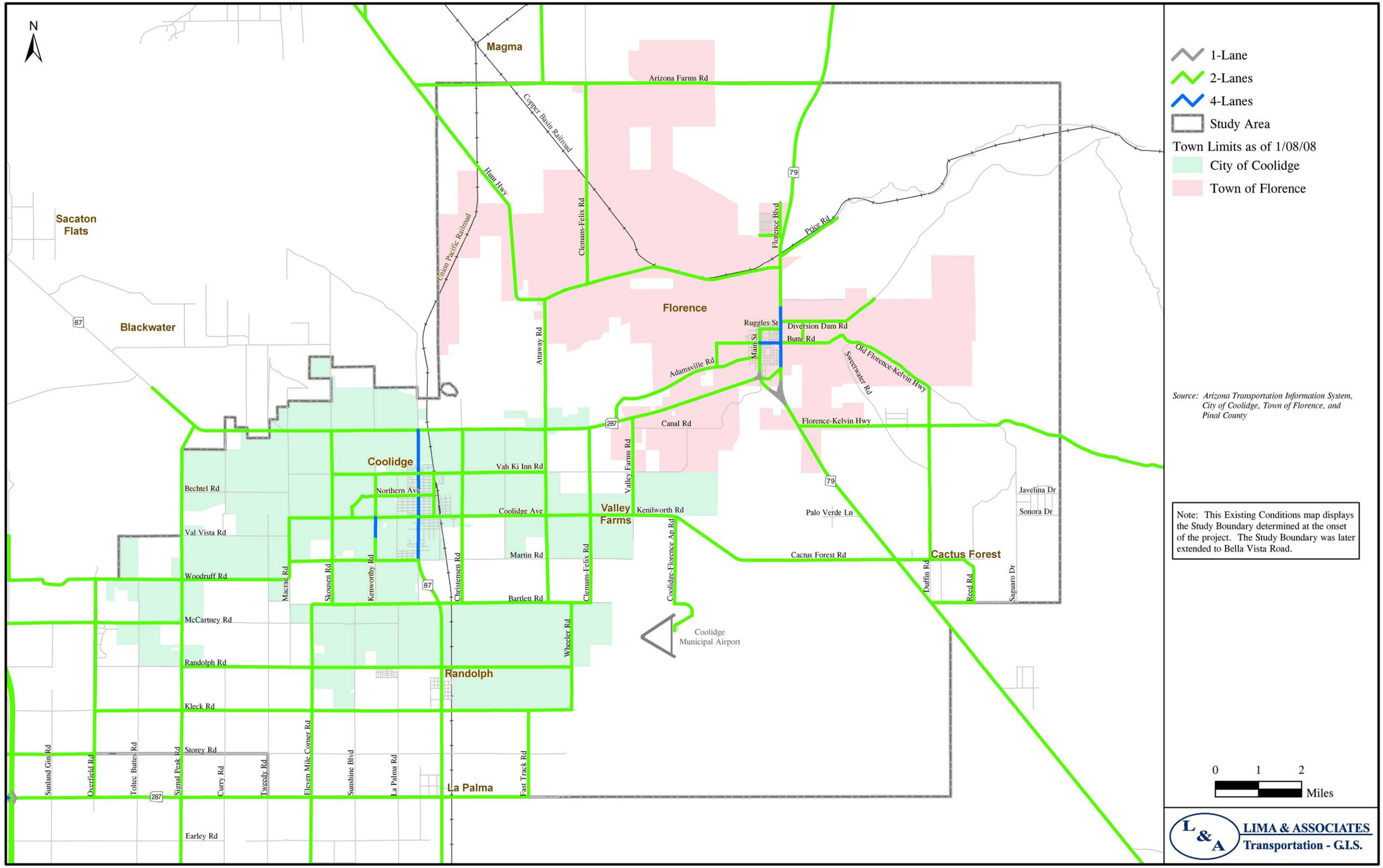
This section presents the current multimodal transportation conditions in the regional study area. Roadway conditions are described first including the road network, road characteristics, road and bridge conditions, traffic characteristics and conditions, and crash history. Next, current multimodal facilities and services are discussed including transit service; rail facilities; airport conditions; and aviation statistics, and bicycle, pedestrian, and equestrian facilities.

CURRENT ROADWAY NETWORK

The current regional roadway network is illustrated in Figure 3-11. The study area is served by Interstate 10 and three state routes: SR 87, SR 287, and SR 79.

Interstate 10, which runs north and south to the west of the study area, provides connections to Phoenix and Tucson and to places farther to the east and west.

FIGURE 3-11. STUDY AREA ROADWAY NETWORK WITH NUMBER OF LANES



SR 87 provides a connection from Eloy and I-10 northward through the City of Coolidge. North of the Casa Grande Ruins, SR 87 turns westward into the Gila River Indian Community and provides a link northward to Mesa and the Phoenix Metropolitan Area.

SR 287 Begins in Casa Grande traveling eastward and intersects with SR 87 at the community of La Palma. From La Palma, the route designation is shared with SR 87 to the T intersection north of Coolidge, with SR 87 traveling westward and SR 287 traveling eastward to Florence.

SR 79 connects SR 77 at Oracle Junction with US 60 at Florence Junction. The road is name Pinal Pioneer Parkway between Florence and Oracle Junction. Within Florence, SR 79 is also called Pinal Parkway Avenue.

SR 79B is a business loop within Florence along portions of Main Street and Butte Avenue.

Other regionally significant roadways serving the study area include Hunt Highway, which connects the Town of Florence with Queen Creek to the northwest, Arizona Farms Road, which traverses the northern portion of the study area and connects SR 79 with Hunt Highway, Attaway Road, which runs due south from Hunt Highway through the eastern portion of the City of Coolidge, and Signal Peak Road, which runs south from SR 87 through the western portion of Coolidge.

Existing Roadway Network in Florence

SR 287 and SR 79 provide regional highway access as well as act as arterials for the Town. Business SR 79 links SR 79 to Main Street. Access to I-10 is provided to the west via SR 287/SR 87/SR 387 and to the south via SR 287/SR 87. Collector streets include Main Street, Butte Avenue, and Kenilworth/Cactus Forest Road. Hunt Highway diagonally connects to areas northwest of the Town. Street edges in many locations throughout the Town are not clearly defined. For example, there is often no clear distinction between driveways and streets. Although sidewalks are located in the Town Core and other sections of the Town, sidewalks are often not continuous or wide enough. Traffic signals are located at the intersections of Main Street and Butte Avenue and SR 79 and Butte Avenue. North of Butte, Main Street exhibits a genuine frontier ambiance, with covered sidewalks and a narrow cross-section. This area of Florence contains many historic buildings and sites, including the old and new County Court Houses.

Existing Roadway Network in Coolidge

The City of Coolidge developed as a fairly compact community along State Route 87 with the majority of commercial development and community facilities within a few blocks of the roadway, also known as Arizona Boulevard. North of the core area at a T intersection, SR 87 travels west and north to connections with I-10 and to the Phoenix metropolitan area, and SR 287 travels east to Florence.

The majority of existing development is located between Coolidge Avenue and SR 287 bordered to the west by 9th Street and to the east by the Union Pacific Railroad. Other new developments are being constructed north of Vah Ki Inn Road and new developments are currently being built west of the established town site at Kenilworth and Kenworthy Roads.

Major characteristics of SR 87/Arizona Boulevard are:

- State Route with four lane cross section with center left-turn lane through town
- Traffic signals at intersections with SR 287, Vah Ki Inn Road, Northern Avenue, Central Avenue, Wal-Mart, and Coolidge Avenue
- Sidewalk exists along SR 87, but no bicycle provisions
- Multiple access points provide direct access to individual parcels
- Increasing traffic volumes
- Big box retail development planned for the north-east corner of SR 287 and SR 87

The residential neighborhoods east and west of SR 87 are mostly laid out in a grid pattern of local and collector streets providing connectivity and access to individual properties. Some of the local streets are in need of pavement rehabilitation and/or striping. No connected pedestrian or bicycle system exists within the residential areas and many areas are lacking precautionary safety structures. Sidewalks are not required and are not found in many neighborhoods. Crosswalks are present in several areas surrounding schools and other major intersections, but improvements and additional pedestrian facilities are needed within the city.

Roadway Characteristics

Two lane roads comprise the majority of road mileage in the study area, 206 miles, as shown in Figure 3-11. Table 3-8 summarizes study area road mileage by current characteristics.

TABLE 3-8. SUMMARY OF STUDY AREA ROAD CHARACTERISTICS

Characteristic	Miles	Percent
Two Lane	197.6	95.9
Four Lane	5.4	2.6
Total	206.0	100.0
Paved	168.7	81.9
Unpaved	37.3	18.1
Total	206.0	100.0

BRIDGE CONDITION

For every bridge, a *Sufficiency rating* is provided documenting the condition of each structure. The Sufficiency Rating is based on FHWA's Recording and Coding Guide for the Structure Inventory and Appraisal of the Nation's Bridges. ADOT's bridge rehabilitation program

weighs structural adequacy, safety, serviceability, and essentiality for public use, which is indicative of a bridge's sufficiency to remain in service. Sufficiency Ratings range from zero to 100. Structures with ratings greater than 80 are sufficient. If a bridge has a sufficiency rating between 50 and 80 points the structure is eligible for rehabilitation or replacement if financially justifiable. Bridges with a rating below 50 are eligible for replacement or rehabilitation.

Table 3-9 presents the bridge condition ratings provided by ADOT's Bridge Management system. Bridge structures with a sufficiency rating of 80 or lower are listed.

TABLE 3-9. EXISTING BRIDGES IN STUDY AREA WITH SUFFICIENCY RATING OF 80 OR LOWER

Agency Name	Route MP.	Year Built	Bridge Length Ft.	Bridge Width Ft.	Feature Under Bridge	Feature on Bridge	Location of Bridge		Sufficiency Rating
ADOT	125.03	1940	32	32.4	Wash	SR 79	9.2 mi S Jct SR 287		67.0
ADOT	126.82	1946	37	32.2	Wash	SR 79	7.4 mi S Jct SR 287		65.5
ADOT	127.43	1946	64	32.7	Wash	SR 79	6.8 mi S Jct SR 287		69.3
ADOT	129.17	1946	21	32.6	Wash	SR 79	5.0 mi S Jct SR 287		68.5
ADOT	135.54	1957	1507	35.0	Gila River	SR 79	1.5 mi North Jct SR 287/79		66.4
ADOT	129.80	1931	200	35.2	McClellan Wash	SR 87	03.9 mi N Jct SR 287		77.8
ADOT	133.98	1928	44	76.6	Pima Lateral Canal	SR 87	0.3 mi South of Jct SR 87		60.7
ADOT	138.07	1962	29	0.0	Wash	IRR SR 287	5.9 mi West Jct SR 79		80.0
Coolidge	0.00	1900	43	24.5	Pima Lateral Canal	Christensen Rd.	0.75 mi South of SR 287	S	24.3
Coolidge	0.00	1935	43	23.4	Pima Lateral Canal	Skousen Rd.	100 ft South of SR 87	F	57.5

S – Structurally Obsolete; F = Functionally Obsolete, Shading denotes bridges that are insufficient.
Source: ADOT Bridge Management Section

TRAFFIC CHARACTERISTICS

Average daily traffic volumes for roads in the study area are shown in Figure 3-12. Conducting traffic counts on every segment of every major roadway each year is not feasible. Figure 3-12 displays counts taken for the Arizona Transportation Information System (ATIS) during 2000, 2004, 2005, and 2006. The ADT values shown next to each roadway segment are color-coded by the year the count for that segment was conducted, as shown in the legend.

The highest traffic volumes in the study area occur on portions of the State Highways. For example, the 2004 daily traffic volumes were 10.436 vpd on SR 287 between SR 87 and Attaway Road, 13,785 vpd on SR 87 south of SR 287 in Coolidge, and 5,271 vpd on SR 79 north of Hunt Highway in Florence. In the developed areas of the City of Coolidge, (See Inset 1), traffic volumes ranged from 813 vpd on Northern Avenue in 2005 to 15, 763 vpd on SR 87 in 2004. In the Town of Florence (See Inset 2), daily traffic volumes were 9,500 vpd on Main Street and 6,455 vpd on Butte Avenue in 2004, and 2,380 vpd on 5th Street in 2005. Lower traffic volumes occur on the more rural roads in the study area.

LEVEL OF SERVICE

Level of service (LOS) is a qualitative measure of traffic operations stated in terms of factors such as speed, travel time, freedom to maneuver, traffic interruptions, comfort, convenience, and safety. Level of service ranges from LOS A to LOS F, where LOS A represents unrestricted traffic flow and LOS F represents a severely congested traffic condition. In an urban area, the acceptable level of service is generally LOS C/D or better. Table 3-10 presents the criteria used for determining level of service based on volume-to-capacity ratio. As the ratio of daily traffic volume increases, the level of service experienced by drivers deteriorates until it exceeds the road capacity and bottlenecks occur.

TABLE 3-10. LEVEL OF SERVICE CRITERIA

LOS	Maximum V/C
A	0.29
B	0.54
C	0.75
D	0.90
E	1.00
F	>1.00

Source: Transportation Research Board, *Highway Capacity Manual*

The LOS was estimated for road segments where traffic volume data was available as shown in Figure 3-13. Currently, most of the road segments are operating at LOS B or better. Road segments with LOS C occur in Coolidge along SR 87/287 north of Gibson Avenue and again north of Northern Avenue.

FIGURE 3-12. AVERAGE DAILY TRAFFIC VOLUMES

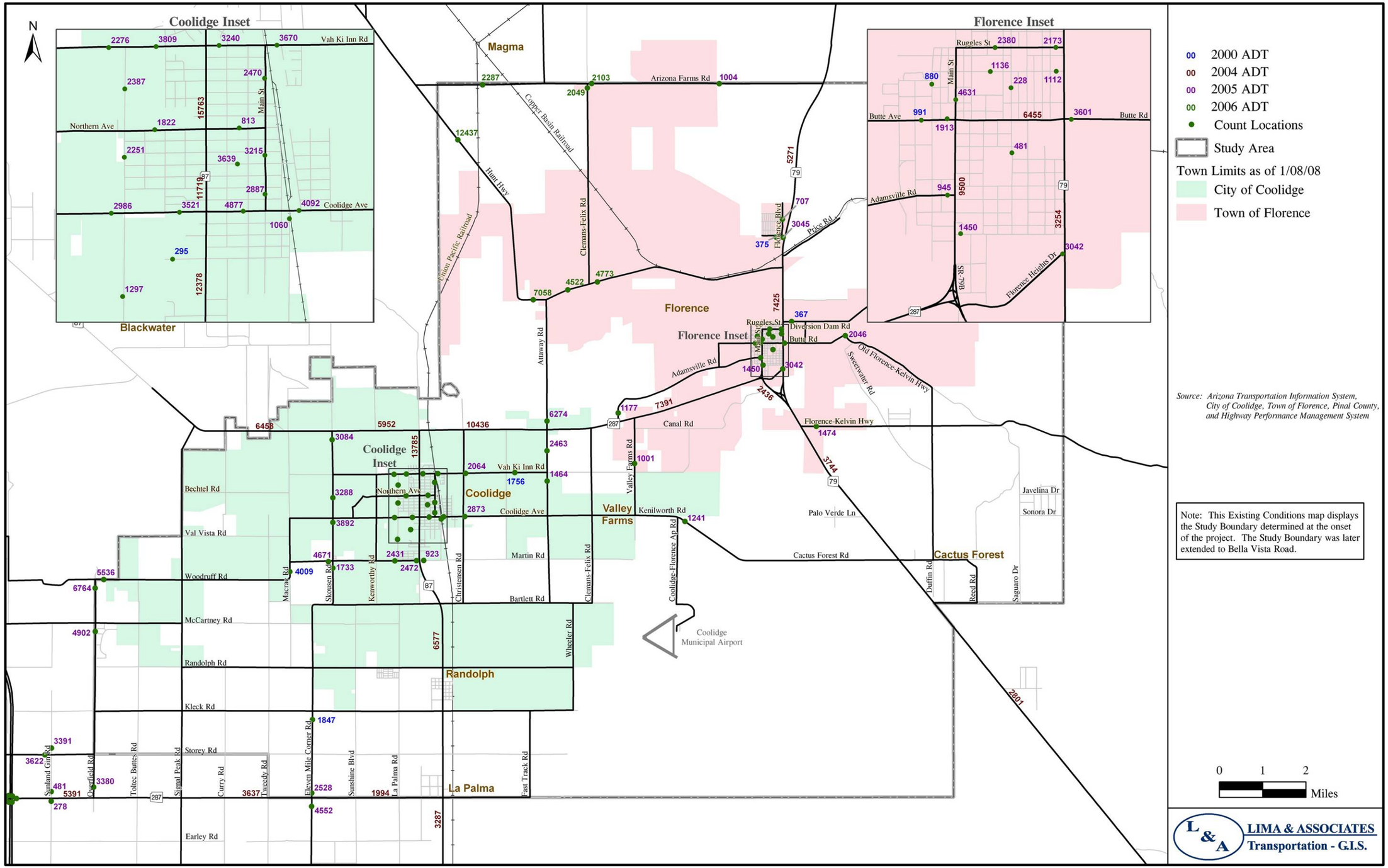
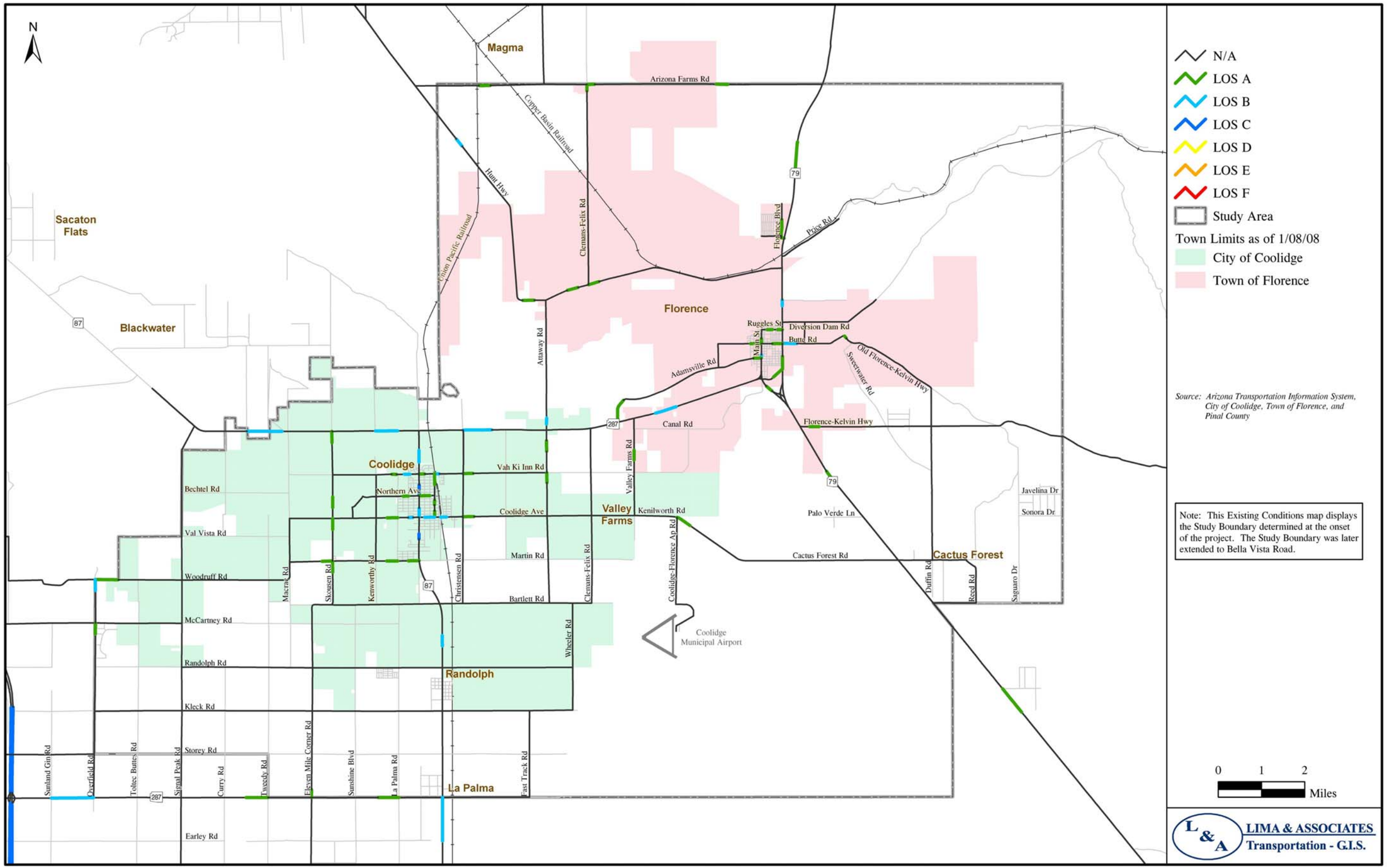


FIGURE 3-13. LEVEL OF SERVICE



CRASH ANALYSIS

Table 3-11 presents a summary of the traffic crashes over a 5-Year history, see Figure 3-14. The first harmful definition is the first action that causes damage to a motor vehicle, its occupants, a pedestrian, or a fixed object. Over a third of the crashes were single vehicle crashes.

Intersection-related Crashes

Note that over half the crashes took place at or near intersections or involved driveway access.

Violations Issued as a Result of Crashes

In over 20 percent of the crashes, a driver was cited for "speed too fast for conditions" or for "failure to yield right-of-way." Over 17 percent of the drivers were cited for inattention.

MULTIMODAL CONDITIONS

This section presents a summary of existing public transportation services within and in the vicinity of the City of Coolidge and the Town of Florence. Included are intercity bus services, taxicabs, and medical and human services providers as well as pedestrian and bicycle modes.

Area Public Transportation

The City of Coolidge is the only community in Pinal County that currently operates a local transit system. In addition, several taxicab and shuttle services based in Casa Grande serve the area.

Coolidge Cotton Express

The Cotton Express operated by the City of Coolidge provides both deviated fixed route and dial-a-ride services. The deviated fixed route operates Monday through Friday between 7:30 a.m. and 5:30 p.m., and makes a total of 46 scheduled stops. The stops are strategically placed throughout the City; all stops receive service at least once an hour and major businesses are served twice hourly. The route includes East and West Loops and is designed to pass within two blocks of most homes within Coolidge. However, the bus will deviate from the route to pick up or drop off dial-a-ride eligible passengers.

The dial-a-ride provides curb-to-curb service Monday through Friday between 9:00 a.m. and 4:00 p.m. Dial-a-ride eligible passengers include persons over the age of 55 as well as persons having a disability that precludes their walking more than two blocks to a bus stop.

TABLE 3-11. SUMMARY OF TRAFFIC CRASH DATA

Relationship to Intersection	Crashes	Percentage
Intersection	594	42.76%
Non-Intersection Relation	656	47.23%
Driveway Access	132	9.50%
Alley Intersection	6	0.43%
Not Reported	1	0.07%
Total	**1389**	**100.00%**

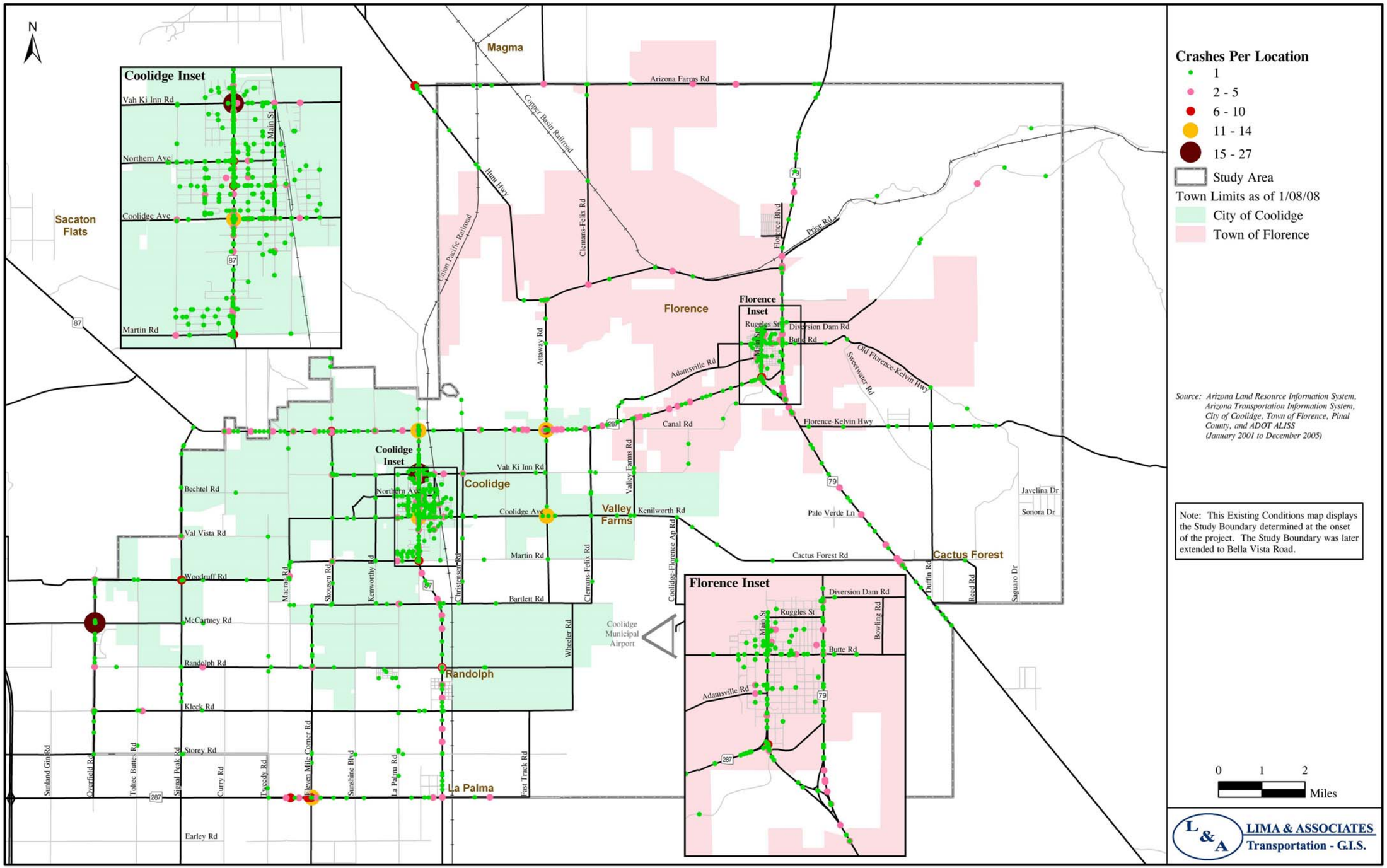
First Harmful Definition	Crashes	Percentage
Overturning	106	7.63%
Collision with other Motor Vehicle	947	68.18%
Collision with Pedestrian	17	1.22%
Collision with Pedalcyclist	10	0.72%
Collision with Animal or Livestock	30	2.16%
Collision with Fixed Object	208	14.97%
Miscellaneous	71	5.11%
Total	**1389**	**100.00%**

Crash Type	Crashes	Percentage
Single Vehicle	499	35.93%
Angle	298	21.45%
Backing	75	5.40%
Head-On	11	0.79%
Left Turn	59	4.25%
Non-Contact (mc)	1	0.07%
Non-Contact (not mc)	1	0.07%
Other	44	3.17%
Rear-End	255	18.36%
Sideswipe (Opposite Direction)	22	1.58%
Sideswipe (Same Direction)	108	7.78%
U-Turn	15	1.08%
Not Reported	1	0.07%
Total	**1389**	**100.00%**

Injury Severity	Crashes	Percentage
Non-injury Accident	806	58.03%
Non-incapacitating Injury Accident	183	13.17%
Unknown	90	6.48%
Incapacitating Injury Accident	89	6.41%
Possible Injury Accident	191	13.75%
Fatal Accidents	29	2.09%
Not Reported	1	0.07%
Total	**1389**	**100.00%**

Source: ALISS Database for ADOT (January 2001 – December 2005).

FIGURE 3-14. CRASHES PER LOCATION



The City of Coolidge encourages dial-a-ride passengers to call at least one-hour ahead of any scheduled appointments.

Fares for the deviated fixed route are $1.25 per ride for adults, $ .75 for children aged 3 through 11, and free for children aged 2 and under. Dial-a-ride fares are $1.50 per ride for all. The service is funded in part by matching funds obtained from the Federal Transit Administration (FTA) Section 5311 program for rural and small urban area transit. This program is administered in Arizona by ADOT.

In fiscal 2005—from September 2004 through August of 2005—the Cotton Express carried over 23,000 passengers. The previous year 21,600 persons were carried. The system operates a fleet of five vehicles, one of which is needed to protect the deviated fixed route service and one of which is used for the dial-a-ride pick-ups. The other three are used as back-ups. Schools in Coolidge do not operate school buses, and students comprise 50 percent of the Cotton Express ridership. Four vehicles are needed during the afternoon "after-school" rush between 2:30 pm and 4:00 pm.

The Cotton Express is the only existing transit operation in Pinal County that receives FTA Section 5311. During the course of this study, the feasibility of applying Section 5311 funds to the operation of additional systems within the County, possibly in conjunction with LTAF II funds for which both the County and local jurisdictions are eligible, will be examined.

Casa Grande-Based Taxicabs and Shuttle Services

No taxicab or airport shuttle services are based in Coolidge or Florence. However, four companies are listed in the telephone directory as available to provide either airport shuttle or taxicab service to patrons in both communities. Table 3-12 lists the companies.

TABLE 3-12. CASA GRANDE-BASED TAXICABS AND SHUTTLE SERVICES

Company Name	Location	Phone	Service Provided	
			Taxicab	Shuttle
A-1 Delivery Service	1201 E. Delta Pine Avenue Casa Grande	520-705-0465		■
Casa Grande Cab & Shuttle Service	320 W. 9th Street Casa Grande	520-421-9600	■	
J & M VIP & Shuttle Service, Inc.	110 E. First Street Casa Grande	520-426-3937	■	■
Pinal Connections	320 W. 9th Street Casa Grande	520-426-1914	■	■

Source: Qwest

Special Needs Transit Services

Agencies and commercial operators of special needs transit serving Pinal County are summarized in Table 3-13. Included in this category are services provided to seniors, services provided to persons who are physically or mentally impaired, and services to mobility-limited persons requiring periodic medical treatment such as dialysis. Sources of funding include the FTA Section 5310 funds for special needs services, the Arizona DES, the Arizona Health Care Cost Containment System (AHCCCS), and private health insurance providers.

TABLE 3-13. SPECIAL NEEDS PROVIDERS SUMMARY

Provider	Description of Service	Funding Sources
Non-Profit FTA Section 5310 Participants		
Palm Villa Adult Day Health	Serves seniors and persons with disabilities in Coolidge area Monday through Thursday from 7:00 a.m. to 9:00 a.m. and from 3:00 p.m. to 5:00 p.m.	• FTA Section 5310
Pinal-Gila Council for Senior Citizens	Provides a variety of services to seniors in Gila and Pinal Counties	• FTA Section 5310
Town of Florence (Dorothy Nolan Senior Center)	Serves seniors in Florence and Coolidge Monday-Friday 8:00 a.m. to 4:00 p.m.	• Town of Florence • FTA Section 5310
Horizon Human Services	Serves psychiatric and/or developmentally disabled, some of whom are seniors, within a 45 mile radius of Casa Grande Monday-Friday 7:00 a.m. to 5:00 p.m.	• Arizona Department of Health Services • Pinal-Gila Behavioral Health Association • Arizona DES • Rehab. Services Administration • AZ Long Term Care • AHCCCS* • FTA Section 5310 • Admin. Ofc. of Court
Catholic Community Services	Serves seniors in Eloy/Toltec, Coolidge, Casa Grande, Arizona City Eleven Mile Corner, Valley Farms, Twilight Trails, Florence, and Randolph. Operates Monday-Friday, 9:00 a.m. to 1:00 or 2:00 p.m.	• Pinal-Gila Council for Senior Citizens
Other Non-Profit Providers		
Garnet of Casa Grande Retirement and Assisted Living Community	Serves seniors who are assisted living eligible within a 15 mile radius of Casa Grande Monday-Friday 8:00 a.m. to 4:30 p.m. and Sunday 8:00 a.m. to 1:00 p.m.	• Residential fees
Central Arizona Council on Developmental Disabilities	Serves seniors and persons with disabilities Monday-Sunday 6:00 a.m. to 10:00 p.m.	NA
Casa Grande Community Hospital	Transports hospital patients within a 25-30 miles radius of Casa Grande Monday-Friday 8:00 a.m. to 4:30 p.m., Saturday 8:00 a.m. to noon, and Sunday as needed	NA
Central Arizona College	Provides demand-response service for students and seniors Statewide mostly evening and weekends for athletic events and field trips	Fare revenue
Pinal County Schools	Students Countywide Monday-Friday	

TABLE 3-13. SPECIAL NEEDS PROVIDERS SUMMARY (Continued)

Provider	Description of Service	Funding Sources
	Commercial Transportation Operators	
Safe Ride Services	provides non-emergency medical transportation services Countywide Monday-Sunday	AHCCCS, other health insurance providers, patients
Statewide Express	Provides non-emergency medical transportation for AHCCCS or private health maintenance plan clients Countywide Monday-Sunday	AHCCCS, other health insurance providers, patients
J&M Shuttle	Provides countywide taxi service, shuttle service to Phoenix Sky Harbor Airport, and non-emergency medical services to AHCCCS clients Monday-Sunday	Fare revenue, AHCCCS
Pinal Connections	Provides countywide shuttle service to Phoenix Sky Harbor Airport, and non-emergency medical services to AHCCCS clients Monday-Sunday	Fare revenue, AHCCCS
On the Go Express	Countywide Monday-Sunday	NA
Long Term Care	Countywide Monday-Sunday	NA

*LTAF = Local Transportation Assistance Fund; AHCCCS = Arizona Health Care Cost Containment System
Sources: RAE Consultants, Lima & Associates, and AHCCCS

Pinal County Transportation Coordination Demonstration Project

A Pinal County Transportation Coordination Demonstration Project, "Pinal Rides", sponsored by ADOT is being conducted to identify ways in which the operations of existing transit service providers in the area can be coordinated to achieve higher levels of service to users. This project is discussed in more detail in the Public Transportation Chapter.

Inter-city Bus Service

Greyhound provides fixed-route bus service through Pinal County along Interstate 10, operating schedules between Phoenix and Tucson. Since 2000, however, the amount of intercity bus service the County receives has been sharply reduced. In 2000, Greyhound operated four northbound trips and three southbound trips per day that served Casa Grande; three trips in each direction also served Eloy.

Currently, Greyhound operates only two trips each way per day that serve Casa Grande, and service to Eloy has been eliminated. As of June 14, 2006, the one-way fare for travel between Casa Grande and Phoenix was $15.50; the round trip fare was $31.00. The fare for a one-way trip between Casa Grande and Tucson was $16.50; the round trip fare was $33.00. Discount one-way fares are available for seniors and children.

In addition to Greyhound, several bus lines catering to the Hispanic communities in Phoenix and Tucson operate between those cities along I-10. However, none of these operators makes any stops in Pinal County.

Another intercity service is the Douglas Shuttle, which operates six trips daily in each direction between Douglas, Phoenix, and Tucson, that will stop in Casa Grande to pick-up or drop off passengers if arrangements have been made in advance.

Rail Service

The Union Pacific Railroad Phoenix Branch traverses Coolidge from North to South, connecting the metropolitan Phoenix area with the UP main line at Picacho. Approximately seven freight trains per day operate over this line in each direction.

The line through Coolidge was originally constructed by the Southern Pacific as a secondary main line and was opened in 1926. The route originally traveled northwest from Coolidge through Chandler to Mesa, turning due west at Mesa to proceed through Tempe, Phoenix, and Buckeye. At Buckeye, the line curved to the southwest, rejoining the southern main line at Wellton, east of Yuma. In 1962, a portion of the segment between Coolidge and Chandler was removed and a new connection was laid between Coolidge and Magma Junction to the northeast—Phoenix-bound trains now travel through Queen Creek and Gilbert instead of Chandler.

Passenger trains traveled this route until June 2, 1996, when an 80-mile portion of the line between Arlington, west of Buckeye, and Roll, east of Wellton, was taken out of service. Since that time, the line has been operated as a branch. Amtrak was re-routed over the main line and stops at Maricopa.

The UP maintains team tracks at Coolidge where rail cars are spotted so that rail customers may load or unload freight. Union Pacific is experiencing significant growth in the volume of rail freight carried and is currently evaluating the possibility of re-opening the line between Wellton and Phoenix.

The Copper Basin Railway, Inc. (CBRY) operates through the Town of Florence on the North bank of the Gila River. The CBRY provides rail freight service between a connection with the Union Pacific Railroad at Magma Junction, northwest of Florence, and Winkelman, a distance of 54 miles. The Railway is headquartered in Hayden. Rail freight carried by the CBRY includes copper concentrates, refined copper, sulfuric acid, lumber, and military equipment. At Hayden, the CBRY connects with the San Manuel Arizona Railroad (SMA) and has been carrying rail freight traffic from the SMA to the UP at Magma Junction. The smelter at San Manuel was dismantled, and the SMA is not currently operating. However some discussion concerning the establishment of new rail-served industries in the San Manuel area has taken place.

The CBRY operates 12 trains each day, 10 of which operate locally in the Hayden-Ray Junction area east of Florence, and two of which operate through to Magma Junction. Several of the new residential developments in the Florence area abut the Railway, raising some safety and operations issues. The developers have requested the expansion of the two existing highway rail crossings at Felix Road and Arizona Farms Road, both of which are programmed

to be widened to seven lanes. Two new at-grade crossings for roadways yet identified have also been requested. Area residents have also created several unauthorized improvised rail crossings.

Aviation

The closest commercial airport to the study area is Phoenix-Mesa Gateway Airport, 35 miles north, where Vision Airlines implemented passenger service in the spring of 2006 with flights to Downtown Las Vegas. Allegiant Airlines started service to Phoenix-Mesa Gateway Airport in fall 2007 with trips to 13 destinations throughout the United States. By 2020, the airport forecasts that it will be handling approximately eight percent of all the commercial airline operations in the metropolitan Phoenix area. Phoenix Sky Harbor International Airport is 54 miles northwest of Coolidge and 62 miles northwest of Florence. Note that the current drive times between Coolidge and either Phoenix-Mesa Gateway Airport or Sky Harbor are roughly the same because of the freeways that serve Sky Harbor. However, future freeways are planned to connect the Coolidge area with the Phoenix-Mesa Gateway Airport area. Both Phoenix-Mesa Gateway Airport and Sky Harbor are adjacent to the Union Pacific rail line, and future implementation of commuter rail service could facilitate making connections at either airport.

Coolidge Municipal Airport

The principal general aviation facility in the study area is the Coolidge Municipal Airport, which was originally constructed as an air transport command base in the early 1940s and was used as an auxiliary operating base for Williams Field during World War II. In 1950, the facility was transferred to Pinal County; ownership was transferred to the City in 1959. Military aircraft training was conducted at the airport until 1992. The airport is an active general aviation facility; a fixed-base operator, Coolidge Aviation, LLC, provides fuel and performs minor maintenance for small aircraft. Firefighting planes operate from the airport and training facilities are also located at the airport. Facilities include training of paratroopers by the Department of Defense, as well as private parachute and sky-diving lessons. Key statistics for the airport are shown in Table 3-14.

TABLE 3-14. COOLIDGE AIRPORT STATISTICS

Elevation above sea level	1574 ft.
Runway dimensions (length x width)	
Runway 5/23	5528 x 150 ft.
Runway 17/35	3861 x 75 ft.
Annual aircraft operations:	
Transient general aviation	2,470
Local general aviation	3,970
Military	2,470
Total	6,490

Source: ADOT, Aeronautics Division, Coolidge Aviation, LLC

Non-motorized Transportation – Bicycle, Equestrian Pedestrian

Pedestrian and Bicycle Facilities

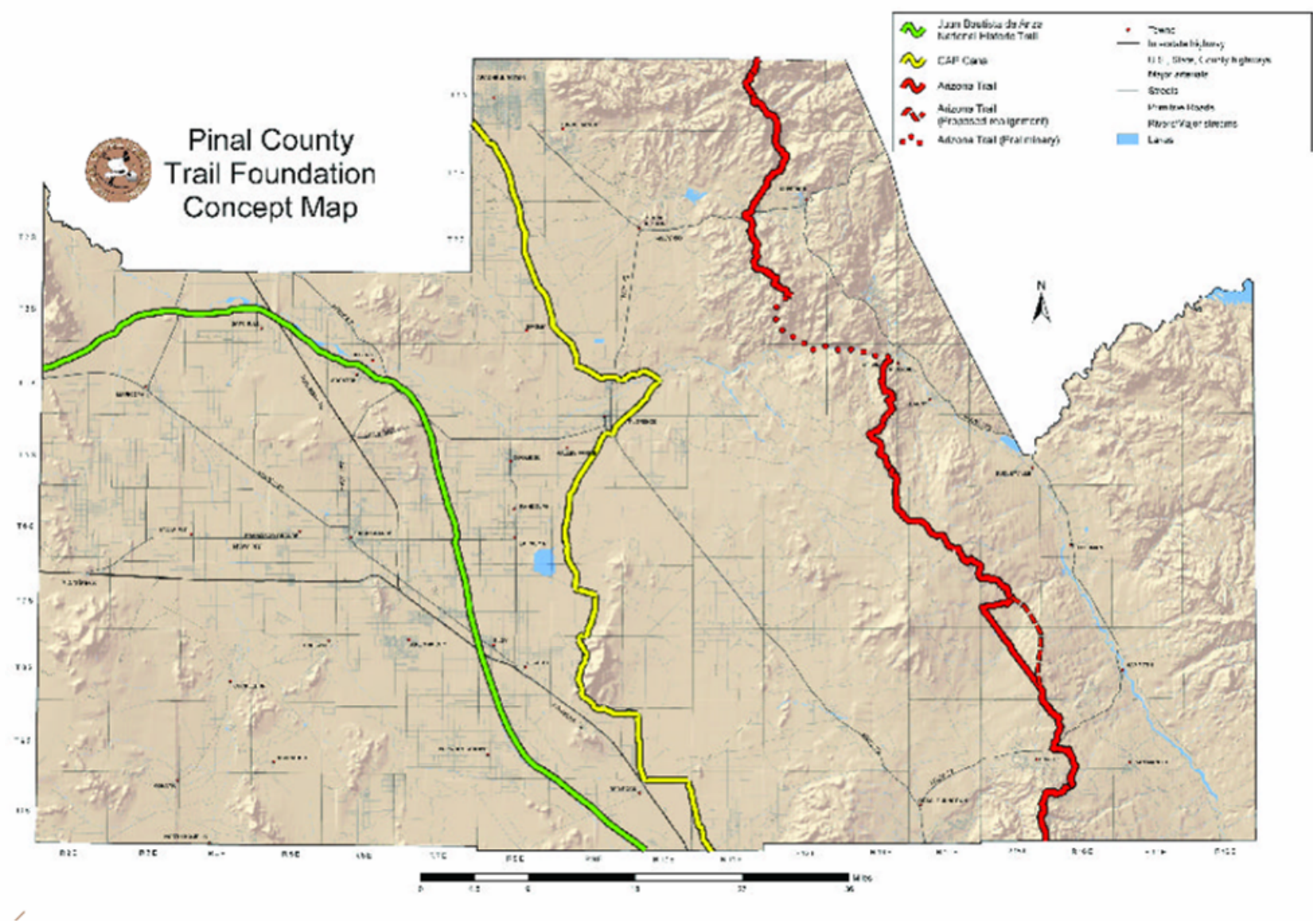
Currently no continuous system of pedestrian or bicycle facilities exists within either Coolidge or Florence limits. An issue of concern is; however, the need for safe pedestrian crossings, especially in light of increased traffic volumes. There is no known trail system within the municipalities. Most trails in current developments do not provide any connectivity to community-wide destinations or between neighboring and adjacent developments. Sidewalks are proposed within the new developments and exist in some areas.

Existing Trails

Three existing trails in the vicinity of the study area include the Arizona Trail, Central Arizona Project Canal, and Juan Bautista de Anza National Historic Trail (see Figure 3-15). The Pinal County Trails Plan, May 2005 recommended that the three trail corridors provide the skeletal system from which a more comprehensive trail network will be developed. In addition, The Great Western Trail is a proposed motorized trail that will eventually connect the Mexican and Canadian borders. As noted in Chapter 2, the Pinal County Planning and Development Department has begun work on an Open Space and Trails project to further define the County trail system. The following description of existing and proposed trails in the vicinity of the study area has been taken as written from the Trails Plan.

