

# Concrete Intersection Candidate Analysis and Prioritization Report

FDOT District One  
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# CONCRETE INTERSECTION CANDIDATE ANALYSIS AND PRIORITIZATION REPORT

Florida Department of Transportation | District I

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## Executive Summary

This report identifies 12 intersections as potential candidates for concrete construction based on an evaluation of the existing conditions within the District. Concrete, or rigid pavement, would replace roadway surfaces that are currently asphalt. In order to evaluate each intersection's efficacy for rigid pavement, existing and future conditions data was compiled and analyzed for each candidate site. In addition to these 12 candidate sites, another five intersections were suggested for future consideration, and included in this report. In their present state, these five potential intersections did not meet the criteria for being included as part of this round of candidate intersections; however, they may warrant further study in similar, future efforts.

**Existing conditions** were determined by conducting an initial desktop aerial review, an in-person site visit, examining the existing zoning and land use nearby to the site, reviewing studies and projects with a potential to impact conditions at the intersection, and performing a roadway network and traffic conditions analysis. The roadway analysis portion of the existing conditions identifies FDOT Strategic Intermodal Systems (SIS) infrastructure, determines existing roadway surface widths, and collects vehicular Average Annual Daily Traffic (AADT) and truck AADT.

To determine **future conditions** at the candidate sites, future land use maps were reviewed to identify possible impacts to the intersection. In addition, traffic projections were performed to discern AADT, truck AADT, and truck traffic percentage at the intersection for the data capture horizon year of 2030.

Once existing and future conditions were summarized for all 12 intersections, a prioritization meeting was held to convey the suitability of each site for concrete reconstruction. Candidates were classified as either a high, medium, or low priority for rigid pavement reconstruction. A designation of high priority indicates that, in its current state, the site warrants immediate consideration for concrete. Medium priority implies that, should an element of the existing conditions change (e.g. signalization, land development, traffic volumes), the intersection may be a candidate for concrete reconstruction. A low priority intersection would require several factors to evolve prior to the site warranting concrete pavement; therefore, these low priority sites were unlikely to warrant concrete reconstruction in the near future. Results of the prioritization process are shown below in Table 1.

Table 1: Future Candidate Intersection Prioritization Results

Site Number	Site Name	Priority for Concrete Construction
1	US 27 / SR 80 and Flaghole Rd (Airglades)	High*
2	US 27 and US 98 / CR 630	Low
3	US 27 and CR 640	Low
4	US 98 and US 471	High
5	SR 33 / North Commonwealth Ave and Church Rd	Low
6	US 92 and SR 559 (Berkley Road)	High
7	SR 60 and Alturas Rd / Old Bartow Lake Wales Rd	High
8	SR 62 and US 17 / SR 35	Programmed (2025)
9	SR 72 and SR 70 / West Oak St	Medium
10	US 17 / Duncan Road and Piper Rd	Medium
11	West Sun Pure Rd and US 27 / US 98 / SR 17	High
12	County Line Rd and US 92 / SR 600 / New Tampa Hwy	High

\*US 27 and Flaghole Rd prioritization is based on the planned development of the air cargo complex at Airglades International Airport. This intersection becomes low priority should development not occur.

# Introduction and Methodology

This effort by District I to identify candidate intersections or roadway segments for potential construction or reconstruction using concrete or rigid pavement is part of the overall freight mobility strategy for FDOT District I. Rigid roadway construction better accommodates high volumes of truck traffic, especially at points of stop-and-start movements, than flexible pavements, such as asphalt. Rigid pavement construction handles localized stress caused by frequent stopping, starting, and turning movements at intersection significantly better than asphalt requiring less maintenance and lowering life-cycle maintenance costs. A 2014 study by the National Academies<sup>1</sup> stated that concrete pavement has an expected design life of 30 to 50 years, as compared to asphalt, which requires milling and resurfacing every 10 to 15 years.

A total of 12 sites were identified by this study as potential candidates for concrete construction/reconstruction. The 12 candidate sites are shown below in Figure 1. This report summarizes the findings for each candidate site by presenting both existing and future conditions data and projections. Based on the findings of this report, the District has an increased capacity to make sound and informed recommendations for concrete intersection reconstruction.

An existing conditions analysis was prepared for each candidate intersection. Describing the existing conditions provides context for the analysis conducted in the future conditions section of the report. The existing conditions section discusses the following:

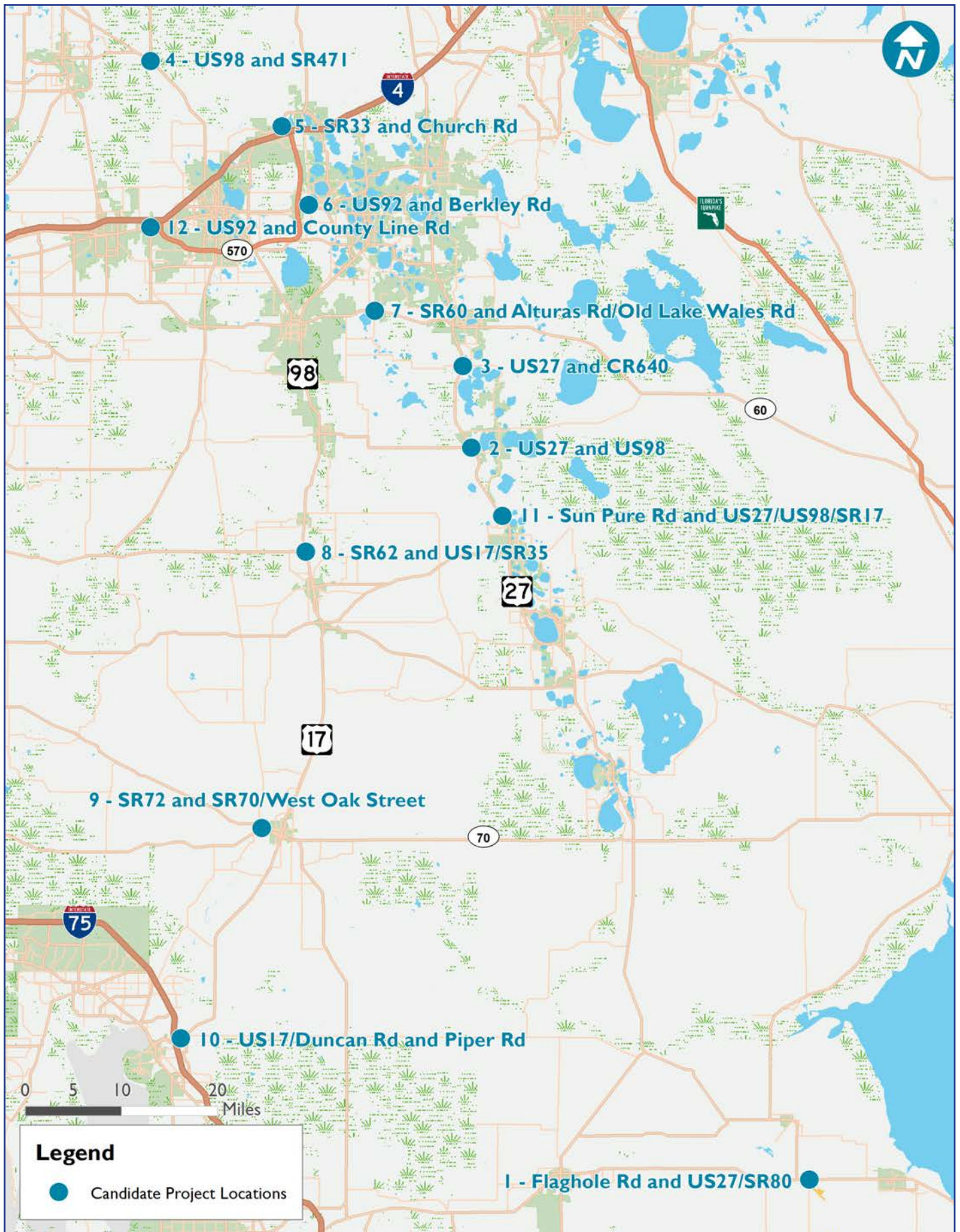
- Site Visit – Following a desktop aerial review, a site visit was conducted for each candidate intersection to evaluate existing conditions at the location
- Zoning Analysis - A zoning analysis was performed within each respective candidate intersection study area that provided an understanding of the environment in which the potential concrete reconstruction project would occur.
- Planning Document Review – A thorough review of planning documents related to the candidate intersections was performed to review any potential land development and/or roadway projects occurring in the vicinity of the study area that may affect future conditions.
- Roadway Network and Traffic Conditions Analysis – A roadway network and traffic conditions analysis was conducted to better understand the role that the intersection plays within the local and regional transportation network. Subsections included within this analysis include:
  - » SIS Facilities - Florida’s high priority network of transportation facilities, vital to the mobility and economy are included as part of the state’s Strategic Intermodal System. SIS infrastructure represent the highest priority for transportation capacity investments
  - » Roadway Surface Width – Evaluates lane width conditions surrounding the intersection
  - » AADT and Truck AADT - AADT data provides an understanding of the volume of vehicular traffic on a given roadway. The dataset represents the yearly total roadway traffic divided by 365 days. AADT within both the one-mile and three-mile buffers are shown for each intersection. Truck AADT was also provided in terms of the numerical truck AADT counts as well as the percentage of total AADT comprised by truck traffic

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<sup>1</sup> National Academies of Sciences, Engineering, and Medicine Transportation Research Board (2014): *Guide to Using Existing Pavement in Place and Achieving Long Life*



Figure 1: Concrete Intersection Candidate Sites



Similarly, traffic conditions were projected based on an evaluation of future land use, population growth, and in consideration of future development and/or roadway projects in, or nearby the study area. Analysis of each intersection includes a forecast of the future conditions at the candidate site by performing traffic analysis and projections and identifying future land uses near the site. The existing conditions section discusses the following topics:

- **Future Land Use Analysis** - Projections and forecasting for this section begins with an analysis of the future land use map (FLUM) located within both one and three-mile buffer analysis zones. The FLUM is the culmination of forward planning and policy-making efforts that direct land use decisions for a community or region. These decisions directly impact transportation planning by influencing the potential traffic volume and composition of traffic utilizing the roadway network.
- **Projected Traffic Conditions** – The final data set analyzed for each candidate intersection was the future AADT, truck AADT, and truck traffic percentage of overall traffic. This report forecasts 2030 traffic conditions by considering historic traffic information and population growth. Specific growth rates were determined for both overall traffic volumes and trucks volumes to project future AADT and truck AADT at each study intersection. Truck percentage is calculated based on the overall traffic, and if an overall growth rate exceeds the truck percentage, a truck percentage may decrease within the future projections. Similarly, if both growth rates are the same, the truck percentage will stay the same, and if truck growth exceeds overall AADT growth, the truck percentage will increase from the existing conditions in the future scenario.

The analysis area selected for each candidate site was depicted within one-mile and three-mile analysis buffers. Traffic projections for each site were based upon an analysis of the one-mile buffer zone, as a three-mile traffic analysis area was considered to be too large to garner meaningful analysis, in respect to this particular effort. The three-mile buffer was added for further context for the analysis of each site/location in terms of traffic counts, nearby transportation infrastructure, zoning, and future land use.

Each section of this report coalesces both existing and future conditions at the candidate site in order to rank and prioritize the intersection according to its efficacy for future concrete construction/reconstruction. Key findings related to each intersection are summarized within the conclusion of each section. Ultimately, all candidate sites were ranked based upon the data collected throughout this process. Some key points analyzed for consideration include: high existing and future overall volumes, high truck percentage, traffic signalization traffic control at intersection, high number of turning trucks, and poor pavement conditions. An intersection with high overall volume itself did not justify a higher prioritization without additional considerations. Each intersection was assigned a priority of low, medium, or high for possible concrete reconstruction. A description of the criteria associated with each priority (high, medium, and low) is provided below in Table 2.

Table 2: Intersection Prioritization Criteria

Priority for Concrete Construction	Prioritization Criteria
Low	A low priority intersection would require several factors to evolve prior to the site warranting concrete pavement; therefore, these low priority sites were unlikely to warrant concrete reconstruction in the near future.
Medium	Medium priority implies that, should an element of the existing conditions change (e.g. signalization, land development, traffic volumes), the intersection may be a candidate for concrete reconstruction.
High	In its current state, the site warrants immediate consideration for concrete.

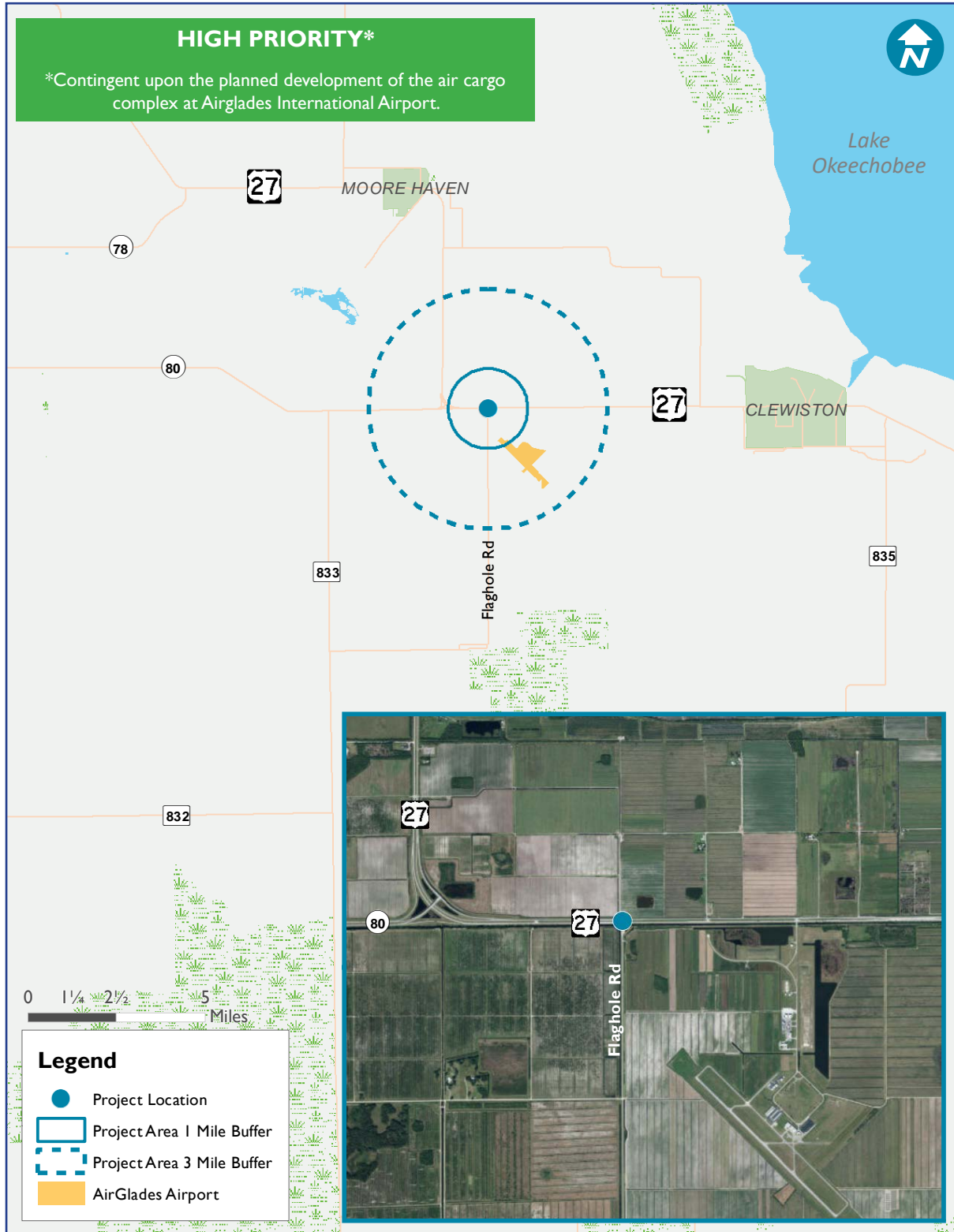
Lastly, five additional sites are suggested for future consideration as concrete candidates. At their present state, these intersections do not meet the criteria for being included as part of this round of candidate identification; however, may warrant further study in similar, future efforts. The final section of this report includes a high-level analysis as a means to introduce each of these future sites and reflect the existing conditions as of the time of this report.



# I. Airglades (US 27 and Flaghole Road)

This study identified the intersection of US 27 and Flaghole Road at Airglades International Airport as a potential candidate for concrete reconstruction. This intersection is located in Clewiston, Florida, and shown below in Figure 2. The figure depicts the study area with one-mile and three-mile buffers for data collection and an inset aerial photo of the intersection. Flaghole Road runs north and south to the immediate west of the airport, and then intersects with US 27. Based on current conceptual design plans for improvements at the airport, a truck entrance to the facility is being proposed on Flaghole Road.

Figure 2: Airglades (US 27 and Flaghole Road) Site Map





## I.1 Airglades (US 27 and Flaghole Road) Existing Conditions

### I.1.1 Site Visit

A site visit was conducted for the intersection of US 27 and Flaghole Road on September 30, 2020. Photographs taken during the site visit are shown below (Figure 3 – Figure 8) and reflect conditions as of the date of the site visit.

Figure 3: Flaghole Road Looking North to US 27



Figure 4: Flaghole Road Looking Northwest to US 27



*Figure 5: US 27 Looking South to Flaghole Road from US 27*



*Figure 6: US 27 Looking East at US 27 from its Intersection with Flaghole Road*





Figure 7: Semi-Paved Parking Area on East Side of Flaghole Road (1)



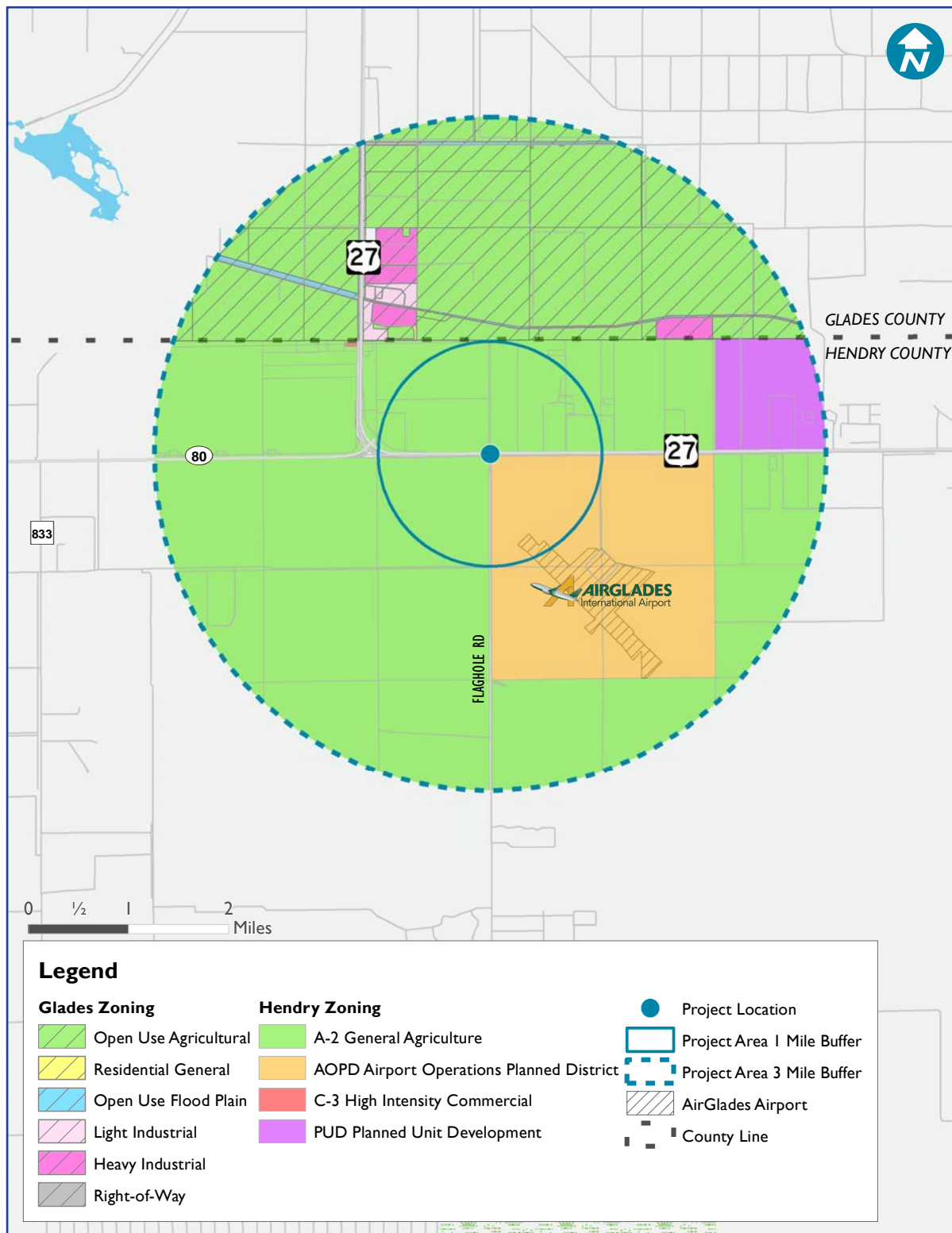
Figure 8: Semi-Paved Parking Area on East Side of Flaghole Road (2)



## I.1.2 Zoning Analysis

Zoning data for the US 27 and Flaghole Road site is shown below in Figure 9. It is important to note that the analysis zone was divided into two counties: Hendry and Glades. Within the one-mile buffer, Hendry County designates zoning as AOPD - Airport Operations Planned District and A-2 General Agriculture. AOPDs provide regulations for the operation and expansion of Airglades International Airport, including the allowance of accessory uses to support a commercial cargo airport, such as business and industry. Expanding into the three-mile buffer, Hendry County designates land to the northeast of the airport as PUD-Planned Unit Development. Glades County zoning within the three-mile buffer includes Open Use Agricultural, Residential General, Open Use Flood Plain, Light Industrial, Heavy Industrial, and Right-of-Way.

Figure 9: Airglades Study Area Zoning Map



### I.1.3 Planning Document Review

A list of all planning documents and related planning materials identified as part of this effort are shown below in Table 3. The table includes the document name and source as well as relevant findings from the research. The most noteworthy project relevant to this intersection is the planned development of a perishable air cargo distribution complex, runway, and associated facility development at the Airglades International Airport. A truck entrance for this facility is proposed on Flaghole Road. If the proposed facility is developed, traffic volumes are forecasted to increase on the surrounding roadways, particularly truck traffic utilizing the US 27 and Flaghole Road intersection. Also of relevance to future development at the airport are surrounding land uses. A 2019 Airglades Enterprise Area Land Use Analysis found an absence of land uses in-and-around Airglades International Airport suitable for compatible use with the facility. The Hendry County Comprehensive Plan cites a goal of encouraging the use of the airport and surrounding lands for aviation, aviation-related activities, industrial uses, and other land uses compatible with an airport. In addition, the Comprehensive Plan's Schedule of Capital Improvements identifies various capital improvement projects at Airglades International Airport, including runway, aircraft conversions and modification center, aircraft parking, and an education center.

Table 3: Planning Document Review Summary

Document/Plan/Website	Source	Notes
<a href="#">Airglades International Airport</a>	Airglades Airport	Airglades Airport plans to develop a perishable air cargo distribution complex, runway, and associated facility development. The Federal Aviation Administration (FAA) issued a Finding of No Significant Impact (FONSI) and Record of Decision (ROD) in response to Hendry County's Environmental Assessment (EA) on 10/17/17.
<a href="#">Hendry County Land Use Study for Lands Surrounding Airglades Airport, March 2018</a>	Hendry County Comprehensive Plan	Policy 1.1.2 of the Hendry County Comprehensive Plan's Transportation Element: "The Hendry County Long Range Transportation Needs Plan Alternate 1 would address the need for east-west road capacity by constructing a US 27 by-pass that would be aligned south of the City of Clewiston. The Hendry County Long Range Transportation Needs Plan Alternate 2 would address the need for east-west road capacity for US 27 near the City of Clewiston by widening US 27 to 6 lanes from SR 80 to CR 270. The costs and feasibility of these alternatives will be assessed by the County and the improvements will be planned in coordination with FDOT and the City of Clewiston."
<a href="#">Hendry County Comp Plan</a>	Hendry County	"Encourage the use of Airglades Airport and surrounding lands by providing for aviation, aviation-related activities, industrial uses, and other land uses compatible with an airport."
<a href="#">Hendry County Comp Plan</a>	Schedule of Capital Improvements 2019-2024	Various capital improvement projects, including runway, aircraft conversions and modification center, aircraft parking, and education center.
Airglades Enterprise Area Land Use Analysis 2019	Airglades Airport	"The evaluation of the existing 2040 DIRPM Cost Feasible Plan model revealed the absence of land uses in and around the Airglades Airport that would otherwise represent the potential of the Airglades Airport and the surrounding area."

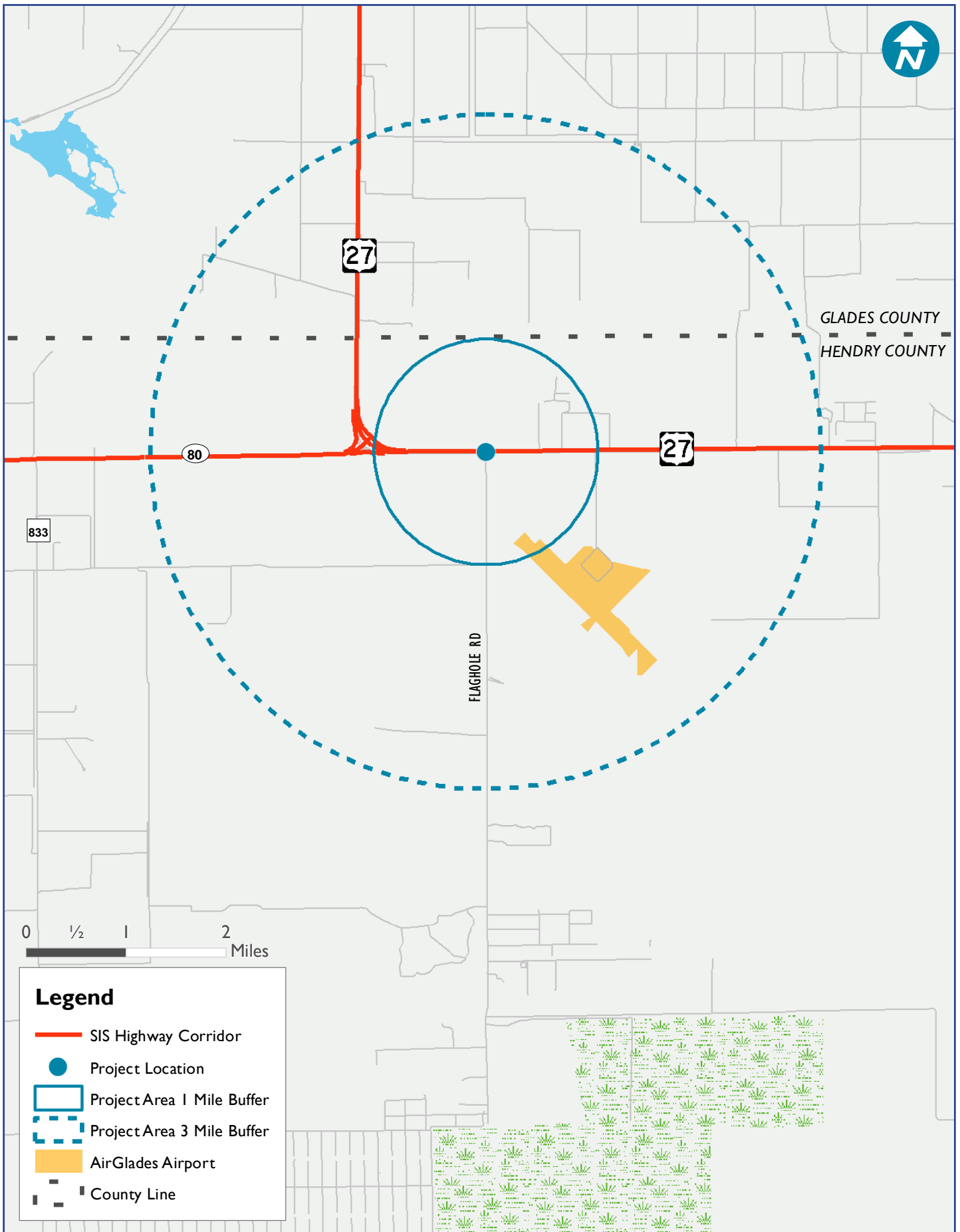
### I.1.4 Roadway Network and Existing Traffic Conditions Analysis

#### SIS Facilities

Florida's high priority network of transportation facilities that are vital to the mobility and economy are included as part of the state's Strategic Intermodal System (SIS). There are two SIS facilities located in the vicinity of the US 27 and Flaghole Road intersection. US 27 and SR 80 are designated by FDOT as Strategic Highway Corridors. Both facilities are shown below in Figure 10.



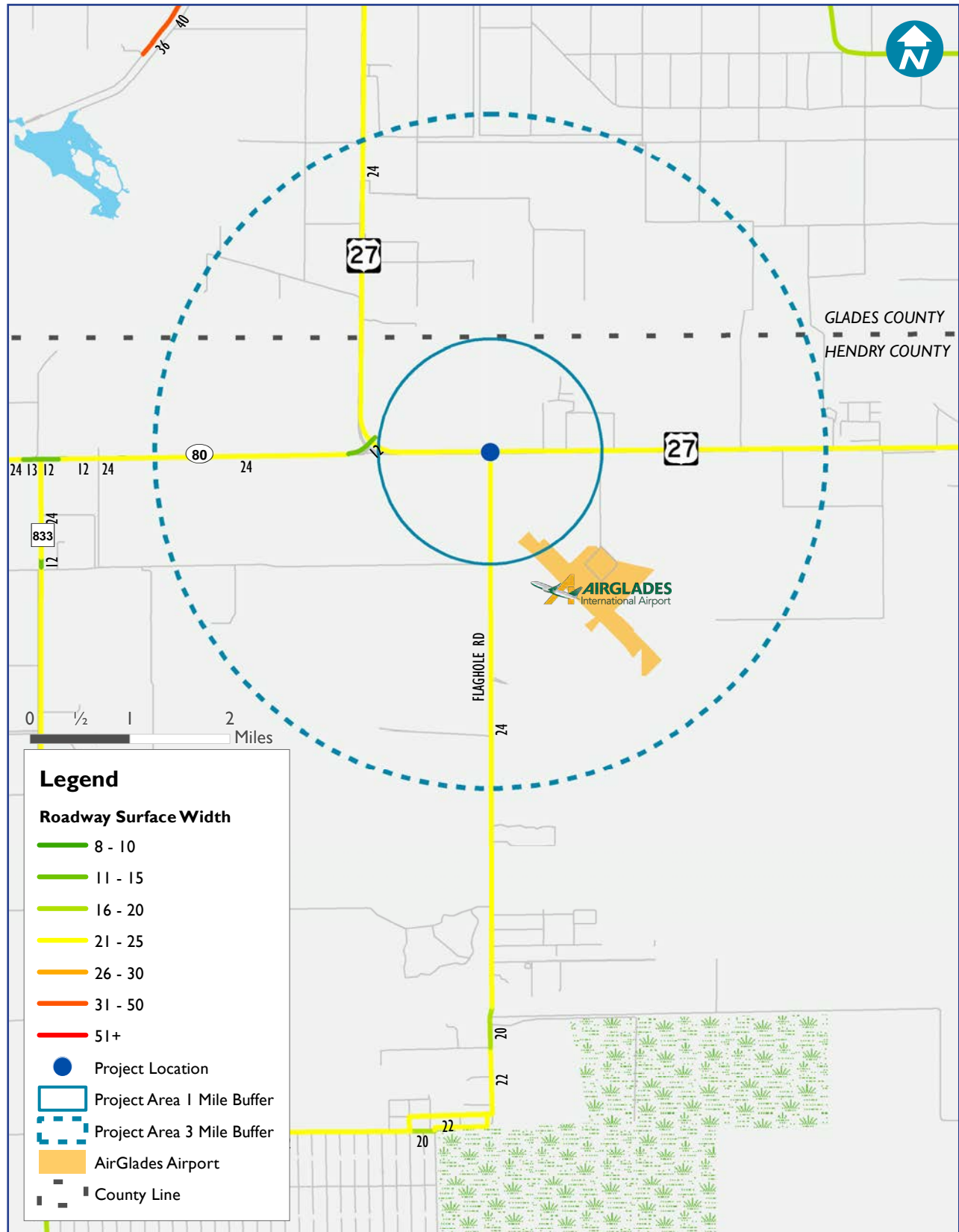
Figure 10: Airglades Study Area SIS Map



Roadway Surface Width Assessment

Figure 11 displays the roadway surface width within the US 27 and Flaghole Road study area. Roadway surface width in the analysis area was consistently 24'. The only exception being segments of the flyover facilities at US 27 and SR 80, which are 12'. The existing roadway surface width at this intersection reflects the nature of the study area roadways. As currently constructed, the intersection roadway surfaces are appropriate for large truck traffic and higher speeds of travel.

Figure 11: Airglades Study Area Roadway Surface Width Map



**AADT and Truck AADT**

AADT and truck AADT for the intersection of US 27 and Flaghole Road are shown below in Figure 12 and Figure 13, respectively. The highest AADT in both the one-mile and three-mile buffers (17,020) was experienced along US 27, just east of its intersection with Flaghole Road. At this count site, truck AADT of 3,285 comprises approximately 20 percent of total traffic volume. AADT of 15,200, the second highest total in the study area, occurs just west of the intersection of US 27 and Flaghole Road. This portion of US 27, west of the intersection with Flaghole Road, experiences truck AADT of 4,940, comprising nearly 33 percent of all vehicles at this location. Currently, Flaghole Road carries AADT of 2,800; 277 of those vehicle being trucks. Should the airport proceed with plans for developing a truck entrance to the airport from Flaghole Road, this number should be expected to rise accordingly.

