

Town of

Florence Transportation Planning Study

DRAFT - Working Paper 2:
*Roadway Network Needs &
Functional Classification Plan*
March 2019



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1.0 PURPOSE OF WORKING PAPER #2

The purpose of Working Paper #2, *Roadway Network Needs & Functional Classification Plan*, is to evaluate the existing Florence Functional Classification Plan (2008) with the use of a future conditions travel demand model to identify potential adjustments. Through this evaluation, a series of recommended adjustments to create the new Functional Classification Plan 2040 is presented as well as corresponding roadway network needs are also identified.

To supplement the roadway network needs and Functional Classification Plan 2040, a series of new roadway cross sections are presented as well as a new truck routing plan.

Working Paper #2 also introduces a series of recommended safety/intersection improvements, planned bicycle facilities and some additional policy considerations in response to Town-requested objectives for this study.

Finally, the evaluation criteria are introduced for future TAC discussion and the project next steps are identified.



2.0 RECAP OF EXISTING TRANSPORTATION ISSUES & NEEDS

The contents of this section were initially presented in Working Paper #1, and are reiterated here in Working Paper #2 in order to reaffirm the identification of issues and concerns presented by the Town of Florence and TAC that in part form the basis for the analysis and recommendations presented in WP#2. Also see **Figure 2-1** for a map illustration summary of key transportation needs and issues.

2.1 Roadway and Multimodal Facilities

North-South Corridor – ADOT has been studying the potential alignment of a proposed north-south high capacity corridor to improve regional connectivity in Florence and surrounding areas in the fast-growing Sun Corridor. Pinal County voters have approved the formulation and taxing authority of the newly created Regional Transportation Authority (RTA). Though the NEPA Tier 1 environmental impact statement (EIS) continues, the Town of Florence continues to support its preferred alignment as previously discussed and illustrated in Working Paper #1. A Record of Decision (ROD) on the Tier 1 EIS is anticipated in the Winter of 2018.

Improve east-west connectivity through the study area – There are currently very few existing roadways in the Town that offer east-west connectivity. While some of these future connections will partially depend upon leveraging incoming private development to construct segments of future roadways, Florence’s current east-west roadways are limited to Hunt Highway and SR 287. Proposed roadway extensions such as Butte Street, “River Road” along the south side of the Gila River, and Judd Road are preliminarily identified.

Roadway Functional Classifications – The existing roadway functional classifications that are codified through the Florence General Plan represent the recommended functional classifications from the Coolidge-Florence Transportation Planning Study of 2008. The Town has requested that the Florence Transportation Planning Study evaluate and recommend an updated roadway functional classification system, partially based on a shift in anticipated PUD development patterns. Some roadways may be oversized and this Plan will evaluate and recommend updated roadway functional classifications. Florence would also like to explore the possibility of making a distinction in classifications and standard cross-sections for “urban” roadways and “rural” roadways.

Transit Facilities – The evaluation of existing transit routes, operations and potential expansion opportunities are not a priority focus of this Plan (a separate transit study for Pinal County is currently being undertaken), however, the Town has identified a need to establish two proposed park and ride facilities – one at the intersection of SR 79 and Arizona Farms Road and the second along Hunt Highway in the San Tan Valley area. The RTA has identified two additional park and ride facilities in the Florence Municipal Planning Area.

Surplus right-of-way of select downtown Florence roadways – Some roadways in the downtown Florence area that were established early in the Town’s settlement - Butte St., Willow St., Orlando St. and Park St. to name a few, have surplus rights-of-way. Butte Street from Main Street to Pinal Parkway/ SR 79 for example is a 100-foot right-of-way. Some of these wide



rights of way also have wider than necessary pavement sections, especially for the roadways that are posted at 35 mph or lower. Speeding however has not typically been an issue on these roadways. The Town of Florence would like the Transportation Planning Study to evaluate the potential to utilize these surplus rights-of-way for the inclusion of shared use paths (or other bike-ped improvements), possible shade trees and other landscaping elements, and/or recommending a policy that contemplates the Town's sale of surplus right-of-way to adjacent property owners for their use and enjoyment.

2.2 Pedestrian and Bicycle Mobility

Perhaps the most significant issues posed to pedestrians and cyclists are the lack of facilities. Bicycling and walking along the regional routes in Florence are potentially unsafe. There are few sidewalks in the Town of Florence outside of the newly built master planned communities and parts of the historic downtown, and even fewer bicycle facilities. Equally challenging perhaps are the lack of ADA facilities available. Florence has a topographical slope of less than 3% across the community and a large percentage of the population over the age of 65, ADA access is achievable and should be a priority.

2.3 Safety

The following observations are identified relating to safety concerns or locations in the Town of Florence:

Based on observations from the Town of Florence staff as well as the consultant review of the crash data, it appears that speeding is generally not a problem in Florence, even with wide streets. Analysis of the crash data did not show any significant number of injury or fatalities due to speeding.

There is not a significant number of crashes at any particular intersection.

According to the Town of Florence staff, the intersection of SR 79 and SR 79B had one of the worst safety conditions, however, this intersection has been recently improved by ADOT.

A roundabout is in the design phases for the intersection of SR 79B and SR 287. Construction of this roundabout is planned for the year 2021.

A traffic signal warrant analysis was completed, and the intersection met signal warrants in two categories for the intersection of Hunt Hwy and SR 79. This intersection experiences high right-turn volumes in the eastbound direction. A bridge design project by ADOT at this intersection could impact intersection design, including a dedicated right turn lane, restriping since installation, and possibly installing rumble strips.

- A traffic signal has been installed at the intersection of Attaway Road and Hunt Highway. Safety does not appear to be of concern at this time.
- The intersection of SR 287 and Attaway Road is a Town of Coolidge owned and maintained intersection, however, Town of Florence responds to the crashes due to Florence's closer proximity to the intersection compared to the Town of Coolidge. Based on the observations by Town of Florence personnel, it appears that the



intersection of SR 287 and Attaway Road has the highest crash rate within Pinal County. Based on the discussions with Pinal County and Town of Florence personnel, this intersection has an education and enforcement issue, not necessarily a design issue.

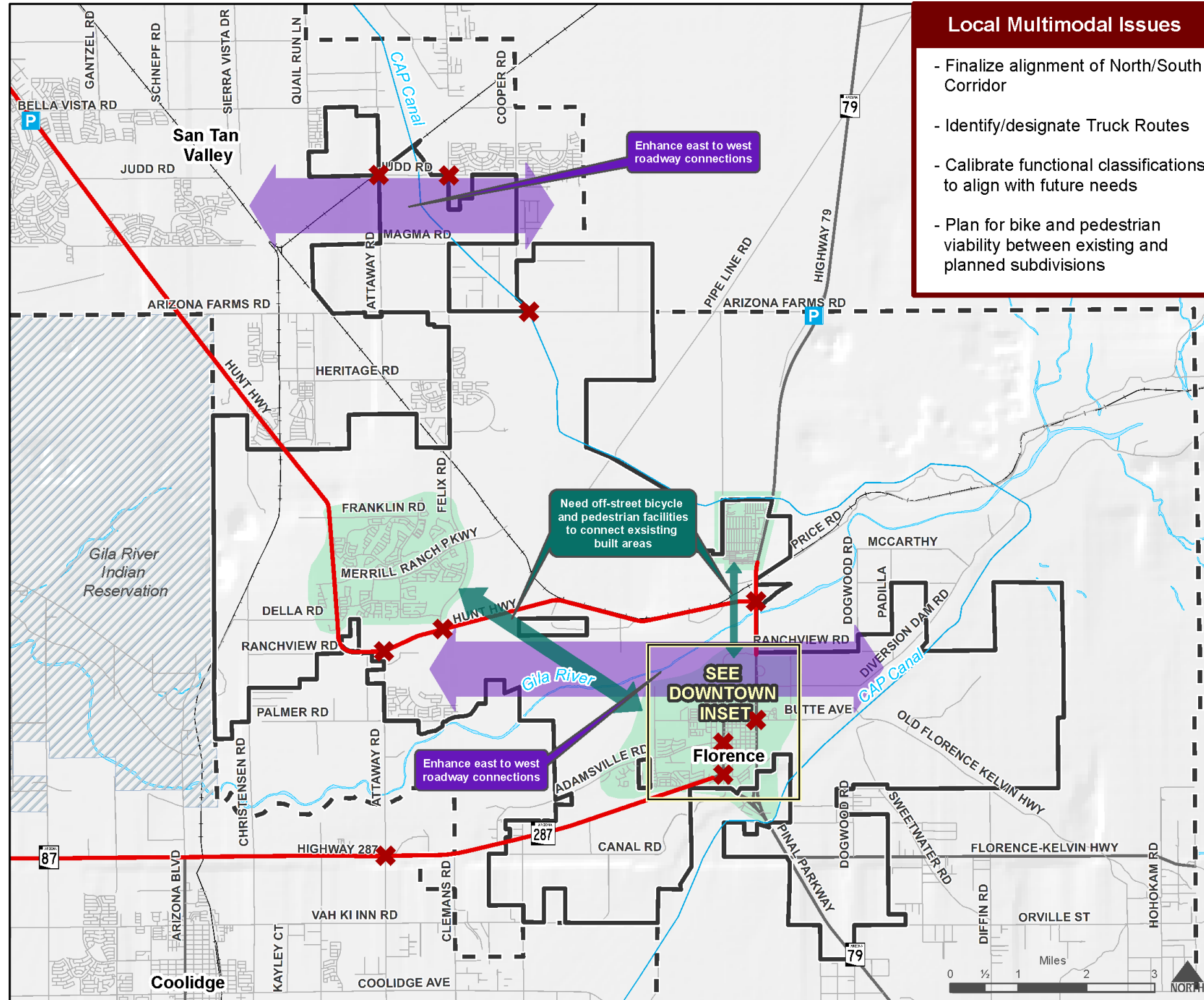
- The intersection of Felix Road and Hunt Highway is an incomplete road section with poor lighting. The stop bar on Felix Road is too far back from the intersection.
- The Town of Florence receives many complaints regarding the intersection of Arizona Farms Road and Hunt Highway. The intersection is very elevated and has a tight radius.
- The intersection of Judd Road and Felix Road should deal with the Pinal County-Town of Florence jurisdictional division as Judd Road is in Pinal County and Felix Road is in Florence. There is a history of crashes at this intersection. Radius of the intersection is too tight. Lighting is an issue in the vicinity the canal on Judd Road.
- ADOT crash data indicates that there are high number of crashes in the vicinity of San Tan Valley development.
- One third of the total crashes were rear end collisions. Lighting conditions does not appear to be factor with respect to crashes as most of the crashes occurred in daylight conditions.

2.4 Town Regulations & Policies

1. The Town would like to see the Florence Transportation Planning Study provide a recommended policy on sight visibility triangles.
2. The Town is currently undergoing a development impact fee study and is seeking guidance from the Florence Transportation Study to help inform future Town roadway and other mobility-related infrastructure projects and investment choices. These projects and investment choices will in turn help guide the development impact fee study in determining appropriate and equitable roadway development impact fees.
3. The Town would like to see this study provide a recommended policy and standard cross section for a bus bay. It is suggested that this study look to the RPTA and other agencies for examples.
4. The Town of Florence requests that the Transportation Planning Study identify and recommend designated truck routes to assist and facilitate the hauling of hazardous materials and roadways to support the mission of the Florence Military Reservation and Army National Guard.
5. The Town of Florence is requesting that this Plan provide a policy that will require the improvement of bicycle and pedestrian facilities within new subdivisions as well as connection between subdivisions (or residential communities) in the subdivision platting submittal and review process.

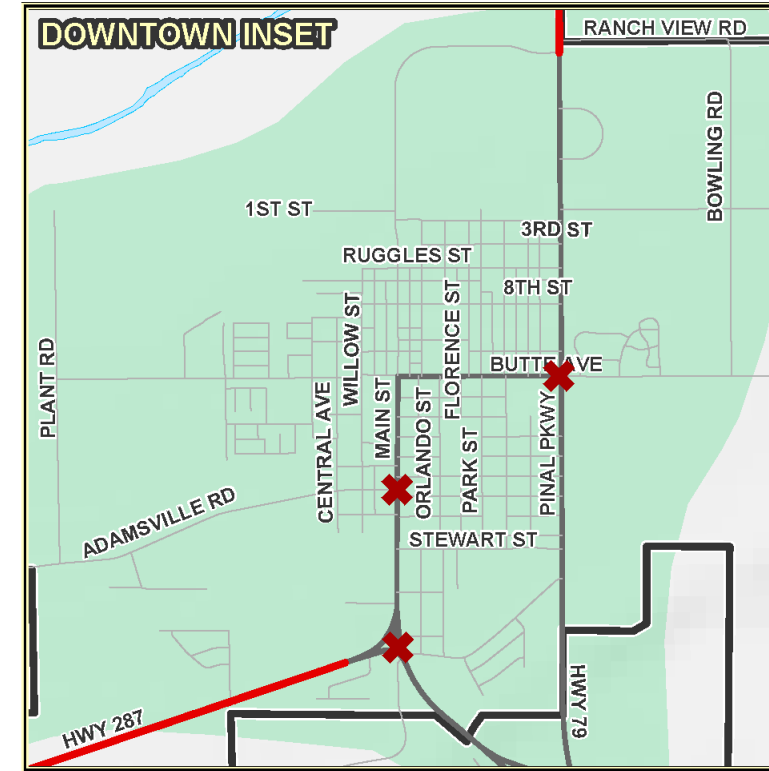


Figure 2-1: Transportation Needs & Issues



Local Multimodal Issues

- Finalize alignment of North/South Corridor
- Identify/designate Truck Routes
- Calibrate functional classifications to align with future needs
- Plan for bike and pedestrian viability between existing and planned subdivisions



Legend

- | | | | |
|--|------------------------------------|--|--------------------------------------------|
| | Town of Florence Municipal Limits | | Florence Activity Areas |
| | Town of Florence Planning Boundary | | Intersection or Safety Concerns |
| | Tribal Lands | | Needed Bicycle and Pedestrian Improvements |
| | U.S. Highway / State Route | | Needed Roadway Connections |
| | Local Road | | Current or Future Congestion Areas |
| | Railroad | | Commuter Transit Needs |
| | Washes | | |
| | Central Arizona Project (CAP) | | |

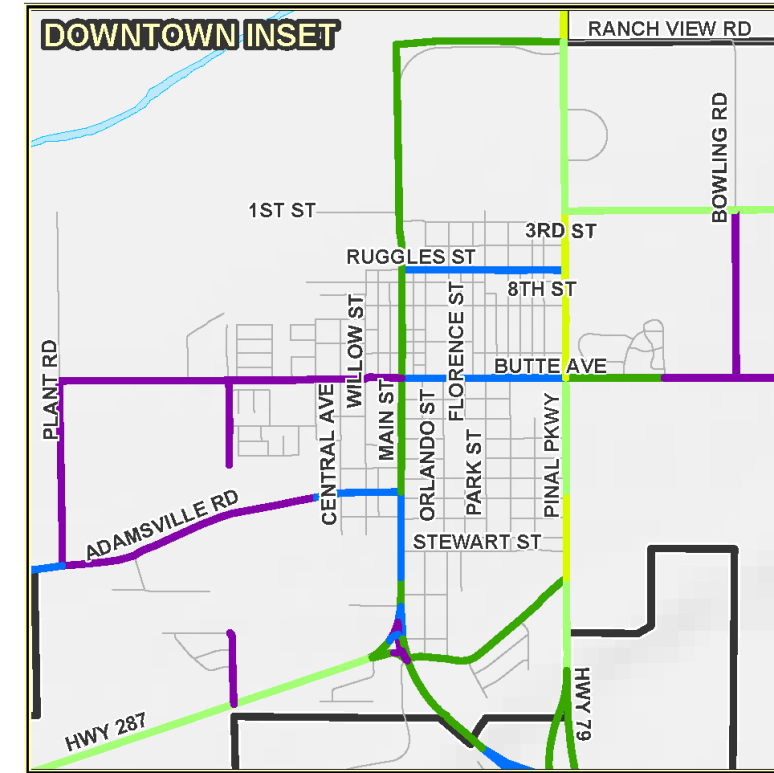
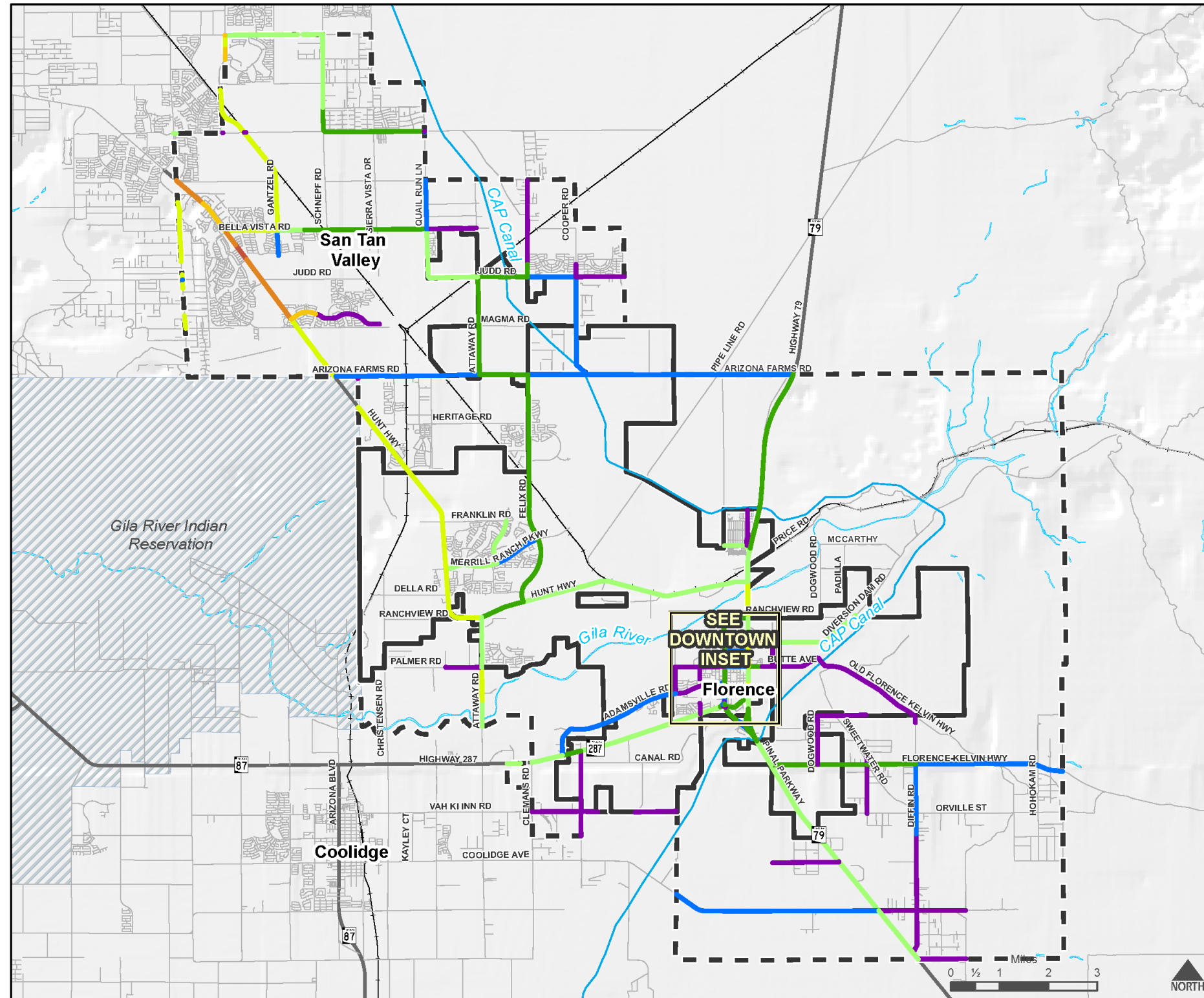
3.0 FUTURE GROWTH, VEHICLE TRIP PROJECTIONS AND ROADWAY NETWORK NEEDS

Available average daily traffic (ADT) counts obtained from the Town of Florence and supplemental counts obtained from the Maricopa Association of Governments (MAG) and ADOT Traffic Data Management System (TDMS) website were used to calculate the existing roadway level-of-service (LOS) within the study area. Since these traffic volumes only represent a small portion of roadway segments over a 24-hour period within the Town of Florence, traffic volume data from MAG Travel Demand Model (TDM) was obtained to calculate the roadway segment LOS for the entire Town based on the average annual daily traffic volumes (AADT). Based on discussions with MAG staff, the latest existing validated traffic counts are for the year 2015. Therefore, the output from MAG 2015 TDM is used to analyze the existing traffic conditions within the Town of Florence.