> ***The Arizona Trail***
>
> The Arizona Trail is a 790-mile non-motorized trail that hikers, bikers, and equestrians can use. Through use of existing trails or primitive roads, the Arizona Trail, which connects Utah and Mexico through Arizona, is broken into 43 separate segments. Securing an Arizona State Heritage Fund Trails Grant, working with the Arizona State Land Department to acquire perpetual rights-of-way, and using youth corps crews and volunteers to construct the trail is the primary focus of the County. In partnership with the Arizona Trail Association, Pinal County will soon have all but 3 miles constructed of the approximately 55 miles of trail needed to connect Oracle to the Gila River. The second primary focus will be to complete the approximately 15 miles of trail needed from the Gila River north to the Tonto National Forest. Although primarily located on Bureau of Land Management land, there are several miles that will need to be acquired from State Trust Lands rights-of-way. A statewide Memorandum of Understanding for the Arizona Trail is also being developed that will list Pinal County and all the other contributing counties, agencies, and municipalities as Arizona Trail Partners. This continuing partnership will be beneficial to the County and the communities of Oracle, Dudleyville, Winkelman, Kearny, and Superior as the trail passes through or near these areas. With stopover opportunities being relatively scarce along the long trail, these communities will be critical to trail users as resupply and rest areas.

FIGURE 3-15. EXISTING TRAILS



Source: Pinal County Trails Plan, May 2005

The Central Arizona Project Canal

The CAP canal is a 336-mile-long system of aqueducts, tunnels, pumping plants, and pipelines constructed by the Bureau of Reclamation (Reclamation). As the largest single source of renewable water supplies in the state of Arizona, the CAP canal is designed to bring about 1.5 million acre-feet of Colorado River water per year to municipal and industrial, agricultural, and Native American users. This water delivery system reaches from Lake Havasu to 14 miles south of Tucson.

As part of the planning effort for the CAP canal, Reclamation committed itself to maintaining a 20-foot recreation corridor on the right side of the canal (facing downstream). Reclamation created this corridor by offsetting its security fence 20 feet from the actual property line. Maricopa County has completed a feasibility study along its portion of the CAP canal, which addressed potential alternative alignments and locations of the multiuse path, required additional easements, staging and trailhead access areas, neighborhood access points, wash and street crossings, and linkages to adjacent or nearby recreation areas, open spaces, and/or other trails and pathways. Sections of the trail are being constructed according to this study or as development occur adjacent to the CAP corridor. The 53 miles of CAP canal system located in Maricopa County has also been identified as part of its Regional Trail System. Pima County has established trail development criteria along the CAP canal as well. Its sections of the trail are being constructed by Pima County and by developers of planned communities adjacent to the canal. In 2000, Congress designated the portion of the CAP canal that runs through Pima County as a National Recreational Trail. Pinal County, with over 50 miles of the CAP canal system, can provide not only a quality trail system for the residents of the county, but also an important regional link to both Maricopa and Pima Counties. Conducting a feasibility study and developing trail design standards—before major development occurs along the CAP canal corridor—will help Pinal County eliminate future encroachments, obstacles, crossing barriers, and access issues that currently face Maricopa and Pima Counties.

Juan Bautista de Anza National Historic Trail

Established by Congress in 1990, the Juan Bautista de Anza National Historic Trail, administered by the National Park Service, preserves the corridor that Juan Bautista de Anza, commander of the Tubac Presidio, used to guide 198 settlers from Mexico to a mission in the San Francisco Bay Area. This 1,200-mile trail followed the Santa Cruz River to Pima Villages along the Gila River and then followed the Gila to its junction with the Colorado River. The trail continues through California before ending around the Bay Area. Over 300 miles of this designated corridor has had the trail reconstructed and signed for nonmotorized use. The majority of the corridor in California has also been established and signed as part of a driving interpretive route, with the Arizona section soon to follow. This concept allows tourist to drive along the corridor on designated roadways while providing interpretive stops along key portions of the historic route. In Arizona, Santa Cruz and Pima Counties are actively securing and constructing portions of the trail within the established corridor. Working with these Counties, the National Park Service, and other interested individuals,

Pinal County can establish another regional trail corridor that will not only provide recreational opportunities to its residents but promote economic growth through the development of facilities that will capture additional tourism dollars as well.

Great Western Trail

The Great Western Trail is a proposed motorized trail that will eventually connect the Mexican and Canadian borders. However, there are segments completed in only parts of Utah and Arizona, with portions proposed for Pinal County. This trail uses a combination of backcountry roads and surface streets. The section of the corridor that runs through Pinal County is east of SR 79 and falls within the area that is currently under review by the Middle Gila Conservation Partnership.

Town of Florence Parks, Trails and Open Space Master Plan

A *Parks, Trails and Open Space Master Plan* is being developed for the Town of Florence and is anticipated to be completed by the summer of 2008. The plan will include concepts for paths and trails following existing canal alignments as well as alignments following new and existing roadway rights-of-way. Open space for parks, including those located within new residential developments, will be provided for. This plan will incorporate the Florence Greenway, an urban multiuse path loop proposed to encircle the downtown Florence area. A detailed description of the Greenway was provided in Working Paper 1-A.

4. TRANSPORTATION ISSUES

This chapter presents a discussion of the transportation related issues for the Coolidge-Florence study area including issues concerning growth, regional connectivity, street system within the study area, safety, and multimodal transportation. In addition, opportunities and constraints are discussed in regard to addressing the transportation related issues. The discussion of the issues is based on the study team's understanding gained from an analysis of transportation and demographic studies and plans, discussion with key stakeholders, and a field view of the study area.

GROWTH ISSUES

- Major development growth is occurring throughout Pinal County, with population projections as high as two million people in 2030. Recent growth began in the Johnson Ranch Area, jumped to the City of Maricopa, and is now leaping to the Coolidge-Florence area. Very large planned developments are under construction in the area including those by Pulte Homes in Anthem at Merrill Ranch in Florence and Martin Valley in Coolidge.

- Potential population in the Coolidge-Florence area could be as high as five hundred thousand people. This rapid growth is putting extensive pressure on the transportation infrastructure—roadway capacity is inadequate, regional connections are limited, and multimodal facilities are lacking.

- A very significant amount of the land within the study area is State Trust Land, primarily located in the southeastern and northern (part of the 275 square-mile Superstition Vista area) portions of the study area. The planning and disposition of the trust land is a critical issue on how land will develop in the area. As an example, the Coolidge Municipal Airport is encircled by trust land and future planning should consider the integration of the development on this trust land with the industrial development of the airport property. Close coordination with the Arizona State Land Department (ASLD) is key to successful development of trust land.

- The Signal Peaks Campus of the Central Arizona Community College is located on North Overfield Road, approximately halfway between Phoenix and Tucson. Learning centers of the College are located in Florence and Casa Grande. The full-time student equivalent on the Signal Peaks Campus was approximately 1,600 in 2002. Access by multimodal transportation facilities both locally and regionally to the Signal Peaks Campus and learning centers is an issue that needs to be addressed as population grows.

REGIONAL CONNECTIVITY

- **Providing New Regional Connections**. Constructing new regional highway facilities and improving existing facilities is needed to provide mobility and safety for people and goods. The Pinal County Small Area Transportation Study (SATS) and the Pinal County Corridors Definition Study has recommended future freeway corridors, enhancements to the state highway system, and Regionally Significant Routes (RSR) that provide a starting for this study to examine regional connectivity. The Pinal County developed a regional system of arterial and collector roads based on projected future development.

- The Pinal County Corridors Definition Study identified the need and possible locations for a north-south corridor from US 60 and Loop 202 through the Coolidge-Florence area, connecting to I-10. Constructing a proposed future freeway corridor will greatly increase the regional accessibility to and from the study area. A 2007 study was undertaken to evaluate alternative options for the north-south corridor in the Coolidge-Florence area and the options were presented to the public at public meetings in the Town of Florence and the City of Coolidge. Issues in locating the corridor include the constraints of 500 kV power line, planned developments in the entitlement process, Anthem at Merrill Ranch, Westcor Mall, and Pulte Homes. Other issues include the Magma Dam and a crossing over the Gila River. ADOT will soon begin Location/Design Concept and Environmental Studies to locate a North South Freeway alignment.

- The upgrade of existing state highways is also very important to improve regional accessibility including SR 79, SR 87, SR 287, and SR 387.

- The ongoing Casa Grande Small Area Transportation Study (SATS) is updating the planning transportation system for the Casa Grande Planning Area adjacent to the Coolidge-Florence study area. The development of the Coolidge-Florence regional transportation plan must be coordinated with the planned system for the Casa Grande Planning Area.

STREET SYSTEM WITHIN THE STUDY AREA

- **Constructing a Continuous Well Developed Street System.** A continuous arterial and collector system with adequate capacity to handle future traffic volumes is essential for both the internal and regional circulation. One goal to achieve a continuous system is to accommodate the arterial system in development plans. This requires coordination with developments, municipalities, the Gila River Indian Community, and other stakeholders. One particular problem involves section line offsets and their effect on the arterial network and the division of developable land. Moreover, consistency of roadway functional classifications and roadway cross sections throughout the region is important to provide an efficient and safe regional roadway system. Since many of the

roads in the study area are currently owned, operated, and maintained by Pinal County, this study must coordinate with the County in developing a street system.

- **Providing Circulation System within Developments**. Providing an adequate internal street system by the new developments will reduce traffic volumes on major arterials and state highways. Ensuring emergency vehicles access to residential and commercial areas is another issue.

- **Constructing New Gila River Crossings.** New Gila River crossings are important for providing regional connectivity. Florence, Coolidge, and Pinal County are in general agreement that an additional bridge crossing of the Gila River is needed to meet future travel demands in the area.

- **Widening Existing Bridges**. Existing bridges of the Gila River may need to be widened at Attaway Road, SR 87, and SR 79. Of course, construction costs for this widening is a major issue.

- **Constructing New Interchanges on I-10.** New interchanges on I-10 may be needed to improve the overall regional traffic circulation. Potential interchanges include Val Vista Road, Randolph Road alignment, the Woodruff Road, and Kleck Road alignment. Other existing I-10 interchanges may need to be improved. Planning for potential new traffic interchanges should be coordinated with the ongoing I-10 Widening Study (Design Concept Report/Environmental Assessment (DCR/EA).

- **Improving Access to the Coolidge Airport**. The successful economic development of the airport industrial area and aviation operations depends upon a well-developed roadway system including regional connections. Moreover, multimodal services such as shuttle services will be needed.

TRANSPORTATON SYSTEM MANAGEMENT

- **Implementing Access Management.** Access management must be implemented on state highways, municipal streets, and county roads to preserve capacity and maintain safety as development occurs.

- **Providing Truck Route Designations.** Large numbers of trucks travel through the study area on state highways and regional roads such as Hunt Highway. As traffic growth occurs, there will be a growing need for truck routes through the area.

- **Implementing Travel Demand Management**. As population density increases, the management of travel demand will become important. Management strategies could include a transportation coordinator to oversee the program, ride-sharing programs, park-and-ride facilities, and parking management.

SAFETY ISSUES

- **Vehicular and Pedestrian Safety.** The crash history on existing roads needs to be evaluated to determine if vehicular and pedestrian safety is an issue within the study area.

- **Railroad Crossings.** Safety at railroad at-grade crossings is an issue that needs to be evaluated by analyzing crash history.

MULTIMODAL TRANSPORTATION ISSUES

- **Providing Regional Multimodal Transportation Facilities.** A need exists for multimodal facilities of regional significance in addition to streets and highways. Both the Union Pacific Railroad line and Copper Basin Railway are important transportation assets. The study area for a *Commuter Rail Strategic Plan* being developed for the Maricopa Association of Governments incorporates Northern Pinal County including the study area for the Coolidge-Florence Regional Transportation Study. Future commuter rail service could include service to Coolidge and Florence along the Union Pacific Railroad's Phoenix Subdivision and the Copper Basin Railway. The likely initial route for a Phoenix-Tucson high speed rail service being studied by ADOT would also be the Phoenix Subdivision of the Union Pacific, which bisects the study area from north to south, passing through the City of Coolidge. In addition, interest has been expressed in establishing excursion rail service on the Copper Basin Railway line east of Florence. The possibility for a rail switching yard exists depending on the future practices of the Union Pacific Railroad. Other potential facilities include High Occupancy Vehicle (HOV) lanes, park-and ride lots, transit centers, and rail passenger stations.

- **Improving Multimodal Access to the City of Coolidge Municipal Airport.** Access to the airport by automobile, bus shuttles, and taxi cabs will enhance the economic viability of the airport operations and related industrial areas.

- **Improving and Expanding Local Transit Service.** As development increases, expansion of the Cotton Express service area will be needed. In addition, to expanding service within Coolidge, there may be an opportunity to expand service to Florence.

- **Providing Trail, Pedestrian, and Bicycle Facilities.** A well developed system of trail, pedestrian, and bicycle facilities will help to balance transportation within the study area.

OPPORTUNITIES AND CONSTRAINTS

- **Coordinating with Stakeholders.** The success of implementing this plan depends upon the communications among multiple agencies, jurisdictions, and community stakeholders both internal and external to Florence and Coolidge. This study is an opportunity to begin removing barriers to various constraints. As an example, transportation facilities within the Gila River Indian Community (GRIC) such as SR 87 affect and are affected by local and regional travel in Florence and Coolidge. Open communication between the GRIC Department of Transportation and the municipalities are critical to discuss opportunities and constraints and move toward evaluating transportation options.

- **New Development.** New development in the study area is occurring very rapidly, spreading over many square miles. The new development within the study area poses both opportunities and constraints and provides an opportunity to develop guidelines for reviewing development plans and identifying opportunities to integrate connecting transportation facilities into development plans. However, the site design of new development often constrains constructing a connecting facility or improving an existing facility.

- **Protecting Cultural and Environmental Resources.** The study area contains a richness of archaeological resources from ancient ruins and canals to 19th century buildings. Any proposed infrastructure improvements must recognize the potential impacts on archaeological resources. The Casa Grande National Monument and nearby sites are outstanding Hohokam resources dating back more than a thousand years. Historic buildings are located throughout the area including the buildings in the Historic Downtown Florence and the Coolidge Downtown Historical District. The area contains many types of Arizona desert flora. The northern portion of the study area lies within the Gila River flood plain composed of native vegetation and species habitats. Another environmental factor will be air pollution as new development occurs due to both dust control during construction and vehicular pollution.

- **Recognizing Physical Constraints.** The development of a transportation system must seek opportunities to address physical constraints such as the Central Arizona Project Canal, Gila River Flood Plain, proposed new 500 kV power line, existing railroad line, and other physical constraints.

- **Economic Development.** The development of an efficient and safe transportation system is an opportunity to foster economic growth in the area by capturing transportation benefits to reduce transportation costs for business, which in turn create new jobs. Improving regional mobility will expand both the labor and trade market areas. Also, improved accessibility of the area to other parts of the state will encourage an increase in tourism.

5. FUTURE CONDITIONS AND ALTNERNATIVES ANALYSIS

INTRODUCTION

This chapter summarizes the analysis of the 2025 socioeconomic and transportation conditions for the Coolidge-Florence transportation study area, and the analysis of alternative road networks. First, the 2025 socioeconomic projections area are presented and analyzed. The methods to forecast future traffic and road deficiencies are then described. Next, the conditions of the 2025 existing street network with the 2025 growth projections are analyzed. Sections follow discussing the analysis of alternative street networks to address roadway deficiencies and spatial allocation of the socioeconomic data among Transportation Analysis Zones (TAZs) defined in the study area.

SUMMARY OF FINDINGS

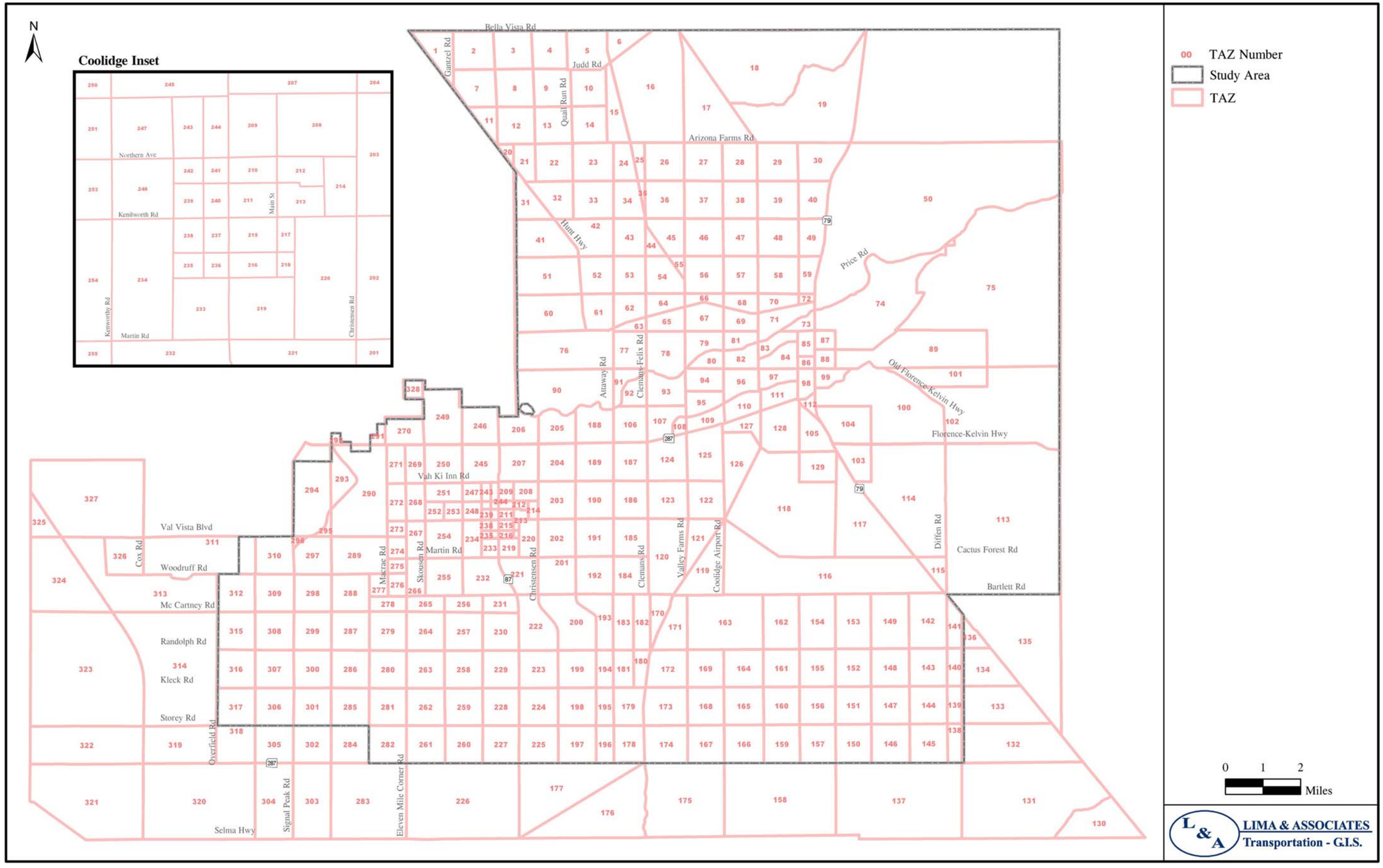
- Population in the study area is growing rapidly, and is anticipated to grow from 35,700 residents in 2005 to 336,500 residents by 2025.
- Employment is also expected to grow substantially by 2025 from 14,700 employees in 2005 to 134,000 employees by the year 2025.
- Major road deficiencies include a lack of road connectivity between activities and limited capacity.
- If growth occurs as expected, the current road network will experience gridlock if major improvements are not made to the road network.
- Road deficiencies can be corrected through the addition of roads and the widening of existing roads.

METHODOLOGY FOR DEVELOPING FUTURE SOCIOECONOMIC DATA

The following steps were taken to estimate 2025 socioeconomic data including dwelling units, population, and number of employees.

1. The study area was subdivided into TAZs representing distinct geographical areas (see Figure 5-1). A TAZ is generally bounded by either the roads or other geographic boundaries such as the Gila River. Estimated households, population, and employees are allocated to each TAZ within the study area.
2. The Central Arizona Association of Governments (CAAG) Planned Area Development database for proposed residential and commercial acres (see Figure 5-2) was reviewed.
3. Coordinated with the Town of Florence and City of Coolidge to identify potential residential and commercial growth areas and the timing of these areas.
4. Reviewed locations of planned infrastructure (power, sewer, water).
5. Reviewed the housing permit history in the study area.

FIGURE 5-1. TRAFFIC ANALYSIS ZONES



6. Reviewed the amount and timing of housing development and commercial and office development growth in urban areas in the Phoenix and Tucson area.
7. Estimated 2025 dwelling units in each TAZ.
8. Estimated employees among retail, office, industrial, government, and other types of employment and allocated to TAZs.

SUMMARY OF 2025 SOCIOECONOMIC DATA

Table 5-1 presents a summary of the socioeconomic projections for the year 2025. Population in the study area is growing very rapidly. The estimated total 2005 population is expected to grow to a projected 2025 population of approximately 337,500 residents, almost an 846 percent increase—42 percent yearly average growth rate. The 2025 population in the study area is allocated among the jurisdictions as follows:

- 114,000 in the Florence Metropolitan Planning Area
- 72,100 in the Coolidge Metropolitan Planning Area
- 151,400 in the Pinal County and Casa Grande portions of the study area.

TABLE 5-1. SUMMARY OF 2025 SOCIOECONOMIC DATA
COOLIDGE-FLORENCE STUDY AREA

	2005				2025			
Area	**DUS**	**Pop.**	**Emp**	**Emp/ Pop**	**DUS**	**Pop**	**Emp**	**Emp/ Pop**
Coolidge Planning Area	4,223	12,275	3,897	0.32	25,608	72,153	22,269	0.31
Florence Planning Area	3,494	8,662	5,553	0.64	41,094	113,942	57,241	0.50
County Portion	6,635	14,723	5,247	0.36	57,086	151,419	54,425	0.36
Total Study Area	**14,352**	**35,660**	**14,697**	**0.41**	**123,788**	**337,514**	**133,935**	**0.40**

Source: Elliot Pollack & Company, Lima & Associates
DU=dwelling units, Pop=Population, Emp=Number of employees, Emp/Pop=Ration of employees to population
*Population does not include prison population

Employment in the study area is also projected to grow rapidly to 134,000 employees, approximately 811 percent increase. This is a 40 percent yearly average growth rate.

The high projected growth rates for Coolidge-Florence compare to other high growth areas in the Phoenix metropolitan area and in other areas of Pinal County. For example, the population in the Town of Buckeye in Maricopa County grew from approximately 8,500 residents in the year 2000 to an estimated population of 31,800 residents in 2006—45.6 percent average yearly growth rate. The City of Maricopa in Pinal County grew from approximately 1,500 residents in the year 2000 to an estimated population of 25,800 residents in 2006—274 percent average yearly growth rate.

TRANSPORTATION ANALYSIS ZONE ALLOCATION

The 2025 population density distribution among the TAZs in the study area is illustrated in Figure 5-2. Figure 5-3 illustrates the 2025 employment density distribution among the TAZs.

TRAFFIC FORECASTING PROCESS OVERVIEW

A traffic forecasting model was developed and validated for the Coolidge-Florence Regional Transportation Study area to estimated future traffic volumes. The model was developed using the TransCAD transportation forecasting software and was calibrated using the year 2005 transportation network and estimated 2005 socioeconomic data. The transportation planning model is a representation of the study area transportation facilities and the travel patterns using these facilities. The traffic model contains inventories of the 2005 roadway facilities and of residential and non-residential units by traffic analysis zones.

In general, the traffic model process consists of several steps including estimating the number of daily vehicle trips by TAZ from the socioeconomic inventory, distribution of vehicle trips by TAZ, and then assigning the vehicle trips to the street network. The traffic model is calibrated by comparing the daily traffic volumes produced by the model with current daily traffic counts. When the model matches the traffic counts within acceptable ranges of error the model can then be used to test future year scenarios. These scenarios may contain changes in numbers of housing units, employment centers, travel behavior patterns, or roadway improvements. The transportation planner or engineer, using the traffic-forecasting model can project future traffic volumes, which in turn can aid in making planning and project programming decisions.

The transportation modeling process included the following steps:

- Development of 2005 transportation roadway network.
- Determination of 2005 land use data working with the City of Coolidge and Town of Florence.
- Generation of daily vehicle trips in the trip generation phase.
- Distribution of vehicle trips in the trip distribution phase - geographical distribution of vehicle trips between origin and destination zones.
- Assigning vehicle trips to the 2005 road network in the trip assignment phase.

The next step in the traffic forecasting process was to apply the calibrated model to forecast 2025 traffic volumes. For this, the 2025 socioeconomic TAZ data was used to forecast the 2025 daily traffic volumes.

FIGURE 5-2. 2025 POPULATION DENSITIES

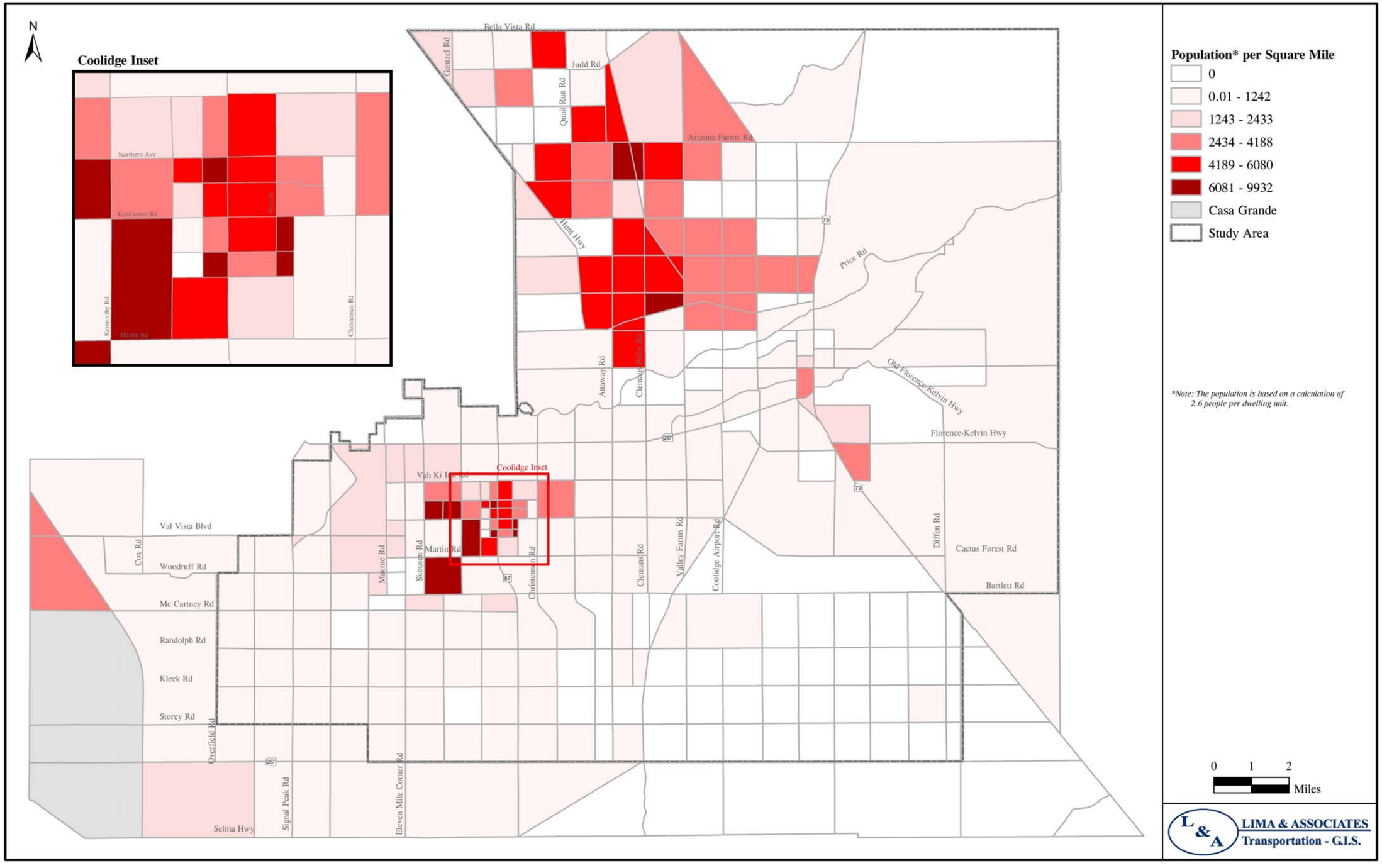
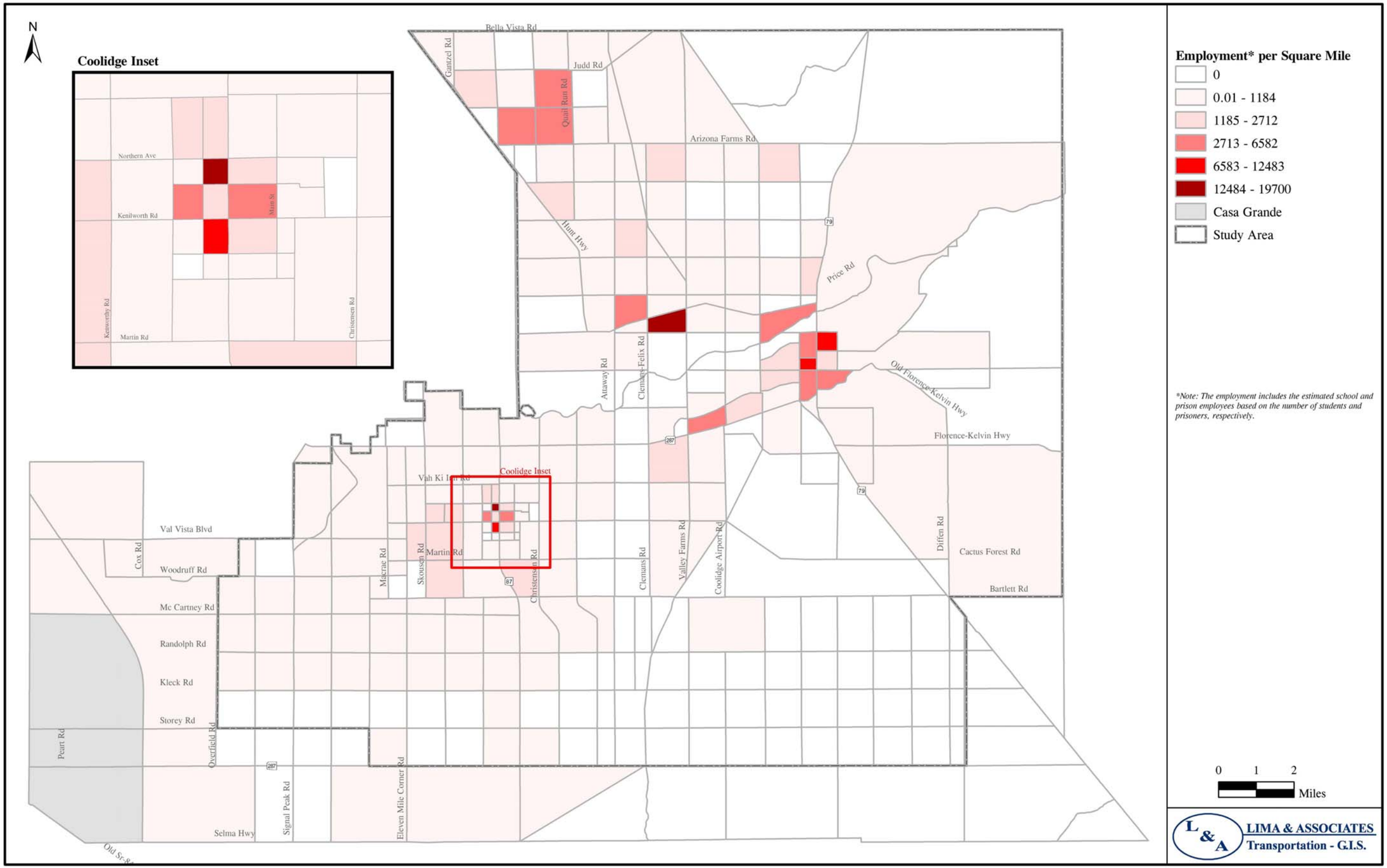


FIGURE 5-3. 2025 EMPLOYMENT DENSITIES



METHOD TO IDENTIFY ROAD DEFIECIENCES

Roadway deficiencies were identified using traffic level of service. Level of service (LOS) is a qualitative measure of traffic operations stated in terms of factors such as speed, travel time, freedom to maneuver, traffic interruptions, comfort, convenience, and safety. Level of service ranges from LOS A to LOS F, where LOS A represents unrestricted traffic flow and LOS F represents a severely congested traffic condition. In an urban area, the acceptable level of service ranges between LOS C and D.

Table 5-2 presents the planning criteria used for determining level of service based on volume-to-capacity ratio. As the ratio of daily traffic volume increases, the level of service experienced by drivers deteriorates until it exceeds the road capacity and bottle necks occur. Figure 5-4 presents a visual depiction of the various levels of service.

TABLE 5-2. LEVEL OF SERVICE CRITERIA

LOS	Maximum V/C
A	0.29
B	0.54
C	0.75
D	0.90
E	1.00
F	>1.00

Source: Transportation Research Board, *Highway Capacity Manual*

PERFORMANCE OF 2005 NETWORK

The Coolidge-Florence TransCAD travel demand model was used to estimate 2025 daily traffic volumes on the existing road network assuming the projected 2025 socioeconomic conditions. Figure 5-5 illustrates the 2025 level of service on the existing roads in the study area if no improvements are made on the network. Virtually all the roadways are at a level of service F, indicating complete gridlock on the existing system if the study area grows as expected and no roadway improvements are made.

PERFORMANCE OF 2025 ALTERNATIVE NETWORKS

In coordination with the Technical Advisory Committee (TAC), alternative 2025 road networks were identified to meet the future travel demand. Beginning with a Base 2025 Road Network, alternative road networks evolved as alternatives were analyzed and as changes were made to the Florence and Coolidge General Plans. The following sections describe alternative networks and the results of the analysis of those alternatives.

FIGURE 5-4. EXAMPLES OF ROADWAY LEVEL OF SERVICE

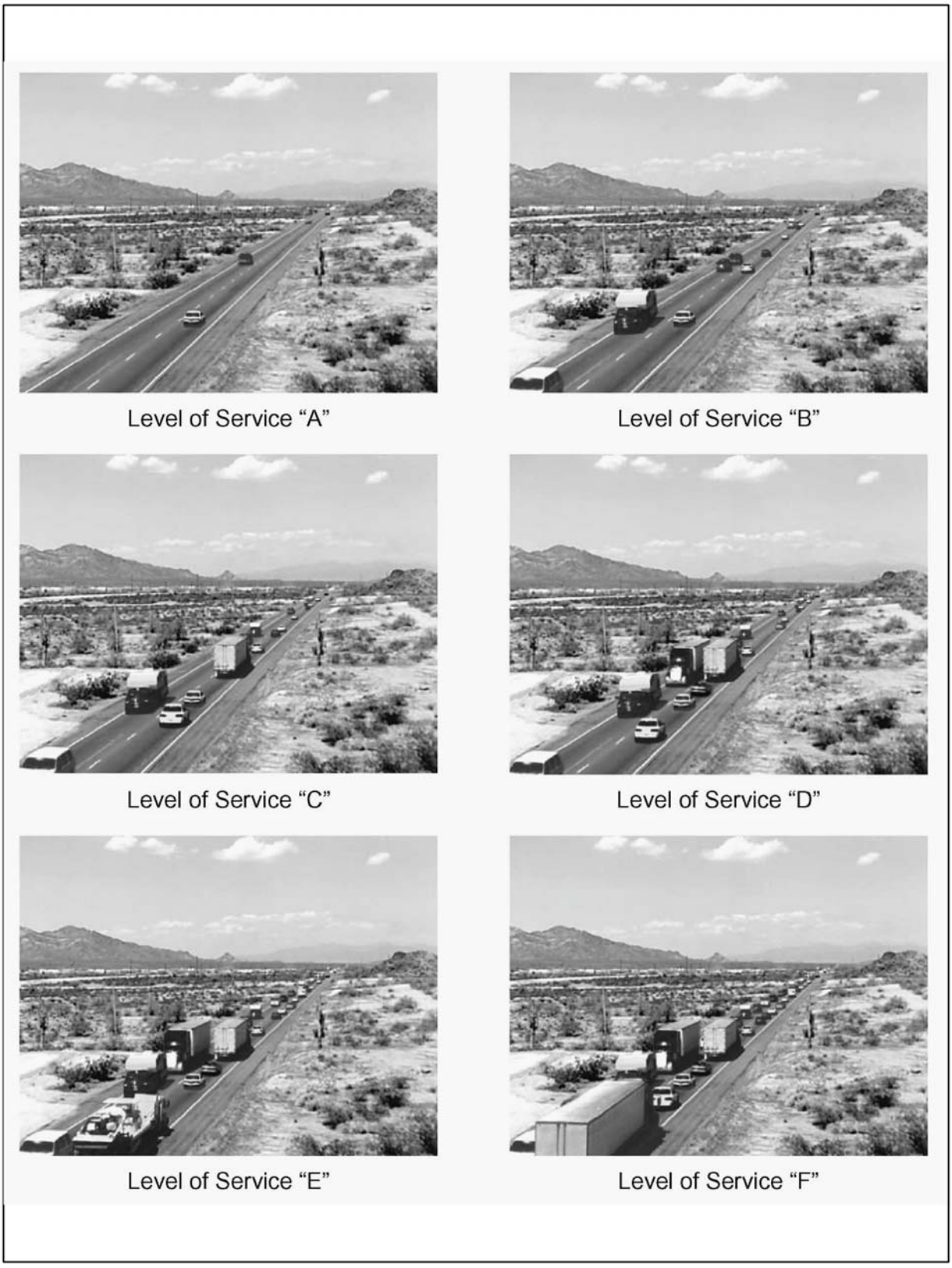
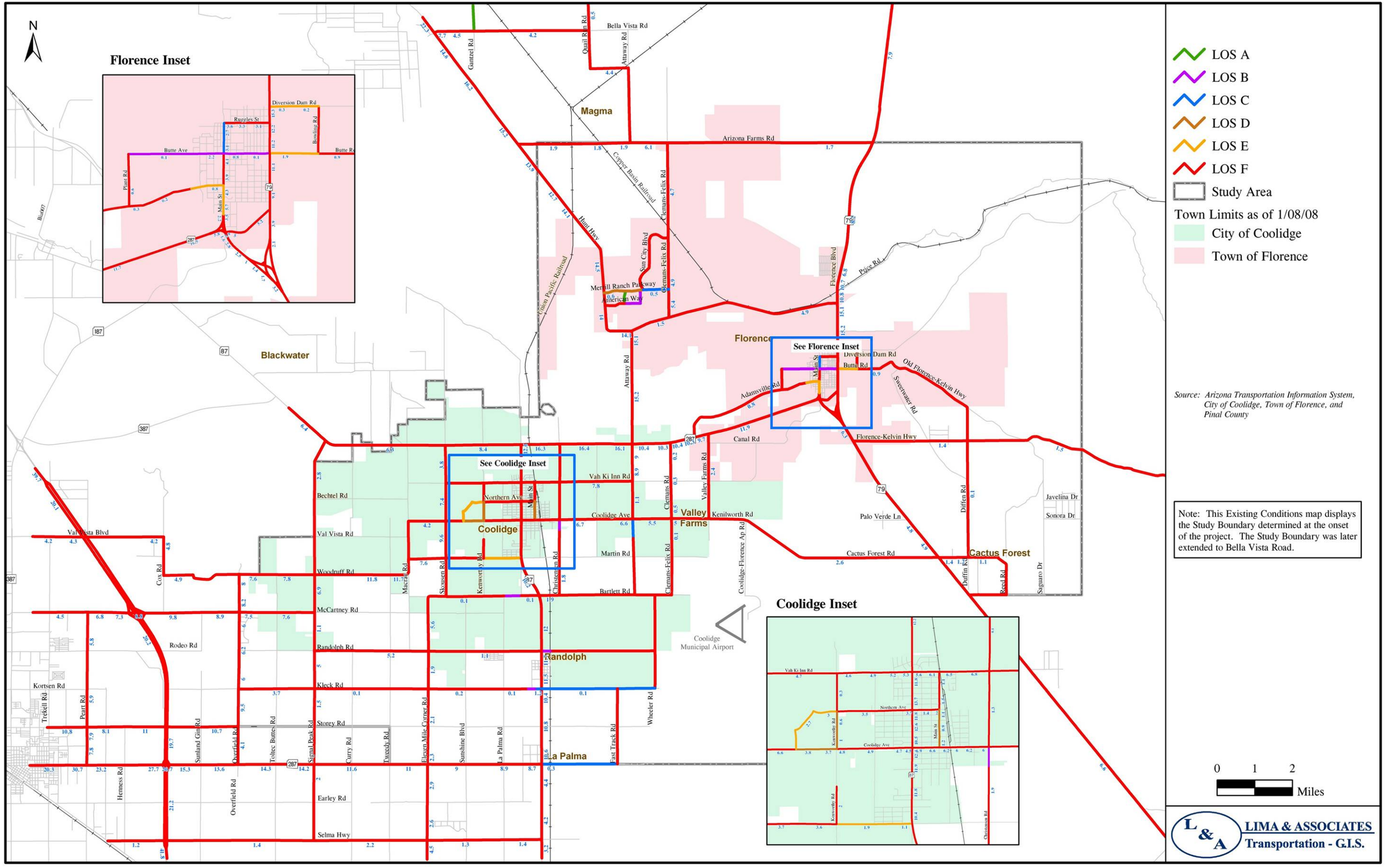


FIGURE 5-5. 2005 ROAD NETWORK WITH 2025 SOCIOEONOMIC PROJECTIONS - LEVEL OF SERVICE



Base 2025 Road Network

As noted above, a Base 2025 Street Network was developed in coordination with the Technical Advisory Committee (TAC) as illustrated in Figure 5-6. The network was developed based on the following information;

- Coolidge General Plan Land Use Plan
- Florence General Plan Land Use Plan
- Development plans in both Florence and Coolidge
- Regionally Significant Routes for Safety and Mobility
- Forecasted 2025 Traffic Volumes in the study area

The Base 2025 Network includes new roadways, improvements to existing roadways, and the proposed North-South Freeway Corridor. Figure 5-6 illustrates the number of lanes on the Base 2025 Road Network. Figure 5-7 illustrates the level of service on the Base 2025 network with the 2025 socioeconomic numbers.

Base 2025 Road Network Without The North-South Freeway Corridor

In order to illustrate the impact of the North-South Freeway Corridor in the region, daily traffic volumes were estimated on the Base 2025 Street Network without the North-South Freeway Corridor. Figure 5-8 shows the level of service on the streets without the North-South Freeway Corridor.

2025 ALTERNATIVE ROAD NETWORK

The Base 2025 Road Network was modified to reflect changes in the road network of the Florence land use plan. Figure 5-9 illustrates the level of service on the alternative road network.

North-South Freeway Terminated at SR 287

The Alternative Network was modified to analyze the impact of terminating the North-South Freeway Corridor at SR 287. Figure 5-10 illustrates the daily traffic volumes with this scenario. The impacts of terminating the North-South Freeway Corridor at SR 287 include the following:

- Increase traffic volumes on SR 287 west of the North-South Corridor.
- Increase traffic volumes on SR 87 south of the North-South Corridor.