Figure 12: Airglades Study Area AADT Map

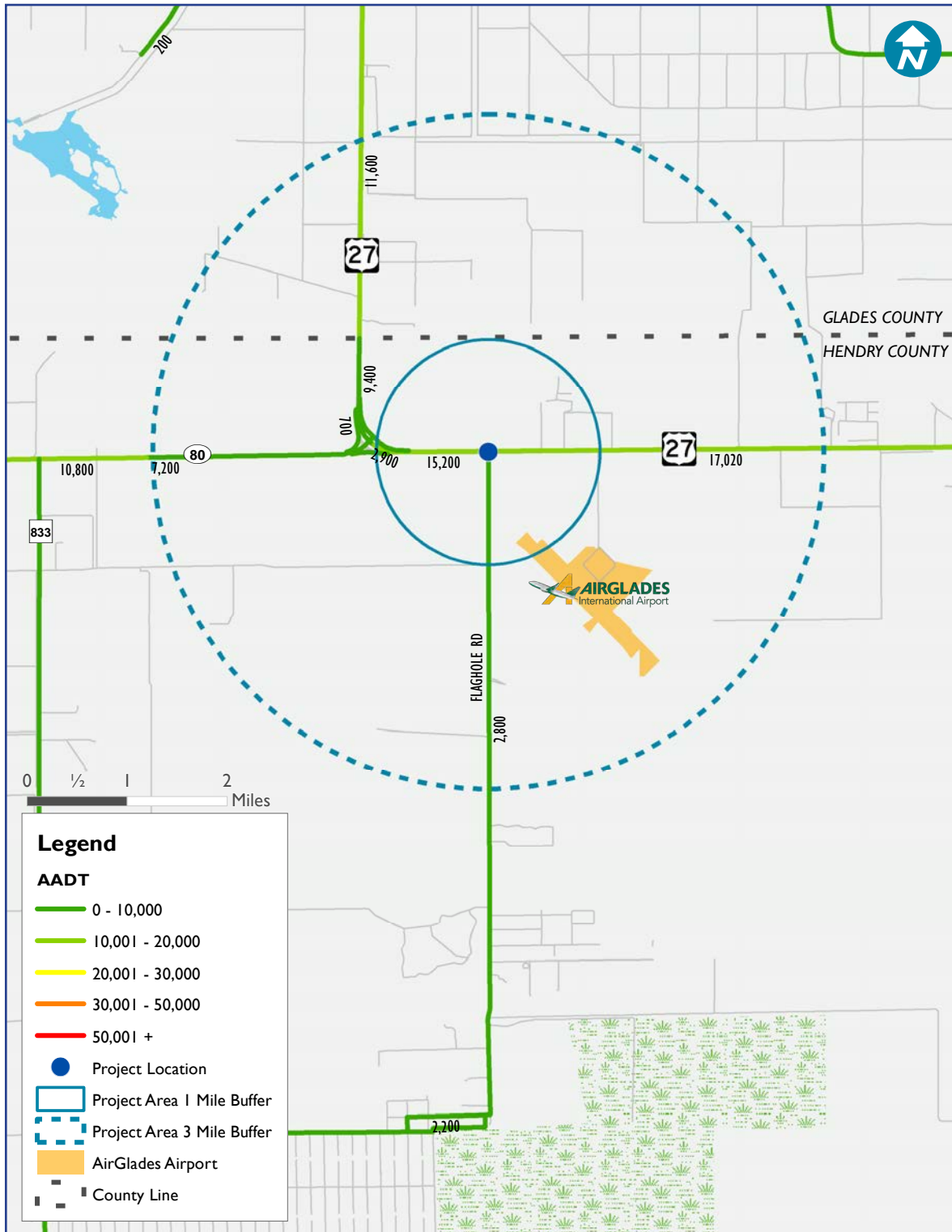
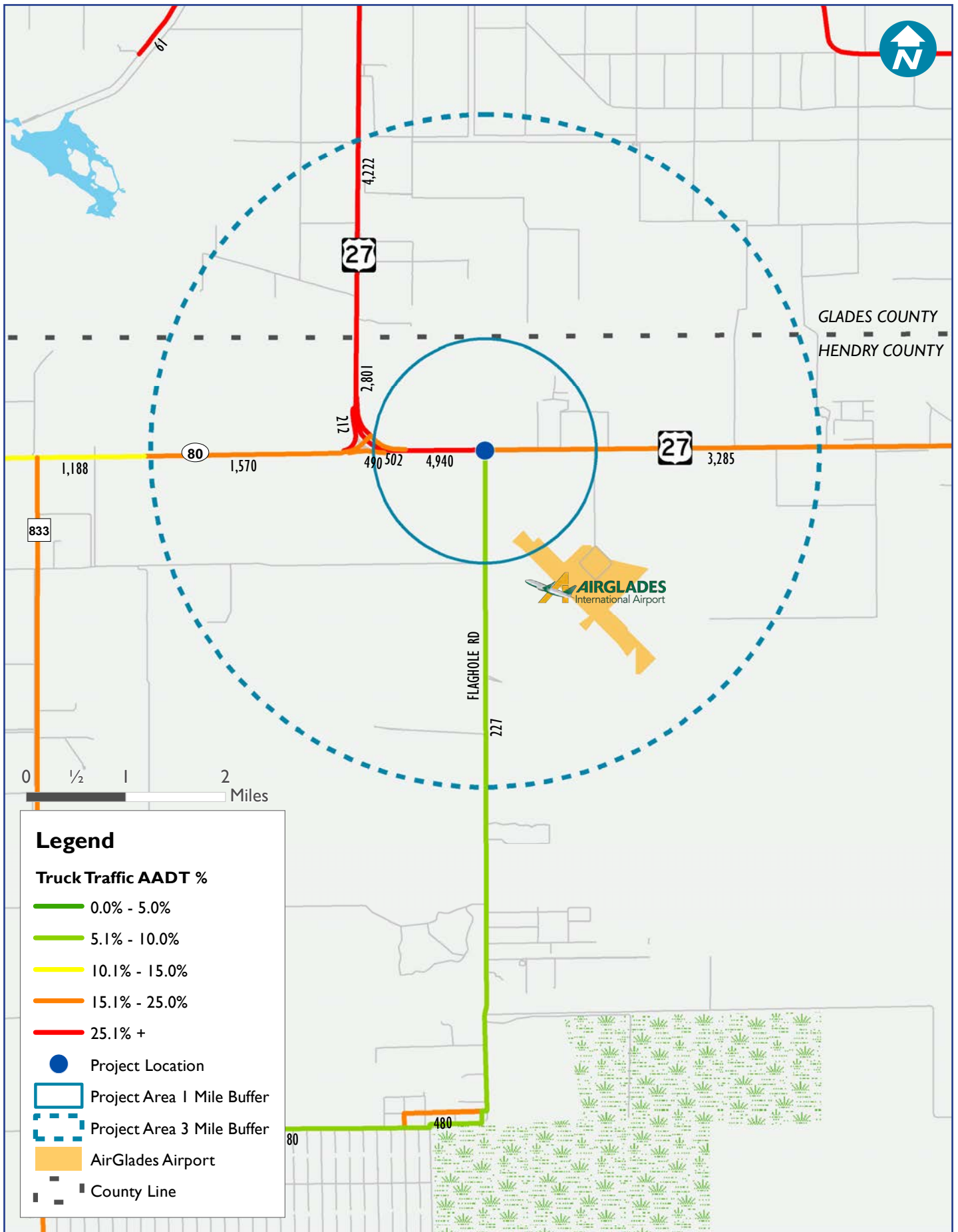


Figure 13: Airglades Study Area Truck AADT Map

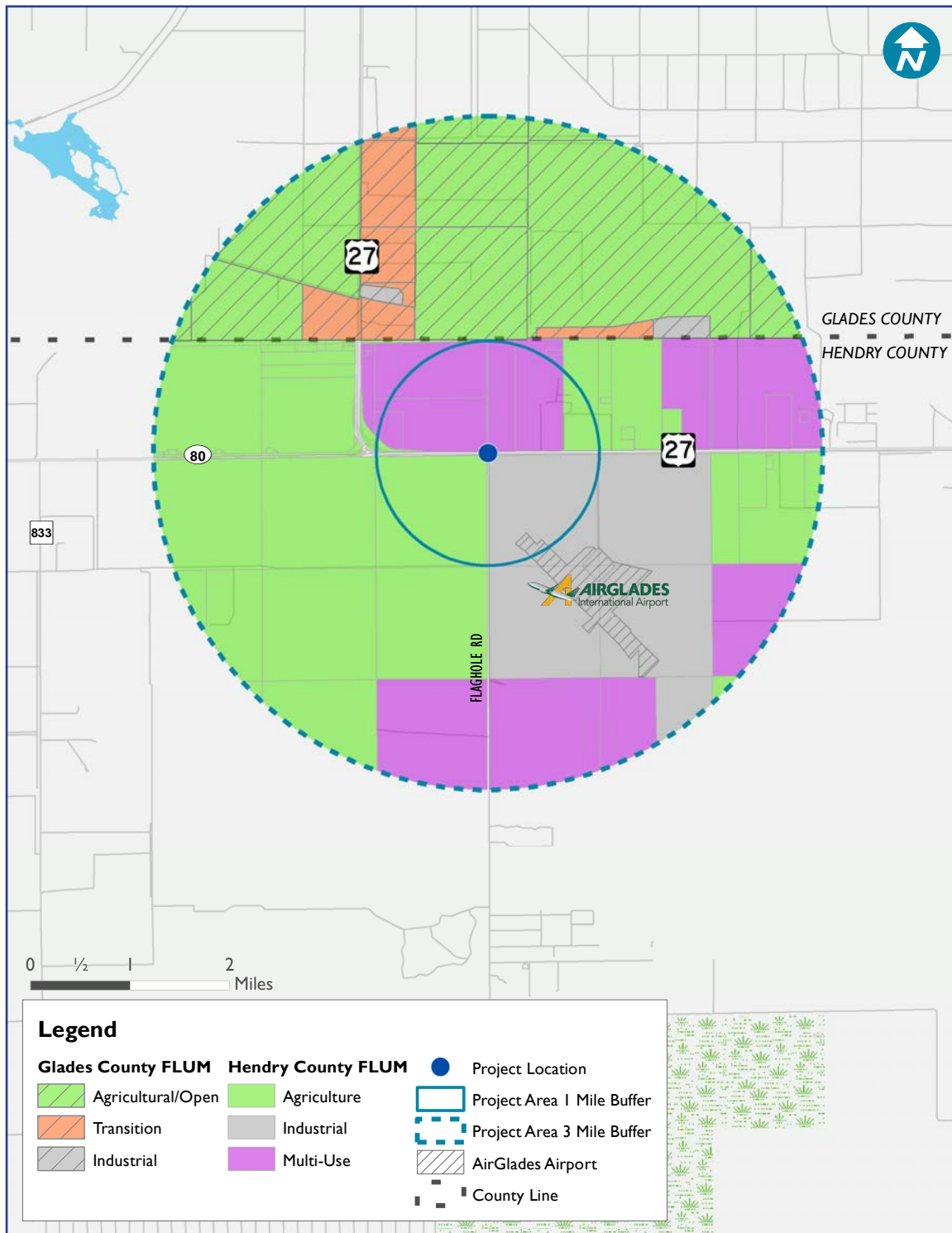


## 1.2 Airglades (US 27 & Flaghole Road) Future Conditions

### 1.2.1 Future Land Use Analysis

The Glades and Hendry County FLUMs were used to complete the future land analysis for the intersection of US 27 and Flaghole Road. Figure 14 displays the FLUMs for both counties. Within the one-mile buffer, future land use was designated as Agriculture (portion of northeast and all of southwest), Multi-Use (north and northwest), and Industrial (southeast). The Multi-Use classification allows for existing agricultural uses, recreational, residential, commercial, institutional, and industrial uses. Additional land uses within the three-mile buffer include Transition, Industrial, and Agricultural/Open; all of which are located north of the intersection. Given these stated future land use classifications, the types of uses identified for the areas around the intersection are likely to create additional vehicular traffic, particularly, truck traffic.

Figure 14: Airglades Study Area Future Land Use Map





## I.2.2 Projected Traffic Conditions

Over the previous eight-year period, traffic volume increased at the US 27 and Flaghole Road intersection by roughly 4.5 percent per year, while truck AADT grew at a rate of 3.7 percent. County population growth statistics show a 0.77 percent growth rate over this eight-year time span. Considering both AADT at the site as well as population growth at the county level, future condition projections were developed assuming a growth rate of 4 percent for AADT, and 3.5 percent for truck AADT. Table 4 shows the projected AADT and Truck AADT at the candidate intersection for the year 2030.

Table 4: Traffic Projections (2030)

AADT			Truck AADT			Truck Traffic Percentage		
2019	2030	% Change	2019	2030	% Change	2019	2030	% Change
18,131	27,912 (+9,781)	+54%	5,671	8,279 (+2,608)	+46%	31%	30%	-1%

## I.3 Conclusion

Key findings from this analysis for the intersection of US 27 and Flaghole Road are highlighted below:

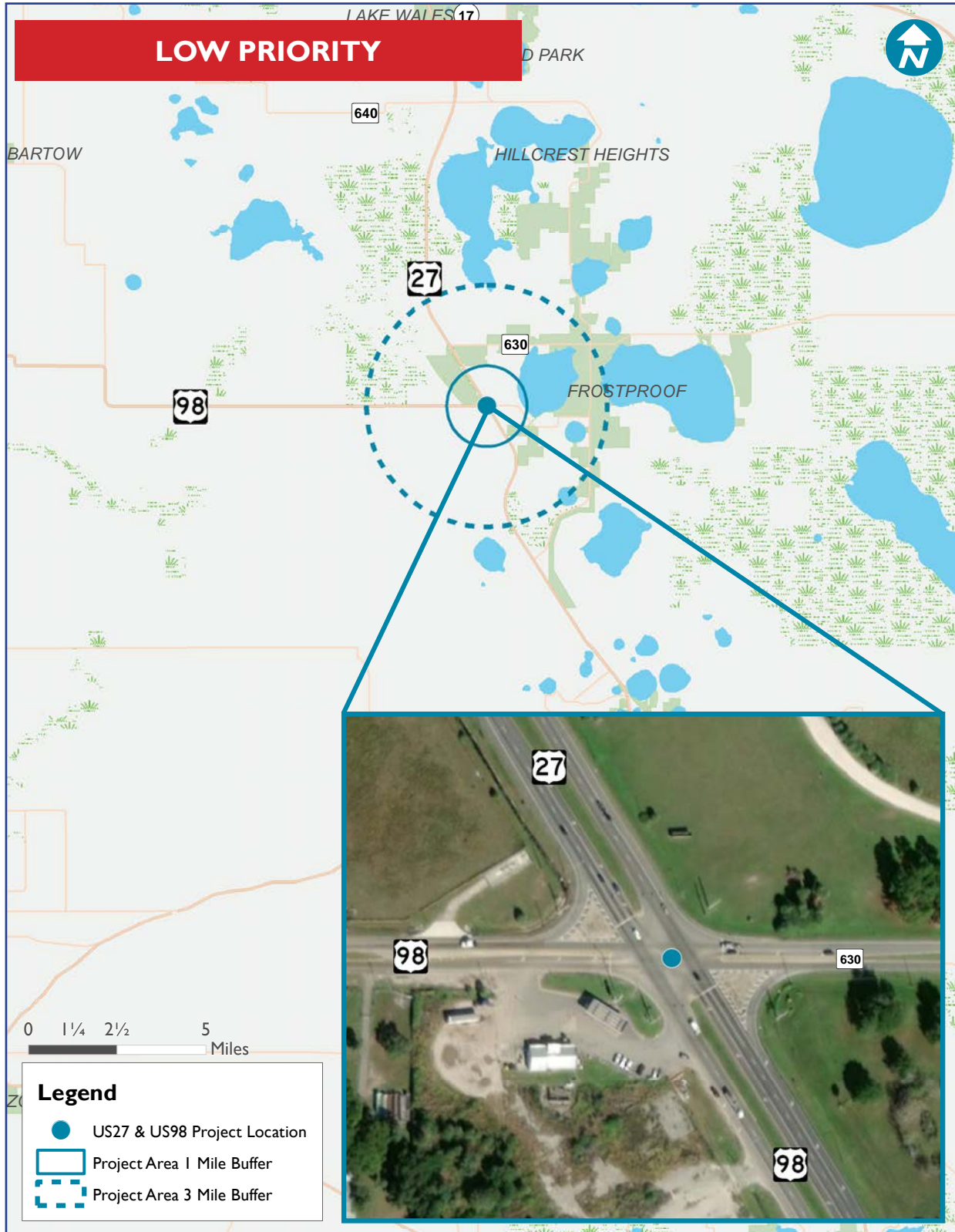
- Current zoning in the immediate vicinity of the intersection includes AOPD - Airport Operations Planned District and A-2 General Agriculture;
- Future land uses in-and-around the study area includes Agriculture, Multi-Use, and Industrial;
- There are currently plans to develop a perishable air cargo distribution complex, 10,000-foot air cargo runway, and associated facilities at Airglades Airport. The Federal Aviation Administration (FAA) issued a Finding of No Significant Impact (FONSI) and Record of Decision (ROD) in response to Hendry County's Environmental Assessment (EA) on 10/17/17.
- A truck entrance to-from the airport is proposed on Flaghole Road;
- US 27 and SR 80 are both included as part of the FDOT SIS network;
- Current AADT on US 27 ranges from 15,200 to 17,200; the highest in the study area;
- Current truck AADT on US 27 ranges from 3,285 to 4,940; the highest in the study area;
- AADT at the candidate intersection is projected by this report to increase to 27,912 by 2030, representing a difference of +9,781 vehicles;
- Truck AADT at the candidate intersection is projected to increase to 8,279 by 2030, representing a difference of +2,608 trucks

The proposed air cargo complex at Airglades Airport includes: a new perishable air cargo distribution center; maintenance, repair, and overhaul facilities; warehouse and distribution facilities; and several other associated developments that will undoubtedly increase both vehicular and truck volumes in the area; particularly, at this candidate intersection site. Between 2019 and 2030, the historical growth data projected 54% AADT growth and 46% Truck growth. Since the overall AADT traffic growth was slightly higher than the projected truck growth, the overall truck percentage drops from 31% in 2019 to 30% in 2030. However, this still represents a significant increase in the number of trucks traversing this intersection by 2,608 truck per day from 5,671 to 8,279. Given the high AADT and 30% truck percentage, this intersection is a strong candidate for conversion to concrete pavement. **If development of the air cargo complex occurs at Airglades International Airport, concrete construction at this site becomes a high priority.** Without the development of the complex, and the resulting increase in truck traffic, this site would be considered a low priority for concrete.

## 2. US 27 and US 98 / CR 630

This study identified the intersection of US 27 and US 98 / CR 630 as a potential candidate for concrete reconstruction. This intersection is located in Frostproof, Florida and shown below in Figure 15. The figure depicts the study area with one-mile and three-mile buffers for data collection and an inset aerial photo of the intersection. There is currently a Marathon gas station in the southwest quadrant of the intersection; all other quadrants of the intersection are currently undeveloped, with the exception of a utility located in the intersection's northwest corner.

Figure 15: US 27 and US 98/CR 630 Site Map



## 2.1 US 27 and US 98/CR 630 Existing Conditions

### 2.1.1 Site Visit

A site visit was conducted for the intersection of US 27 and US 98 / CR 630 on September 30, 2020. Photographs taken during the site visit are shown below (Figure 16 – Figure 21) and reflect conditions as of the date of the site visit.

*Figure 16: Looking Northeast at the Intersection of US 27 and US 98/CR 630*



*Figure 17: Looking West from CR 630*





Figure 18: View from Southeast Quadrant of Intersection Looking East



Figure 19: Looking East from US 98



Figure 20: Looking North towards US 27 from Southwest Quadrant of Intersection



Figure 21: Looking South to US 27

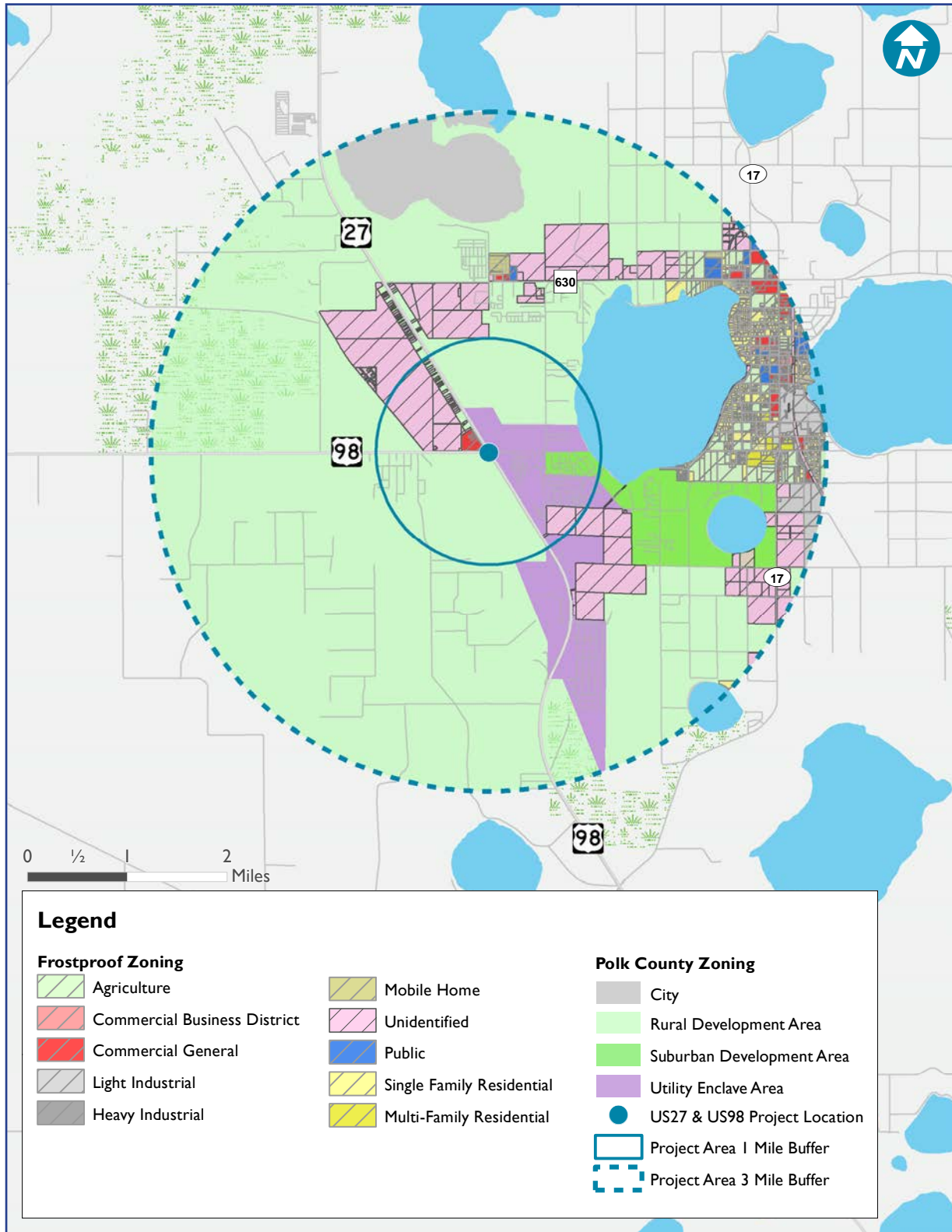




### 2.1.2 Zoning Analysis

Zoning data for the US 27 and US 98 / CR 630 site is shown below in Figure 22. A majority of the areas in the immediate vicinity of the intersection fall within two primary zoning classifications: Rural Development Areas (RDA) and Utility Enclave Areas (UEA). RDAs provide areas for rural activities such as agriculture, mining, and rural residential. UEAs identify isolated areas of urban development that contain centralized water and sewer systems. The northwest quadrant of the intersection is zoned as Commercial General. Commercial General zoning allows for typical uses such as supermarkets, departments stores, banks, offices, restaurants, movie theaters, and other development of this nature.

Figure 22: US 27 and US 98/CR 630 Study Area Zoning Map



### 2.1.3 Planning Document Review

A list of all materials identified as part of this effort are shown below in Table 5. The table includes the document name and source as well as relevant findings from the research. The FDOT District I Five-Year Work Program includes reconstruction and lane additions on US 27 from CR 630A to Presidents Drive. Similarly, the Polk Transportation Planning Organization's (TPO) Long Range Transportation Plan (LRTP) and Transportation Improvement Plan (TIP) identify this lane addition and reconstruction project. These findings were qualitatively considered when performing the traffic analysis portion of this report.

Table 5: Planning Document Review Summary

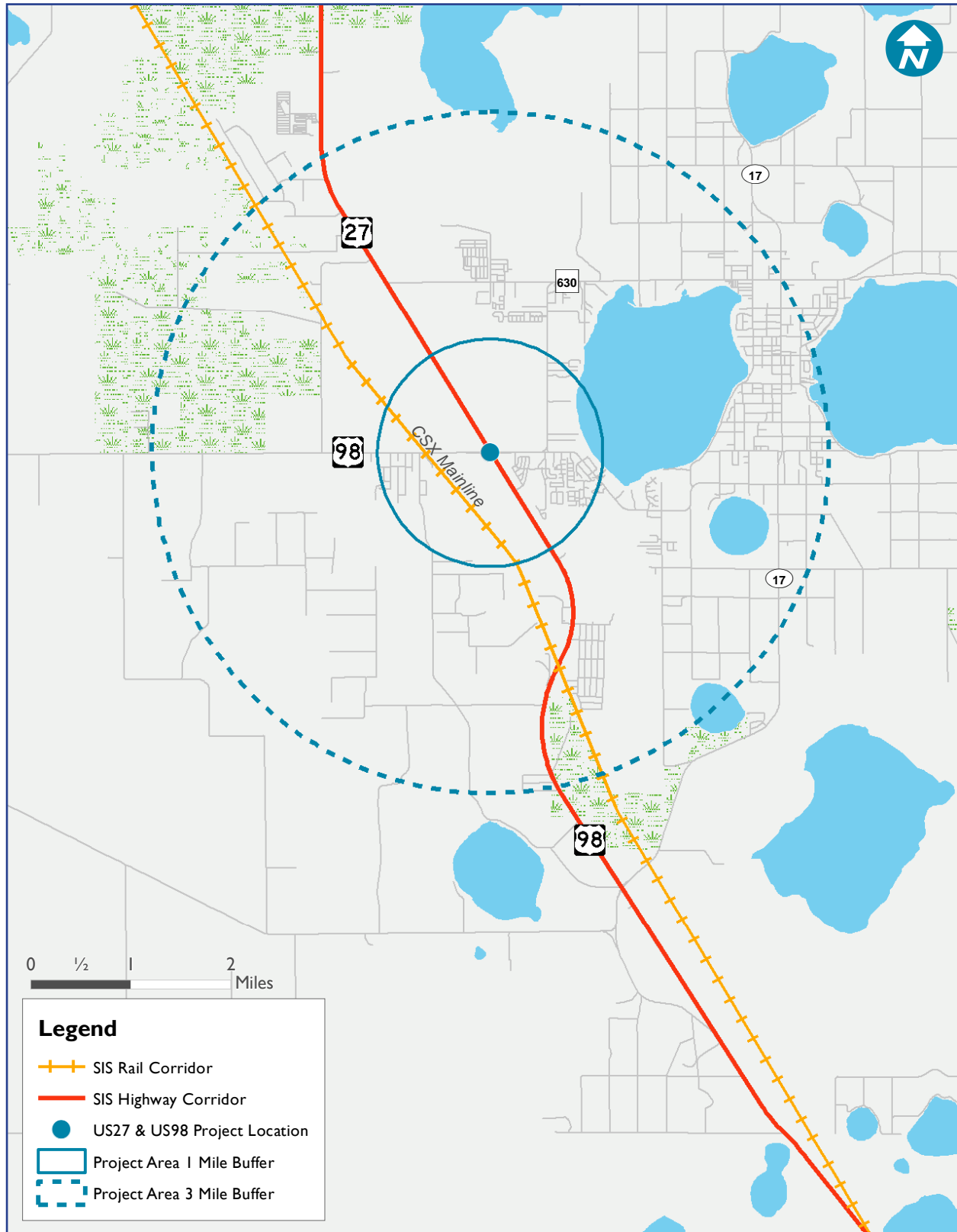
Source	Document/Plan/Website	Notes
Polk TPO	<a href="#">FY 2020/21 to FY 2024/25 TIP</a>	Lane additions and reconstruction from Highlands County line to CR 630A along US27. Approx. 8.612 miles. Mentioned in TIP and LRTP. Funded for FY 21/22.
FDOT	<a href="#">FDOT District I Five-Year Work Program</a>	SR 25 (US 27) from CR 630A to Presidents Drive: Add lanes and reconstruct. Funded for 2020/2021 – 2021/2022.
FDOT	<a href="#">US 27 Purpose and Need Technical Memorandum</a>	US 27 from Highlands County Line to North of SR 60 PD&E Study Purpose and Need Technical Memorandum 2016.
Polk TPO	<a href="#">2040 LRTP</a>	Roadway-Widening US 27 from Presidents Drive to SR 60. Funded for 2021/2022.

## 2.1.4 Roadway Network and Existing Traffic Conditions Analysis

### SIS Facilities

There are two SIS facilities located in the vicinity of the US 27 and US98 / CR 630 intersection. US 27 is designated by FDOT as a Strategic Highway Corridor. The CSX mainline, running north-south along the western boundary of the intersection, is designated as a Strategic Growth Railway Corridor. Both facilities are shown below in Figure 23.

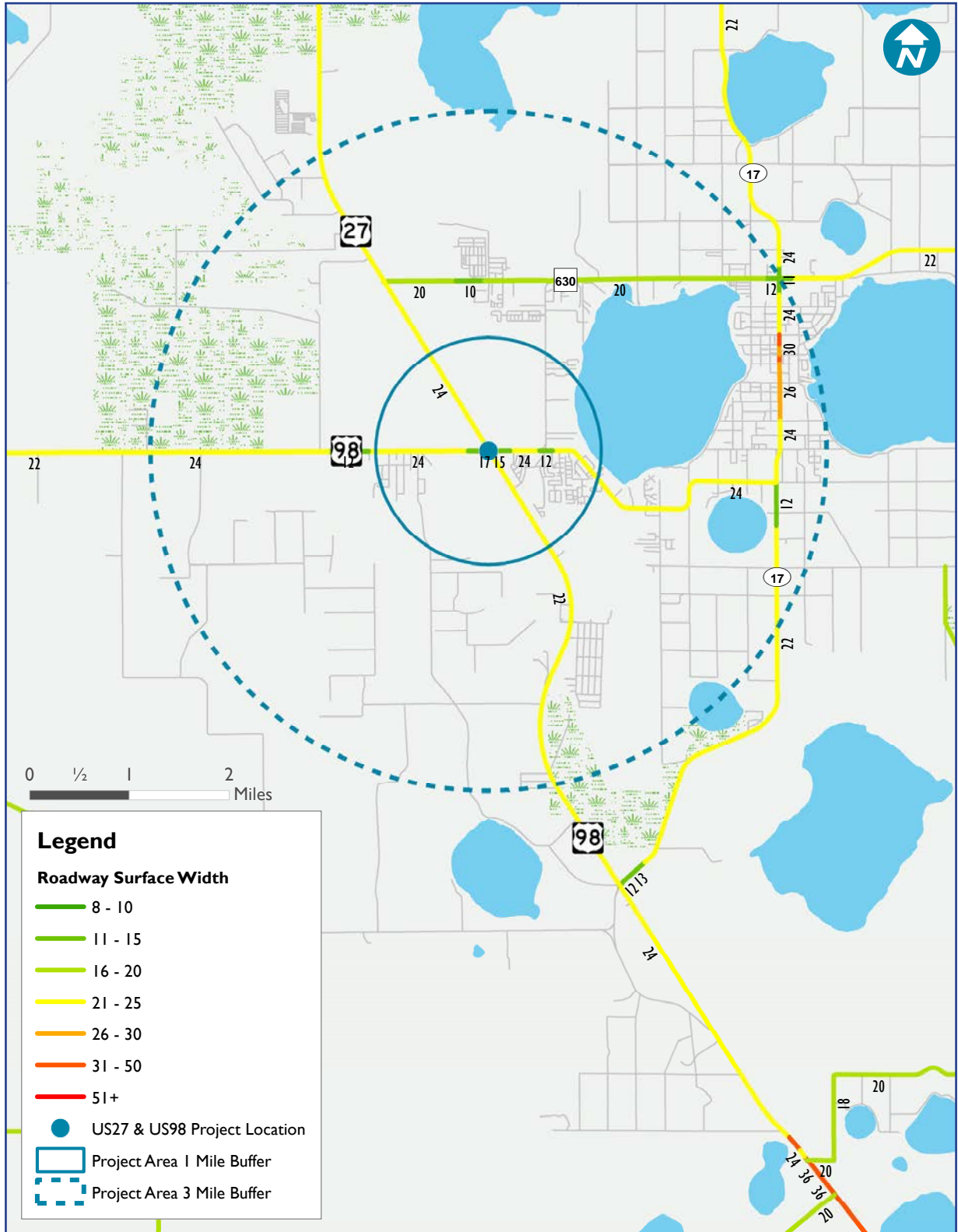
Figure 23: US 27 and US 98/CR 630 Study Area SIS Map



## Roadway Surface Width Assessment

Figure 24 displays the roadway surface width for roadways within the US 27 and US 98 / CR 630 study area. Focusing attention specifically to the areas comprising the candidate intersection, US 27 is its widest north of the intersection (24'). South of the site, US 27 roadway surface width is 22'. At the intersection, roadway surface width for US 98 is measured at 17'; with CR 630 measured at 15'. As currently constructed, the intersection roadway surface widths are appropriate for large truck traffic and higher speeds of travel. Roadway widening projects along US 27, as mentioned in section 2.1.3, will affect the results shown in Figure 24.

Figure 24: US 27 and US 98/CR 630 Study Area Roadway Surface Width Map





**AADT and Truck AADT**

AADT and truck AADT for the intersection of US 27 and US 98/CR 630 study area are shown below in Figure 25 and Figure 26, respectively. The highest AADT in both the one-mile and three-mile buffers (19,700) was experienced directly south of the intersection. At this count site, truck AADT of 3,763 comprises approximately 20 percent of total traffic volume. Counts occurring just north of the intersection reflect AADT of 18,700, the second largest in the study area. AADT east and west of the intersection are identified as 3,600 (CR 630) and 3,400 (US 98). Truck AADT was 13 percent of the study area traffic on CR 630, and 14 percent of all vehicles in the US 98 portion of the buffer zones.