The data obtained from the MAG TDM includes the segment average weekday daily traffic volumes (AWDT), number of lanes, functional classification of the roadway and length of the roadway segment. A factor of 0.92 was applied to the AWDT to calculate the AADT on the roadway segments based on discussions with MAG staff. **Figure 3-1** shows the 2015 AADT within the Town of Florence based on the MAG 2015 TDM. **Figure 3-2** shows the 2015 number of lanes within the Town of Florence.



Figure 3-1: Existing Average Daily Traffic



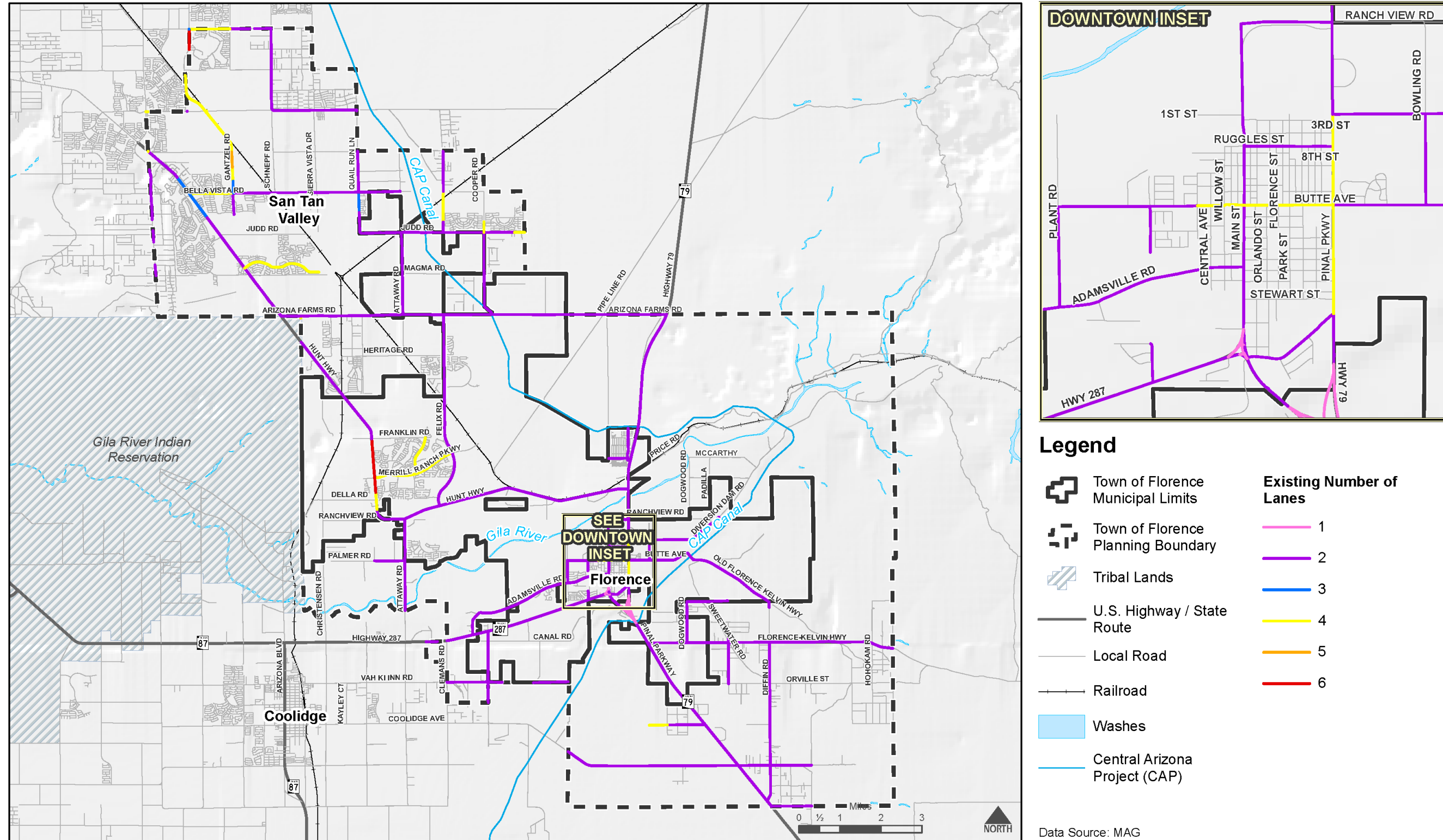
Legend

- | | | | |
|--|------------------------------------|--|-------------------------------|
| | Town of Florence Municipal Limits | | Existing ADT Vehicles Per Day |
| | Town of Florence Planning Boundary | | 0 - 1,000 |
| | Tribal Lands | | 1,001 - 2,500 |
| | U.S. Highway / State Route | | 2,501 - 5,000 |
| | Local Road | | 5,001 - 10,000 |
| | Railroad | | 10,001 - 15,000 |
| | Washes | | 15,001 - 20,000 |
| | Central Arizona Project (CAP) | | 20,001 - 25,000 |
| | | | 25,001 - 30,000 |

Data Source: MAG



Figure 3-2: Existing Number of Lanes



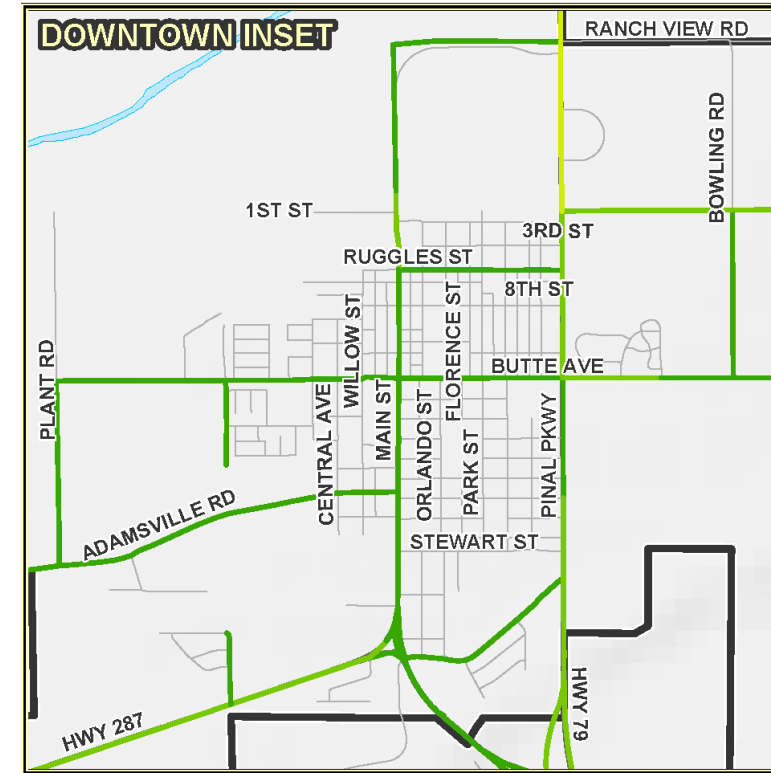
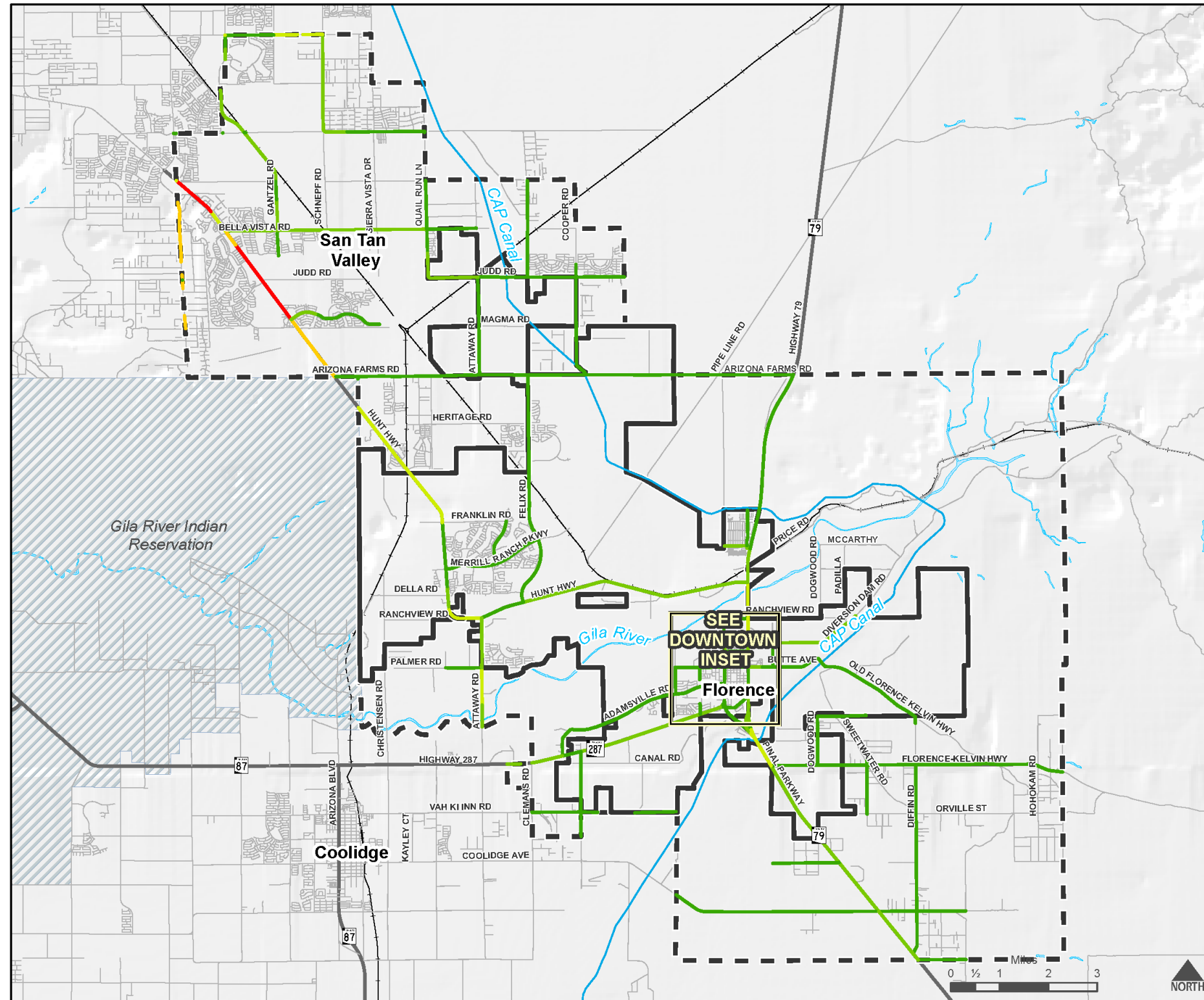
For a planning level analysis, level-of-service is determined based on the ratio of the traffic volume on the roadway to the capacity of the roadway. Level-of-Service criteria (volume/capacity factors) and daily per lane capacity of roadways based on functional classification shown in *Table 8* and *Table 9* respectively in Working Paper #1 are used to calculate the existing LOS for the roadway segments within the entire Town of Florence. **Figure 3-3** shows the 2015 roadway segment LOS within the Town of Florence based on the data obtained from MAG.

Based on the 2015 travel demand daily traffic volumes, all the roadways within the Town of Florence are currently operating at a LOS “D” of better with the following exceptions:

Hunt Highway between Stone Creek Drive and Paseo Fino Way – LOS “E”, and
Hunt Highway between Red Mountain Way and Copper Mine Road – LOS “E”.



Figure 3-3: Existing Level of Service



Legend

- | | | |
|--|------------------------------------|---------------------|
| | Town of Florence Municipal Limits | Existing LOS |
| | Town of Florence Planning Boundary | A |
| | Tribal Lands | B |
| | U.S. Highway / State Route | C |
| | Local Road | D |
| | Railroad | F |
| | Washes | |
| | Central Arizona Project (CAP) | |

Data Source: MAG

3.1 Growth Assumptions & Summary Travel Demand Model Year 2040 Findings

Based on discussions and coordination with MAG staff, a future TDM model is established for the horizon year 2040. The output from MAG 2040 TDM is used to analyze the future traffic conditions within the Town of Florence.

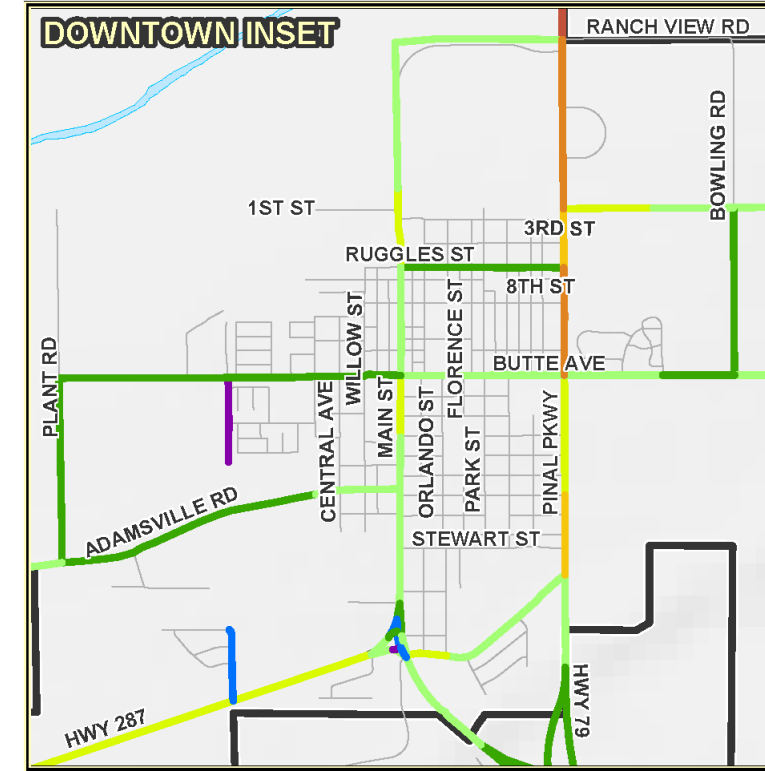
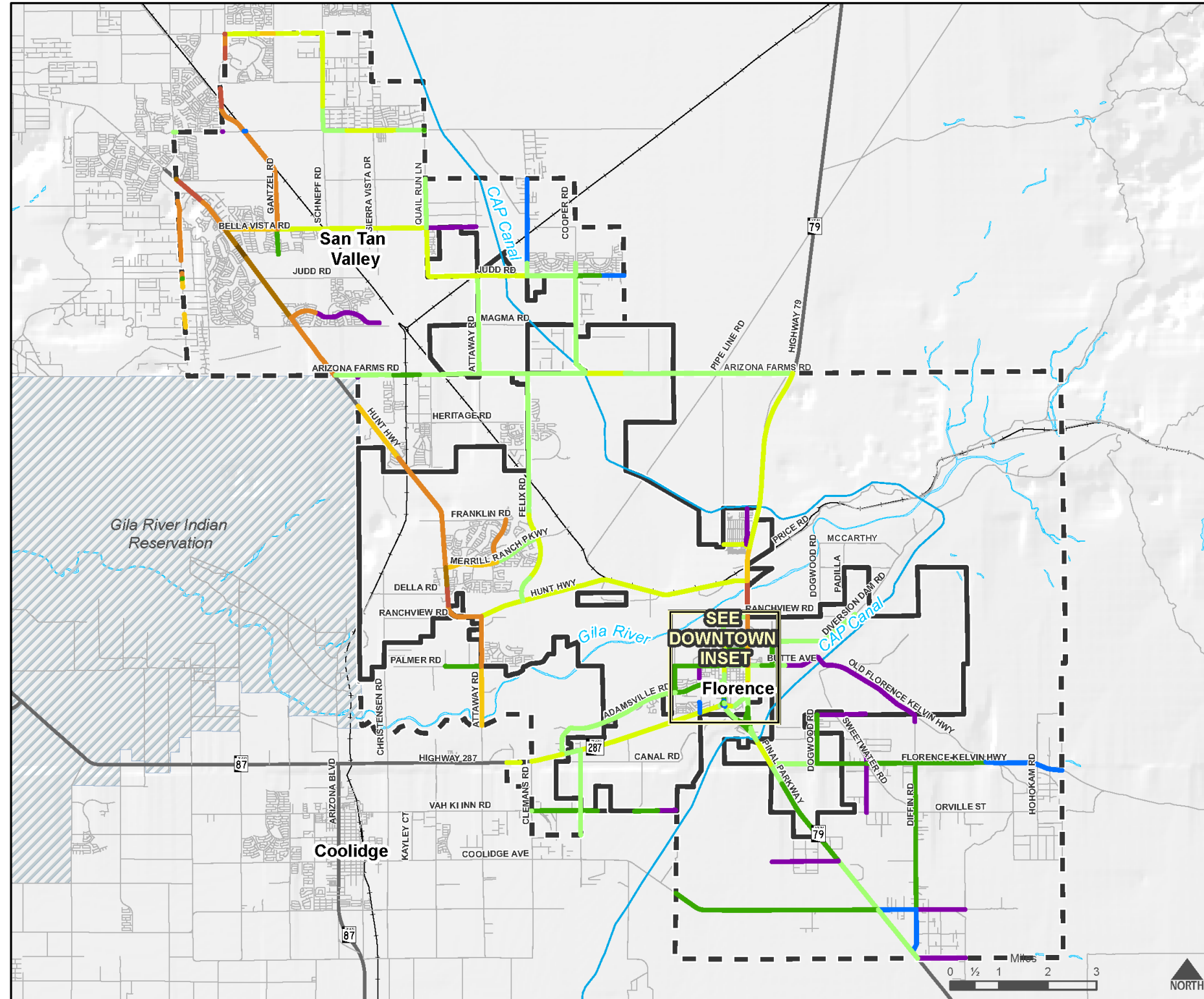
To evaluate the operating status of the no-build conditions of the existing roadway network within the Town of Florence based on future traffic projections, MAG applied the Town of Florence 2040 anticipated population and employment growth to the existing 2015 roadway network to determine the base future roadway network. Based on the data results obtained from MAG for the 2040 population and land use projections against the 2015 roadway network, it was observed that there is an exponential growth in traffic volumes of 0.25% to 27.5% with an annual average growth rate of 4% on the roadway network within the Town of Florence.