FIGURE 5-6. BASE 2025 ROAD NETWORK – NUMBER OF LANES

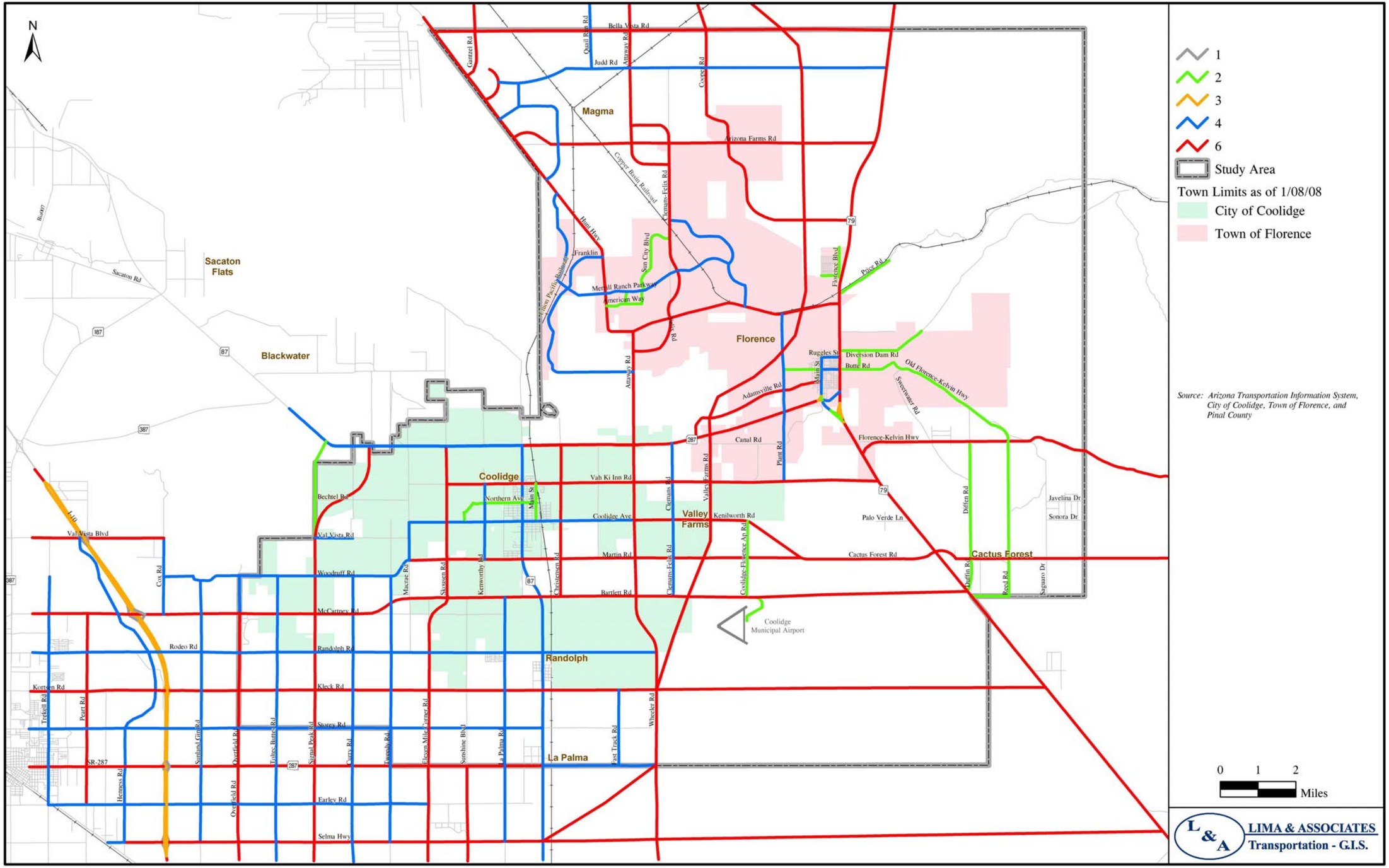


FIGURE 5-7. BASE 2025 ROAD NETWORK - LEVEL OF SERVICE

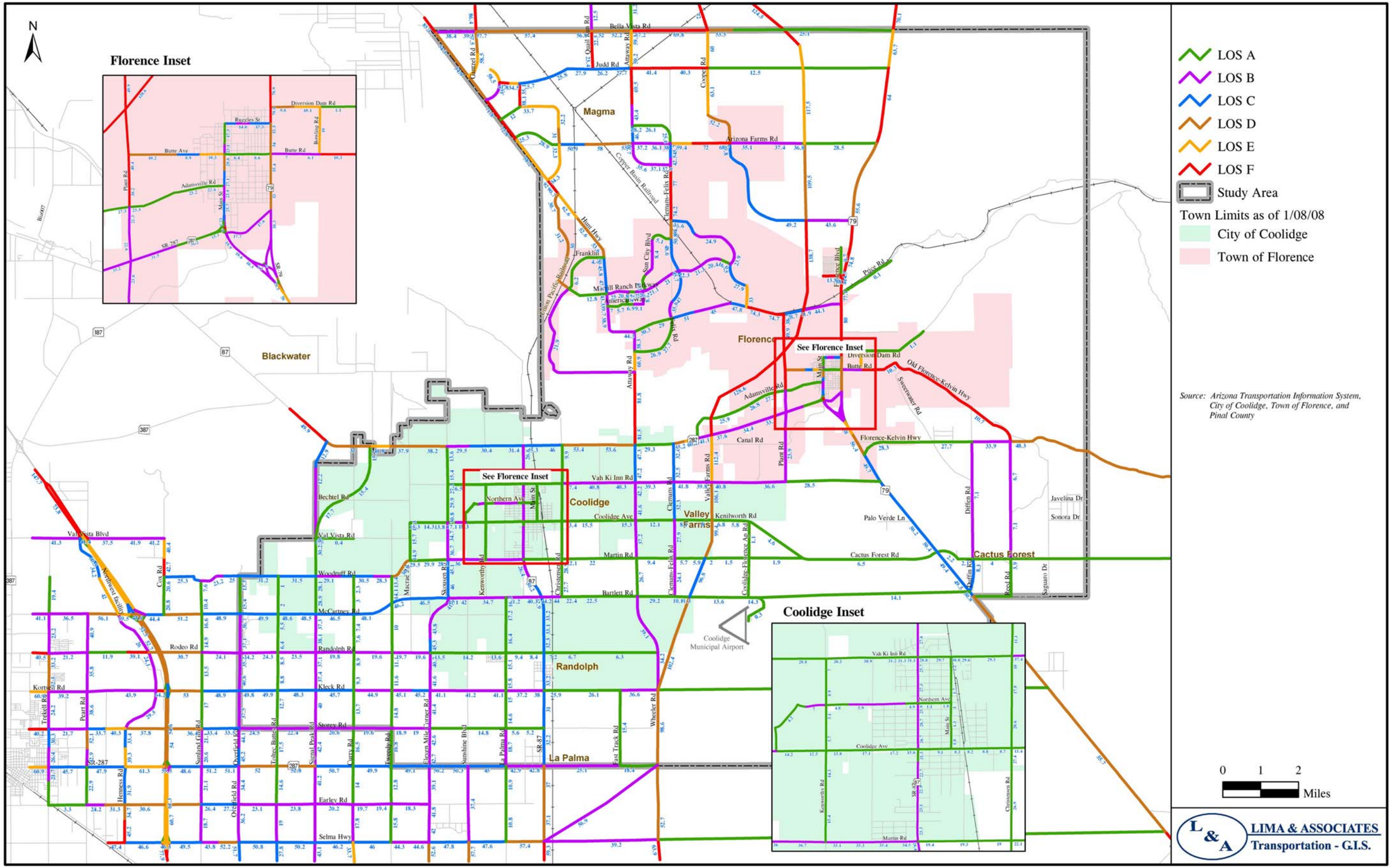


FIGURE 5-8. 2025 BASE ROAD NETWORK WITHOUT NORTH-SOUTH FREEWAY CORRIDOR - LEVEL OF SERVICE

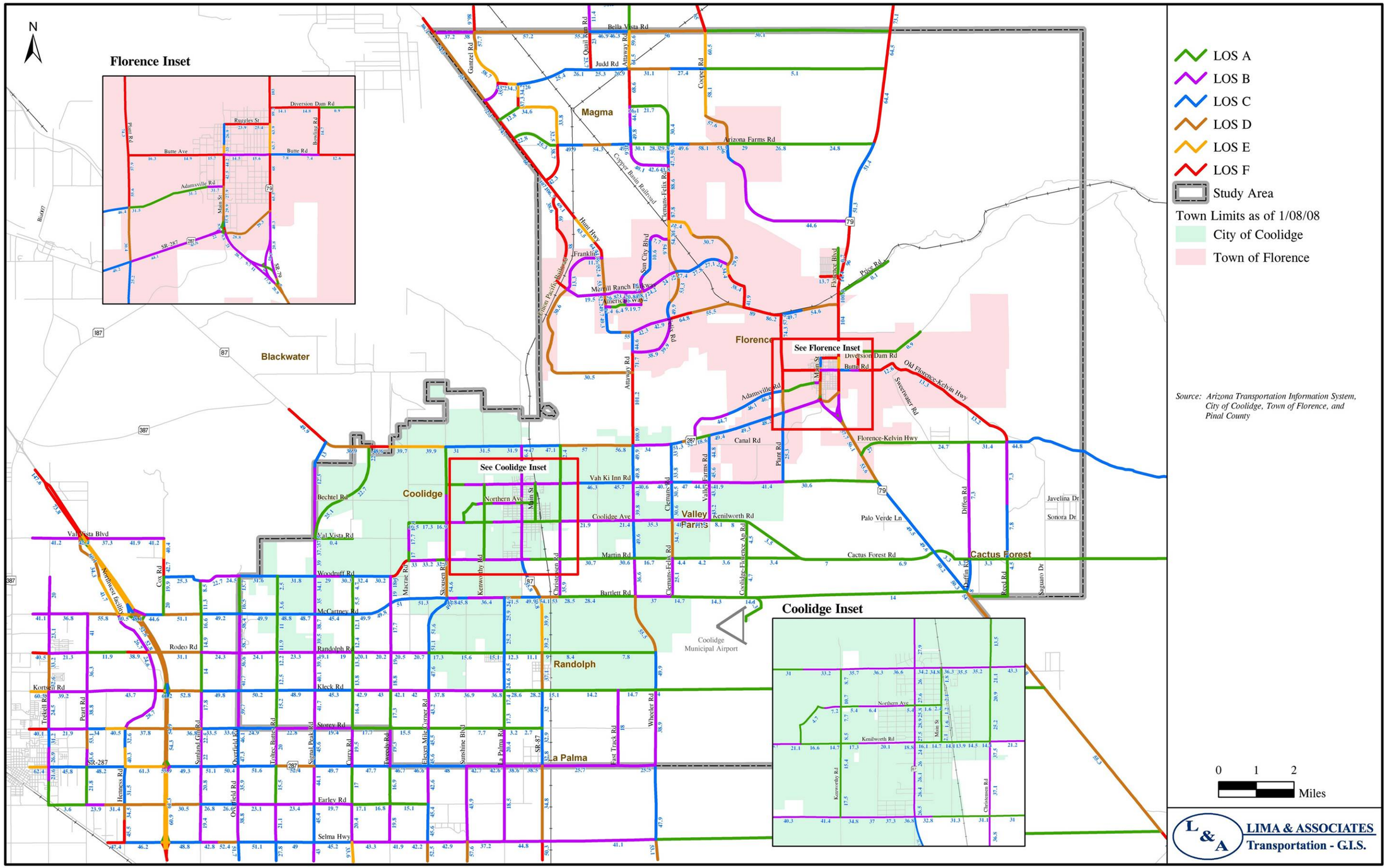


FIGURE 5-9. 2025 ALTERNATIVE 1 ROAD NETWORK 1 – LEVEL OF SERVICE

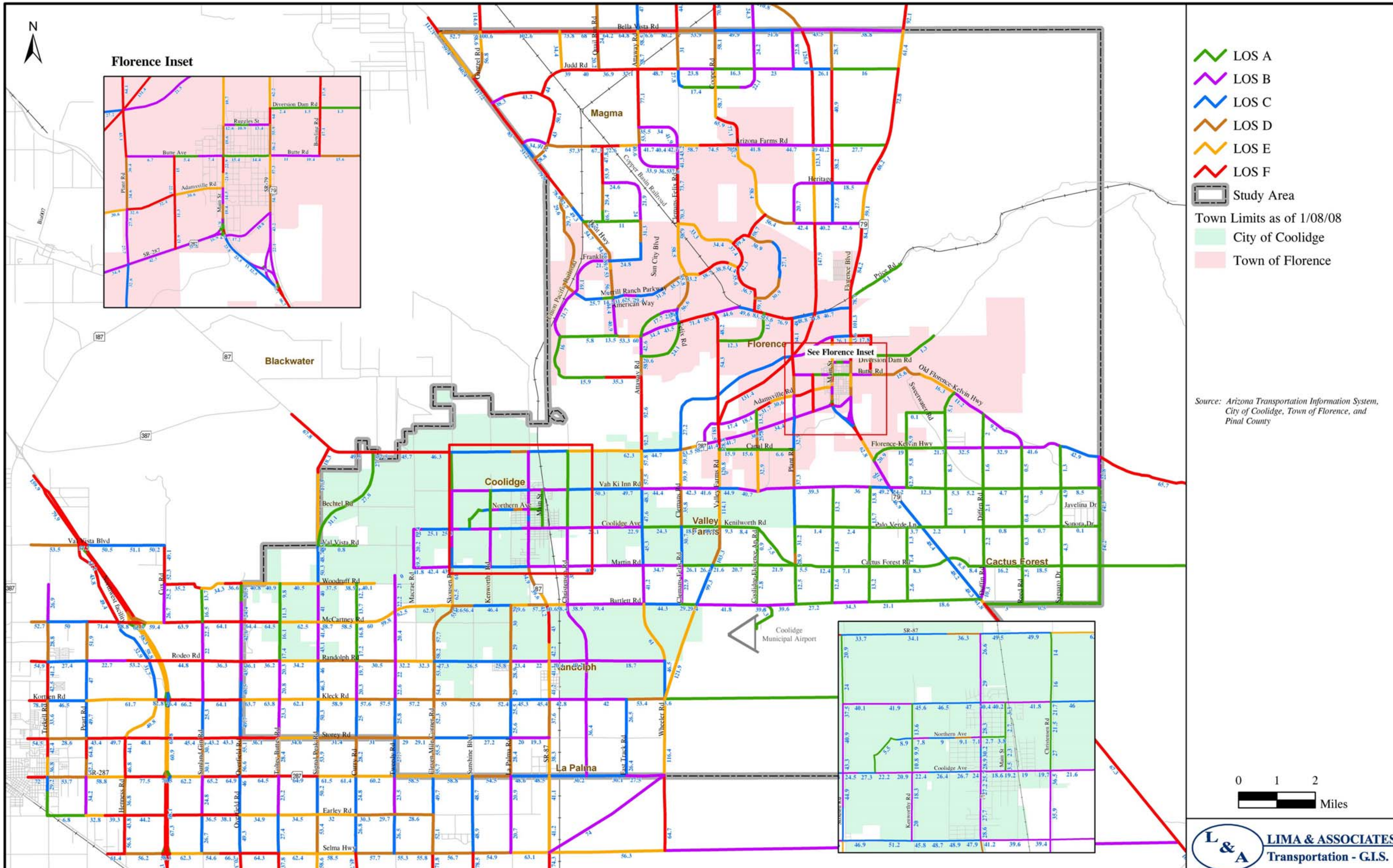
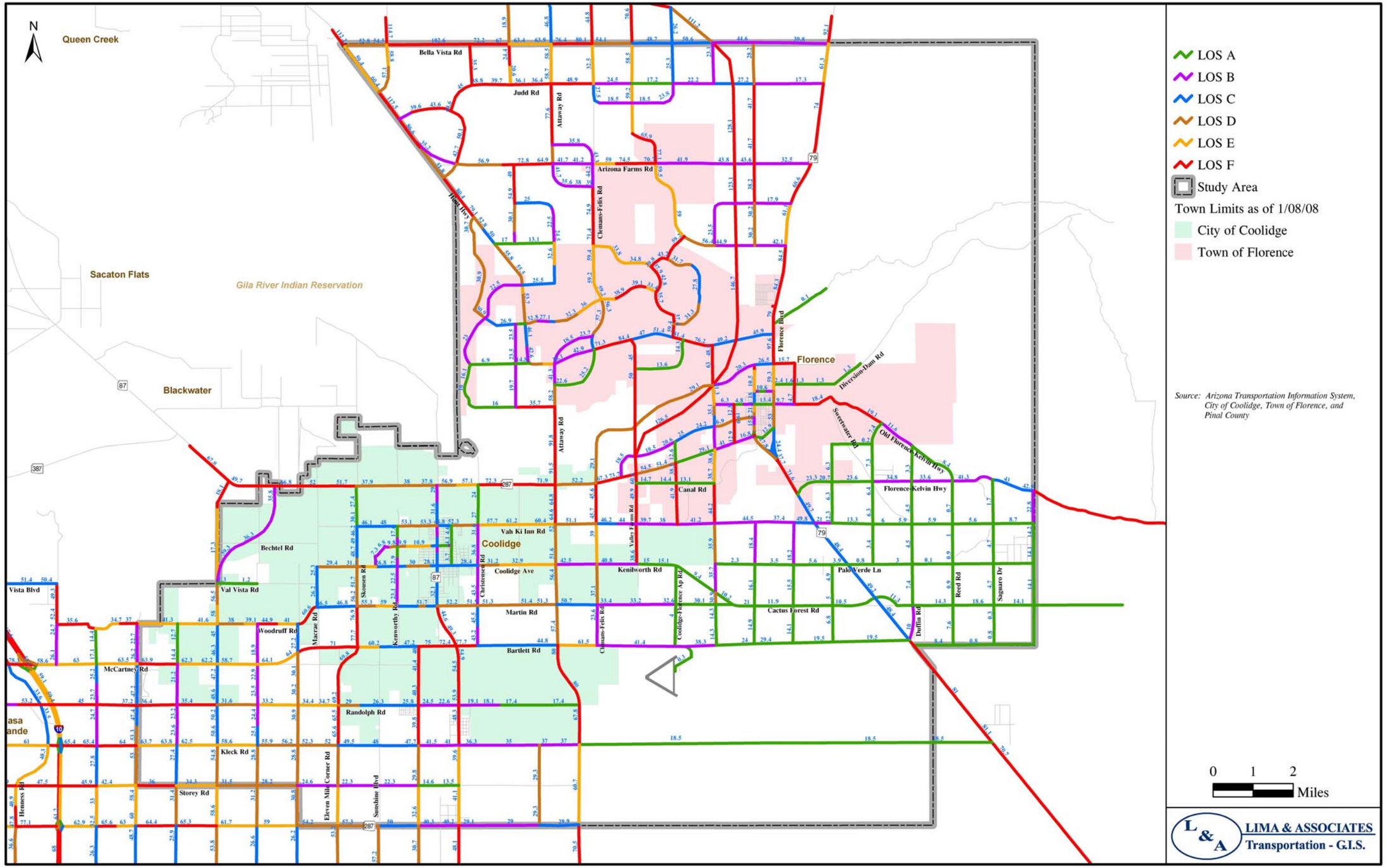


FIGURE 5-10. 2025 ALTERNATIVE 1 ROAD NETWORK 1 (NORTH-SOUTH FREEWAY CORRIDOR TERMINATED AT SR 287) – LEVEL OF SERVICE



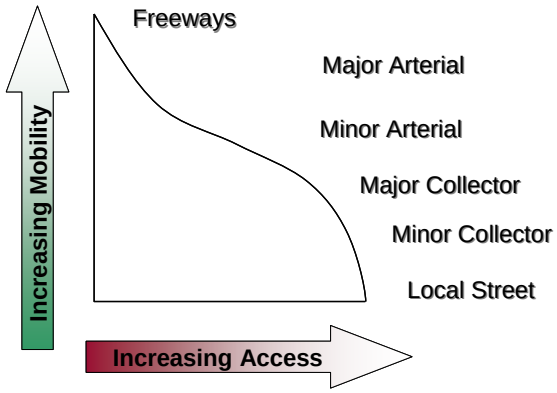
6. RECOMMENDED TRANSPORTATION PLAN - ROADWAY ELEMENT

Chapter 6 presents the Roadway element of the Coolidge-Florence Regional Transportation Plan. First, the concept of a road functional classification is described and a recommended functional classification for the regional plan is presented. The number of recommended lanes for the regional road network is presented. Next, the concept of access management is discussed and recommended road design and access management principles are presented. Design and access criteria are then presented.

ROAD FUNCTIONAL CLASSIFICATION SYSTEM

The road functional classification system is based on mobility, access to adjacent land uses, and continuity of the street network. Figure 6-1 illustrates the relationship of mobility and access for various categories of road functional classification. Roads are classified by function, mobility, and access. Figure 6-1 illustrates the functional relationship of mobility and access to adjacent properties for the various road classifications. The functional classification system for the Coolidge-Florence Region includes the following classifications: Freeway, Major Arterial, Minor Arterial, Major and Minor Collector, and local streets.

FIGURE 6-1. FUNCTIONAL CLASSIFICATION SYSTEM



The following describes the characteristics of the street classifications.

Freeways provide the highest level of mobility by limiting access to grade-separated interchanges. Freeways do not provided direct access to adjacent properties. Interstate 10 is the only freeway in the vicinity of the study area. A North-South (N-S) freeway corridor has been identified from Apache Junction to Coolidge through the study area. A study to determine alignment of this potential freeway will begin in 2008. No funding has been identified for the purchase of right-of-way or for the construction of a North-South freeway.

Prinicpal/Major Arterials provide a high level of mobility and are generally six-lane facilities, located on the one-mile grid, serving major traffic within the region connecting neighborhoods

and business centers. Examples of proposed Principal/Major Arterials include: Hunt Highway in Florence and Christensen Road in Coolidge.

Minor Arterials serve similar circulation needs as Principal Arterials but are typically four-lane roadways. Examples of proposed Minor Arterials include: Butte Road in Florence and Kenilworth Road in Coolidge.

Major Collectors can be configured as a four-lane roadway or as a two-lane road with a center turn-lane. Examples of proposed Major Collectors include: Diversion Dam Road in Florence and Northern Avenue in Coolidge.

Minor Collectors are two-lane roads with no center turn-lane. Major and Minor Collectors provide internal circulation within neighborhoods providing connections to the arterial road system. The establishment of the collector road system is part of the ongoing development activity. Collectors have low access control as they provide connections to the local roadways accessing homes and businesses. Speed limits are lowest for collector roads, and should have lower traffic volumes than larger arterials and expressways. Examples of proposed Minor Collectors include: Ranchview Rd and Bowling Road in Florence.

RECOMMENDED ROAD FUNCTIONAL CLASSIFICATION

Figure 6-2 presents the recommended functional road classification and Figure 6-3 illustrates the proposed number of lanes. Table 6-1 presents the mileage by functional classification.

TABLE 6-1. ROAD MILEAGE BY FUNCTIONAL CLASSIFICATION

Functional Classification	Road Mileage	
	Coolidge Planning Area	Florence Planning Area
Major Arterial	117	103
Minor Arterial	49	116
Major Collector	5	14
Minor Collector	0	3
Frontage	0	18
Total	**171**	**254**

Although the figures illustrating the functional classification and number and lanes include state highways, it is important to note that the Arizona Department of Transportation (ADOT) has the responsibility to determine the improvements on state highways:

> *While this study included roadway facilities owned and operated by ADOT within the study area, it is important to recognize that improvements to the state highway system can be made only after in-depth planning and engineering studies are conducted by ADOT, and upon approval of the State Transportation Board. All traffic interchange improvements must be approved by the Federal Highway Administration (FHWA). The recommendations made by this study for improvements on state facilities can serve only as suggestions for further study.*

FIGURE 6-2. RECOMMENDED FUNCTIONAL ROAD CLASSIFICATION

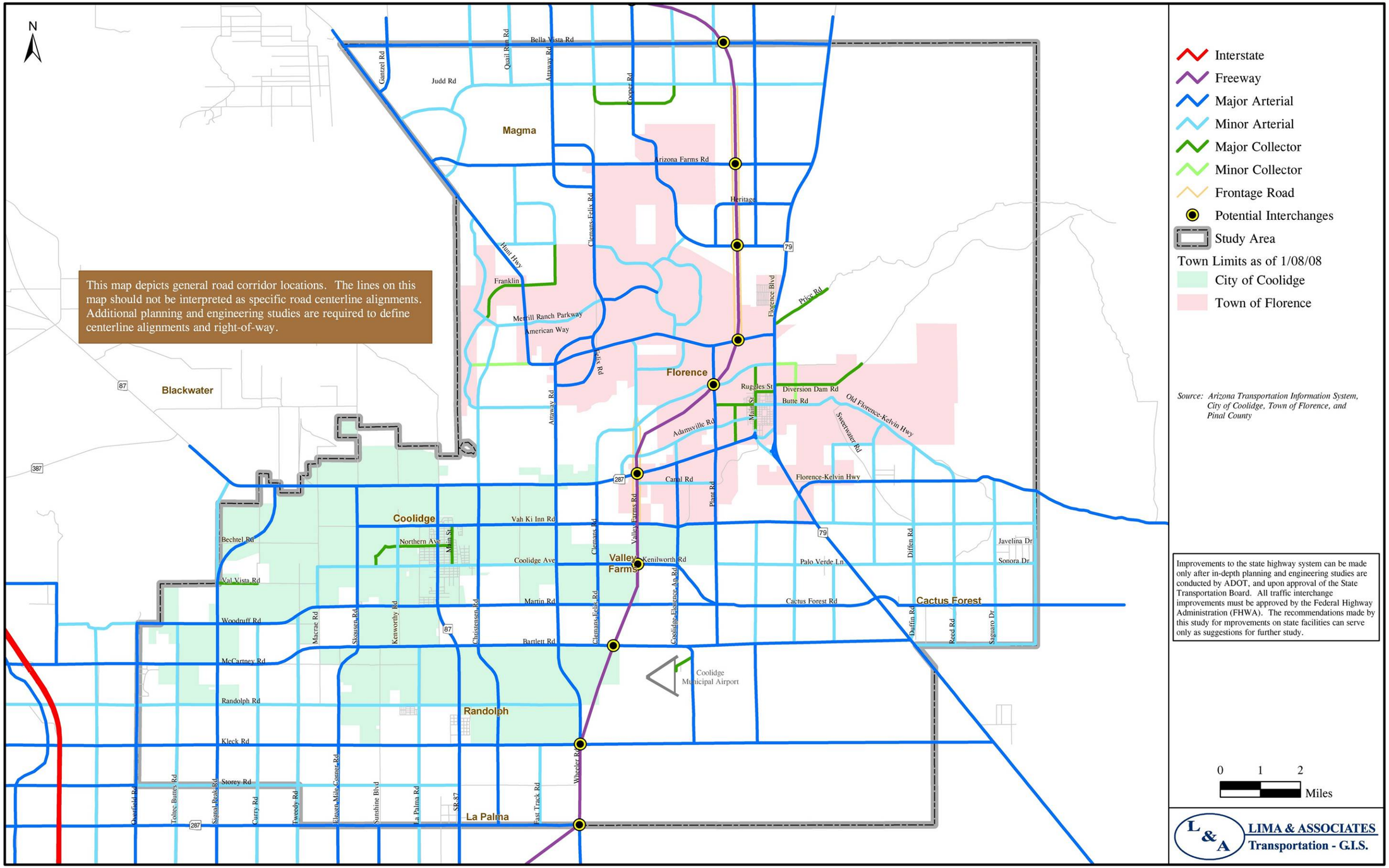
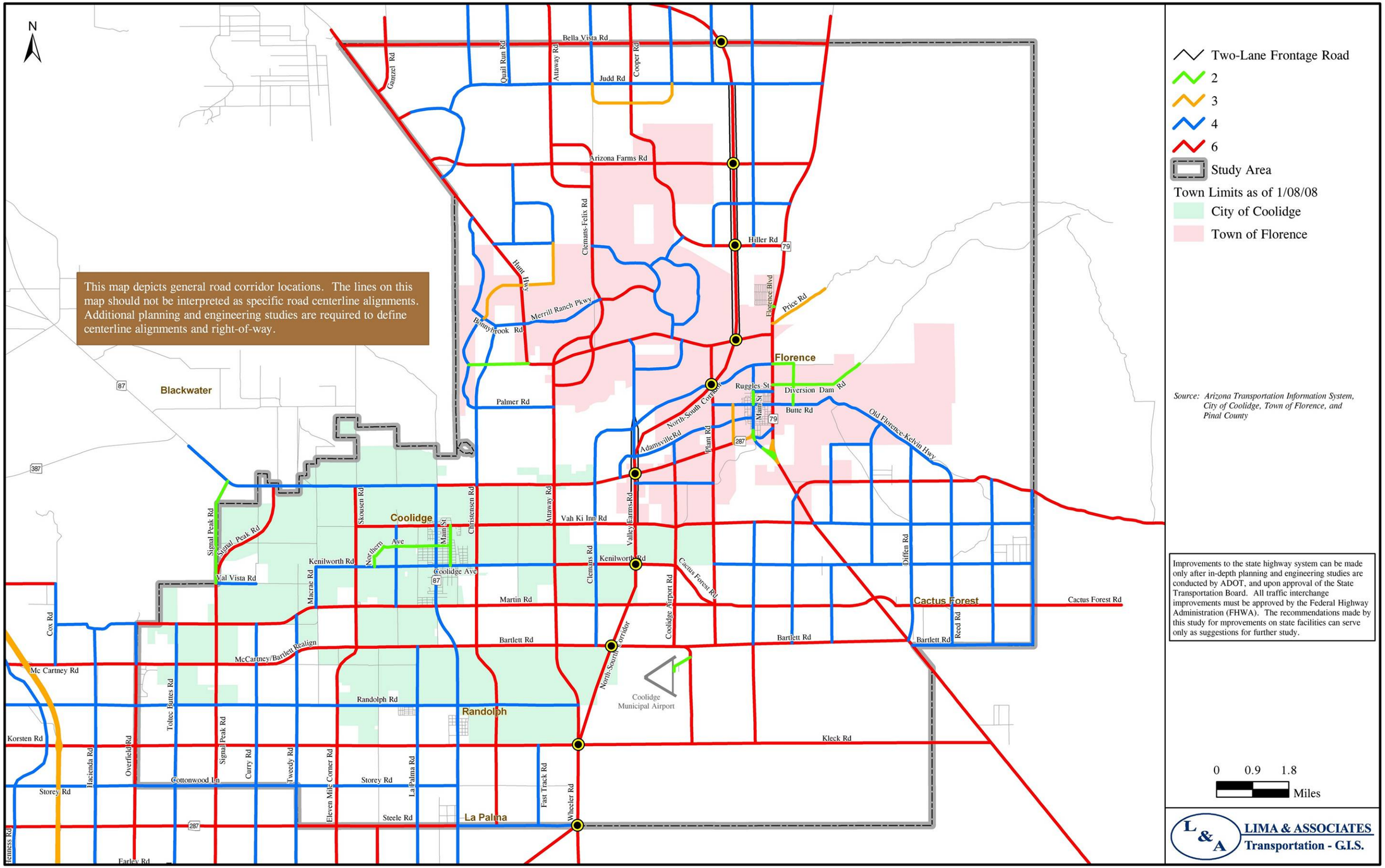


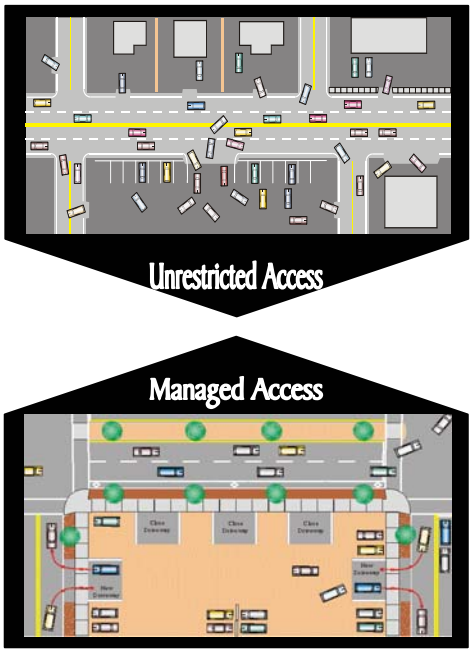
FIGURE 6-3. 2025 NUMBER OF LANES



ACCESS MANAGEMENT

Need for Access Management

The purpose of major transportation corridors is to provide for the safe and efficient movement of people and goods at a high level of service. If access to these corridors is limited, then safety and mobility will be maintained along the corridors. However, if access to adjacent property is not limited and adjacent property develops, the addition of traffic signals and curb cuts often has an adverse effect on mobility and safety. As land is developed along transportation corridors, vehicle access to property adjacent to the corridor is often achieved directly to and from the transportation corridor. As a result, more trips are forced onto the corridor due to insufficient internal access systems serving these land use activities. As traffic congestion increases, the level of service provided by the major transportation corridor decreases. In addition, crashes along such a corridor generally increase due to the large number of turning and other conflicts along the corridor.



What is Access Management?

One way to minimize the adverse impact of increased access to adjacent property is to apply access management techniques along transportation corridors. According to the Federal Highway Administration (FHWA) access management is:

> *The process that provides access to land development while simultaneously preserving the flow of traffic on the surrounding system in terms of safety, capacity, and speed.*

In practical terms this process requires the regulation of vehicular access to public highways from adjoining property in order to limit the number of access points to a roadway, and, therefore; to reduce the number of potential conflict points among the users of the roadway.

- Access management deals with the traffic problems caused by unmanaged development before they occur.
- Access management addresses how land is accessed along arterials.
- Access management focuses on mitigating traffic problems arising from development and increased traffic volume traveling to the new activity centers.
- Access management calls upon local planning and zoning to address overall patterns of growth and the aesthetic issues arising from development.

Access management is the use of techniques by state and local governments to improve the access to highways and local roads. The purpose of these techniques is to improve travel time and improve safety:

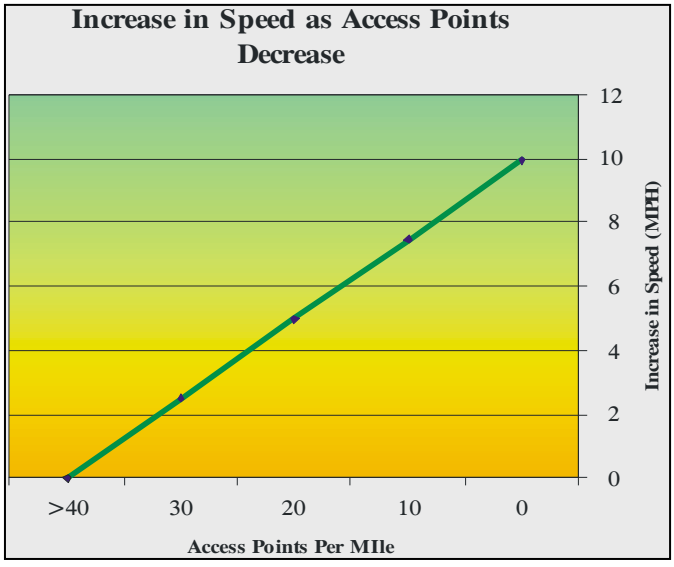
- Increase spacing of intersections and interchanges to improve movement and traffic flow.
- Reduce the number of driveways to avoid conflict points and reduce accidents.
- Use left- and right-turn lanes to separate traffic movements, improving both traffic flow and safety.
- Apply median treatments including two-way left-turn lanes and raised medians that allow drivers to safely turn off of the highway.
- Use frontage and backage roads that provide for safer and easier access to businesses and local roadways.
- Implement land use policies that regulate types of land use conducive to the highway environment.

What are the Benefits of Access Management?

The primary benefits of access management are:

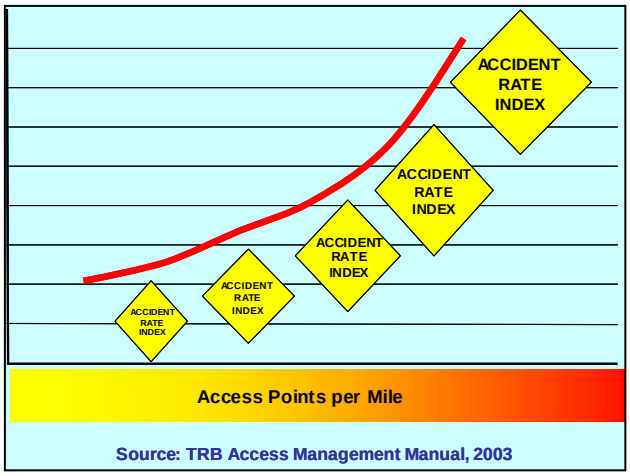
- overall reduced travel time
- reduced vehicle crashes
- reduced travel time of customers to businesses

The benefits of access management are well documented in the professional literature including the *TRB Access Management Manual*, *NCHRP Report 420, Impacts of Access Management Techniques* and other reports.

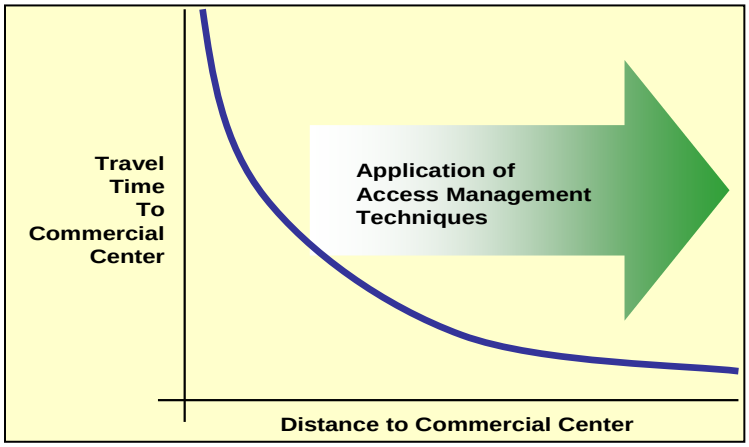


Some of the most important access management techniques relate to the frequency of driveways and intersections and the uniformity of traffic signal spacing. Travel time has been shown to decrease significantly as speed increases with the reduction in the number of driveway and intersection access points. The uniform and increased spacing of traffic signals will also increase travel speeds.

Many studies have shown that crash rates increase with greater frequency of driveways and intersections. More driveways and intersections mean more conflicts between vehicles and also between vehicles and pedestrians. Crashes can be reduced significantly with fewer driveways and intersections.



One of the complaints about access management comes from businesses concerned about restricting access to their enterprises. However, studies have shown that the application of access management techniques reduce the travel time from residential areas to commercial areas and thereby increases the overall market area for businesses. The reduction in the number of access points ensures safer access to business. The positive impact of access management on businesses is documented in the FHWA brochure: *Safe Access is Good For Business*. The brochure and accompanying CD includes support from owners of businesses that were in opposition before access management techniques were applied but in support after the techniques were in effect.



Access Management Techniques

Access management techniques can be grouped into two broad categories: land use and technical tools. Individual techniques within these categories are listed below. Appendix B describes the individual techniques in more detail.

Land use and Development Techniques

- Acquisition of Access Rights
- Dedication and Exactions
- Interim Use Allowances
- Purchase of Development Rights
- Transfer of Development Rights
- Land Development Regulation
- Flexible of Cluster Zoning

- Overlay Zones
- Subdivision Regulations and Site Plan Review
- Zoning Regulation

Technical Tools

- Driveway Consolidation
- Driveway control
- Right-in/Right-out
- Joint Driveway/Cross-Access
- Raised Medians
- Alternative Access Ways
- Frontage and Backage Roads
- Retrofitting Techniques

ROAD DESIGN AND ACCESS CRITERIA

Recommended Access Management Principles include:

- **Primary Access.** For sites that have frontage on two streets, primary access should be onto the minor street.

- **Minimize Access Points.** Subdivisions and sites should be designed to minimize the number of access points. A maximum of two driveway entrances are permitted.

- **Cross Access.** Where new development adjoins other similarly zoned property or compatible land uses, a cross access easement may be required to permit vehicular movement between the parcels and reduce the number of access points required onto the adjacent public street. This may be required regardless of the development status of the adjoining property, unless the cross access is determined to be unfeasible.

Table 6-2 presents the proposed design and access criteria for the roadway classifications. Appendix C in the Final Report presents the specific street design and access criteria roadway classifications for the Town of Florence and Appendix D in the Final Report presents the street cross sections for the City of Coolidge. **Note that the criteria presented in the table are minimum spacing needs and that it is recommended that longer spacing intervals be provided between intersections and between driveways.**

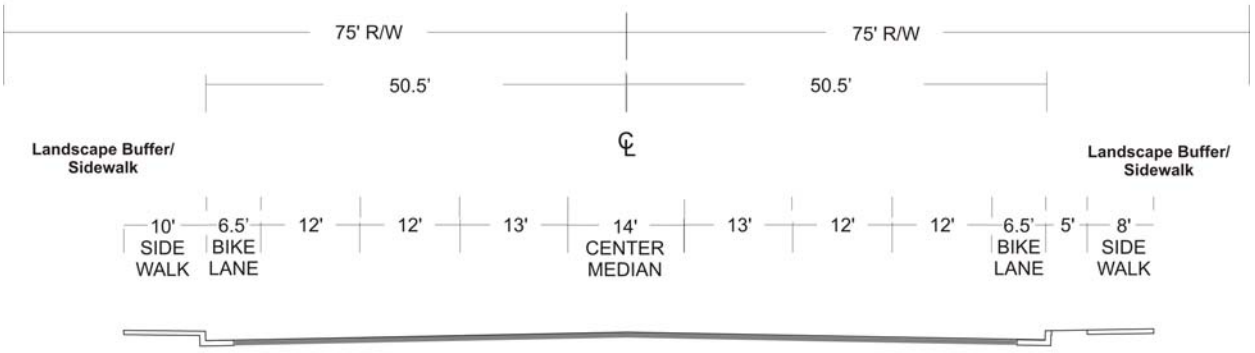
TABLE 6-2. MINIMUM ROAD DESIGN AND ACCESS CRITERIA

Criteria	Functional Classification					
	Freeway	**Principal/Major Arterial**	**Minor Arterial**	**Major Collector**	**Minor Collector**	**Local Street**
Road Purpose	Mobility	Mobility	Mobility/Access	Access/Mobility	Access	Access
Planning Average Daily Traffic	>55,000	45,000-55,000	30,000	10,000	8,000	1,000
Design Standards						
Design Speed	75 mph	55 mph	45 mph	35 mph	35 mph	20 mph
Right-of-Way Width	300'+	130'-150'	110'	80'	60'	50'-60'
Median	Divided	Divided	Divided	TWLT	TWLT	N/A
Number of Lanes	4 and Greater	6	4-5	2-4	2-3	2
Left-turn Lanes	NA	At all locations where permitted	At all locations where permitted	At all locations where permitted	At all locations where permitted	NA
Right-turn Lanes	NA	At all locations where permitted and warranted	At all locations where permitted and warranted	At all locations where permitted and warranted	At all locations where permitted and warranted	NA
Access Management Guidelines						
Public Access	Grade-Separated Interchanges Only	1/8-1/2mile	1/8-1/4 mile	1/8-1/4 mile	1/8 mile	Residential street
Property Access	None	Rt. in/Rt. Out Full access where approved	Rt. in/Rt. Out Full access where approved	Full access where approved	Full access where approved	Not Restricted
Traffic Signal Spacing	NA	Mile and ½ mile locations, Fully coordinated and progressed where warranted	½ mile locations, ¼ mile locations where warranted	½ mile locations. ¼ mile locations where warranted	NA	NA
Typical Traffic Control	NA	Signalized, two-way stop	Signalized, two-way stop	Signalized, two-way stop	Signalized, two-way stop	Stop Control
Parking	Prohibited	Prohibited	Prohibited	Restricted	Restricted	Allowed
Alternative Modes						
Transit	Potential HOV Lane	Bus pull-outs and queue jumpers where warranted	Bus pull-outs and queue jumpers where warranted	NA	NA	NA
Bike Lanes	No	Yes	Yes	Yes	Yes	No
Sidewalk (both sides)	None	6'	6'	5'	5'	3' - 4'

TWTL – Two-way Turning Lanes

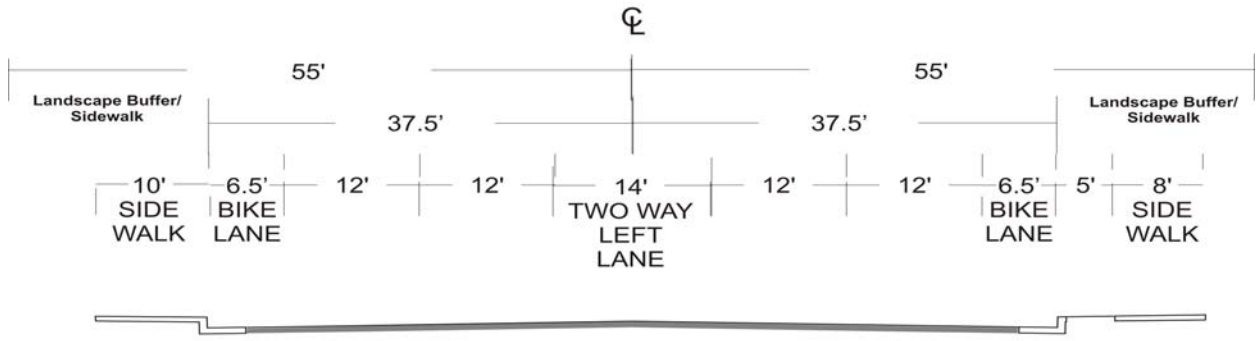
FIGURE 6-4. TYPICAL CROSS-SECTIONS

Major Arterial



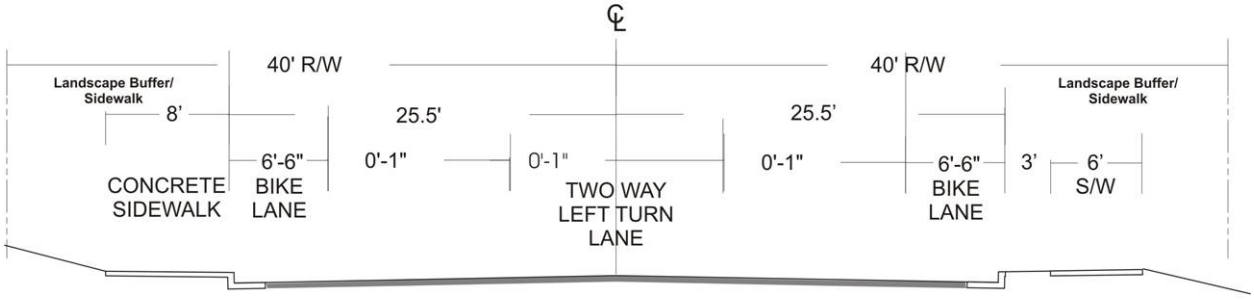
Note: Dimensions shown are for Urban Roadways.
Lane widths may vary by jurisdiction.
Landscape Buffer/Sidewalk widths and treatments vary for rural and suburban areas.