Figure 25: US 27 and US 98/CR 630 Study Area AADT Map

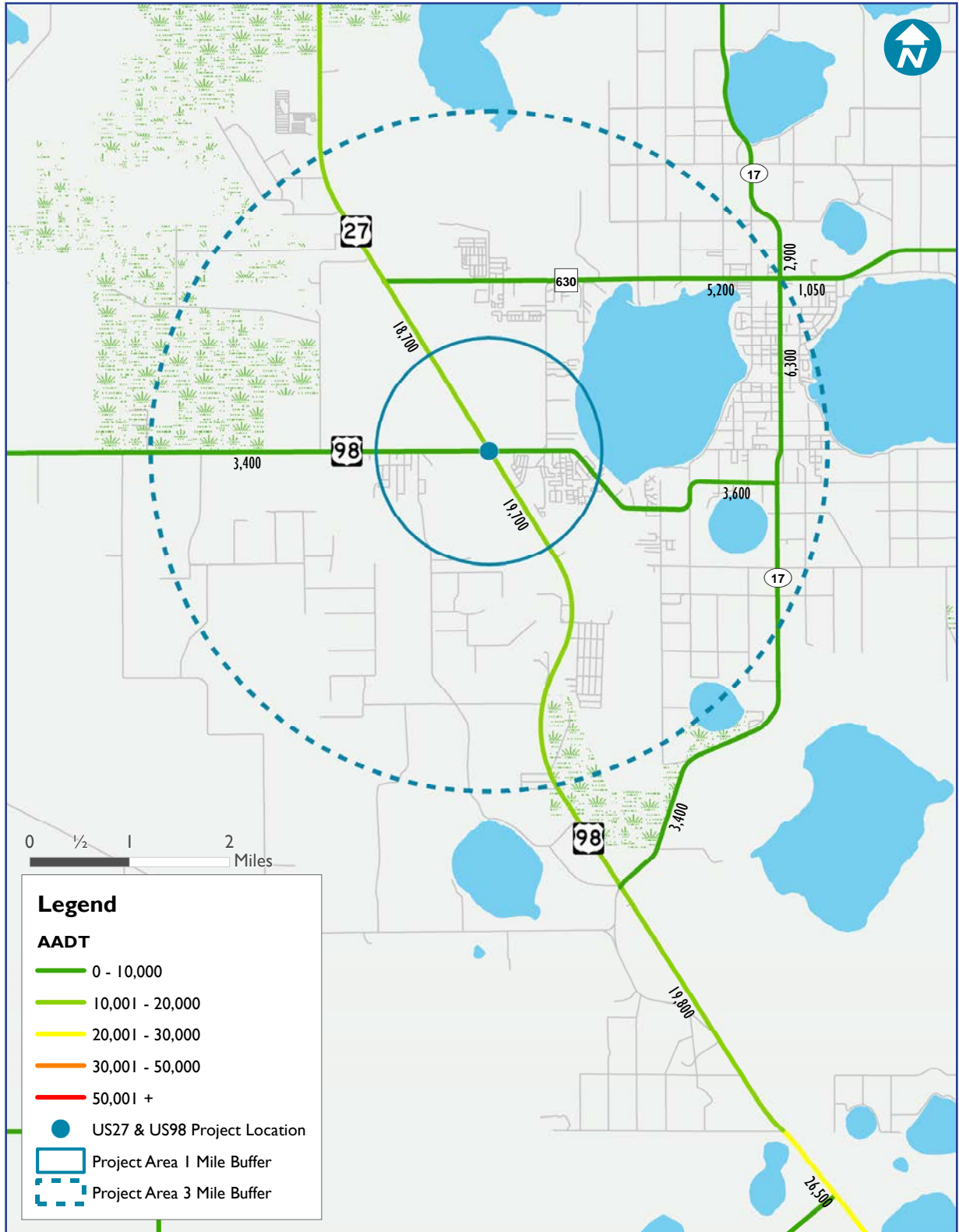
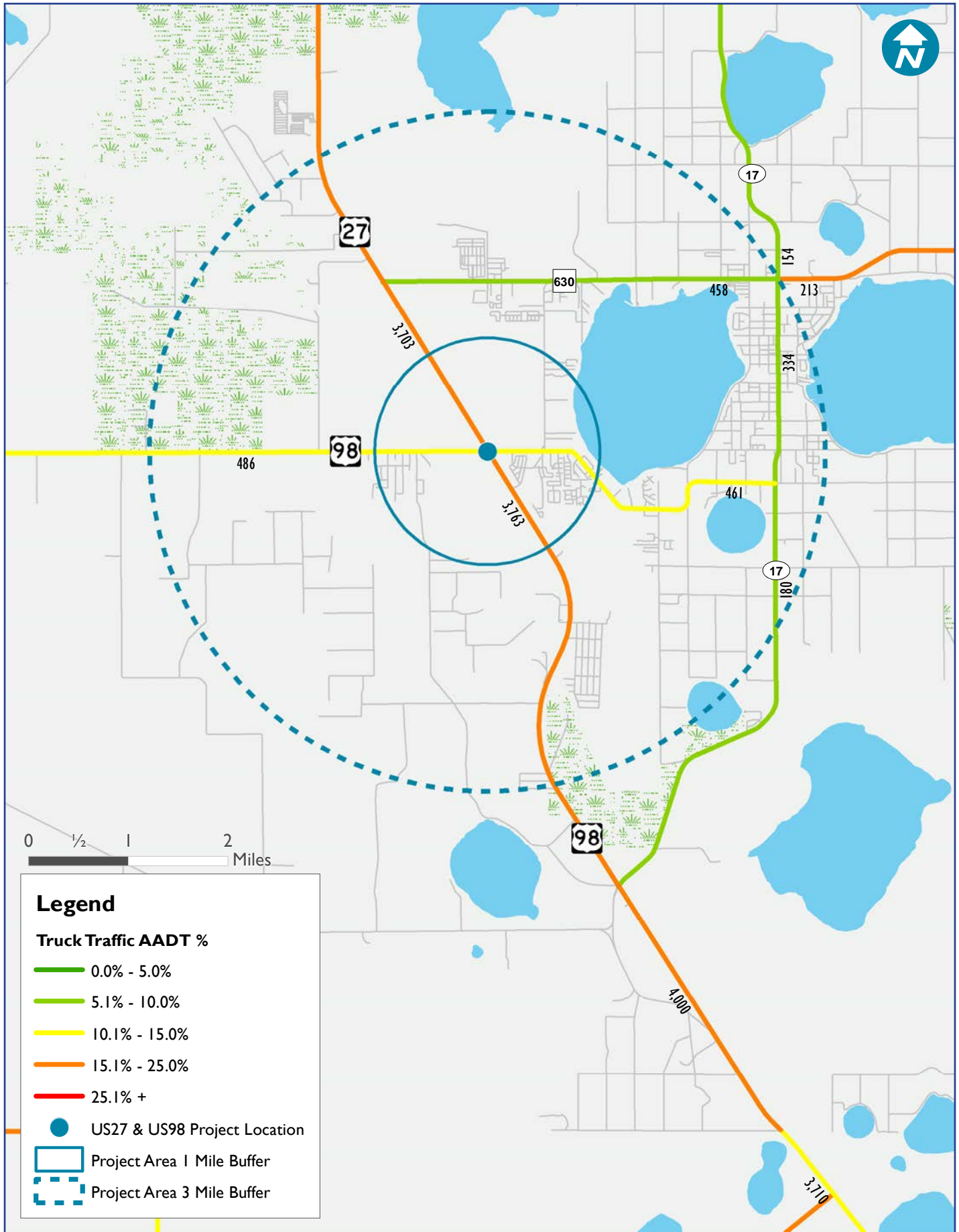


Figure 26: US 27 and US 98/CR 630 Study Area Truck AADT Map

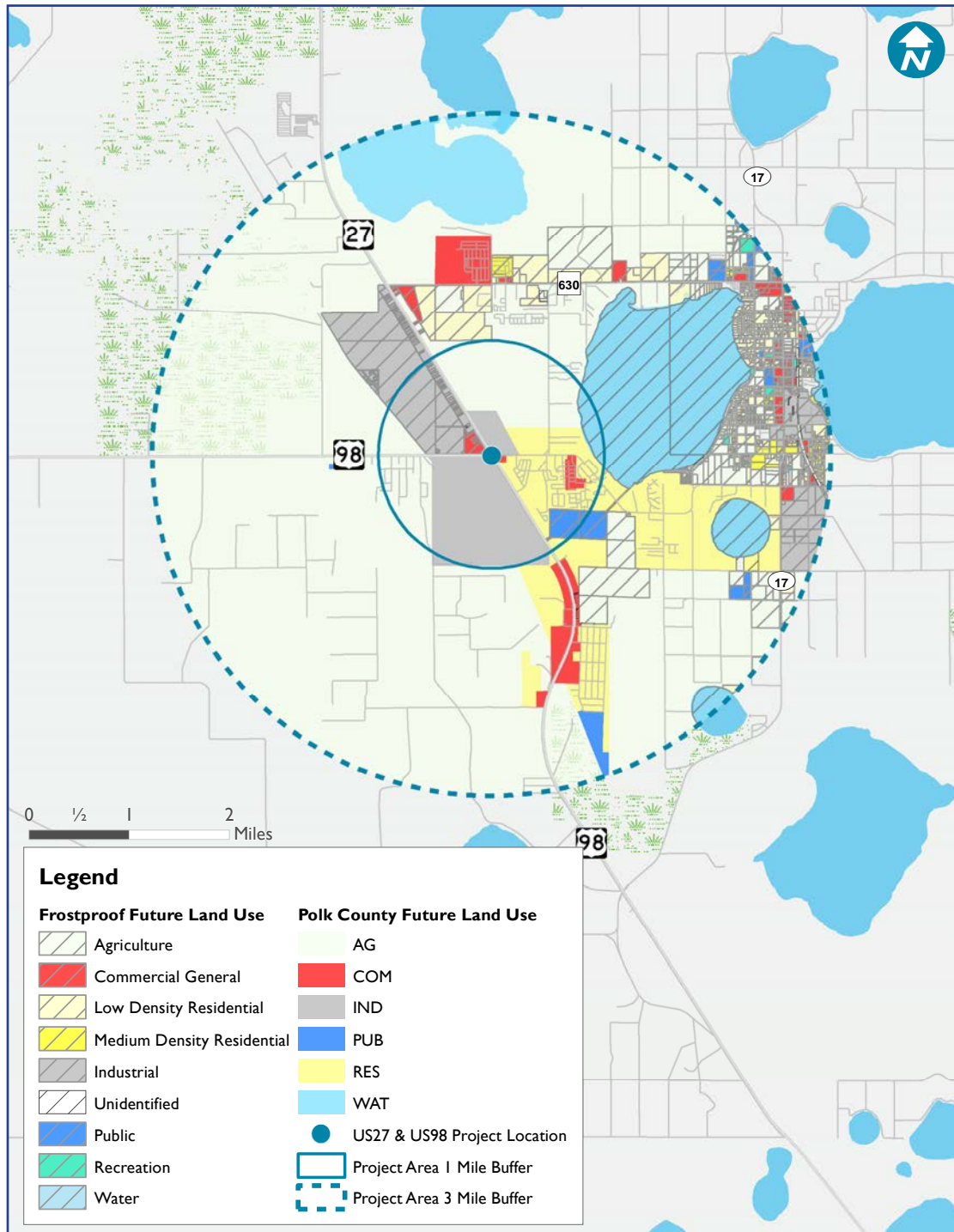


## 2.2 US 27 and US 98 / CR 630 Future Conditions

### 2.2.1 Future Land Use Analysis

Both the City of Frostproof and Polk County FLUMs (Figure 27) were used to complete the future land analysis for the intersection of US 27 and US 98/CR 630. The northwest and southeast quadrants of the intersection designate future land use for Commercial use, while the southwest and northeast quadrants are Industrial. Future land use directly west of the intersection, primarily within the one-mile buffer, is designated for Industrial use. Given these stated land development goals, the types of uses identified for the areas around the intersection are likely to create additional vehicular traffic, particularly, truck traffic. Agricultural use comprises the remaining lands west of the intersection, extending into the three-mile buffer, and beyond. Within the one-mile buffer, Low Density Residential and Public lands extend east from the intersection and into the three-mile buffer. A cluster of Industrial development is located further west, along SR 17. Low Density Residential and Commercial General land uses are sited south of the intersection, along US 27.

Figure 27: US 27 and US 98/CR 630 Study Area Future Land Use Map





## 2.2.2 Projected Traffic Conditions

Over the previous eight-year period, traffic volume increased at the US 27 and US 98 / CR 630 intersection by roughly 3.7 percent per year. Truck AADT grew at a nearly similar rate of 3.5 percent. County population growth statistics show a 2.15 percent growth rate over this eight-year timespan. Considering both AADT at the study site as well as population growth at the county level, future condition projections were developed assuming a growth rate of 3 percent for both AADT and Truck AADT. Table 6 shows the projected AADT and Truck AADT at the candidate intersection for the year 2030.

Table 6: Traffic Projections (2030)

AADT			Truck AADT			Truck Traffic Percentage		
2019	2030	% Change	2019	2030	% Change	2019	2030	% Change
22,600	31,284 (+8,684)	+38.4%	4,612	6,384 (+1,772)	+38.4%	20%	20%	0%

## 2.3 Conclusion

Key findings from this analysis for the intersection of US 27 and US 98 / CR 630 are highlighted below:

- Current zoning in the immediate vicinity of the intersection includes Rural Development Areas, Utility Enclave Areas, and Commercial General;
- Future land uses in-and-around the study area includes Industrial, Commercial General, and Low Density Residential;
- A widening and reconstruction project is planned within the study area, along US 27 from CR 630A to Presidents Drive. Project includes adding lanes and reconstructing. Funded for 2020/2021 – 2021/2022;
- US 27 and the nearby CSX Mainline are both included as part of the FDOT SIS network.
- Current AADT on US 27 ranges from 18,700 to 19,700; the highest in the study area.
- Current US 27 truck AADT ranges from 3,703 to 3,763; the highest in the study area.
- AADT at the candidate intersection is projected by this report to increase to 31,284 by 2030, representing a difference of +8,684 vehicles;
- Truck AADT at the candidate intersection is projected by this report to increase to 6,384 by 2030, representing a difference of +1,772 trucks

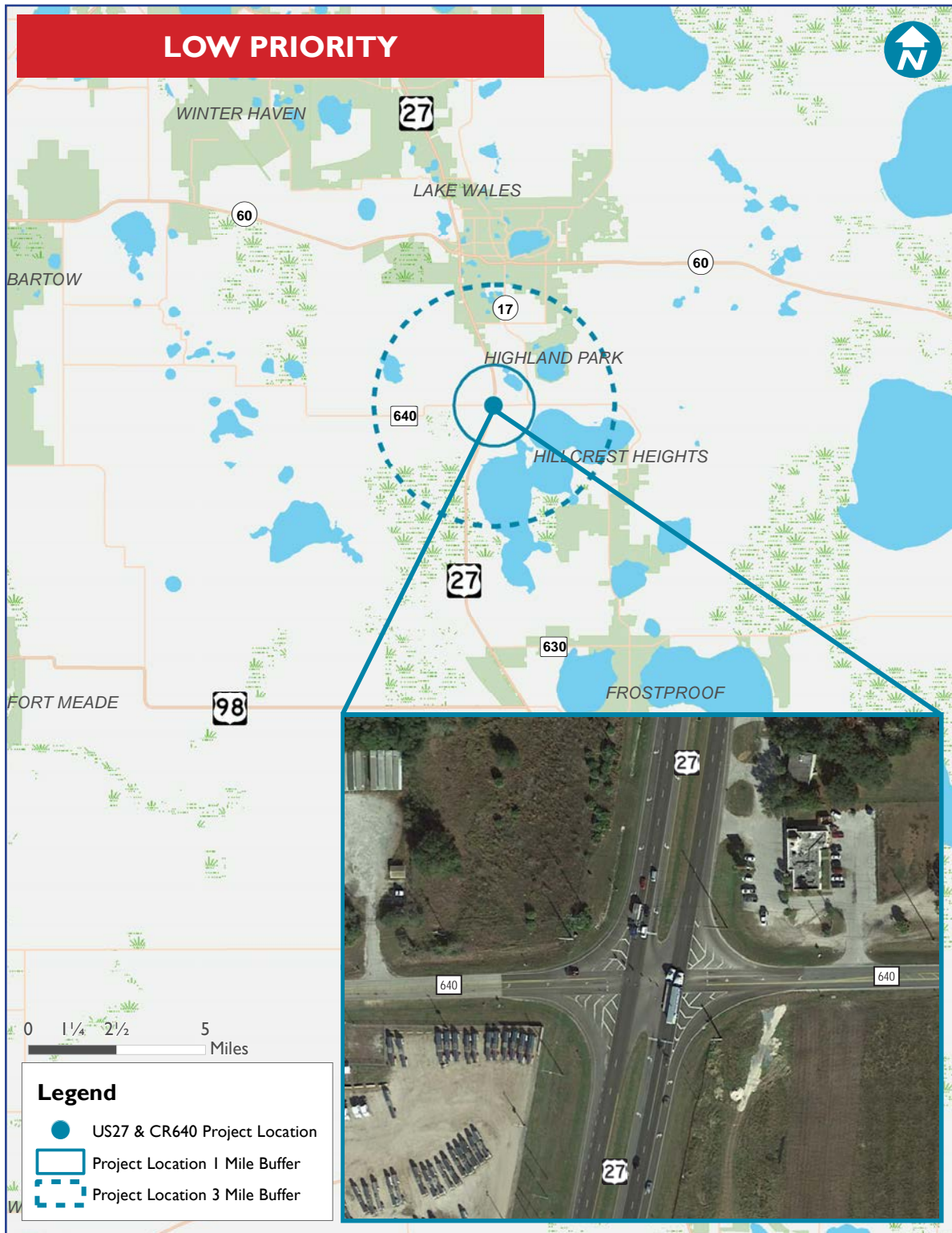
Based on historical data, this intersection grew at a rate of 3.7 percent, with a truck growth rate of 3.5 percent. The growth rate was reduced to 3 percent for overall AADT and truck growth because the intersection is expected to grow similarly to the population rate, which was lower at 2.15 percent. US 27 to the north, and US 98 to the south, are both classified as an SIS route. The north/south route carries high vehicular and truck traffic volumes through Central Florida. The eastern leg of the intersection provides access to a residential area, and the western leg provides access to Fort Meade. Although this intersection carries high north/south traffic volumes, there are low turning movements for heavy vehicles. There are currently no industrial facilities within the adjacent area, the future land use map shows that the area may be an appropriate candidate for industrial development. **This is a low priority location based on low existing truck movements along the minor roadway. This location may warrant future analysis if industrial facilities are constructed within the adjacent area.**



### 3. US 27 and CR 640

This study identified the intersection of US 27 and CR 640 (Alturas Babson Park Cut-Off Road/Pine Crest Road) as a potential candidate for concrete reconstruction. This intersection is located in Lake Wales, Florida and shown below in Figure 28. The figure depicts the study area with one-mile and three-mile buffers for data collection and an inset aerial photo of the intersection. Headquarters for Oakley Trucking, Inc. is located at the southwest quadrant of the intersection, with a restaurant in the northeast portion. The intersection's southeast and northwest corner are both currently vacant and undeveloped. Semi-trucks are currently sitting in a lot just west of the vacant parcel at the intersection's northwest corner.

Figure 28: US 27 and CR 640 Site Map



## 3.1 US 27 and CR 640 Existing Conditions

### 3.1.1 Site Visit

A site visit was conducted for the intersection of US 27 and CR 640 on September 30, 2020. Photographs taken during the site visit are shown below (Figure 29 –Figure 33), and reflect conditions as of the date of the site visit.

Figure 29: Looking East at the Intersection of US 27 and CR 640



Figure 30: Roadway Conditions Approaching the Intersection from the East on CR 640





Figure 31: Looking Southwest from US 27



Figure 32: Looking East at the Intersection from CR 640



Figure 33: Roadway Conditions Approaching the Intersection from the West on CR 640

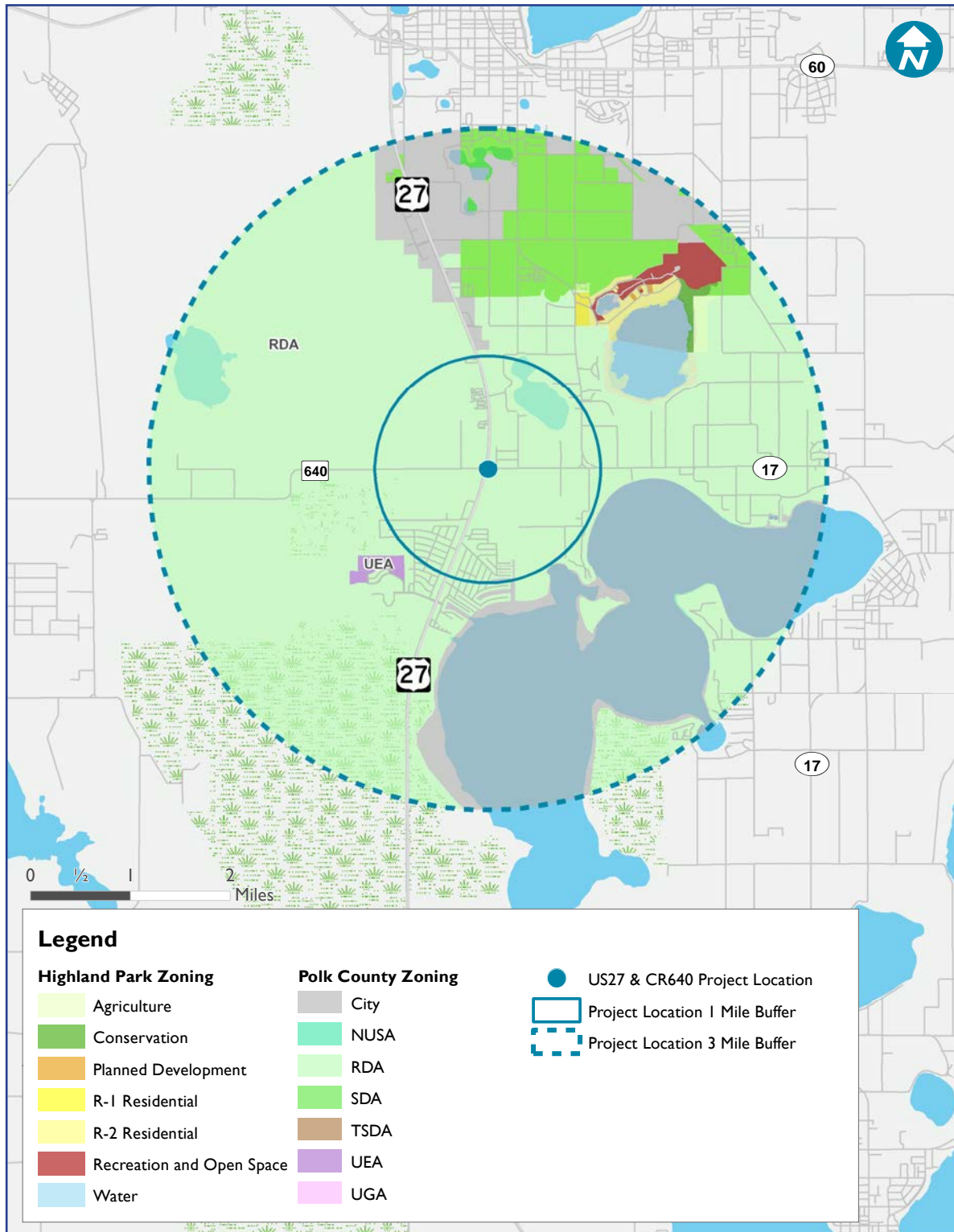




### 3.1.2 Zoning Analysis

Zoning data for the US 27 and CR 640 site is shown below in Figure 34. The entire one-mile buffer study area falls within the Polk County Rural Development Area (RDA) zoning designation. RDAs provide for rural activities, such as agricultural, mining, and rural residential development. A Utility Enclave Area (UEA) - an isolated area of urban development that contains centralized water and sewer systems - is located directly southwest of the one-mile buffer. The Village of Highland Park, located in the northeast portion of the three-mile buffer, contains land designated for Recreation and Open Space and R-1 (Estate Residential) and R-2 (Single Family Residential).

Figure 34: US 27 and CR 640 Study Area Zoning Map



### 3.1.3 Planning Document Review

A list of all materials identified as part of this effort are shown below in Table 7. The table includes the document name and source as well as relevant findings from the research. In 2016, District I completed the US 27 from Highlands County Line to North of SR 60 PD&E Study Purpose and Need Technical Memorandum. The proposed project calls for a capacity increase to meet projected level of service deficiencies. This project was also identified in the Polk County Transportation Planning Organization (Polk TPO) 2040 LRTP.

Table 7: Planning Document Review Summary

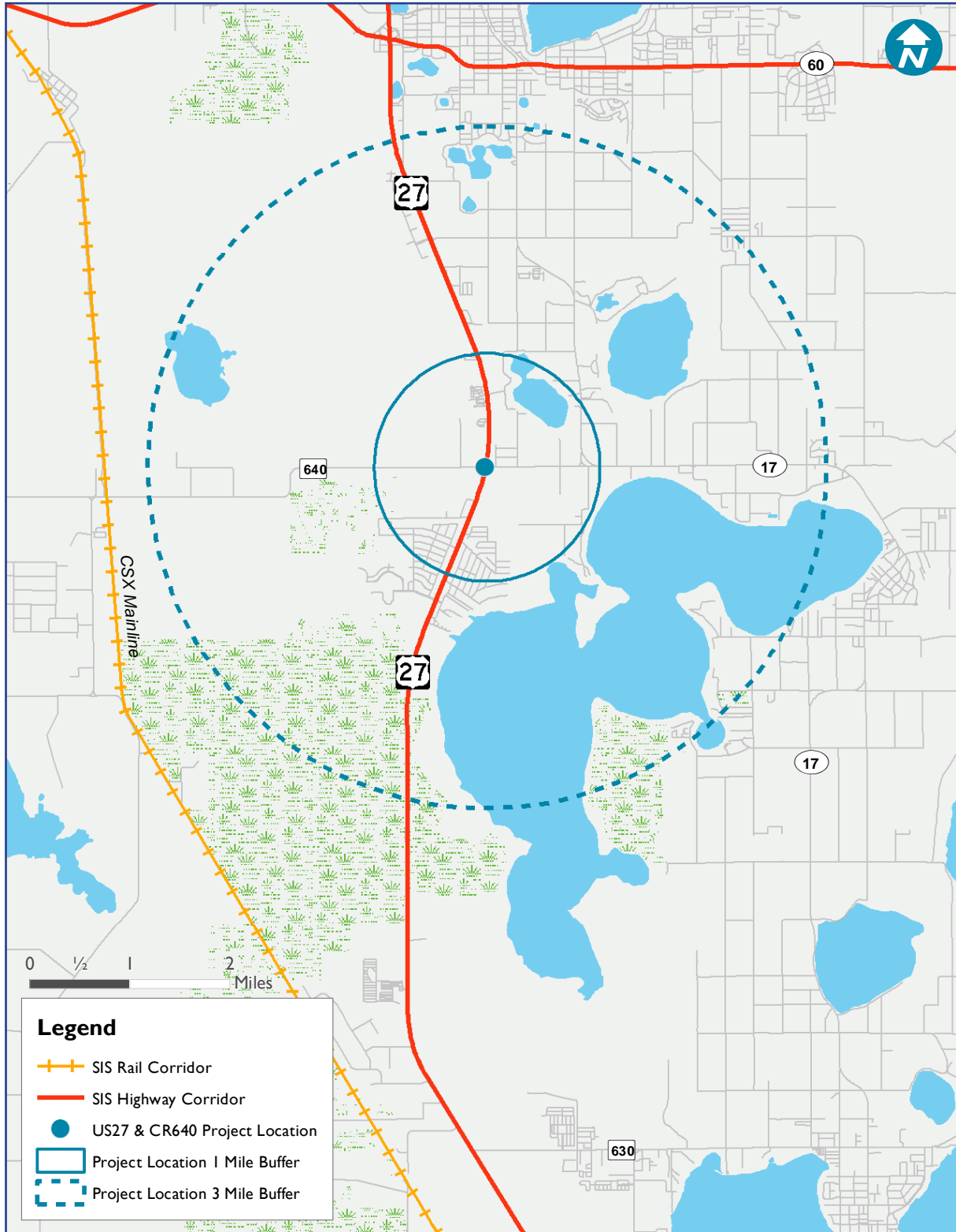
Source	Document/Plan/Website	Notes
FDOT	<a href="#">US 27 PD&amp;E Study Purpose and Need Technical Memorandum</a>	US 27 from Highlands County Line to North of SR 60 PD&E Study Purpose and Need Technical Memorandum 2016.
Polk TPO	<a href="#">2040 LRTP</a>	Roadway-Widening US 27 from Presidents Drive to SR 60. Construction scheduled 2026-2030.

### 3.1.4 Roadway Network and Existing Traffic Conditions Analysis

#### SIS Facilities

There was one SIS facility located in the vicinity of the US 27 and CR 640 intersection. US 27 is designated by FDOT as a Strategic Highway Corridor, and shown below in Figure 35. SR 60, another SIS roadway and Strategic Highway Corridor, is located just north of the three-mile buffer/study area. Also, the CSX mainline, running north-south to the east of the intersection, is designated as a Strategic Growth Railway Corridor

Figure 35: US 27 and CR 640 Study Area SIS Map

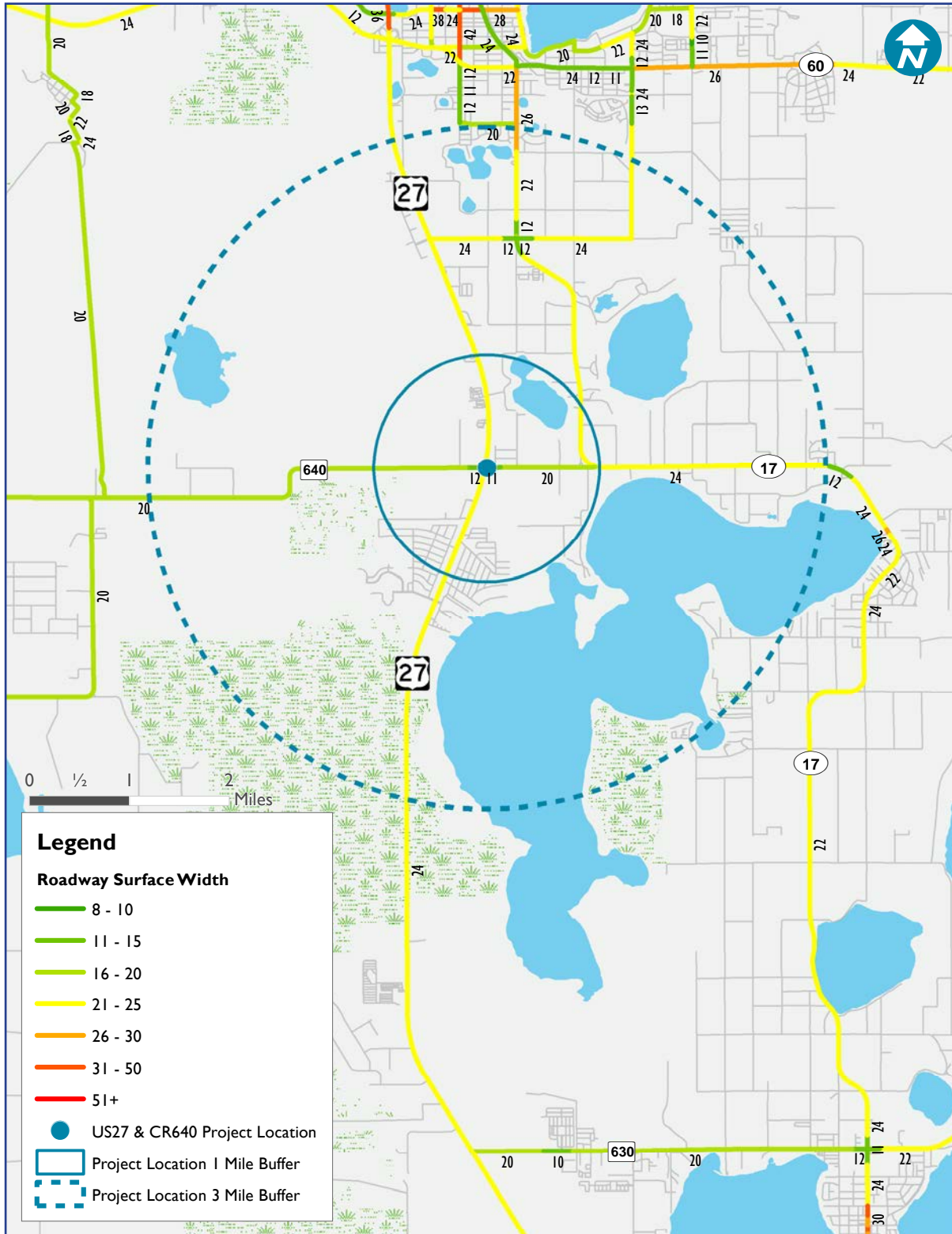




Roadway Surface Width Assessment

Figure 36 displays the roadway surface width for roadways within the US 27 and CR 640 study area. US 27 roadway surface width remains consistent within the study area at 24'. Roadway surface width on CR 640 is 12' (west) and 11' (east). As currently constructed, US 27 roadway surface width is appropriate for large truck traffic and higher speeds of travel. Roadway widening projects along US 27, as mentioned in section 3.1.3, will affect the results shown in the figure. The narrower roadway surface width approaching the intersection on CR 640 is less favorable for large truck traffic, and indicates a slower speed pattern for vehicles.

Figure 36: US 27 and CR 640 Study Area Roadway Surface Width Map



**AADT and Truck AADT**

AADT and truck AADT for the intersection of US 27 and CR 640 are shown below in Figure 37 and Figure 38, respectively. The highest AADT in both the one-mile and three-mile buffers (25,644) was experienced at a count site on US 27, approximately 2 miles north of the intersection. At this site, truck AADT was 3,282, also the highest in the study area, and comprising approximately 13 percent of total traffic volume. Just east of the intersection, on CR 640, AADT was measured at 4,200, with truck AADT of 538.

Figure 37: US 27 and CR 640 Study Area AADT Map

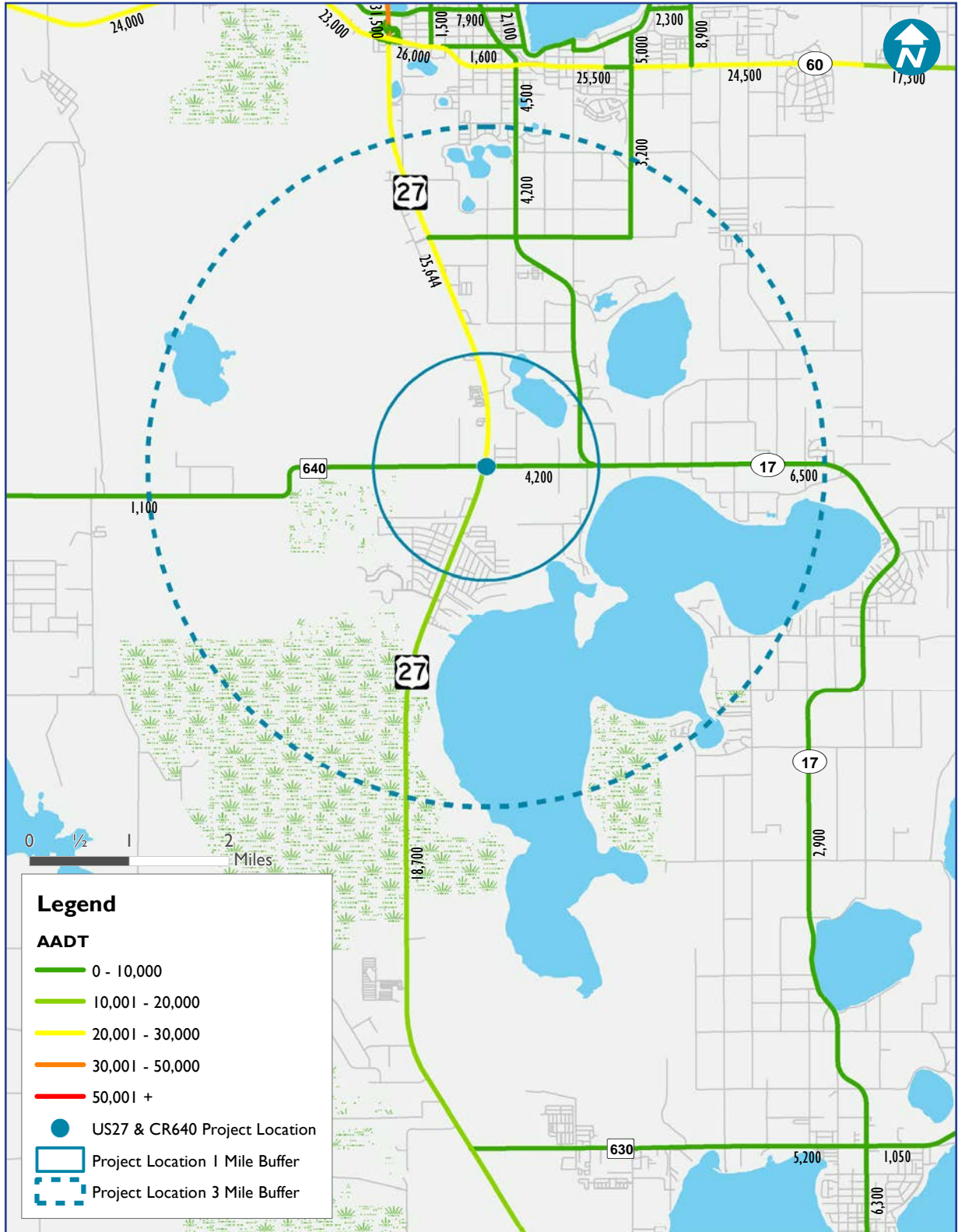
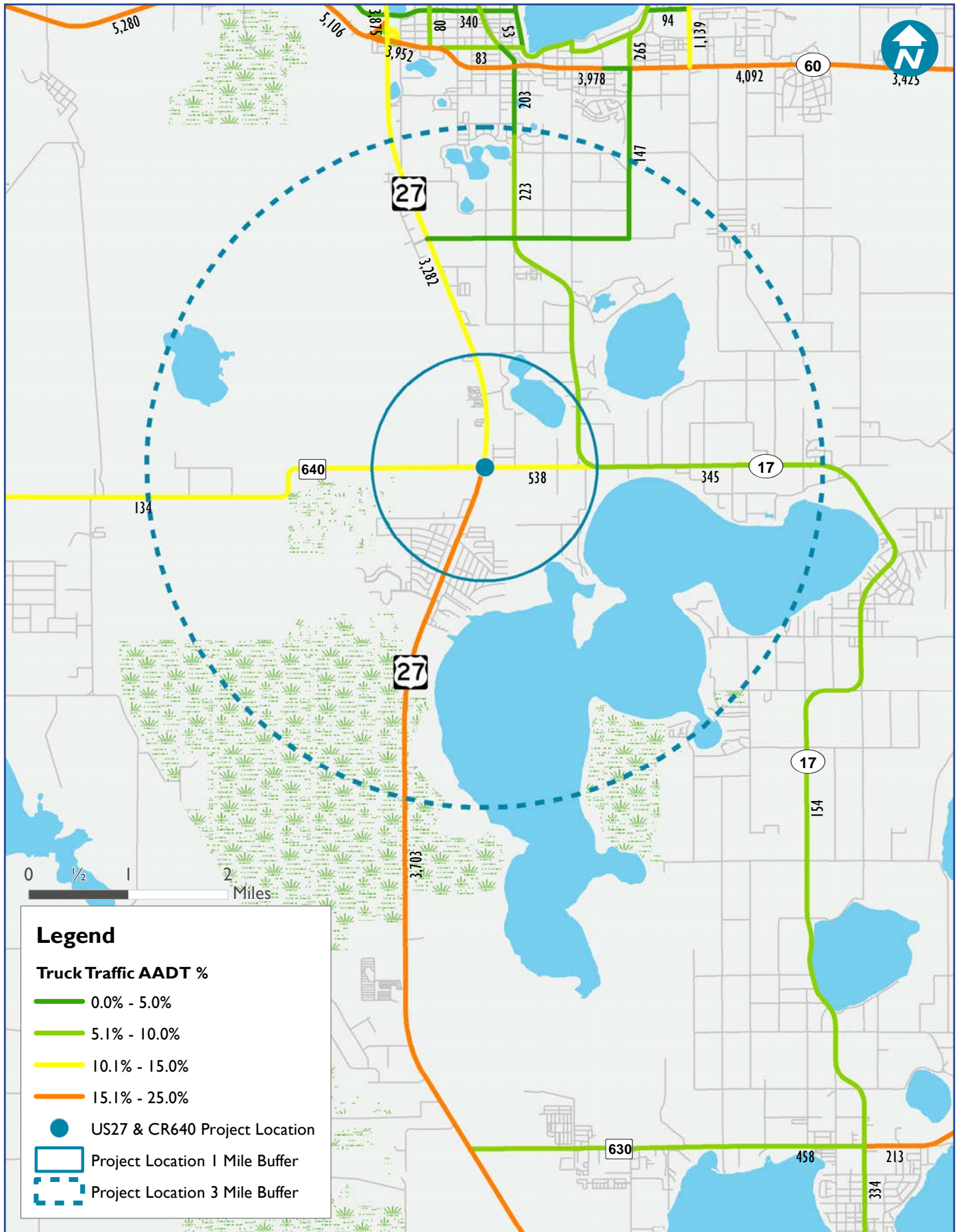




Figure 38: US 27 and CR 640 Study Area Truck AADT Map

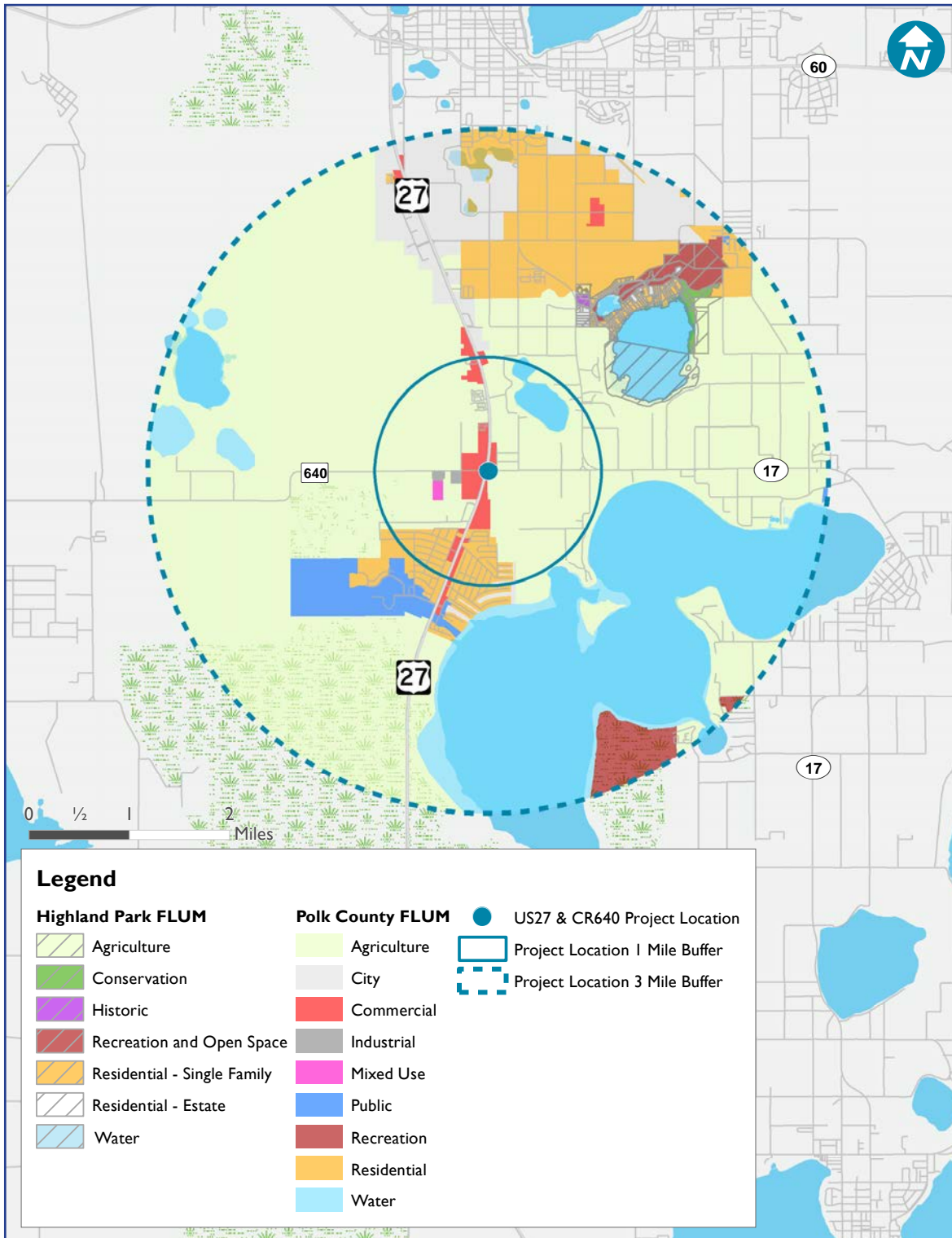


## 3.2 US 27 and CR 640 Future Conditions

### 3.2.1 Future Land Use Analysis

Both the Village of Highland Park and Polk County FLUMs (Figure 27) were used to complete the future land use analysis for the intersection of US 27 and CR 640. All four corners of the intersection have been designated for Commercial use in the Polk County FLUM. Future commercial development at the site will almost certainly impact traffic volume and conditions. Additional Commercial properties overlap the border of the one-mile and three-mile buffers north of the intersection. Small pockets of Industrial and Mixed Use are located west of the intersection, on CR 640. Single Family Residential and Public uses are identified south of the intersection, within both the one-mile and three-mile buffers.