In order to evaluate the operating status and level of service implications of 2040 traffic volumes upon existing Florence roadways (and thus determine what adjustments may be needed to Florence's Functional Classification and or identify capacity related roadway improvements), the methodology used to evaluate the LOS for the year 2015 is also used to evaluate the roadway network LOS for the 2040 No-Build conditions. 2015 number of lanes shown in **Figure 3-2** are also used for the 2040 analysis.

Figure 3-4 and **Figure 3-5** illustrate the 2040 No-Build traffic volumes and 2040 No-Build LOS respectively.



Figure 3-4: 2040 No-Build Average Daily Traffic

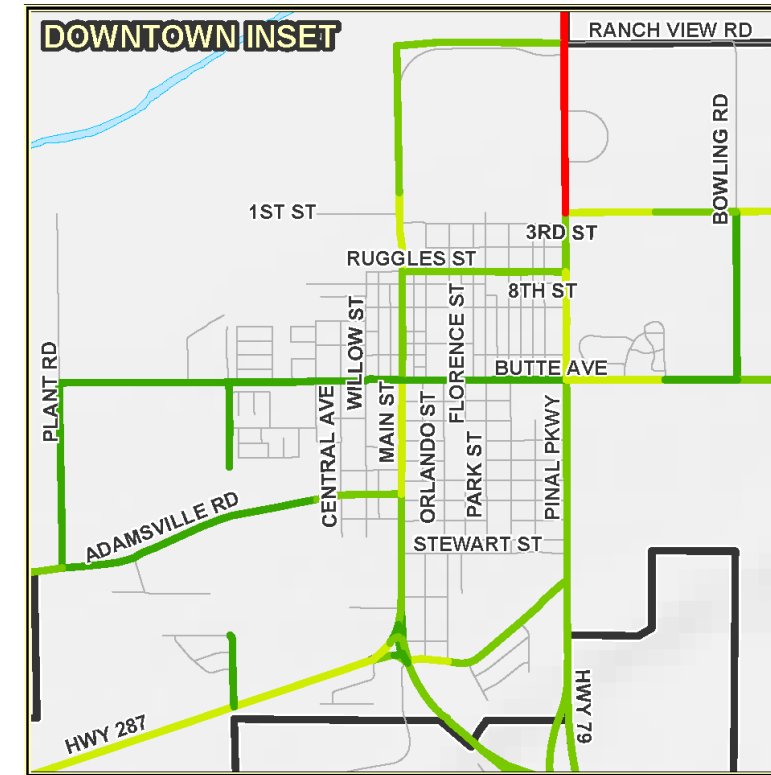
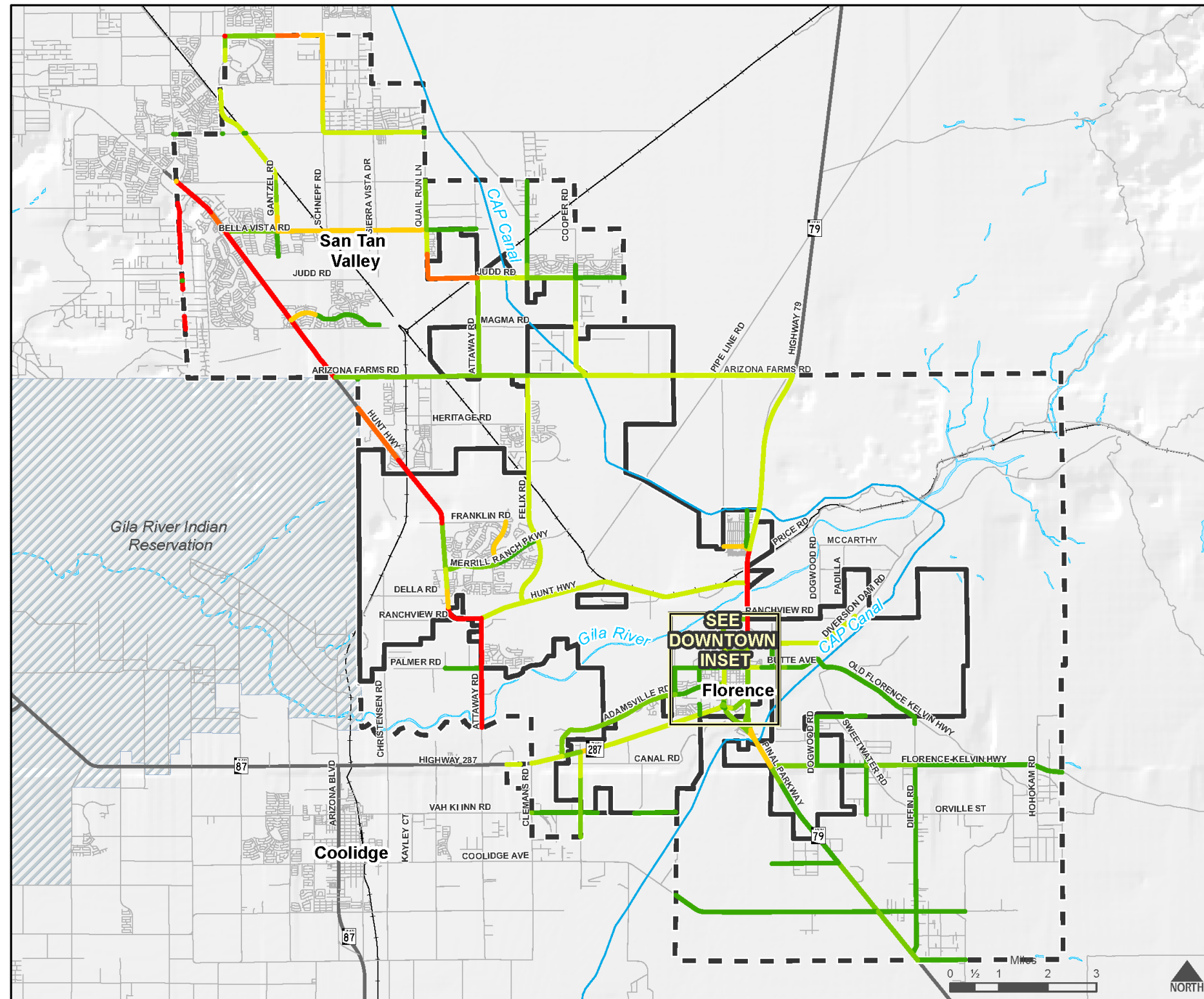


Legend

- Town of Florence Municipal Limits
 - Town of Florence Planning Boundary
 - Tribal Lands
 - U.S. Highway / State Route
 - Local Road
 - Railroad
 - Washes
 - Central Arizona Project (CAP)
-
- 2040 No-Build ADT Vehicles Per Day**
- 0 - 1,000
 - 1,001 - 2,500
 - 2,501 - 5,000
 - 5,001 - 10,000
 - 10,001 - 15,000
 - 15,001 - 20,000
 - 20,001 - 25,000
 - 25,001 - 30,000
 - 30,001 - 35,000
 - 35,001 - 40,000
- Data Source: MAG



Figure 3-5: 2040 No-Build Level of Service



Legend

- | | | |
|--|------------------------------------|--------------------------|
| | Town of Florence Municipal Limits | 2040 No-Build LOS |
| | Town of Florence Planning Boundary | A |
| | Tribal Lands | B |
| | U.S. Highway / State Route | C |
| | Local Road | D |
| | Railroad | E |
| | Washes | F |
| | Central Arizona Project (CAP) | |

Data Source: MAG

Interestingly, under the no-build 2040 travel demand traffic volumes, all roadways within the Town of Florence are expected to operate at LOS “D” or better with the following exceptions:

1. The following roadways/segments are expected to operate at LOS “E”:
 - Judd Road between Quail Run Road and Attaway Road,
 - Quail Run Road approximately 0.5 miles north of Judd Road,
 - Hunt Highway between Paseo Fino Way and Bella Vista Road, and
 - Hunt Highway South of Arizona Farms Road and Mirage Avenue.
2. The following roadways/segments are expected to operate at LOS “F”,
 - Hunt Highway between Stone Creek Drive and Paso Fino Way,
 - Hunt Highway between Bella Vista Road and Arizona Farms Road,
 - Hunt Highway between Mirage Avenue and Franklin Road Alignment,
 - Hunt Highway between Fire Station #2 to Attaway Road,
 - SR 79 between Gila Drive and 1st Street, and
 - Attaway Road south of Hunt Highway.

An important takeaway and overarching theme derived from this analysis indicates that the existing Florence Functional Classification system is largely oversized (surplus capacity) for many Florence roadways. The analysis concludes that many Florence’s present-day roadways operate an acceptable LOS (D or better), even under 2040 projected traffic volumes.

To further corroborate and support these conclusions, an additional LOS analysis was conducted by utilizing the existing (2008) Florence Functional Classifications with projected 2040 traffic volumes. As suspected, this analysis concluded that almost all Florence roadways in this scenario would operate at a LOS A. Both findings then support the conclusion that the existing Functional Classification is oversized, creating a surplus of unnecessary capacity and construction costs that should be adjusted to be more in line with future projected needs. Please see Section 5 for recommended adjustments to the Functional Classification.



4.0 RECOMMENDED FUNCTIONAL CLASSIFICATIONS & TYPICAL ROADWAY CROSS-SECTIONS

As observed in Working Paper #1, the existing Town of Florence Functional Classification was established from the Coolidge-Florence SATS in 2008 and remains in use today. Project objectives include the need for this study to evaluate the existing Functional Classification system and identify any necessary adjustments to the existing functional classifications – both in terms of the definition and characteristics of each Functional Classification type, but also with the Functional Classification Map 2040. The new Functional Classification 2040 recommendations in turn will be incorporated into the Circulation Element of the upcoming Town General Plan Update.

As explained by the AASHTO Policy on Geometric Design of Highways and Streets (7th edition, 2018), a Functional Classification is a system that characterizes roadways by their position in the transportation network and the type of service they provide to motor vehicles. Each Functional Classification defines the role of each roadway in serving vehicle movements within the overall transportation system, but also carries certain expectations with respect to roadway design, including roadway speed, grade and vehicle capacity. Federal legislation continues to use functional classification in determining the eligibility for funding under the Federal-aid program.

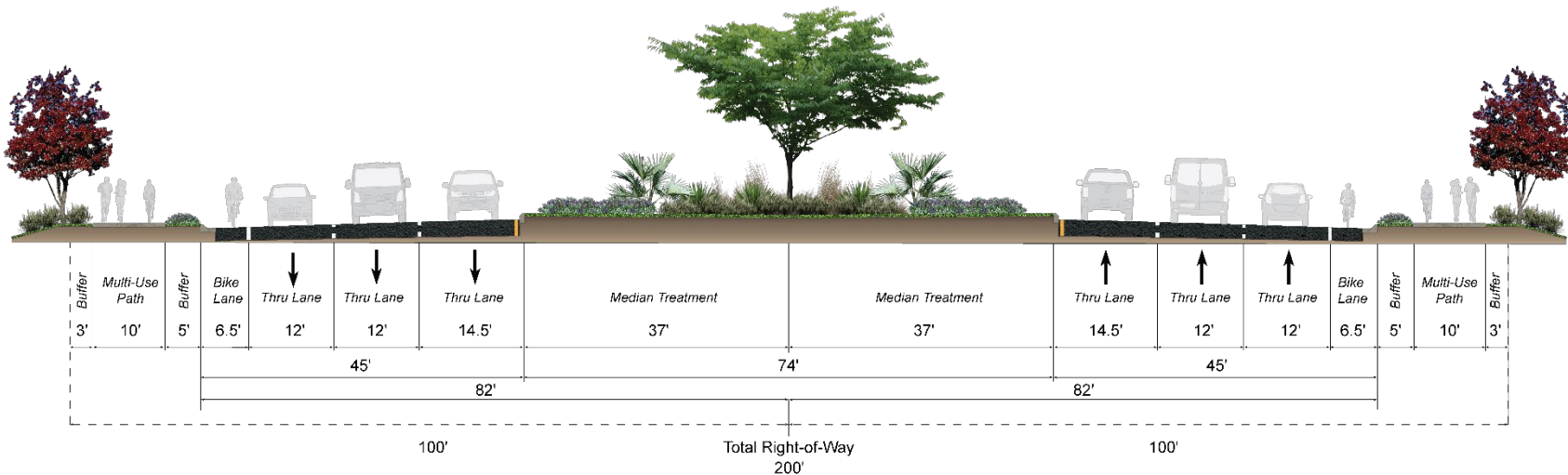
Furthermore, AASHTO offers guidance on the development of Functional Classifications in urban versus rural settings. The US Code defines urban areas as those places having populations of 5,000 or more. Specifically, the Town of Florence would be classified as a “small urban area” with a population between 5,000 and 50,000. Accordingly, this guidance is used to develop the Functional Classification framework for the Town of Florence. The Florence Functional Classifications and their corresponding roadway cross-sections are presented below.



4.1 Parkway

Also known in Arizona as the “Arizona Parkway”, this roadway is a divided roadway that can accommodate greater volumes of vehicles traveling at higher speeds. One of its most notable features is the 74-foot curbed and landscaped median that also facilitates U-turns and left turns for all vehicle types at locations other than at the signalized intersections. This permits a two-phase signal system that promotes uninterrupted flow by prohibiting left turns at the signal while requiring left turns and U-turns at a designated median break downstream of the signalized intersection.

Figure 4-1: Parkway Cross-Section



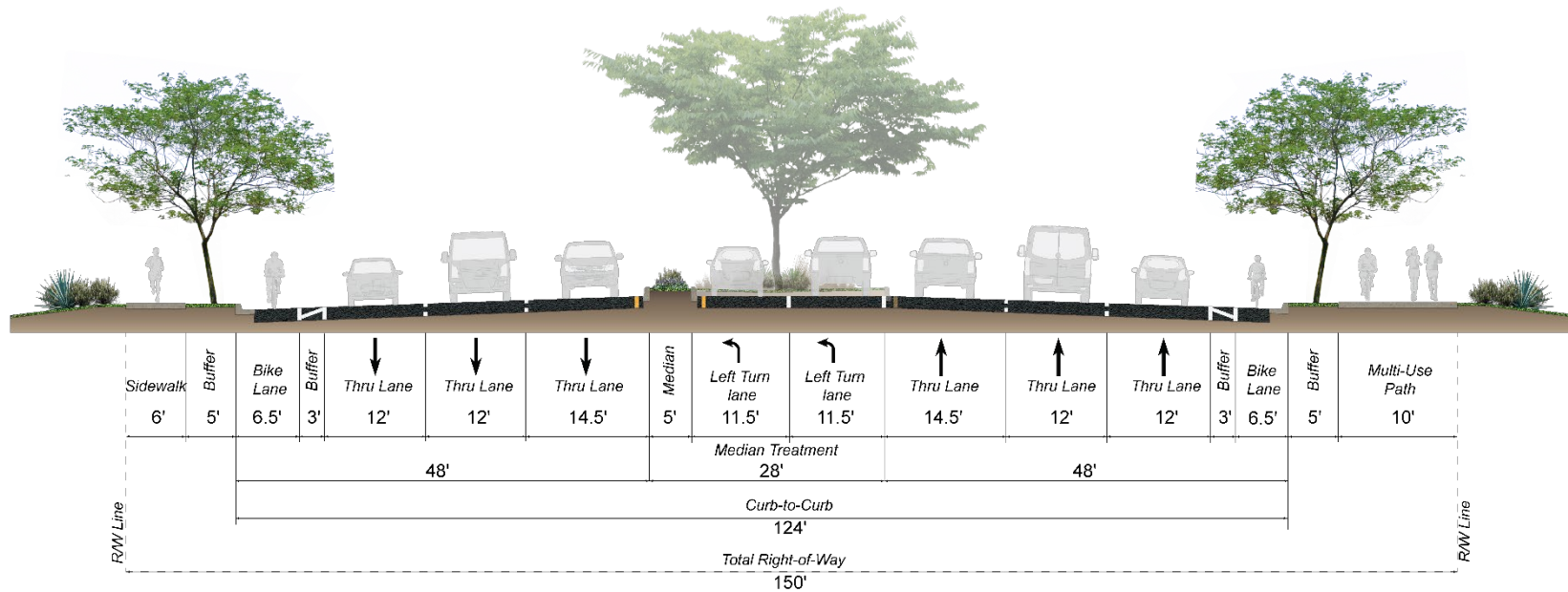
Typical Design Features				
Right-of-Way Width	Number of Lanes	Average Daily Traffic	Design Speed Limit	Posted Speed Limit
200 Feet	6 Lanes	70,000 ADT	55 MPH	50 MPH



4.2 Principal Arterial (Double Left Turn)

The Principal Arterial is often the most significant classification in that it carries the highest proportion of traffic in conventional urbanized areas. In a small urban area context like Florence however, these facilities can be limited in number and extent. A Principal Arterial often supports the largest volumes of traffic at higher speeds, but also serves through travel and to large employment of activity centers. These trip characteristics tend to be longer trip lengths. Principal Arterials are either fully or partially access controlled. This Principal Arterial supports dual left turn lanes in each direction at signalized intersections.