Minor Arterial



Note: Dimensions shown are for Urban Roadways.
Lane widths may vary by jurisdiction.
Landscape Buffer/Sidewalk widths and treatments vary for rural and suburban areas.

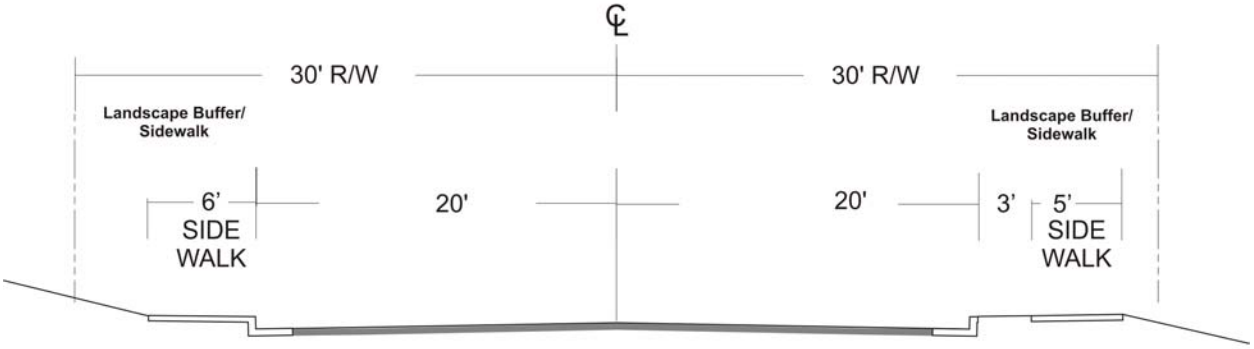
Major Collector



Note: Dimensions shown are for Urban Roadways.
Major Collectors could also include four lanes.
Lane widths may vary by jurisdiction.
Landscape Buffer/Sidewalk widths and treatments vary for rural and suburban areas.

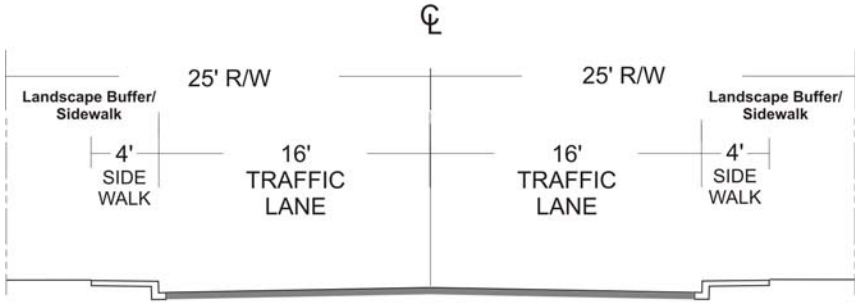
FIGURE 6-4. TYPICAL CROSS-SECTIONS (Continued)

Minor Collector



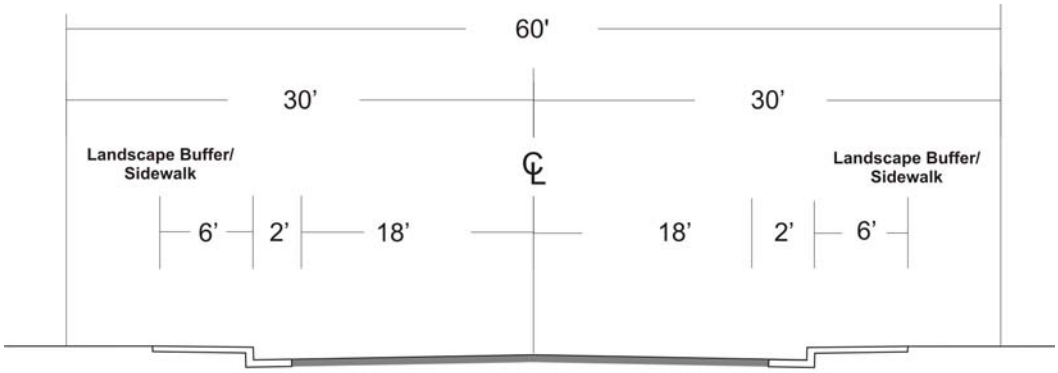
Note: Dimensions shown are for Urban Roadways.
Lane widths may vary by jurisdiction.
Landscape Buffer/Sidewalk widths and treatments vary for rural and suburban areas.

Local Street



Note: Dimensions shown are for Urban and Suburban Roadways.
Rural and local streets may have narrower traffic lanes.
Lane widths may vary by jurisdiction.
Landscape Buffer/Sidewalk widths and treatments vary for rural and suburban areas.

Local Commercial/Industrial



Note: Lane widths may vary by jurisdiction.
Landscape Buffer/Sidewalk widths and treatments vary for rural and suburban areas.

7. PUBLIC TRANSPORTATION PLAN

This Draft Public Transportation Plan presents an analysis of demand for public transportation in the study area, and discusses options for future transit and multimodal services. A draft implementation plan and potential sources of funding are included.

SUMMARY OF FINDINGS AND RECOMMENDATIONS

- Six modes of transit have been identified as most likely for eventual implementation in the Study Area.

  - ✓ Dial-A-Ride and Paratransit Services
  - ✓ Regional Bus Service
  - ✓ Commuter Rail Service
  - ✓ Deviated Fixed Route Service
  - ✓ Regional Rail Service
  - ✓ Excursion Rail Service

- Due to population growth, needs of area transit-dependent citizens are changing quickly.
- Coolidge and Florence should consider setting aside appropriate spaces for community transit centers.
- Many residential developments within the study area are essentially automobile-oriented in design.
- Pinal Rides, a six-month pilot program to provide human services transportation on two routes in central Pinal County, is being operated from fall 2007 through spring 2008 by the Pinal-Gila Council for Senior Citizens.
- Transportation Demand Management can address the needs of those traveling long distances with rideshare options such as vanpools and carpools.
- By 2025, portions of Coolidge and Florence will exhibit combined population and employment densities that may warrant the operation of commuter rail service to Phoenix and Tucson as well as local bus services.
- A number of federal, state, and local funding sources and mechanisms exist for funding public transportation in the study area.

Recommended Next Steps

- The City of Coolidge and the Town of Florence should pro-actively support the Pinal Rides Pilot Program by participating on the Advisory Council and providing funding.
- The City of Coolidge and the Town of Florence should communicate and coordinate with organizations and agencies that are evaluating and/or advocating inter-regional transit service options affecting the County.

- The City of Coolidge and the Town of Florence should consider development of transit oriented design (TOD) overlays that could be implemented along identified future transit corridors.
- The City of Coolidge and the Town of Florence should continue to present short- and long-range plans to ADOT Public Transportation Division.
- The City of Coolidge should continue to evaluate the operation of the Cotton Express and plan for service expansion as population growth and development warrant.
- The Town of Florence should conduct a Transit Feasibility and Implementation Study to identify current and future public transportation needs within the town as well as demographic thresholds for implementing future services.
- The Town of Florence should hire a Transportation Coordinator, when needed.
- The Town of Florence should appoint a volunteer Transit Advisory Committee to assist the Town in identifying the desirable attributes of the coordinator position and to work with the coordinator after his or her selection.

POTENTIAL SERVICES AND FACILITIES

Different Types of Transit Service

Six modes of transit have been identified as most likely for eventual implementation in the study area. These are:

- Dial-A-Ride and Paratransit Services
- Deviated Fixed Route Service
- Regional Bus Service including service connecting Coolidge and Florence with one another and with other Pinal County communities as well as Commuter Bus Service connecting Coolidge and Florence with the Metropolitan Phoenix and Tucson areas
- Regional Rail Service
- Commuter Rail Service
- Excursion Rail Service

Depending upon the rate of population growth in the study area, and the density with which corridors develop, both light rail and modern streetcar service might also be considered for implementation.

The key characteristics of all these modes are compared in Figure 7-1.

FIGURE 7-1. DIFFERENT TYPES OF TRANSIT SERVICE

—City of Coolidge photo

"Dial-a-Ride" Service is a demand-response service. Vehicles do not operate on a fixed route or schedule, but pick-up patrons at their origins and deliver them directly to their destinations. Before the trip begins, and during the course of the trip, the driver receives information from a dispatcher concerning pick-up and drop-off requests.

This cutaway vehicle, comprising a minibus body constructed on a recreational vehicle chassis, is currently used by Cotton Express for both dial-a-ride and deviated fixed route service within the City of Coolidge.

—Flagstaff Mountain Line photo

Deviated Fixed Route Service, sometimes referred to as "checkpoint" service, is considered an intermediate step between dial-a-ride, which targets transit dependent riders, and fixed route service, which is more efficient in larger cities having significant volumes of transit ridership. A deviated fixed route stops at scheduled "time points"—or "checkpoints"—much as a fixed route service does. However, the route taken between points can vary from trip to trip. This mid-size transit coach is also used for fixed route service in smaller cities—as is being done in Flagstaff.

—Lima & Associates photo

Bus Rapid Transit service operates at higher speeds and makes fewer stops than local buses, resulting in trip times that are more competitive with those of trips made in a private automobile. Bus rapid transit routes typically operate on freeways, in high-occupancy vehicle lanes, in lanes designated for bus use only, or on dedicated bus ways. Valley Metro's new "Rapid" buses feature amenities that make longer trips more comfortable such as forward-facing, reclining seats, individual reading lights, and overhead storage. Such vehicles could also be used for express, limited stop, or regional services.

FIGURE 7-1. DIFFERENT TYPES OF TRANSIT SERVICE (Continued)

—Lima & Associates photo

Light Rail systems, such as Denver's shown here, have stations spaced at least one-half mile apart that can resemble commuter rail facilities, with platforms that match car door height for accessibility, ticket and other vending machines, park-and-ride lots, and other amenities. Trains operate in reserved rights-of-way, not shared with motor vehicles.

—Portland Development Commission photo

Modern Streetcar equipment is similar to that used in many light rail applications. However, streetcars operate more like a bus than a train, sharing travel lanes with motor vehicles and stopping frequently at "bus-like" stops.

FIGURE 7-1. DIFFERENT TYPES OF TRANSIT SERVICE (Continued)

—Metrolink photo

Commuter Rail Services such as the Los Angeles area Metrolink connect suburbs from neighboring counties with the center of a major metropolitan area. Metrolink operates 130 trains daily on 66 different routes in the LA area and carries an average of over 27,000 riders each day. Trains operate as far east as Riverside and San Bernardino.

Bi-level commuter rail cars carry between 100 and 130 persons each, are wheelchair accessible, and also have bike racks. Trains average 45 mph, including stops.

—Marc Pearsall photo

Regional Rail services can use equipment similar to that used for commuter rail or can be equipped with reclining seats and other amenities designed to make longer trips more comfortable.

Amtrak normally operates this TALGO train between Portland and Seattle. In May 2000, a special round trip was operated between Phoenix and Tucson, including a stop in Coolidge, to demonstrate the potential for such service in the Phoenix-Tucson corridor. Due to the increased volume of rail freight service, additional tracks may be needed to operate passenger rail services.

—Lima & Associates photo

Excursion Rail operations such as the Grand Canyon Railway shown here can help boost tourism and attract economic development. The Grand Canyon Railway carries over 200,000 visitors to the Park each year. Trains are a practical means of enjoying ecologically sensitive areas such as the Verde River Canyon in Central Arizona, home to another popular rail excursion. Development of a similar operation through the Gila River Canyon east of Florence over the Copper Basin Railway has been considered.

Types of Bus Transit Vehicles

The vehicles used by a public transportation operation are the most tangible aspects of the service, and it is tempting to think of the service provided by a particular operation in terms of its vehicles. We all know what a "Greyhound Bus" looks like, for example. Technically speaking, however, any type of vehicle can be used for the operation of any type of service. On a lightly traveled route, for example, a 14-passenger van often functions as a scheduled intercity bus. At the other end of the scale, full size coaches, when chartered by groups, perform a function not unlike that of a taxi—except for the number of persons carried.

Five basic types of vehicles are used to provide public transportation:

- Automobiles
- Vans and customized vans
- Body-on-recreational-vehicle-chassis or cutaway vehicles
- School bus vehicles
- Purpose-built vehicles—intercity and transit coaches

Examples of the vehicle types most commonly associated with the different types of operation are shown in Figure 7-1. With the exception of automobiles, all vehicle types are routinely fitted with wheel chair lifts and other appliances designed to facilitate accessibility pursuant to the specifications of the Americans with Disabilities Act (ADA).

Types of Light Rail and Modern Streetcar Equipment

As the light rail and modern streetcar photos in Figure 7-1 suggest, the equipment used for both types of services is similar in appearance. Both are articulated, electrically-powered units that receive power from overhead wires and can be operated singly or joined together as trains staffed by a single operator in the cab of the lead car. Light rail cars vary in length and are usually between 8.5 and 10 feet in width. Light rail equipment is capable of speeds in excess of 60 mph. Modern streetcars have similar dimensions, but are designed to operate at slower maximum speeds.

Electrically-powered equipment has the capability of quick acceleration and braking, which can reduce the travel time needed between stops. In many cases passenger comfort and safety are the limiting factors with respect to the quickness of acceleration and braking.

Light rail systems are designed so that the height of the station platforms and the car floors are identical, enabling convenient wheelchair accessibility as well as bicycle loading. Unlike buses, where bicycles are loaded on the front of the bus, light rail vehicles have internal bicycle racks from which bicycles can be loaded more quickly and conveniently.

Types of Passenger Rail Equipment

The length and width of passenger rail cars are relatively standardized, with cars being between 10 and 10.5 feet wide and between 80 and 85 feet long. This standardization facilitates the planning and construction of station platforms and the placement of station "furniture" together with that of other trackside structures. Much modern rail passenger equipment is designed for use with "high-level" platforms, where the station platform, the entry door "vestibule" area, and the aisle between the seats within the cars are all at the same height above the rails. Such cars are commonly used in the Northeast, especially within the New York and Philadelphia metropolitan areas. Elsewhere, including the West Coast, the use of cars with entry doors designed for use with platforms eight inches above the top of the rails predominates.

Most commuter rail cars are double-decker; the cars operated in New Mexico's Railrunner service have ramps leading to the different seating levels within the cars, making many of the seats ADA accessible. Many commuter rail cars have internal bike racks similar to those in light rail cars. Commuter rail systems in Dallas, Los Angeles, and San Diego use similar cars. Equipment used for regional rail routes is designed for longer trips with wider, reclining seats and more legroom.

EVALUATION OF DEFICIENCIES AND NEEDS

This section summarizes the future needs of transit-dependent persons in the study area and discusses appropriate ways of addressing these needs. Demographic thresholds for implementing various types of transit service are explained.

Opportunities and Constraints

The area is growing so rapidly that the needs of its transit-dependent citizens are also changing quickly. A response identified as appropriate mitigation for current unmet needs may well be out-of-date by the time it is implemented. One way to meet this challenge would be to implement services flexible enough to evolve as the local jurisdictions grow.

Senior Center-Based Services

The first local transit service in communities not currently served by transit is often provided as part of the establishment of a local Senior Center. These centers typically obtain FTA Section 5310 funding for the purchase of one or more vehicles used to transport seniors to the center, as well as to provide "meals on wheels" services for those who are homebound. Section 5310 funds are for capital purchases such as vehicle acquisition and may not be used to subsidize operations. The local jurisdiction where the center is located would appropriate matching funds. If LTAF II funds are available, they can be used for this purpose.

Ride-sharing Program

One way to address the demand for travel by transit-dependent persons—other than medical emergency or senior travel—would be to establish a community ride-sharing program. Such a program could include carpools as well as vanpools. As vanpool ridership between Coolidge, Florence, and other urban areas and specific destinations or areas in metropolitan Phoenix or Tucson increases, some vanpools could evolve into commuter bus service.

Community Transit Centers

Coolidge and Florence should consider setting aside appropriate spaces for community transit centers. The centers should be located strategically on one of the regional arterials serving the area such as:

- Downtown Coolidge at the former passenger rail station site
- North of downtown Florence near the intersection of SR 79 and the Copper Basin Railway tracks as called for in the Town's General Plan Update
- North of Coolidge near the intersection of Hunt Highway and the Union Pacific tracks
- At Central Arizona College

Locating a center adjacent to the railroad—such as the Town of Gilbert in Maricopa County has done—would enable the use of the center as a future regional or commuter rail station. Possible elements of these transit centers could include transfer terminals for use by future intercity bus, shuttle, and rail services and future local area circulators as well as park-and-ride facilities for transit passengers as well as car pool and van pool participants.

Such transit centers could also be part of larger community gateway facilities that also include:

- Tourist and Newcomer information centers staffed by local volunteers or Chamber of Commerce staff
- Economic development satellite offices
- Full service truck and RV stops
- Secure parking for bus and rail patrons
- Bicycle lockers and bicycle rental

Provision of such terminal facilities is a major stumbling block for private sector transit operators, many of whom are under capitalized and have committed available capital to the purchase of the vehicles themselves. Conceivably, the provision of such centers could be a catalyst for the entry of new private sector transit providers into the market place.

Auto-oriented Developments

Many residential developments within the study area are essentially automobile-oriented in design. Some developments are designed as discrete communities having internal circulations of loop roads or spines with cul-de-sac branches not designed to facilitate efficient pedestrian or bicycle travel between adjacent developments or between a residence within a development and an external commercial area. In these developments, the internal roadway system is linked to the external network by one or more "gateway" entrances from arterials.

The success of a transit system depends to a large extent on the likelihood that bus stops along the routes can be accessed by pedestrians without having to walk more than a quarter of a mile from their points of origin to a stop. Some existing developments are inadvertently designed to discourage transit usage. The lack of contiguous collector streets between the developments would result in higher walking distances from residences to bus stops than would otherwise be the case.

The logical sites for bus stops for a fixed route service serving developments designed in this manner would be stops or bus-pullouts located just downstream from the developments' "gateway" entrances. However, given the few alternatives available to motorists driving to or from development residences, these gateways will have significant traffic and turning movements and the presence of a stopped bus might represent unacceptable sight-distance issues. On the other hand, the lack of connectivity between the internal circulation networks of adjacent developments would preclude the efficient operation of neighborhood circulator or dial-a-ride services.

Rather than allowing auto-oriented developments to proceed to build out and deal with the resulting concerns "after the fact," Coolidge and Florence should stipulate through new or amended ordinances the inclusion of more transit-friendly elements in new developments. Such elements could include:

- Requiring that some parking spaces provided in a commercial development be placed on the side or in back of the building, reducing the acreage of asphalt that pedestrians and transit users must cross to reach the establishments
- Requiring residential developments to have sufficient entrances—preferably aligned with existing or future arterial or collector roadways—to facilitate inclusion of the roadways inside the development within the greater community roadway network. Note that this provision would also facilitate efficient postal delivery, waste management, and timely police and fire response.
- Requiring provision of adequate easements on major arterials—particularly those deemed to be of regional significance—for the future addition of diamond lanes or transit corridors. Major arterials should include sidewalks/shared use paths and either bicycle lanes or wide curb lanes.

- Requiring collector streets to include on-street bicycle lanes or wide curb lanes, or sidewalk/shared use paths separated from the street set-back enough to encourage pedestrian and bicycle usage.

Other amenities such as shade and landscaping along sidewalks and multi-use paths, as opposed to bare block or stucco walls that simply radiate more heat at pedestrians and bicyclists, together with bus benches and shelters in areas to be served by local circulators should be considered.

Pinal Rides Pilot Program

A six-month pilot program to provide human services transportation on two routes in central Pinal County is being operated from fall 2007 through spring 2008 by the Pinal-Gila Council for Senior Citizens. A "cutaway" nine-passenger minibus, reconfigured with seven seats and space for two wheelchairs, was purchased for the service. On Mondays, the bus operates three round trip loops between Casa Grande, Coolidge, and Florence. On Thursdays, the bus operates three round trip loops between Casa Grande, Maricopa, Toltec, Eloy, and Arizona City. The November 2007 timetable is shown in Table 7-1.

TABLE 7-1. PINAL RIDES PILOT PROGRAM NOVEMBER 2007 SCHEDULE

Casa Grande – Coolidge - Florence					
	Community	**Location***	**Mondays Only**		
Lv.	Casa Grande	Dorothy Powell Senior Adult Center	7:15 AM	10:45 AM	2:15 PM
Lv.	Casa Grande	Wal-Mart/Regional Medical Center	7:35 AM	11:05 AM	2:35 PM
Lv.	Coolidge	Coolidge Adult Center	8:10 AM	11:40 AM	3:10 PM
Lv.	Florence	Florence Gardens	8:45 AM	12:15 PM	3:45 PM
Lv.	Florence	Dorothy Nolan Senior Center	9:05 AM	12:35 PM	4:05 PM
Lv.	Coolidge	Coolidge Adult Center	9:35 AM	1:05 PM	4:35 PM
Ar.	Casa Grande	Pick up/Drop off	10:05 AM	1:35 PM	5:05 PM
Casa Grande – Maricopa – Toltec – Eloy – Arizona City					
	Community	**Location***	**Thursdays Only**		
Lv.	Casa Grande	Dorothy Powell Senior Adult Center	6:30 AM	10:15 AM	2:00 PM
Lv.	Maricopa	Sheriff's Office	7:10 AM	10:55 AM	2:40 PM
Lv.	Casa Grande	Dorothy Powell Senior Adult Center	8:10 AM	11:55 AM	3:40 PM
Lv.	Eloy	Adult Center	8:35 AM	12:20 PM	4:05 PM
Lv.	Eloy	Santa Cruz Village Apartments	9:05 AM	12:50 PM	4:35 PM
Lv.	Arizona City	Dollar General Store	9:20 AM	1:05 PM	4:50 PM
Ar.	Casa Grande	Pick up/Drop off	9:45 AM	1:30 PM	5:15 PM

Source: Pinal-Gila Council for Senior Citizens

*Ten-minute dwell times for loading and unloading are provided at each intermediate stop. At the end of each loop, passengers are picked up and dropped off within Casa Grande per reserved request.

One-way and round-trip fares range between $3.00 and $10.00 for persons between the ages of 18 and 59. Seniors 60 and over ride for a suggested donation of $3.00 per trip. Persons under 18 are not carried. Persons must pre-register for the service and must make reservations at least 24 hours in advance.

Background

In February 2004, President George W. Bush issued an Executive Order establishing the "United We Ride" program to improve coordination in human services transportation. In response, Arizona governor Janet Napolitano established a Working Group to develop an Arizona framework for the program and, in July 2005, the "Arizona Rides" initiative was implemented. Pinal Rides is a support element of this initiative and consists of collaboration among agencies within central Pinal County that has resulted in the formation of a regional Coordination Council, driver training including Passenger Safety and Security (PASS) training, and operation of the pilot routes described above. Funding for Pinal Rides is provided by the Cities of Casa Grande, Eloy, and Maricopa, the Town of Florence, the ADOT 5310 Program, Pinal Gila Council for Senior Citizens, and the Pinal county United Way.

Ongoing Developments

On Wednesday, November 28, 2007, the consultant attended a meeting of the Coordination Advisory Committee that oversees the Pinal Rides operation. Participants included representatives from the Gila Council for Senior Citizens, ADOT, CAAG, the City of Maricopa, and other area human services stakeholders. The Pinal Rides Mobility Manager and bus operator were also present, and both overall program strategies and day-to-day operating issues were thoroughly assessed and discussed. While ridership to date has been disappointing, the Advisory Committee is strongly committed to the success of the program and is taking some proactive steps to enhance both the marketing and the operation of the service. Concepts discussed included:

- Operating the system as a deviated fixed route operation with door-to-door pick-ups and drop-offs available at intermediate communities in schedule in addition to the final stop in Casa Grande
- Increasing the days of operation to more than one per week on each route
- Operating one route more frequently in lieu of two routes only one day per week
- Serving the new mall
- Offering promotional free trips
- Coordinating with area agencies to utilize existing vans and provide additional service frequencies and connections
- Coordinating with Cotton Express in Coolidge, stopping at the Casa Grande Greyhound depot, and coordinating with the new Maricopa local and commuter services

- Conducting on-board surveys to gather data regarding passenger preferences and demographics
- Revising the brochure
- Investigating the possibility of including Pinal Rides information in area utility bill mailings for a broad distribution of information within the service area

The Advisory Council took actions to implement door-to-door service, seek additional funding, and revise the brochure.

TRANSIT IN ARIZONA CITIES

The National Transit Database contains data from urban systems receiving FTA Section 5307 funding. Transit systems such as Coolidge's Cotton Express that operate in Arizona cities with populations of less than 50,000 are funded through Section 5311. Data for Section 5311 operations is only available if obtainable from the cities themselves. Two of the Section 5311 Arizona cities, Kingman and Sierra Vista, provided the requested data on their transit systems. Table 7-2 shows the key fixed route transit characteristics of Arizona cities, and Table 7-3 shows key dial-a-ride characteristics. With the exception of Tucson, Kingman, and Sierra Vista, all of the cities shown participate in Valley Metro (RPTA) and the figures shown for these cities represent their contribution to the RPTA. Note that the data for Kingman and Sierra Vista is for 2003, not 2000.

TABLE 7-2. KEY FIXED ROUTE TRANSIT SERVICE CHARACTERISTICS OF ARIZONA CITIES

	Service Area Population	Service Area Sq. Mi.	Operating Expense	Passenger Miles	Unlinked Trips	Vehicle Revenue Hours	Peak Vehicles
Phoenix[1]	1,350,000	476	63,208,199	124,065,580	31,838,093	756,010	335
Tucson[1]	503,991	242	29,395,644	65,471,221	17,991,935	532,792	159
Mesa[1]	345,000	120	3,841,811	2,768,775	791,105	72,100	27
Scottsdale[1]	189,000	56	1,318,908	414,110	125,488	26,253	7
Tempe[1]	163,843	40	8,662,773	5,899,554	2,475,133	192,313	68
Kingman[2]	40,000	17	263,379	115,000	38,000	6,678	3
Sierra Vista[3]	37,000	138	546,244	238,683	115,902	14,221	7
Flagstaff[4]	57,050	26	485,873	469,102	360,848	352,606	7

Source: 1. 2000 National Transit Database
2. Kingman estimated from 10 months of operation through December 2003
3. Sierra Vista data from October 2002 through September 2003
4. Flagstaff data from 2004 Database—not available in 2000

Possible future characteristics of Coolidge or Florence can be anticipated by reviewing this current Arizona data. Note that both Kingman and Sierra Vista operate deviated fixed route systems where buses deviate from the route between checkpoints to provide curb-to-curb service in lieu of having a separate dial-a-ride system. As Table 7-3 shows, these small city systems cost less per vehicle hour to operate than their big city counterparts.

TABLE 7-3. KEY DIAL-A-RIDE SERVICE CHARACTERISTICS OF ARIZONA CITIES

	Service Area Population	Service Area Sq. Mi.	Operating Expense	Passenger Miles	Unlinked Trips	Vehicle Revenue Hours	Peak Vehicles
Phoenix	1,350,000	476	7,434,649	3,072,572	398,068	194,583	117
Maricopa County	996,166	416	1,715,614	1,786,829	140,471	56,405	56
Tucson	503,991	242	5,886,845	2,738,676	312,138	147,534	57
Glendale	208,000	59	1,517,514	469,751	69,081	21,174	12
Peoria	100,000	141	575,030	137,340	35,028	8,568	4
Sun City	65,899	28	497,853	191,716	59,777	18,838	14
Surprise	21,442	67	81,396	42,000	7,250	3,000	2
Flagstaff[1]	57,050	26	212,772	118,810	22,848	86,154	4

Source: 2000 National Transit Database

1. Flagstaff data from 2004 Database—not available in 2000

Phoenix, Mesa, Scottsdale, and Tempe had dedicated funding sources for transit in 2000, although the Phoenix mechanism was passed by the voters in March 14 of that year, in the middle of the reporting period. Kingman and Sierra Vista provide their local match from the general fund and also employ LTAF monies when available. Flagstaff also enacted a dedicated transit funding source during 2000, and Glendale in 2002.

Sun City, an unincorporated area whose system is privately funded, had the lowest cost per hour of any of the dial-a-ride systems as well as the lowest cost per boarding. A retirement community with an above average percentage of mobility-limited seniors, Sun City also had the highest boardings per capita. Glendale and Peoria had the highest number of passengers per revenue hour and the highest costs per hour. One significant reason for Sun City's lower operating costs may be the comparatively small size of its service area.

TRANSPORTATION DEMAND MANAGEMENT

Transportation Demand Management consists of a wide range of programs and services that enable people to get around without driving alone. Included are alternative transportation modes such as carpooling, vanpooling, transit, bicycling, and walking, as well as programs that alleviate traffic and parking problems such as telecommuting, variable work hours, and parking management.

Transportation Demand Management can address the needs of those traveling long distances with rideshare options such as vanpools and carpools. These types of services are vital in moving people around large areas, whether for work or for traveling to regional centers that have special services, medical facilities, or retail stores.

Rideshare Matching Programs provide service by identifying people who live and work close to each other and then facilitate carpooling and vanpooling. Matching services can pair full-time partners, or simply someone to call in an emergency. Rideshare matching can be done by individual employers or on a community-wide basis. In addition to commute trips, travelers can be matched with others participating in the same extracurricular school function, medical-related trip, shopping trip, or community activity.

Rideshare matching is typically done through a computerized system. A variety of vendors have created inexpensive, effective software that makes this process easy to use. Rideshare services can also be offered on-line. Currently, three statewide rideshare programs are available on line:

- **www.ridester.com/ - Arizona Rideshare** - Ridester is the first intercity rideshare service for traveling between cities in the USA. The site is primarily used by interstate travelers.
- **www.capitolrideshare.com/** - This site has information about ridesharing, as well as bicycling and pedestrian information.
- **phoenix.craigslist.org/rid/** - Rideshare matching page on the Phoenix site of Craigslist.

Two common forms of ridesharing are carpools and vanpools.

Carpool participation is higher than the national average in rural Arizona, suggesting that a potential for developing additional carpools in the area exists. Strategies for formalizing and increasing carpooling in Gila County follow:

- The carpooling that is already established needs to be quantified and documented. This process could be an employer-based registration system that provides an incentive for filling out an information/registration card. Incentives might be as simple as a chance to be entered in a drawing for dinner for two at a popular restaurant. Periodic updates and opportunities for future carpooling incentives would be an option for carpoolers.
- A benefit of registering carpools is that the informal carpools might be able to serve another commuter who works the same shift, or an additional participant in the same periodic activity. The baseline data forms the beginning of destination-driven ride matching.
- Once the baseline data quantifies a level of carpool usage, goals for increasing participation and incentives to attract more new carpools can be identified and implemented.

Vanpools are also an alternative to be considered for area commuting. The methodology described above for carpools is one way to begin building a database for informal vanpools. By asking vehicle capacity on the registration card, the information helps organizers build an "excess capacity" database.

This type of vanpool is very informal and maintains its schedule based on employee needs. Matching commuters from the same or other businesses is the growth potential. Again, the object is to quantify and document existing vanpool commuters and build the program where possible.

Another option is to provide businesses with an incentive to let the vehicle be used for a formal vanpool program with a wider group of employees. If the vehicle becomes a part of a formal program, maintenance, insurance and vehicle upkeep can be offered as an incentive. Such a fleet of vanpool vehicles can be used as "guaranteed ride home" vehicles for bus/rideshare commuters who have an unscheduled midday need to get home.

There are a few issues that arise with shared-use vehicles as described above. If the driver of the vanpool is an employee who is also commuting to work, the type of insurance needed is different than if the driver is paid or if the vehicles are used for other service during the day. As with any formal bus service, vanpools need back-up vehicles or a plan for alternate service.

FUTURE TRANSIT NEEDS AND SERVICE THRESHOLDS

Within any urban area, the origin and destination of most trips—and of the percentage of trips that will be made by use of public transportation—is related to where residents of the area live and where they work. Concentrations of population within an area suggest where commute trips are likely to originate during the morning peak travel period, and concentrations of employment function as "attractors" where such trips are likely to terminate. In the afternoon, the roles are reversed: Trips originate in areas where employment is concentrated and terminate in residential areas. As Coolidge and Florence develop and increase in total population and in population density, significant areas in each community will likely meet or exceed demographic thresholds empirically determined to warrant the introduction or enhancement of transit service.

Transit Service Threshold Methodology

Traditionally, transit thresholds are based on residential densities alone. However, the application of such thresholds to residential densities shown on a Traffic Analysis Zone (TAZ) level fails to consider the variations in density within the TAZ itself. To compensate for this observation, the consultant decided to apply the thresholds to the sum of the residential and employment densities within a TAZ rather than to the residential densities alone. A threshold scenario was developed for application to the TAZ array. The threshold levels for the different types of transit service were calculated from data presented in the MAG *High Capacity Transit Study*.

Table 7-4 presents the threshold levels, and Figure 7-2 depicts the application of these levels using the forecasted 2025 combined population and employment for each TAZ in the study area.

TABLE 7-4. MINIMUM CONSOLIDATED RESIDENTIAL AND EMPLOYMENT DENSITIES FOR VARIOUS TYPES OF TRANSIT SERVICES

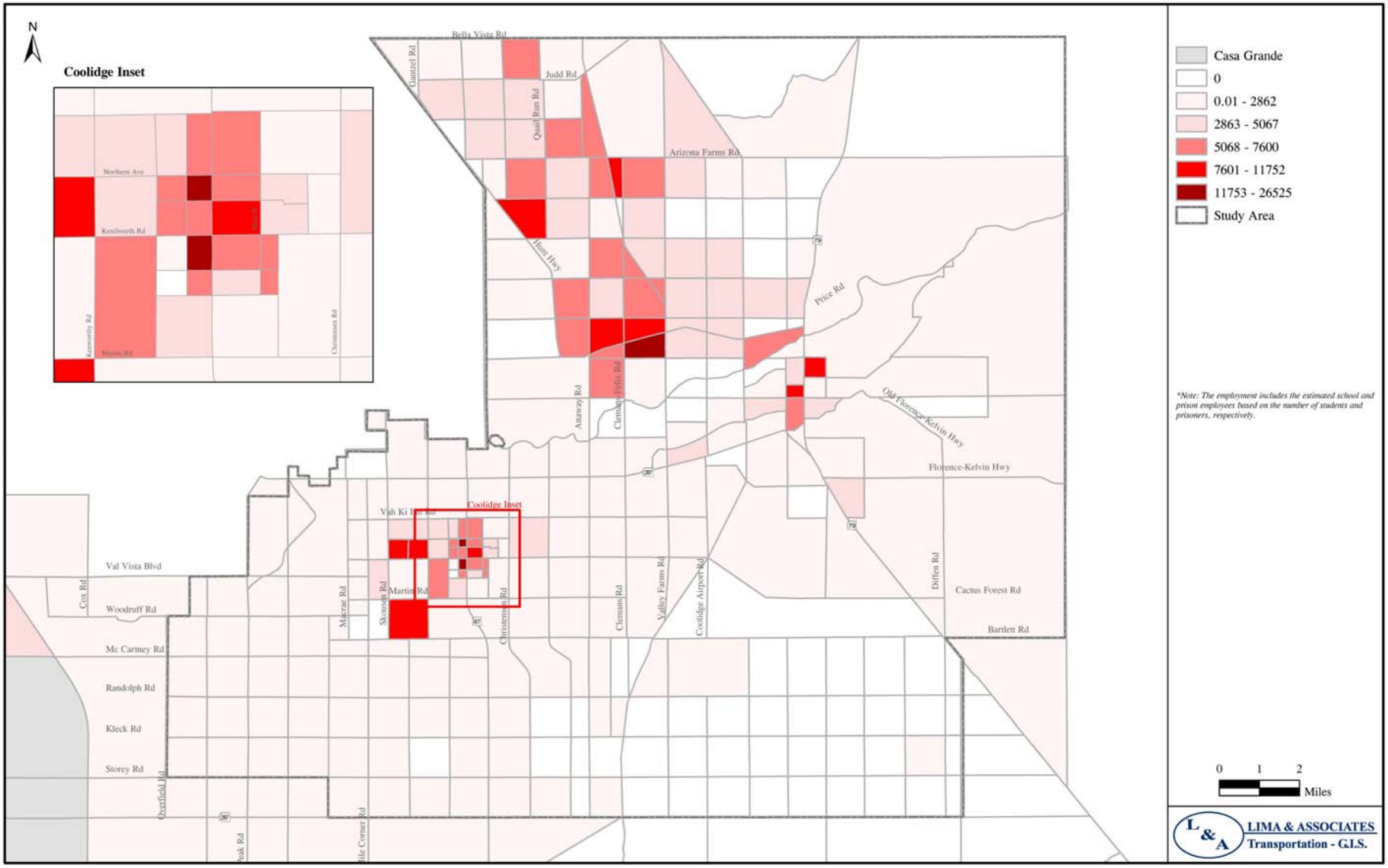
Transit Service Type	Persons/Sq Mile*
Bus–minimum service	4,500
Bus–intermediate service	7,780
Bus–frequent service	16,670
Light rail	10,000
Commuter Rail	3,328

*Calculated from Maricopa Association of Governments *High Capacity Transit Study*, 2003
Bus minimum service = 1/2 mi between routes, 20 buses/day
Bus intermediate service = 1/2 mi between routes, 40 buses/day
Bus frequent service = 1/2 mi between routes, 120 buses/day
Commuter rail = 20 Trains/day on existing track
Light rail = 5 min. peak headways

The value ranges for the "Persons per Square Mile" shown in Figure 7-2 approximately coincide with density thresholds for implementing various types of transit services as shown in Table 7-4. These threshold numbers have been used in a number of transit studies nationwide including the *High Capacity Transit Study* conducted in 2003 for the Maricopa Association of Governments. Note that the "bus-minimum service" category refers to standard fixed route bus services mostly operated in larger metropolitan areas. Deviated fixed route services and dial-a-ride services, such as the Cotton Express currently operated by the City of Coolidge, sometimes operate in areas that do not meet the minimum density threshold of 4,500 persons per square mile, as do peak-hour commuter bus or van operations. Brief summaries of the different types of transit services and vehicles will be given in the following section.

Analysis of Figure 7-2 shows that, by 2025, portions of Coolidge and Florence will exhibit significant combined population and employment densities. Just one-half square mile of Florence south of Hunt Highway and west of downtown and two quarter square mile areas of central Coolidge are forecasted to have combined densities of more than 11,752 persons per square mile. However areas distributed throughout the study area totaling approximately four square miles are projected to have densities of 7,601 persons per square mile or more. A total of over twelve square miles are forecasted to have combined densities of 5,068 or more persons per square mile. Much of the remainder of the portions of the study area forecasted to be urbanized by 2025 will have densities of more than 2,863 persons per square mile.

FIGURE 7-2. COMBINED POPULATION AND EMPLOYMENT DENSITY IN STUDY AREA



BUS AND RAIL TRANSIT ALTERNATIVES

The combined densities depicted in Figure 7-2 were compared with the transit service density thresholds listed in Table 7-4. Draft 2025 transit service options suggested by this analysis are shown in Figure 7-3. The two types of transit service suggested by the forecasted densities are minimum bus service and commuter rail. The existence throughout the future urbanized portions of the study area of regions with densities of 2,863 persons per square mile or more is close enough to the commuter rail threshold of 3,328 persons per square mile that implementation of commuter rail in the region by 2025 would be warranted, assuming that sufficient concentrations of employment within rail-served areas such as Central Phoenix, Central Tucson, and the Phoenix-Mesa Gateway area will exist.

Comparison of Figures 7-2 and 7-3 will show that portions of Figure 7-3 where densities suggest local minimum bus service are highlighted in yellow. Such service could begin as an expansion of the existing Cotton Express service in Coolidge and the implementation of a similar service in Florence. As demand warrants, a network of fixed-route services, with complementary paratransit services, could be developed in these areas.

The following services would address future population growth and levels of travel demand within the Coolidge and Florence areas and between these communities and the metropolitan Phoenix and Tucson areas. These alternatives include:

- Expansion of the Cotton Express local dial-a-ride and deviated fixed route service areas within the City of Coolidge
- Introduction of a service similar to the Cotton Express within the Town of Florence
- Regional bus service connecting Coolidge, Florence, Coolidge Municipal Airport, Central Arizona College, Casa Grande, and Eloy
- Limited Stop commuter bus serving Coolidge, Florence, Queen Creek, Gilbert, and Mesa
- Limited Stop commuter bus serving Florence, Coolidge, Chandler, Tempe, and Phoenix
- Limited Stop commuter bus serving Coolidge, Florence, Oro Valley, and Tucson
- Limited Stop commuter bus serving Florence, Coolidge, Randolph, Eloy, Marana, and Tucson
- Commuter rail serving Coolidge, Queen Creek, Gilbert, Mesa, Tempe, and Phoenix
- Commuter rail serving Florence, Queen Creek, Gilbert, Mesa, Tempe, and Phoenix
- Regional rail service between Phoenix, Tempe, Mesa, Queen Creek, Coolidge, Picacho (Eloy), Marana, and Tucson
- An excursion rail operation on the Copper Basin Railway from Florence east through the scenic Gila Canyon area

FIGURE 7-3. 2025 DRAFT TRANSIT OPTIONS

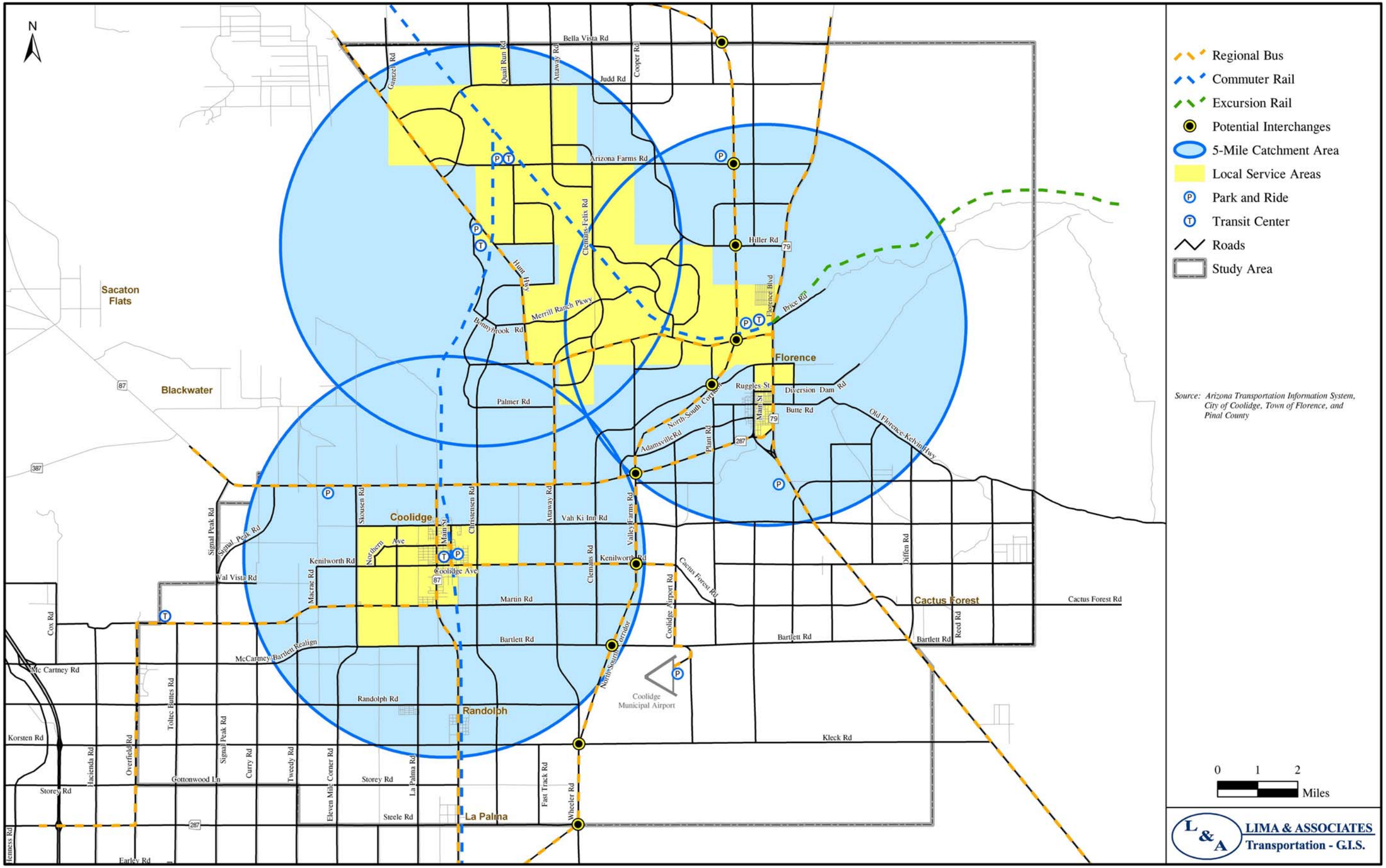


Figure 7-3 also recommends the locations for transit centers and park-and-ride locations. The 10-mile diameter circles depict the "catchment areas" for the commuter rail service. These are intended to incorporate the areas from where a commuting motorist could reach the rail station at the transit center in the center of the circle within 10 minutes. Locations of transit centers and park-and-ride facilities include:

- A combination transit center and park-and-ride facility at the intersection of the Union Pacific Railroad and Hunt Highway for both commuter bus and commuter rail patrons
- A combination transit center and park-and-ride facility north of downtown Florence at the intersection of SR 79 and the Copper Basin Railway for patrons of commuter bus, commuter rail, and excursion rail services
- A transit center at Central Arizona College
- Park-and Ride facilities at the following locations:
  - ✓ Coolidge Municipal Airport
  - ✓ The Corner of Skousen Road and SR 287
  - ✓ The Corner of Florence-Kelvin Highway and SR 79
  - ✓ At Randolph Road, SR 87, and the Union Pacific

The timing of the extension of local service—e.g., the Cotton Express in Coolidge—to these areas will depend upon the rate of buildout of the various developments that comprise the new service areas. Expansion may also depend upon the degree of transit orientation of the subdivisions. Extending service sooner to areas that are more conducive to transit service, both with regard to the demographics of the particular development and the layout of the development's internal street network, will result in service that can be managed more efficiently and maintains a higher farebox recovery ratio.