Figure 39: US 27 and CR 640 Study Area Future Land Use Map





### 3.2.2 Projected Traffic Conditions

Over the previous eight-year period, traffic volume increased at the US 27 and CR 640 intersection by roughly 3.5 percent per year. Truck AADT grew at a nearly similar rate of 3.8 percent. County population growth statistics show a 2.15 percent growth rate over this eight-year timespan. Considering both AADT at the study site as well as population growth at the county level, future condition projections were developed assuming a growth rate of 3 percent for both AADT and Truck AADT. Table 8 shows the projected AADT and Truck AADT at the candidate intersection for the year 2030.

Table 8: Traffic Projections (2030)

AADT			Truck AADT			Truck Traffic Percentage		
2019	2030	% Change	2019	2030	% Change	2019	2030	% Change
26,489	36,667 (+10,178)	38.4%	4,454	6,165 (+1,711)	38.4%	17%	17%	0%

### 3.3 Conclusion

Key findings from this analysis for the intersection of US 27 and CR 640 are highlighted below:

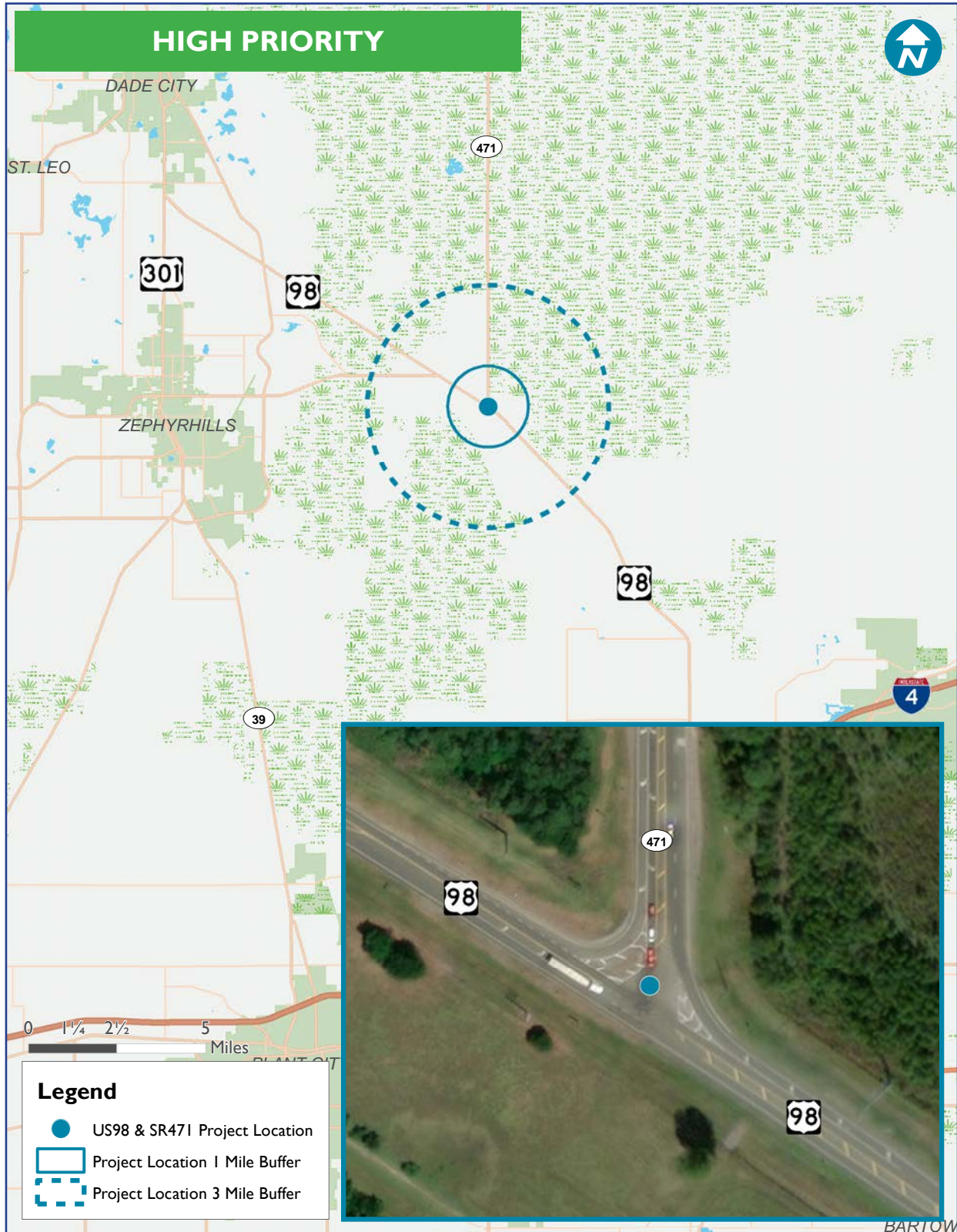
- Current zoning in the immediate vicinity of the intersection is comprised almost entirely of Agricultural use;
- Future land uses in-and-around the study area include Commercial, Industrial, and Single Family Residential.
- A widening and reconstruction project is planned within the study area, along US 27 from Presidents Drive to SR 60. Construction scheduled for 2026-2030;
- US 27 was the sole FDOT SIS facility within the study area;
- AADT on US 27 was 25,644; the highest in the study area;
- Truck AADT on US 27 was 3,282; the highest in the study area;
- AADT at the candidate intersection is projected by this report to increase to 36,667 by 2030, representing a difference of +10,178 vehicles;
- Truck AADT at the candidate intersection is projected by this report to increase to 6,165 by 2030, representing a difference of +1,711 trucks

Based on historical growth rates, this intersection grew at a rate of 3.5 percent, with a truck growth of 3.8 percent. The growth rate was reduced to 3 percent for the overall AADT and truck growth to mimic the lower census growth rate of 2.15 percent. US 27 is a SIS route with high traffic volumes. The east route does not carry many heavy vehicles, as it primarily connects to a residential area. The west leg has some industrial facilities directly adjacent that produce turning truck movements; however, there are minimal developments to the west. There was no planned industrial development in the area, and few other planned residential developments. **This location is a low priority for a concrete intersection.**

## 4. US 98 and SR 471

This study identified the intersection of US 98 and SR 471 as a potential candidate for concrete reconstruction. This intersection is located in Lakeland, FL, and shown below in Figure 15. The figure depicts the study area with one-mile and three-mile buffers for data collection and an inset aerial photo of the intersection. SR 471 runs north and dead-ends at its intersection with US 98, which runs northwest – southeast. The intersection is currently surrounded by vacant and undeveloped property.

Figure 40: US 98 and SR 471 Site Map





## 4.1 US 98 and SR 471 Existing Conditions

### 4.1.1 Site Visit

A site visit was conducted for the intersection of US 98 and SR 471 on January 1, 2021. Photographs taken during the site visit are shown below (Figure 3 – Figure 8), and reflect conditions as of the date of the site visit.

Figure 41: SR 471 Looking South to US 98



Figure 42: SR 471 Looking South to US 98



Figure 43: View of Intersection from SR 471



Figure 44: US 27 Looking North on SR 471





Figure 45: Looking Southeast to US 98 from SR 471



Figure 46: Looking Northwest to US 98 from SR 471

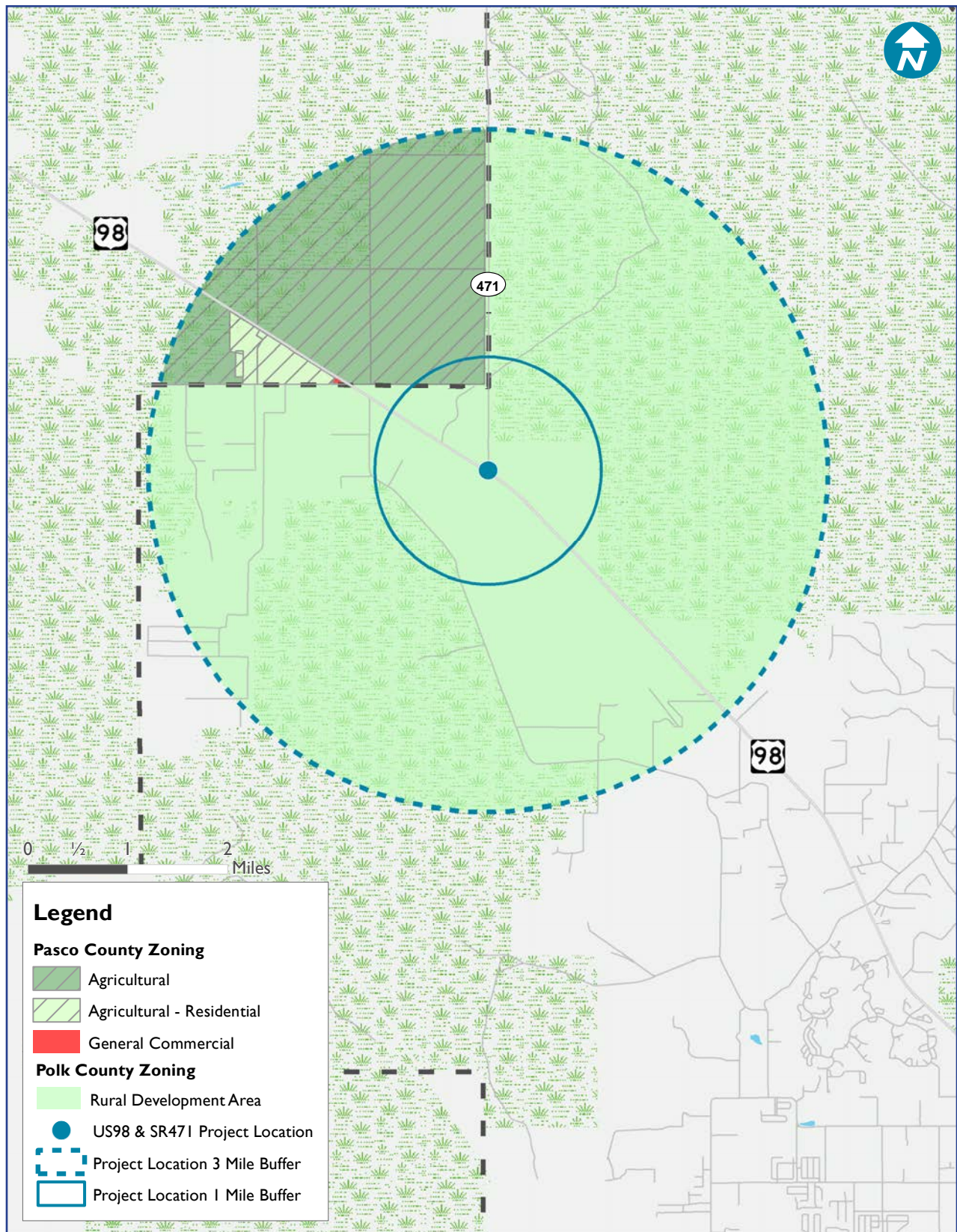




## 4.1.2 Zoning Analysis

Zoning data for the US 98 and SR 471 is shown below in Figure 47. Nearly the entirety of the one-mile buffer is comprised of land zoned as Rural Development Area (RDA) by Polk County; the remainder, located in Pasco County is zoned Agricultural. RDA zoning also comprises all Polk County lands within the three-mile buffer. The Pasco portion of this buffer includes zoning for Agricultural, Agricultural Residential, and a parcel along US 98 designated as General Commercial.

Figure 47: US 98 and SR 471 Study Area Zoning Map



### 4.1.3 Planning Document Review

A list of all materials identified as part of this effort are shown below in Table 3. The table includes the document name and source as well as relevant findings from the research. The FDOT District I Five-Year Work Program includes a PD&E/EMO study on US 98 from north of West Socrum Loop Road to south of CR 54. The project description includes widening from two lanes to four lanes, and a signalized intersection.

Table 9: Planning Document Review Summary

Document/Plan/Website	Source	Notes
<a href="#">FDOT District I Five-Year Work Program</a>	FDOT	SR 35 (US 98) from north of West Socrum Loop Road to south of CR 54 PD&E/EMO study. Widening from two lanes to four lanes with signalized intersection likely

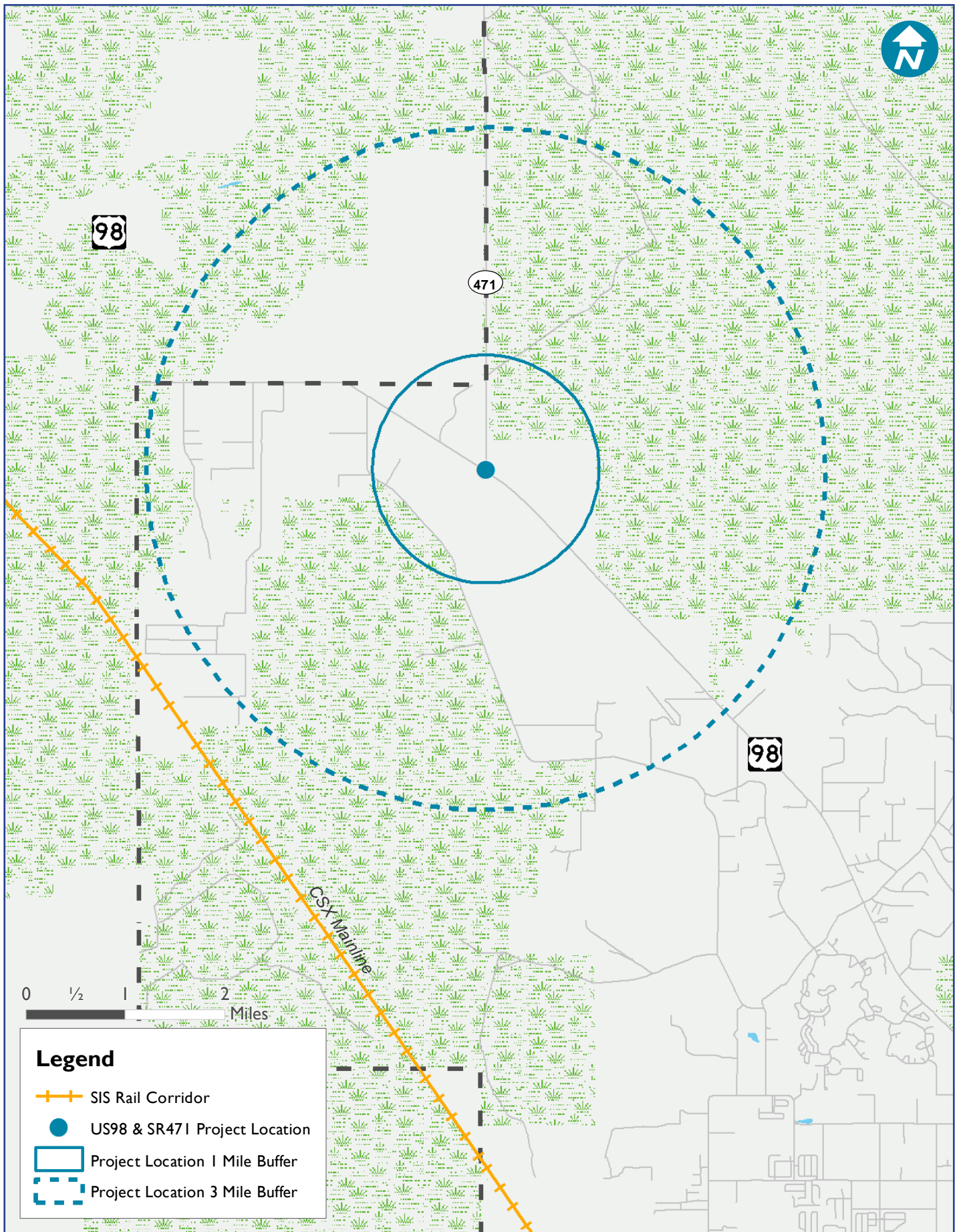
### 4.1.4 Roadway Network and Existing Traffic Conditions Analysis

#### SIS Facilities

As shown in Figure 48, there are no SIS facilities located within either the one-mile or three-mile buffers; however, the CSX Mainline passes southwest of the intersection, just beyond the border of the three-mile buffer.



Figure 48: US 98 and SR 471 Study Area SIS Map

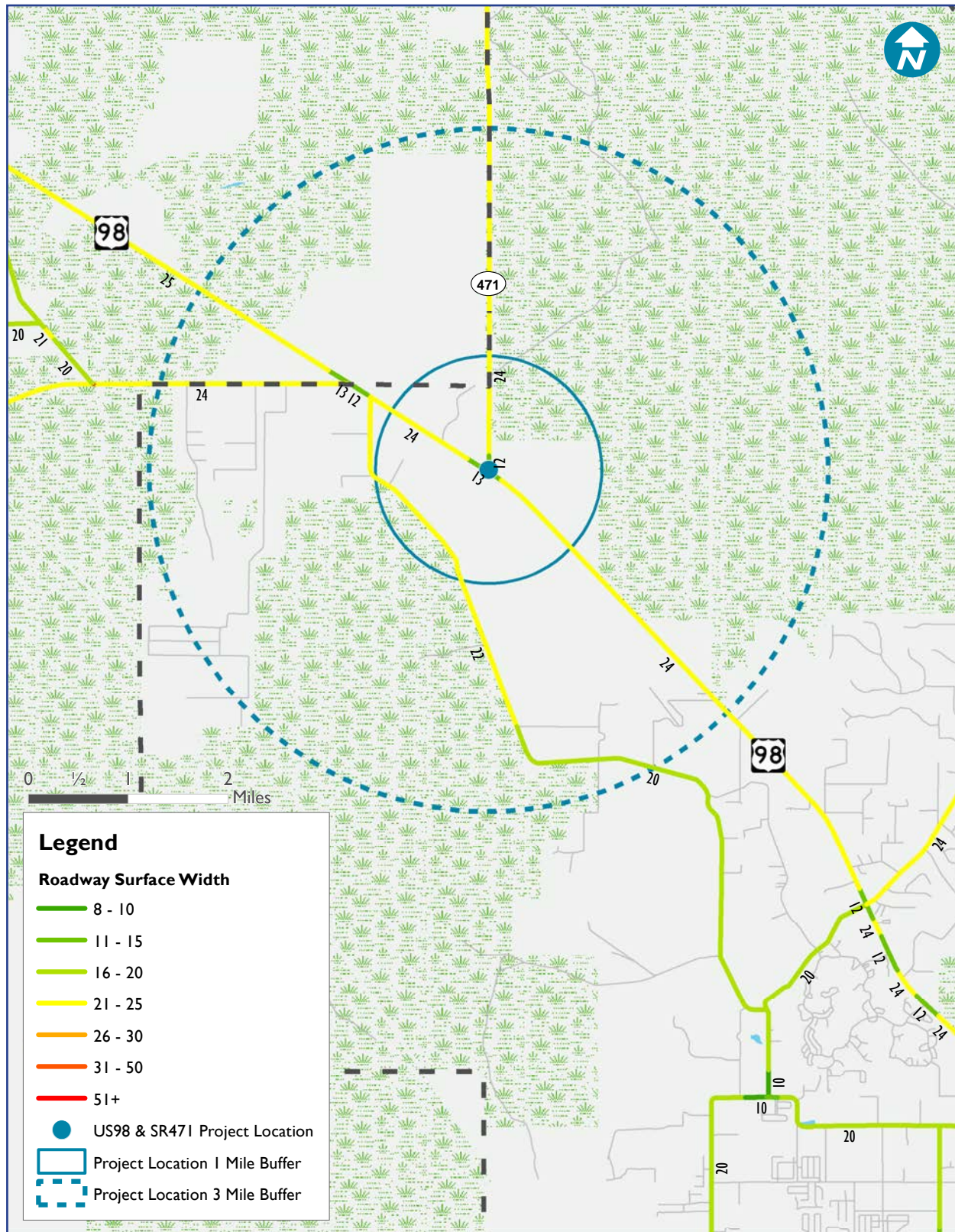




## Roadway Surface Width Assessment

Figure 49 displays the roadway surface width for roadways within the US 98 and SR 471 study area. Roadway surface width approaching the intersection from both US 98 and SR 471 was consistent at 24'. Lanes narrow at the intersection to 13' and 12' for US 98 and SR 471, respectively. This decrease occurs as a result of center striping and turning lanes at the intersection, shown in Figure 49. Roadway widening projects along US 98, as mentioned in section 4.1.3, may affect the results shown in the figure below.

Figure 49: US 98 and SR 471 Study Area Roadway Surface Width Map





## AADT and Truck AADT

AADT and truck AADT for the intersection of US 98 and SR 471 are shown below in Figure 50 and Figure 51, respectively. The highest AADT in the study area (11,700) was experienced east of the intersection, along US 98, within the three-mile buffer. Just west of the intersection and inside of the one-mile buffer, AADT was measured at 10,200. The only count recorded within the study area for SR 471 (3,800) was taken just north of the intersection. The highest truck AADT recorded in the one-mile and three-mile buffers (1,533) also occurs just east of the intersection. The next largest truck AADT volumes (1,336) occur within the one-mile buffer, west of the intersection. Trucks comprise between 10 and 15 percent of total traffic volume at both locations.

Figure 50: US 98 and SR 471 Study Area AADT Map

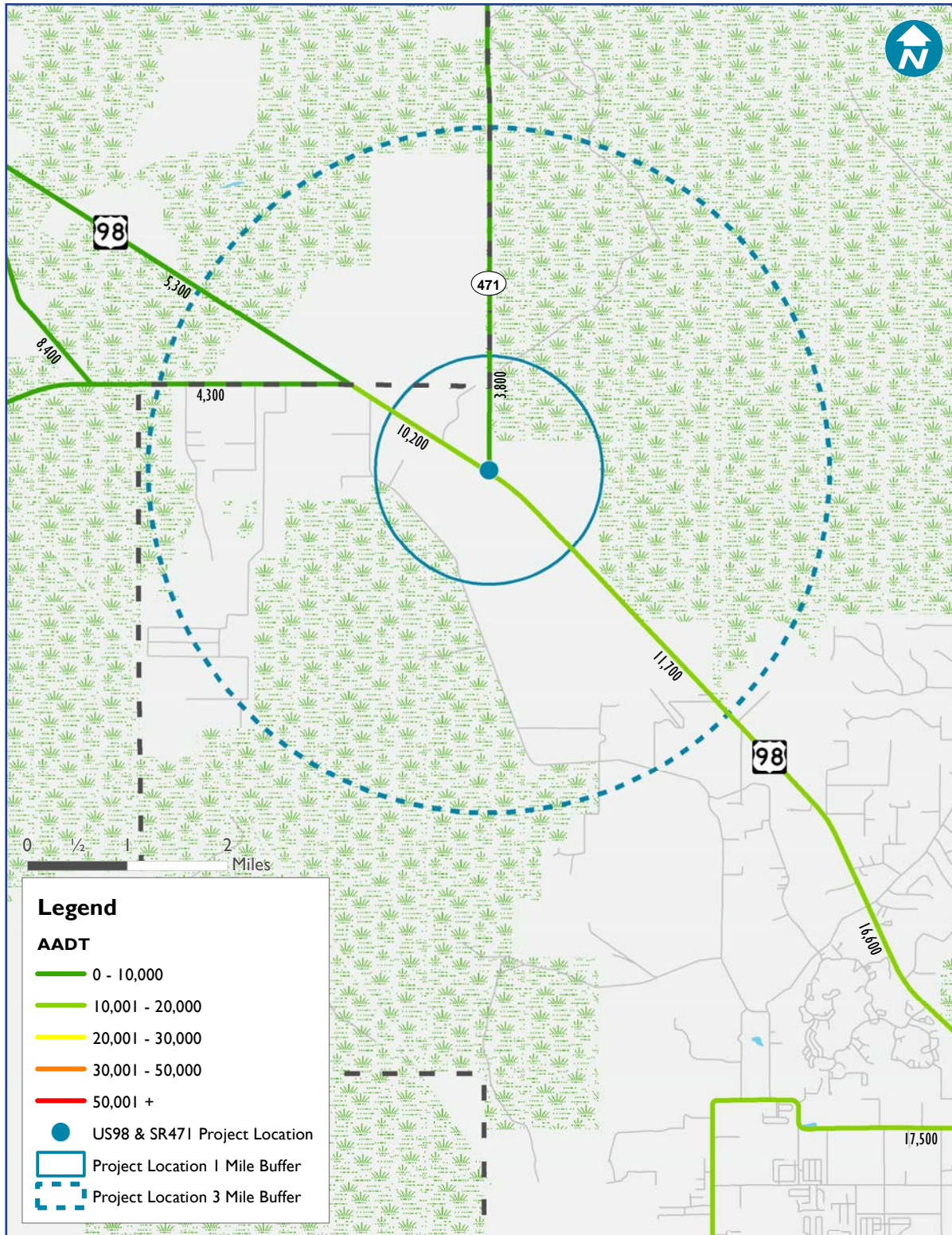
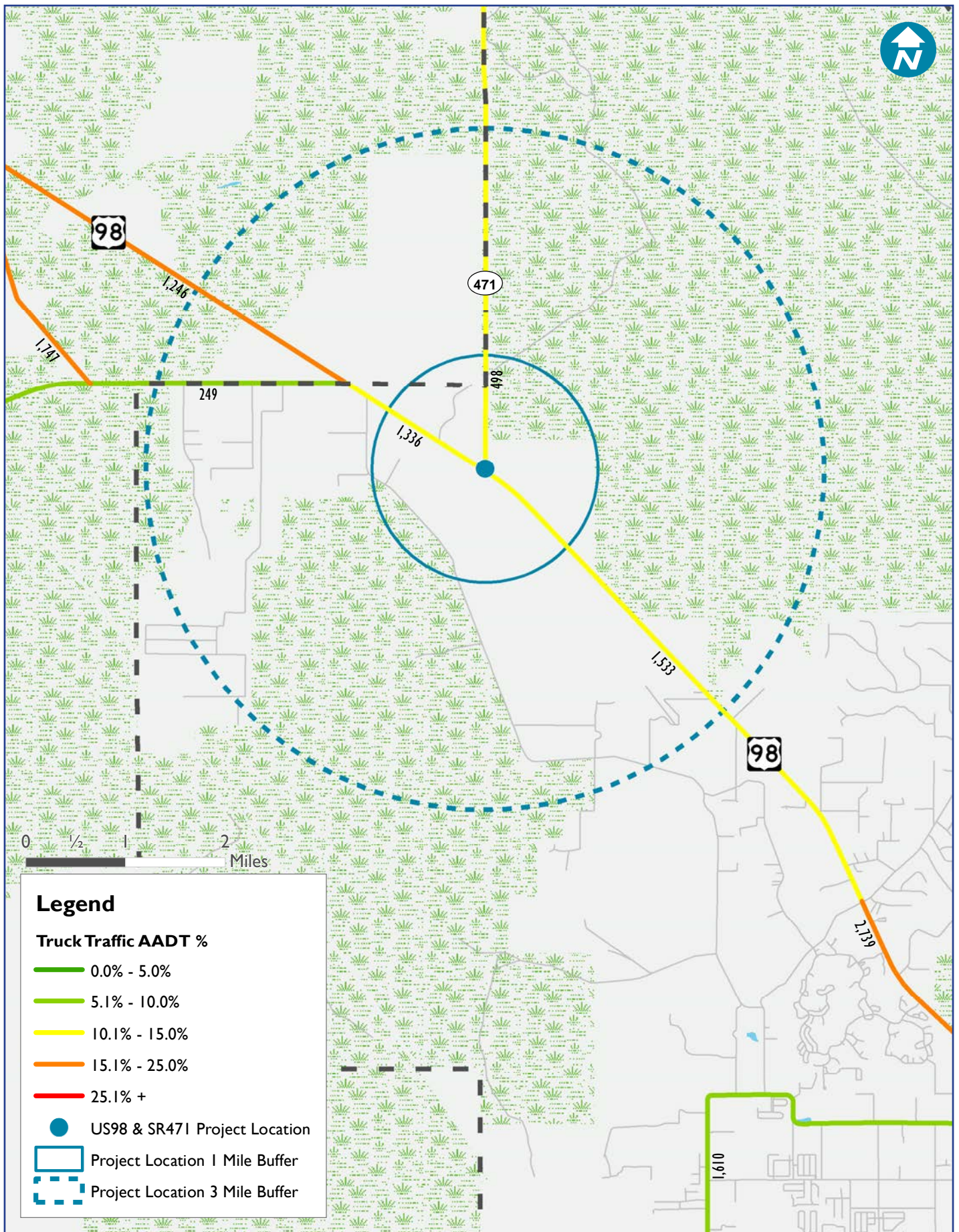




Figure 51: US 98 and SR 471 Study Area Truck AADT Map



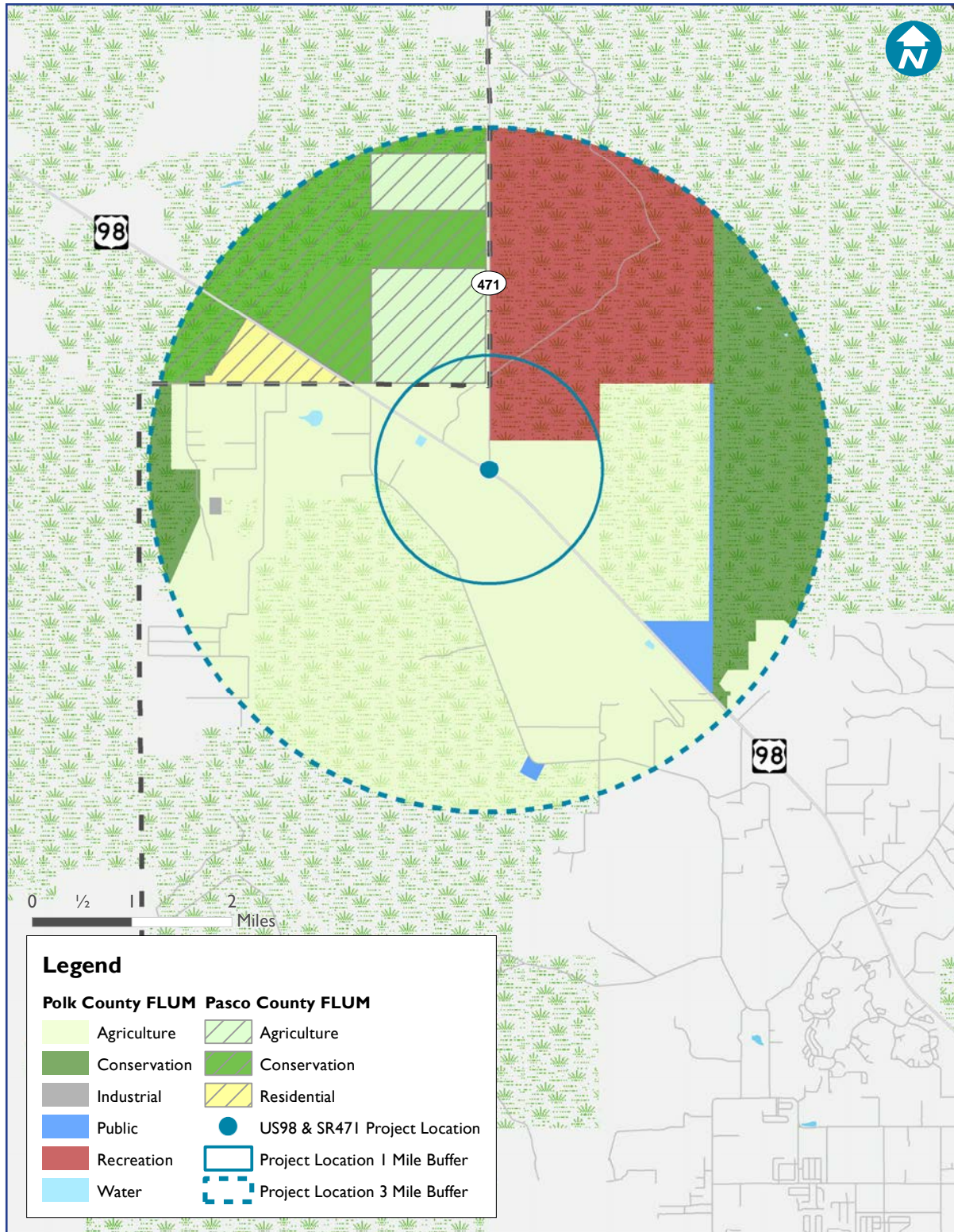


## 4.2 US 98 and SR 471 Future Conditions

### 4.2.1 Future Land Use Analysis

The Polk and Pasco County FLUMs were used to complete the future land analysis for the intersection of US 98 and SR 471. Figure 52 displays the FLUMs for both counties. Within the one-mile buffer, future land use is designated primarily as Agriculture by both counties. Recreation lands overlap the one-mile and three-mile buffers along the Polk County side of SR 471. Additional future land-uses inside the three-mile buffer include more Agriculture land, Conservation, and a pocket of Residential located along US 98, west of the intersection.