Figure 4-2: Principal Arterial (Double Left Turn)

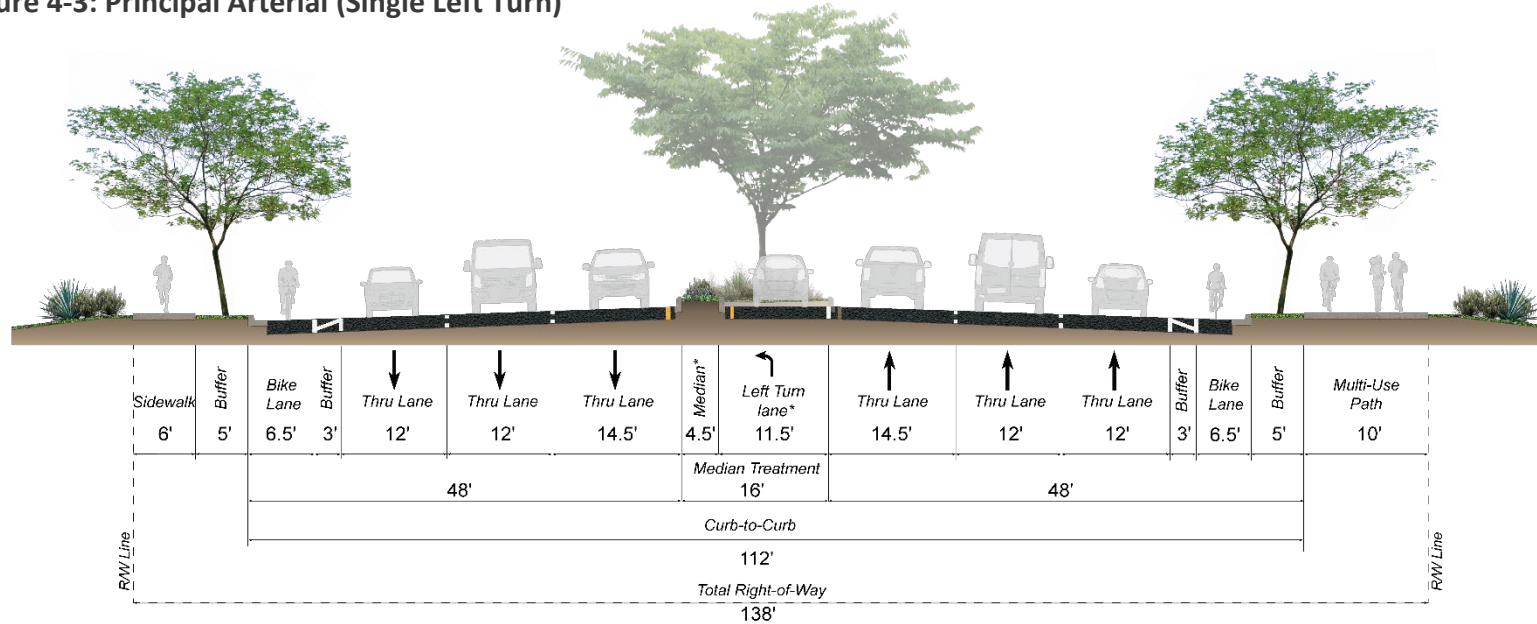


Typical Design Features				
Right-of-Way Width	Number of Lanes	Average Daily Traffic	Design Speed Limit	Posted Speed Limit
150 feet	6 Lanes (2 Turn Lanes)	45,000 – 50,000 ADT	45 – 55 MPH	40 – 45 MPH

4.1 Principal Arterial (Single Left Turn)

The Principal Arterial is often the most significant classification in that it carries the highest proportion of traffic in conventional urbanized areas. In a small urban area context like Florence however, these facilities can be limited in number and extent. A Principal Arterial often supports the largest volumes of traffic at higher speeds, but also serves through travel and to large employment of activity centers. These trip characteristics tend to be longer trip lengths. Principal Arterials are either fully or partially access controlled. This Principal Arterial supports single left turn lanes in each direction at signalized intersections.

Figure 4-3: Principal Arterial (Single Left Turn)



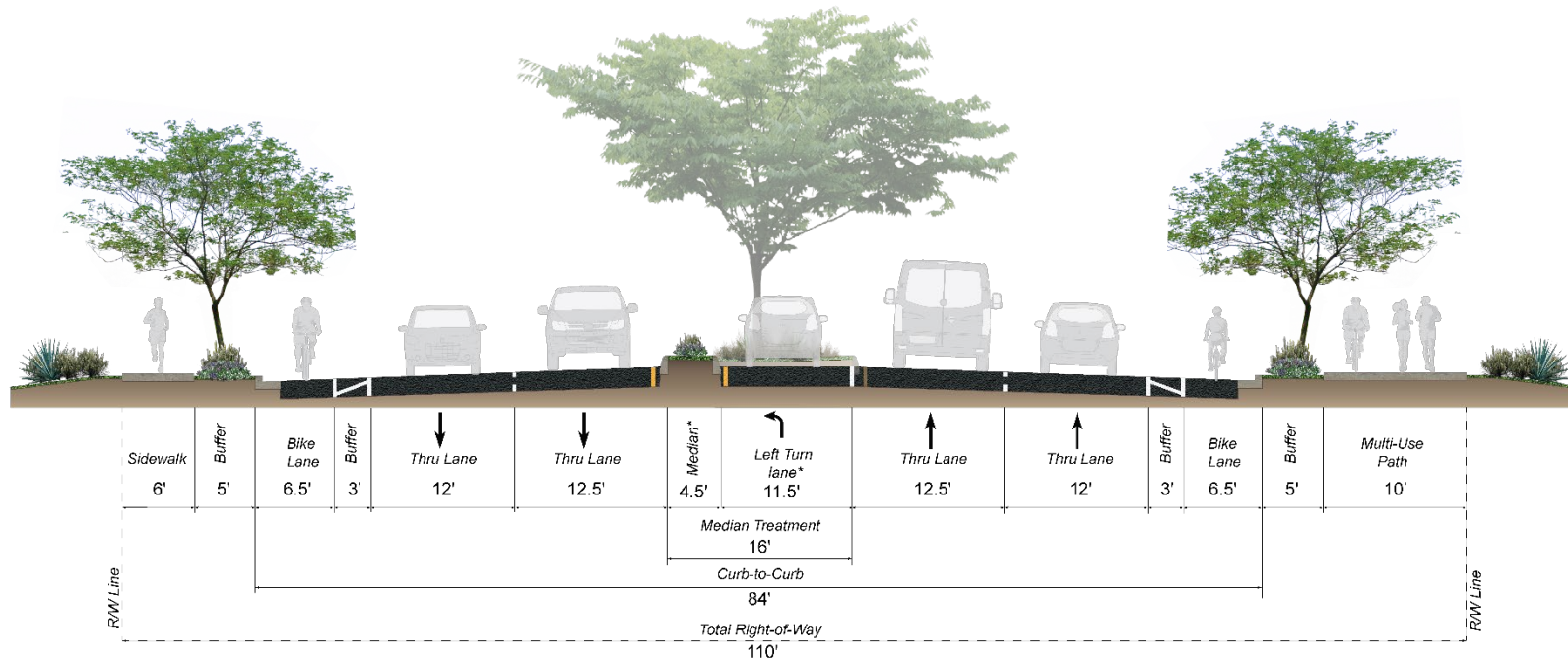
Typical Design Features				
Right-of-Way Width	Number of Lanes	Average Daily Traffic	Design Speed Limit	Posted Speed Limit
138 feet	6 Lanes (1 Turn Lane)	45,000 – 50,000 ADT	45 – 55 MPH	40 – 45 MPH



4.2 Minor Arterial

The Minor Arterial augments the Principal Arterial by serving moderately high daily traffic over shorter trip lengths. The Minor Arterial is a 4-lane facility. These roadways have more frequent driveway access to adjacent land uses and interconnect with collector roadway systems, serving trips or moderate length. Minor Arterials are the primary roadways on the Florence Functional Classification Plan 2040.

Figure 4-4: Minor Arterial Cross-Section



Typical Design Features				
Right-of-Way Width	Number of Lanes	Average Daily Traffic	Design Speed Limit	Posted Speed Limit
110 feet	4 Lanes (1 Turn Lane)	25,000 – 30,000 ADT	45 MPH	35 MPH

4.3 Collector Roadways

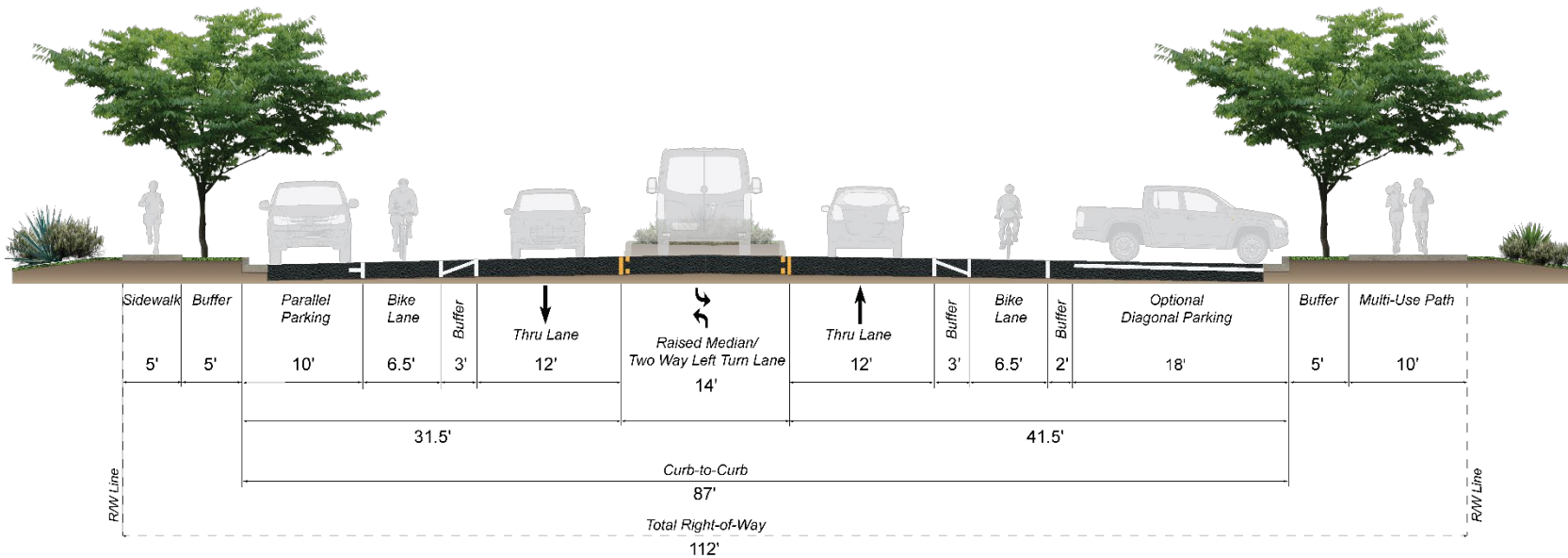
Collector roadways gather and channel traffic trips to and from arterial roadways and local streets. Collector roads commonly serve residential communities and employment core land uses. Depending upon the traffic and multimodal functions needs of the road, and density and intensity of the land uses it serves, there are three types of Collector roadways in Florence.



4.3a Enhanced Collector

As the name implies, the Enhanced Collector is applicable to serving residential and/or commercial land uses whereby there is an added need or emphasis on enhanced or expanded mobility needs. These include oversized shared use paths, bicycle lanes/buffers, and on-street parking. Land uses being served by an Enhanced Collector may offer a commercial core area, village, central business district, business park or other development project with mixture of land uses at higher densities/intensities and/or may be seeking a unique character of place through the enhanced use of street trees, hardscaped plazas, public art and mobility options.

Figure 4-5: Enhanced Collector Cross-Section



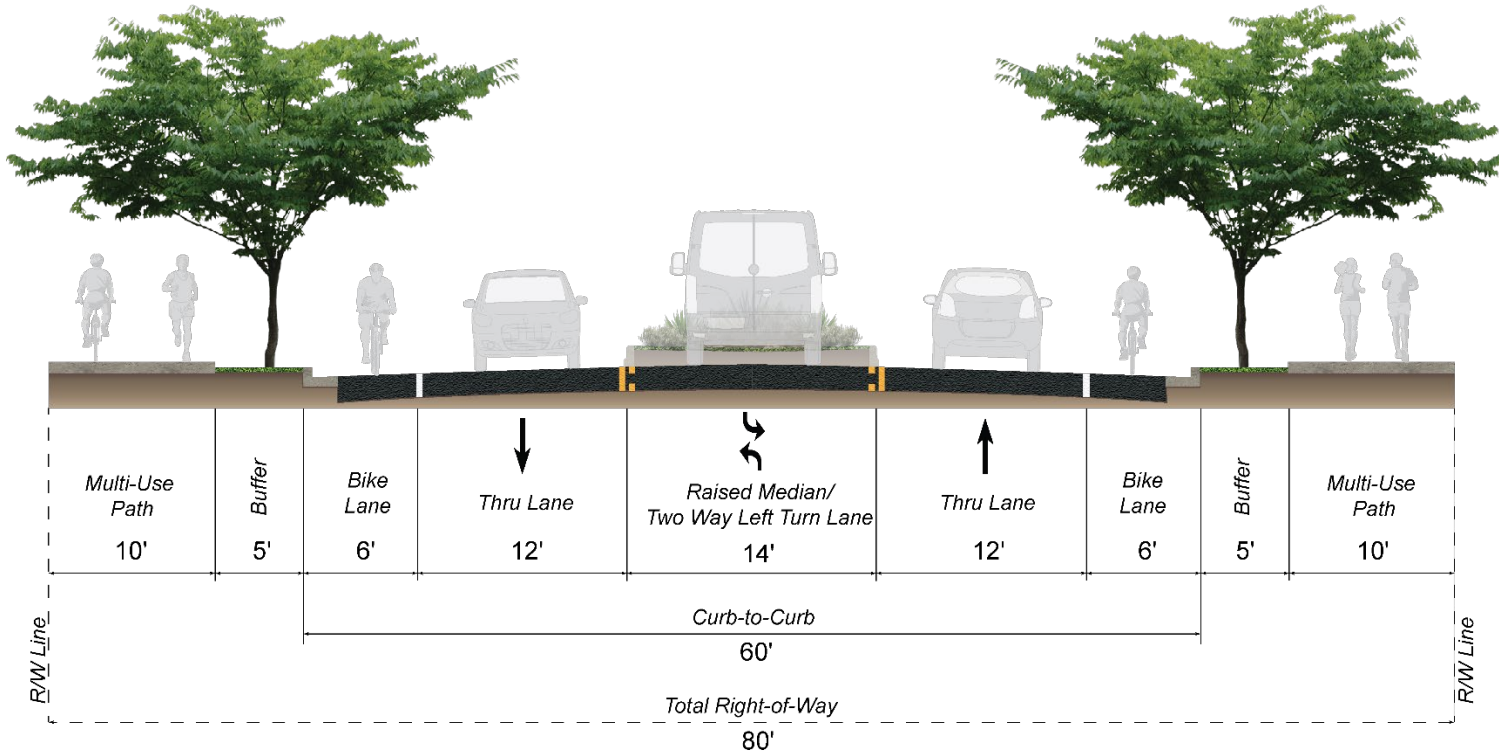
Typical Design Features				
Right-of-Way Width	Number of Lanes	Average Daily Traffic	Design Speed Limit	Posted Speed Limit
112 feet	3 Lanes	15,000 – 17,500 ADT	35 MPH	25 MPH



4.3b Major Collector

A conventional Major Collector roadway at 80-feet in right-of-way width provides connection from arterial streets to local streets over short distances and direct access to non-residential properties.

Figure 4-6: Major Collector Cross-Section



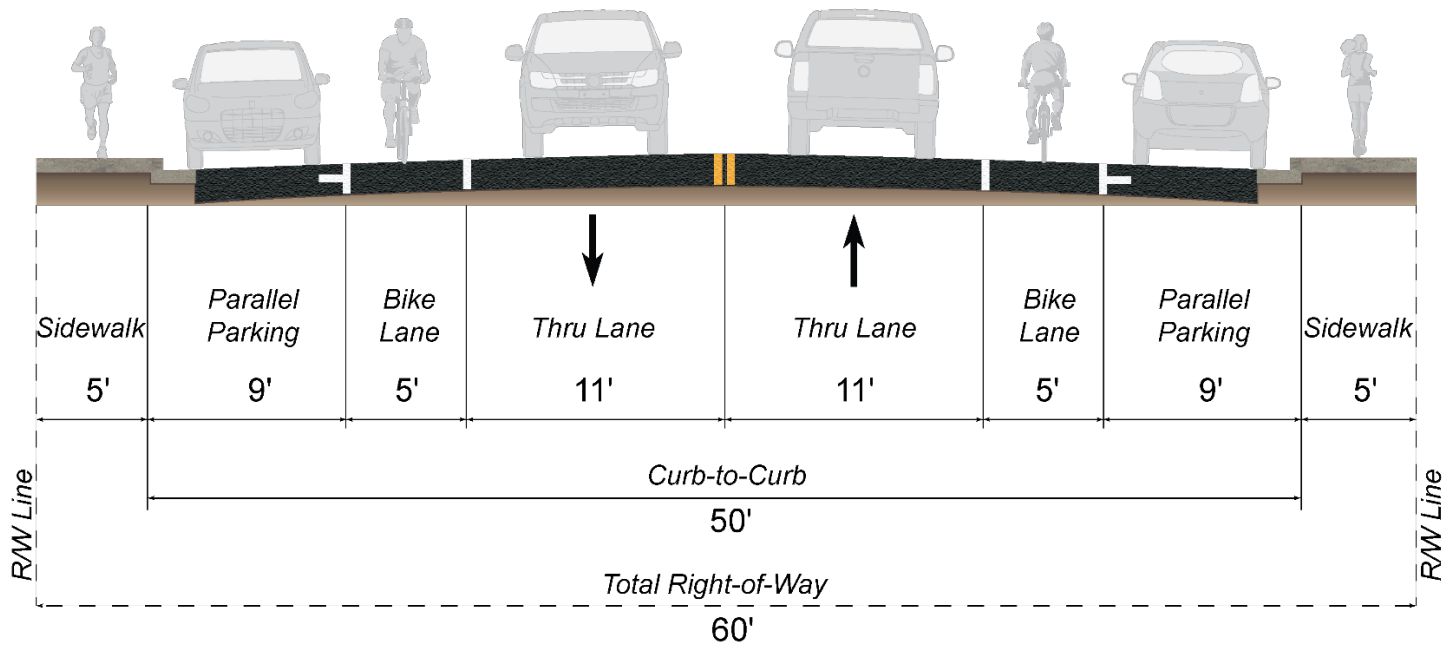
Typical Design Features				
Right-of-Way Width	Number of Lanes	Average Daily Traffic	Design Speed Limit	Posted Speed Limit
80 feet	3 Lanes	15,000 – 17,500 ADT	35 MPH	25 MPH



4.3c Minor Collector

The Minor Collector is primarily intended to serve short trips, provide direct access to private properties, and accommodate on street parking. The Minor Collector contains optional bicycle lane and reduced landscaping areas than the Major Collector roadway. There is no median area and travel lanes are 11-feet rather than 12-feet.