While the demographic thresholds evaluated in the previous section will govern the timing for prioritizing and implementing the recommended services, the operation of many of these services may be contingent on necessary infrastructure improvements. For example, additional freeway capacity will greatly enhance the efficiency of the limited stop commuter bus services. A bus commuter experiencing peak hour traffic delays on Hunt Highway can put the time to productive use in ways that would be impractical or unsafe for a motorist to do, such as reading, making phone calls, or working on a laptop computer. However, the new freeways may include high-occupancy vehicle (HOV) lanes for the use of buses, vanpools, or carpools, making these alternative ways of commuting time-competitive with single-occupancy vehicles.

Significant improvements in the rail infrastructure such as lengthened sidings and sections of double track will be needed before regional or commuter rail service could be implemented on a regular or frequent basis.

RECOMMENDED NEXT STEPS

The Consultant recommends that the City of Coolidge and the Town of Florence take the following steps, as appropriate, to implement and expand public transportation services:

- **The City of Coolidge and the Town of Florence should pro-actively support the Pinal Rides Pilot Program by participating on the Advisory Council and providing funding.** The City of Coolidge, in particular, should share lessons learned in the implementation and operation of the Cotton Express and work with Pinal Rides to explore coordination, operational, and marketing opportunities between the two services.
- **The City of Coolidge and the Town of Florence should communicate and coordinate with organizations and agencies** that are evaluating and/or advocating inter-regional transit service options affecting the County including ADOT Public Transportation Division, MAG, PAG, CAAG, Valley Metro, Pima County DOT, the Pima RTA, the Arizona Transit Association, and the Southwest Rail Corridor Coalition.
- **The City of Coolidge and the Town of Florence should consider development of transit oriented design (TOD) overlays** that could be implemented along identified future transit corridors to ensure that commercial and residential development provide enhanced accessibility to and from transit.
- **The City of Coolidge and the Town of Florence should continue to present short- and long-range plans to ADOT Public Transportation Division** that were developed or refined by the Feasibility and Implementation Study including plans for local circulator services, additional dial-a-ride services, regional bus services, and commuter and excursion rail services. Demographic thresholds for the implementation of each should be identified and the demographics tracked periodically accordingly.
- **The City of Coolidge should continue to evaluate the operation of the Cotton Express and plan for service expansion as population growth and development warrant.**
- **The Town of Florence should conduct a Transit Feasibility and Implementation Study to identify current and future public transportation needs within the town as well as demographic thresholds for implementing future services.**
- **The Town of Florence should hire a Transportation Coordinator, when needed,** to develop a rideshare program, serve as a clearing house for local and regional public transportation information, and manage the implementation and operation of transit services.
- **The Town of Florence should appoint a volunteer Transit Advisory Committee** to assist the Town in identifying the desirable attributes of the coordinator position and to work with the coordinator after his or her selection. The Transit Advisory Committee could act as a liaison for transit issues between the County, local jurisdictions, and the business community, with respect to transit issues, and could also provide input for

mode choice, equipment selection, route selections and additions, and transit center concept and site selection.

Implementation Options

Table 7-5 presents a suggested implementation schedule for transit improvements. The schedule is based on the "Next Steps" recommended in the previous section and assumes a logical progression of events following the evaluation of the Cotton Express operation by the City of Coolidge and the completion of the recommended Town of Florence Transit Feasibility and Implementation Study.

The actual costs of both implementing and funding transit services will depend upon a number of variables, including the following:

- Which mode, or modes, of transit service are recommended for implementation?
- What type of vehicles will be used and how many will be purchased?
- Will transit centers be built initially? Or will they be programmed for later fiscal years?
- What new maintenance facilities will be needed? Can existing facilities belonging to either the County or local jurisdictions be used initially for starting or expanding bus systems? Or is contracting the maintenance out to another agency or a private sector provider practicable?
- When will rail services be introduced? What additional track construction or upgrading will be needed? How much right-of-way will need to be acquired?
- What bus stop furniture will be provided? Will shelters be constructed at stops?

Public Transportation Funding

Potential sources of funding for public transportation are presented and discussed in Chapter 9.

TABLE 7-5. SUGGESTED PUBLIC TRANSPORTATION IMPLEMENTATION SCHEDULE

Action	Responsibility	Time Frame
Proactively support and coordinate with the Pinal Rides Program	City of Coolidge and Town of Florence Transit Advisory Boards	Near Term
Contract for Transit Feasibility and Implementation Study	Florence Town Council with input from Transit Advisory Board and ADOT Public Transportation Division	Near Term
Appoint Transit Advisory Board	Florence Town Council	Near Term
Select initial funding sources and set budgets	Florence Public Works Department	Near Term
Present short, long-range plans in partnership with the ADOT Public Transportation Division	Transportation Coordinators for the City of Coolidge and the Town of Florence	Near Term
Begin Ridesharing Program Development	Transportation Coordinators for the City of Coolidge and the Town of Florence with input from Transit Advisory Boards	Mid Term
Discuss transit service options with prospective service providers	Transportation Coordinators and Public Works Departments with input from Transit Advisory Boards	Mid Term
Recommend transit service types and implementation thresholds	Transportation Coordinators with input from Transit Advisory Board, ADOT, and Railroads	Mid Term
Obtain funding approval from ADOT	Agency Councils and Public Works Departments	Mid Term
Request Design Concept Proposals for Transit Centers	Agency Public Works Departments	Mid Term
Request proposals for equipment, guideway, and transit center construction	Agency Public Works Departments	Mid Term
Develop Transit Service Marketing concepts	Agency Transportation Coordinators with input from Transit Advisory Boards	Long Term
Implement Marketing Campaign	Agency Transportation Coordinators	Long Term
Order equipment and begin construction	Agency Public Works Departments with input from Transportation Coordinators and Transit Advisory Boards	Long Term
Equipment arrives, Transit Centers open, and service starts	Agency Transportation Coordinators with input from Transit Advisory Boards	Long Term

8. IMPLEMENTATION PLAN

This chapter presents a program to plan, coordinate, and implement a multimodal regional transportation plan. In addition, long-range projects were identified and costs were estimated. High priority road corridors were also identified.

CHALLENGES TO IMPLEMENTATON

Implementing the multimodal transportation infrastructure within the region presents several major challenges including the following:

- Right-of-way needs and right-of-way preservation for roadways
- Approved development plans that did not incorporate major transportation facilities
- Ability to implement continuous and consistent facilities
- Lead time needed to construct facilities
- Cost of needed improvements and funding implications
- Prioritization of projects with phased development
- Implementation of multimodal projects

IMPLEMENTATION STRATEGIES

In order to meet the major challenges, the following action plan presented in Table 8-1 has been developed to implement the study recommendations.

TABLE 8-1. IMPLEMENTATION ACTION PLAN

Implementation Strategy	Responsible Entities
Plan and Program Adoption	
Adopt the Coolidge-Florence Regional Transportation Plan	Coolidge City Council Florence Town Council
Adopt the recommended Street Functional Classification and Roadway and Access Design Guidelines	Coolidge City Council Florence Town Council
Program the recommended transportation improvements into the Capital Program	Public Works Departments, Coolidge and Florence Councils
Coordination	
Establish regional transportation advisory committee	Coolidge and Florence, CCAG, ADOT
Coordinate with ADOT on the Design Concept Study for the North-South Freeway Corridor	Coolidge and Florence, ADOT, CAAG
Coordinate with ADOT on the I-10 Design Concept Study in regard to potential traffic interchange locations and crossings of the one-mile streets.	Coolidge and Florence, ADOT, CAAG
Coordinate with jurisdiction, Pinal County, and ADOT on Transportation Studies	Coolidge and Florence, Pinal County, Casa Grande, Eloy

TABLE 8-1. IMPLEMENTATION ACTION PLAN (Continued)

Implementation Strategy	Responsible Entities
Coordinate with CAAG on the development of population projections	Coolidge and Florence, CAAG
Communicate/coordinate with other agencies planning regional road and public transportation improvements.	ADOT, MAG. CAAG, PAG, and Valley Metro
Land Use Planning	
Establish a process to coordinate city land use and transportation decisions on a regular basis	Coolidge and Florence, Pinal County, ADOT, CAAG
Implement Transit Oriented Design (TOD) overlays	Coolidge and Florence
Incorporate access management considerations in land use and site approval process	Coolidge and Florence
Road Implementation	
Implement the Street Functional Classifications and Roadway Design Guidelines	Coolidge and Florence
Construct roadway improvements	City Public Works, City Planning
Coordinate on developing and implementing consistent design and access criteria	Coolidge and Florence, Pinal County
Establish a Coordinated Driveway Permitting Process with Pinal County ADOT	Coolidge and Florence, Pinal County, ADOT
Public Transportation Implementation	
Establish a Transportation Coordinator (Florence)	
Implement the expansion of the Cotton Express service area	Coolidge and Florence, Cotton Express, Pinal County, CAAG, ADOT
Public Transportation Implementation (Continued)	
Conduct Coolidge-Florence Regional Transit Feasibility Study	Coolidge and Florence, Cotton Express, Pinal County, CAAG, ADOT
Establish a process to coordinate transit services with private and public agencies	Coolidge and Florence Pinal County, Pinal Rides, CAAG, ADOT
Proactively support Pinal Rides project.	Coolidge and Florence. Cotton Express, Pinal County, Pinal Rides CAAG, ADOT
Participate in the planning and implementation of future regional bus and rail services	Coolidge and Florence Pinal County, CAAG, ADOT, UPRR, CBRY
Funding	
Identify high priority funding strategies	Coolidge and Florence. Cotton Express, Pinal County, CAAG, ADOT
Coordinate to obtain funding and leverage funds for improvements	Coolidge and Florence. Cotton Express, Pinal County, CAAG, ADOT
Monitoring and Updating Plan	
Implement a process to monitor and update plan	Coolidge and Florence, CAAG, ADOT
Coordinate on a regional traffic count program	Coolidge and Florence, CAAG, ADOT

CURRENT CAPITAL IMPROVEMENT PROJECTS

The current road capital improvement projects are presented in Table 8-2 for the City of Coolidge and Table 8-3 for the Town of Florence. Table 8-4 presents the FY 2007 - 2016 Florence Capital Transportation Improvement Program Funding. The 10-year Pinal County Arterial Streets Improvements Program is presented in Table 8-5. The current ADOT 5-Year Transportation Facilities Program does not include major projects in the study area. ADOT will be initiating a Design Concept Study for the Apache Junction to Coolidge Freeway Corridor.

RECOMMENDED PROJECTS

Recommended projects were identified from the 2025 Functional Classification Map. The recommended projects for the City of Coolidge Planning area are shown in Table 8-6 and the recommended projects for the Town of Florence Planning area are shown in Table 8-7. Figure 8-1 illustrates the 2025 road network by city or town limits. Table 8-8 summarizes the costs estimates for road improvements by planning area.

The projects and estimated costs in Tables 8-6 and 8-7 represent the ultimate project cross-sections. However, the normal evolution of the arterial streets would probably be as follows:

1. A portion of the 2-lane half arterial street would be built by the developer on one side.
2. The other 2-lane half arterial street would be constructed at some later date by the developer on the other side.
3. The arterial street would be expanded to 6 lanes with a center lane and median by the municipality when the traffic volumes warrant the expansion.

TABLE 8-2. FY 2006 - 2011 COOLIDGE CAPITAL TRANSPORTATION IMPROVEMENT PROGRAM PROJECTS

PROJECT TITLE	FY 06/07	FY 07/08	FY 08/09	FY 09/10	FY 10/11	TOTAL
Small Area Transportation Study (SATS)	$30,000					$30,000
Traffic Signal Skousen Road & Martin Road			$200,000			$200,000
Traffic Signal SR 287 & Attaway Road	$200,000					$200,000
Two Street Sweeper (2007 and 2010)	$200,000					$200,000
Two 5 CY Dump Truck (2007 and 2010)	$50,000			$50,000		$100,000
Martin Road Reconstruction, 1/2 Street	$200,000	$1,000,000				$1,200,000
Kenworth Road Reconstruction	$75,000	$500,000				$575,000
Skousen Road Improvements, Hwy 87 to Va Ki Inn Road, South 1/2 Mile		$660,000				$660,000
Road Improvements 11 Mile Corner from Bartlett Road to Randolph Road, North 1/2 Mile	$760,000					$760,000
Road Improvements 11 Mile Corner from Bartlett Road to Randolph Road, South 1/2 Mile		$660,000				$660,000
Road Improvements 11 Mile Corner from Kleck Road to Randolph Road, North 1/2 Mile				$660,000		$660,000
Road Improvements 11 Mile Corner from Kleck Road to Randolph Road, South 1/2 Mile				$660,000		$660,000
Road Improvements Attaway Road from Bartlett Road to Martin Road, North 1/2 Mile				$660,000		$660,000
Road Improvements Attaway Road from Bartlett Road to Martin Road, South 1/2 Mile				$660,000		$660,000
Road Improvements Attaway Road from Bartlett Road to Randolph Road, North 1/2 Mile					$660,000	$660,000
Road Improvements Attaway Road from Bartlett Road to Randolph Road, South 1/2 Mile					$660,000	$660,000
Road Improvements Attaway Road from Coolidge Avenue to Martin Road, North 1/2 Mile				$660,000		$660,000
Road Improvements Attaway Road from Coolidge Avenue to Martin Road, South 1/2 Mile				$660,000		$660,000
Road Improvements Attaway Road from Coolidge Avenue to Vah Ki Inn Road, South 1/2 Mile		$660,000				$660,000
Road Improvements Attaway Road from Coolidge Avenue to Vah Ki Inn Road, North 1/2 Mile				$660,000		$660,000
Road Improvements Attaway Road between Hwy 87 & Vah Ki Inn Road, North 1/2 Mile				$1,000,000		$1,000,000

TABLE 8-2. FY 2006 - 2011 COOLIDGE CAPITAL TRANSPORTATION IMPROVEMENT PROGRAM PROJECTS (Continued)

PROJECT TITLE	FY 06/07	FY 07/08	FY 08/09	FY 09/10	FY 10/11	TOTAL
Road Improvements Attaway Road from Kleck Road to Randolph Road, South 1/2 Mile					$660,000	$660,000
Road Improvements Attaway Road from Kleck Road to Randolph Road, North 1/2 Mile					$660,000	$660,000
Road Improvements Attaway Road between Hwy 87 & Vah Ki Inn Road, South 1/2 Mile				$660,000		$660,000
Roadway Improvements Macrae Road from Coolidge Avenue to Martin Road, North 1/2 Mile			$660,000			$660,000
Roadway Improvements Macrae Road from Coolidge Avenue to Martin Road, South 1/2 Mile				$660,000		$660,000
Roadway Improvements Macrae Road from Hwy 87 to Vah Ki Inn Road, South 1/2 Mile		$660,000				$660,000
Roadway Improvements Macrae Road from Hwy 87 to Vah Ki Inn Road, North 1/2 Mile		$660,000				$660,000
Roadway Improvements Macrae Road from Coolidge Avenue to Vah Ki Inn Road, South 1/2 Mile			$660,000			$660,000
Roadway Improvements Macrae Road from Coolidge Avenue to Vah Ki Inn Road, North 1/2 Mile				$660,000		$660,000
Roadway Improvements Macrae Road from Coolidge Avenue to Martin Road, South 1/2 Mile				$660,000		$660,000
Roadway Improvements Skousen Road from Bartlett Road to Martin Road, North 1/2 Mile				$660,000		$660,000
Roadway Improvements Skousen Road from Bartlett Road to Martin Road, South 1/2 Mile				$760,000		$760,000
Roadway Improvements Skousen Road from Coolidge Avenue to Martin Road, North 1/2 Mile				$660,000		$660,000
Roadway Improvements Skousen Road from Coolidge Avenue to Martin Road, South 1/2 Mile				$660,000		$660,000
Roadway Improvements Skousen Road from Coolidge Avenue to Va Ki Inn Road, North 1/2 Mile	$660,000					$660,000
Roadway Improvements Skousen Road from Coolidge Avenue to Va Ki Inn Road, South 1/2 Mile		$660,000				$660,000
Roadway Improvements Skousen Road from Hwy 87 to Va Ki Inn Road, North 1/2 Mile		$660,000				$660,000

TABLE 8-2. FY 2006 - 2011 COOLIDGE CAPITAL TRANSPORTATION IMPROVEMENT PROGRAM PROJECTS (Continued)

Project Title	FY 06/07	FY 07/08	FY 08/09	FY 09/10	FY 10/11	TOTAL
Roadway Improvements Woodruff Road from Overfield Road to Toltec Buttes Road, East 1/2 Mile					$660,000	$660,000
Roadway Improvements Woodruff Road from Overfield Road to Toltec Buttes Road, West 1/2 Mile					$740,000	$740,000
Roadway Improvements Woodruff Road from Signal Peak Road to Curry Road, East 1/2 Mile					$740,000	$740,000
Roadway Improvements Woodruff Road from Signal Peak Road to Curry Road, West 1/2 Mile					$660,000	$660,000
Roadway Improvements Woodruff Road from Signal Peak Road to Toltec Buttes Road, East 1/2 Mile					$740,000	$740,000
Roadway Improvements Woodruff Road from Signal Peak Road to Toltec Buttes Road, West 1/2 Mile					$740,000	$740,000
Roadway Improvements Woodruff Road from Tweedy Road to Curry Road, East 1/2 Mile				$660,000		$660,000
Roadway Improvements Woodruff Road from Tweedy Road to Curry Road, West 1/2 Mile				$740,000		$740,000
Roadway Improvements Woodruff Road from Tweedy Road to Macrae Road, 1/2 Mile		$660,000				$660,000
Modified Curry Road Alignment through Pivotal to Hwy 87		$2,225,000				$2,225,000
Roadway Improvements Macrae Road from Hwy 87 to Va Ki Inn Road, South 1/2 Mile			$660,000			$660,000
Roadway Improvements Macrae Road from Hwy 87 to Va Ki Inn Road, North 1/2 Mile			$660,000			$660,000
Roadway Improvements Macrae Road from Coolidge Avenue to Martin Road, North 1/2 Mile			$660,000			$660,000

TABLE 8-2. FY 2006 - 2011 COOLIDGE CAPITAL TRANSPORTATION IMPROVEMENT PROGRAM PROJECTS (Continued)

Project Title	FY 06/07	FY 07/08	FY 08/09	FY 09/10	FY 10/11	TOTAL
Roadway Improvements Macrae Road from Coolidge Avenue to Martin Road, South 1/2 Mile			$660,000			$660,000
Roadway Improvements Macrae Road from Coolidge Avenue to Va Ki Inn Road, North 1/2 Mile			$660,000			$660,000
Roadway Improvements Macrae Road from Coolidge Avenue to Va Ki Inn Road, South 1/2 Mile			$660,000			$660,000
Roadway Improvements Signal Peak Road from Randolph Road to McCartney Road, North 1/2 Mile		$740,000				$740,000
Roadway Improvements Signal Peak Road from Randolph Road to McCartney Road, South 1/2 Mile		$660,000				$660,000
Roadway Improvements Signal Peak Road from Val Vista Road to Woodruff Road, North 1/2 Mile	$660,000					$660,000
Roadway Improvements Signal Peak Road from Val Vista Road to Woodruff Road, South 1/2 Mile	$660,000					$660,000
Roadway Improvements Signal Peak Road from Woodruff Road to McCartney Road, North 1/2 Mile		$740,000				$740,000
Roadway Improvements Signal Peak Road from Woodruff Road to McCartney Road, South 1/2 Mile		$660,000				$660,000
Roadway Improvements Signal Peak Road from Val Vista Road to Curry Road, Realignment 1.5 Miles	$2,225,000					$2,225,000
Cotton Express Bus System	$65,000	$65,000	$65,000	$65,000	$65,000	$325,000
Streets Drainage Study	$90,000					
Total Project Costs	**$5,875,000**	**$11,870,000**	**$5,545,000**	**$12,515,000**	**$6,985,000**	**$42,790,000**

TABLE 8-3. FY 2007 - 2016 FLORENCE CAPITAL TRANSPORTATION IMPROVEMENT PROGRAM PROJECTS
(In Thousands)

Project Name	FY 07/08	FY 08/09	FY 09/10	FY 10/11	FY 11/12	FY 12/13	FY 13/14	FY 14/15	FY 15/16	Total
Plant Road Paving		300.0								300.0
Florence Streetscape Landscape & Irrigation Project	10.0	103.7								113.7
Main Street Streetscape	468.5									468.5
Street Improvement Phase II – Florence Gardens	240.0									240.0
Street Improvement Phase III - Florence Gardens		70.0	770.0							840.0
Street Improvement Phase IV - Florence Gardens				70.0	420.0					490.0
Street Improvement Phase V - Florence Gardens					98.0	735.0				833.0
Street Improvement Phase I - Florence	1,580.0	85.0	655.0							2,320.0
Kelvin Highway Bridge Replacement		45.0	335.0	984.0						1,364.0
Main Street Extension Phase I				275.0	375.0					650.0
Roundabout/Intersection Improvement SH79B & SH 287	100.0	250.0	1,650.0							2,000.0
Scholastic Drive	98.0									98.0
Diversion Dam Road Improvements	165.0	430.0								595.0
Signalization for Streets			450.0	450.0	450.0	450.0	450.0			2,250.0
Felix Road 1/2 Road Improvements						1,320.0				1,320.0
Adamsville Rd 3/4 Mile Ext to Plant Rd						225.0				225.0
Main Street Extension Phase I		30.0	240.0	1,610.0						1,880.0
Main Street Extension Phase II								400.0		400.0
Main Street Extension Phase III									2,000.0	2,000.0
Equipment Purchases Maintenance	various	various	various	various	various	various	various	various	various	1,522
Total cost projects	$2,662	$1,314	$4,100	$3,389	$1,343	$2,730	$450	$400	$2,000	$19,909

Source: Draft Town of Florence, Transportation Capital Improvement Projects

TABLE 8-4. FY 2007 - 2016 FLORENCE CAPITAL TRANSPORTATION IMPROVEMENT PROGRAM FUNDING

Funding	FY 07/08	FY 08/09	FY 09/10	FY 10/11	FY 11/12	FY 12/13	FY 13/14	FY 14/15	FY 15/16	Total
General Fund	$20,000									$20,000
HURF	$2,317,000	$1,225,000	$2,265,000	$1,537,000	$1,568,000	$1,685,000	$645,000	$400,000	$2,000,000	$13,642,000
Government Grants	$478,500	$148,700	$335,000	$1,734,000						$2,696,200
Private Sector	$165,000	$430,000	$1,000,000	$335,000						$1,930,000
Florence Sewer		$5,500								$5,500
N. Florence Sewer		$5,500								$5,500
Impact Fees			$500,000			$1,200,000				$1,700,000
Total Funding	**$2,980,500**	**$1,814,700**	**$4,100,000**	**$3,606,000**	**$1,568,000**	**$2,885,000**	**$645,000**	**$400,000**	**$2,000,000**	**$19,999,200**

Source: Draft Town of Florence, Transportation Capital Improvement Projects

TABLE 8-5. SUMMARY 10-YEAR PINAL COUNTY ARTERIAL STREETS CAPITAL IMPROVEMENTS PROGRAM

IFA	Street	Classification	Additional Lane Miles	County Cost	Cost to Other Entities	Total Cost
1	Elliot Rd	Principal Arterial	6.0	$3,750,000	$3,750,000	$7,500,000
1	Germann Rd	Principal Arterial	4.0	$7,500,000	$0	$7,500,000
I	Pima Rd	Principal Arterial	4.0	$7,500,000	$0	$7,500,000
1	Ocotillo Rd	Principal Arterial	2.0	$7,500,000	$0	$7,500,000
1	Combs	Principal Arterial	4.0	$7,500,000	$0	$7,500,000
1	Hunt Hwy	Minor Arterial	4.0	$10,000,000	$0	$10,000,000
1	Ironwood/Ganzel Phase I	Minor Arterial	*35.0*	$107,331,648	$14,700,000	$122,031,648
1	Combs	Minor Arterial	26.6	$33,465,000	$0	$33,465,000
I	Hunt Hwy	Minor Arterial	4.0	$10,000,000	$0	$10,000,000
1	Ironwood/Ganzel Phase II	Principal Arterial	35.0	$76,045,620	$0	$76,045,620
1	Meridian Parkway	Principal Arterial	26.0	$50,000,000	$0	$50,000,000
1	*Arizona Farms	Minor Arterial	3.1	$10,974,000	$0	$10,974,000
I	*Germann Rd	Minor Arterial	*2.5*	$1,500,000	$0	$1,500,000
1	Arizona Farms	Minor Arterial	4.2	$7,967,195	$0	$7,967,195

TABLE 8-5. SUMMARY 10-YEAR PINAL COUNTY ARTERIAL STREETS CAPITAL IMPROVEMENTS PROGRAM (Continued)

IFA	Street	Classification	Additional Lane Miles	County Cost	Cost to Other Entities	Total Cost
2	Maricopa-CG Hwy	Minor Arterial	20.0	$43,312,500	$0	$43,312,500
2	Val Vista	Minor Arterial	22.0	$43,606,013	$0	$43,606,013
2	McCartney Rd	Minor Arterial	4.0	$9,166,667	$0	$9,166,667
2	Thornton Rd	Minor Arterial	*5.0*	$50,775,000	$0	$50,775,000
2	Ralston	Minor Arterial	33.4	$63,785,000	$0	$63,785,000
2	Hunt Hwy	Minor Arterial	4.0	$10,000,000	$0	$10,000,000
2	Miller	Minor Arterial	22.6	$24,365,000	$0	$24,365,000
2	Kortsen Rd	Principal Arterial	60.0	$75,000,000	$0	$75,000,000
2	Andersen Rd	Principal Arterial	48.0	$60,000,000	$0	$60,000,000
2	Montgomery	Principal Arterial	16.0	$20,000,000	$0	$20,000,000
2	Arica Rd	Principal Arterial	52.0	$65,000,000	$0	$65,000,000
2	Sunland Gin	Minor Arterial	*5.2*	$4,719,071	$0	$4,719,071
3	AZ Farms Rd	Minor Arterial	8.0	$5,000,000	$0	$5,000,000
3	Hunt Hwy	Minor Arterial	4.0	$6,000,000	$0	$6,000,000
3	Val Vista	Minor Arterial	8.6	$17,045,987	$0	$17,045,987
3	McCartney Rd	Minor Arterial	14.0	$32,083,333	$0	$32,083,333
3	Florence-Kelvin Hwy	Minor Arterial	20.0	$27,767,606	$0	$27,767,606
3	Arizona Farms	Minor Arterial	5.4	$12,028,500	$0	$12,028,500
3	Arizona Farms	Minor Arterial	4.0	$7,587,805	$0	$7,587,805
3	Attaway Rd	Minor Arterial	6.2	$20,755,000	$0	$20,755,000
3	Hunt Hwy	Minor Arterial	28.0	$32,875,966	$0	$32,875,966
3	Selma Hwy	Minor Arterial	25.8	$28,336,353	$0	$28,336,353
4	Florence-Kelvin Hwy	Minor Arterial	18.9	$23,941,001	$0	$23,941,001
5,6,7	Park Link Dr	Minor Arterial	18.0	$28,183,333	$0	$28,183,333
5, 6, 7	Selma Hwy	Minor Arterial	27.4	$30,093,647	$0	$30,093,647
5, 6, 7	Sunland Gin	Minor Arterial	31.4	$28,495,929	$0	*$28,495,929*
	Total		**672.3**	**$1,110,957,174**	**$18,450,000**	**$1,129,407,174**

Source: Pinal County Public Works

TABLE 8-6. RECOMMENDED PROJECTS BY FUNCTIONAL CLASSIFICATION – COOLIDGE PLANNING AREA

Road Segment Name	From/To	Functional Class	Total Lanes	Length (miles)	Total Cost for Section	Priority	Prime Responsibility	Coordination
Attaway Rd	Bartlett Rd to Martin Rd	Major Arterial	6	1.01	$7,409,559	High	Pinal County	
Attaway Rd (6 lanes)	Martin Rd to City Limits	Major Arterial	6	3.54	$28,063,203	High	Coolidge	Pinal County
Bartlett Rd	Mc Cartney Rd to Macrae Rd	Major Arterial	6	1.11	$6,604,565	High	Pinal County	
Bartlett Rd	Macrae Rd to City Limits	Major Arterial	6	7.37	$43,851,929	High	Coolidge	Pinal County
Bartlett Rd	City Limits to Coolidge Airport Rd	Major Arterial	6	1.55	$12,767,590	High	Pinal County	
Cactus Forest Rd	Coolidge Airport Rd/Hiscox Ln to Cactus Forest Rd	Major Arterial	6	1.72	$15,924,100	High	Pinal County	
Christensen Rd	Steele Rd to Kleck Rd	Major Arterial	6	2	$13,300,116		Pinal County	
Christensen Rd	Kleck Rd to Bartlett Rd	Major Arterial	6	2.64	$15,708,153		Coolidge	
Christensen Rd	Bartlett Rd to City Limits	Major Arterial	6	1.75	$17,412,602		Pinal County	
Christensen Rd	City Limits to SR-287	Major Arterial	6	2.25	$14,787,632		Coolidge	
Clemans Rd	Bartlett Rd to Martin Rd	Major Arterial	4	1.01	$5,550,244		Pinal County	
Clemans Rd	Martin to City Limits	Major Arterial	4	1.51	$9,497,890		Coolidge	
Clemans Rd	City Limits to SR-287	Major Arterial	4	1.52	$10,752,842		Pinal County	
Coolidge Airport Rd	Kleck to Bartlett Rd	Major Arterial	6	2.75	$20,562,659	High	Pinal County	
Coolidge Airport Rd	Bartlett Rd to Kenilworth Rd	Major Arterial	6	2.02	$18,364,117	High	Pinal County	
Eleven Mile Corner Rd	SR-287 to City Limits	Major Arterial	6	2.5	$14,875,145	High	Pinal County	
Eleven Mile Corner Rd	City Limits to Bartlett Rd	Major Arterial	6	2.16	$12,852,126		Coolidge	Pinal County
Hiscox Ln	Kenilworth Rd to Vah Ki Inn Rd	Major Arterial	6	0.95	$8,452,555		Coolidge	
Kenilworth Rd	Attaway Rd to Coolidge Airport Rd	Major Arterial	6	3.00	$19,250,174	High	Coolidge	Pinal County
Kleck Rd	Overfield Rd to City Limits	Major Arterial	6	5.58	$33,201,323		Pinal County	
Kleck Rd	City Limits to City Limits	Major Arterial	6	0.79	$4,700,546		Coolidge	Pinal County
Kleck Rd	City Limits to SR-87	Major Arterial	6	1.69	$10,055,598		Pinal County	
Kleck Rd	SR 87 to Wheeler Rd	Major Arterial	6	3.01	$19,309,675		Coolidge	Pinal County
Kleck Rd	Wheeler Rd to study area boundary	Major Arterial	6	9.39	$72,016,043		Pinal County	
Martin Rd	Tweedy to City Limits	Major Arterial	6	1.04	$6,188,060		Coolidge	Pinal County
Martin Rd	City Limits to Skousen Rd	Major Arterial	6	0.48	$2,856,028		Pinal County	
Martin Rd	Skousen Rd to City Limits	Major Arterial	6	2.75	$16,362,660		Coolidge	Pinal County
Martin Rd	City Limits to City Limits	Major Arterial	6	1.24	$7,378,072		Pinal County	
Martin Rd	City Limits to Valley Farms Rd	Major Arterial	6	3.13	$18,623,681		Coolidge	Pinal County
Martin Rd	Valley Farms to Cactus Forest Rd	Major Arterial	6	2.25	$23,277,631		Pinal County	
Mc Cartney Rd	Overfield Rd to City Limits	Major Arterial	6	0.49	$2,915,528	High	Pinal County	
Mc Cartney Rd	City Limits to City Limits	Major Arterial	6	1.99	$11,840,616	High	Coolidge	Pinal County

TABLE 8-6. RECOMMENDED PROJECTS BY FUNCTIONAL CLASSIFICATION – COOLIDGE PLANNING AREA (Continued)

Road Segment Name	From/To	Functional Class	Total Lanes	Length (miles)	Total Cost for Section	Priority	Prime Responsibility	Coordination
Mc Cartney Rd	City Limits to Bartlett Rd	Major Arterial	6	1.02	$7,469,059		Pinal County	
Overfield Rd	Cottonwood Ln to McCartney Rd	Major Arterial	6	2.77	$16,481,660		Pinal County	
Overfield Rd	McCartney Rd to Woodruff Rd	Major Arterial	4	1	$6,979,019		Pinal County	
Plant Rd	Bartlett Rd to Pinebrook Ln	Major Arterial	6	2.03	$14,878,618		Pinal County	
Plant Rd	Pinebrook Lane to Vah Ki Inn Rd	Major Arterial	6	1.01	$23,909,559		Coolidge	Pinal County
S. Main Road	Kleck Road to Bartlett Rd	Major Arterial	6	2.48	$20,356,144		Pinal County	
Signal Peak Rd	Cottonwood Ln to Randolph Rd	Major Arterial	6	2.01	$11,959,617	High	Pinal County	
Signal Peak Rd	Randolph Rd to City Limits	Major Arterial	6	0.51	$3,034,530	High	Coolidge	
Signal Peak Rd	City Limits to McCartney Rd	Major Arterial	6	0.51	$3,034,530	High	Pinal County	
Signal Peak Rd	McCartney Rd to SR-287	Major Arterial	6	5.07	$34,366,795	High	Coolidge	Pinal County
Skousen Rd	Bartlett Rd to SR-287	Major Arterial	6	4.00	$23,800,231		Coolidge	Pinal County
Steele Rd	SR-87 to Wheeler Rd	Major Arterial	4	2.98	$16,375,967		Pinal County	
Vah Ki Inn Rd	Skousen Rd to City Limits	Major Arterial	6	5.50	$34,125,320		Coolidge	Pinal County
Vah Ki Inn Rd	City Limits to Clemans Rd	Major Arterial	6	0.48	$4,256,028		Pinal County	
Vah Ki Inn Rd	Clemans Rd to Valley Farms Rd	Major Arterial	6	1	$7,350,058		Pinal County	
Vah Ki Inn Rd	Valley Farms Rd to Plant Rd	Major Arterial	6	1.97	$14,521,614		Coolidge	Florence
Wheeler Rd	Kleck Rd to Bartlett Rd	Major Arterial	6	2.63	$17,048,652	High	Coolidge	Pinal County
Woodruff Rd	Overfield Rd to Tweedy Rd	Major Arterial	6	4.06	$26,957,235		Coolidge	Pinal County
		Subtotal		**117.22**	**$811,617,297**			
Clemans-Ranchview Ext	SR-287 to City Limits	Minor Arterial	4	1.47	$7,390,282		Coolidge	Pinal County
Coolidge Ave	Skousen Rd to Attaway Rd	Minor Arterial	4	4.97	$24,986,194		Coolidge	Pinal County
Cottonwood Ln	Overfield Rd to Curry Rd	Minor Arterial	4	3.02	$17,462,758		Pinal County	
Curry Rd	Cottonwood Ln to Woodruff Rd	Minor Arterial	4	4.02	$21,350,161		Pinal County	
Fast Track Rd	Steele Rd to Kleck Rd	Minor Arterial	4	1.99	$10,004,532		Pinal County	
Kenilworth Rd	Macrae Rd to Skousen Rd	Minor Arterial	4	1.00	$5,027,403		Coolidge	
Kenworthy Rd	Martin Rd to Vah Ki Inn Rd	Minor Arterial	4	2.00	$10,054,806		Coolidge	
La Palma Rd	SR-287 to Randolph Rd	Minor Arterial	4	3	$15,082,211		Pinal County	
La Palma Rd	Randolph to Bartlett Rd	Minor Arterial	4	1.46	$7,340,009		Coolidge	
Macrae Rd	Martin Rd to Kenilworth Rd	Minor Arterial	4	1.01	$5,077,677		Coolidge	
Randolph Rd	Overfield Rd to Toltec Buttes	Minor Arterial	4	1	$5,027,403		Pinal County	
Randolph Rd	Toltec Buttes Rd to City Limits	Minor Arterial	4	1.49	$7,490,831		Coolidge	Pinal County
Randolph Rd	City Limits to Eleven Mile Corner Rd	Minor Arterial	4	2.54	$12,769,605		Pinal County	

TABLE 8-6. RECOMMENDED PROJECTS BY FUNCTIONAL CLASSIFICATION – COOLIDGE PLANNING AREA (Continued)

Road Segment Name	From/To	Functional Class	Total Lanes	Length (miles)	Total Cost for Section	Priority	Prime Responsibility	Coordination
Randolph Rd	Eleven Mile Corner Rd to Wheeler Rd	Minor Arterial	4	6	$32,444,419		Coolidge	Pinal County
Storey Rd	Curry Rd to SR-87	Minor Arterial	4	5.02	$28,657,564		Pinal County	
Toltec Buttes Rd	Cottonwood Ln to Randolph Rd	Minor Arterial	4	2.01	$10,105,080		Pinal County	
Toltec Buttes Rd	Randolph Rd to Woodruff Rd	Minor Arterial	4	2.02	$11,295,354		Coolidge	Pinal County
Tweedy Rd	SR-287 to Bartlett Rd	Minor Arterial	4	4.32	$21,718,384		Pinal County	
Tweedy Rd	Bartlett Rd to Woodruff Rd	Minor Arterial	4	0.93	$4,675,485		Coolidge	Pinal County
		Subtotal		**49.27**	**$257,960,159**			
Coolidge Airport Rd	Coolidge Airport Rd Ext	Major Collector	2	0.58	$2,126,730		Pinal County	
Main St (Coolidge)	Coolidge Ave to Vah Ki Inn Rd	Major Collector	2	1.00	$3,666,776		Coolidge	
Northern Ave	Coolidge Ave to Main St (Coolidge)	Major Collector	2	2.28	$8,360,250		Coolidge	
Val Vista Rd	Signal Peak Rd to end of Val Vista Rd	Major Collector	4	1.00	$3,666,776		Coolidge	Pinal County
		Subtotal		**4.86**	**$17,820,532**			
		Totals		**171.35**	**$1,087,397,988**			

TABLE 8-7. RECOMMENDED PROJECTS BY FUNCTIONAL CLASSIFICATION – FLORENCE PLANNING AREA

Road Segment Name	From/ To	Functional Class	Total Lanes	Length (miles)	Total Cost for Section	Priority	Prime Responsibility	Coordination
Arizona Farms Rd	Hunt Hwy to Town Limits	Major Arterial	6	3.88	$23,086,226	High	Pinal County	
Arizona Farms Rd	Felix Rd to Town Limits	Major Arterial	6	3.22	$24,104,186	High	Florence	Pinal County
Arizona Farms Rd	Town Limits to SR-79	Major Arterial	6	2.36	$17,377,643	High	Pinal County	
Attaway Rd	Coolidge City Limits to Palmer Rd	Major Arterial	6	1.38	$28,911,079	High	Pinal County	
Attaway Rd	Palmer Rd to Hunt Hwy	Major Arterial	6	1.07	$7,766,562	High	Florence	Pinal County
Attaway Rd	Hunt Hwy to Felix Rd	Major Arterial	6	1.28	$8,233,972	High	Florence	
Attaway Rd	Felix Rd to Bella Vista Rd	Major Arterial	6	4.38	$26,061,253	High	Pinal County	
Bartlett Rd	Coolidge Airport Road to Diffen Rd	Major Arterial	6	5.59	$42,405,824	High	Pinal County	
Bella Vista Rd	Hunt Hwy to SR-79	Major Arterial	6	12.08	$76,166,699	High	Pinal County	
Cactus Forest Rd	Martin Rd to Biznaga St	Major Arterial	6	7.63	$53,798,942	High	Pinal County	
Felix Rd	Attaway Rd (RoadNum 39) to Arizona Farms Rd	Major Arterial	6	6.39	$42,220,870	High	Florence	Pinal County
Felix Rd	Arizona Farms Rd to Attaway Rd	Major Arterial	6	1.35	$8,032,579	High	Pinal County	
Cooper Rd	Poston Butte-Cooper Rd to Town Limits	Major Arterial	6	3.20	$20,440,186	High	Florence	Pinal County
Cooper Rd	Town Limits to Bella Vista Rd	Major Arterial	6	2.25	$13,387,631	High	Pinal County	
Florence-Kelvin Hwy	SR-79 to Quail Run Rd	Major Arterial	6	2.00	$16,100,116		Florence	Pinal County
Florence-Kelvin Hwy	Quail Run Rd to Biznaga St	Major Arterial	6	4.1	$24,395,238		Pinal County	
Gantzel Rd	Hunt Hwy to Bella Vista Rd	Major Arterial	6	1.28	$7,616,074	High	Pinal County	
Heritage Rd	Hiller Rd to SR-79	Major Arterial	4	2.88	$17,026,440		Pinal County	
Hiller Rd	Poston Butte-Cooper Rd to SR-79	Major Arterial	6	2.57	$21,636,649		Pinal County	
Hiscox Ln	Vah Ki Inn Rd to SR-287	Major Arterial	6	1.60	$13,720,093		Florence	
Hunt Hwy	Bella Vista Rd to Town Limits	Major Arterial	6	7.27	$43,256,924	High	Pinal County	
Hunt Hwy	Town Limits to Ranchview Rd	Major Arterial	6	2.17	$14,311,626	High	Pinal County	
Hunt Hwy	Ranchview Rd to Town Limits	Major Arterial	6	0.36	$3,542,021	High	Pinal County	
Hunt Hwy	Town Limits to SR-79	Major Arterial	6	5.90	$39,305,346	High	Florence	
Merrill Ranch Parkway	Felix Rd to Desert Color Pkwy	Major Arterial	6	1.48	$15,016,998		Florence	
N. Main St	Hiller Rd to Bella Vista Rd	Major Arterial	6	5.06	$31,307,293		Pinal County	
Plant Rd	Vah Ki Inn Rd to Hunt Hwy	Major Arterial	6	4.43	$35,503,757	High	Florence	Pinal County
S. Main St	Bartlett to Vah Ki Inn Rd	Major Arterial	6	3.04	$25,543,306		Pinal County	
Vah Ki Inn Rd	Plant Rd to Fulson Rd	Major Arterial	6	1.99	$20,985,615		Pinal County	
Vah Ki Inn Rd	Fulson Rd to SR-79	Major Arterial	6	0.52	$3,094,030		Florence	
		Subtotal		**102.71**	**$724,355,178**			