Figure 52: US 98 and SR 471 Study Area Future Land Use Map



## 4.2.2 Projected Traffic Conditions

Over the previous eight-year period, traffic volume increased at the US 98 and SR 471 intersection by roughly 5.4 percent per year, while truck AADT grew at a rate of 7.8 percent. County population growth statistics show a 2.15 percent growth rate over this eight-year time span. Considering both AADT at the study site as well as population growth at the county level, future condition projections were developed assuming a growth rate of 5.4 percent for AADT, and 7.8 percent for truck AADT. Table 10 shows the projected AADT and Truck AADT at the candidate intersection for the year 2030.

Table 10: Traffic Projections (2030)

AADT			Truck AADT			Truck Traffic Percentage		
2019	2030	% Change	2019	2030	% Change	2019	2030	% Change
12,400	22,179 (+9,779)	+79%	3,391	7,715 (+4,324)	+128%	27%	35%	+8%

## 4.3 Conclusion

Key findings from this analysis for the intersection of US 98 and SR 471 are highlighted below:

- Current zoning in the immediate vicinity of the intersection includes Agricultural, Agricultural – Residential, and Rural Development Area;
- Study area future land uses include Agriculture, Conservation, Recreation, and Residential;
- The FDOT Five-Year Work Program includes a PD&E/EMO study for SR 35 (US 98) from north of West Socrum Loop Road to south of CR 54. The project description includes widening from two lanes to four lanes with a signalized intersection likely. Also, the District stated that realignment improvements at the intersection are being considered. The project would realign SR 471 to eliminate the skew angle and meet at a 90 degree intersection. Truck parking may be constructed in the northwest corner of the intersection. The realignment of SR 471 is not anticipated to have an effect on the traffic volumes at the intersection. The potential truck parking would likely increase the amount of turning truck volumes, which further reinforces the high concrete intersection prioritization.
- There are no FDOT SIS facilities in the study area; however, a CSX SIS rail corridor passes just to the southwest of the three-mile buffer;
- Current AADT on US 98 ranges from 10,200 to 11,700; the highest in the study area;
- Current truck AADT on US 98 ranges from 1,533 to 1,336; the highest in the study area;
- AADT at the candidate intersection is projected by this report to increase to 22,179 by 2030, representing a difference of +9,779 vehicles;
- Truck AADT at the candidate intersection is projected by this report to increase to 7,715 by 2030, representing a difference of +4,324 trucks

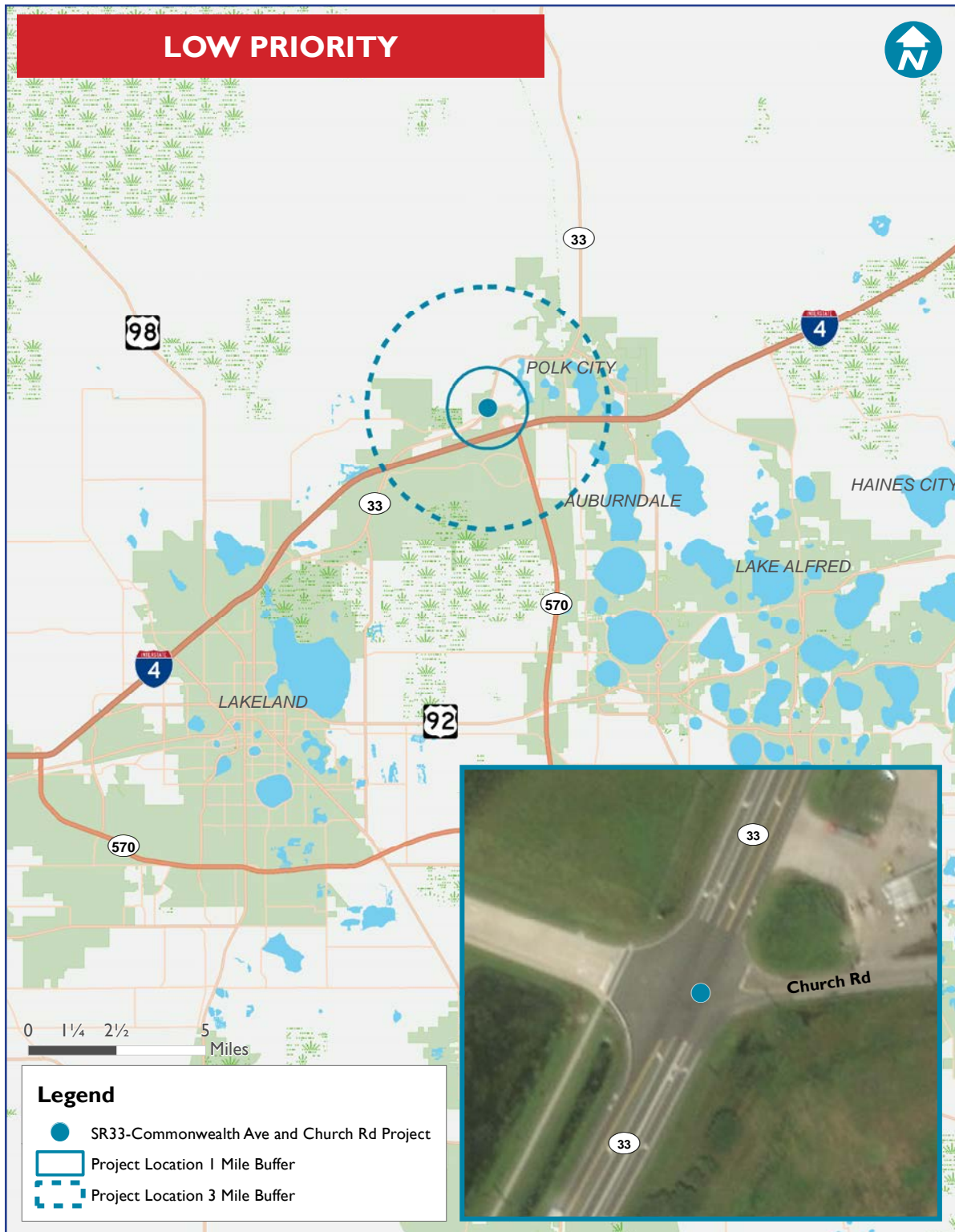
There are no industrial developments adjacent to this intersection, and nominal amounts within the surrounding area. However, the traffic volumes at this intersection are associated with the increase of industrial development in the adjacent cities. SR 471 is the only north/south roadway between US 98 and SR 33; therefore, it carries high traffic volumes coming to/ from the Lakeland metropolitan area. Both SR 471 and US 98 are two-lane roadways. The projected 2030 truck percentage is 35% and the truck ADT is projected to be 7,715. Although this is an unsignalized intersection, there are high volumes of turning trucks. **This intersection is a high priority candidate for conversion to concrete pavement, because it carries a large percentage of turning trucks, and has a high truck traffic percentage.**



## 5. SR 33 / North Commonwealth Avenue and Church Road

This study identified the intersection of SR 33 / North Commonwealth Avenue and Church Road as a potential candidate for concrete reconstruction. This intersection is located in Polk County, FL, and shown below in Figure 53. The figure depicts the study area with one-mile and three-mile buffers for data collection and an inset aerial photo of the intersection. SR 33 runs north-south and Church Road runs east-west, reaching its terminus at the intersection. Church Road then becomes the entrance for a Best Buy distribution center located at the intersections southwest quadrant. A Marathon gas station is located at the northeast corner of the intersection. Suburban residential development is occurring southeast of the intersection.

Figure 53: SR 33/North Commonwealth Avenue and Church Road





## 5.1 SR 33 North / Commonwealth Boulevard and Church Road Existing Conditions

### 5.1.1 Site Visit

A site visit was conducted for the intersection of SR 33 / North Commonwealth Avenue and Church Road on January 1, 2021. Photographs taken during the site visit are shown below (Figure 54 – Figure 59), and reflect conditions as of the date of the site visit.

*Figure 54:View of Intersection Looking Southwest*



*Figure 55:View of Intersection Looking Northeast*



Figure 56: Looking Northeast to SR 33



Figure 57: Road Conditions on Church Road Approaching the Intersection from the East





Figure 58: View from the Southeast Quadrant of Intersection to SR 33



Figure 59: Looking West from Church Road to Best Buy Distribution Center Entrance

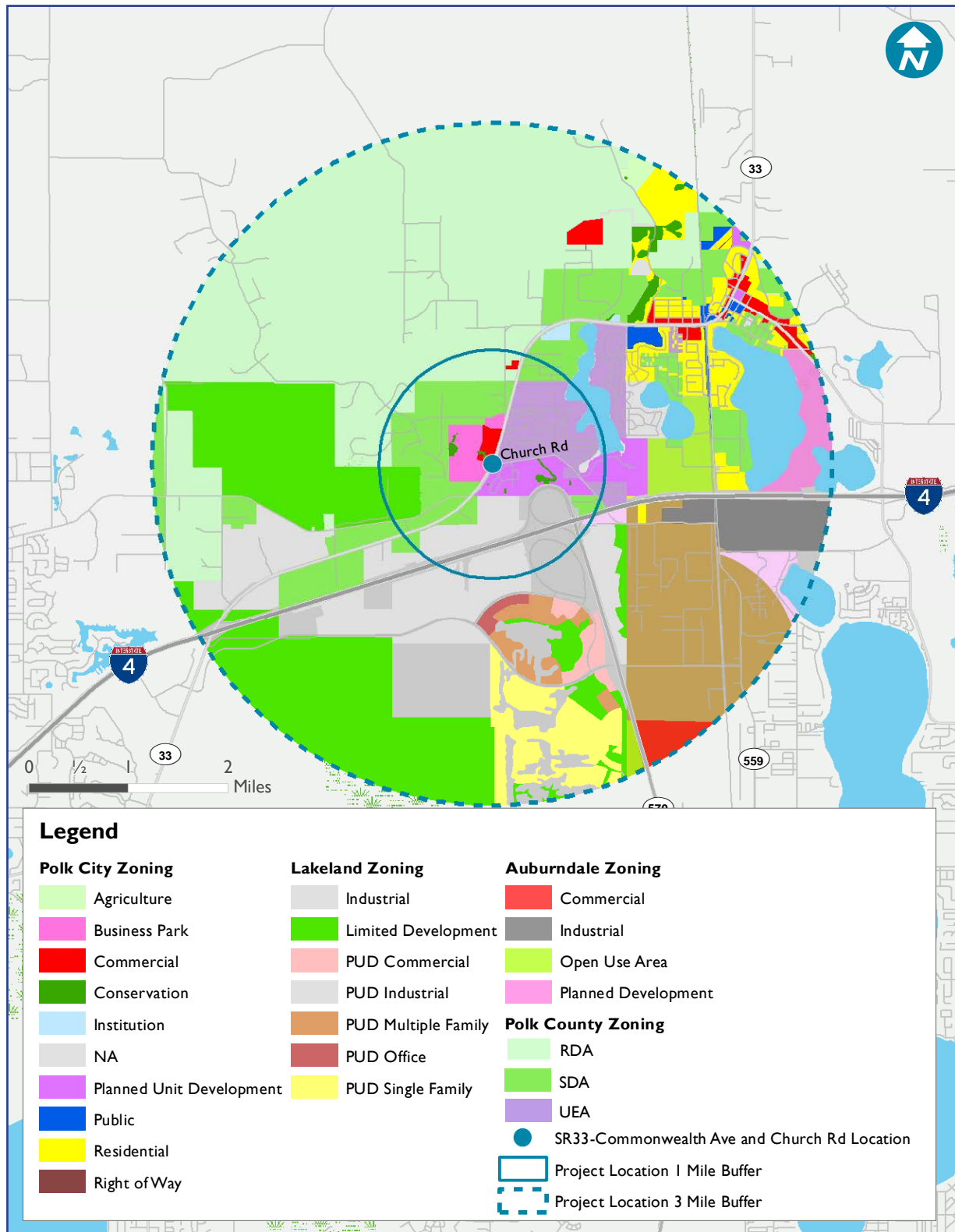




## 5.1.2 Zoning Analysis

Zoning data for the SR 33 / North Commonwealth Avenue and Church Road is shown below in Figure 60. The intersection is comprised of several different types of zoning classifications. The northeast portion of the intersection is a Utility Enclave Area. To the southeast is Planned Unit Development zoning. The west side of the intersection consists of Business Park and Commercial zoning. A large swath of Industrial is located to the south of the intersection, overlapping the one-mile and three-mile buffer, and extending to the west and south. Suburban Development Area and Agriculture. Rural Development area stretch to the northwestern edge of the three-mile buffer

Figure 60: SR 33/North Commonwealth Avenue and Church Road Study Area Zoning Map



### 5.1.3 Planning Document Review

There were no upcoming projects or studies relevant to this intersection found during the document review.

Table 11: Planning Document Review Summary

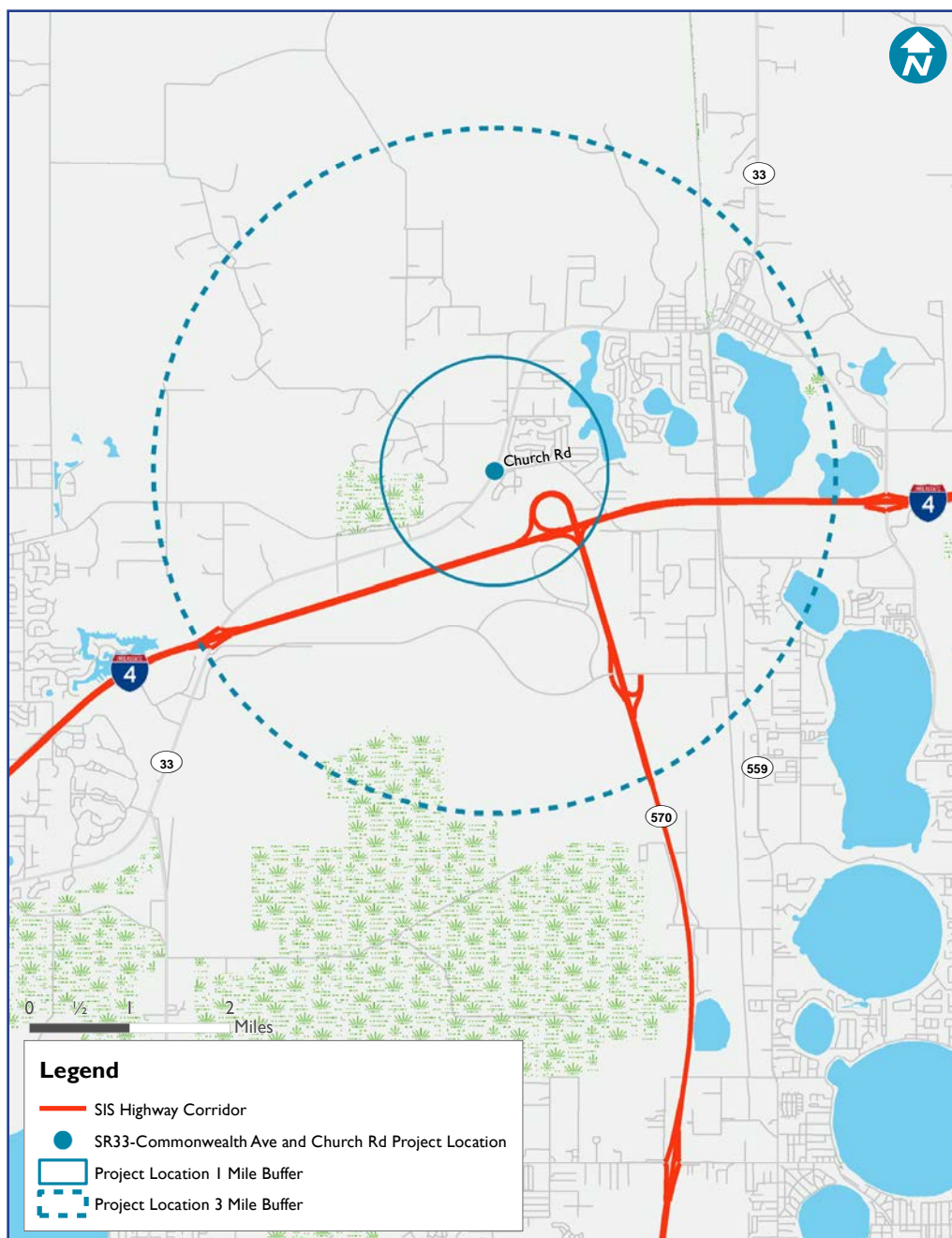
Document/Plan/Website	Source	Notes
No materials available		

### 5.1.4 Roadway Network and Existing Traffic Conditions Analysis

#### SIS Facilities

There are two SIS facilities located in the vicinity of the SR 33 / North Commonwealth Avenue and Church Road intersection. I-4 and SR 570 / Polk Parkway are designated by FDOT as Strategic Highway Corridors. Both facilities are shown below in Figure 61.

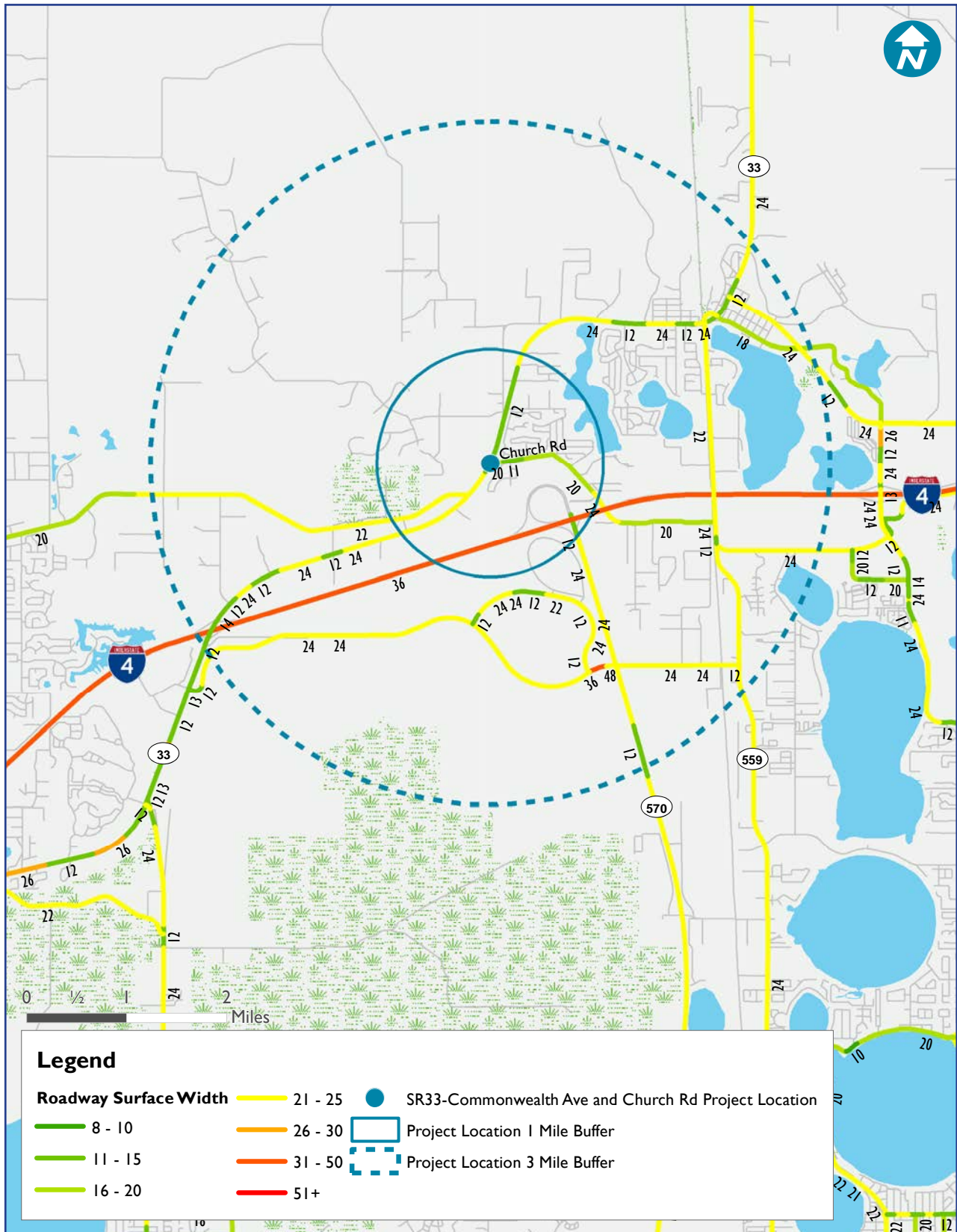
Figure 61: SR 33/North Commonwealth Avenue and Church Road Study Area SIS Map



Roadway Surface Width Assessment

Figure 62 displays the roadway surface width for roadways within the SR 33 / North Commonwealth Avenue and Church Road study area. Roadway surface width within the one-mile buffer, approaching the intersection from the southwest on SR 33 is 24'. At the intersection, SR 33 surface widths are 20' and Church Road is 11'. To the northeast of the intersection, SR 33 roadway surface decreases to 12', until approximately the extent of the one-mile buffer, where width increases to 24'.

Figure 62: SR 33/North Commonwealth Avenue and Church Road Study Area Roadway Surface Width Map









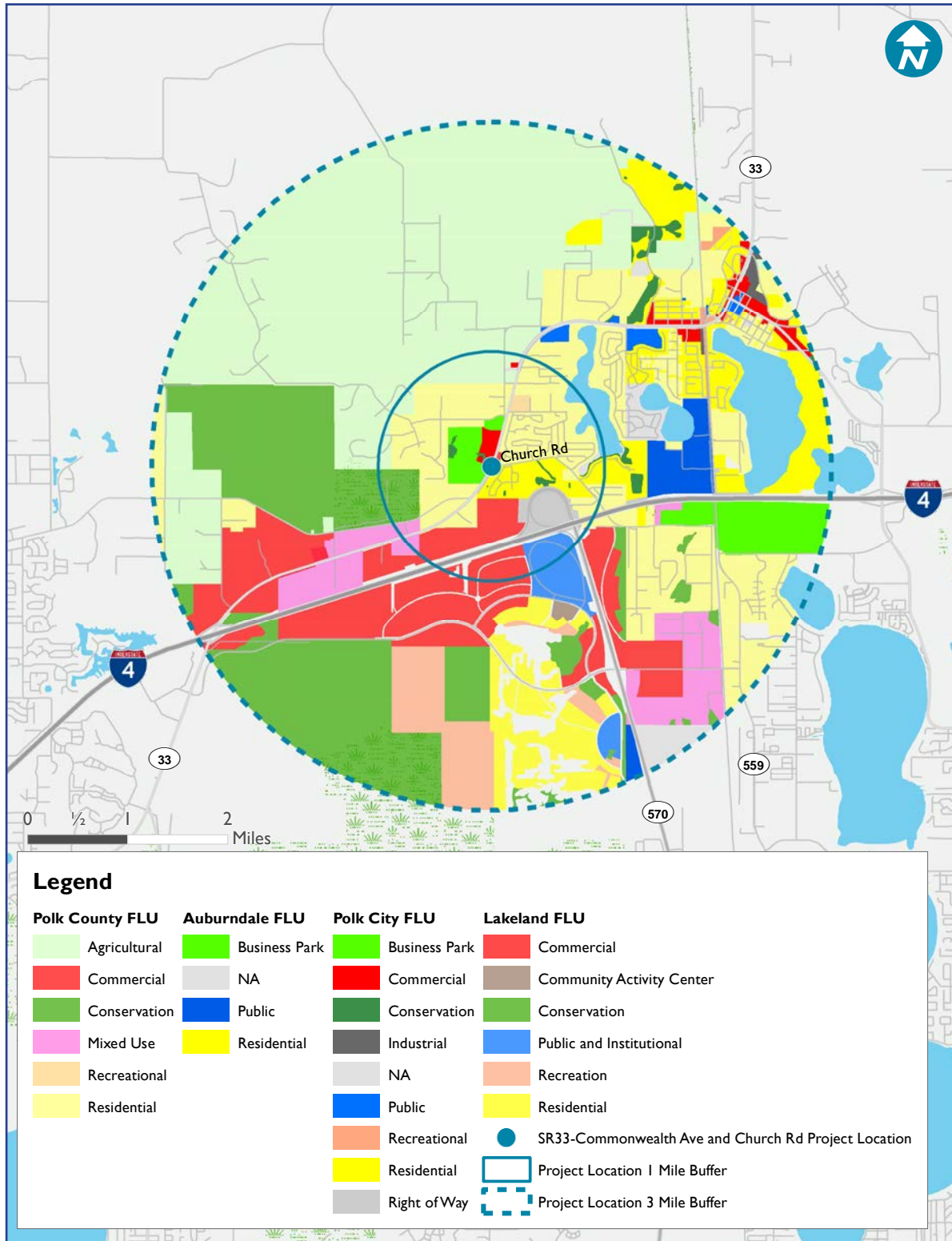


## 5.2 SR 33 / North Commonwealth Avenue and Church Road Future Conditions

### 5.2.1 Future Land Use Analysis

The Polk County, Auburndale, Polk City, and Lakeland FLUMs were used to complete the future land analysis for the intersection of SR 33 / North Commonwealth Avenue and Church Road (Figure 65). Within the one-mile buffer, including the east side of the intersection, future land use is primarily designated as Residential. The west side of the intersection is designated for Business Park and Commercial uses. South of the intersection, along SR 33, future land uses include a mix of Commercial and Mixed Use. SR 33, north of the intersection, consists mostly of Residential.

Figure 65: SR 33/North Commonwealth Avenue and Church Road Study Area Future Land Use Map





## 5.2.2 Projected Traffic Conditions

Over the previous eight-year period, traffic volume increased at the SR 33 / North Commonwealth Avenue and Church Road intersection by roughly 6.6 percent per year, while truck AADT grew at a rate of 8.5 percent. County population growth statistics show a 2.15 percent growth rate over this eight-year time span. Considering both AADT at the study site as well as population growth at the county level, future condition projections were developed assuming a growth rate of 4 percent for both AADT and truck AADT. Table 12 shows the projected AADT and Truck AADT at the candidate intersection for the year 2030.

Table 12: Traffic Projections (2030)

AADT			Truck AADT			Truck Traffic Percentage		
2019	2030	% Change	2019	2030	% Change	2019	2030	% Change
14,700	22,630 (+7,930)	+54%	2,125	3,271 (+1,146)	+54%	14%	14%	0%

## 5.3 Conclusion

Key findings from this analysis for the intersection of SR 33 / North Commonwealth Avenue and Church Road are highlighted below:

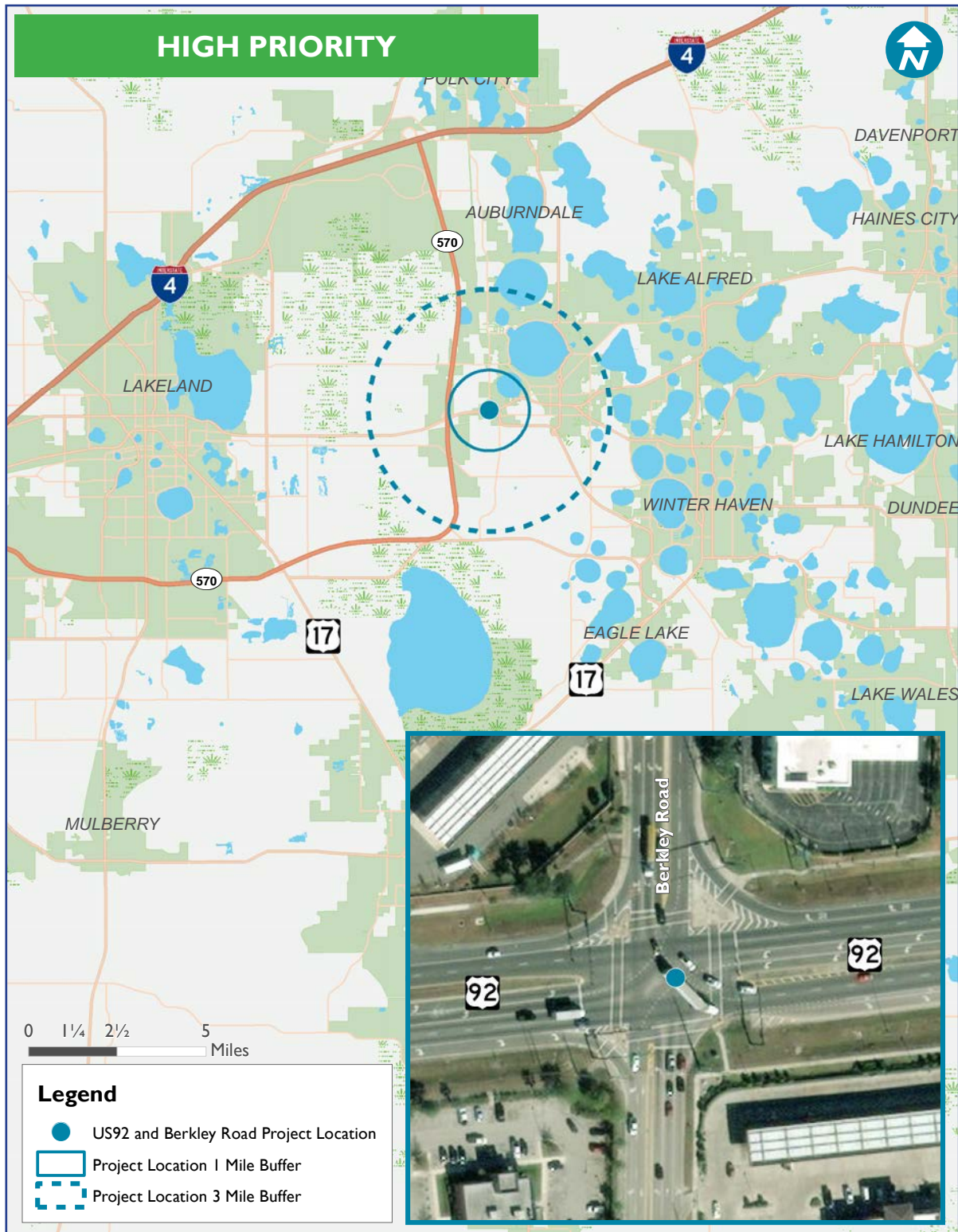
- Current zoning in the immediate vicinity of the intersection includes Utility Enclave Area (northeast), Planned Unit Development zoning (southeast), and Business Park and Commercial zoning to the west of the intersection.
- Future land uses in-and-around the study area include Residential, Business Park, Commercial, and Mixed-Use;
- There were no upcoming projects or studies identified for this intersection.
- I-4 and SR 570 / Polk Parkway are both included as part of the FDOT SIS network;
- Current AADT on SR 33 ranges from 10,600 to 13,900; the highest in the study area;
- The highest truck AADT in the study area was experienced on SR 33 at 2,307;
- AADT at the candidate intersection is projected by this report to increase to 22,630 by 2030, representing a difference of +7,930 vehicles;
- Truck AADT at the candidate intersection is projected by this report to increase to 3,271 by 2030, representing a difference of +1,146 trucks

A Best Buy distribution, which opened in 2018, center is located in the southwest corner of this intersection. The western leg of the intersection is paved with concrete to accommodate the large number of trucks accessing this facility. The east leg of the intersection connects to a residential area. There is an industrial park south of the intersection, but most trucks traveling to-and-from I-4 from this industrial site will not utilize this intersection to do so. There are no existing industrial land uses north of the intersection; however, according to the City of Polk City FLUM, the 80-acre undeveloped parcel directly north of the Best Buy facility is identified for Business Park development. As the Best Buy facility has been completed for several years, and the surrounding area is generally residential, it is unlikely that automobile and truck traffic will continue to grow at similar high rates under current conditions. **Until potential future development comes to fruition on the undeveloped land adjacent to the Best Buy facility, this intersection is a low priority for concrete construction.**

## 6. US 92 and SR 559 (Berkley Road)

This study identified the intersection of US 92 and SR 559 (Berkley Road) as a potential candidate for concrete reconstruction. This intersection is located in Auburndale, FL, and shown below in Figure 66. The figure depicts the study area with one-mile and three-mile buffers for data collection and an inset aerial photo of the intersection. US 92 runs east-west, and SR 559 (Berkley Road) runs north of the intersection, turning into Neptune Road to the south. All four quadrants of the intersection are developed for commercial use. Outparcels along US 92 include gas stations in the southeast and northwest quadrants, a restaurant at the southwest corner, and financial institution in the northeast. Big box retail are also located in the northeast and southwest quadrants.

Figure 66: US 92 and SR 559 (Berkley Road) Site Map





## 6.1 US 92 and SR 559 (Berkley Road) Existing Conditions

### 6.1.1 Site Visit

A site visit was conducted for the intersection of US 92 and SR 559 (Berkley Road) on January 1, 2021. Photographs taken during the site visit are shown below (Figure 67– Figure 74), and reflect conditions as of the date of the site visit.