Figure 4-7: Minor Collector Cross-Section



Typical Design Features				
Right-of-Way Width	Number of Lanes	Average Daily Traffic	Design Speed Limit	Posted Speed Limit
60 feet	2 Lanes	12,500 – 15,000 ADT	35 MPH	25 MPH



4.4 Local Roadways

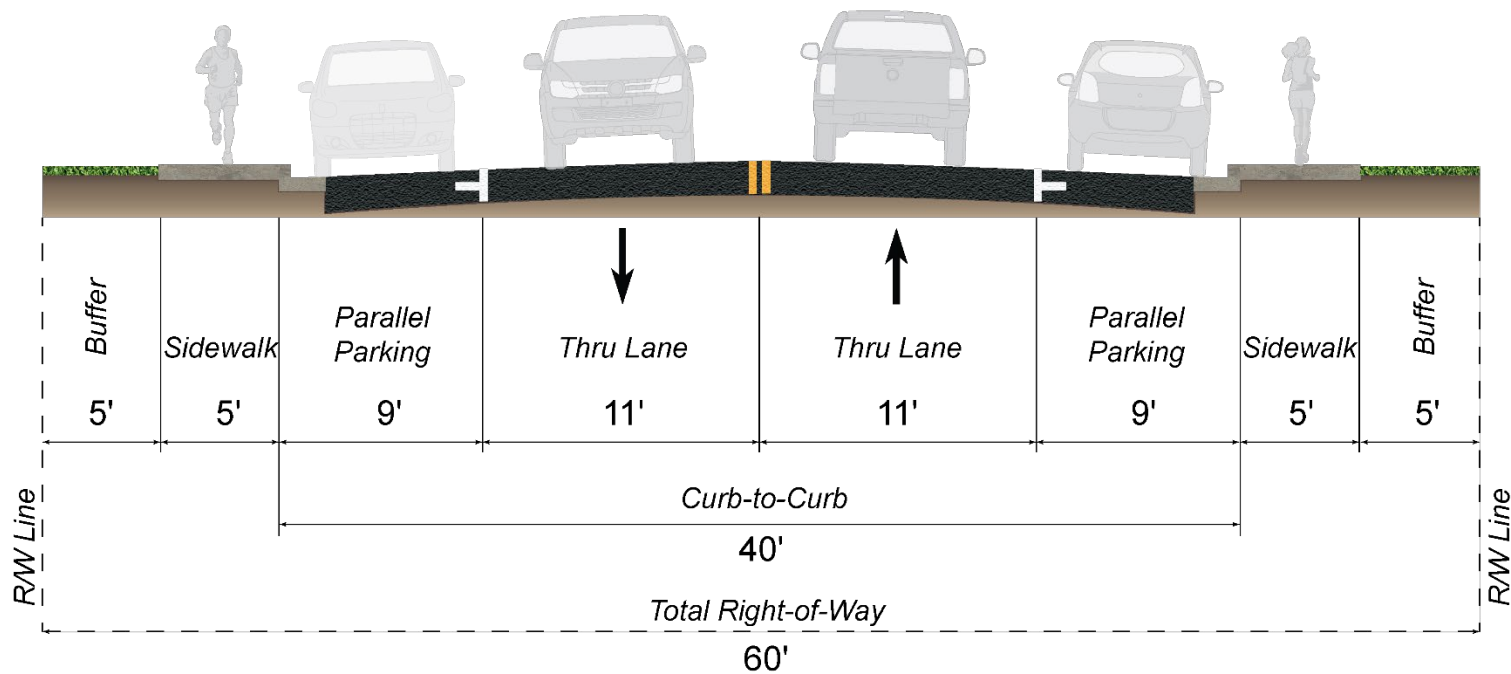
Local roadways are the most abundant type of road and is specifically designed to have high accessibility and to connect to collector and arterial roadways. Local roads are also typically designed to support slow speed travel and to discourage through traffic. Local roads typically only serve residential land uses and accommodate on street parking within the curb-to-curb pavement section. There are typically no on street bicycle facilities on local roads due to the slower travel speeds of the vehicles.



4.4a 60-Foot Local

The 60-foot local road is not intended to support long distance travel or high-speed vehicles. This local road is designed to provide direct access to adjacent land uses as the origin or destination. The 60-foot local road is designed to accommodate on street parking on both sides of the roadway. The landscape buffer can be placed between the curb and the sidewalk to separate vehicles from sidewalk users, or the buffer can be placed between the sidewalk and the adjacent land use to provide a greater distance between the road and adjacent land uses.

Figure 4-8: 60-Foot Local Road Cross-Section



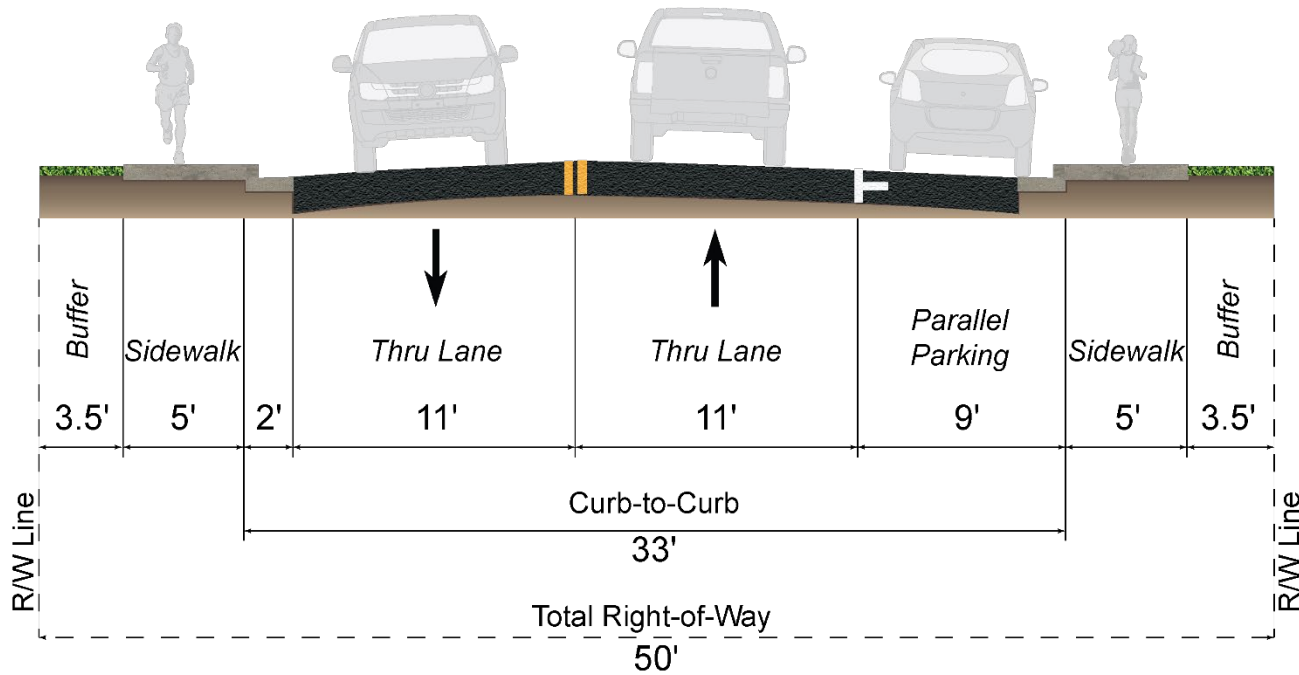
Typical Design Features				
Right-of-Way Width	Number of Lanes	Average Daily Traffic	Design Speed Limit	Posted Speed Limit
60 feet	2 Lanes	5,000 – 7,500 ADT	35 MPH	25 MPH



4.4b 50-Foot Local

The 50-foot local road is not intended to support long distance travel or high-speed vehicles. This local road is designed to provide direct access to adjacent land uses as the origin or destination. The 50-foot local road is designed to only accommodate on street parking on one side of the roadway. This type of local road would be applied when residential land uses only exist on one side of the road.

Figure 4-9: 50-Foot Local Road Cross-Section



Typical Design Features				
Right-of-Way Width	Number of Lanes	Average Daily Traffic	Design Speed Limit	Posted Speed Limit
60 feet	2 Lanes	5,000 – 7,500 ADT	35 MPH	25 MPH



5.0 FUNCTIONAL CLASSIFICATION MAP 2040

Adjustments to the existing Functional Classification system are largely derived from the analysis and results of the projected growth and travel demand modeling results described in Section 3. In some instances, the newly recommended Functional Classification system includes a potential reduction in an existing (2008) Functional Classification, adjustment in an alignment or addition/modification of bicycle and/or pedestrian facility types, or the addition or elimination of roadway facilities altogether.

The following is a summary of the changes recommended in the Functional Classification 2040 that is shown in **Figure 5-1**.

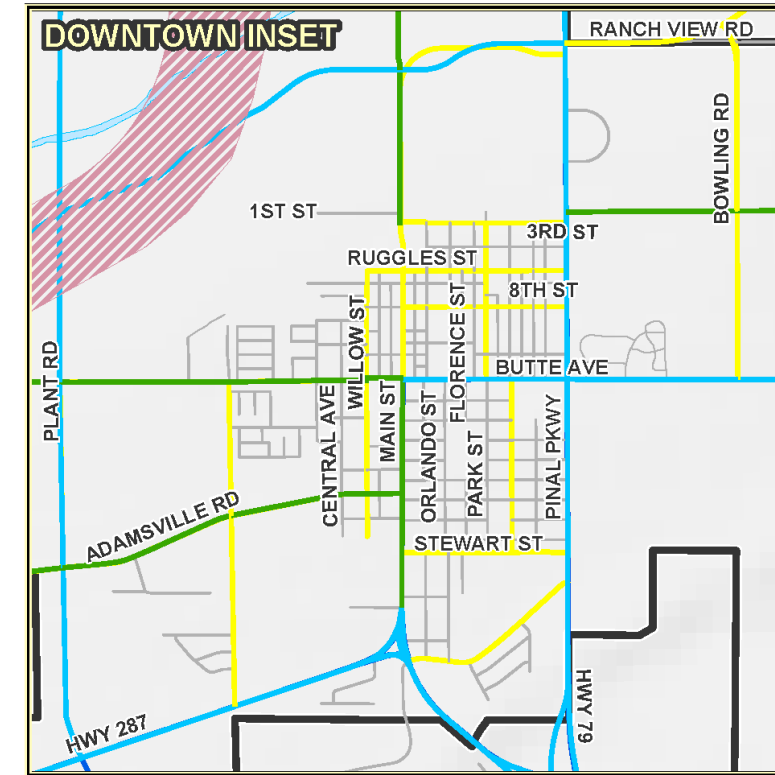
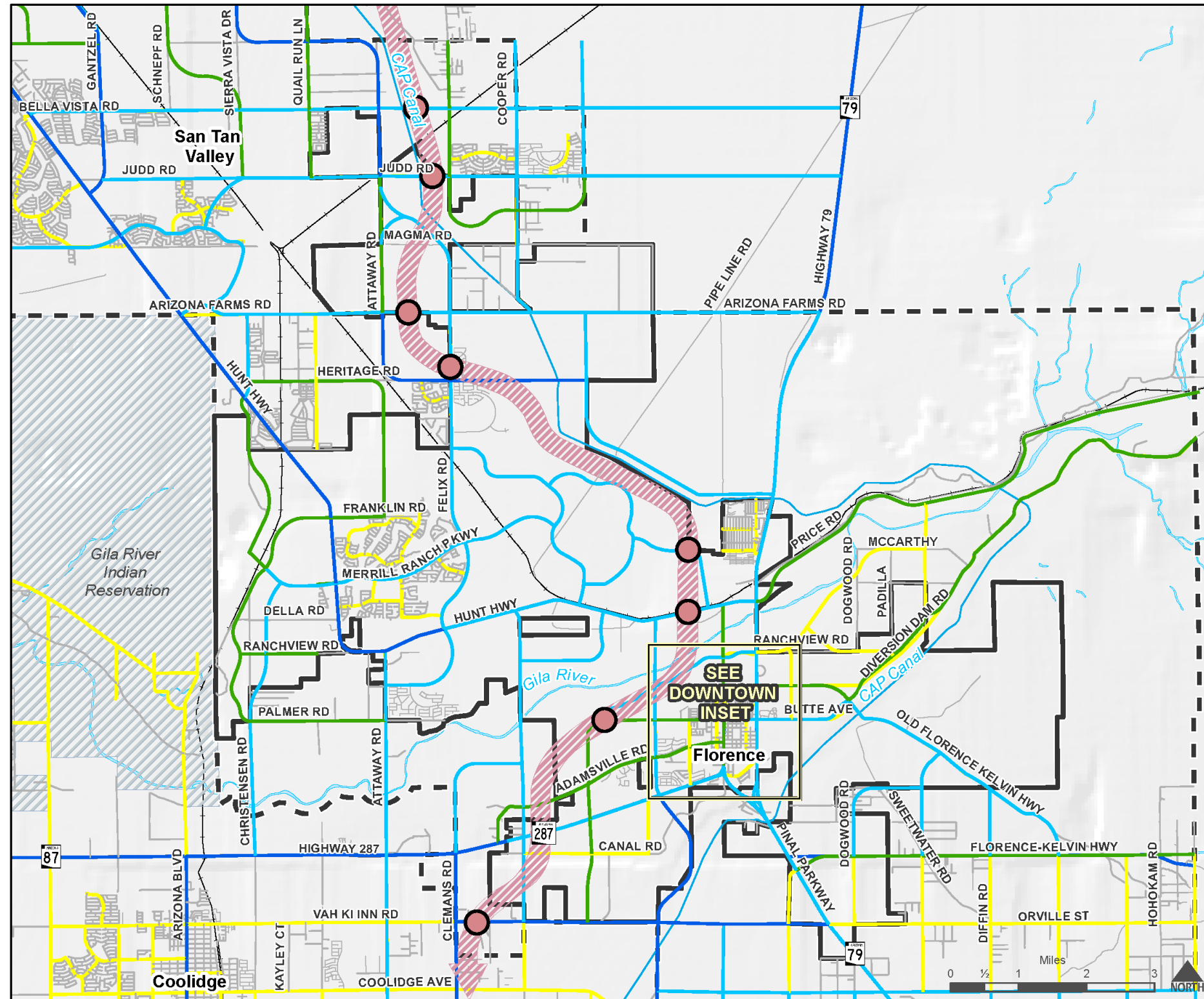
- 1) The former Functional Classification of “Major Arterial” is now preferred as a “Principal Arterial”.
- 2) Orville Street is recommended as a Minor Collector (formerly Minor Arterial).
- 3) Christensen Road (alignment) through the Walker Butte PUD is recommended as a Major Collector (formerly Minor Arterial).
- 4) Elimination of existing Minor Collector circular network near Canal St. in favor of new roadway connection/alignment in this area.
- 5) Realignment of a Cooper Road southern extension just north of Arizona Farms Road, traversing south and east to its intersection with SR 79. This modification also includes the elimination of approximately 6.5 miles of Major Arterial roadways that were unnecessary and/or redundant.
- 6) Designate Heritage Road as a Minor Arterial (formerly Major Collector) and coordinate with Pinal County to identify this roadway as a Regionally Significant Roadway for Safety and Mobility instead of Hiller Road that currently carries this designation.
- 7) Eliminate the curvilinear extension of Attaway Road north of Hunt Highway.
- 8) Downgrade Felix Road, north Judd Road from a Major Arterial to a Major Collector with a 2040 LOS A or better with approximately 1,400 to 5,000 ADTs.
- 9) Downgrade Attaway Rd. north of Arizona Farms Rd. from a Major Arterial to a Major Collector that performs at a 2040 LOS B or better with 5,000 to 10,000 ADTs.
- 10) Downgrade River Road from a Minor Arterial to a Major Collector and modify the roadway network in this immediate area to improve efficiency and eliminate roadway redundancy. See **Figure 5-1**.
- 11) Downgrade Bella Vista Road from a Major Arterial to a Minor Arterial that performs at a 2040 LOS of B or better.
- 12) Downgrade Arizona Farms Road from a Major Arterial to a Minor Arterial that performs at a 2040 LOS of B or better.
- 13) Downgrade Hunt Highway east of Attaway Road from a Major Arterial to a Minor Arterial that performs at a 2040 LOS C or better on all segments except for 1 (LOS D). Hunt Highway west and north of Attaway road will be maintained as a Principal Arterial.
- 14) Downgrade Highway 287 from a Major Arterial to a Minor Arterial that performs at a 2040 LOS B or better with approximately 5,900 to 13,000 ADTs.



- 15) Downgrade Attaway Road south of Hunt Highway from a Major Arterial to a Minor Arterial that performs at a 2040 LOS C or better with approximately 19,000 to 24,000 ADTs.
- 16) Downgrade Attaway Road from Arizona Farms Road to Judd Rd. from a Major Arterial to a Major Collector that performs at a 2040 LOS of B or better.
- 17) Downgrade State Highway 79 from a Major Arterial to a Minor Arterial that performs at a 2040 LOS B or better for the vast majority of segments (a few segments perform at LOS C).
- 18) Downgrade Adamsville Road from a Minor Arterial to a Major Collector that performs at a 2040 LOS of B or better with 3,200 to 7,000 ADTs.
- 19) Downgrade Felix Road from Hunt Highway north to Arizona Farms Road from a Major Arterial to a Minor Arterial that performs at a 2040 LOS B or better with approximately 5,000 to 15,000 ADTs.
- 20) Downgrade the Florence-Kelvin Highway from a Major Arterial to a Major Collector that performs at a 2040 LOS B or better with 2,300 to 6,700 ADTs.
- 21) Downgrade Cooper Rd., between Judd Rd. and Arizona Farms Rd, from a Major Arterial to a Minor Arterial that performs at a 2040 LOS A or better with approximately 5,500 to 9,600 ADT's.
- 22) Downgrade Palmer Rd. between Christensen Rd. and Attaway Rd. from a Major Arterial to a Major Collector with a 2040 LOS A or better with approximately 2,700 ADT's.
- 23) Downgrade seven (7) north-south roadways connecting Florence-Kelvin Highway to Cactus Forest Road (including Dogwood Rd., Diffin Rd., Hohokam Rd. etc.) from Minor Arterials to Minor Collectors.
- 24) Downgrade Plant Rd. from River Rd. to Hwy 287 from a Major Arterial to a Minor Arterial.