TABLE 8-7. RECOMMENDED PROJECTS BY FUNCTIONAL CLASSIFICATION – FLORENCE PLANNING AREA (Continued)

Road Segment Name	From/ To	Functional Class	Total Lanes	Length (miles)	Total Cost for Section	Priority	Prime Responsibility	Coordination
Adamsville Rd	SR-287 to Town Limits	Minor Arterial	4	1.3	$6,535,625		Pinal County	
Adamsville Rd	Town Limits to Main St	Minor Arterial	4	2.64	$13,272,344		Florence	Pinal County
Attaway Rd	Hiller Rd to Quail Run Ln	Minor Arterial	4	1.84	$9,250,422		Pinal County	
Bartlett Rd	SR-79 to Biznaga St	Minor Arterial	4	3	$17,362,210		Pinal County	
Biznaga St	Bartlett Rd to Florence-Kelvin Hwy	Minor Arterial	4	3.83	$29,514,954		Pinal County	
Butte Ave	Main St to SR-79	Minor Arterial	4	0.49	$2,463,428		Florence	
Butte Rd	SR-79 to Old Florence-Kelvin Hwy	Minor Arterial	4	1.49	$8,630,831		Florence	
Carrell Lane	Vah Ki Inn Rd to SR-79	Minor Arterial	4	0.75	$3,770,552		Florence	
Christensen-Sierra Vista Ext	SR-287 to Merrill Ranch Parkway	Minor Arterial	4	1.92	$13,072,614		Pinal County	Florence
Clemans-Ranchview Ext	Coolidge City Limits to Florence Town Limits	Minor Arterial	4	1.21	$6,083,158		Pinal County	
Clemans-Ranchview Ext	Town Limits to SR-79	Minor Arterial	4	3.38	$18,132,623		Florence	Pinal County
Desert Color Pkwy	Hunt Hwy to Felix Rd	Minor Arterial	4	3.76	$20,043,036		Florence	
Diffen Rd	Bartlett Rd to Florence-Kelvin Hwy	Minor Arterial	4	3.98	$29,129,065		Pinal County	
Diffen Rd	Florence-Kelvin Hwy to Old Florence-Kelvin Hwy	Minor Arterial	4	0.87	$7,793,841		Pinal County	
Dogwood-Mayfield Rd	Vah Ki Inn Rd to Quail Run Rd	Minor Arterial	4	2.98	$19,541,662		Pinal County	Florence
W. Canal Rd	Valley Farms Rd to Plant Rd	Minor Arterial	4	1.95	$9,803,436		Florence	
Florence Heights Dr	Main St to SR-79	Minor Arterial	4	0.56	$2,815,346		Florence	
Fulson Rd	Bartlett Rd to Vah Ki Inn Rd	Minor Arterial	4	3	$24,202,210		Pinal County	
Herseth Rd	Judd Rd to Bella Vista Rd	Minor Arterial	4	1.02	$5,127,951		Pinal County	
Hiscox Ln	SR-287 to Adamsville Rd	Minor Arterial	4	0.52	$3,754,250		Florence	
Judd Loop East	Hunt Hwy to Judd Rd	Minor Arterial	4	1.99	$10,004,532		Pinal County	
Judd Rd	Hunt Hwy to Judd Rd	Minor Arterial	6	0.37	$1,860,139		Pinal County	
Judd Rd	Judd Rd to SR-79	Minor Arterial	4	10.66	$55,230,118		Pinal County	
Merrill Ranch Parkway	Walker Butte Pkwy to Hunt Hwy	Minor Arterial	4	1.05	$5,278,773		Florence	Pinal County
Merrill Ranch Parkway	Hunt Hwy to Felix Rd	Minor Arterial	4	2.08	$8,580,556		Florence	
N. Sierra Vista Dr	Judd Rd to Bella Vista Rd	Minor Arterial	4	1.02	$5,127,951		Pinal County	
North Felix Loop Road	Judd Rd to Bella Vista Rd	Minor Arterial	4	1	$6,665,403		Pinal County	
Old Florence-Kelvin Hwy	Butte Rd to Old Florence-Kelvin Hwy	Minor Arterial	4	0.06	$3,079,644		Florence	

TABLE 8-7. RECOMMENDED PROJECTS BY FUNCTIONAL CLASSIFICATION – FLORENCE PLANNING AREA (Continued)

Road Segment Name	From/ To	Functional Class	Total Lanes	Length (miles)	Total Cost for Section	Priority	Prime Responsibility	Coordination
Old Florence-Kelvin Hwy	Old Florence-Kelvin Hwy to Diffen Rd	Minor Arterial	4	2.34	$17,320,123		Florence	
Old Florence-Kelvin Hwy	Diffen Rd to Florence-Kelvin Hwy	Minor Arterial	4	1.39	$8,128,090		Pinal County	
Palmer Rd	Christensen-Sierra Vista Ext to Attaway Rd (RoadNum 39)	Minor Arterial	4	2	$12,334,806		Pinal County	
Pinebrook Ln	Plant Rd to Biznaga St	Minor Arterial	4	7.95	$47,305,856		Pinal County	
Poston Butte Pkwy	(loop) Desert Color Pkwy to Desert Color Pkwy	Minor Arterial	4	3.10	$17,864,950		Florence	
Poston Butte-Cooper Rd	Poston Butte Pkwy to Hiller Rd	Minor Arterial	4	0.72	$6,397,730		Florence	Pinal County
Quail Run Rd	Pinebrook Ln to Mayfield Rd	Minor Arterial	4	2.99	$20,731,935		Pinal County	
Quail Run Rd	Mayfield Rd to Old Florence-Kelvin Hwy	Minor Arterial	4	0.60	$4,156,442		Florence	
Quail Run Ln	W. Hiller Rd to Arizona Farms Rd	Minor Arterial	4	1.97	$9,903,984		Pinal County	
Quail Run Rd	Judd Rd to Bella Vista Rd	Minor Arterial	4	1.02	$5,127,951		Pinal County	
Ranchview Rd	Valley Farms Rd to Hunt Hwy	Minor Arterial	4	1.76	$8,848,230		Florence	
Reed Rd	Bartlett Rd to Florence-Kelvin Hwy	Minor Arterial	4	4.1	$33,152,353		Pinal County	
S. Dogwood Rd	Bartlett Rd to Pinebrook Ln	Minor Arterial	4	1.92	$14,212,614		Pinal County	
S. Main St	Bartlett Rd to Vah Ki Inn Rd	Minor Arterial	4	3.04	$25,543,306		Pinal County	
SR-79B	CAP canal to SR-287	Minor Arterial	2	1.26	$6,334,528		Pinal County	Florence
SR-79B	SR-79B to SR-79B	Minor Arterial	4	0.29	$2,597,947		Pinal County	Florence
Vah Ki Inn Rd	SR-79 to Biznaga St	Minor Arterial	4	5.45	$35,379,348		Pinal County	
Valley Farms Rd	Vah Ki Inn Rd to Hunt Hwy	Minor Arterial	4	2.96	$31,381,114		Florence	Pinal County
W. Hiller Rd	Hunt Hwy to Attaway Rd	Minor Arterial	4	1.48	$8,580,557		Pinal County	
Walker Butte Pkwy	Christensen-Sierra Vista Ext to Merrill Ranch Parkway	Minor Arterial	4	2.56	$15,150,152		Florence	Pinal County
Walker Butte Pkwy	Walker Butte Pkwy to Hunt Hwy	Minor Arterial	4	2.81	$17,547,003		Pinal County	Pinal County
Wildwood Rd	Bartlett Rd to Florence-Kelvin Hwy	Minor Arterial	4	4.12	$32,112,901		Pinal County	
Yeager Rd	Judd Rd to Bella Vista Rd	Minor Arterial	4	1.01	$5,077,677		Pinal County	
		Subtotal		**115.56**	**$731,316,271**			

TABLE 8-7. RECOMMENDED PROJECTS BY FUNCTIONAL CLASSIFICATION – FLORENCE PLANNING AREA (Continued)

Road Segment Name	From/ To	Functional Class	Total Lanes	Length (miles)	Total Cost for Section	Priority	Prime Responsibility	Coordination
Attaway Rd	Hunt Hwy to Hiller Rd	Major Collector	3	1.81	$10,239,599	High	Florence	Pinal County
Butte Ave	Plant Rd to Main St	Major Collector	3	1.00	$5,346,776		Florence	
Centennial Park	SR-287 to Butte Ave	Major Collector	3	0.96	$5,254,105		Florence	
Diversion Dam Rd	SR-79 to end of Diversion Dam Rd	Major Collector	3	2.35	$8,616,924		Florence	
Franklin	Merrill Ranch Parkway to Hunt Hwy	Major Collector	3	1.49	$7,743,497		Florence	Pinal County
Main St	SR-287 to Butte Rd	Major Collector	4	0.64	$2,346,737		Florence	
Main St	Butte Rd to Ruggles St	Major Collector	2	0.32	$1,173,368		Florence	
Main St	Ruggles St to Clemans-Ranchview Ext	Major Collector	4	0.66	$2,420,072		Florence	
North Felix Loop Rd Loop Ext	(loop) Judd Rd to Judd Rd	Minor Collector	3	2.77	$10,156,970		Pinal County	
Price Rd	SR-79 to end of Price Rd	Major Collector	3	1.58	$8,247,506		Pinal County	
Ruggles St	Main St to SR-79	Major Collector	4	0.48	$1,760,053		Florence	
		Subtotal		**14.06**	**$63,305,607**			
Bowling Rd	Butte Rd to Diversion Dam Rd	Minor Collector	2	0.50	$2,392,096		Florence	
Maricopa Blvd	end of Maricopa Blvd to SR-79	Minor Collector	2	0.07	$192,933		Florence	
Ranchview Rd	Walker Butte Pkwy to Hunt Hwy	Minor Collector	2	1.49	$4,946,727		Pinal County	Florence
Ranchview-Bowling Rd1	Diversion Dam Rd to SR-79	Minor Collector	2	1.06	$3,935,564		Florence	
		Subtotal		**3.12**	**$11,467,320**			
Frontage Road Northbound	Vah Ki Inn Rd to Clemans-Ranchview	Frontage Road	2	2.78	$7,662,213		Florence	Pinal County
Frontage Road Southbound	Vah Ki Inn Rd to Clemans-Ranchview	Frontage Road	2	2.77	$7,634,651		Florence	Pinal County
Frontage Road Northbound	Hunt Hwy to Hiller Rd	Frontage Road	2	2.34	$6,449,489		Florence	Pinal County
Frontage Road Southbound	Hunt Hwy to Hiller Rd	Frontage Road	2	2.37	$6,532,174		Florence	Pinal County
Frontage Road Northbound	Hiller Rd to Heritage Rd	Frontage Road	2	1.05	$2,894,001		Pinal County	
Frontage Road Southbound	Hiller Rd to Heritage Rd	Frontage Road	2	1.05	$2,894,001		Pinal County	
Frontage Road Northbound	Heritage Rd to Arizona Farms Rd	Frontage Road	2	0.99	$2,728,630		Pinal County	
Frontage Road Southbound	Heritage Rd to Arizona Farms Rd	Frontage Road	2	0.99	$2,728,630		Pinal County	
Frontage Road Northbound	Arizona Farms Rd to Judd Rd	Frontage Road	2	2	$5,512,383		Pinal County	
Frontage Road Southbound	Arizona Farms Rd to Judd Rd	Frontage Road	2	2	$5,512,383		Pinal County	
		Subtotal		**18.34**	**$50,548,555**			
		Totals		**253.79**	**$1,580,992,932**			

FIGURE 8-1. 2025 ROAD NETWORK BY CITY AND TOWN LIMITS

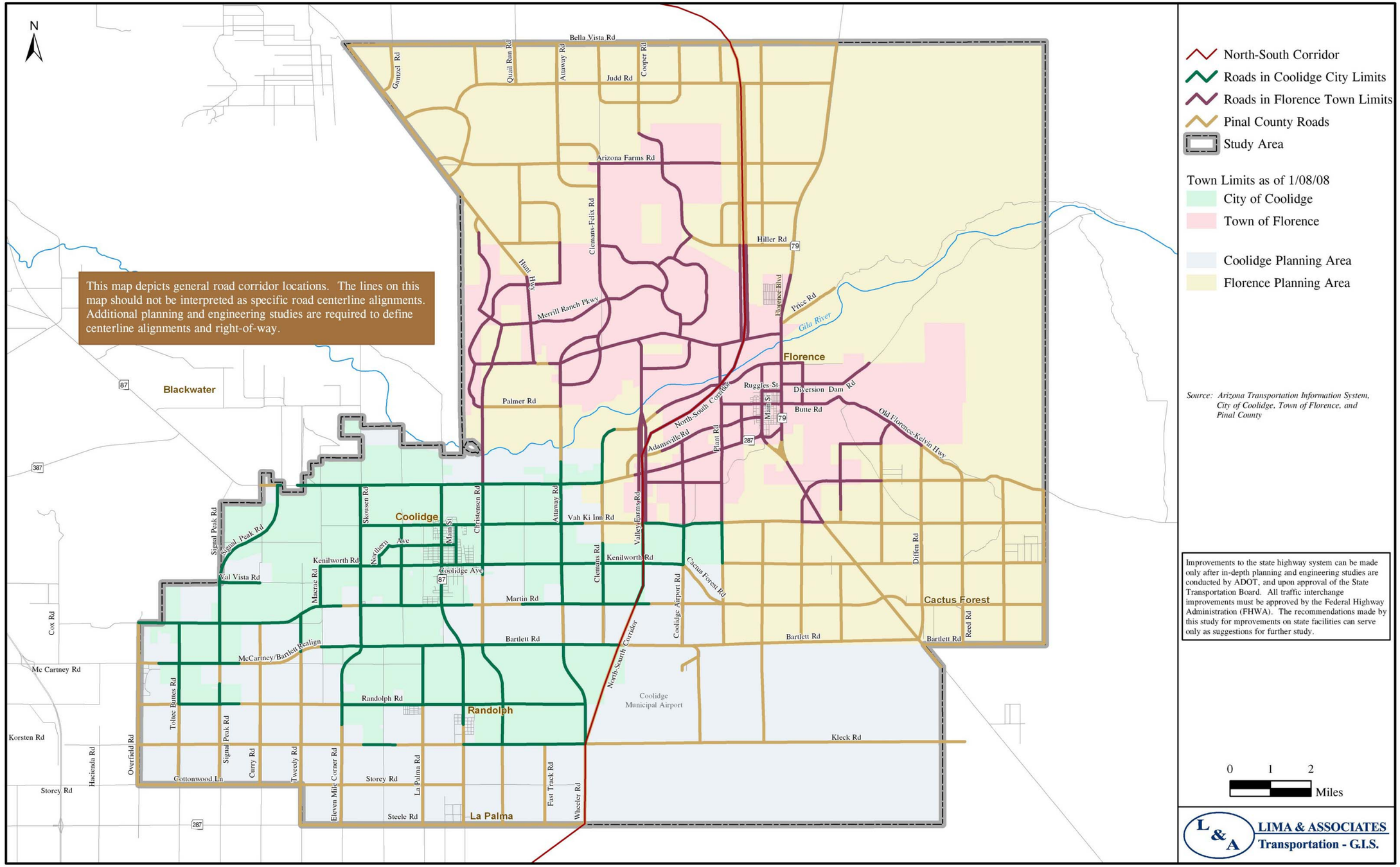


TABLE 8-8. SUMMARY OF COST ESTIMATES

Functional Class	Coolidge Planning Area		Florence Planning Area		Total Cost
	Length (miles)	Cost	Length (miles)	Cost	
Major Arterial	117.22	$811,617,297	102.71	$724,355,178	$1,535,972,475
Minor Arterial	49.27	$257,960,159	115.56	$731,316,271	$989,276,430
Major Collector	4.86	$17,820,532	14.06	$63,305,607	$81,126,139
Minor Collector	0	$0	3.12	$11,467,320	$11,467,320
Frontage	0	$0	18.34	$50,548,555	$50,548,555
Total	**171.35**	**$1,087,397,988**	**253.79**	**$1,580,992,931**	**$2,668,390,919**

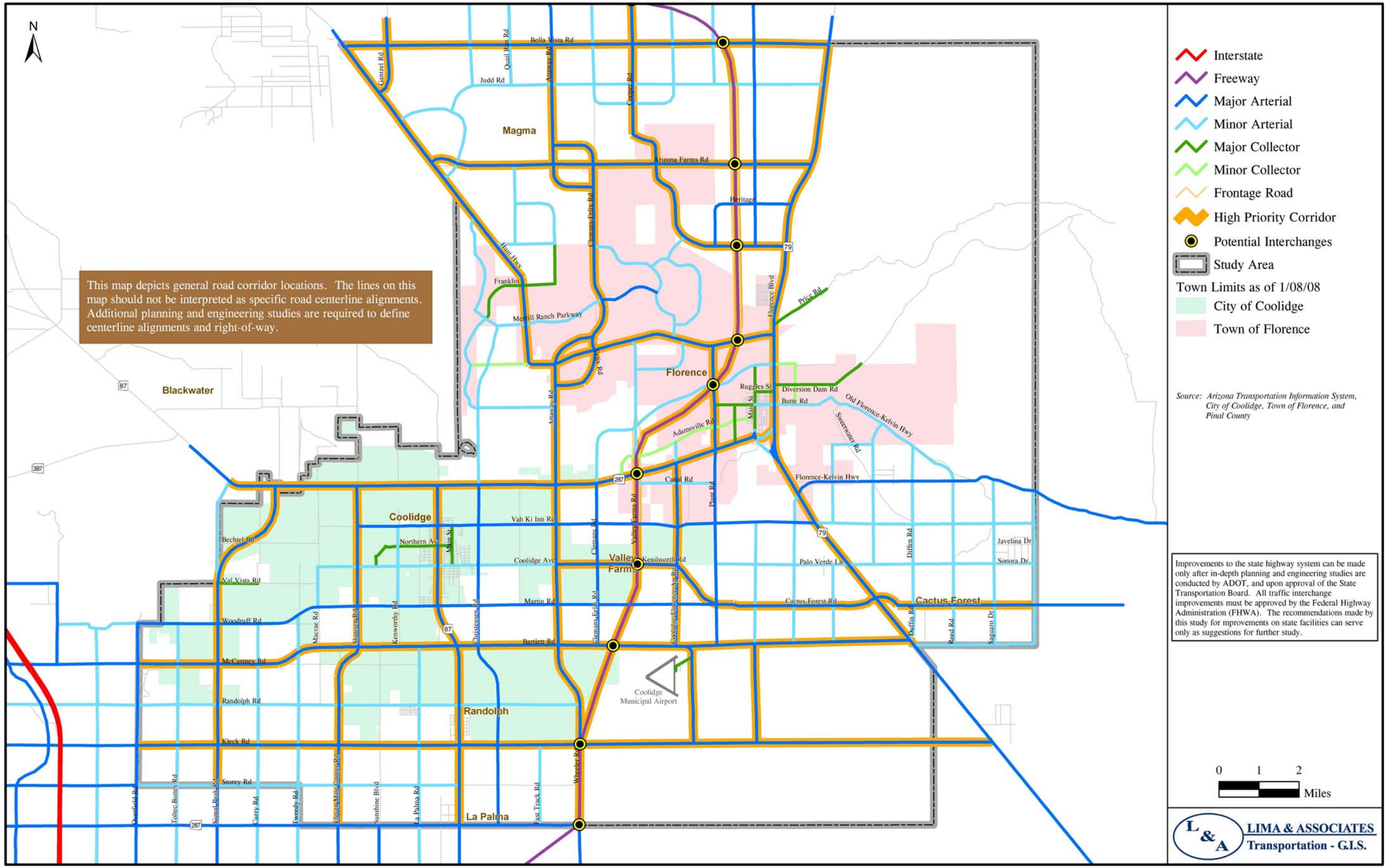
PRIORITIZATION OF PROJECTS

Priorities were assigned to potential projects as low, medium, and high priority. The following criteria was used in identify priorities for projects.

- Potential to close gaps and improve continuity and connectivity to activity centers
- Potential to relieve current congestion
- Potential to relieve future congestion
- Potential to serve current development or impending growth
- Potential to improve rail crossing safety
- Proximity to future interchanges
- Included in TIP/CIP
- Connectivity to facilities of adjacent communities

High priority road corridors are illustrated in Figure 8-2.

FIGURE 8-2. HIGH PRIORITY CORRIDORS



9. REVENUE SOURCES

This Chapter summarizes multimodal revenue sources and estimates that are applicable to the City of Coolidge and the Town of Florence, together with financial constraints and opportunities pertaining to needed roadway improvements. A number of funding mechanisms exist that could be used to fund multimodal improvements in the Study Area. Key federal, state, regional, and local sources are shown in Table 9-1.

Funding options include both traditional and innovative sources. Traditional sources are the Arizona Highways User Revenue Fund (HURF); the Local Transportation Assistance Fund (LTAF); Federal-Aid Funds (Surface Transportation, Bridge, Safety, and Transportation Enhancement Funds); and local general funds, such as general obligation bonds and revenue bonds. Alternative sources of funding include special assessment districts, developer dedications, and exactions such as impact fees.

FEDERAL FUNDS

The Federal government funds a variety of transportation programs, most applicable to Coolidge and Florence would be the Surface Transportation Program (STP) funds. Arizona receives about $152 million in STP funds per year. These funds can be used on state highways or for bridge rehabilitation, transportation enhancements, and safety projects. The municipalities would work through ADOT and YMPO to utilize STP funds. In addition, FHWA STP "Flex" funds can also be used for transit capital projects. The State also administers Federal Transit Administration (FTA) Section 5304, Statewide Transportation Planning Funds, Section 5310, Elderly & Persons with Disabilities Transportation Program Funds, and Section 5311, Rural Public Transportation Program Funds.

Highway Trust Fund (HTF) is composed of the Highway Account and the Mass Transit Account, and is the source of funding for most of the programs in SAFETEA-LU. Specific funding levels depend on how much revenue is generated for the Highway Trust Fund. Federal motor fuel taxes are the major source of income into the Highway Trust Fund. SAFETEA-LU allocates funding based on four major goals: improving safety, rebuilding America's infrastructure, protecting our environment, and advancing research and technology.

Arizona has been allocated a total of $1.88 billion between 2006 and 2008. The estimated funding levels for Arizona are summarized in Table 9-2 for Fiscal Years 2005 - 2006, 2006 – 2007, and 2007 - 2008. Major funding categories of federal funds in SAFETEA-LU include the following.

Surface Transportation Program federal funds are allocated to ADOT and may be programmed on any segment of the interstate system or state highway. Portions of this fund may also be used for bridge rehabilitation, transportation enhancements, and safety projects, such as hazard elimination and environmentally related activities. A new provision permits a portion (up to 15 percent) of funds reserved for rural areas to be spent on rural minor collectors. Apportioned funds are to be distributed based on the following factors:

TABLE 9-1. MATRIX OF KEY MULTIMODAL FUNDING SOURCES

Fund Name	Description	Eligible Uses	Application Process
Federal			
STP	Federal funds, administered by FHWA and ADOT	Variety of capital projects including highways, bridges, and enhancement projects	Programmed and distributed through CAAG and ADOT District
High Risk Rural Roads	Federal funds, administered by FHWA and ADOT	Correct safety problems on roadways classified as rural major collectors, rural minor collectors and rural local roads	Programmed through ADOT
Safe Routes to School Program	Federal funds, administered by FHWA and ADOT	sidewalk, traffic calming and speed reduction improvements, pedestrian and bicycle crossing improvements, traffic diversion improvements near schools	Programmed through ADOT
State			
HURF	State funds, derived from fuel tax and VLT, administered by ADOT	Nearly any capital project related to roadway improvements	Funds allocated to jurisdiction as proportion of population
LTAF	State funds derived from lottery sales	General transportation improvements	Funds allocated to jurisdiction as proportion of population
County			
Pinal County Transportation Excise Tax	½ cent sales tax dedicated to road improvements within Pinal County	1. Highway and street purposes for county, city or town roads, streets, and bridges. 2. Principal and interest on highway and street bonds. 3. Multi-modal transportation systems. 4. Regional transportation studies. 5. Cooperative transportation projects and studies between the federal government and its agencies, the State government and its agencies, and the incorporated cities and towns within the County.	Funds allocated to jurisdiction as proportion of population
Impact Fees*	Fee imposed by local jurisdiction on development on per unit basis	Used to fund a variety of infrastructure needs including transportation	Locally administered
Development Stipulations*	Requirements that developers dedicate appropriate ROW and build streets adjacent to project	Benefits are derived by offsetting cost of acquiring ROW and building infrastructure	Locally administered

*If Enacted

TABLE 9-2. ESTIMATED FEDERAL AID HIGHWAY APPORTIONMENTS AND ALLOCATION FOR ARIZONA (In Millions of Dollars)

Description	Estimated Apportionments		
	FY 05-06	FY 06-07	FY 07-08
Apportionments			
Surface Transportation	178.7	167.1	171.9
National Highway System	142.3	147.4	152.0
Interstate Maintenance	$130.2	$134.9	$139.1
Bridge Replacement and Rehabilitation	19.4	20.1	20.7
Congestion Mitigation & Air Quality	43.7	45.3	46.7
Recreational Trails	1.3	1.6	1.7
Highway Planning and Research	10.5	10.5	10.5
Metropolitan Planning	5.7	5.7	5.8
Border Infrastructure Program	7.1	8.1	9.3
Safe Routes to School	1.6	2.1	2.6
Equity Bonus	54.4	87.2	93.9
Subtotal	**$594.9**	**$630.0**	**$654.2**
Apportionment Distribution by Entity			
MAG	111.3	117.8	122.3
PAG	20.8	22.1	22.9
ADOT	428.9	454.2	471.7
Optional Use by MAG, PAG, Other Locals	21.4	22.7	23.6
Other Locals	12.5	13.2	13.7
Subtotal	**$594.9**	**$630.0**	**$654.2**
Grand Total FY 06 - 08			**$1,879.1**

Source: ADOT, *State Transportation Improvement Plan,* 2006 – 2008 Feb 2006
Portion of State Transportation Funds are flexed to FTA for Transit projects Statewide

- 25 percent based on total lane miles of Federal-aid highways
- 40 percent based on vehicle miles traveled on lanes on Federal-aid highways
- 35 percent based on estimated tax payments attributable to highway users in the States into the Highway Account of the Highway Trust Fund (often referred to as "contributions" to the Highway Account

Each State is to receive a minimum of one-half percent of the funds apportioned for STP.

The total funding for the STP over the three fiscal years shown in Table 9-2 for Arizona is $517.7 million. Arizona's allocation is based on the state's lane-miles of Federal-aid highways; total vehicle-miles traveled on those Federal-aid highways, and estimated contributions to the Highway Account of the HTF.

The National Highway System (NHS) funds are for improvement to the National Highway System which consists of an interconnected system of principal arterial routes which serve major population centers, international border crossings, airports, public transportation facilities, and other intermodal transportation facilities as well as major travel destinations. The NHS funding level for Arizona over the three fiscal years as shown Table 9-2 is $441.7 million. Arizona's share is based the state's lane-miles of principal arterials (excluding Interstate), vehicle-miles traveled on those arterials, diesel fuel used on the state's highways, and per capita principal arterial lane-miles.

Interstate Maintenance (IM) funds are for reconstruction of bridges, interchanges, and over crossings along existing Interstate routes, acquisition of right-of-way, and preventative maintenance. These funds are not to be used for the construction of new travel lanes other than high occupancy vehicle lanes or auxiliary lanes. The IM funding level for Arizona over the three fiscal years shown in Table 9-2 is $404.2 million. The allocation of these funds is based on the state's lane-miles of Interstate routes open to traffic, vehicle-miles traveled, and contributions to the Highway Account of the Highway Trust Fund attributable to commercial vehicles. A State may transfer up to 50 percent of its IM apportionment to its NHS, STP, CMAQ, Highway Bridge Replacement and Rehabilitation, or Recreational Trails apportionment.

Bridge Replacement and Rehabilitation funds in the amount of $60.2 million are authorized for Arizona. This allotment can be used for bridge replacement or rehabilitation for eligible bridges located on any public road. The State has the option to transfer up to 50 percent of its bridge funds to NHS or STP funds.

Congestion Mitigation & Air Quality (CMAQ) funds in the amount of $135.7 million are allotted to Arizona between Fiscal Years 2005 and 2008 for projects likely to contribute to attainment of national ambient air quality standards and congestion mitigation. These funds are programmed for both freeway management projects, demand management projects, as well as other related air quality projects including bicycles facilities. Currently, CMAQ funds are only spent in Maricopa County.

Funds for the Recreation Trails Program is provided by the Federal Highway Administration in apportionments to the Recreational Trails Program, with an allocation of $4.6 million over the next three years to Arizona. A state recreational trails advisory committee represents both motorized and non-motorized recreational trail users. The allocated funds are split into 30 percent for motorized use, 30 percent for non-motorized use, and 40 percent for diverse trails.

The State Planning and Research Program provides planning of future highway and local transportation systems. Research, development, and technology transfer activities necessary in connection with the planning, design, construction, and maintenance of highways, public transportation, and intermodal transportation system. Funds total $31.5 million dollars for this effort.

Metropolitan Planning Funds in Arizona are funded with $17.2 million over the 3-year horizon. These funds are used to carry out the planning process required by Title 23, United States Code, including the development of metropolitan area transportation plans and transportation improvement programs.

Border Infrastructure Program distributes funds among four States: Arizona California, New Mexico, and Texas. The funds are used to support the construction and improvement to the motor carrier safety inspection facilities along the United States-Mexican border. The objective of the program is twofold: safety and the development of infrastructure to facilitate truck flow through critical commerce corridors in the four states. The money allocated for this program during the three year period is approximately $24.5 million.

Equity Bonus ensures that the State will have a guaranteed return on its contributions to the Highway Account of the Highway Trust Fund. The specified percentages are 90.5 percent for 2005 and 2006, 91.5 percent for 2007, and 92 percent for 2008 and 2009. Arizona's State Transportation Improvement Plan estimates the amount of $235.5 million for Fiscal Years 2006 - 2008 for the funding itself which includes an 80/20 match system. This SAFETEA-LU program replaces TEA-21's Minimum Guarantee program.

The Hazard Elimination System (HES) is a program that was previously identified as the Candidate Locations for Operations and Safety Evaluations (CLOSE) program. The primary objective of the HES program is for reducing the number and severity of traffic crashes and decreasing the potential for crashes on state highways.

Authorized funding for the HES program is under Section 924 of the Highway Safety Improvement Program of Title 23 of U.S.C. 105(f), 152, 315, and 402; Section 203 of the Highway Safety Act of 1973, as amended; 49 CFR 1.48(b). The program is funded for the amount of $50.5 million for FYs 2003-2007 based on the ADOT Five-Year Transportation Facilities Construction Program.

Most types of public surface transportation facility improvement may be approved for funding, provided that the sole purpose of the improvement is to substantially improve safety or to eliminate traffic hazards. However, improvements primarily for capacity enhancements with safety as a by-product will not be approved.

Federal Lands Highways (FLH) funds can be used for Indian Reservation Roads, Park Roads and Parkways, Public Lands Highways, and Refuge Roads. FLH funds also can be used for transit facilities within public lands, national parks, and Indian reservations. The funds can also be used as the State/local match for most types of Federal-aid highway funded projects. Program authorizations through 2009 total $4.5 billion for projects nationwide.

Transportation Enhancement funds are one type of federal funds, which are available directly for local projects. These funds are set aside in order to add community or environmental value to a completed or ongoing transportation project. Currently, Arizona receives about $13.9 million per year for transportation enhancement projects that are divided between

ADOT and local government projects. The Arizona State Transportation Board retains fifty percent of the Transportation Enhancement funds for ADOT projects. The remaining enhancement funds are available for local projects recommended by the MPOs and rural Councils of Governments (COGs).

New SAFETEA-LU Programs

In addition to continuing the programs outlined above, SAFETEA-LU created a number of new transportation programs. Three programs of particular interest to counties are summarized below by Robert Fogel, the Senior Legislative Director for the National Association of Counties (NACo):

> ***Highway Safety Improvement Program (HSIP)*** replaces the safety set-aside that was formerly part of the Surface Transportation Program. Over the next four years, an average of $1.265 billion will be distributed by formula to the states that can be used on a broad array of safety improvement projects to reduce the number and severity of highway-related crashes and to decrease the potential for projects on all highways. That means on any road owned by county or local government. This includes projects aimed at intersection safety improvement, pavement and shoulder widening, rumble strips, signage, and guardrails. Coolidge and Florence officials need to get involved in this program at an early stage and document the projects they want funded. Every state is required to develop a Strategic Highway Safety Plan (SHSP) that involves a comprehensive, collaborative, and data drive approach of highway safety. This plan is required to lay out projects and strategies for which the federal will be used to reduced or eliminate safety hazards. For counties, it is important to note that the SHSP must be developed in collaboration with key safety stakeholders in the State, which includes local officials, and the SHSP must be data driven. The presumption is that the federal safety funds must be invested in projects where the data (fatalities, crashes, police records, etc.) supports the need for investment.
>
> As a part of the HSIP, there is a specific set aside for ***High Risk Rural Roads***. While any of the $1.2 billion annually can be spent on rural roads, $90 million is specifically targeted for safety problems on roadways classified as rural major collectors, rural minor collectors, and rural local roads. The funds can be used for construction and operational improvements related to safety but must be used on roads that have a crash rate and for fatalities and incapacitating injuries that exceeds the statewide average for those functional classes of roads. A second set aside on the HSIP program is for Railway-Highway Grade Crossing. At $220 annually, this program is increased by approximately $65 million beyond TEA-21 levels. This program is basically unchanged and is aimed at funding projects on any public road that eliminates hazards at rail grade crossings, including the separation or protection, reconstruction, and relocation of grade crossings.

The ***Safe Routes to School Program*** is a totally new program focused on enabling and encouraging children to safely walk and bicycle to school. This is another program for which counties and all the roads they own are eligible. Agencies should work vigorously to get their projects at the top of the funding list. An average of $122 million annually will be distributed by formula to each State to be used by state, counties and cities, and regional agencies, including non-profit organizations, to further this objective. Each state has to designate a coordinator for this new program, a person county officials should contact. Projects eligible include sidewalk improvements, traffic calming and speed reduction improvements, pedestrian and bicycle crossing improvements, traffic diversion improvements near schools, and a variety of projects to encourage the use of bicycles. Each State must use between 10 - 30 percent of the funds for non-infrastructure related activities, such as public awareness campaigns, traffic education and enforcement near schools, and student sessions on pedestrian and bicycle safety.

ARIZONA STATE SHARED REVENUE

Highway User Revenue Fund

One of the main sources of State transportation funds is the Highway User Revenue Fund. These funds are comprised of gasoline taxes, use fuel tax, motor carrier fees, vehicle license taxes, and other registration fees. The principal sources of revenue are presented in Table 9-3:

TABLE 9-3. FY 2006 ADOT REVENUE SOURCES - STATE
(In Millions of Dollars)

Description	FY-06 Actual
Gasoline Tax	$ 489.1
Use Fuel Tax	213.5
Motor Carrier Fee	40.5
Vehicle License Tax	373.9
Registration	158.7
Other	55.9
Total	$1,331.6

Source: Arizona Department of Transportation, Financial Management Services, August 2006

- Gasoline Taxes. Arizona's motor vehicle fuel tax of 18 cents per gallon is the largest source of revenue for HURF.
- Use Fuel Taxes. Use fuel taxes are taxes on diesel fuel and range between 18 cents per gallon for passenger cars to 26 cents per gallon for commercial trucks and buses. These taxes provide the third largest source of revenue.

- Motor Carrier Fees. These fees, based on the weight of the vehicle, are the smallest source of funding for HURF.
- Vehicle License Taxes (VLT). Vehicle license taxes are linked to the value of the vehicle being taxed and are the second largest source of funds for HURF. These VLT funds are the only one of the four major HURF revenue sources that is tied to inflation and increase as vehicle prices increase. In recent years, the VLT tax rate has been reduced to be more in line with that of neighboring states.

Other fees include: motor vehicle registration fees, border crossing fees, and other miscellaneous fees.

The estimated revenue for HURF in 2006 is over $1.2 billion dollars. HURF funds are allocated through ADOT and distributed as an entitlement to cities, towns, and counties based on population. Together, Coolidge and Florence received a total of $2,618.895 in HURF funds in Fiscal 2006. As the population of the Study Area increases, the proportion of HURF funds for Coolidge and Florence are expected to increase as well. Table 9-4 lists the HURF receipts for the five most recent fiscal years.

TABLE 9-4. ARIZONA HIGHWAY USER REVENUE FUND DISTRIBUTIONS TO PINAL COUNTY, THE CITY OF COOLIDGE, AND THE TOWN OF FLORENCE, FY 2002 - 2006

Jurisdiction	Distributions				
	FY 2002	FY 2003	FY 2004	FY 2005	FY2006
Total Counties in State	$194,432,532	$200,465,084	$214,601,120	$226,464,000	$240,538,000
Pinal County	$9,606,611	$10,252,245	$11,515,102	$12,745,719	$14,096,013
City of Coolidge	$578,550	$612,433	$687,962	$750,311	$810,357
Town of Florence	$1,139,727	$1,057,139	$1,331,322	$1,601,024	$1,808,538

Source: Arizona Department of Transportation, Financial Management Services

The HURF is the primary source for state highway funding and HURF funds are limited to highway use by the Arizona Constitution. Monies from the HURF are intended for the improvement of the State's highways and bridges. Once collected, the HURF revenues are distributed to ADOT, and in turn distributed as an entitlement share to cities, towns, and counties in proportion to population and to the Economic Strength Project Fund. HURF distributions may be used as debt service for revenue bond projects. Table 9-5 presents the HURF revenue forecast for FY 2006 - 2015. Table 9-6 presents the HURF distribution forecast for the same fiscal years.

TABLE 9-5. HIGHWAY USER REVENUE FUND REVENUE FORECAST
(In Millions of Dollars)

Fiscal Year	Gasoline	Use Fuel	Motor Carrier	VLT	Registration	Other	HURF Total
2006	$497.20	$205.00	$40.30	$350.30	$160.30	$53.20	$1,306.30
2007	528.8	211.0	39.7	378.9	162.3	54.4	1,375.10
2008	550.5	218.9	40.8	409.3	167.1	56.7	1,443.30
2009	572.3	226.7	42.0	441.5	171.8	59.0	1,513.30
2010	594.6	234.2	43.3	474.5	176.9	61.3	1,584.80
2011	616.4	241.9	45.0	510.9	182.7	63.7	1,660.60
2012	639.7	249.8	46.9	550.4	189.0	66.2	1,742.00
2013	663.9	258.3	48.9	592.5	195.4	68.9	1,827.90
2014	689.8	267.1	51.3	637.9	202.7	71.7	1,920.50
2015	717.8	276.8	53.6	688.7	210.2	74.6	2,021.70

Source: Arizona Department of Transportation, Financial Management Services, May 17, 2006

TABLE 9-6. HIGHWAY USER REVENUE FUND DISTRIBUTION FORECAST
(In Millions of Dollars)

				Forecast Distribution				
				ADOT 50.5%		Cities/	Cities	
Fiscal Year	HURF	DPS/ESP	Net HURF	ADOT	DPS Parity	Towns 27.5%	Over 300k 3%	Counties 19%
2006	$1,306.30	$64.80	$1,241.50	$624.30	$2.70	$341.40	$37.20	$235.90
2007	1,375.10	11	1,364.10	686.0	2.9	375.1	40.9	259.2
2008	1,443.30	11	1,432.30	720.2	3.1	393.9	43.0	272.1
2009	1,513.30	11	1,502.30	755.3	3.4	413.1	45.1	285.4
2010	1,584.80	11	1,573.80	791.2	3.6	432.8	47.2	299
2011	1,660.60	11	1,649.60	829.2	3.9	453.6	49.5	313.4
2012	1,742.00	11	1,731.00	870.0	4.2	476.0	51.9	328.9
2013	1,827.90	11	1,816.90	913.0	4.5	499.6	54.5	345.2
2014	1,920.50	11	1,909.50	959.4	4.9	525.1	57.3	362.8
2015	2,021.70	11	2,010.70	1,010.20	5.3	552.9	60.3	382

Source: Arizona Department of Transportation, Financial Management Services

Local Transportation Assistance Fund (LTAF I and LTAF II)

Other State funding programs include LTAF I, which is funded by Arizona Lottery receipts other than Powerball, and LTAF II, which is funded by Powerball receipts. These funds are also distributed based on population. Larger cities, those over 300,000, must use LTAF I revenue for public transit; smaller communities can use the funds for other transportation projects. LTAF II monies must be used for transit by nearly all jurisdictions and are discussed in a following section.

Local Transportation Assistance Fund. The LTAF is funded by the Arizona Lottery for use by cities and towns requesting the funds. The LTAF funds are allocated in proportion to the relative population of all Arizona cities and towns. Each requesting municipality is guaranteed a minimum of ten thousand dollars. Currently, $23 million may be deposited in the LTAF from the State lottery fund each fiscal year. Cities and towns with a population of more than 300,000 persons must use LTAF funds for public transportation. In addition, up to 10 percent of funds may be used for the arts, or for disabled and handicapped assistance. LTAF II funds are discussed in the Public Transportation Funding section.

Arizona State Parks Heritage Fund

The Arizona State Parks Heritage Fund provides funding assistance to local agencies for park development, outdoor recreation, and open space projects. The State Parks Board receives up to $3.5 million each year from the Arizona Lottery. Grants are awarded on a 50/50 match basis. Matching funds can be in the form of cash, in-kind contributions, or donations. The State Parks Heritage Fund administers a number of grant programs; in recent years, Study Area jurisdictions have participated in three of the programs: the Historic Preservation Heritage Fund, the Local, Regional and State Parks Heritage Fund, and Trails Heritage Fund. Details of the distributions are listed in Table 9-7.

OTHER FUNDING SOURCES

Economic Strength Projects Fund

Local governments are eligible sponsors and co-sponsors of transportation projects financed by the Arizona Economic Strength Projects fund. This fund is sponsored by the Arizona Department of Commerce and funded by HURF. A local match must provide at least 10 percent of the project cost. The fund finances selected road projects that support economic development objectives.

Governor's Office of Highway Safety

Federal funds are allocated to finance state and local government highway safety projects. These program funds, in the form of reimbursable contracts, are administered by the Governor's Office of Highway Safety. Funds are provided under the National Highway Safety Act and funded through grants from the FHWA and the National Highway Traffic Safety Administration (NHSTA). The safety priority areas are listed below:

TABLE 9-7. STATE PARKS HERITAGE FUND GRANT AWARDS IN THE STUDY AREA

Participant	Project Title	Grant Cycle	Grant Award	Project Cost
Historic Preservation Heritage Fund Grants				
City of Coolidge	Coolidge Women's Club Rehabilitation	2004	$55,071	$91,821
Coolidge Unified School District	Kennilworth School Rehabilitation	2004	$96,517	$193,034
Coolidge Unified School District	Kenilworth School Renovation	2002	$91,091	$182,181
Coolidge Unified School District #21	Kennilworth School Renovation	2003	$98,162	$198,162
Town of Florence	Church of the Assumption Rehabilitation	2000	$59,884	$134,484
Florence Main Street	Popular/Mandell's Depart Store	2004	$100,000	$201,250
Florence Preservation Foundation	Harvey/Niemeyer House Rehabilitation	2003	$93,850	$187,700
Florence Preservation Foundation	Clarke House Stabilization	2000	$52,000	$104,000
Florence Preservation Foundation	Silver King/Florence Hotel Stabilization	2000	$30,223	$470,632
Florence Unified School District #1	Florence H.S. Roof Stabilization	2000	$192,929	$322,929
Local, Regional and State Parks Heritage Fund Grants				
City of Coolidge	Coolidge Park Development	2004	$132,705	$265,410
Pinal County	1891 2nd Pinal County Courthouse Roof	2005	$100,000	$250,000
Pinal County	Liberty Park Improvements	2003	$17,204	$35,843
Pinal County	Liberty Park Improvements	2003	$17,204	$35,843
Pinal County	Courthouse Clock Tower Renovation	2002	$99,988	$199,988
Trails Heritage Fund Grant				
Pinal County	Lost Goldmine Trail Renovation	2002	$12,740	$25,844

Source: Arizona State Parks

NHSTA Priority Program areas:

- Police traffic services
- Impaired driving
- Traffic records
- Pedestrian/bicycle safety
- Emergency medical services
- Occupant protection
- Motorcycle safety

FHWA Priority Program areas:

- Corridor safety improvement programs
- Safety studies of specific safety problems
- Outreach programs
- Rural and local technical assistance programs
- Pedestrian and bicycle safety
- Safety management systems

Pedestrian/Bicyclist Funding

Revenue sources for bicycle facilities primarily for transportation are available from the following sources:

- Federal funds are available to construct bicycle transportation facilities and pedestrian walkways on land adjacent to any highway on the NHS and also through the Surface Transportation Program (STP) of the NHS.
- Federal Lands Highway Funds are available to construct bicycle facilities and pedestrian walkways in connection with roads, highways, and parkways. These funds are at the discretion of the department administering the funds.