*Figure 67: Looking West to US 92 from SR 559 (Berkley Road)*



*Figure 68: Looking West to US 92 from Neptune Road*





Figure 69: Looking East to US 92 from SR 559 (Berkley Road)



Figure 70: Looking East to US 92 from Neptune Road



Figure 71: Looking Northeast at Intersection



Figure 72: Looking South to Neptune Road





Figure 73: Looking South to Neptune Road from SR 559 (Berkley Road)



Figure 74: Looking North to SR 559 (Berkley Road) from Neptune Road

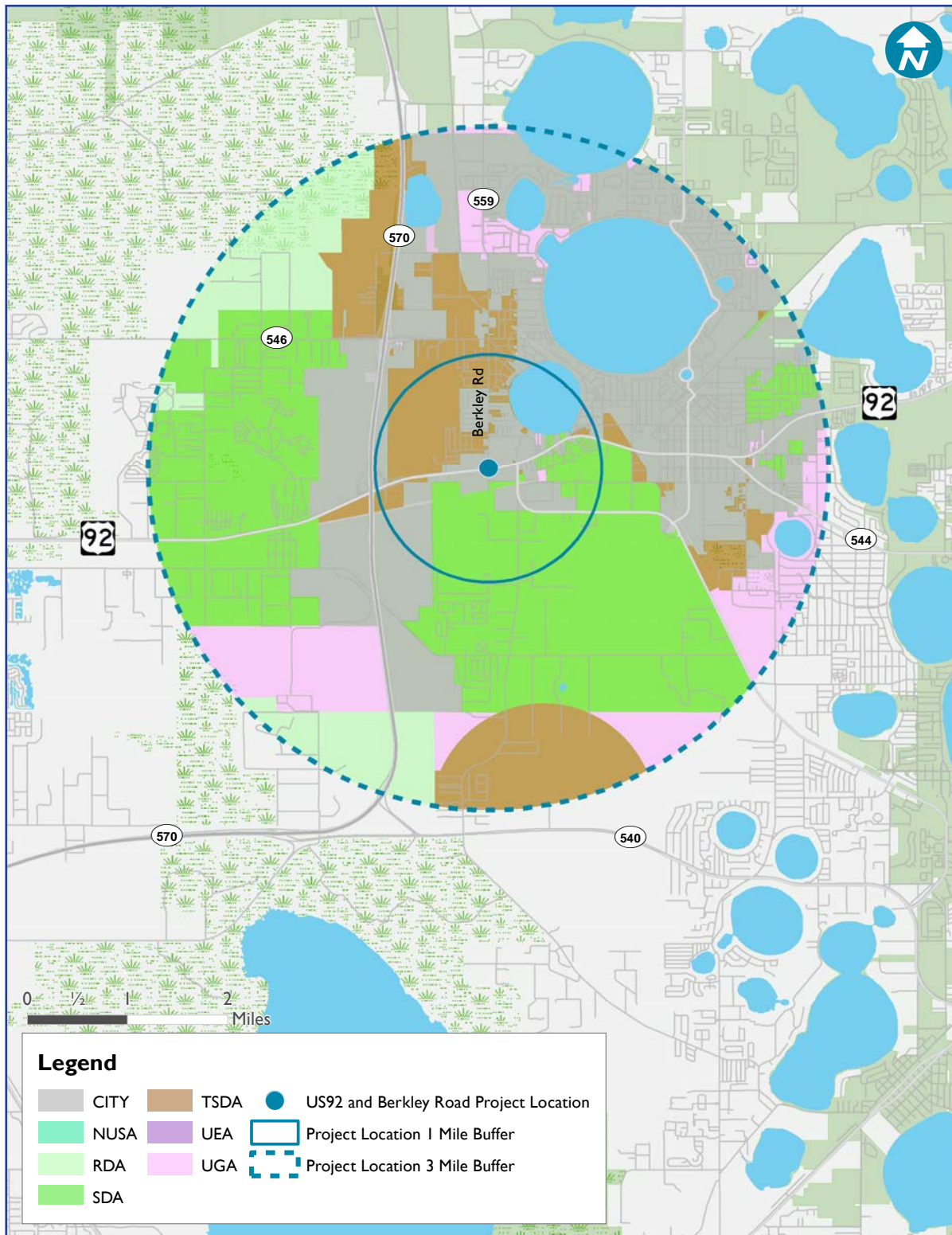




## 6.1.2 Zoning Analysis

Zoning data for the US 92 and SR 559 (Berkley Road) intersection is shown below in Figure 75. There are three primary zoning classifications within the one-mile buffer, including Transit Supportive Development Area (TSDA), City, and Suburban Development Area (SDA). SDAs include areas of Polk County where agricultural uses coexist with low density developed areas on the fringe of municipalities or urban centers. TSDAs are areas with the existing infrastructure in place to support 10 year population growth and existing/planned community in transit. In addition to these three zoning types, the three-mile buffer also includes areas zoned for Urban Growth Areas (UGA). These areas serve as a foundation from which a future urban pattern is established, and to support future development at urban densities and intensities.

Figure 75: US 92 and SR 559 (Berkley Road) Study Area Zoning Map



### 6.1.3 Planning Document Review

A list of all materials identified as part of this effort are shown below in Table 13. The table includes the document name and source as well as relevant findings from the research. The FDOT District I Five-Year Work Program includes a feasibility study related to widening SR 600 (US 17/92) from US 27 to CR 54 widening for FY 2021, and a PD&E along the same corridor for FY 2025. The Polk TPO 2024/2025 TIP also lists the aforementioned feasibility study and includes comments of the county website regarding intersection layout.

Table 13: Planning Document Review Summary

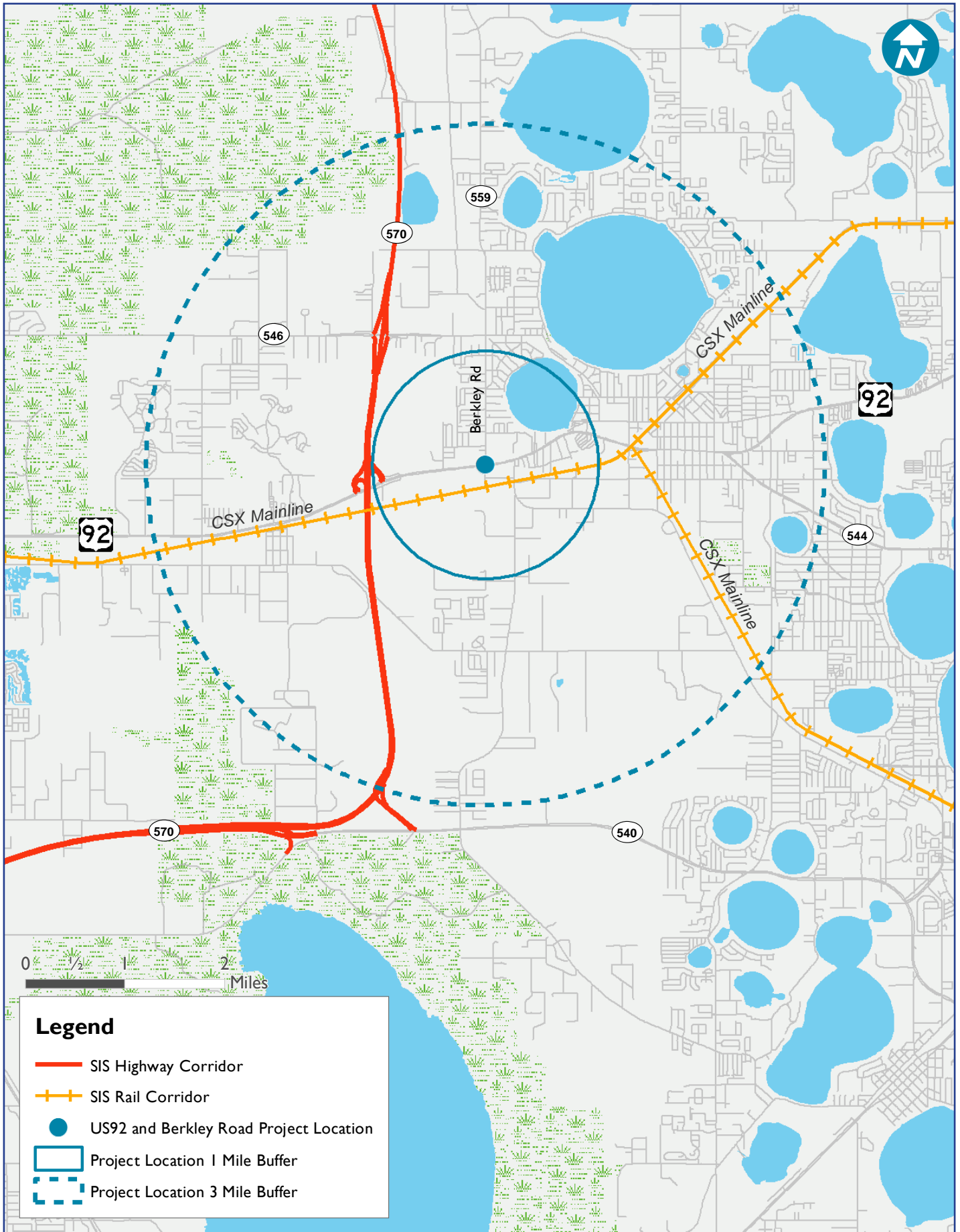
Source	Document/Plan/Website	Notes
Polk TPO	<a href="#">FY 2020/21 to FY 2024/25 TIP</a>	SR 600 (US 17/92) from US 27 to CR 54 widening (Feasibility Study). There are comments on the counties website located at: ( <a href="http://www.crtiptool.com/polktip2020/">http://www.crtiptool.com/polktip2020/</a> ) regarding the layout of the intersection
FDOT	<a href="#">FDOT District I Five-Year Work Program</a>	SR 600 (US 17/92) from US 27 to CR 54 widening (Feasibility Study) FY 2021
FDOT	<a href="#">FDOT District I Five-Year Work Program</a>	SR 600 (US 17/92) from US 27 to CR 54 widening (PD&E) FY 2025

### 6.1.4 Roadway Network and Existing Traffic Conditions Analysis

#### SIS Facilities

There were two SIS facilities located in the vicinity of the US 92 and SR 559 (Berkley Road) intersection. SR 570 is designated by FDOT as a Strategic Highway Corridor, and the CSX Mainline, running east-west, and passing south of the intersection, is a Strategic Railway Corridor. Both facilities are shown below in Figure 76.

Figure 76: US 92 and SR 559 (Berkley Road) Study Area SIS Map

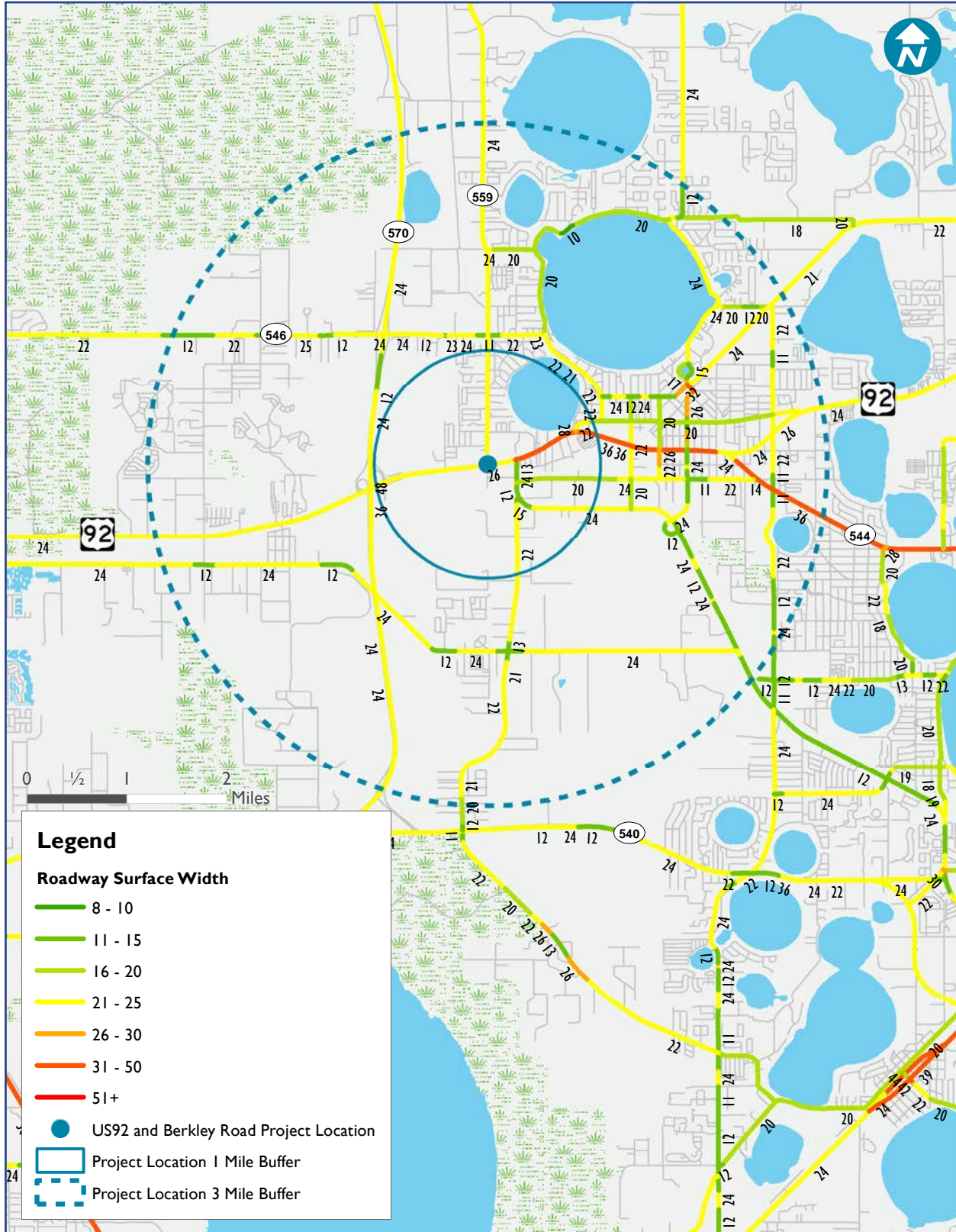




## Roadway Surface Width Assessment

Figure 76 displays the roadway surface width for roadways within the US 92 and SR 559 (Berkley Road) study area. Roadway surface width along US 92, at the intersection with SR 559 (Berkley Road), is 26'. SR 559 (Berkley Road) roadway surface width is shown as 24'. As currently constructed, the intersection roadway surfaces are appropriate for large truck traffic and higher speeds of travel. Roadway widening projects along US 92 / SR 600, as mentioned in section 6.1.3, may affect the results shown in the figure.

Figure 77: US 92 and Berkley Road Study Area Roadway Surface Width Map



## AADT and Truck AADT

AADT and truck AADT for the intersection of US 92 and SR 559 (Berkley Road) study area are shown below in Figure 78 and Figure 79, respectively. The intersection of US 92 and SR 559 (Berkley Road) accommodates some of the highest AADT within both the one-mile and three-mile buffers. AADT was 35,500 and 34,000 directly east and west of the intersection, respectively. The highest AADT in either study area (36,000) was found on US 92, east of the intersection, within the three-mile buffer. AADT on SR 559 (Berkley Road), north of the intersection, and within the one-mile buffer was 9,600. Truck AADT was the highest in the study area along US 92, directly east of the intersection. The next highest truck counts are directly east of the intersection, also on US 92. Both count sites are located within the one-mile buffer. Truck AADT on SR 559 (Berkley Road) was 1,114 north of the intersection, within the one-mile buffer.

Figure 78: US 92 and SR 559 (Berkley Road) Study Area AADT Map

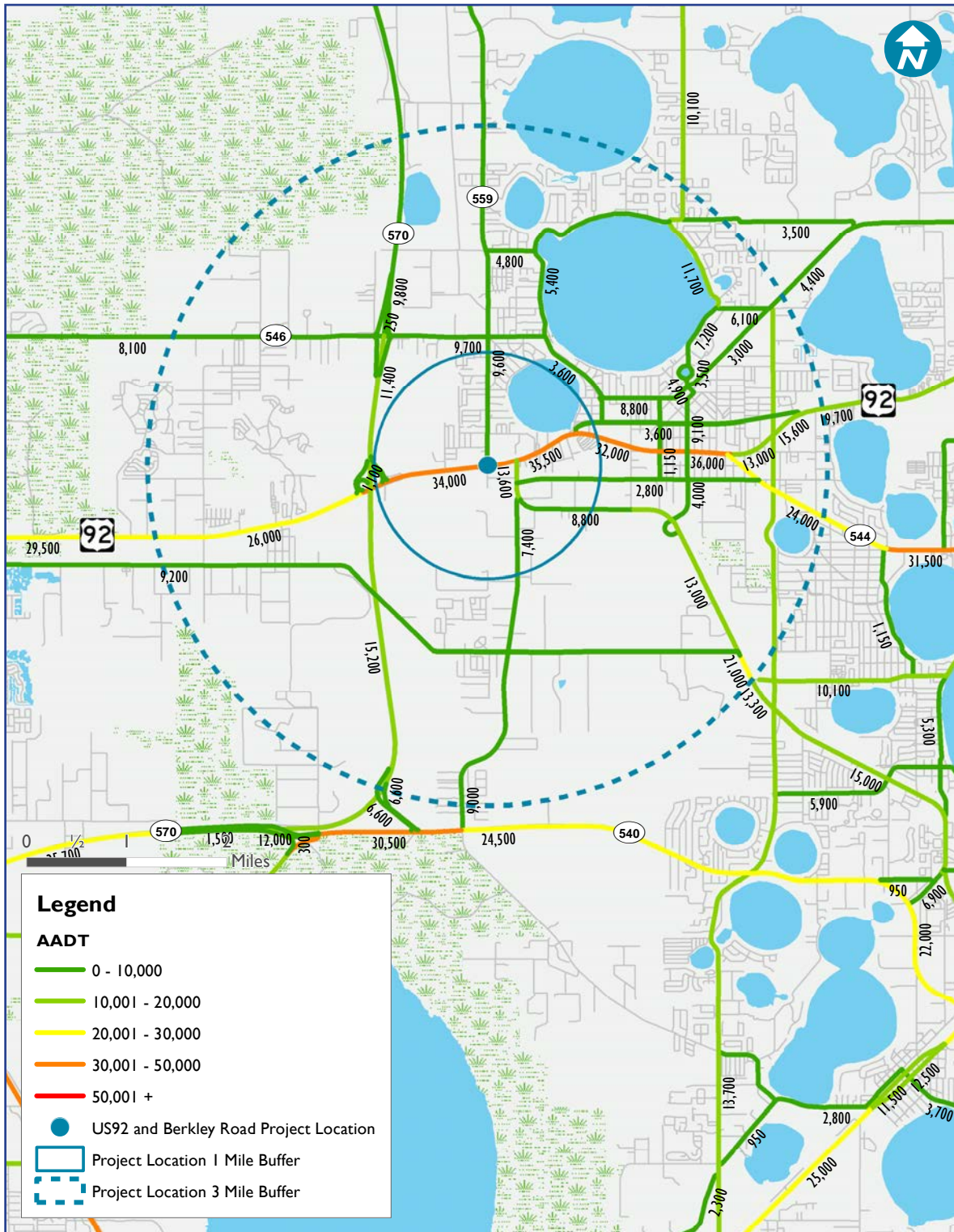
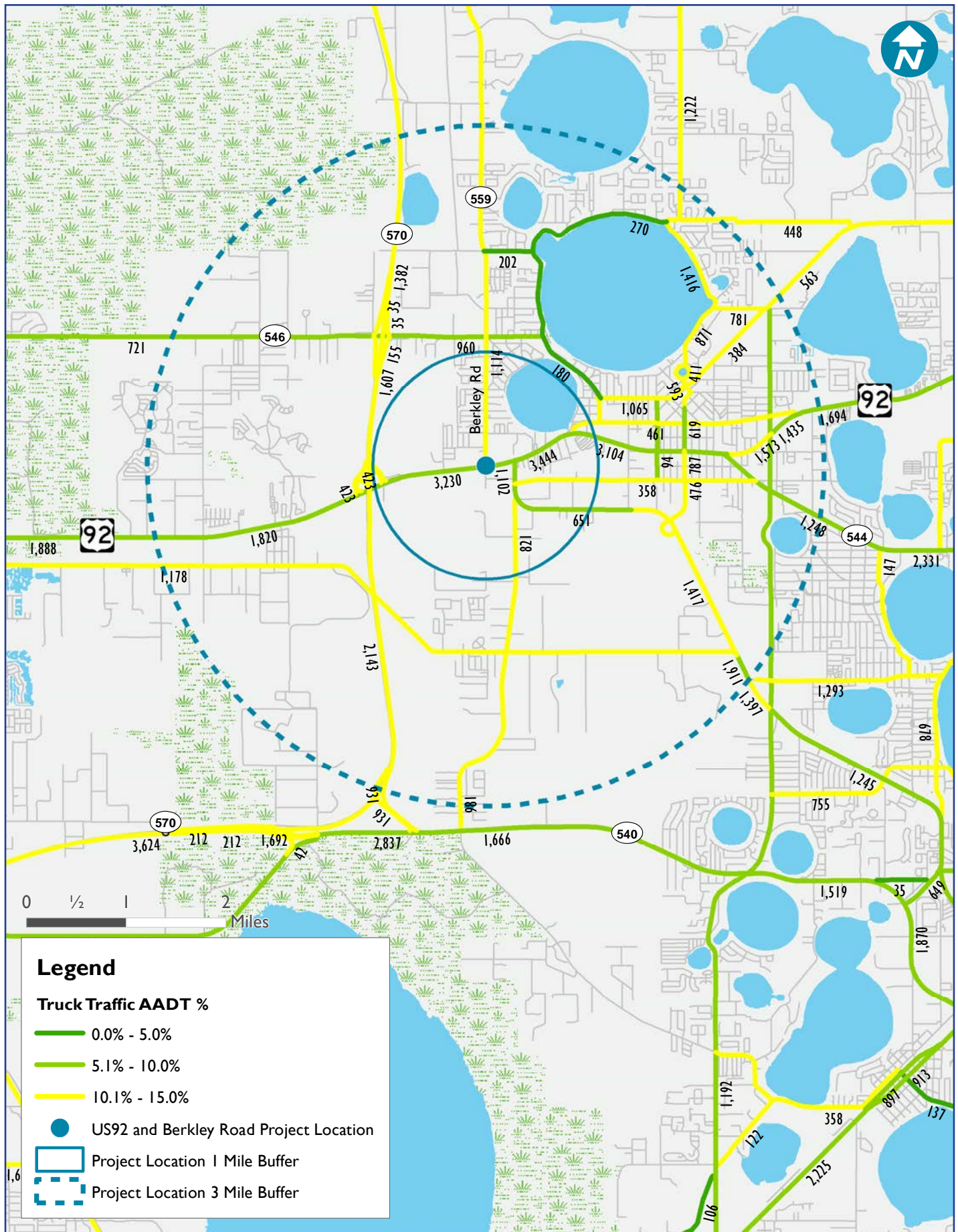




Figure 79: US 92 and SR 559 (Berkley Road) Study Area Truck AADT Map



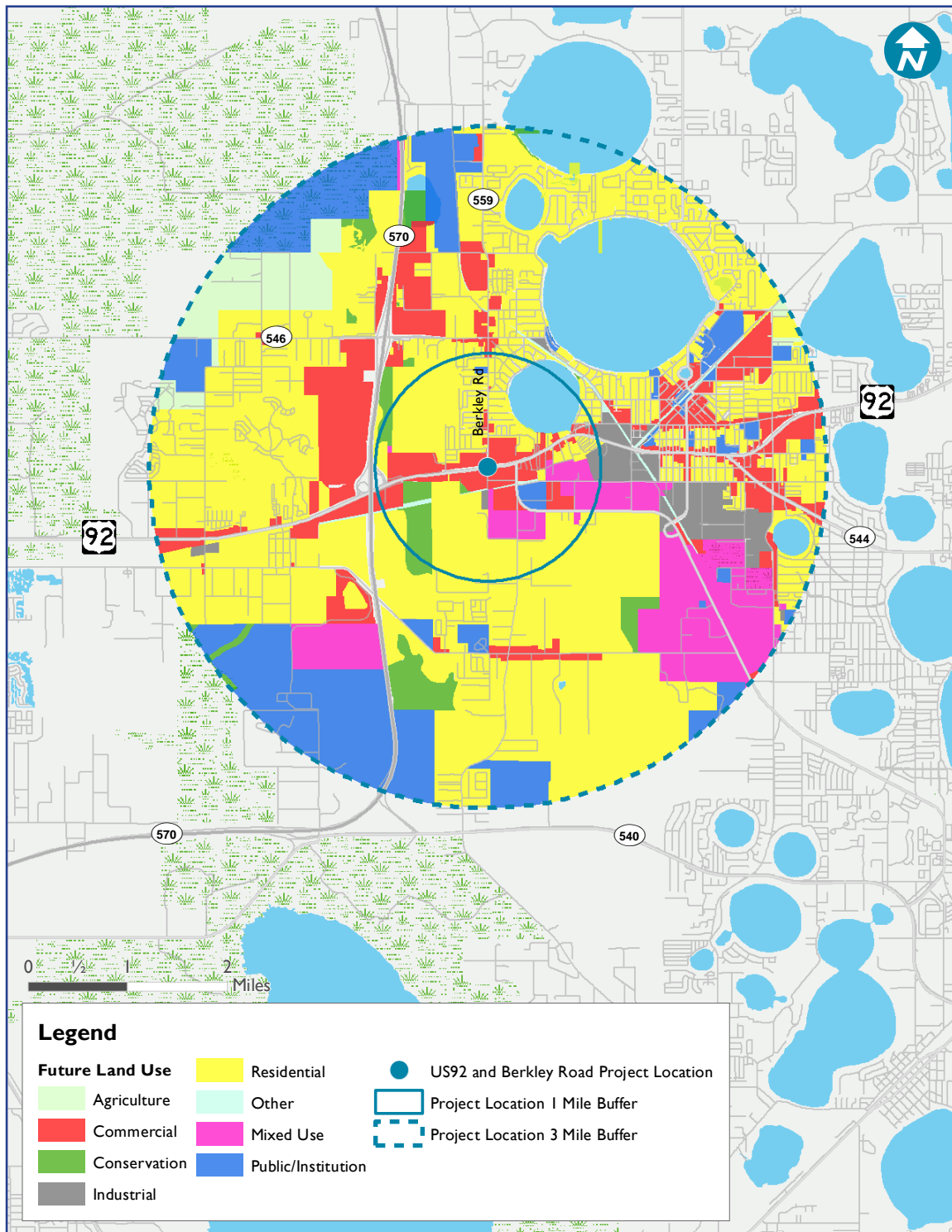


## 6.2 US 92 and SR 559 (Berkley Road) Future Conditions

### 6.2.1 Future Land Use Analysis

The Polk County FLUM (Figure 13) was used to complete the future land analysis for the intersection of US 92 and SR 559 (Berkley Road). There are four primary land use designations within the one-mile buffer. All four quadrants of the intersection are labeled as Commercial future use. Area designated for Industrial use overlaps the one-mile and three-mile buffers to the east of the intersection. A small pocket of Industrial is located south of the intersection. The remaining use within the one-mile buffer is Residential. Similar land use designation patterns also occur within the three-mile buffer. This portion of the study area is primarily comprised of Commercial and Residential uses, with pockets of Mixed Use, Industrial, Public/Institution, and Agriculture.

Figure 80: US 92 and SR 559 (Berkley Road) Study Area Future Land Use Map



## 6.2.2 Projected Traffic Conditions

Over the previous eight-year period, traffic volume increased at the US 92 and SR 559 (Berkley Road) intersection by roughly 2.4 percent per year, while truck AADT grew at a rate of 3.7 percent. County population growth statistics show a 2.15 percent growth rate over this eight-year time span. Considering both AADT at the study site as well as population growth at the county level, future condition projections were developed assuming a growth rate of 2.4 percent for AADT, and 3.8 percent for truck AADT. Table 14 shows the projected AADT and Truck AADT at the candidate intersection for the year 2030.

Table 14: Traffic Projections (2030)

AADT			Truck AADT			Truck Traffic Percentage		
2019	2030	% Change	2019	2030	% Change	2019	2030	% Change
44,110	57,254 (+13,144)	+29.8%	3,790	5,695 (+1,905)	+50.3%	9%	10%	+1%

## 6.3 Conclusion

Key findings from this analysis for the intersection of US 92 and SR 559 (Berkley Road) are highlighted below:

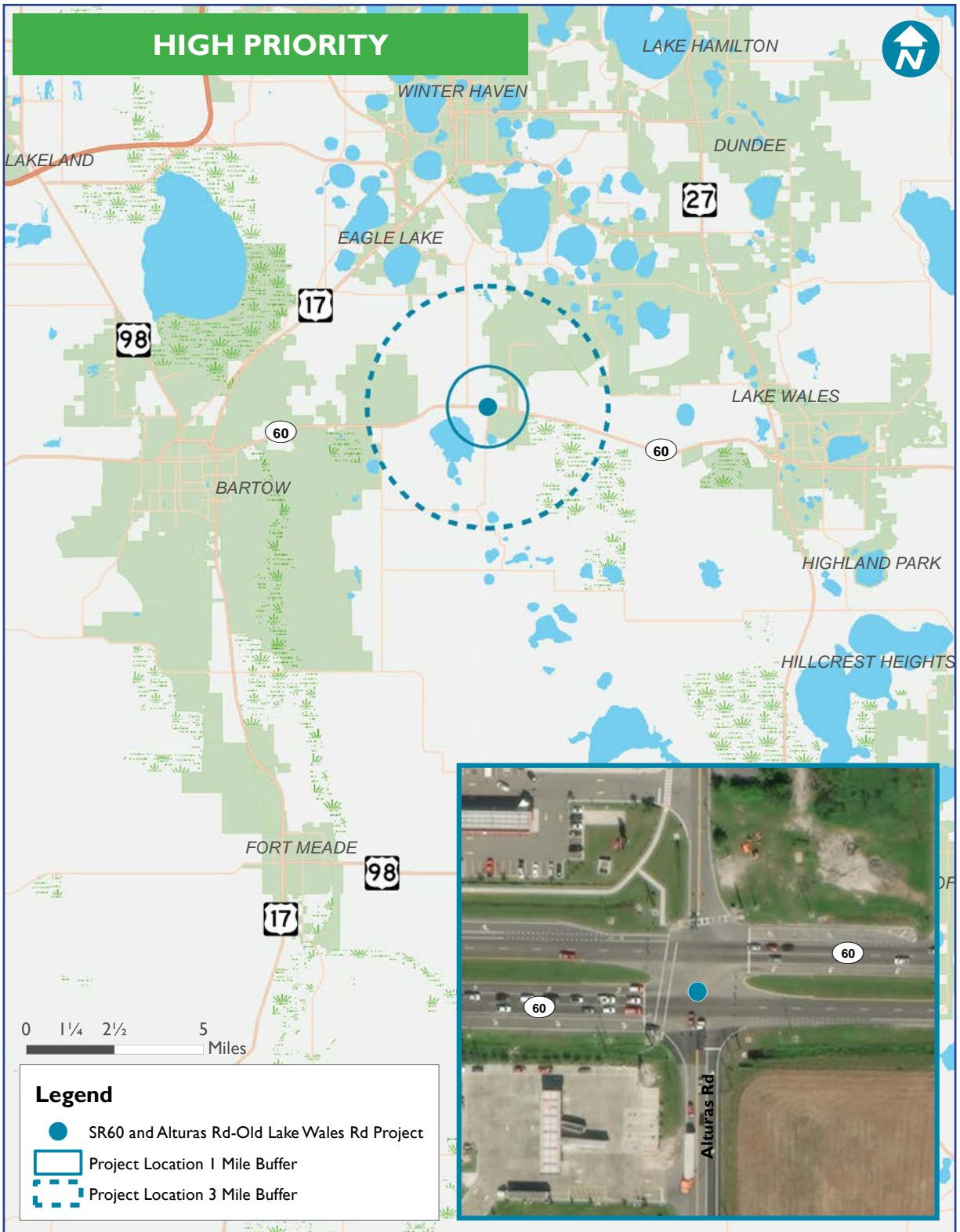
- Current zoning in the immediate vicinity of the intersection includes City, Suburban Development Area and Transit Supportive Development Area.
- Future land uses at the intersection is designated for Commercial use, while Residential, Mixed Use, Public/Institution, and Industrial comprise the majority of remaining study area.
- The FDOT Five-Year Work Program and Polk County TPO 2024/2025 TIP both include a feasibility study for a widening of SR 600 (US 17/92) from US 27 to CR 54. FDOT also includes a PD&E for this project in the Work Program for 2025;
- SR 570 and the CSX Mainline are both included as part of the FDOT SIS network;
- Current AADT on US 92 ranges from 24,000 to 36,000; the highest in the study area;
- Current truck AADT on US 27 ranges from 1,248 to 3,444; the highest in the study area;
- AADT at the candidate intersection is projected by this report to increase to 57,254 by 2030, representing a difference of +13,144 vehicles;
- Truck AADT at the candidate intersection is projected by this report to increase to 5,695 by 2030, representing a difference of +1,905 trucks

SR 559 (Berkley Road) is the north/south, multi-lane roadway that runs adjacent to the Polk Parkway / SR 570 toll road, and provides access to I-4 for commuters and trucks. Similarly, US 92 is an important east/west, multi-lane roadway serving commuters and trucks traveling between Auburndale and Lakeland. **This is a high priority candidate for a concrete intersection due to the high volume of commuter and truck traffic, along with the presence of zoned industrial areas surrounding the intersection in all directions.**

## 7. SR 60 and Alturas Road / Old Bartow Lake Wales Road

This study identified the intersection of SR 60 and Alturas Road / Old Bartow Lake Wales Road as a potential candidate for concrete reconstruction. This intersection is located in Bartow, FL, 33830 and shown below in Figure 81. The figure depicts the study area with one-mile and three-mile buffers for data collection and an inset aerial photo of the intersection. SR 60 runs east - west at the intersection, while Alturas Road runs south, and Old Bartow Lake Wales Road runs north. There is a Pilot Travel Center in the northwest quadrant of the intersection, and a Circle K gas station in the southwest portion. Some truck parking spaces are located at the Pilot Travel Center.

Figure 81: SR 60 and Alturas Road / Old Bartow Lake Wales Road Site Map





## 7.1 SR 60 and Alturas Road/Old Bartow Lake Wales Road Existing Conditions

### 7.1.1 Site Visit

A site visit was conducted for the intersection of SR 60 and Alturas Road / Old Bartow Lake Wales Road on January 1, 2021. Photographs taken during the site visit are shown below (Figure 82 – Figure 90), and reflect conditions as of the date of the site visit.

Figure 82: Intersection of SR 60 and Alturas Road / Old Bartow Lake Wales Road from the Northwest



Figure 83: Looking East on SR 60



Figure 84: Looking Southwest to SR 60



Figure 85: Looking West to SR 60





Figure 86: Looking South from SR 60



Figure 87: View from the Northeast Quadrant of the intersection





Figure 88: Traffic Movements at Intersection of SR 60 and Alturas Road / Old Bartow Lake Wales Road



Figure 89: Looking North from Alturas Road



Figure 90: Looking North to old Bartow Lake Wales Road

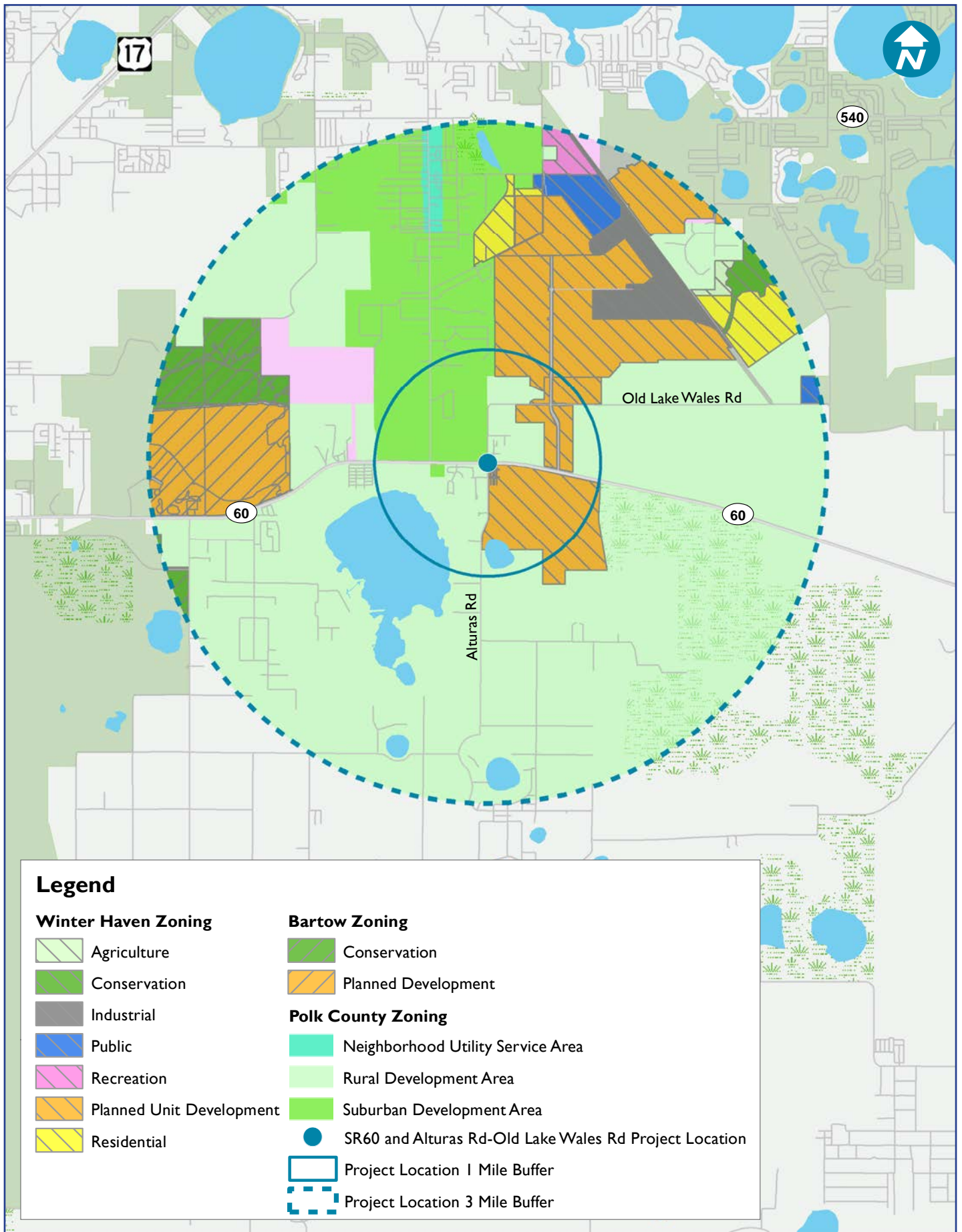


### 7.1.2 Zoning Analysis

Zoning data for the SR 60 and Alturas Road / Old Bartow Lake Wales Road intersection is shown below in Figure 91. Winter Haven, Bartow, and Polk County zoning maps were used to identify the current zoning classifications surrounding the study area. The southeastern portion of the intersection is zoned for Planned Development. The northwest quadrant consists of a Suburban Development Area, which include areas of Polk County where agricultural uses coexist with low density developed areas on the fringe of municipalities or urban centers. Both the northeast and southwest portions of the intersection are zoned as Rural Development Areas for rural activities such as agriculture, mining, and rural residential.