Figure 5-1: Roadway Functional Classification 2040



Legend

- Town of Florence Municipal Limits
 - Town of Florence Planning Boundary
 - Tribal Lands
 - U.S. Highway / State Route
 - Local Road
 - Railroad
 - Washes
 - Central Arizona Project (CAP)
 - Proposed Interchange
 - Proposed North/South Corridor Alignment
- Functional Classification**
- Principal Arterial
 - Minor Arterial
 - Major Collector
 - Minor Collector

5.1 Truck Routing Plan

As **Figure 5-2** illustrates, the Florence Transportation Planning Study has identified a designated truck route network in the Town of Florence. In support of the existing and future planned commercial, agricultural and employment-related land uses, including mission support of the Florence Military Reservation, a series of designated truck routes are recommended. The ADOT state highway system roadways that serve Florence and connect the town to the region are the primary facilities used by commercial trucks today and tomorrow. It is necessary to support the state highways by establishing greater connectivity between the state highways and to nearby planned employment uses. The following Town of Florence roads and ADOT state highways are hereby identified as designated truck routes:

Hunt Highway

SR 287

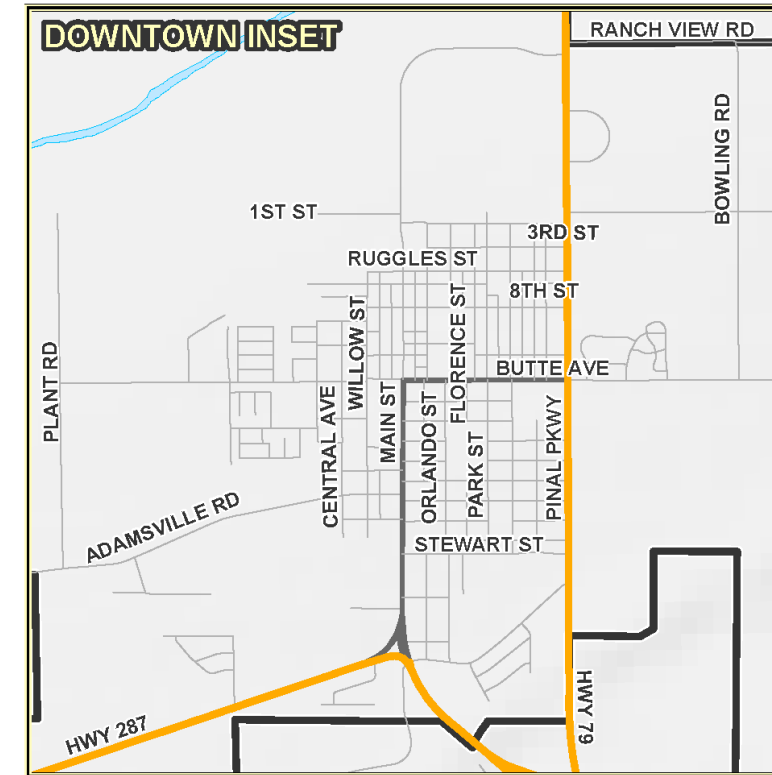
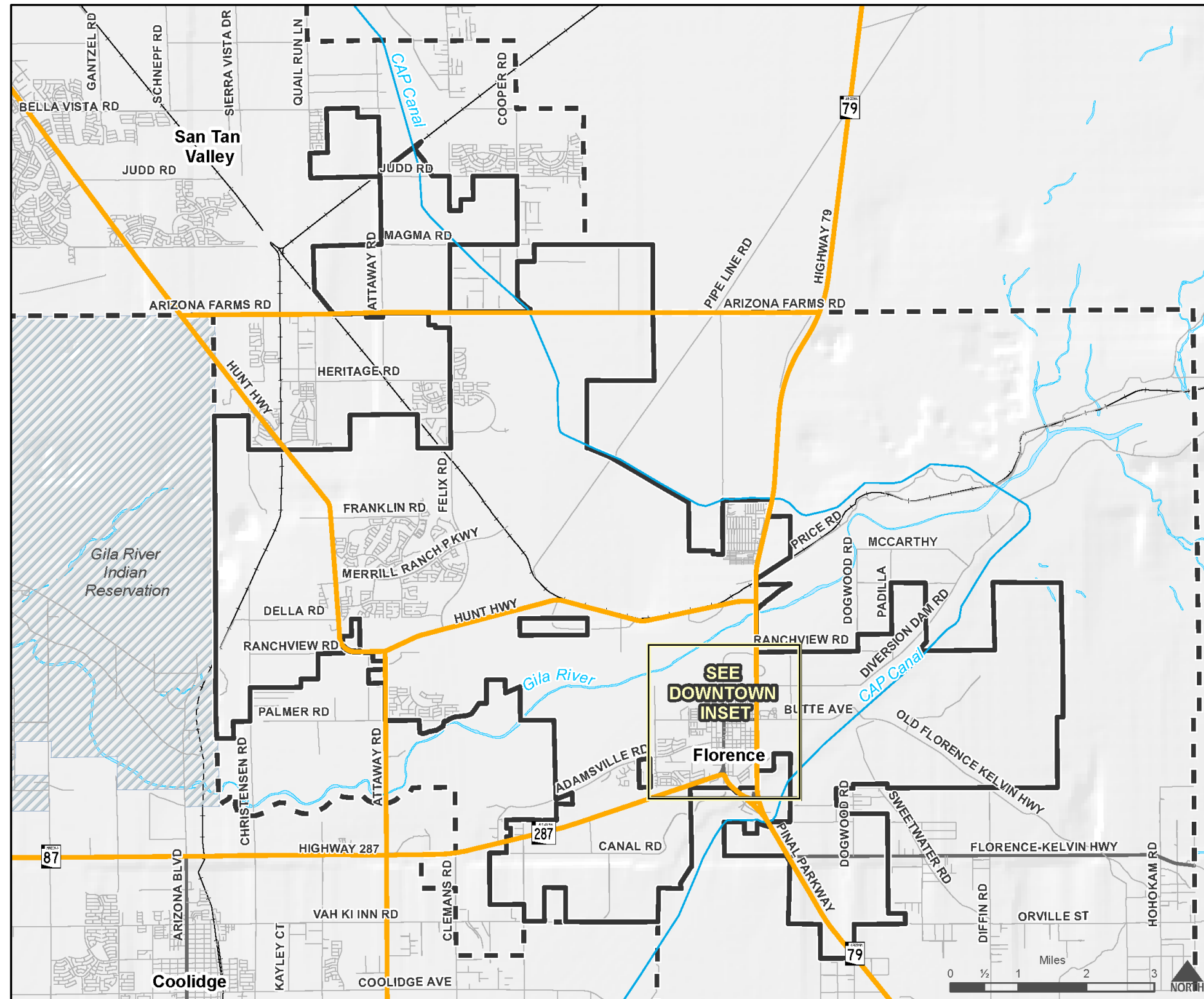
SR 79

Attaway Rd.

Arizona Farms Road



Figure 5-2: Truck Routing Plan



Legend

- Town of Florence Municipal Limits
- Town of Florence Planning Boundary
- Tribal Lands
- U.S. Highway / State Route
- Local Road
- Railroad
- Washes
- Central Arizona Project (CAP)
- Truck Route



These designated truck routes are also supported by the following policies:

- 1) Ensure adequate pavement section and other roadway design specifications such as turning radii and safety measures to accommodate heavier truck loading in order to minimize premature degradation of the roadway and enhance safety and performance of the roadway;
- 2) Ensuring that appropriately designed infrastructure is efficiently constructed and maintained to support and promote continued employment opportunities and economic growth in Florence;
- 3) Providing appropriate roadway signage designating the truck route to bring additional awareness to the community and reinforce local driver behavior by dispersing general trips to alternate routes if possible.

Per ADOT, the maximum load limits for trucks on Arizona state highway system (without having to obtain a Class C oversize permit) includes the following:

Length: Anything over 65 feet in length overall requires a permit on non-designated highways.

Overhang: 3 feet in the front and 6 feet off of the rear of trailer maximum (make sure your route is approved for overhang as there are location variations).

Weight: 80,000 pounds overall (GVW), 12,000 pounds on steer axle

Width: 8 feet and 6 inches wide maximum

Height: 14 feet maximum on interstates and 13 feet and 6 inches in height on secondary roads

Source: ADOT



6.0 RECOMMENDED ROADWAY IMPROVEMENTS

Based on discussions with the Town of Florence personnel, projected 2040 traffic volumes obtained from MAG and the 2040 no-build LOS of the roadway segments, and technical analysis of the existing roadway framework, a variety of roadway improvements are identified. First, paving of existing unpaved roadways and capacity improvements of significant corridors are discussed. This discussion is followed by a summary of other capacity improvements as derived from the results of the travel demand model for existing roadways that experience a LOS of E or F is located in **Table 6-1**.

6.1 Paving of Existing Unpaved Roadway Gaps

Judd Road – Judd Road within the Florence Town Limits is currently paved as a two-lane roadway adjacent to Nevitt Farms (SRP), continuing to the west 3 miles to access two Pinal County residential subdivisions. Judd Road remains unpaved for approximately 3.5 miles in the Florence Municipal Planning Area from Hunt Highway to its existing terminus at Quail Run Lane. Since this unpaved road is currently within Pinal County jurisdiction, a recommendation for future paving will be long term and in conjunction with possible future annexation and or development activity in the area.

Heritage Rd. – Recognized as a longer-term reality due to its current Pinal County jurisdiction, paving Heritage Rd. will provide enhanced east-west connectivity. It is worth noting that the Pinal County RSRS plan identifies Hiller Rd. (one mile south of Heritage Rd.) as a regionally significant route. Analysis of existing land uses in this plan suggest that the existing mining operation along the Hiller Rd. alignment presents a significant physical obstacle to Hiller Rd. serving as a regionally significant route. It is therefore suggested that Heritage Rd. serve as a regionally significant route to compliment Arizona Farms Rd. (one mile to the north) as there are no opportunities for additional east-west roadways until Merrill Ranch Parkway 3 miles to the south.

6.2 Capacity Related Roadway Improvements

North – South Corridor – As introduced in WP#1, the North-South Corridor will offer regional connectivity from US 60 to the north to I-10 to the south. Though the final alignment is not finalized through the Federal environmental review process, it is likely that this facility will traverse through the central portions of Florence. As such, the North-South Corridor will alter the circulation network in Florence and the region. For purposes of the Florence Transportation Study, it is recognized that the initial two-lane facility is intended to be constructed with Pinal County RTA funding. The Town of Florence will not construct this facility, but is recognized in this report as a high priority unpaved/planned roadway recommended for construction.



River Road/Butte Street – Previously identified as two separate planned roadway facilities within close proximity of one another, it is recommended that the existing planned roadway network in the immediate area just west of downtown (originating from the Florence Northend Framework Study) be refined to a hybrid serving this immediate area. The current and future condition travel demand model and planned land uses in the area together suggest that this existing planned network of both River Road and Butte extension yield a surplus of roadway capacity and thus not necessary to adequately service the area.

Capacity related roadway improvements recommended from the results of the travel demand model are found in **Table 6-1** below:

Table 6-1: 2040 Roadway Improvement Recommendations/Operations

Roadway Segment	2040 No-Build		2040 Built	
	# of Lanes	LOS	# of Lanes	LOS
Judd Rd – Quail Run Rd to Attaway Rd	2	E	4	B
Quail Run Rd – Judd Rd to 0.5 miles North	2	E	4	B
Hunt Hwy – Stone Creek Dr. to Paseo Fino Way	2	F	6	C
Hunt Hwy – Paseo Fino Way to Bella Vista Rd	3	E	6	B
Hunt Hwy – Bella Vista to Arizona Farms Rd	2	F	6	B
Hunt Hwy – S of Arizona Farms Rd to Mirage Ave	2	E	4	B
Hunt Hwy – Mirage Ave to Franklin Rd	2	F	4	C
Hunt Hwy – Fire Station #2 to Attaway Rd	2	F	4	C
SR 79 – Gila Dr to Hunt Hwy	2	F	4	C
SR 79 – Hunt Hwy to Ranch View Rd	2	F	4	D
SR 79 – Ranch View Rd to 1 st St	2	F	4	C
Attaway Rd – South of Hunt Hwy	2	F	4	C

6.3 Town of Florence CIP (FY 2018-2019) Roadway Improvements

As the recommendations to modify various Functional Classifications may have an impact on future programmed CIP projects, additional discussion and analysis with the TAC to compare the Functional Classification findings and CIP projects is necessary prior to the application of evaluation criteria and prioritization of projects. Below is a listing of current Town of Florence CIP project relating to increasing roadway capacity.

- 1) Roundabout/Intersection Improvement SR 79 & SR 287 (Project # T-14) - \$100,000 CIP funding for design in FY 2018-2019 and \$1,096,074 in CIP funding for construction in FY 2019-2020 & (2nd line item) \$403,926 in FY 2019-2020, \$2,155,490 in FY 2010 – 2021.



- 2) Hunt Hwy. Phase 1 Improvements at Franklin Road (Phase 1) (Project # T-65) - \$40,000 in CIP funding FY 2019-2020 and \$648,000 in FY 2020-2021.
- 3) Hunt Hwy. 2 Reconstruction North of Franklin Rd. (Phase 2) (Project # T-72) - \$800,000 CIP funding in FY 2018-2019.
- 4) Hunt Hwy. 2 Land Reconstruction (2,000 West of SR 79 to SR 79) (Phase 3) (Project # T) - \$550,000 CIP funding in FY 2022/2023.
- 5) Florence Gardens Phase 4 Street Improvements (Project # T-08) - \$1,000,000 CIP funding in FY 2018-2019.
- 6) Florence Gardens Phase 5 Street Improvements (Project # T-09) - \$1,000,000 CIP funding in FY 2018-2019.
- 7) East 1st Street Pavement (Project # T-60) - \$600,000 CIP funding in FY 2018-2019.
- 8) Centennial Park Ave (Butte Ave. to SR 287) (Project #T-48) - \$76,000 in CIP funding FY 2020-2021 and \$1,600,000 in FY 2021-2022.
- 9) Hunt Hwy. (Town Limits to SR 79) (Project #T-52) - \$1,284,000 in CIP funding in FY 2019-2020.
- 10) Desert Color Parkway (Hunt Hwy to Felix Rd.) (Phase 1) (Project # T-53) - \$138,000 in CIP funding FY 2019-2020 and \$1,160,000 in 2020-2021.
- 11) Walker Butte Parkway (Phase 1) (Project # T-54) - \$400,000 in CIP funding FY 2019 – 2020 and \$4,000,000 in FY 2020-2021.
- 12) Florence Heights Rd. (Main to SR 79) (Project # T-55) - \$30,000 in CIP funding FY 2019-2020, \$1,284,000 in FY 2020-2021, and \$300,000 in FY 2021-2022.
- 13) Attaway Rd./Hunt Hwy Intersection Improvements (Project # T-62) - \$700,000 in CIP funding FY 2018-2019.



7.0 RECOMMENDED INTERSECTION & SAFETY IMPROVEMENTS

As previously noted in Working Paper #1, the Town of Florence is fortunate to not have had significant safety challenges (via statistical analysis) on its roadways. Both statistical and anecdotal evidence suggest that speeding is generally not a frequent or habitual problem and the crash analysis results suggest that there is no particular intersection(s) that experience a significant number or trend of crashes.

Recommended intersection improvements within the Town of Florence are based on investigations and evaluation of experiences by Town of Florence staff, consultant field investigations, safety concerns deduced from the crash data and volume to capacity analysis of the projected 2040 traffic volumes. Please refer to **Figure 7-1** for illustration of the recommended intersection improvements described herein. **Table 7-1** summarizes the recommended improvements in a tabular format. Recommended intersection and/or safety related improvements are described below.

Hunt Highway and Felix Road is an incomplete road section with poor lighting. The stop bar on Felix Road is too far removed from the intersection. Improve sight visibility, refresh pavement marking. It is recommended to install lighting at this intersection to improve safety.

Hunt Highway and Arizona Farms Road is a three-legged intersection with one lane in each direction on Hunt Highway and one lane in each direction on both Hunt Highway and Arizona Farms Road. This intersection is elevated and has a tight radius on the southeast corner. There is no curb, gutter, sidewalk or roadway lighting in the vicinity of this intersection. Town of Florence personnel indicated that they receive numerous complaints regarding this intersection. It is recommended to reevaluate the curb radii at the intersection and likely increase the radius at the southeast corner of the intersection. Recommend installation of lighting and refresh pavement marking.

Felix Road and Judd Road is multi-jurisdictional, with Judd Road under Pinal County and Felix Road under Town of Florence. No lighting exists on the west side of Felix Road or on Judd Road. Intersection improvements and roadway lighting are recommended on Felix Road and on Judd Road.

Hunt Highway and Attaway Road intersection has been recently signalized. This intersection has sight visibility issues. Intersection improvements are recommended to improve sight visibility/safety, northbound right-turn lane on Attaway Road, signing and striping (FY 2018/2019).

Hunt Highway and SR 79 experiences heavy eastbound right-turn traffic volumes. A traffic signal warrant analysis is completed, traffic signal will be installed. Intersection improvements, including installing an eastbound right-turn lane, restriping the intersection and installing rumble strips, are recommended to improve the capacity. (FY 2018/2019 and 2019/2020)

SR 287 and Attaway Road is a multi-jurisdictional intersection. This intersection is owned and maintained by Town of Coolidge, however, Town of Florence responds to the crashes due to the



Town’s close proximity. Per Town’s personnel, this intersection has the highest crash rate within Pinal County. An enhanced education and enforcement campaign may help in improving the safety at this intersection. It is recommended to complete an Roadway Safety Assessment (RSA) at this intersection.

SR 79 and SR 287 has capacity and driver orientation challenges. A new roundabout is currently in the design phases (FY 2018/2019 and 2019/2020)

Hunt Highway and Bella Vista Road has had 240 crashes in the last five years, including two fatal crashes and 59 injury crashes. 60 of the 240 crashes were rear end collisions and 81 were left-turn crashes. It is recommended to conduct an RSA at this intersection, review signal timing, clearance intervals and left-turn phasing.