Other funds for bicycle and pedestrian facilities are:

- National Recreational Trails Fund, which provides funds for recreational programs for bicyclists and pedestrians.
- Scenic Byways Program can fund bicycle facilities along highways.
- Federal Transit Funds can be used to provide bicycle and pedestrian access to transit facilities including shelters and bicycle parking facilities.
- Additional funding is available through the new "Safe Routes to Schools" program explained in the previous section.

Another potential funding source for trails is the Heritage Fund. The Arizona State Parks Board Heritage Fund legislation stipulated the use of Arizona Lottery Fund revenues for trails. Eligible projects are trail land acquisition, design, engineering, development and renovation activities, and trail support facilities.

Community Development Block Grants

Community Development Block Grant (CDBG) is funds provided by the Federal Office of Housing and Urban Development. The CDBG funds can be used in the construction of capital improvement projects such as sewer, streets, water and wastewater treatment plants, housing, and parks that benefit low to medium income groups. Projects that alleviate slums or address an urgent need such as circumstances caused by a natural disaster can also use CDBG funds. For a transportation improvement to be eligible for CDBG funding, the project must be located in a census tract or block group with at least 51 percent of the population in the low and moderate-income group.

Regional and Local Funds

Several potential sources of additional funding exist at the local level. State law provides for the enacting of transportation excise taxes, which are subject to voter approval. Other local funds could be collected through sales tax increases.

Pinal County Excise Tax

Pinal County voters authorized the 2007 Pinal County transportation Excise Tax replacing a previous tax expiring on December 31, 2006. The revenues raised from the tax shall be used for the following transportation purposes:

1. Highway and street purposes including roadway construction, reconstruction, maintenance, repair and roadside construction of county, city or town roads, streets, and bridges.
2. Payment of principal and interest on highway and street bonds.
3. Multimodal transportation systems including single and multi-use trails, sidewalks and curbs, and pedestrian pathways.
4. Regional transportation studies.
5. Cooperative transportation projects and studies between the federal government and its agencies, the State government and its agencies, and the incorporated cities and towns within the County.

The anticipated revenue from the excise tax is approximately $952 million over 20 years. The tax currently generates approximately $10 million per year and is distributed according to a population based formula:

1. Distribution to incorporated cities and towns is calculated by multiplying the total revenue by the factor of incorporated population/total population
2. Distribution to unincorporated areas is calculated by multiplying the total revenue by the factor of unincorporated population/total population
3. Distribution to individual city or town: distribution to incorporated cities and towns multiplied by the factor of individual city/total incorporated population
4. Distribution to Supervisory district is calculated by multiplying the distribution to unincorporated areas by the factor of supervisory district population/total rural population

Private Contributions

Developers may be required to help pay for the cost of transportation improvements necessitated by their developments. This requires a Traffic Impact Analysis to demonstrate that substantial additional traffic will be generated by the development. Several institutional mechanisms are available, including cost sharing agreements, impact fees and special assessments. In cases where right-of-way needed for a roadway is privately owned, right-of-way dedications can be made a condition of new development prior to the issuance of the necessary permits.

POTENTIAL PUBLIC TRANSPORTATION FUNDING SOURCES

Federal Funds

Significant federal sources of funding grants are overseen and managed by the Federal Transit Administration (FTA); these funds are administered in Arizona by the Public Transportation Division of ADOT (ADOT PTD). FTA funding levels are part of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), the successor to the Transportation Equity Act for the 21st Century (TEA-21). The federal transit laws are contained in Title 49 of the United States Code (USC), Chapter 53. The key transit grant provisions currently applicable to Coolidge and Florence are covered in the following sections of Chapter 53 of the USC:

- Section 5310: Formula Grants for Special Needs of Elderly Individuals and Individuals with Disabilities
- Section 5311: Formula Grants for Rural and Small Urban Public Transportation
- Section 5313: State Planning and Research Programs
- Section 5316: Job Access and Reverse Commute Program
- Section 5317: New Freedom Program

The ADOT PTD has recently adopted a policy providing that, on a case-by-case basis, a private sector non-profit agency may be the recipient of Section 5311 funds. Previously, public agencies were the only agencies considered for these grants. Hence, more management options exist for the operation of Section 5311 supported transit services.

Surface Transportation Program Flexible Funding

Since 2000, the State Transportation Board has made available 6.5 million annually in STP "flexible funds" statewide for qualified transit capital projects such as vehicles and transit facilities. These funds, created within the federal TEA-21 program and continued under SAFETEA-LU, are regarded as "flexible" in that the monies may be used for either highway or transit purposes. Funding originates with the Federal Highway Administration and is administered by ADOT. The City of Coolidge and the Town of Florence would work through ADOT and CAAG to obtain STP "Flex" funds.

Additional sources of revenue available for transit services include the following:

- Welfare to Work Act
- Older American Act Title III funds, Department of Economic Security
- Division of Developmental Disability Funds
- Transportation funding through Medicaid administered through the Arizona Health Care Cost Containment System
- Head Start, Behavioral Health Funding
- Transit fares

A number of funding mechanisms exist that could be used to fund public transportation improvements within the Study Area. Key federal, state, regional, and local sources are shown in Table 9-8.

TABLE 9-8. MATRIX OF KEY PUBLIC TRANSPORTATION FUNDING SOURCES

Fund Name	Description	Eligible Uses	Application Process	Sample Project
Federal				
STP	Federal funds, administered by FHWA and ADOT	Variety of capital projects including transit and enhancement projects	Programmed and distributed through CAAG and ADOT	Highway-rail crossings,
FTA Section 5310 funds	Federal funds administered by ADOT	Local jurisdictions and private non-profit agencies	Programmed through ADOT Public Transportation Division	Van for Senior Center
FTA Section 5311 funds	Federal funds administered by ADOT	Local jurisdictions and private non-profit agencies	Programmed through ADOT Public Transportation Division	Operation and expansion of Cotton Express
FTA Section 5316 funds	Federal "Job Access and Reverse Commute" funds administered by ADOT			
FTA Section 5317 funds	Federal "New Freedom" funds administered by ADOT			
State				
LTAF	State funds derived from lottery sales	General transportation improvements	Funds allocated to jurisdiction as proportion of population	Transfer center or bus pull-outs
LTAF II	State funds derived from Powerball lottery sales	Used as local matching funds for FTA transit funds	Funds allocated to jurisdiction as proportion of population	Match 5311 funds for provision of transit service
County				
Impact Fees	Fee imposed by local jurisdiction on development on per unit basis	Used to fund a variety of infrastructure needs including transportation	Locally administered	County and Local Roads, HOV and diamond lanes
Development Stipulations*	Requirements that developers dedicate appropriate ROW and build streets adjacent to project	Benefits are derived by offsetting cost of acquiring ROW and building infrastructure	Locally administered	ROW dedication adjacent to new developments for pull-outs or guideways

Funding options include both traditional and innovative sources. Traditional sources are the Local Transportation Assistance Fund (LTAF and LTAF II), Federal FTA Program Funds, Surface Transportation Program (STP) funds, and Transportation Enhancement Funds, and local sources of funding such as general obligation bonds, revenue bonds, and sales tax increases. Alternative sources of funding include special assessment districts, developer dedications for support facilities such as bus pull-outs, shelters, and bus stop furniture, and exactions such as impact fees.

Future Metropolitan Planning Organization Study area communities are eligible for rural FTA funds until each exceeds 50,000 in population, or until a metropolitan planning organization (MPO) including either Coolidge or Florence, or both, are created. MPOs are typically formed when an incorporated city or town, or group of two or more cities or towns, exceed a combined population of 50,000 or more. With respect to FTA transit, planning, capital, and operating monies, three thresholds exist: the first is reached when a community exceeds 50,000 or becomes and MPO; the second is reached when a community or MPO exceeds 200,000; the third is reached when a community or MPO exceeds 1,000,000

Local Transportation Assistance Fund II (LTAF II)

The LTAF II, program**,** which derives funds from the State's share of lottery "Power Ball" ticket receipts, has been one of the key sources for the local matching funds for these federal funds. Since the implementation of LTAF II, the legislature has provided that when these receipts reach a certain threshold amount in any fiscal year, the balance flows to the LTAF II program for apportioned distribution to councils of governments, county governments, and local governments. Estimated Fiscal year 2008 LTAF II distributions for Pinal County, Coolidge, and Florence are shown in Table 9-9. The projected 2008 distribution is lower than that received in the previous fiscal year—an example of the challenges in relying on this source of funding.

TABLE 9-9. LTAF II DISTRIBUTION - COUNTIES AND CITIES/TOWNS (FY 2008 ESTIMATE)

Jurisdiction	County Level Distribution	Jurisdiction Level Distribution
Pinal County	480,354.74	239,436.51
City of Coolidge		15,938.41
Town of Florence		34,111.39

Source: Arizona Department of Transportation, Public Transportation Division

REVENUE ESTIMATES

The 2001 Governor's Transportation Vision 21 Task Force Report estimated that $41 billion from existing sources of transportation related revenue in Arizona will be received between 2000 and 2020. Of this amount, $33,783.8 billion is roadway related, $4,106.1 is derived from transit related sources, and $3,164.3 from aviation. The comparison of needs and revenues is shown in Table 9-10.

TABLE 9-10. COMPARISON OF NEEDS AND REVENUES STATEWIDE (In Millions of Constant 2000 Dollars)

Sources	Use	FY 2001-2005	FY 2006-2010	FY 2011-2015	FY 2016-2020	Total
Revenue From Existing Sources	Roadway	$7,955.1	$8,432.6	$8,580.1	$8,816.0	$33,783.8
	Transit	$1,133.3	$1,050.9	$986.8	$935.1	$4,106.1
	Aviation	$846.7	$795.5	$771.0	$751.1	$3,164.3
	Total Revenue	**$9,935.1**	**$10,279.0**	**$10,337.9**	**$10,502.3**	**$41,054.3**
Needs	Roadway	$12,601.0	$12,601.0	$12,601.0	$12,601.0	$50,404.0
	Transit	$1,705.0	$1,705.0	$1,705.0	$1,705.0	$6,820.0
	Aviation	$1,027.8	$1,027.8	$1,027.8	$1,027.8	$4,111.0
	Total Needs	**$15,333.8**	**$15,333.8**	**$15,333.8**	**$15,333.8**	**$61,335.0**
Additional Revenue Required to Meet Needs	Roadway	$4,645.9	$4,168.4	$4,020.9	$3,785.0	**$16,620.2**
	Transit	$571.7	$654.1	$718.2	$769.9	**$2,713.9**
	Aviation	$181.0	$232.3	$256.8	$276.6	**$946.7**
Total Additional Revenue Required		**$5,398.6**	**$5,054.8**	**$4,995.9**	**$4,831.4**	**$20,280.7**

Source: *Revenue Consultant Report to Governor's Transportation Vision 21 Task Force*, Wilbur Smith Associates, November 2001

ADOT's Five-year Transportation Facilities Construction Program

Table 9-11 lists ADOT's *Five-year Transportation Facilities Construction Program* allocations for the five-year period covering Fiscal Years 2005 through 2009. For this period, ADOT has allocated a total of $764 million for highway system preservation, $2.7 billion for system improvements, and $354 million for system management for a total of $3.78 billion.

The five-year program also includes an allocation for District minor projects that is used by the ADOT Districts for minor improvement projects such pavement widening, shoulders, guardrail, drainage improvements, intersection improvements, and other minor improvements. The total five year allocation in the FY 2005 – 2009 Program for District minor projects is approximately $104 million, approximately $10 million per District.

TABLE 9-11. ADOT FIVE-YEAR TRANSPORTATION FACILITIES CONSTRUCTION PROGRAM RESOURCE ALLOCATIONS
(In Thousands of Dollars)

	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Total
System Preservation	$149,800	$152,148	$155,718	$153,190	$153,290	$764,146
System Management	$76,727	$70,393	$68,818	$68,818	$68,878	$353,634
System Improvements	$863,672	$730,090	$377,388	$377,181	$320,863	$2,669,194
Total Resource Allocations	$1,090,199	$952,631	$601,924	$599,189	$543,031	$3,786,974

Source: Arizona Department of Transportation, *Five-year Transportation Facilities Construction Program*

APPENDIX A. PUBLIC INVOLVEMENT PARTICIPANTS

COOLIDGE – FLORENCE REGIONAL TRANSPORTATION PLANNING STUDY

STAKEHOLDER MEETING

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COOLIDGE – FLORENCE REGIONAL TRANSPORTATION PLANNING STUDY

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COOLIDGE – FLORENCE REGIONAL TRANSPORTATION PLANNING STUDY

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COOLIDGE – FLORENCE REGIONAL TRANSPORTATION PLANNING STUDY

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COOLIDGE – FLORENCE REGIONAL TRANSPORTATION PLANNING STUDY

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COOLIDGE – FLORENCE
REGIONAL TRANSPORTATION PLANNING STUDY

STAKEHOLDER MEETING

SIGN IN SHEET

City of Coolidge - December 12, 2007

(Please print)

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COOLIDGE – FLORENCE
REGIONAL TRANSPORTATION PLANNING STUDY
STAKEHOLDER MEETING

SIGN IN SHEET

City of Coolidge - December 12, 2007

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COOLIDGE – FLORENCE
REGIONAL TRANSPORTATION PLANNING STUDY
STAKEHOLDER MEETING

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City of Coolidge – January 8, 2008

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COOLIDGE – FLORENCE
REGIONAL TRANSPORTATION PLANNING STUDY
STAKEHOLDER MEETING

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City of Coolidge – January 8, 2008

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COOLIDGE – FLORENCE
REGIONAL TRANSPORTATION PLANNING STUDY
STAKEHOLDER MEETING

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Town of Florence – January 10, 2008

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COOLIDGE – FLORENCE
REGIONAL TRANSPORTATION PLANNING STUDY
STAKEHOLDER MEETING

SIGN IN SHEET

Town of Florence – January 10, 2008

(Please print)

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APPENDIX B. ACCESS MANAGEMENT TOOLKIT

ACCESS MANAGEMENT TOOLKIT

This appendix presents land use and development strategies and technical tools that can be used for access management.

LAND USE AND DEVELOPMENT STRATEGIES

The following describes tools for planning, design, and regulatory tools for managing land use and development.

Acquisition of Access Rights

Property ownership is accompanied by a bundle of rights. Some of these rights can be separated and sold or acquired separately from the remaining property interest. The right of access to an abutting roadway, for example, may be acquired through negotiation, purchase, or the power of eminent domain. The clear benefit of this method to a regulating agency is that the access restriction is recorded with the deed of the land and therefore runs with the land, allowing the agency to clearly retain the right of access control. This technique has been most frequently used along freeways, but is increasingly applied to arterial roadways and bypasses. Access rights should be acquired before development occurs, when the cost of the land is still low.

Dedications and Exactions

Local governments can require monetary payments or contributions of land by an applicant as a condition of development approval. Usually such exactions are determined through open-ended negotiations between the local government and the developer. In the case of subdivision regulations, dedications are required from the developer for site related improvements. Voluntary and informal measures also can be effective if it is successfully communicated that dedicated rights-of-way will contribute to the success of a development.

Interim Use Allowances

Interim use allowances restrict structural improvements within transportation rights-of-way and allow for modest structural investments, such as nurseries and storage yards. These types of allowances ensure the owner of the potential for some economic use of the property until the property is acquired as right-of-way for a transportation project.

Purchase of Development Rights

Development rights can be separated from other property rights or from the remainder of the property and purchased, donated, sold, or condemned for public purpose. The property owner from which the rights are purchased is compensated for maintaining the property in an undeveloped state.

Transfer of Development Rights

Instead of purchasing development rights through the governmental agency, the rights are transferred from one area of the parcel to another through the establishment of a sending and receiving area. The sending area is usually established around an area in need of protection from development and can include future transportation right-of-way. The receiving area might be an area with higher intensity uses than prescribed in the underlying zoning.

Land Development Regulation

Access management can be implemented successfully in areas where local jurisdictions participate in managing development through comprehensive planning, land development regulation, and development review *(Listokin and Walker, 1989 in Land Development and Subdivision Regulation that Support Access Management)*. Local plans and ordinances provide a policy foundation for managing access, which is carried out through development review and permitting actions.

The information contained in general and land use plans, for example, provides the overall guidance on how to balance mobility with access. A community's transportation plan, on the other hand, describes a community's future roadway network based on anticipated development patterns. Based on the anticipated future development and the future functional classification of the roadways, access management categories can be established. These categories provide guidance in regard to the application of access management strategies and help identify the type and number of access points required along a highway.

Overall, the comprehensive planning process will:

- Promote orderly and efficient development
- Protect property values
- Preserve community character, natural resources, and environment
- Promote economic development
- Increase the public awareness of the forces of community change

Flexible or Cluster Zoning

Flexible zoning is another way of achieving access control. Planned unit developments often incorporate flexible zoning concepts for the purpose of clustering denser development in one portion of a development and leaving open space in another portion. Planned Unit Development incorporates flexible zoning in order to achieve the same gross densities while avoiding encroachment of development into future rights-of-way. Access points can be few in number, yet designed to optimally serve the more densely developed areas. In order to promote creative site design, land-use and lot dimensional zoning are relaxed.

Overlay Zones

Overlay zoning can add special requirements onto an existing zoning district. With overlay zoning, standards can be tailored by priority or intensity of access, safety, and congestion problems of a corridor.

Subdivision Regulations and Site Plan Review

Subdivision regulations provide guidance on the division or subdivision of land into lots, blocks, and public ways. These regulations complement the underlying zoning. The subdivision plat review can require documentation of all access points and the internal circulation system. Access and design standards can require such items as traffic signals, medians, and on-site circulation.

The subdivision review process should result in an affirmative response to questions such as:

- Is the road system designed to meet the projected traffic demand and does the road network consist of a hierarchy of roads designed according to function?
- Is access properly placed in relation to sight distance, driveway spacing, and other related considerations?
- Do units front on residential access streets rather than major roadways?
- Does the project avoid areas unsuitable for development?
- Does the pedestrian path system link buildings with parking areas, entrances to the development, open space, and recreational and other community facilities?
- Have utilities been properly placed?

The site plan review process for large-scale uses on individual property parcels (such as large commercial developments) can include procedures similar to a subdivision review process.

Zoning Regulation

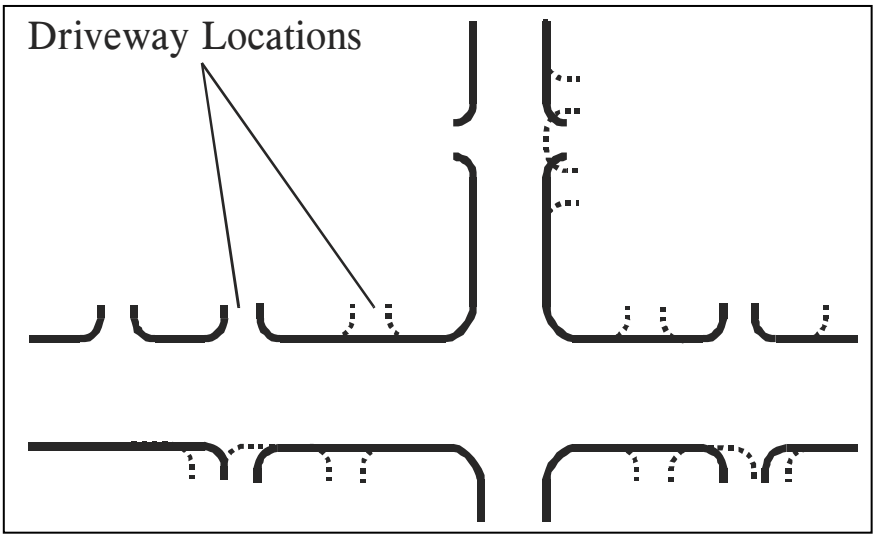
Zoning regulations provide information on the type of land use or development that can occur within each defined parcel. Zoning regulations work in conjunction with land use plans and subdivision regulations. Some types of lot configurations encourage inadequate spacing between access points. Zoning regulation can help reorient lots in order to access local streets instead of the main highway, as well as to ensure adequate spacing between access points. Controlling lot dimensions can have impacts on driveway spacing, on-site circulation, and driveway lengths.

TECHNICAL TOOLS

Driveway Consolidation

Driveways are consolidated in order to limit the number of access points along a roadway and to provide adequate access spacing (Figure B-1). Retrofit strategies include:

FIGURE B-1. DRIVEWAY TREATMENTS



- Selectively relocate or reconstruct substandard driveways.
- Negotiate driveway closure, reconstruction, or relocation during roadway resurfacing or improvement projects.
- Require improvement of access during redevelopment or expansion of an existing use, including joint and cross access with abutting properties.
- Negotiate redesign of driveway access during sidewalk maintenance, reconstruction, or additions.
- Consolidate access when adjacent properties come under common ownership.

- Improve the traffic signal system through longer, more uniform intervals with advance traffic monitoring and control capabilities.
- Use raised medians or other traffic barriers at hazardous intersections, or along certain roadway segments to control mid-block turning movements and improve safety.
- Develop special corridor overlay zoning districts that are tailored to the circumstances of build-up areas.

Joint Driveway/Cross-Access

Joint Driveway/Cross-Access provides for a unified on-site circulation plan serving several properties on a commercial corridor. Cross access connects adjacent parcels and allows for circulation between the parcels without using the arterial street system. In the case that lot frontage is inadequate, joint access/cross access can achieve adequate driveway spacing. The method requires that joint-use driveways and cross access easements need to be established between the adjacent properties. Additionally building sites must reflect the circulation system. The jurisdiction with the zoning authority would need to adopt cross access standards.

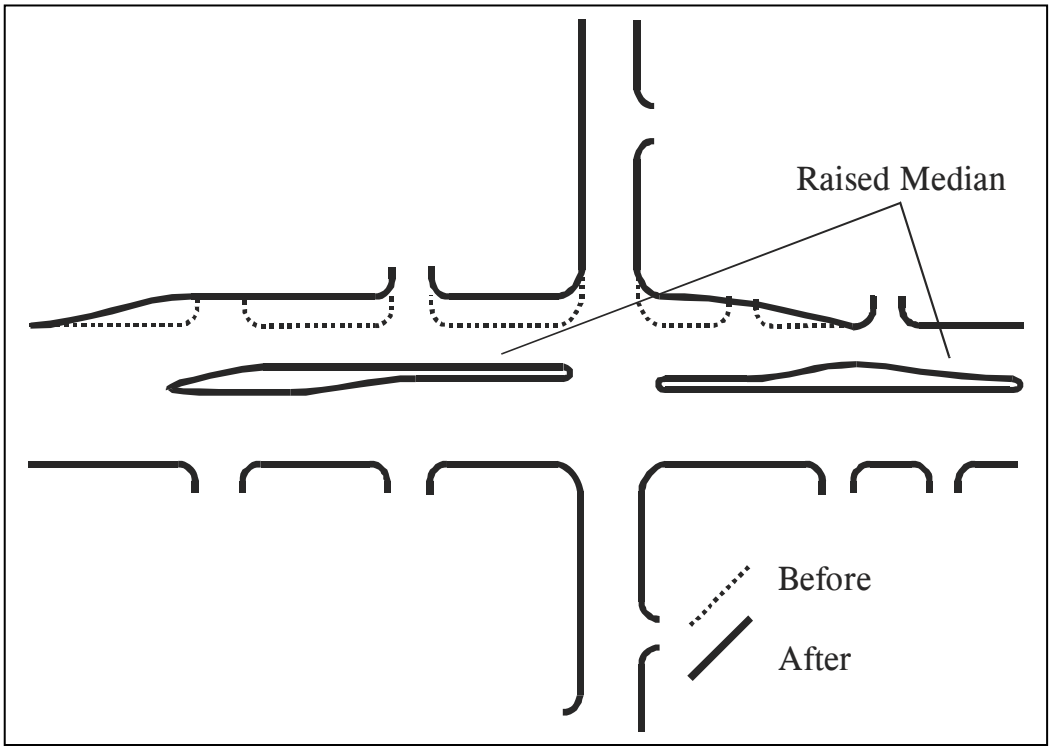
Raised Medians at Intersections

Raised medians at intersections, as shown in Figure B-2, provide a center barrier to prevent certain turning movements, such as left turn-in only/no left turn-out which allows greater access to the adjacent property and leaves right turns unrestricted. Right-in and right-out driveways are also commonly used. The overall advantage of raised medians at intersections is the ability to define allowed movements while eliminating undesirable ones.

Full Raised Medians

Medians are effective for the control and management of left turns and crossing movements and may be located at intersection approaches, or along the full length of a road between intersections. See Figure B-2 for illustration. A variety of designs allows for full or restricted turning movements. The presence or absence of a median barrier has a substantial effect on the safety and operations of major roadways. The main advantage of a raised median is that it reduces conflict points by restricting turn movements to right-in and right-out movements. In addition, it provides a means of controlling highway crossings to specific locations where sight distance and vehicle storage can be provided. A sufficiently wide median can provide shelter for vehicles or pedestrians crossing the roadway. The disadvantage of a raised median is that through the limitations of crossing movements, the number of U-turns will most likely increase which might lead to an increase in rear-end crashes.

FIGURE B-2. RAISED MEDIAN AT INTERSECTIONS

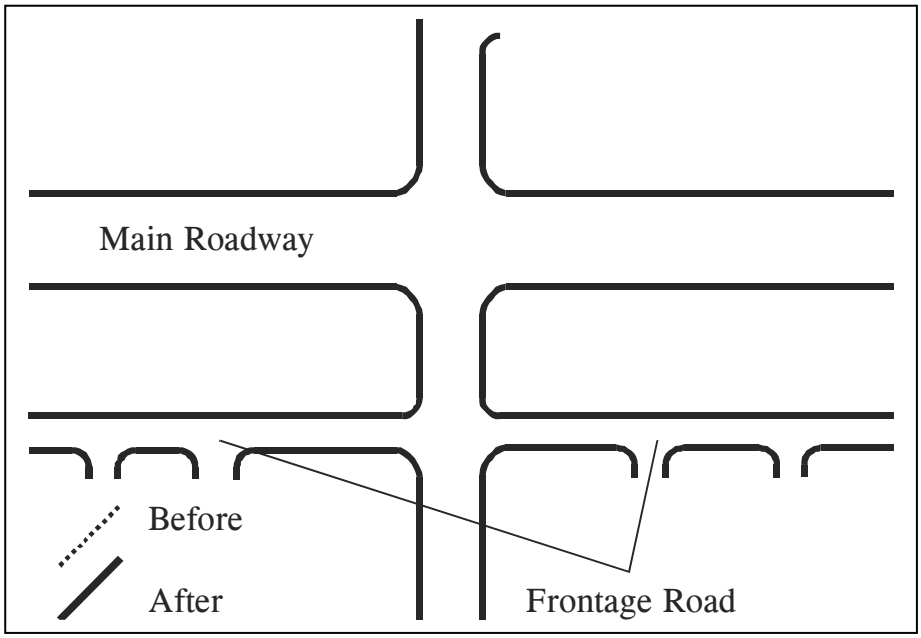


Alternative Access Ways

The long-term planning objective for major corridors is to develop a system of side streets, parallel roads, and traffic control features to support existing and planned development. Main components of such a system are frontage or reverse access roads, which together with inter-parcel connections provide alternative routes for short local trips; thereby, helping to reduce local traffic on the arterial.

Frontage roads are typically constructed adjacent to the main corridor highway, but outside the highway right-of-way, providing access to properties fronting the highway. This allows funneling of local traffic to a common point gaining access to the highway. An example is shown in Figure B-3. Reverse access roads or backage roads are also paralleling the highway, but are off-set from the right-of-way to provide site access at the back of the property rather than the highway side. Both concepts help to provide access to local properties while preserving the safety and capacity of the highway. One issue to consider is the provision for adequate separation between the highway and frontage road, especially in areas where cross streets intersect with the highway at at-grade intersections. If not properly designed, traffic might backup into the intersection of the backage road and cross street.

FIGURE B-3. FRONTAGE ROAD



APPLICATION OF RETROFIT TO EXISTING CORRIDORS

Access management can be applied to existing, developed corridors as a "retrofit" process, or to future or currently undeveloped corridors as an adopted comprehensive/sub-area plan. Introducing access management techniques into corridors that currently are developed is sometimes difficult and controversial. Unique solutions often need to be used in this reactive process to achieve corridor objectives. Most likely, the consolidation or removal of existing access will be sought in conjunction with roadway reconstruction or urban redevelopment projects.

Access management is easier to preplan as part of a proactive comprehensive planning process, which carefully integrates land use and access elements of an adopted sub-area plan. It is primarily on the urban fringes and beyond where it is possible to coordinate transportation system improvements with land development in order to protect the functional integrity of the roadway.

The "retrofit" program to manage access to an existing roadway is often difficult. Restraints, such as the unavailability of land are making certain access management techniques impossible. In addition, property rights need to be respected and the resulting legal, social, and political aspects of access management need to be thoroughly understood by the implementing agency and all stakeholders. The Access Management Guidelines for the City of Tucson identify the following condition possibly warranting an access management retrofit program:

- Safety: increased congestion and crashes along a given section of road exists which can be attributed to random or inadequate access.
- Major Reconstruction: Major reconstruction or design plans make access management and control essential.
- Street expansion: Improvements make it practical to reorient access to a cross street and remove (or reduce) arterial access.
- Coordinating Driveways: Planned new driveways on one side of the street lead to coordination of existing driveways on the other side.

The following Tables B-1 through B-4 outline retrofit techniques identified in the City of Tucson Transportation Access Management Guidelines.

TABLE B-1. RETROFIT TECHNIQUES — CATEGORY A: LIMIT NUMBER OF CONFLICT POINTS

No.	Description
A-1	Install median barrier with no direct left-turn access
A-2	Install raised median divider with left-turn deceleration lanes
A-3	Install one-way operations on the roadway
A-4	Install traffic signal at high-volume driveways
A-5	Channelize median openings to prevent left-turn ingress and/or egress maneuvers
A-6	Widen right through-lane to limit right-turn encroachment onto the adjacent lane to the left
A-7	Install channelizing islands to prevent left-turn deceleration lane vehicles from returning to the through lanes
A-8	Install physical barrier to prevent uncontrolled access along property frontages
A-9	Install median channelization to control the merge of left-turn egress vehicles
A-l0	Offset opposing driveways
A-11	Locate driveway opposite a three-leg intersection or driveway and install traffic-signals where warranted
A-12	Install two one-way driveways in lieu of one two-way driveway
A-13	Install two two-way driveways with limited turns in lieu of one standard two-way driveway
A-14	Install two one-way drives in lieu of two driveways
A-15	Install two-way driveways with limited turns in lieu of two standard two-way driveways
A-16	Install driveway channelizing island to prevent left-turn maneuvers
A-17	Install driveway channelizing island to prevent driveway encroachment conflicts
A-18	Install channelizing island to prevent right-turn deceleration lane vehicles from returning to the through lanes
A-19	Install channelizing island to control the merge area of right-turn egress vehicles
A-20	Regulate the maximum width of driveways

Source: Transportation Access Management Guidelines for the City of Tucson, Arizona, March 17, 2003

TABLE B-2. RETROFIT TECHNIQUES — CATEGORY B: SEPARATE BASIC CONFLICT AREAS

No.	Description
B-1*	Regulate minimum spacing of driveways
B-2	Regulate minimum corner clearance
B-3	Regulate minimum property clearance
B-4*	Optimize driveway spacing in the permit authorization stage
B-5*	Regulate maximum number of driveways per property frontage
B-6	Consolidate access for adjacent properties
B-7	Require roadway damages for extra driveways
B-8	Purchase abutting properties
B-9	Deny access to small frontage
B-10	Consolidate existing access whenever separate parcels are assembled under one purpose, plan, entity or usage
B-11*	Designate the number of driveways regardless of future subdivision of that property
B-12	Require access on collector street (when available) in lieu of additional drive on arterial

*not directly applicable for retrofit
Source: Transportation Access Management Guidelines for the City of Tucson, Arizona, March 17, 2003

TABLE B-3. RETROFIT TECHNIQUES — CATEGORY C: LIMIT SPEED ADJUSTMENT PROBLEMS

No.	Description
C-1	Install traffic signals to slow roadway speeds and meter traffic for larger gaps
C-2	Restrict parking on the roadway next to driveways to increase driveway turning speeds
C-3	Install visual cues of the driveway
C-4	Improve driveway sight distance
C-5	Regulate minimum sight distance
C-6*	Optimize sight distance in the permit authorization stage
C-7	Increase the effective approach width of the driveway (horizontal geometrics)
C-8	Improve the driveway profile (vertical geometrics)
C-9	Require driveway paving
C-10	Regulate driveway construction (performance bond) and maintenance
C-11	Install right-turn acceleration lane
C-12	Install channelizing islands to prevent driveway vehicles from backing onto the arterial
C-13	Install channelizing islands to move ingress merge point laterally away from the arterial
C- 14	Move sidewalk-driveway crossing laterally away from the arterial

* =not directly applicable for retrofit
Source: Transportation Access Management Guidelines for the City of Tucson, Arizona, March 17, 2003

TABLE B-4. RETROFIT TECHNIQUES — CATEGORY D: REMOVE TURNING VEHICLES FROM THROUGH LANES

No.	Description
D-l	Install two-way left-turn lane
D-2	Install continuous left-turn lane
D-3	Install alternating left-turn lane
D-4	Install isolated median and deceleration lane to shadow and store left-turning vehicles
D-5	Install left-turn deceleration lane in lieu of right-angle crossover
D-6	Install median storage for left-turn egress vehicles
D-7	Increase storage capacity of existing left-turn deceleration lane
D-8	Increase the turning speed of right-angle median crossovers by increasing the effective approach width
D-9	Install continuous right-turn lane
D-10	Construct a local service road
D-11*	Construct a bypass road
D-12*	Reroute through traffic
D-13	Install supplementary one-way right-turn driveways to divided roadway (non-capacity warrant)
D-14	Install supplementary access to street when warranted
D-15	Install additional driveway when total driveway demand exceeds capacity
D-16	Install right-turn deceleration lanes
D-17	Install additional exit lane on driveway
D-18	Encourage connections between adjacent properties (even when each has arterial access)
D-19	Require two-way driveway operation where internal circulation is not available
D-20	Require adequate internal design and circulation plan

* = not directly applicable for retrofit

Source: Transportation Access Management Guidelines for the City of Tucson, Arizona, March 17, 2003

APPENDIX C. STREET DESIGN AND ACCESS CRITERIA
TOWN OF FLORENCE

STREET DESIGN AND ACCESS CRITERIA – TOWN OF FLORENCE

FUNCTIONAL CLASSIFICATIONS

The functional classifications for the Town of Florence consist of: Major Arterial, Minor Arterial, Major Collector, and Minor Collector further classified by urban, suburban, rural character. Figure C-1 illustrates the cross-sections for each classification for urban, suburban, and rural character. Minimum intersection spacing will be at 1/8 mile spacing and minimum traffic signal spacing will be 1/4 mile spacing where warranted.

DRIVEWAYS

Driveway types are determined by land use type and street classification.

Right-In, Right-Out driveways on arterial streets are where left-turns out of the driveway are prohibited by a median or an island. Full access driveways on arterial streets align with an approved median opening. Modifications to these standards are allowed by approval of Town staff.

DRIVEWAY SPACING

Minimum driveway spacing will generally conform to the following standards (Table C-1). This minimum spacing applies to proposed site driveway separation as well as separation from existing or planned driveways on adjacent parcels.

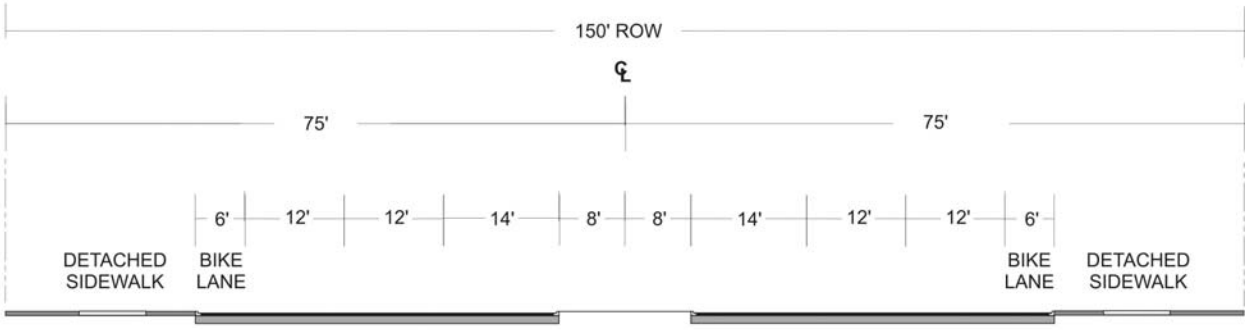
For sites that have frontage on two streets, primary access should be onto the minor street frontage. A maximum of two driveway openings is permitted to a particular site or parcel from the abutting street(s). The Engineering Department may permit additional driveway entrances when projected travel demands indicate it is in the interests of good traffic operation, and when adequate street frontage exists to maintain the above guidelines.

TABLE C-1. DRIVEWAY SPACING

Street Type	Minimum Distance Spacing
Local Residential/Local Collector	50 feet
Local Industrial/Local Commercial	165 feet
Minor Collector	165 feet
Major Collector	250 feet
Minor Arterial	330 feet
Major Arterial	660 feet

FIGURE C-1. ROADWAY CROSS SECTIONS

MAJOR ARTERIAL- URBAN CHARACTER

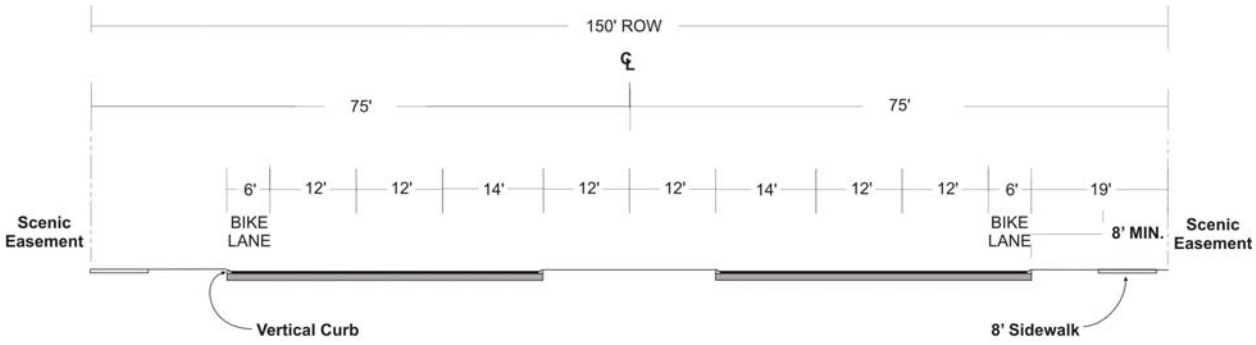


A. Urban Character

- Auxiliary turn lanes may be required at intersections with additional ROW requirements
- Cross-sections may vary to fit surrounding topography.
- ADT: 35,000 - 55,000 vpd
- Design Speed: 45 - 55 m.p.h.
- Maximum Grade: 9.0%
- Minimum Grade: 0.4%

Note: Sidewalks could be modified by the Town to accommodate paths or trails as may be recommended by the Town's Parks, Trails, and Open Space Master Plan and per AASHTO guidelines.

MAJOR ARTERIAL- SUBURBAN CHARACTER



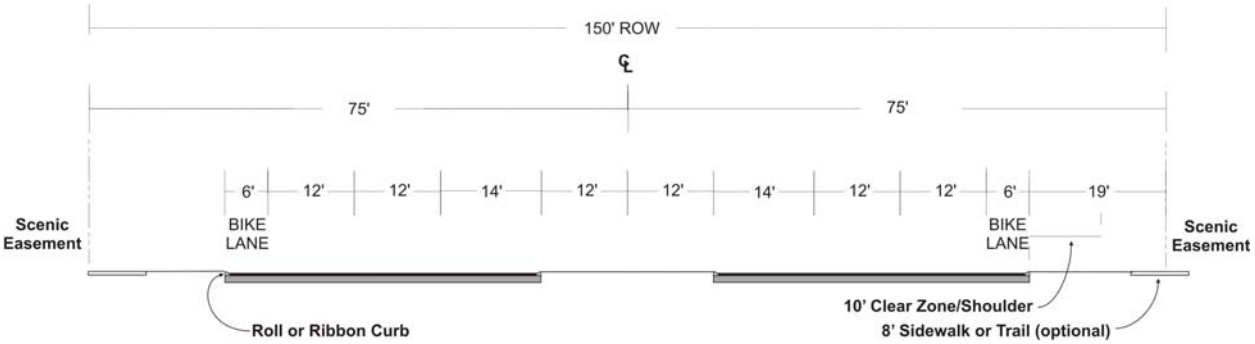
B. Suburban Character

- Auxiliary turn lanes may be required at intersections with additional ROW requirements.
- Cross-sections may vary to fit surrounding topography.
- ADT: 35,000 - 55,000 vpd
- Design Speed: 55 m.p.h.
- Maximum Grade: 9.0%
- Minimum Grade: 0.4%

Note: Sidewalks could be modified by the Town to accommodate paths or trails as may be recommended by the Town's Parks, Trails, and Open Space Master Plan and per AASHTO guidelines.

FIGURE C-1. ROADWAY CROSS SECTIONS (Continued)

MAJOR ARTERIAL- RURAL CHARACTER

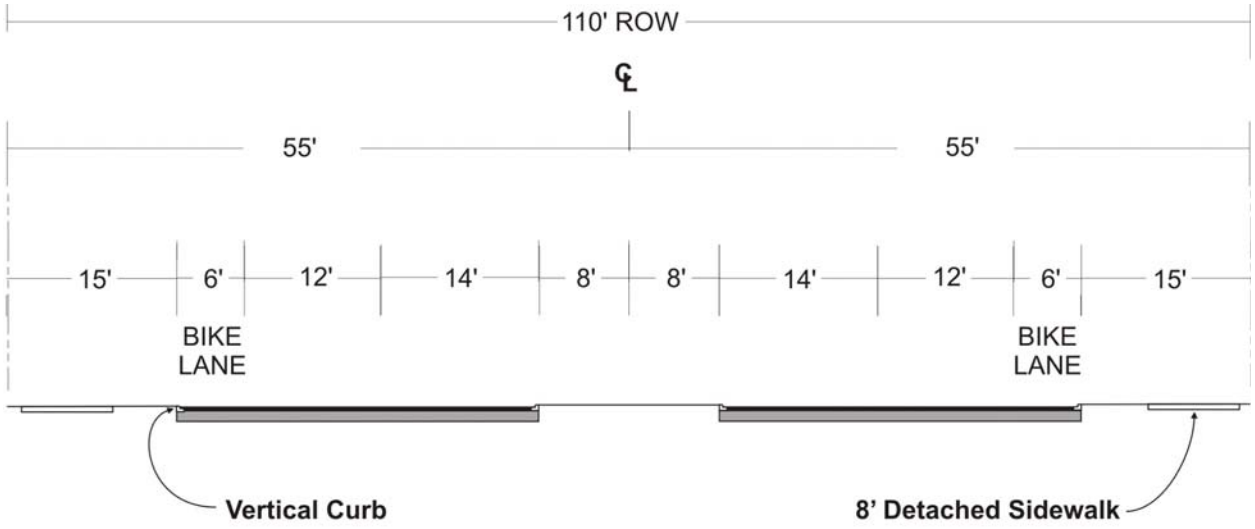


A. Rural Character

- Auxiliary turn lanes may be required at intersections with additional ROW requirements.
- Cross-sections may vary to fit surrounding topography.
- ADT: 35,000 - 55,000 vpd
- Design Speed: 55 m.p.h.
- Maximum Grade: 9.0%
- Minimum Grade: 0.4%

Note: Sidewalks could be modified by the Town to accommodate paths or trails as may be recommended by the Town's Parks, Trails, and Open Space Master Plan and per AASHTO guidelines.