Figure 91: SR 60 and Alturas Road / Old Bartow Lake Wales Road Study Area Zoning Map





### 7.1.3 Planning Document Review

There were no upcoming projects or studies relevant to this intersection found during the document review.

Table 15: Planning Document Review Summary

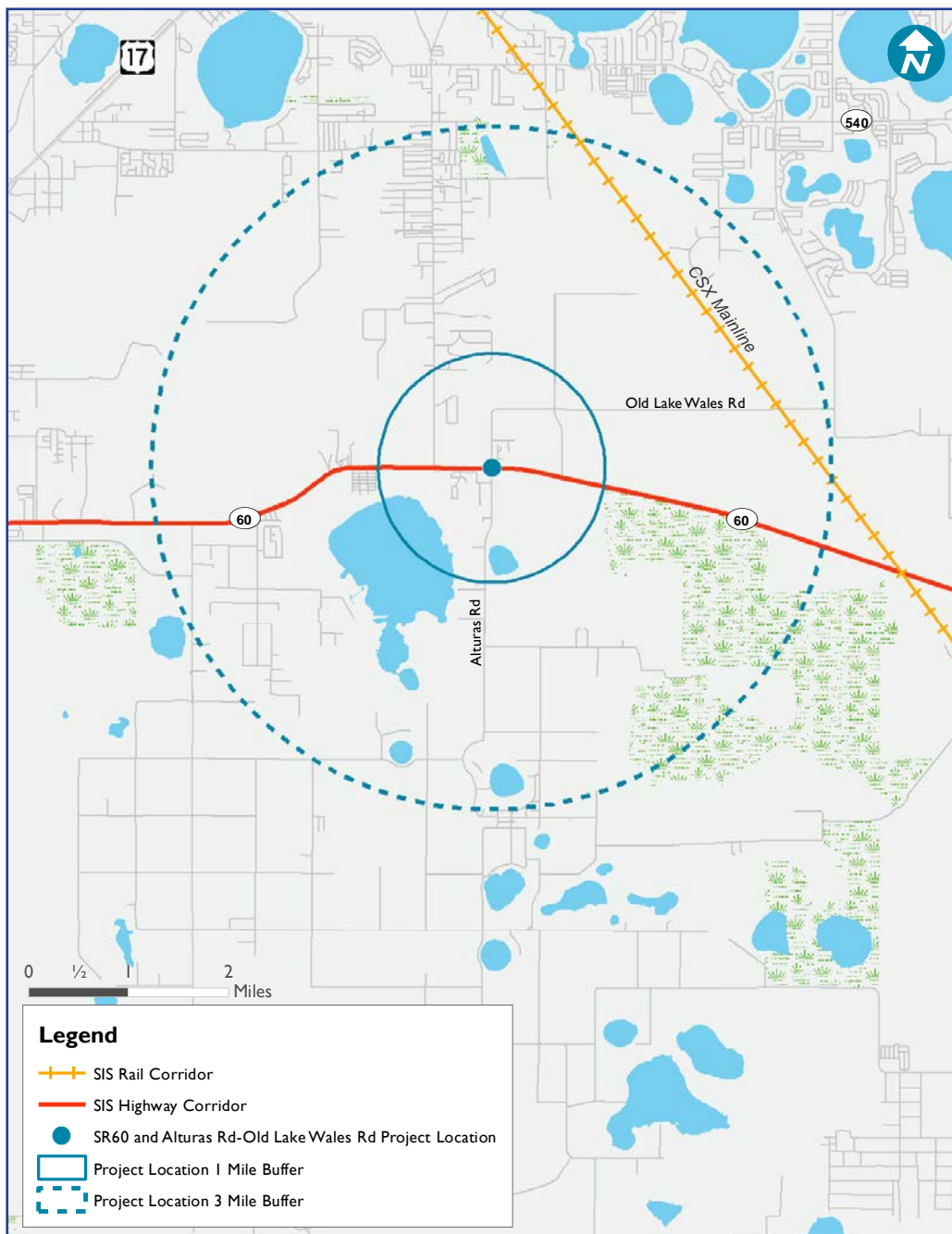
Document/Plan/Website	Source	Notes
No materials available		

### 7.1.4 Roadway Network and Existing Traffic Conditions Analysis

#### SIS Facilities

There were two SIS facilities located in the vicinity of the SR 60 and Alturas Road / Old Bartow Lake Wales Road intersection. SR 60 is designated by FDOT as Strategic Highway Corridor. The CSX mainline also runs east-west within the three-mile buffer, northeast of the intersection. Both facilities are shown below in Figure 92.

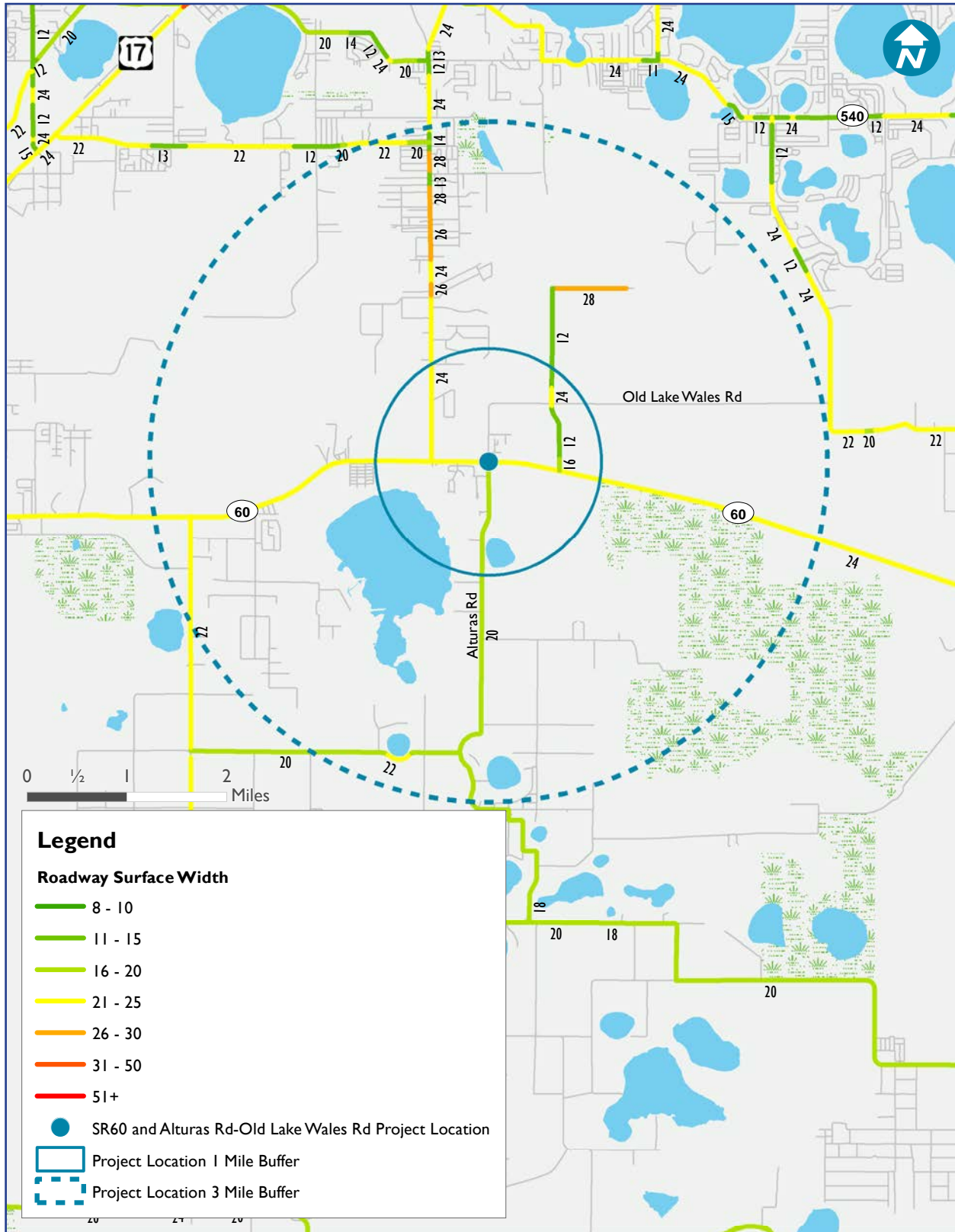
Figure 92: SR 60 and Alturas Road / Old Bartow / Lake Wales Road Study Area SIS Map



Roadway Surface Width Assessment

Figure 93 displays the roadway surface width for roadways within the SR 60 and Alturas Road / Old Bartow Lake Wales Road study area. Roadway surface width along SR 60 and Alturas Road remain consistent throughout both the one-mile and three-mile buffers at 24' and 20', respectively. The existing roadway surface width at this intersection reflects the nature of the study area roadways. As currently constructed, the intersection roadway surfaces, especially on SR 60 are appropriate for large truck traffic and higher speeds of travel.

Figure 93: SR 60 and Alturas Road / Old Bartow Lake Wales Road Study Area Roadway Surface Width Map



**AADT and Truck AADT**

AADT and truck AADT for the intersection of Alturas Road / Old Bartow Lake Wales Road study area are shown below in Figure 94 and Figure 95, respectively. There was one count site along SR 60 within the one-mile and three-mile buffers. This location represents the highest AADT in the study area at 27,000. Truck AADT at this location was also the highest in the study area (4,617). A second SR 60 count location (24,000 AADT) was just east of the three-mile buffer. Truck AADT at this location was 5,280. There was also one available AADT count site for Alturas Road located approximately 1.5 miles from the intersection. Traffic volumes at that site were 3,200, and truck AADT was 438. The second highest AADT in the study area (12,600) was recorded along CR 655 / Rifle Range Road, which intersects SR 60 0.5 miles west of its intersection with Alturas Road / Old Bartow Lake Wales Road.

Figure 94: SR 60 and Alturas Road / Old Bartow Lake Wales Road Study Area AADT Map

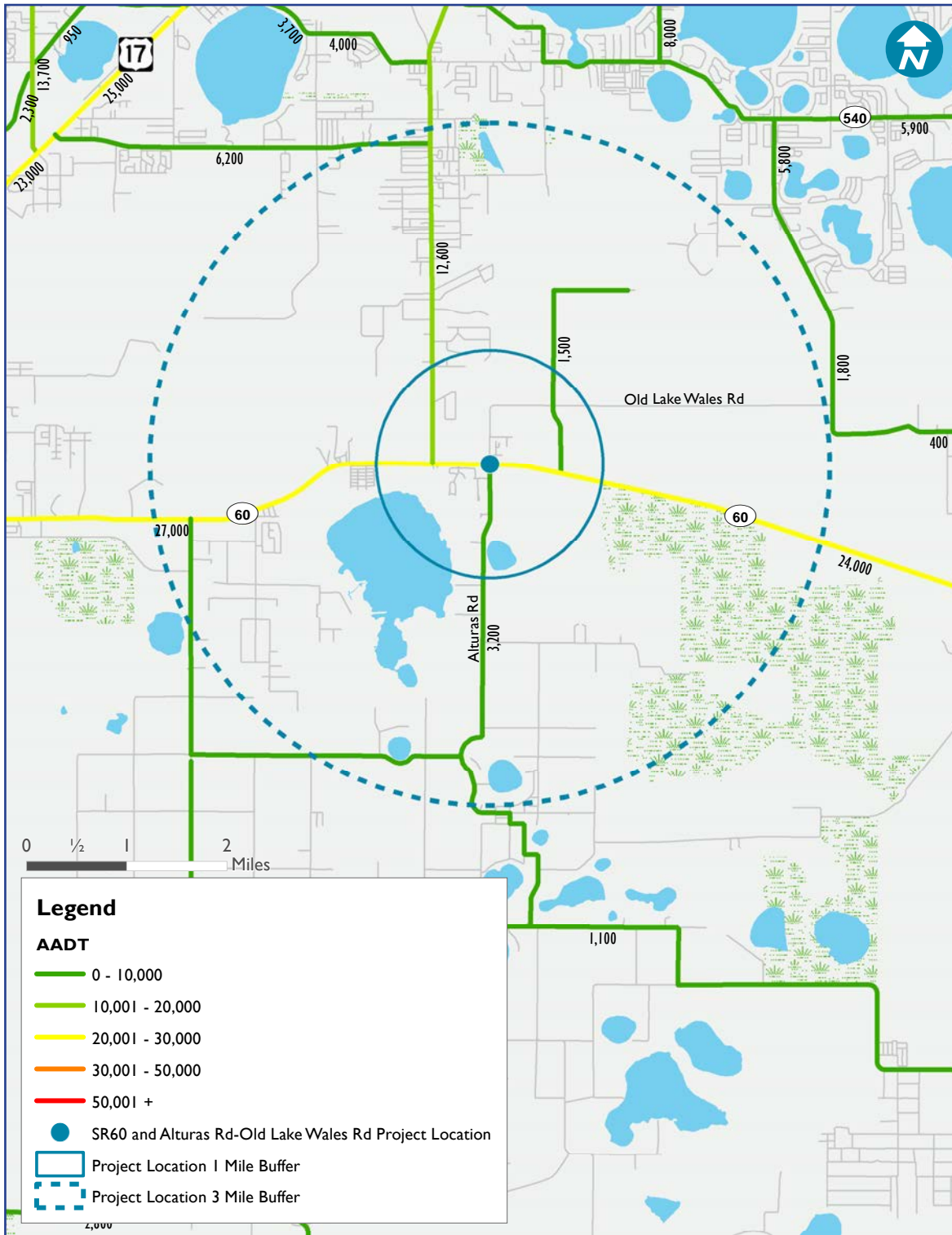
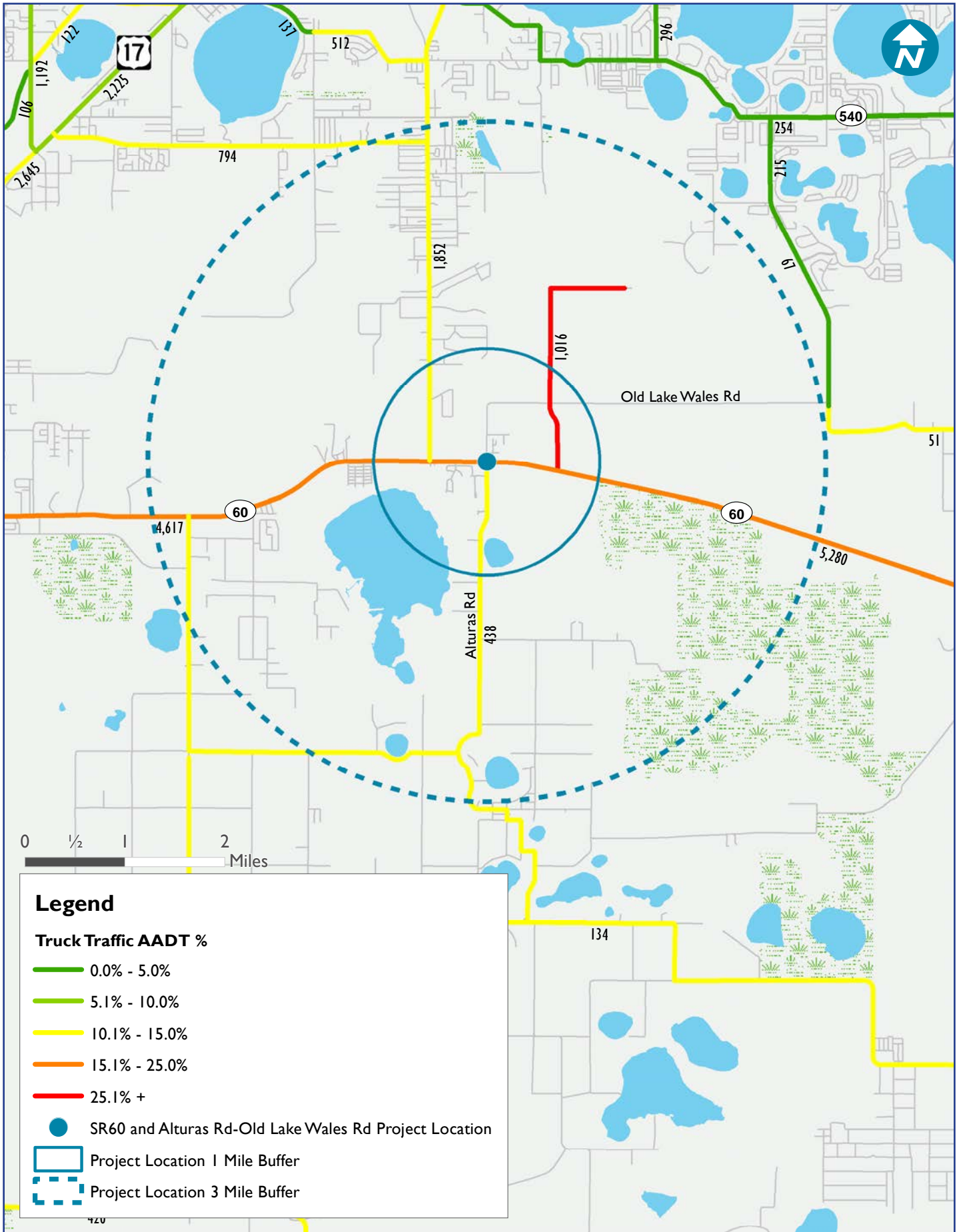




Figure 95: SR 60 and Alturas Road / Old Bartow Lake Wales Road Study Area Truck AADT Map

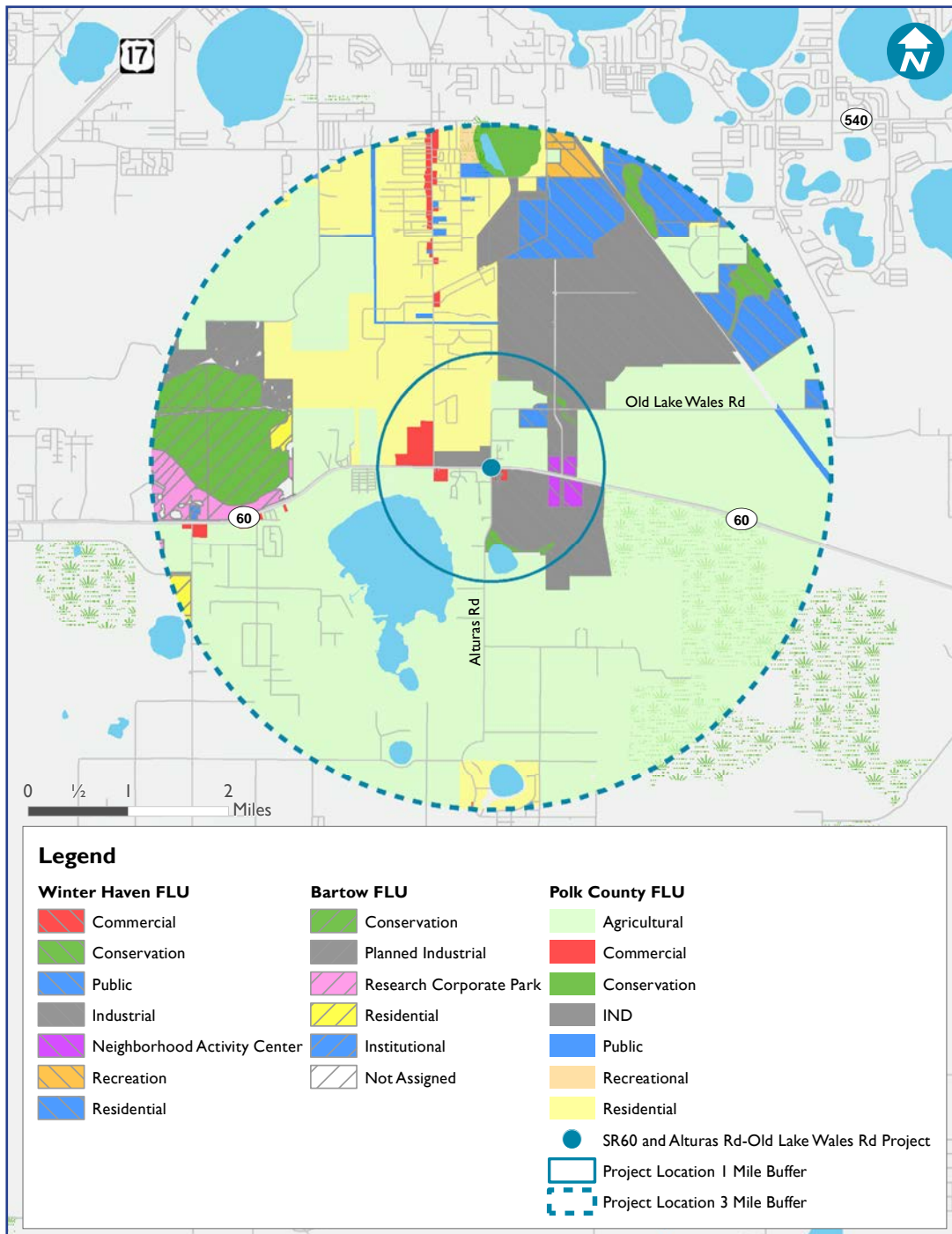


## 7.2 SR 60 and Alturas Road / Old Bartow Lake Wales Road Future Conditions

### 7.2.1 Future Land Use Analysis

The Bartow, Winter Haven, and Polk County FLUMs were used to complete the future land analysis for the intersection of SR 60 and Alturas Road / Old Bartow Lake Wales Road (Figure 96). Both the northwest and southeast quadrants of the intersection are designated for future Industrial use. The southeast portion also contains Commercial use designation at the intersection. Additional commercial use is also planned along SR 60, within the one-mile buffer, to the west of the intersection. Agricultural, Residential, Public, and Neighborhood Activity Center uses are also found inside of the one-mile buffer. A large pocket of land designated for future Industrial development is located in the three-mile buffer, to the north east of the intersection. This land is primarily located north of Old Bartow Lake Wales Road. A majority of the remaining land in the three-mile buffer is classified as either Residential or Agricultural. Given these stated land development goals, the types of uses identified for the areas around the intersection are likely to create additional vehicular traffic, particularly, truck traffic.

Figure 96: SR 60 and Alturas Road / Old Bartow Lake Wales Road Study Area Future Land Use Map



## 7.2.2 Projected Traffic Conditions

Over the previous eight-year period, traffic volume increased at the SR 60 and Alturas Road / Old Bartow Lake Wales Road intersection by roughly 3.4 percent per year, while truck AADT grew at a rate of 2.2 percent. County population growth statistics show a 2.15 percent growth rate over this eight-year time span. Considering both AADT at the study site as well as population growth at the county level, future condition projections were developed assuming a growth rate of approximately 3.4 percent for AADT, and approximately 2.2 percent for truck AADT. Table 16 shows the projected AADT and Truck AADT at the candidate intersection for the year 2030.

Table 16: Traffic Projections (2030)

AADT			Truck AADT			Truck Traffic Percentage		
2019	2030	% Change	2019	2030	% Change	2019	2030	% Change
29,900	43,127 (+13,227)	44%	5,325	6,736 (+1,411)	26%	18%	16%	-2%

## 7.3 Conclusion

Key findings from this analysis for the intersection of SR 60 and Alturas Road / Old Bartow Lake Wales Road are highlighted below:

- Current zoning in the immediate vicinity of the intersection includes Planner Development, Suburban Development Area, and Rural Development Area.
- Future land uses in-and-around the study area include Agricultural, Residential, Industrial, and Commercial;
- There were no planned projects or relevant studies available for this intersection;
- SR 60 and the CSX Mainline are both included as part of the FDOT SIS network;
- AADT on US 27 was 27,000; the highest in the study area;
- Truck AADT on US 27 was 4,617; the highest in the study area;
- AADT at the candidate intersection is projected by this report to increase to 43,127 by 2030, representing a difference of +13,227 vehicles;
- Truck AADT at the candidate intersection is projected by this report to increase to 6,736 by 2030, representing a difference of +1,411 trucks

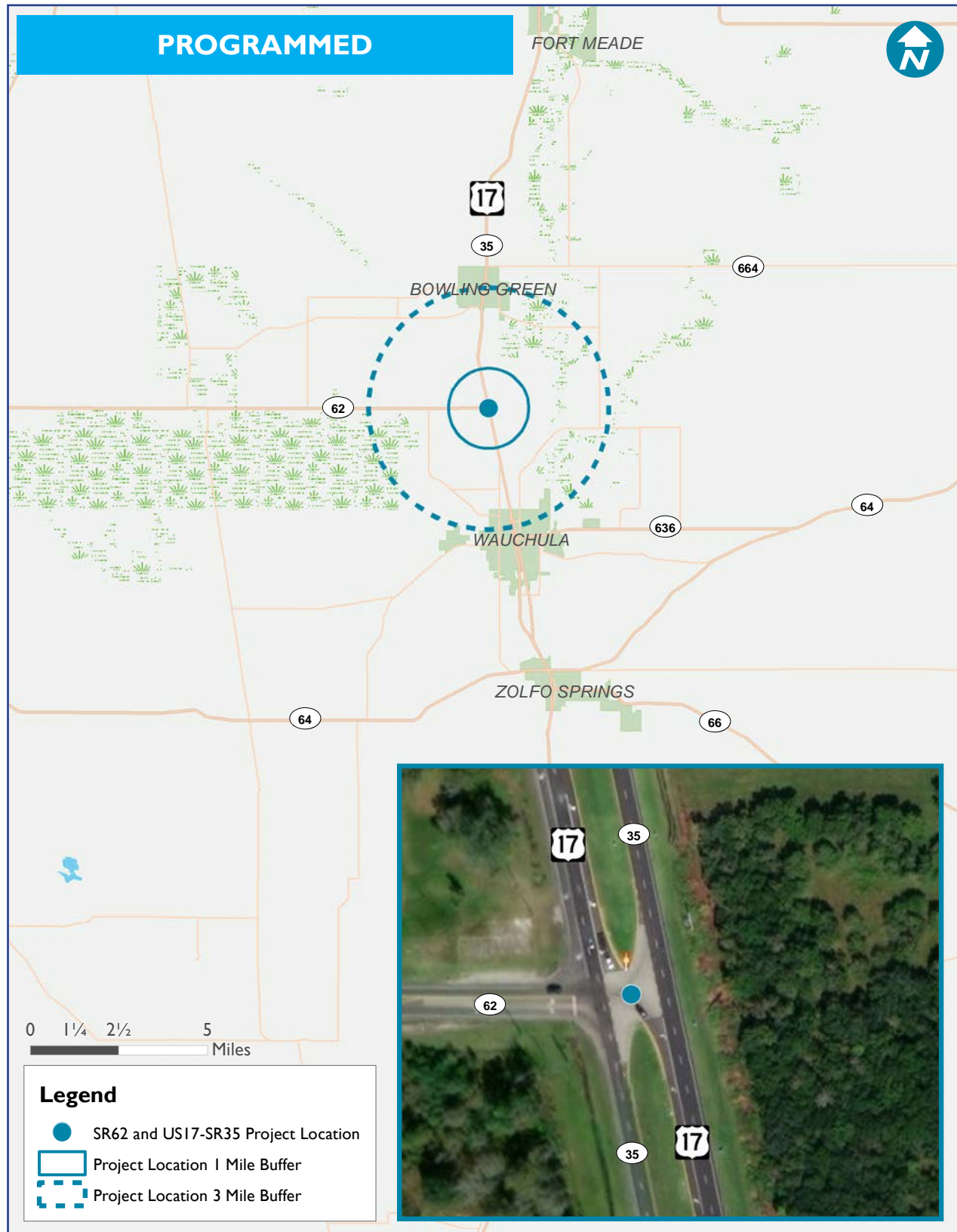
With limited major east/west roadways in Florida, State Road 60 serves as an important four-lane highway, providing access and mobility for trucks and automobiles travelling between Florida's east and west coasts. As such, traffic growth on this regional facility is driven more by statewide growth than local activity. Two gas stations, including one major truck stop, are located on the northwest and southwest corners of this intersection. The 2030 projected truck percentage is 16%. **This location is a high priority candidate for a concrete intersection due to the high volume of east/west traffic and truck percentage on SR 60, and high number of truck movements travelling to-and-from the truck stop and gas station.**



## 8. SR 62 and US 17 / SR 35

This study identified the intersection of SR 62 and US 17 / SR 35 as a potential candidate for concrete reconstruction. This intersection is located in Hardee County, FL, 33834, and shown below in Figure 97. The figure depicts the study area with one-mile and three-mile buffers for data collection and an inset aerial photo of the intersection. US 17 runs north-south and SR 62 runs east-west, reaching its terminus at the intersection.

Figure 97: SR 62 and US 17 / SR 35 Site Map



## 8.1 SR 62 and US 17 / SR 35 Existing Conditions

### 8.1.1 Site Visit

A site visit was conducted for the intersection of SR 62 and US 17 / SR 35 on April 7, 2021. Photographs taken during the site visit are shown below (Figure 98 – Figure 103), and reflect conditions as of the date of the site visit.

Figure 98: Looking East from SR 62



Figure 99: Looking North from US 17





Figure 100: US 27 Looking South from US 17



Figure 101 :View of the East Side of the Intersection





Figure 102: Looking West on SR 62



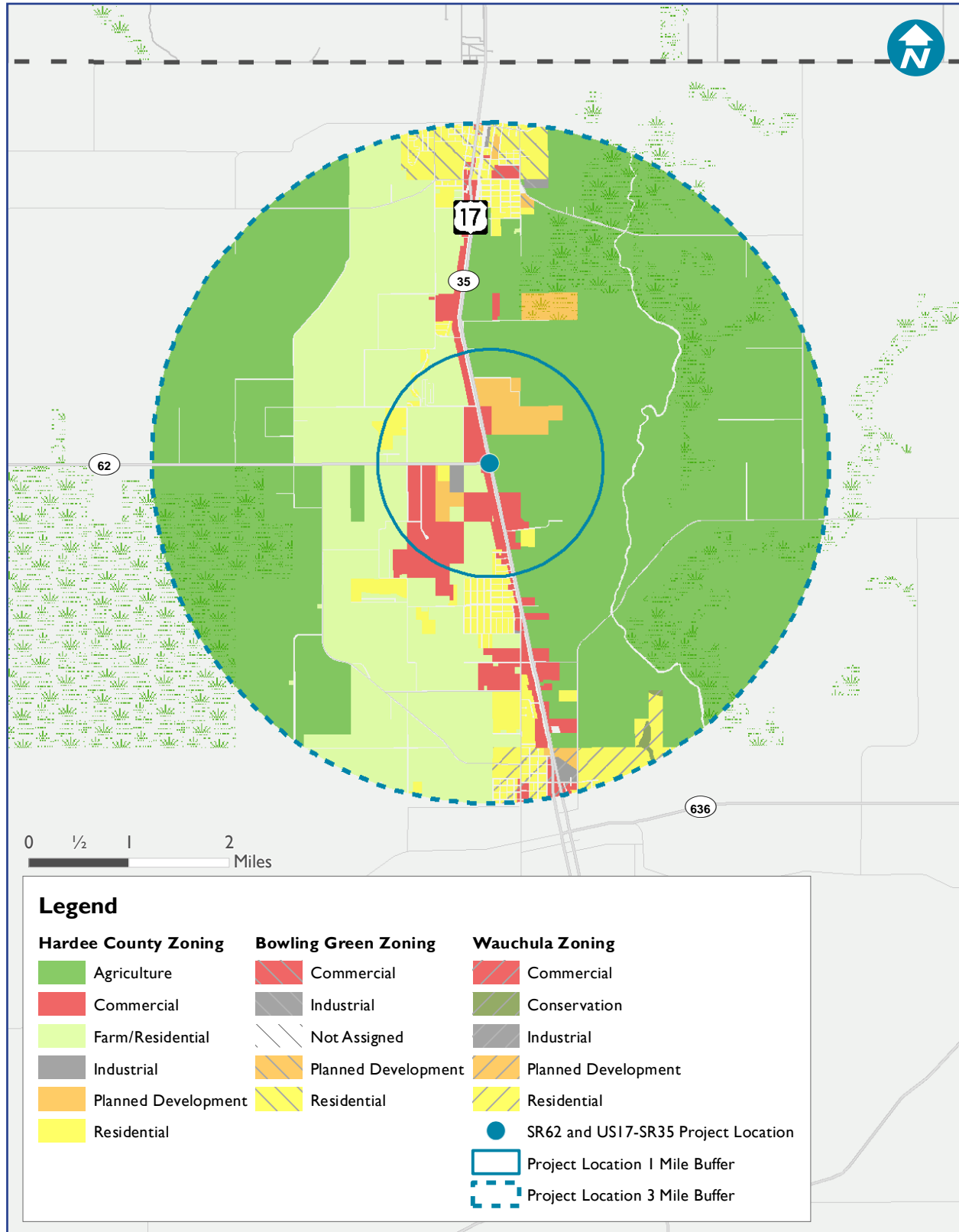
Figure 103: Looking at SR 62 from US 17



## 8.1.2 Zoning Analysis

Zoning data for the SR 62 and US 17 / SR 35 intersection is shown below in Figure 104. The northwest quadrant of the intersection is zoned as Commercial, and the southwest portion consists of Farm Residential, Industrial, and Commercial. East of the intersection is designated Agriculture. Planned Development and Residential uses are also present within the one-mile buffer. A pocket of Industrial zoning is located within the study area, south of the intersection, along US 17, at the edge of the three-mile buffer.

Figure 104: SR 62 and US 17 / SR 35 Study Area Zoning Map



### 8.1.3 Planning Document Review

A list of all materials identified as part of this effort are shown below in Table 17. The table includes the document name and source as well as relevant findings from the research. The FDOT District I Five-Year Work Program includes rigid (concrete) pavement reconstruction for the intersection of SR 62 and US 17 / SR 35. This intersection is already been programmed for concrete reconstruction in 2025.