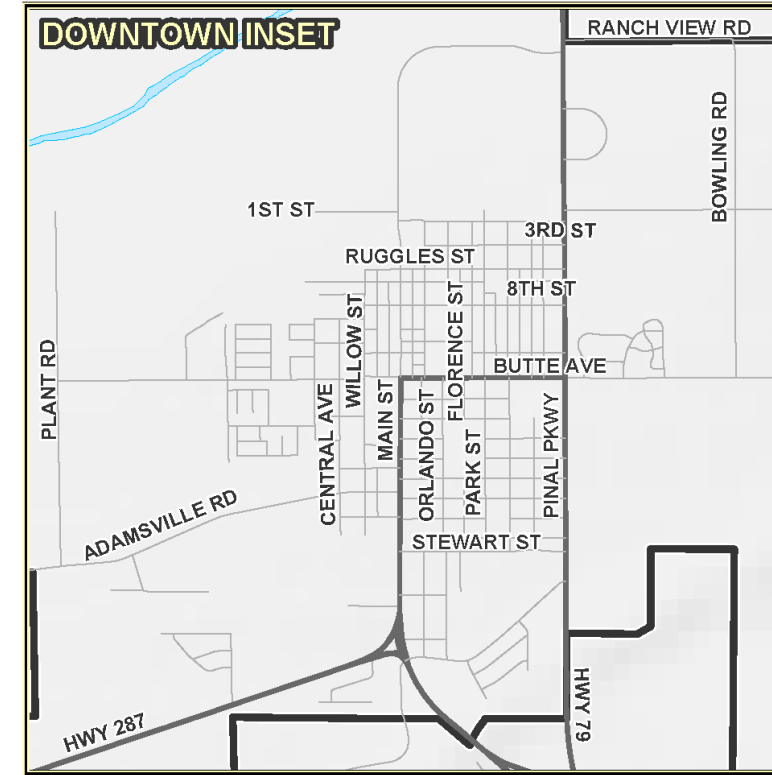
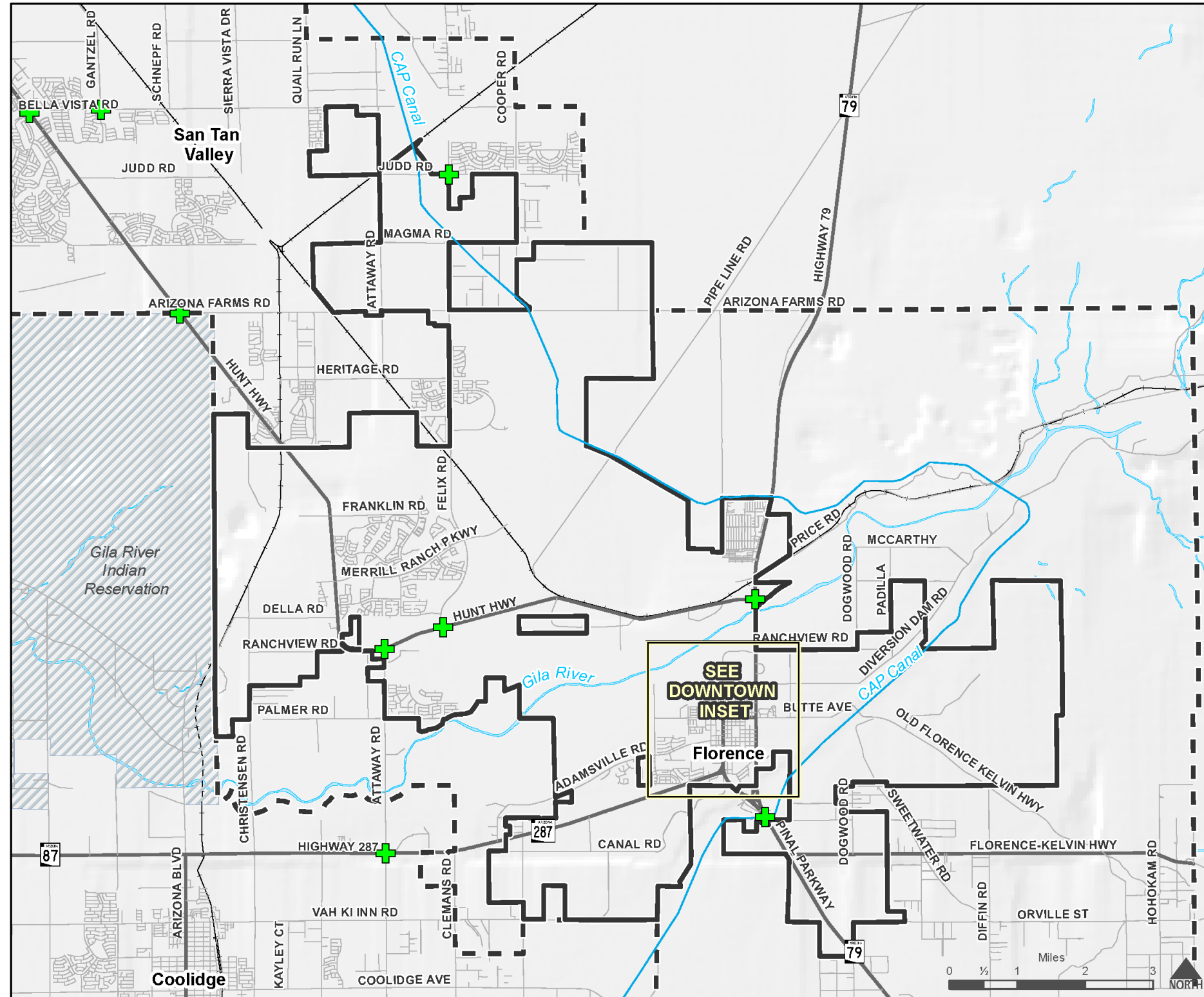
Bella Vista Road and Gantzel Road had 88 crashes in the last five years with one fatality and 26 injury crashes. 52 of the 88 were rear end collisions. It is recommended that an RSA be conducted at this intersection, review signal timing and clearance intervals.

Table 7-1: Summary of Recommended Intersection Improvements

INTERSECTION	CONCERN	RECOMMENDATION
Hunt Hwy/Felix Rd	Incomplete Intersection, poor lighting, sight visibility	Install lighting at the intersection, refresh painting, install edge lines, intersection improvements to increase visibility
Hunt Hwy / Arizona Farms Rd	Elevated intersection, no lighting, tight radius	Reevaluate radii, install lighting, refresh pavement marking
Felix Rd / Judd Rd	Lighting, sight visibility	Intersection improvement to improve sight visibility, lighting on the west side of Felix Rd and on Judd Rd
Hunt Hwy / Attaway Rd	Sight visibility, high northbound right-turn volumes	Install a northbound right-turn lane, install stop bars/crosswalks, refresh striping
Hunt Hwy / SR 79	Heavy eastbound right-turn traffic volumes, safety	Install an eastbound right-turn lane, install a traffic signal, restripe the intersection, install rumble strips
SR 287 / Attaway Rd	High number of crashes, education and enforcement issues	Complete an RSA
SR 79 / SR 287	Capacity issues	Roundabout is in the design phases
Hunt Hwy / Bella Vista Rd	Safety - high number of crashes, lot of rear ends and left-turns	Complete an RSA, evaluate left-turn phases, review signal timing and clearance intervals
Bella Vista Rd / Gantzel Rd	Safety – high number of crashes, lot of rear ends	Complete an RSA, review signal timing and clearance intervals



Figure 7-1: Intersection and Safety Improvements



Legend

- Town of Florence Municipal Limits
- Town of Florence Planning Boundary
- Tribal Lands
- U.S. Highway / State Route
- Local Road
- Railroad
- Washes
- Central Arizona Project (CAP)
- Intersection Improvement Location



8.0 EXISTING AND PLANNED BICYCLE FACILITIES

As documented in Working Paper #1, Florence currently has a limited inventory of existing bicycle facilities (bicycle lane and/or multi-use paths). The existing bicycle facility infrastructure is limited to the collector roadways serving Anthem at Merrill Ranch, limited segments of Hunt Highway and the existing paved shoulders along the ADOT state highways serving Florence.

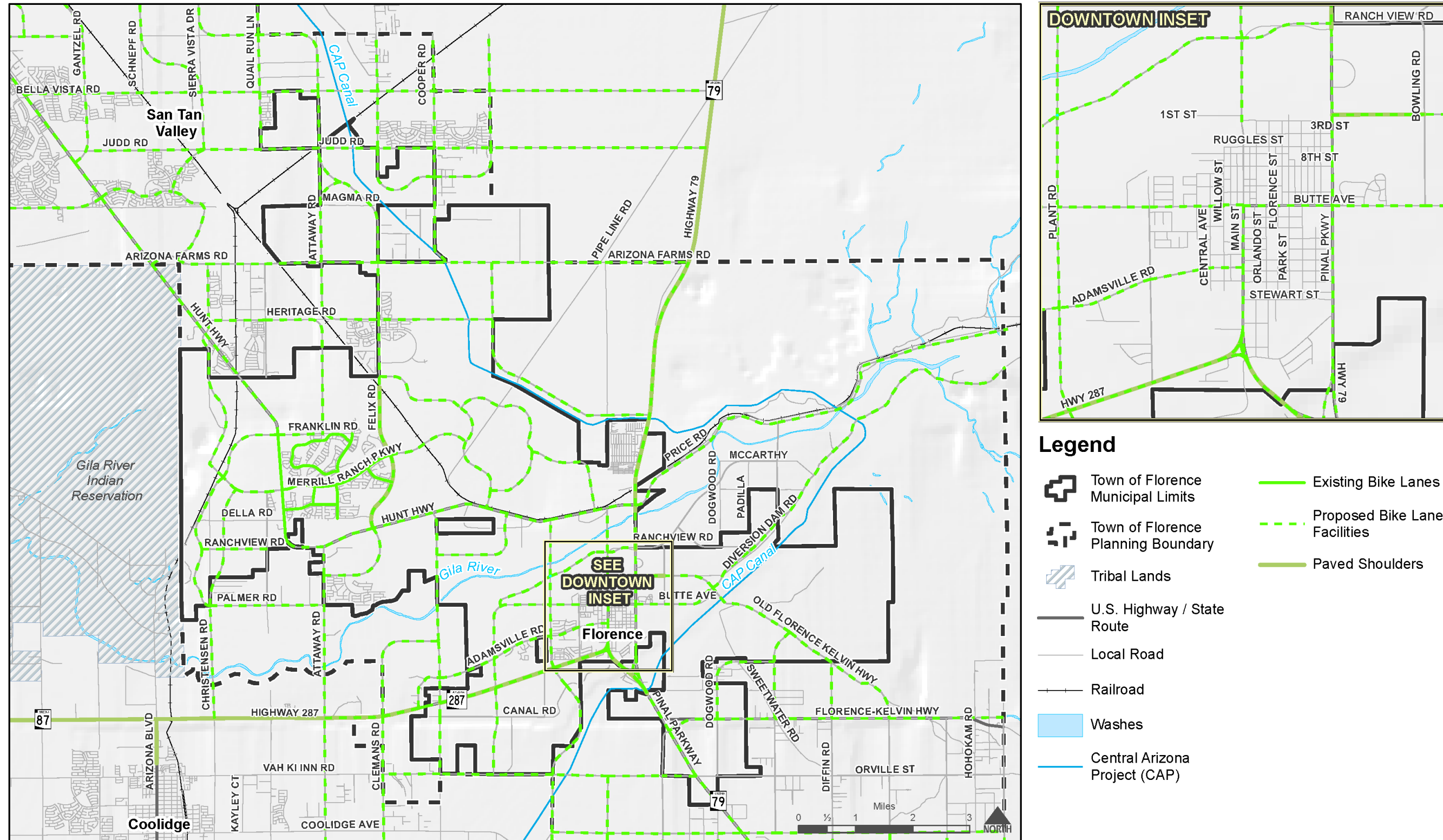
With and through the newly recommended Functional Classifications presented in Section 4, the opportunity to plan and construct an interconnected network of bicycle facilities along Florence roadways is identified. **Figure 8-1** identifies existing and proposed bicycle facilities.

Dedicated bicycle lanes and/or multi-use paths (that are separated from the roadway to accommodate bicycle and pedestrian modes together) are designated on Parkways, Principal Arterials, Minor Arterials, and Major Collector roadways. Bike lanes and/or signed bike routes are optional on Minor Collector roadways. Please see the representative roadway cross-sections for these roadway types in Section 4 to illustrate the bicycle lane in relation to the other roadway features.

It is worth noting here that the Town of Florence is also in the process of completing its Active Transportation Plan. The Active Transportation Plan is specifically intended to evaluate and offer recommendations for on-street and off-street bicycle and pedestrian facilities at a more granular level (including crossings, path and trail design standards, etc.) than what the Florence Transportation Study is intended to address. The Active Transportation Plan recommendations will also identify and recommend any additional off-street bicycle and pedestrian path and trail facilities to supplement the on-street network of bicycle facilities identified herein. Recommendations from both plans will be synchronized and complement each other.



Figure 8-1: Existing and Proposed Bike Lane Facilities



9.0 RECOMMENDED TOWN POLICIES & REGULATIONS

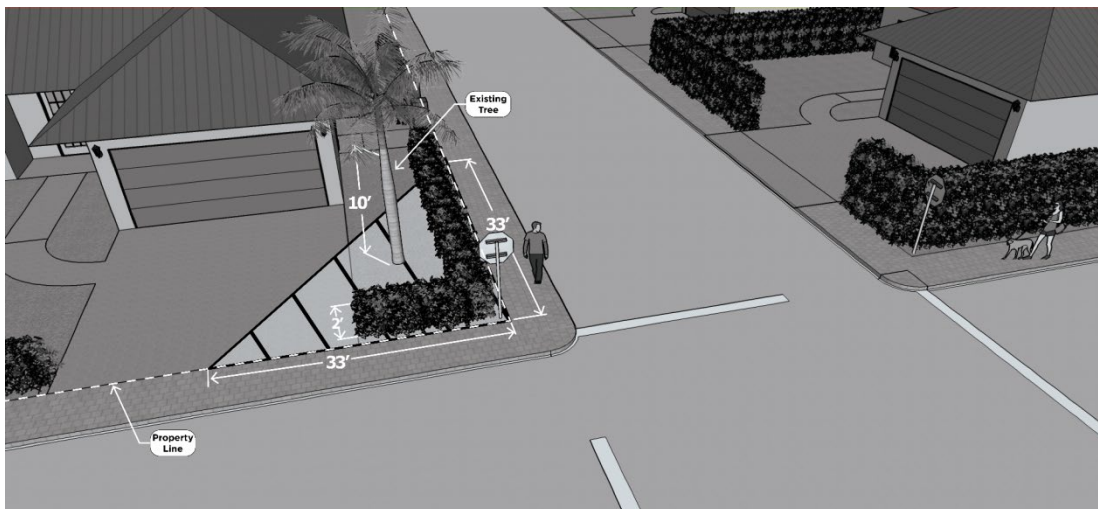
Working Paper #1 summarized the desired policies and/or regulations that the Town of Florence would like to achieve in the Florence Transportation Study. In no particular order, the following suggested policies are offered for consideration.

9.1 Site Visibility Triangle

At public street intersections, it is an important safety consideration to maintain unobstructed views on corner properties. Below is a sample definition of a site visibility triangle describing the application of the concept, including limits of encroachment and site obstructions to enhance safety and visibility. A sample graphic illustrating the concept is also provided in **Figure 9-1**.

Site Visibility Triangles at Corners: No walls, fences, buildings, structures, landscaping or other visual obstruction in excess of two (2) feet in height (measured from the top of the street curb at each end of the site visibility triangle) shall be placed on any corner lot within a triangular area formed by the curb lines and a line connecting them at points thirty-three (33) feet from the intersection of lines, extended from the back of curbing. There shall be an exception for any existing trees to remain within the area of the visibility triangle but shall be maintained at a minimum height of ten (10) feet, as measured from finished grade to permit unobstructed visibility for automobile drivers.

Figure 9-1: Site Visibility Triangle



9.2 Public Transportation Bus Bay

Incorporating the design of a bus bay into an existing or planned roadway requires an engineered design specific to the operating and geometric characteristics to that particular roadway. The representative bus bay standard detail is the MAG Standard Detail 252 shown in **Figure 9-2**. Should there be a need or opportunity to incorporate a bus bay on a ADOT owned state highway, **Figure 9-3** identifies an ADOT-approved bus pullout. It should be noted that ADOT has a bus stop encroachment permit application procedure (with submittal requirements and drawings) that must be followed to obtain approval for a bus stop in the ADOT right-of-way.



Figure 9-2: MAG Bus Bay Specifications

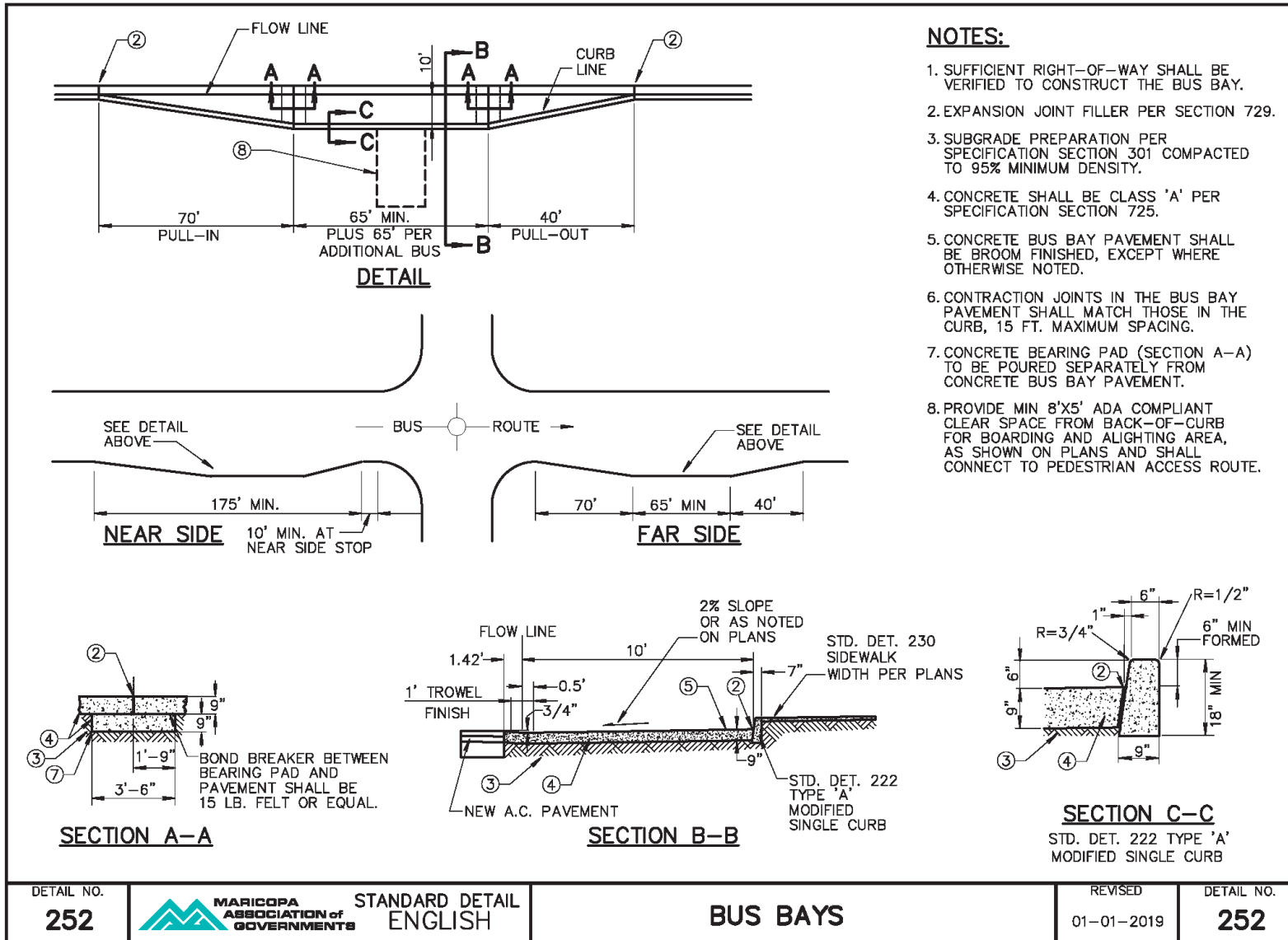
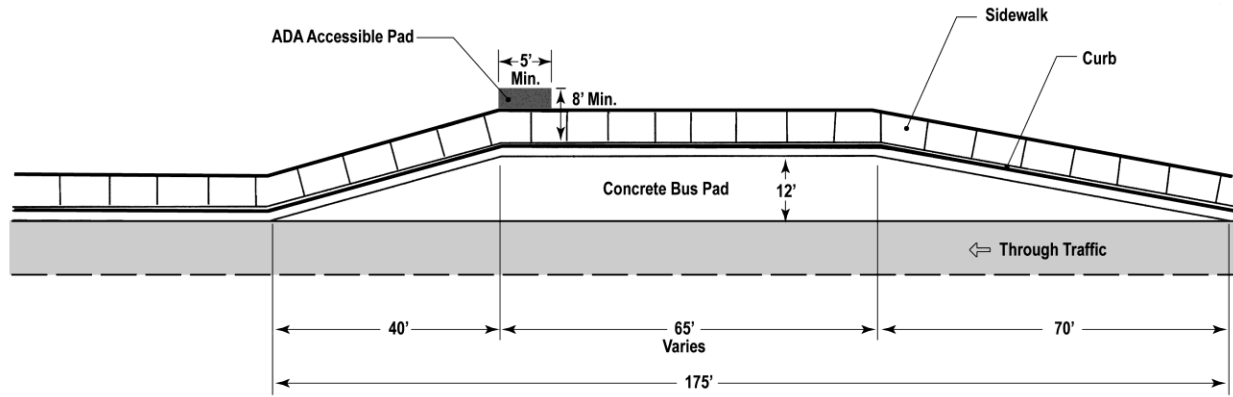