MINOR ARTERIAL- URBAN CHARACTER



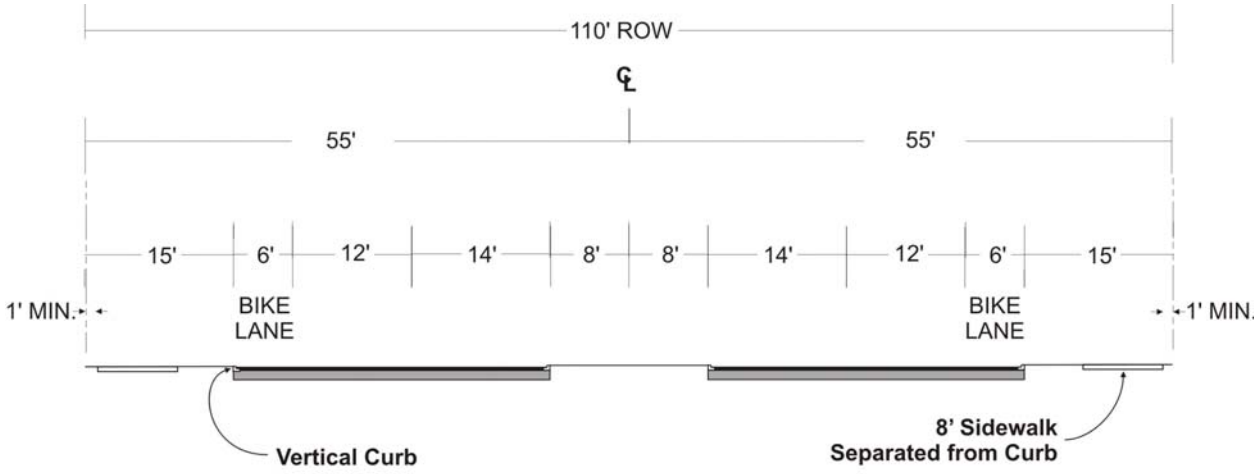
C. Urban Character

- Auxiliary turn lanes may be required at intersections with additional ROW requirements
- Cross-sections may vary to fit surrounding topography
- ADT: 25,000 - 35,000 vpd
- Design Speed: 45 - 55 m.p.h.
- Maximum Grade: 9.0%
- Minimum Grade: 0.4%

Note: Sidewalks could be modified by the Town to accommodate paths or trails as may be recommended by the Town's Parks, Trails, and Open Space Master Plan and per AASHTO guidelines.

FIGURE C-1. ROADWAY CROSS SECTIONS (Continued)

MINOR ARTERIAL- SUBURBAN CHARACTER

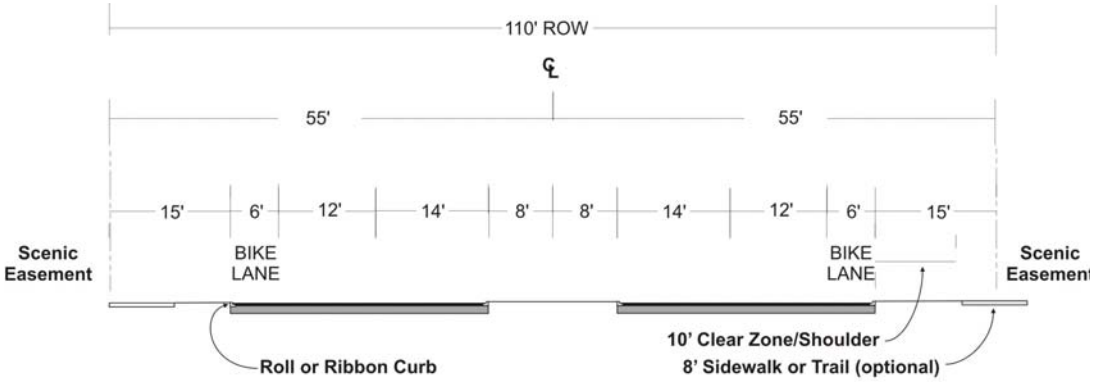


B. Suburban Character

- Auxiliary turn lanes may be required at intersections with additional ROW requirements
- Cross-sections may vary to fit surrounding topography.
- ADT: 25,000 - 35,000 vpd
- Design Speed: 45 - 55 m.p.h.
- Maximum Grade: 9.0%
- Minimum Grade: 0.4%

Note: Sidewalks could be modified by the Town to accommodate paths or trails as may be recommended by the Town's Parks, Trails, and Open Space Master Plan and per AASHTO guidelines.

MINOR ARTERIAL- RURAL CHARACTER



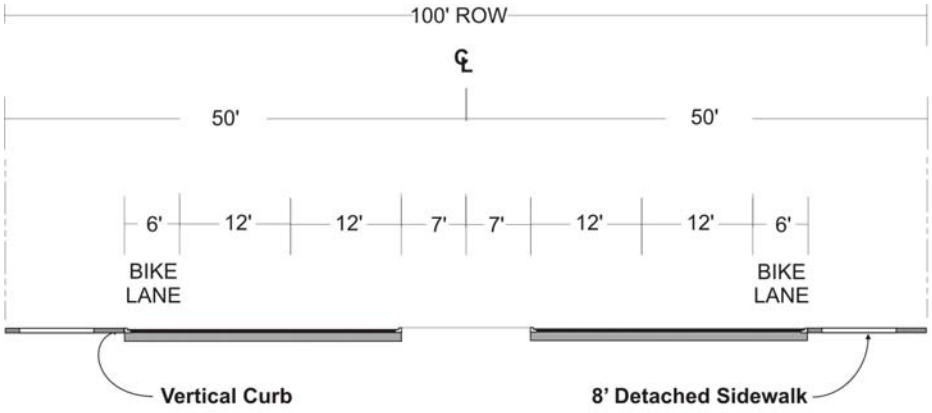
A. Rural/ESL Character

- Auxiliary turn lanes may be required at intersections with additional ROW requirements.
- Cross-sections may vary to fit surrounding topography.
- ADT: 25,000 - 35,000 vpd
- Design Speed: 45 - 55 m.p.h.
- Maximum Grade: 9.0%
- Minimum Grade: 0.4%

Note: Sidewalks could be modified by the Town to accommodate paths or trails as may be recommended by the Town's Parks, Trails, and Open Space Master Plan and per AASHTO guidelines.

FIGURE C-1. ROADWAY CROSS SECTIONS (Continued)

MAJOR COLLECTOR- URBAN CHARACTER

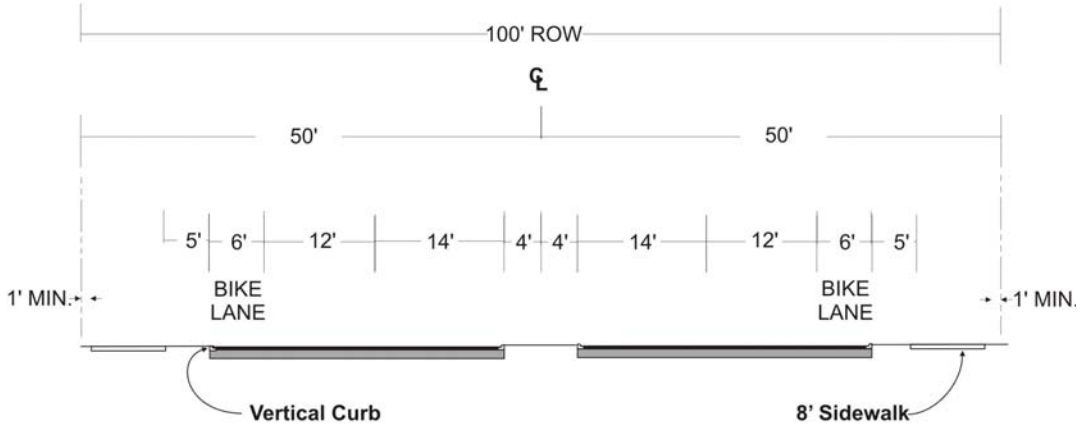


C. Urban Character

- Auxiliary turn lanes may be required at intersections with additional ROW requirements.
- Cross-sections may vary to fit surrounding topography.
- ADT: 15,000 - 30,000 vpd
- Design Speed: 35 - 45 m.p.h.
- Maximum Grade: 9.0%
- Minimum Grade: 0.4%

Note: Sidewalks could be modified by the Town to accommodate paths or trails as may be recommended by the Town's Parks, Trails, and Open Space Master Plan and per AASHTO guidelines.

MAJOR COLLECTOR- SUBURBAN CHARACTER



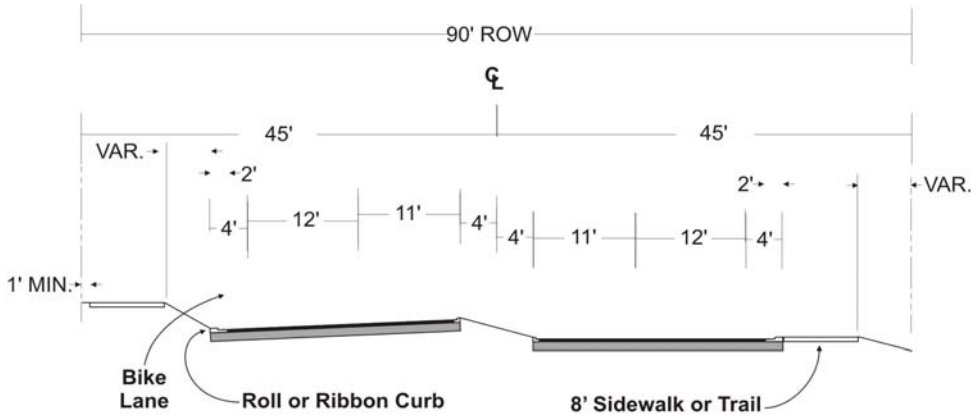
B. Suburban Character

- Auxiliary turn lanes may be required at intersections with additional ROW requirements.
- Cross-sections may vary to fit surrounding topography.
- ADT: 15,000 - 30,000 vpd
- Design Speed: 35 - 45 m.p.h.
- Maximum Grade: 9.0%
- Minimum Grade: 0.4%

Note: Sidewalks could be modified by the Town to accommodate paths or trails as may be recommended by the Town's Parks, Trails, and Open Space Master Plan and per AASHTO guidelines.

FIGURE C-1. ROADWAY CROSS SECTIONS (Continued)

MAJOR COLLECTOR- RURAL CHARACTER

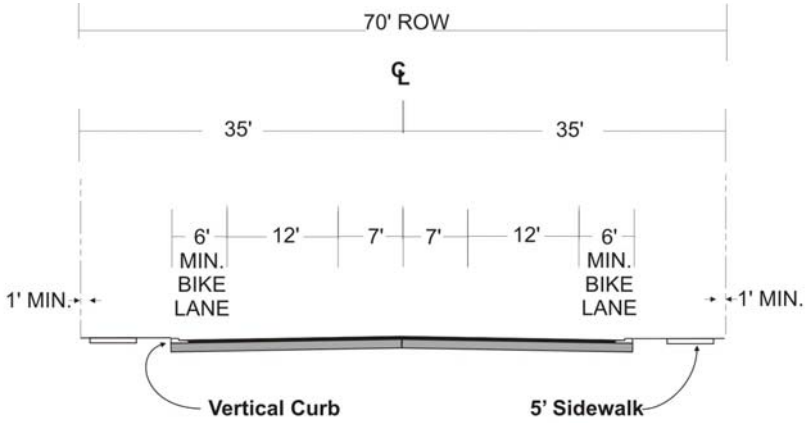


A. Rural/ESL Character

- Auxiliary turn lanes may be required at intersections with additional ROW requirements.
- Cross-sections may vary to fit surrounding topography.
- ADT: 15,000 - 30,000 vpd
- Design Speed: 35 - 45 m.p.h.
- Maximum Grade: 9.0%
- Minimum Grade: 0.4%

Note: Sidewalks could be modified by the Town to accommodate paths or trails as may be recommended by the Town's Parks, Trails, and Open Space Master Plan and per AASHTO guidelines.

MINOR COLLECTOR- URBAN CHARACTER



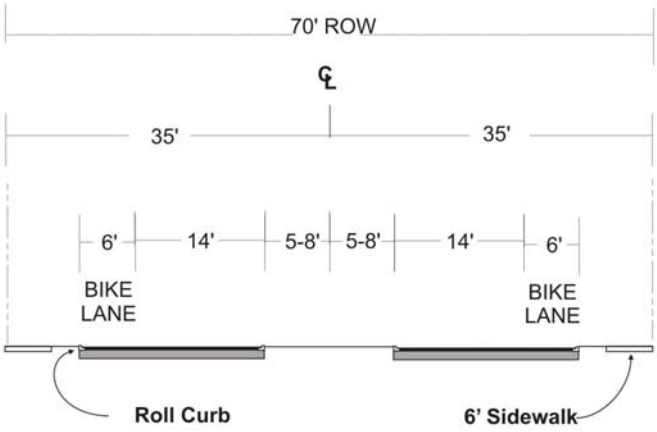
D. Urban Character

- Auxiliary turn lanes may be required at intersections with additional ROW requirements.
- Cross-sections may vary to fit surrounding topography.
- ADT: 5,000 - 15,000 vpd
- Design Speed: 35 m.p.h.
- Maximum Grade: 12.0%
- Minimum Grade: 0.4%

Note: Sidewalks could be modified by the Town to accommodate paths or trails as may be recommended by the Town's Parks, Trails, and Open Space Master Plan and per AASHTO guidelines.

FIGURE C-1. ROADWAY CROSS SECTIONS (Continued)

MINOR COLLECTOR- SUBURBAN CHARACTER

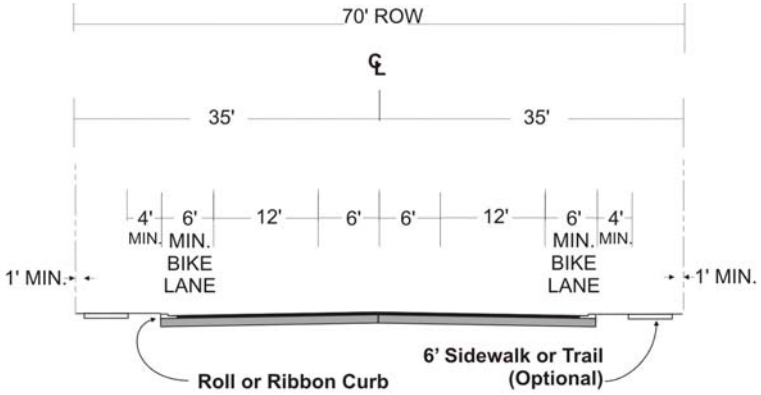


C. Suburban Character

- Auxiliary turn lanes may be required at intersections with additional ROW requirements.
- Cross-sections may vary to fit surrounding topography.
- ADT: 5,000 - 15,000 vpd
- Design Speed: 35 m.p.h.
- Maximum Grade: 12.0%
- Minimum Grade: 0.4%

Note: Sidewalks could be modified by the Town to accommodate paths or trails as may be recommended by the Town's Parks, Trails, and Open Space Master Plan and per AASHTO guidelines.

MINOR COLLECTOR- RURAL CHARACTER



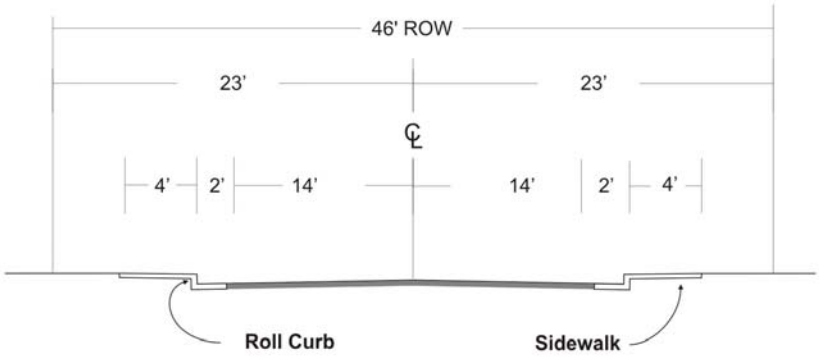
B. Rural/ESL Character

- Auxiliary turn lanes may be required at intersections with additional ROW requirements.
- Cross-sections may vary to fit surrounding topography.
- ADT: 5,000 - 15,000 vpd
- Design Speed: 35 m.p.h.
- Maximum Grade: 12.0%
- Minimum Grade: 0.4%

Note: Sidewalks could be modified by the Town to accommodate paths or trails as may be recommended by the Town's Parks, Trails, and Open Space Master Plan and per AASHTO guidelines.

FIGURE C-1. ROADWAY CROSS SECTIONS (Continued)

LOCAL RESIDENTIAL - SUBURBAN CHARACTER

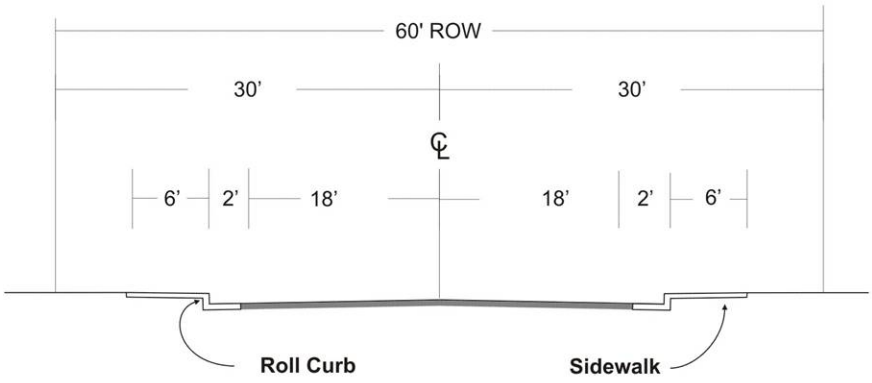


C. Suburban Character

- Auxiliary turn lanes may be required at intersections with additional ROW requirements.
- Cross-sections may vary to fit surrounding topography.
- ADT: 1,500 vpd Max.
- Design Speed: 20 m.p.h.
- Maximum Grade: 15.0%
- Minimum Grade: 0.4%

Note: Sidewalks could be modified by the Town to accommodate paths or trails as may be recommended by the Town's Parks, Trails, and Open Space Master Plan and per AASHTO guidelines.

LOCAL COMMERCIAL / INDUSTRIAL



LOCAL COMMERCIAL / INDUSTRIAL

- Auxiliary turn lanes may be required at intersections with additional ROW requirements.
- Cross-sections may vary to fit surrounding topography.
- ADT: 1,500 - 5,000 vpd
- Design Speed: 20 m.p.h.
- Maximum Grade: 15.0%
- Minimum Grade: 0.4%

Note: Sidewalks could be modified by the Town to accommodate paths or trails as may be recommended by the Town's Parks, Trails, and Open Space Master Plan and per AASHTO guidelines.

Where new development adjoins other similarly zoned property or compatible land uses, a cross access easement may be required to permit vehicular movement between the parcels and reduce the number of access points required onto the adjacent public street. This may be required regardless of the development status of the adjoining property, unless the cross access is determined to be unfeasible by Town staff.

DRIVEWAY LOCATION LIMITATIONS

A new access driveway will not be allowed (measured to the driveway centerline):

1. Within 30 feet of any commercial property line, except when it is a joint-use driveway serving two abutting commercial properties and access agreements have been exchanged between, and recorded by, the two abutting property owners;
2. When the total width of all driveways serving a property exceeds 50% of the curb line frontage;
3. Within 50 feet of the rights-of-way line of an intersecting non-arterial street;
4. Within 100 feet of the rights-of-way line of an intersecting arterial street;
5. Within 100 feet of an approved median opening location on an arterial street;
6. Less than the minimum spacing as established under Town standards.
7. When adequate sight distance cannot be provided to vehicles on the driveway attempting to access the street as per Town standards.

PROTECTION OF ACCESS

For proper control of driveway access, a vehicular non-access easement (V.N.E.) is to be granted to the city, except at approved access points, along all collector and arterial streets when abutting property develops.

RESIDENTIAL DEVELOPMENT DRIVEWAYS

A. Single Family Residential Development

Driveways serving single-family residential units should be S-1 driveways as shown in Town standards. Only one driveway per lot street frontage is allowed except where the street frontage is of sufficient length to maintain a separation of 50 feet between driveways. The minimum driveway length is 18 feet, measured from the face of the garage opening to the back of sidewalk or the back of curb if no sidewalk is provided.

B. Multifamily Residential Development

Driveways serving multifamily residential units should be CL and CH type driveways. CL-1 and CL-2 are low-volume driveways to be used on local streets. Type CH-1, -2

and -3 are high volume driveways to be used on collector and arterial streets. The minimum driveway length is 50 feet, measured from the entrance to the off-street parking area to the back of sidewalk, or to the back of curb if no sidewalk is provided.

C. Limitations on Residential Access

Residential properties that have frontage on a local street, an arterial, or collector street are limited to local street access.

In some instances, residential parcels front only on arterial or collector streets and may be given access if alternate public access is not available. When such access is allowed, the driveway must be circular or it must have a turn-around area to ensure there is no need of backing onto the street.

COMMERCIAL AND INDUSTRIAL DEVELOPMENT

The minimum length for a commercial or industrial driveway is 50 feet, measured from the entrance to the off-street parking area to the back of sidewalk or the back of curb if no sidewalk is provided. Driveway designs need to include a level path of travel across the driveway for pedestrians in conformance with ADA requirements.

A. Commercial Driveways

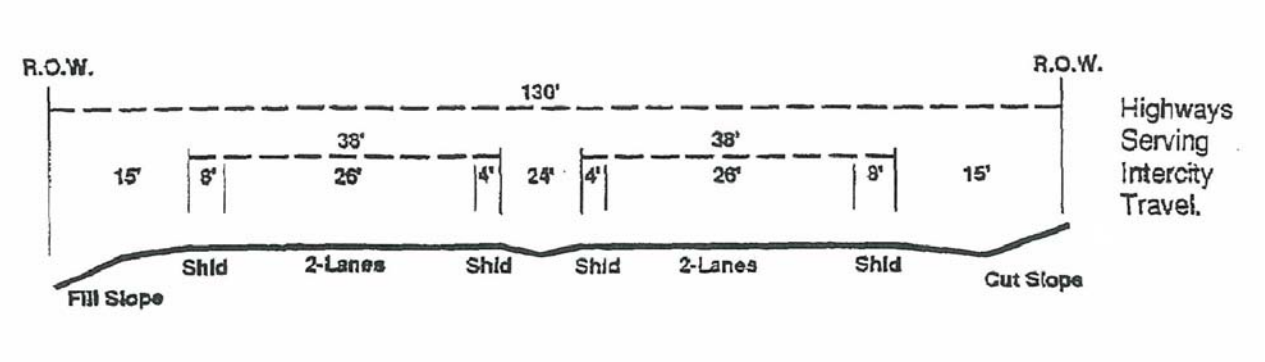
The "CL" and "CH" typed driveways are designed to service commercial properties. A "CL" type driveway is used for low-volume driveways on low volume streets. A "CH" driveway is used for driveways on arterials, major collectors and high volume minor collectors, or at other locations when required by the Engineering Department. The CH-2 and CH-3 driveways are used at all access driveways opposite median openings.

B. Industrial Driveways

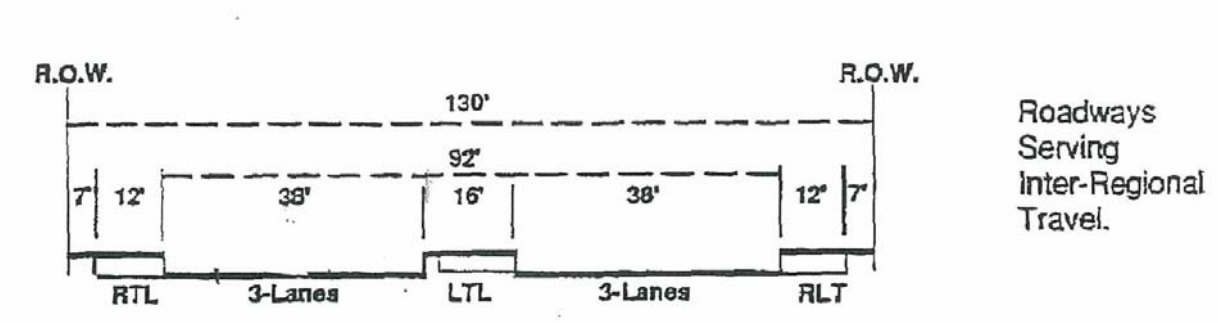
Normally industrial access is not permitted on arterial or major collector streets; however, if such access is allowed, commercial driveway standards apply.

APPENDIX D. STREET DESIGN CRITERIA FOR CITY OF COOLIDGE

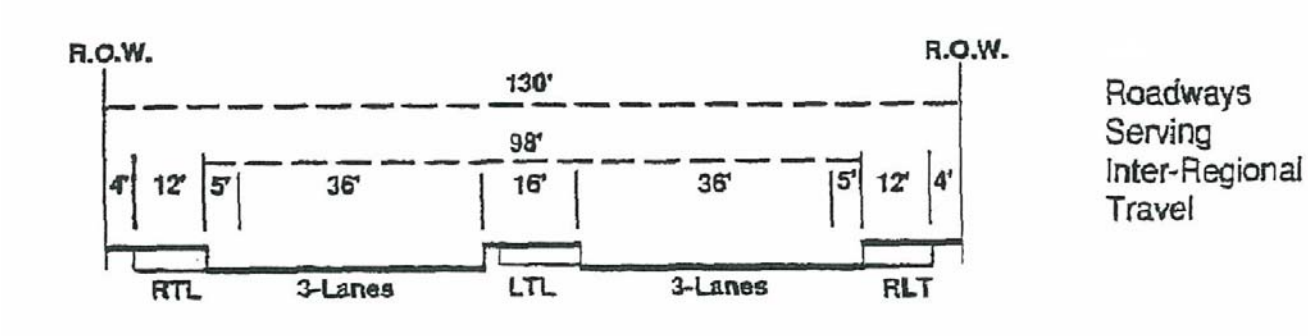
PRINCIPAL ARTERIAL- RURAL SECTION FOUR-LANE DIVIDED ROADWAY



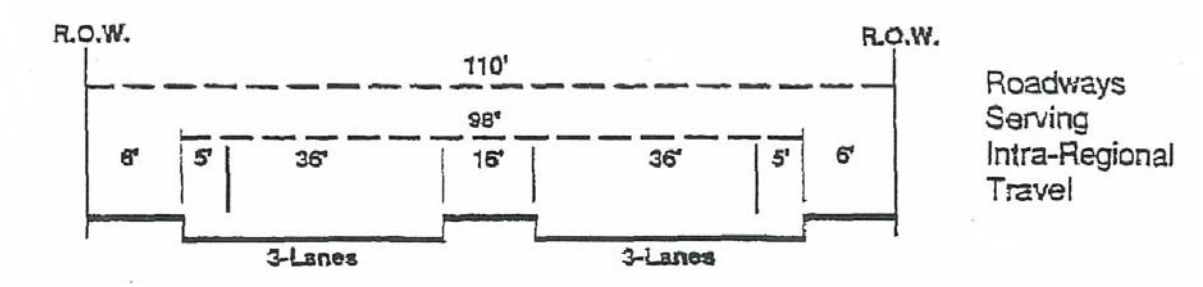
MAJOR ARTERIAL- SIX-LANE DIVIDED ROADWAY WITH TURN LANES



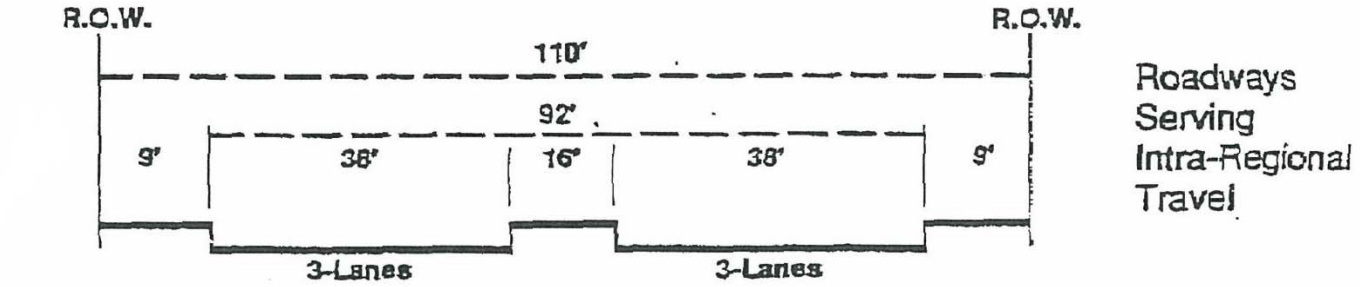
MAJOR ARTERIAL- SIX-LANE DIVIDED ROADWAY WITH BICYCLE AND TURN LANES



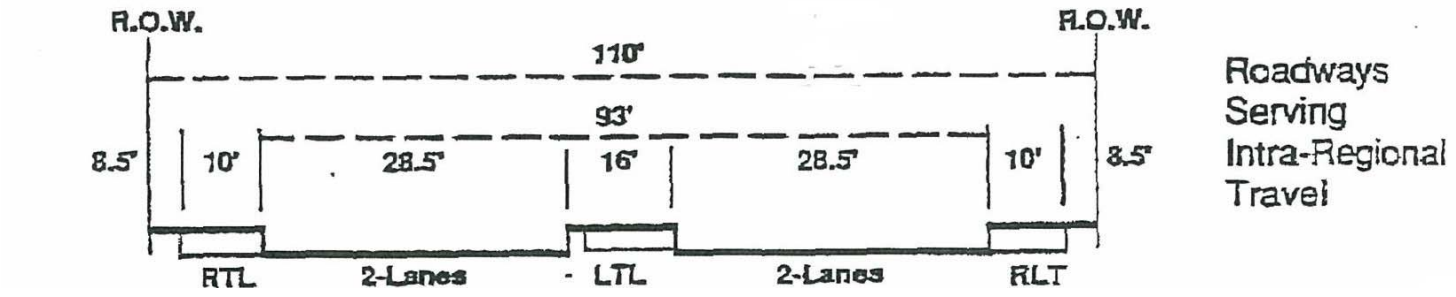
SECONDARY ATERIAL- SIX-LANE DIVIDED, WITH BICYCLE LANES



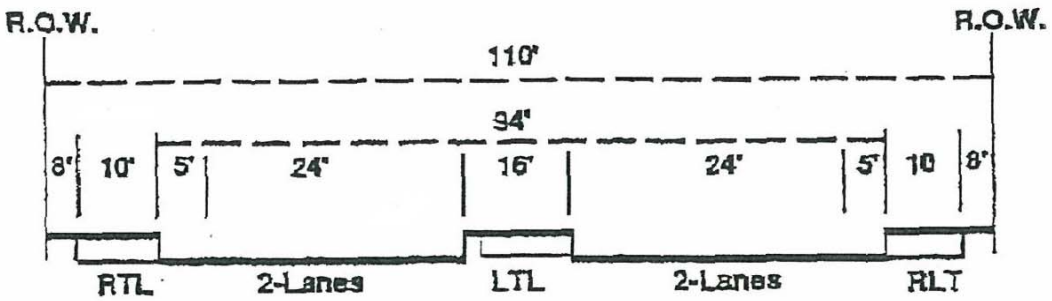
SECONDARY ATERIAL- SIX LANE DIVIDED (NO INTERSECTION)



SECONDARY ATERIAL- FOUR LANE DIVIDED WITH TURN LANES

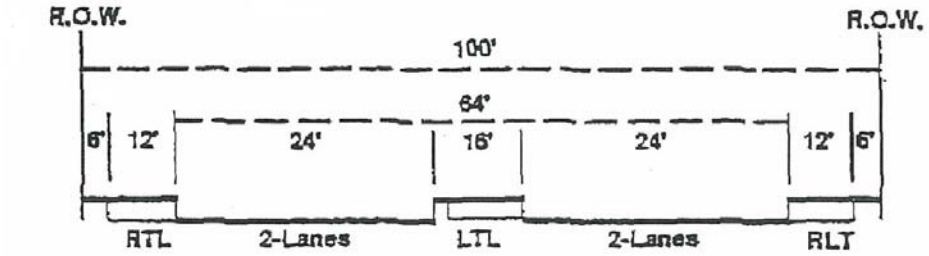


SECONDARY ATERIAL- FOUR LANE DIVIDED WITH BICYCLE AND TURN LANES



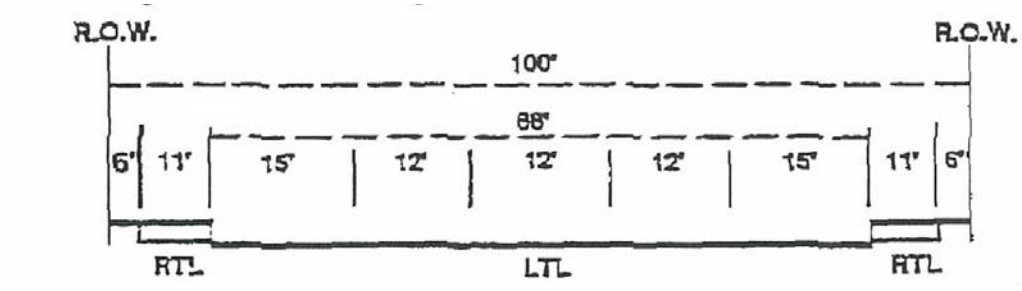
Roadways Serving Intra-Regional Travel

MINOR ATERIAL- FOUR TO SIX LANE DIVIDED
URBAN SECTIONS (NO PARKING)
PROVISIONS FOR MEDIAN AND TURN LANES AS NEEDED



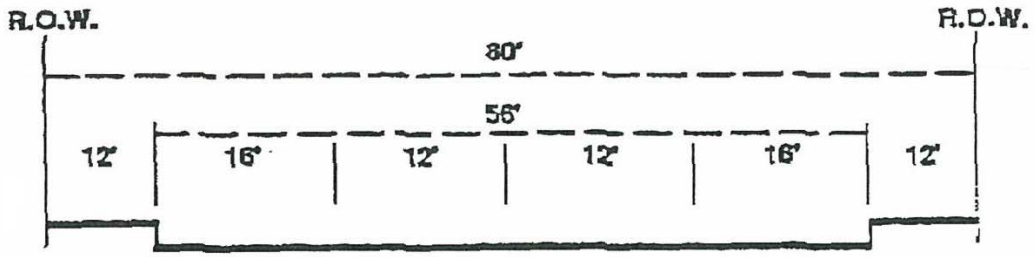
Section Line Arterials And Principal/Major Arterials With Limited Row.

MINOR ATERIAL- FIVE LANE UNDIVIDED
URBAN/RURAL SECTION (NO PARKING)
WIDE OUTSIDE LANES FOR TURNING VEHICLES AND BICYCLES



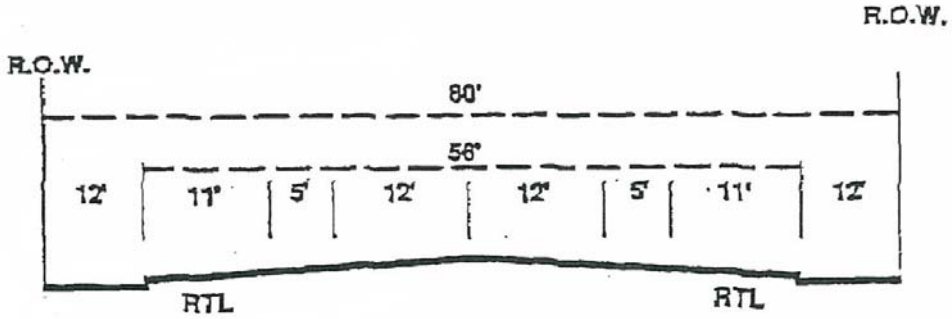
Section Line Arterials And Principal/Major Arterials With Limited Row.

MINOR ATERIAL- FOUR LANE UNDIVIDED
URBAN/RURAL SECTION (NO PARKING)
WIDE OUTSIDE LANES FOR DISABLED VEHICLES AND BICYCLES



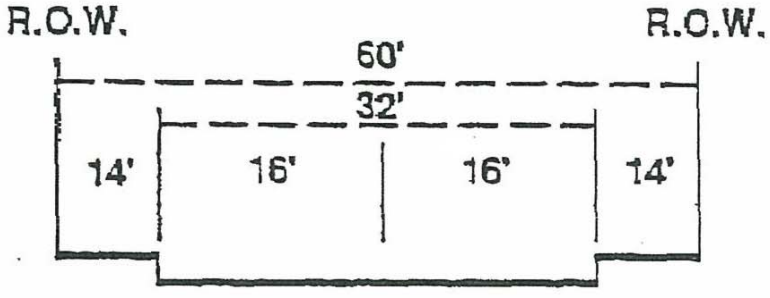
MinorArterials With Limited R.O.W.

MINOR ATERIAL- TWO LANE UNDIVIDED
RURAL SECTION WITH STRIPED BIKE LANES



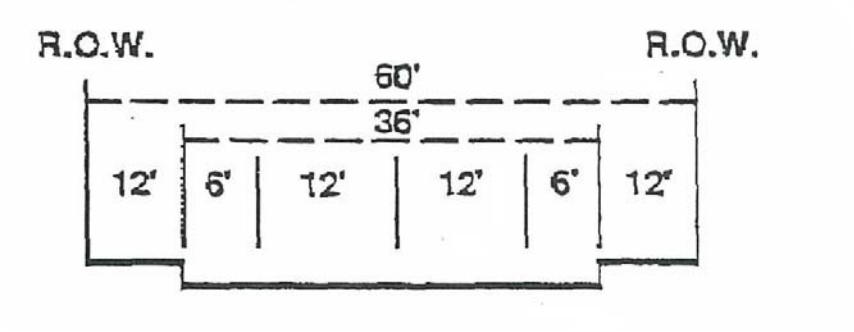
MinorArterials With Limited R.O.W.

COLLECTOR ROADWAYS- TWO LANE UNDIVIDED
URBAN/RURAL SECTION (NO PARKING)



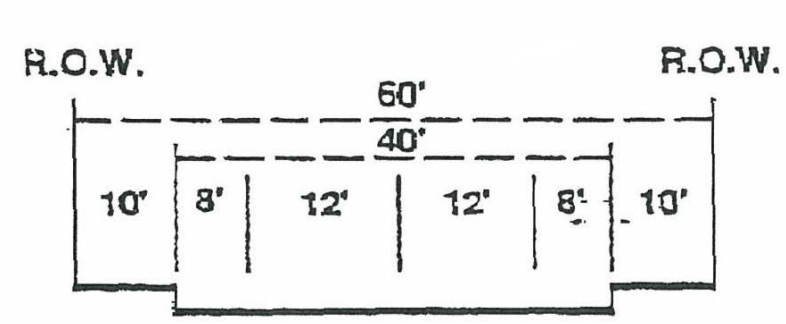
Limited Access Points, Ample Off-Street Parking And/ Or Landscaped Roadsides

COLLECTOR ROADWAYS- TWO LANE UNDIVIDED
URBAN/RURAL SECTION WITH IMPROVED SHOULDER OR STRIPED BIKE LANE (NO PARKING)



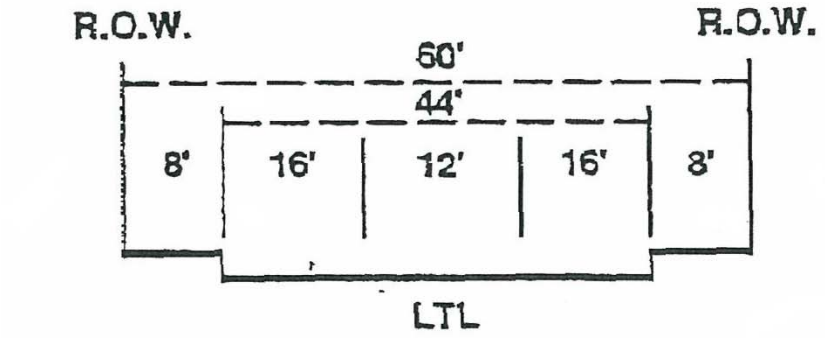
Recreational And School Access Routes With Heavy Bike/Pedestrian Traffic, Limited Access And Ample Off-Street Parking

COLLECTOR ROADWAYS- TWO LANE UNDIVIDED
URBAN/RURAL SECTION (PARKING PERMITTED)



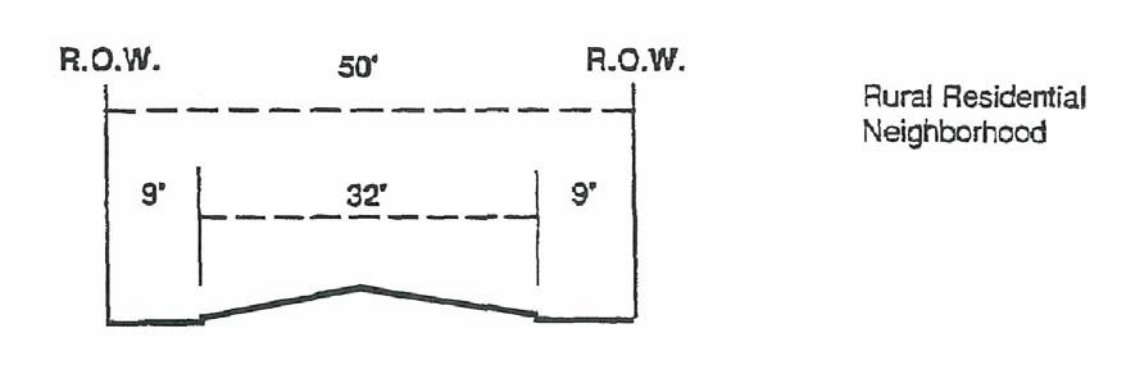
Frequent Access Points, Limited Off-Street Parking And 25 MPH Speeds

COLLECTOR ROADWAYS- THREE LANE UNDIVIDED
URBAN/RURAL SECTION (NO PARKING)

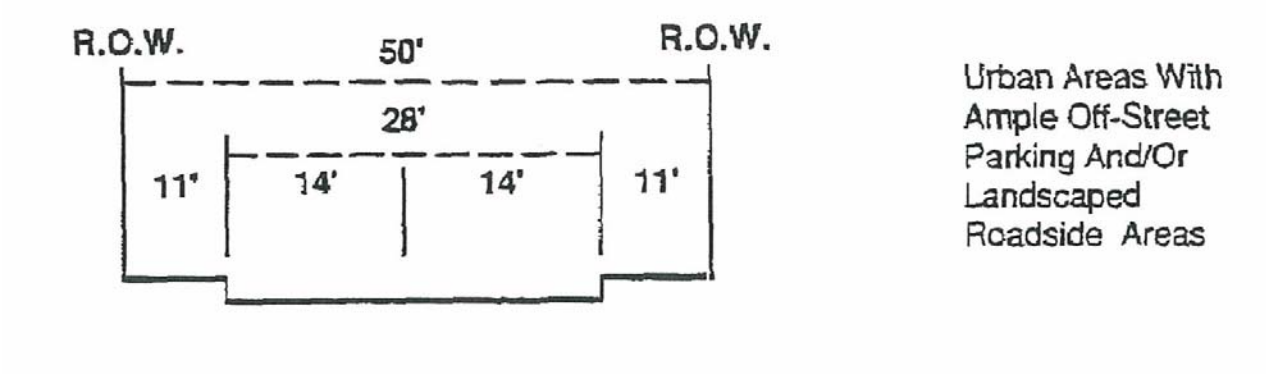


Activity Areas With Heavier Volumes And Turning Demands

LOCAL ROADWAYS- TWO LANE RESIDENTIAL
RURAL SECTION



LOCAL ROADWAYS- TWO LANE RESIDENTIAL
URBAN SECTION (NO PARKING)



LOCAL ROADWAYS- TWO LANE RESIDENTIAL
URBAN/RURAL SECTION (PARKING PERMITTED)