Figure 9-3: ADOT ADA Accessible Pad Location at Bus Pullout



ADA ACCESSIBLE PAD LOCATION AT BUS PULLOUT

9.3 ADOT Best Practices for Bus Stop Location and Design

- 1) Sidewalk connections may be expanded from the bus stop ADA accessible pad to any existing adjacent sidewalk facility to support access generators (i.e., apartments, residential developments, businesses, government facilities).
- 2) Locate the bus stop to allow bus driver clear visibility of waiting passengers and to allow them a view of the on-coming bus.
- 3) Driveway access should be minimized within the bus stop area, both to allow greater visibility for all drivers.
- 4) Areas identified within an intersection view angle or clear zone shall remain unobstructed.
- 5) The passenger loading area should be at the far end of the bus stop and within ten feet of bus shelter or bus stop sign.
- 6) Provide sufficient clear space for wheelchair lift deployment at bus stops, per ADA regulations. In general, this is a minimum of 60 inches parallel to the roadway and 96 inches perpendicular to the roadway.
- 7) When possible, the slope of a bus stop pad shall match slope of the adjacent sidewalk; ADA regulations allow a 2% maximum slope.
- 8) If bus stop furniture is placed, the agency will be solely responsible for liability, operations, and maintenance. Typical forms of bus stop furniture includes: shelters, benches, trash receptacles, and signs.
- 9) Provide a minimum 48-inch clearance between bus stop furniture and street furniture components to allow for wheelchair circulation.
- 10) A minimum seven-foot vertical clearance between the underside of a shelter canopy and sidewalk surface is required.
- 11) A minimum 2-foot horizontal clearance between shelter canopy and face of curb is required.
- 12) Where seating under shelter is provided, per ADA regulations a space for seating of a person in a wheelchair is required under the shelter a 48-inch by 48-inch clearance area is required for wheelchair seating space and forward and side approach of a wheelchair.



- 13) Bus stop signs shall meet all applicable ADA regulations.
- 14) Any change in local, state, or federal law which necessitates the modification of an existing bus stop will be the responsibility of the Permittee.



9.4 Complete Streets & Adaptive Street Projects

Complete Streets are the modern approach planners, engineers, and other city officials are taking to create roads that are equally safe and navigable for all of modes of transportation. According to Smart Growth America, complete streets are designed and operated to enable safe access for all users, including pedestrians, bicyclists, motorists and transit riders of all ages and abilities. This means transportation agencies and municipalities alter their historical perspective on how roads should be used and designed. An adopted Complete Street Policy allows a community to direct their transportation planners and engineers to regularly design and operate the entire road right-of-way to allow safe access for all users, regardless of age, ability, or mode of transportation. In theory, this would create a complete street network that would enhance mobility and safety for drivers, transit users, pedestrians, and bicyclists.

The following planning, design, and engineering principles could support the implementation and maintenance of Complete Streets within Florence.

- Complete Streets are designed to serve all roadway users: pedestrians, bicyclists, transit riders, motorists, and heavy vehicles/freight regardless of age or mobile ability.
- Complete Streets will be designed and constructed with every new roadway or retrofit project, including roadway improvement and widening projects.
- Complete Streets will be designed and constructed within the context that they serve.
- Complete Streets Policy will apply to private roads, but should be evaluated case-by-case in order to apply the policy.
- Complete Street elements will be designed and constructed to enhance the safety of all roadway users.
- Complete Street improvements may be achieved incrementally as retrofitting improvements are achieved.
- Complete Streets may not be applicable on every street, in which case exceptions may be applied.

9.4a Potential for Implementation

The concept of a Complete Street is most suitable in the planning and design of larger roadways that can safely support multiple types of roadway users, such as arterial and collector roadways. However, the local street network needs to be included because they complement the arterial and collector roadway network by providing connectivity for motorists, bicyclists, pedestrians, and transit users. Additionally, the local streets need to be considered in order to achieve a Complete Street network. In fact, as noted in **Figure 9-4 (ROW Map)**, many of the streets within downtown Florence are classified as local streets which possess ample opportunities for incorporating Complete Street improvements.

Communities at times can be concerned about the higher level of investment associated with Complete Street projects. However, the concept of Adaptive Streets is becoming a popular alternative whereby lower-cost/short-term improvements can promote the conversion of a typical road into a Complete Street. This approach could be a favorable approach to a few of Florence's existing downtown roadways that have surplus rights-of-way.



Adaptive Street Projects

Adaptive Street projects are cost-effective ways to experiment with new public spaces and street improvements. Particular to Florence, there is a desire for the TAC to collaborate with the consultant team to evaluate the existing rights-of-way in downtown Florence, review the Adaptive Street concepts presented here, and determine if there is a suitable location for the potential application of Adaptive Street concepts which can be illustrated in the Draft Final Report.

Focused on creating inexpensive, temporary solutions, the Adaptive Streets projects include two types of projects:

1. **Pavement to Parks** projects, which create opportunities for public spaces (“park-lets”) in underutilized roadway/right-of-way space, and
2. **Tactical Urbanism** projects, which employ the same low-cost, temporary street treatments as Pavement to Parks, but primarily focus on improving safety and mobility in the public right-of-way, rather than providing placemaking opportunities.

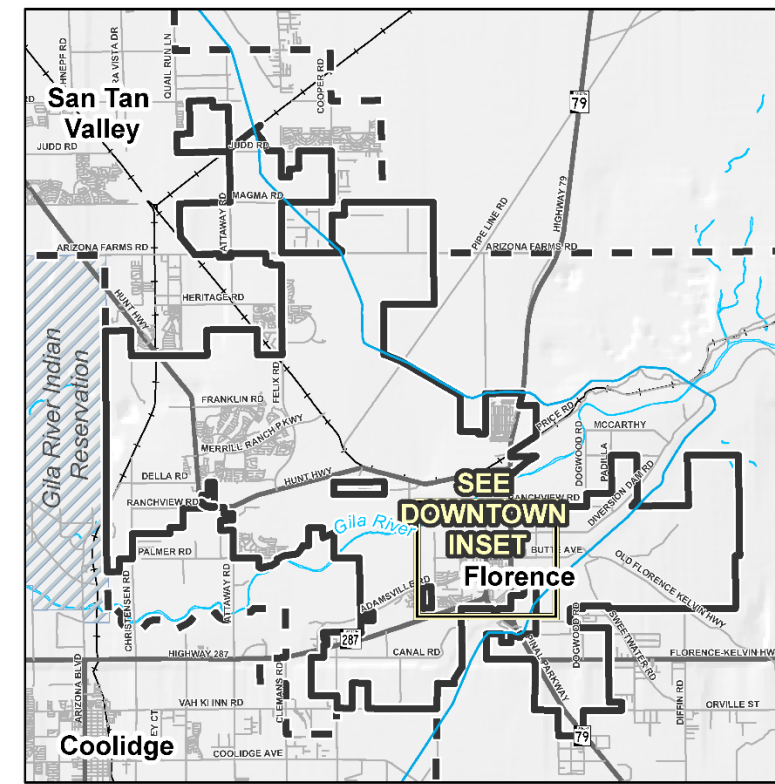
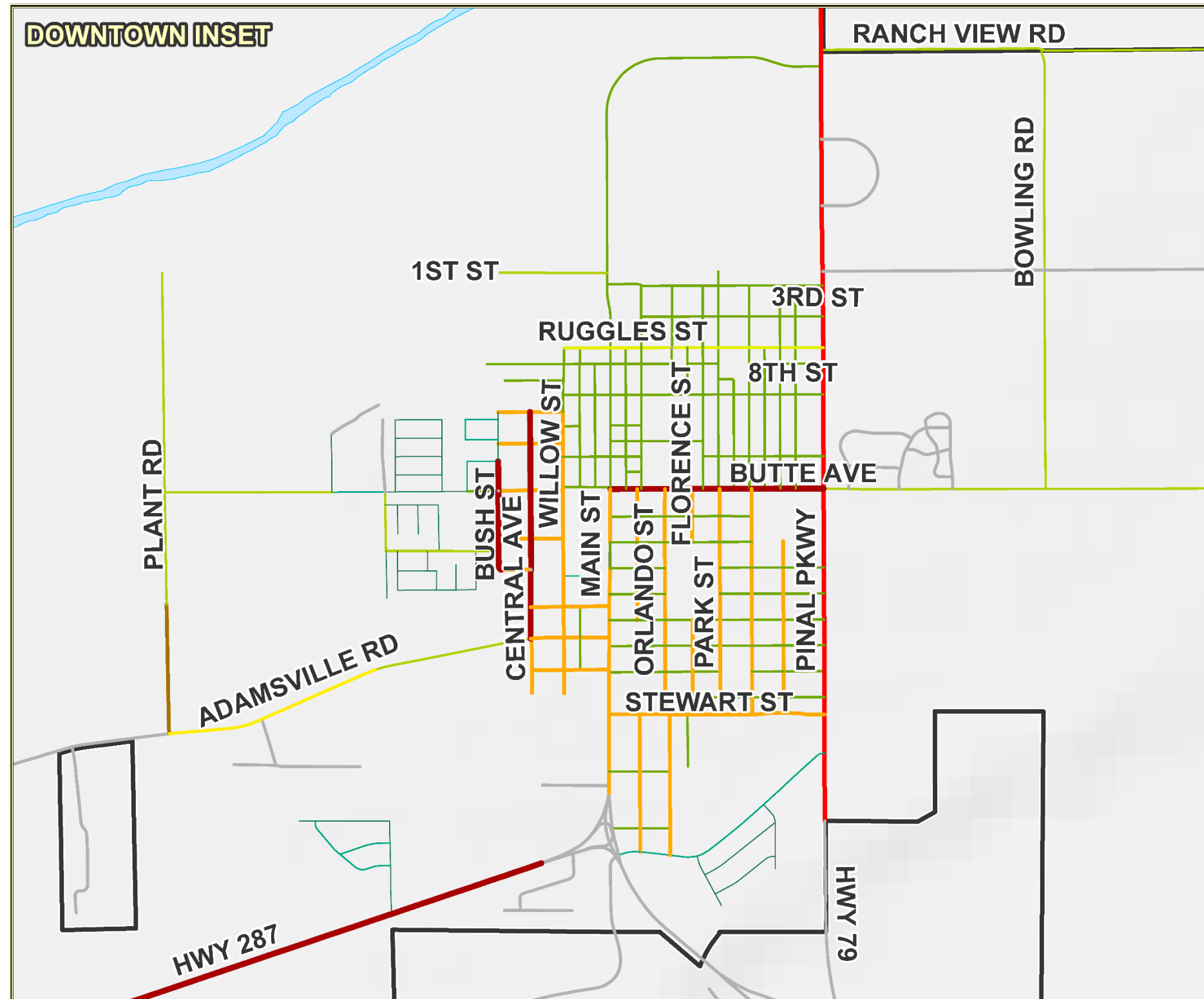
The projects are intended to last about one to three years, which allows for them to be constructed quickly, and easily improved upon according to community feedback. Projects which are successful will transition into permanent infrastructure, while unsuccessful projects will simply return to their previous configuration. Adaptive Street projects demonstrate an established effort to implement quick and economical treatments that enhance the function of streets. Adaptive Street Projects are characterized in four features:

- **Short-term** - Construct projects quickly and allow community stakeholders to provide feedback before permanent improvements are made
- **Low-cost** - Use simple, temporary materials to reduce design and labor costs and to expand the reach of the program (i.e., painted temporary curb bulb outs with oversized planters)
- **Adaptable** - Design improvements to be scalable and temporary so that changes can be made based on performance evaluations and community feedback
- **Community-oriented** - Ensure that projects address community needs and are universally-accessible, regardless of age or ability

The Adaptive Street and Tactical Urbanism projects are experimental and cost-effective ways of creating public space as well making improvements to the streets. By implementing tactical urbanism principles and adaptive street projects, streets within Florence can quickly and cheaply transform into vibrant spaces for community gathering while offer a corridor for safe and easy mobility for all users, regardless of age or ability.



Figure 9-4: Downtown Florence Roadway Right of Way



Legend

	Town of Florence Municipal Limits	ROW
	Town of Florence Planning Boundary	Less Than 50'
	Tribal Lands	50'
	U.S. Highway / State Route	60'
	Local Road	64', 66', 68'
	Railroad	70'
	Washes	78'
	Central Arizona Project (CAP)	80'
		88'
		90'
		100' or Greater
		Unknown

Data Source: Town of Florence



9.5 Enhanced Mobility and Connection of Florence's Residential Communities

The Town of Florence is requesting that the Florence Transportation Study establish policies that will require the improvement of bicycle and pedestrian facilities within new subdivisions as well as connection between subdivisions (or residential communities) in the subdivision platting submittal and review process. Below are some possible policies that the Town may wish to consider.

- 1) The Town of Florence shall promote future development plans that provide opportunities for residents to engage in public activities locally through enhanced greenspace and recreation opportunities; enhanced transportation options for the community, including improved pedestrian and bicycle infrastructure; and the connection of the Town through streetscape corridors.
- 2) The Town shall update the Zoning Ordinance to institute a development standard that requires a path or trail connection between all existing and proposed neighborhoods.
- 3) New subdivisions should be connected to existing adjacent developments, or provide stub streets to future development areas, to allow for strong internal pedestrian, bicycle, and automobile connectivity. Cul-de-sacs should only be reserved for use when physical site constraints are present.
- 4) The incorporation of "complete streets" should be utilized to enable safe, attractive, and comfortable travel for all users, including automobiles, pedestrians, bicyclists, and transit. The design of residential streets in these suburban neighborhoods should promote slower vehicular speeds, as well as provide on-street parking, and bicycle and pedestrian facilities.
- 5) All residential developments shall include active and passive open space areas designed, located, and oriented to provide high pedestrian accessibility. The design and placement of public off-street pedestrian trail connections to adjacent development is highly encouraged.
- 6) Connect residential and non-residential sites with interior and exterior sidewalks, trails, and paths to adjacent neighborhoods to reduce vehicle use and enhance community health and air quality.



10.0 EVALUATION CRITERIA & PROJECT PRIORITIZATION

The use and application of a set of evaluation criteria to equitably rank potential projects for implementation of the Plan of Improvements is an identified component of this project work plan. Supplemented by TAC input, public input and elected official guidance, the evaluation criteria can be useful (but not always necessary) in the identification of potential project benefits and constraints and determining which potential projects would be implemented in the near term, medium term or long term.

The proposed evaluation criteria below represent a mix of qualitative and quantitative factors. The intent of Working Paper #2 is to introduce the proposed evaluation criteria and prioritization tool to the TAC for their input and concurrence. The application of the evaluation criteria would be presented to the general public for their feedback, with the technical and public input results being presented in the Draft Final Report.

As the TAC reviews the draft evaluation criteria in **Table 10-1**, it should be noted that, based on the nature of the established project goals and resulting recommendations provided herein (i.e., downgrading the Functional Classification of many roadways), a comprehensive application of evaluation criteria to recommendations provided in Working Paper #2 may not be necessarily productive or useful to this process. TAC meeting #3 will discuss the merits/need of applying the application criteria or if it is preferred, the TAC can offer direct guidance on determining the implementation timeframe (near, medium or long term) of each recommended project.



Table 10-1: Draft Evaluation and Prioritization Criteria

EVALUATION CRITERIA	APPLICATION	VALUE OF BENEFIT		
		HIGH	MED	LOW
Improves traffic operations	Does the project reduce the potential congestion by improving v/c ration and/or travel times?			
Promotes Safety	Does the project help in reducing crashes and/or crash severity?			
Project already programmed, designed or planned	Is the project already identified and consistent with approved plans, designs or funding?			
Enhances local or regional system connections and mobility	The project improves system continuity by eliminating system gaps and/or providing additional accessor connections to activity centers.			
Encourages multimodal travel	The project either promotes bicycle and/or pedestrian modes, promotes tourism and positively impacts Title VI populations.			
Project complexity of design and implementation	Does the project include engineering complexities such as utilities, drainage, or terrain issues that escalate project costs?			
Public Support and Acceptance	Does the project receive support from the public and elected officials?			



11.0 NEXT STEPS

The following is a listing of next steps the TAC can anticipate for the Florence Transportation Study:

- TAC to review this working paper (WP#2) and bring comments to TAC Meeting #3 (meeting date TBD, but targeting the last week of March)
- Once TAC reviews Working Paper #2, including the draft recommendations, the Draft Final Report will be prepared where all project types and put into the Plan of Improvements to identify near, medium or long-term implementation horizons.
- The Draft Final Report will finalize access management guidelines that have already been presented in draft format in Working Paper #1.
- The Draft Final Report will include planning level cost estimates per lane mile for each Functional Classification roadway.
- TAC Meeting #3 will include a discussion to determine the Town/TAC preferred approach to the application of evaluation criteria and prioritization of projects as explained in Section 10.
- TAC Meeting #3 discussion will explore a couple concepts for the use of surplus ROW on select downtown area streets.
- TAC Meeting #3 discussion to verify the Town's updated inventory of roadway CIP projects.