Table 17: Planning Document Review Summary

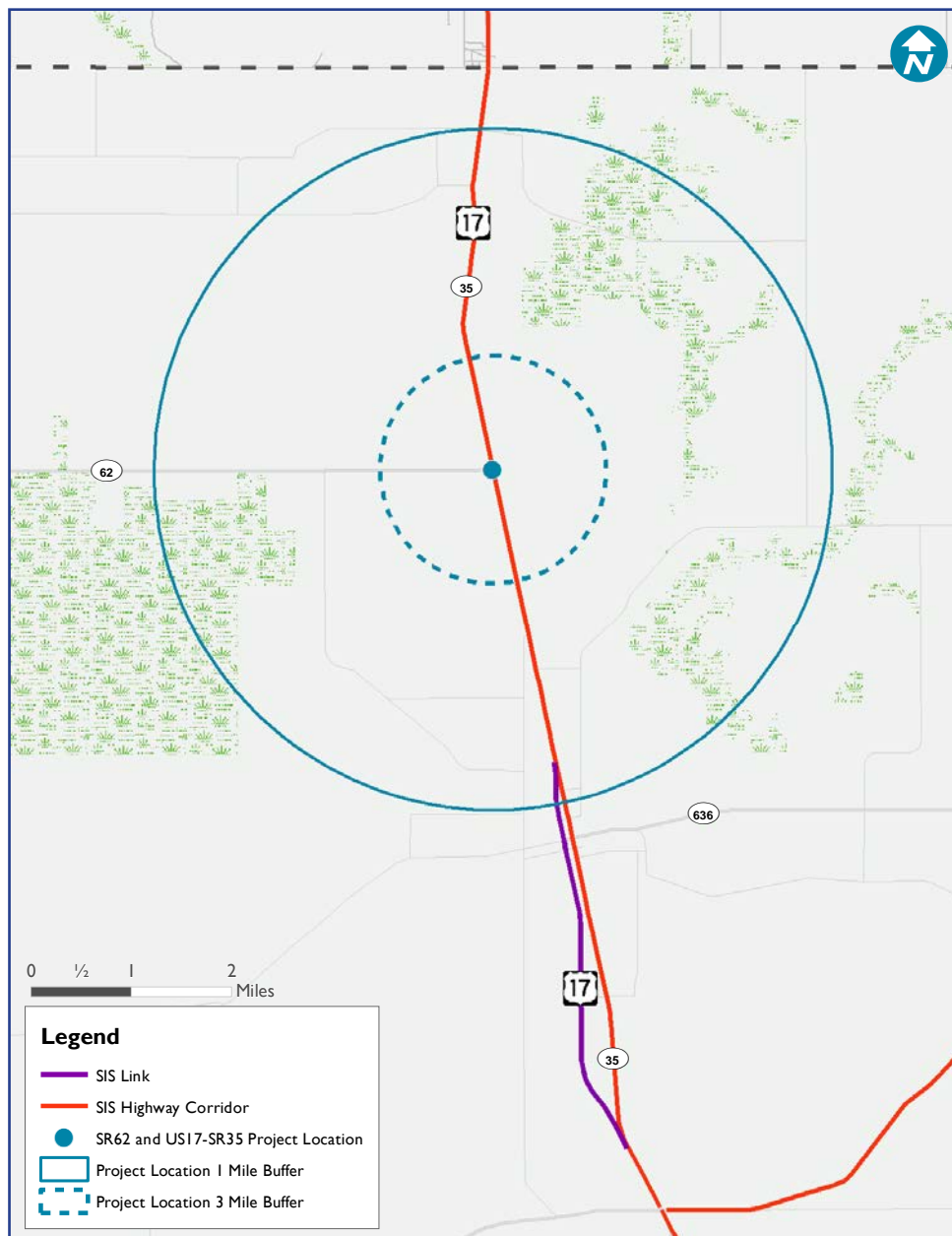
Document/Plan/Website	Source	Notes
<a href="#">FDOT District I Five-Year Work Program</a>	FDOT	SIS - RIGID PAVEMENT RECONSTRUCTION – Concrete; SR 62 @ US 17 445441-1; 2021 - \$1,215,000; 2025 - \$4,941,846

### 8.1.4 Roadway Network and Existing Traffic Conditions Analysis

#### SIS Facilities

There were two SIS facilities located in the vicinity of the SR 62 and US 17 / SR 35. US 17 / SR 35 is designated by FDOT as Strategic Highway Corridor, and South 6th Avenue is a SIS Link. Both facilities are shown below in Figure 105.

Figure 105: SR 62 and US 17 / SR 35 Study Area SIS Map

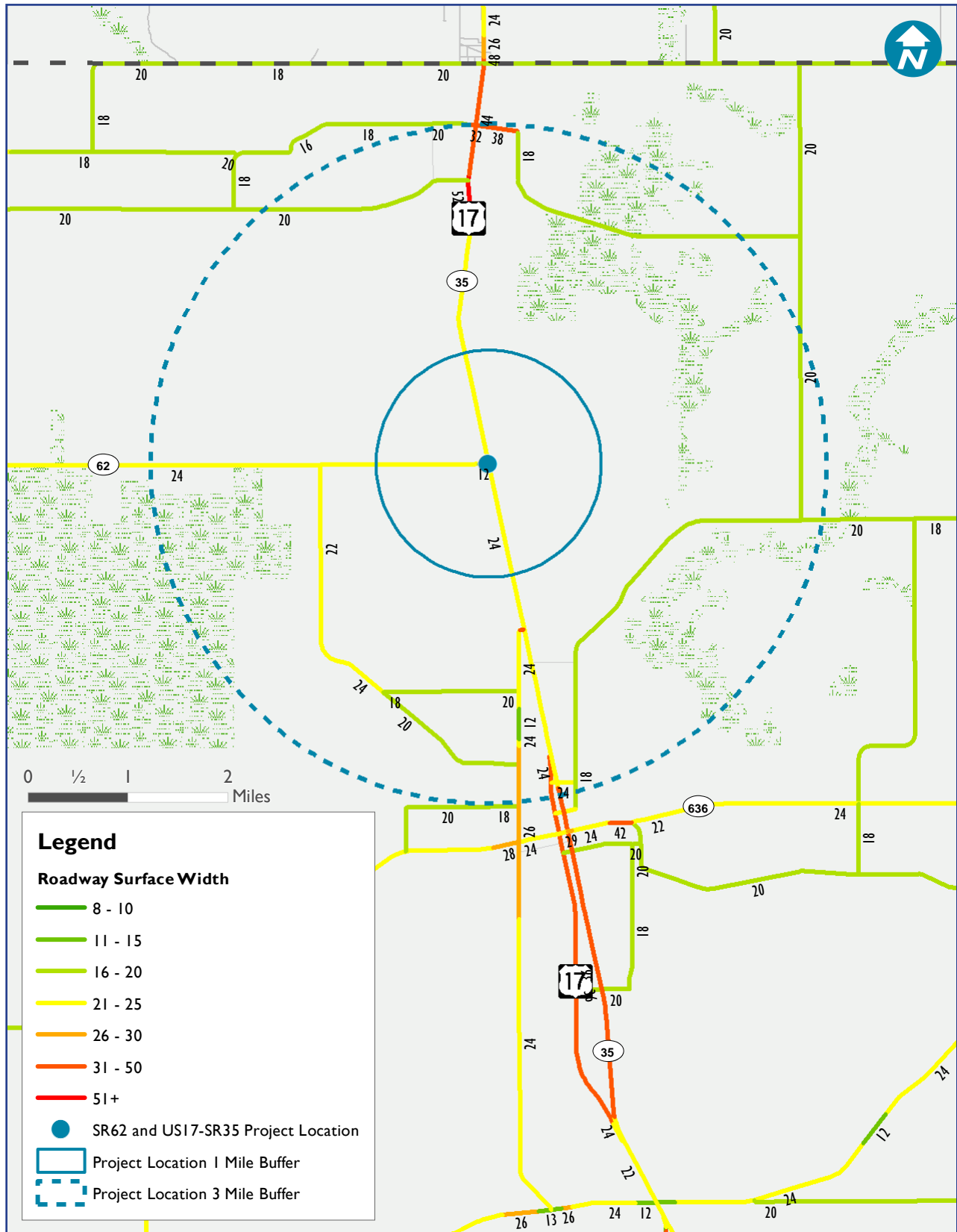




Roadway Surface Width Assessment

Figure I06 displays the roadway surface width for roadways within the SR 62 and US 17 / SR 35 study area. Roadway surface width along US 17 was consistent through the one-mile buffer, including at the intersection, at 24'. Roadway surface width increases on US 17 at both the northern and southern boundaries of the three-mile buffer. SR 62 narrows from 24' within the three-mile buffer, to 12' feet at the intersection.

Figure I06: Airglades Study Area Roadway Surface Width Map



## AADT and Truck AADT

AADT and truck AADT for the intersection of SR 62 and US 17 / SR 35 study area are shown below in Figure 107 and Figure 108, respectively. The highest AADT in both the one-mile and three-mile buffers (19,600) was experienced along US 17, just south of the one-mile buffer. At this count site, truck AADT of 3,214 comprises approximately 16 percent of total traffic volume. AADT of 16,400, the second highest total in the study area, occurs just north of the intersection on US 17, inside of the one-mile buffer. This portion of US 17 experiences Truck AADT of 2,804. No AADT counts were available within the study area for SR 62; however, a count site was available just west of the three-mile buffer, reflecting AADT of 4,800. A truck AADT count for SR 62 was available within the three-mile buffer, and shows a daily truck volume of 806.

Figure 107: SR 62 and US 17 / SR 35 Study Area AADT Map

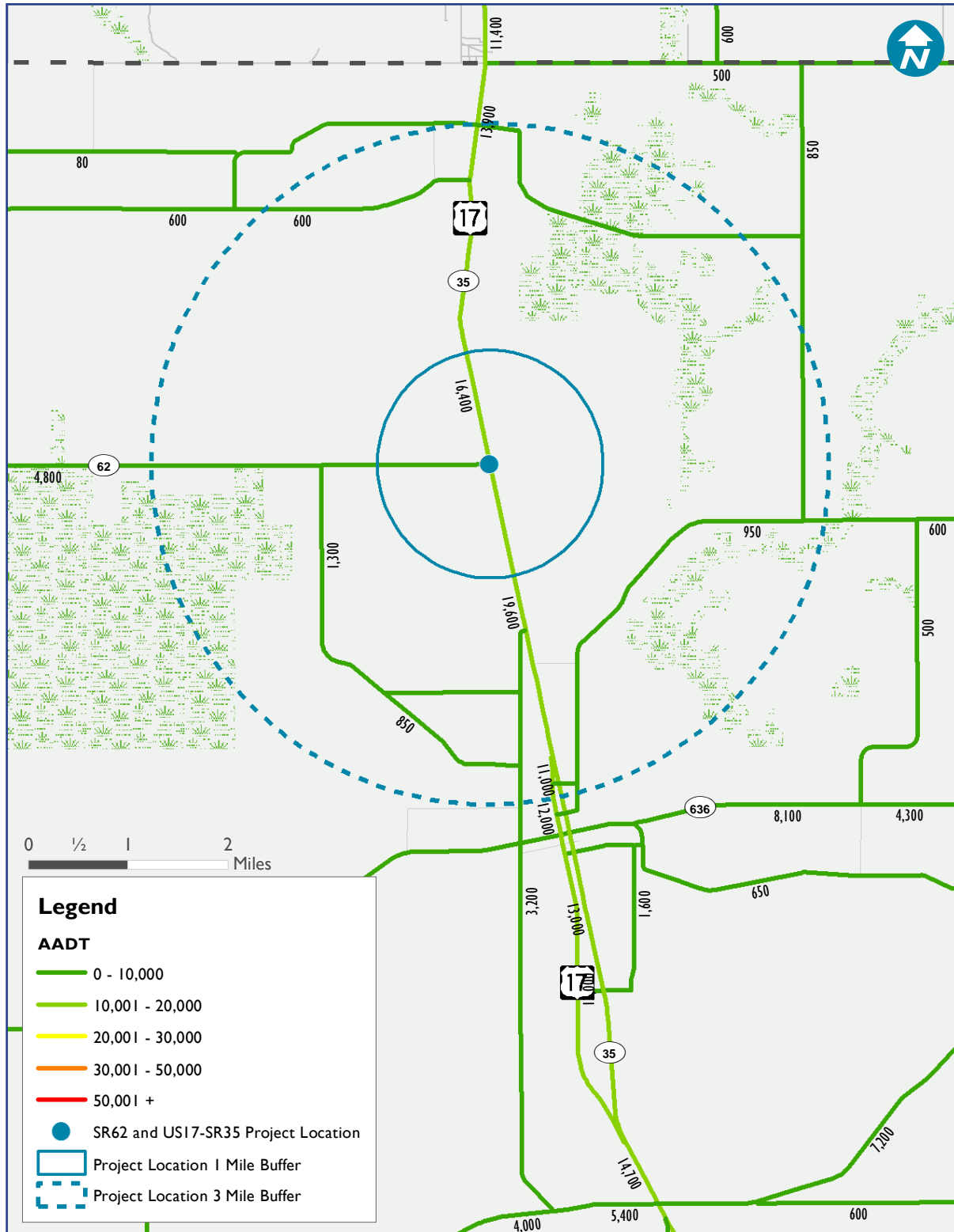
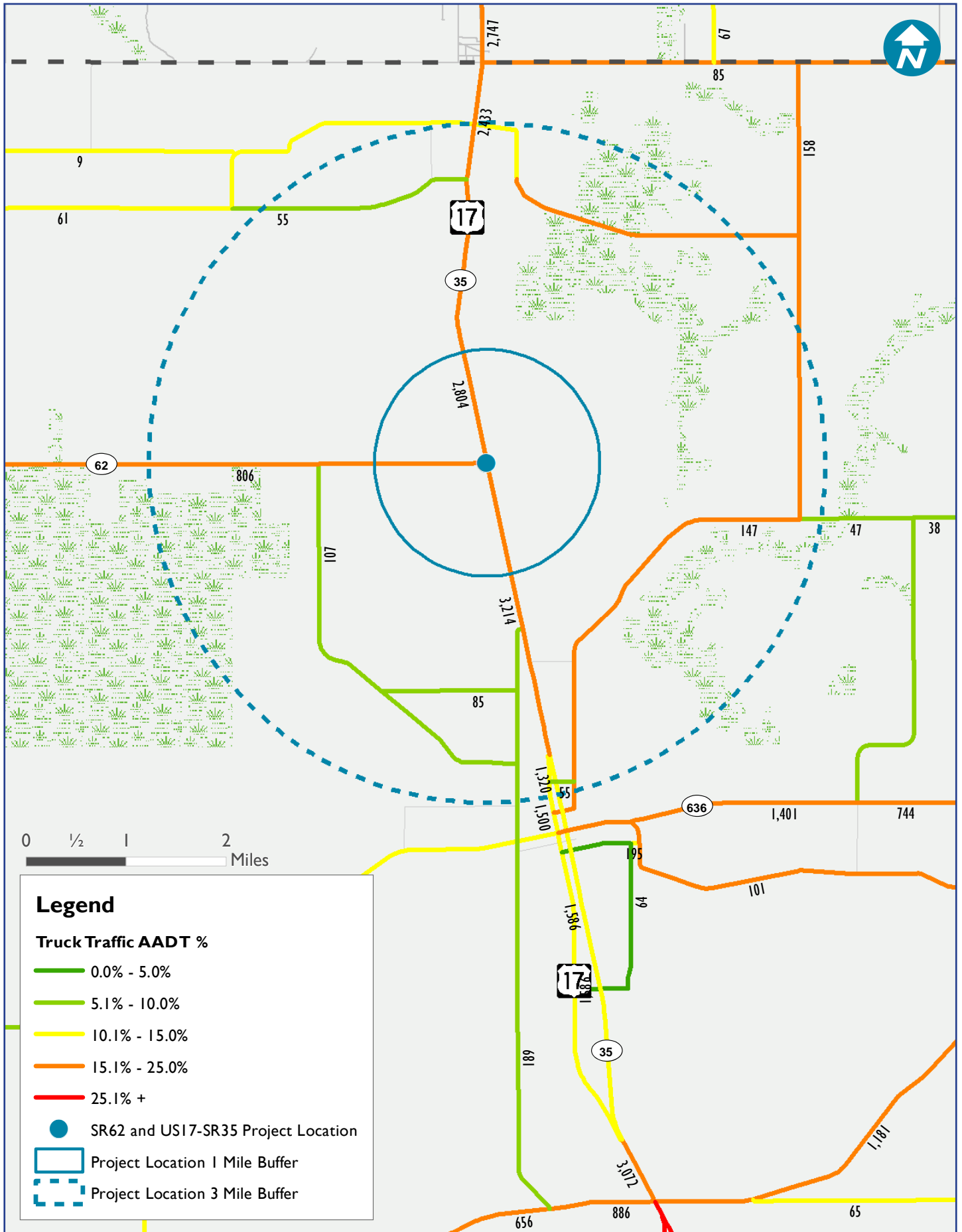


Figure 108: SR 62 and US 17 / SR 35 Study Area Truck AADT Map



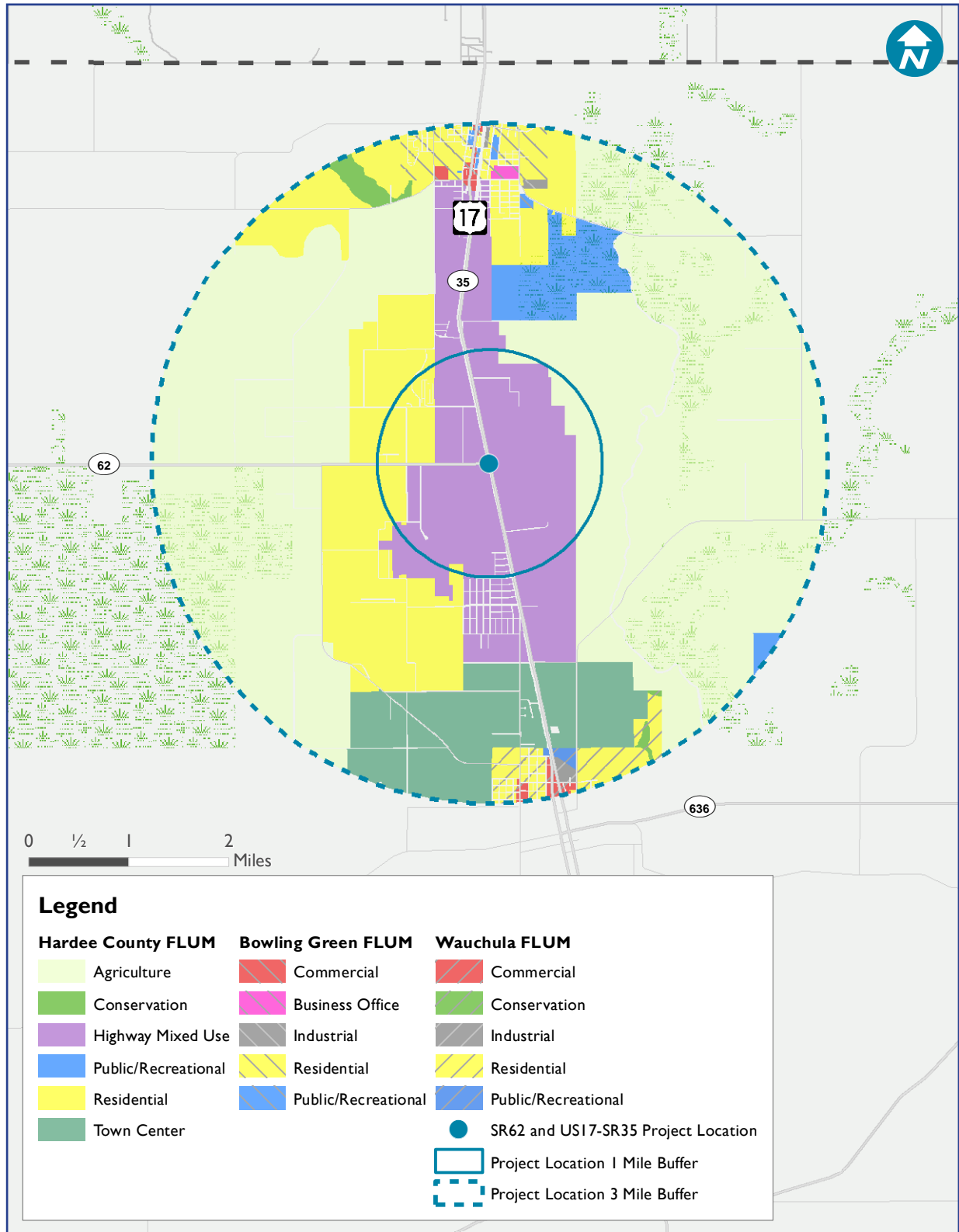


## 8.2 SR 62 and US 17 / SR 35 Future Conditions

### 8.2.1 Future Land Use Analysis

The Hardee County, Bowling Green, and Wauchula FLUMs were used to complete the future land analysis for the intersection of SR 62 and US 17 / SR 35 (Figure 109). Within the one-mile buffer, future land use consists primarily of Highway Mixed Use, and some Residential and Agriculture. South of the intersection, within the three-mile buffer on US 17, there is a large tract of Town Center adjacent to the Highway Mixed Use and Residential uses.

Figure 109: SR 62 and US 17 / SR 35 Study Area Future Land Use Map



## 8.2.2 Projected Traffic Conditions

Based on historical FDOT data, the historical growth rate for all traffic was roughly 4.3% at the SR 62 and US 17 / SR 35 intersection. The historical truck growth rate was approximately 7.5%. Although a steady growth rate is still anticipated, a 3.5% overall growth and 4.5% truck growth percentage were used to project future traffic volumes at this location. Considering that the county population growth rate was 1.69 percent, which is significantly less than the short term traffic growth, slightly more conservative growth rates were used in making projections for this intersection. Table 18 shows the projected AADT and Truck AADT at the candidate intersection for the year 2030.

Table 18: Traffic Projections (2030)

AADT			Truck AADT			Truck Traffic Percentage		
2019	2030	% Change	2019	2030	% Change	2019	2030	% Change
20,200	29,491 (+9,291)	46%	3,799	6,165 (+2,366)	62%	19%	21%	+2%

## 8.3 Conclusion

Key findings from this analysis for the intersection of SR 62 and US 17 / SR 35 are highlighted below:

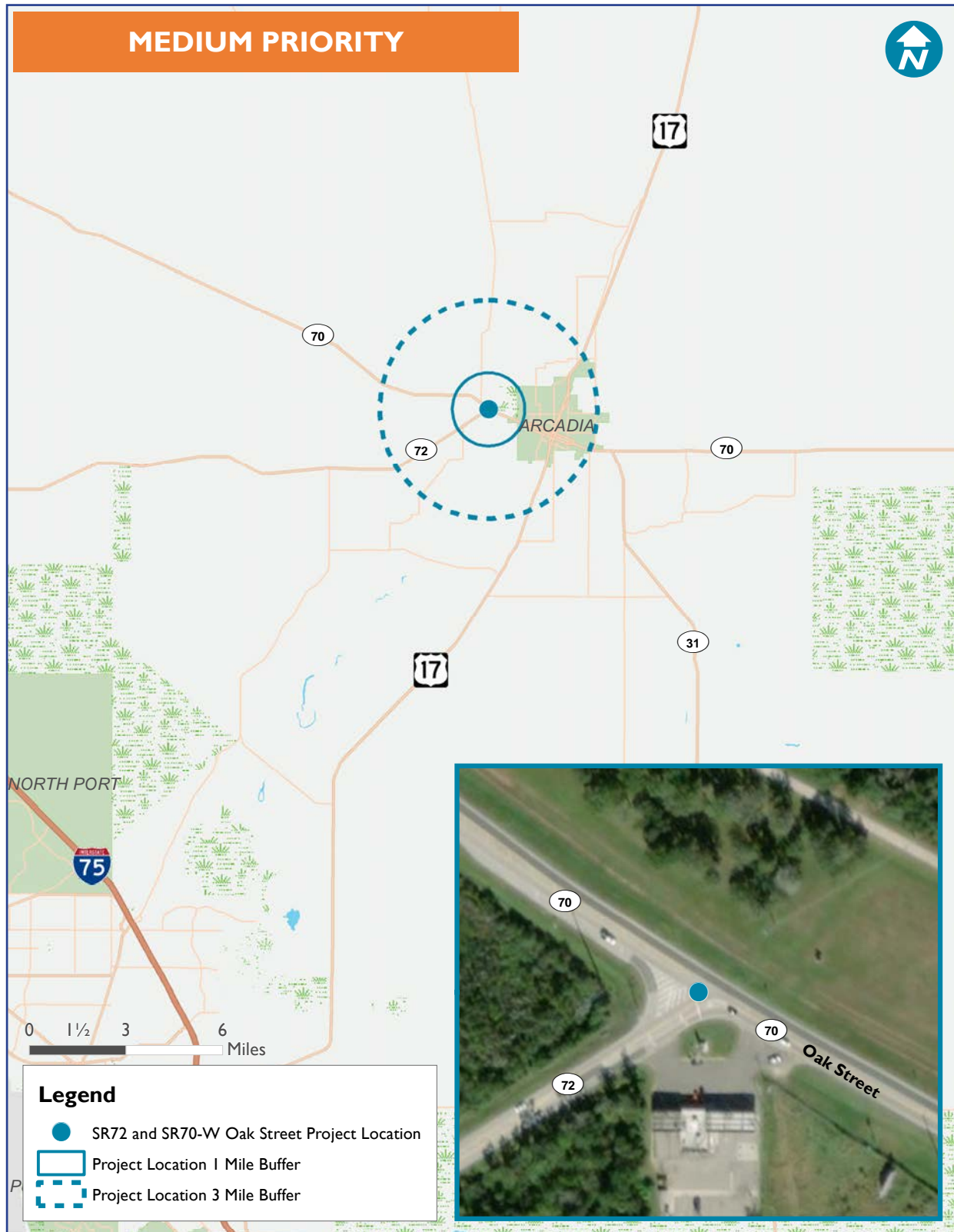
- Current zoning in the immediate vicinity of the intersection includes Commercial, Farm Residential, Industrial, and Agriculture;
- Future land uses in-and-around the intersection includes Agriculture, Highway Mixed Use, and Residential;
- The FDOT District I Five-Year Work Program includes rigid (concrete) pavement reconstruction for the intersection of SR 62 and US 17 / SR 35. This intersection has already been programmed for concrete reconstruction;
- US 17 / SR 35 and South 6th Avenue are both included as part of the FDOT SIS network;
- Current AADT on US 17 ranges from 16,400 to 19,600; the highest in the study area;
- Current truck AADT on US 17 ranges from 2,804 to 3,214; the highest in the study area;
- AADT at the candidate intersection is projected by this report to increase to 29,491 by 2030, representing a difference of +9,291 vehicles;
- Truck AADT at the candidate intersection is projected by this report to increase to 6,165 by 2030, representing a difference of +2,366 trucks

SR 62 connects US 17 with the west coast of Florida; however, it is not classified as a SIS facility. US 17 is an SIS route and is projected to have a substantial truck percentage of 21 percent. There are no industrial developments directly adjacent to the intersection, but there are some located to the west. There are minimal amounts of turning trucks at this intersection. Since this is currently a non-signalized intersection with stop sign control along SR 62, through trucks on US-17 do not have to start or stop at the intersection. **This intersection is currently included as part of the FDOT Five-Year Work Program for concrete reconstruction in 2025.**

## 9. SR 72 and SR 70 / West Oak Street

This study identified the intersection of SR 72 and SR 70 / West Oak Street as a potential candidate for concrete reconstruction. This intersection is located in Arcadia, FL, 34266, and shown below in Figure 110. The figure depicts the study area with one-mile and three-mile buffers for data collection and an inset aerial photo of the intersection. SR 70 runs east-northwest and SR 72 runs west to its terminus at the intersection. There is a gas station in the southern portion of the intersection. All other lands surrounding the intersection are vacant and undeveloped.

Figure 110: SR 72 and SR 70 / West Oak Street Map





## 9.1 SR 72 and SR 70 / West Oak Street Existing Conditions

### 9.1.1 Site Visit

A site visit was conducted for the intersection of SR 72 and SR 70 / West Oak Street on April 7, 2021. Photographs taken during the site visit are shown below (Figure 111 – Figure 116), and reflect conditions as of the date of the site visit.

Figure 111: Looking Northeast from SR 72



Figure 112: Looking East on SR 70





Figure 113: US 27 Looking at Northeast side of the Intersection



Figure 114: US 27 Looking Northwest on SR 70





Figure 115: Entering SR 70 from SR 72



Figure 116: Looking Southeast to SR 72 from SR 70

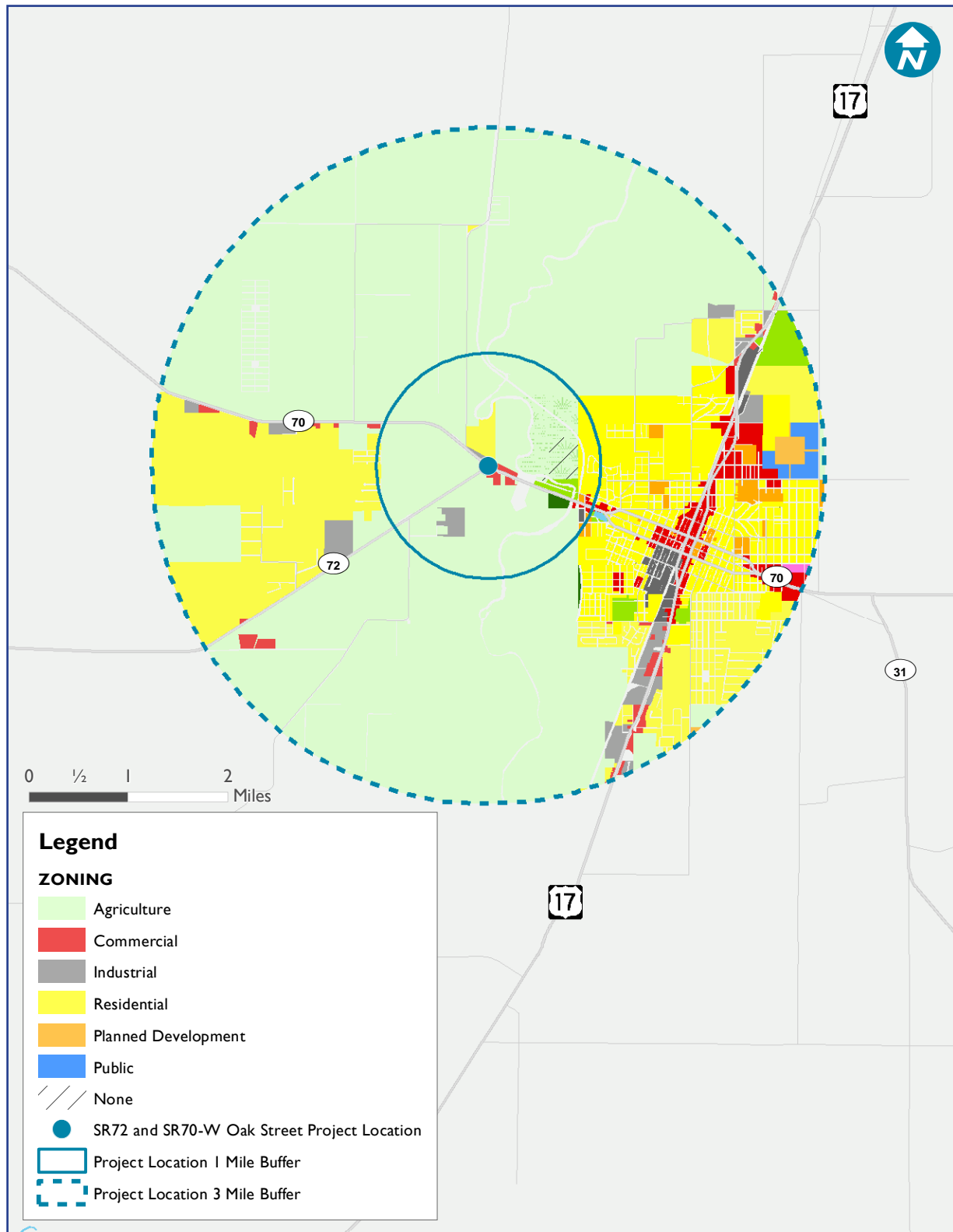




## 9.1.2 Zoning Analysis

Zoning information for the SR 72 and SR 70 / West Oak Street intersection is shown below in Figure 117. Property within the one-mile buffer is primarily designated as Agriculture. A small area of Industrial zoning is located at the northwest quadrant of the intersection, along SR 70. A pocket of Residential is located behind this Industrial zoning. The northeast and southeast quadrants are zoned for Commercial. The three-mile buffer is also predominantly Agriculture, the exceptions being the US 17 corridor to the east, and land west of the one-mile buffer, between SR 72 and SR 70. The US 17 corridor is fronted by Industrial and Commercial zoning. Residential zoning extends east and west of US 17.

Figure 117: SR 72 and SR 70 / West Oak Street Study Area Zoning Map



### 9.1.3 Planning Document Review

A list of all materials identified as part of this effort are shown below in Table 19. The table includes the document name and source as well as relevant findings from the research. The FDOT District I Five-Year Work Program includes a flexible pavement reconstruction project on SR 72 from CR 661 to SR 70.

Table 19: Planning Document Review Summary

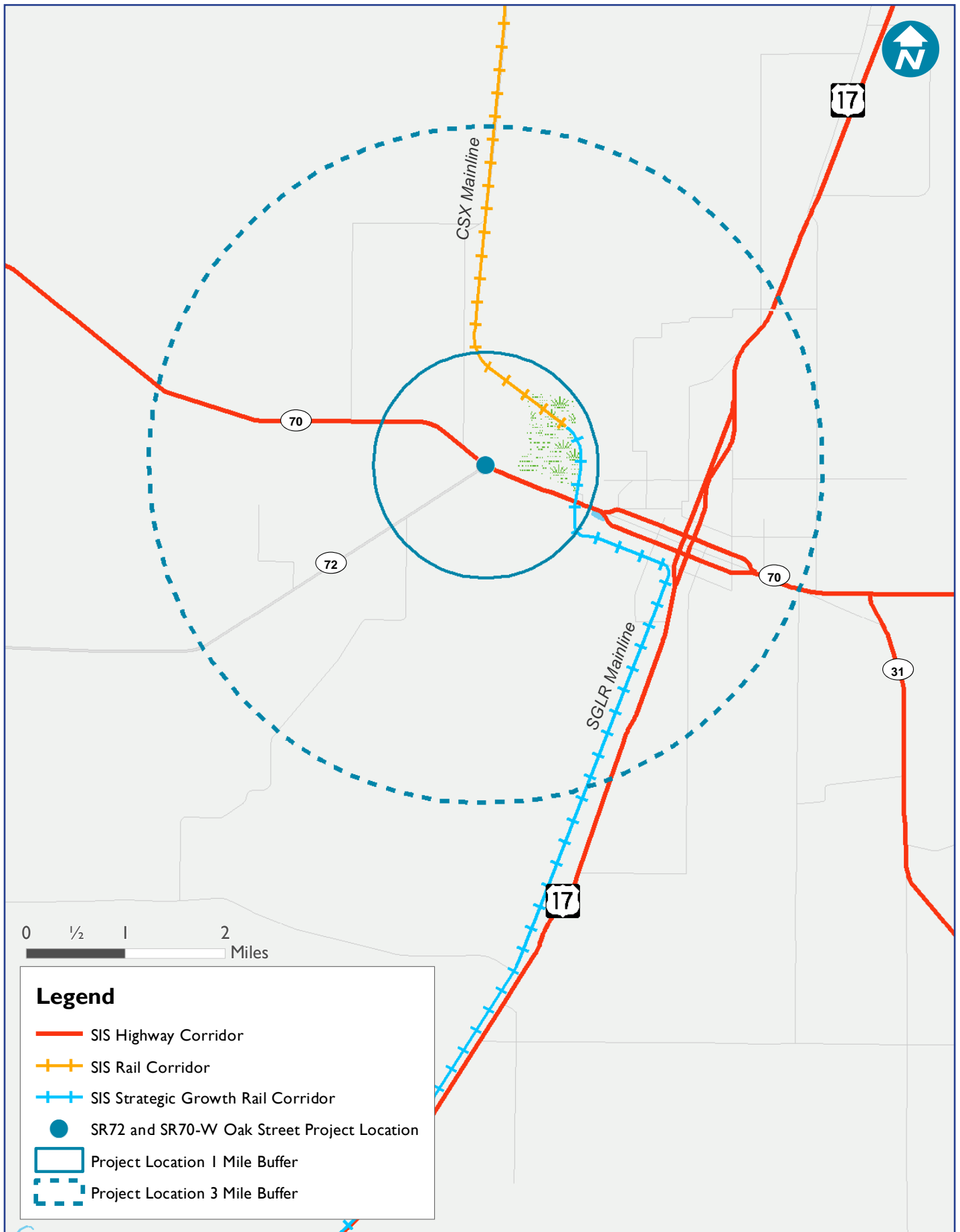
Document/Plan/Website	Source	Notes
<a href="#">FDOT District I Five-Year Work Program</a>	FDOT	SR 72 FROM CR 661 TO SR 70 Type of Work: FLEXIBLE PAVEMENT RECONSTRUCT. Item Number: 443123-1 2021 - \$10,000 2023 - \$5,497,833

### 9.1.4 Roadway Network and Existing Traffic Conditions Analysis

#### SIS Facilities

There were four SIS facilities located in the vicinity of the SR 72 and SR 70 / West Oak Street intersection. US 17 and SR 70 are designated by FDOT as Strategic Highway Corridors. Rail line running north-south, east of the intersection is also a SIS facility. The CSX Mainline located generally to the northeast of the intersection is classified as a SIS Rail Corridor, while the SGLR Mainline southeast of the intersection is considered a Strategic Growth Rail Corridor. In addition, SR 31, which is a SIS Strategic Highway Corridor, intersects SR 70 just east of the three-mile buffer. All facilities are shown below in Figure 118.

Figure 118: SR 72 and SR 70 / West Oak Street Study Area SIS Map

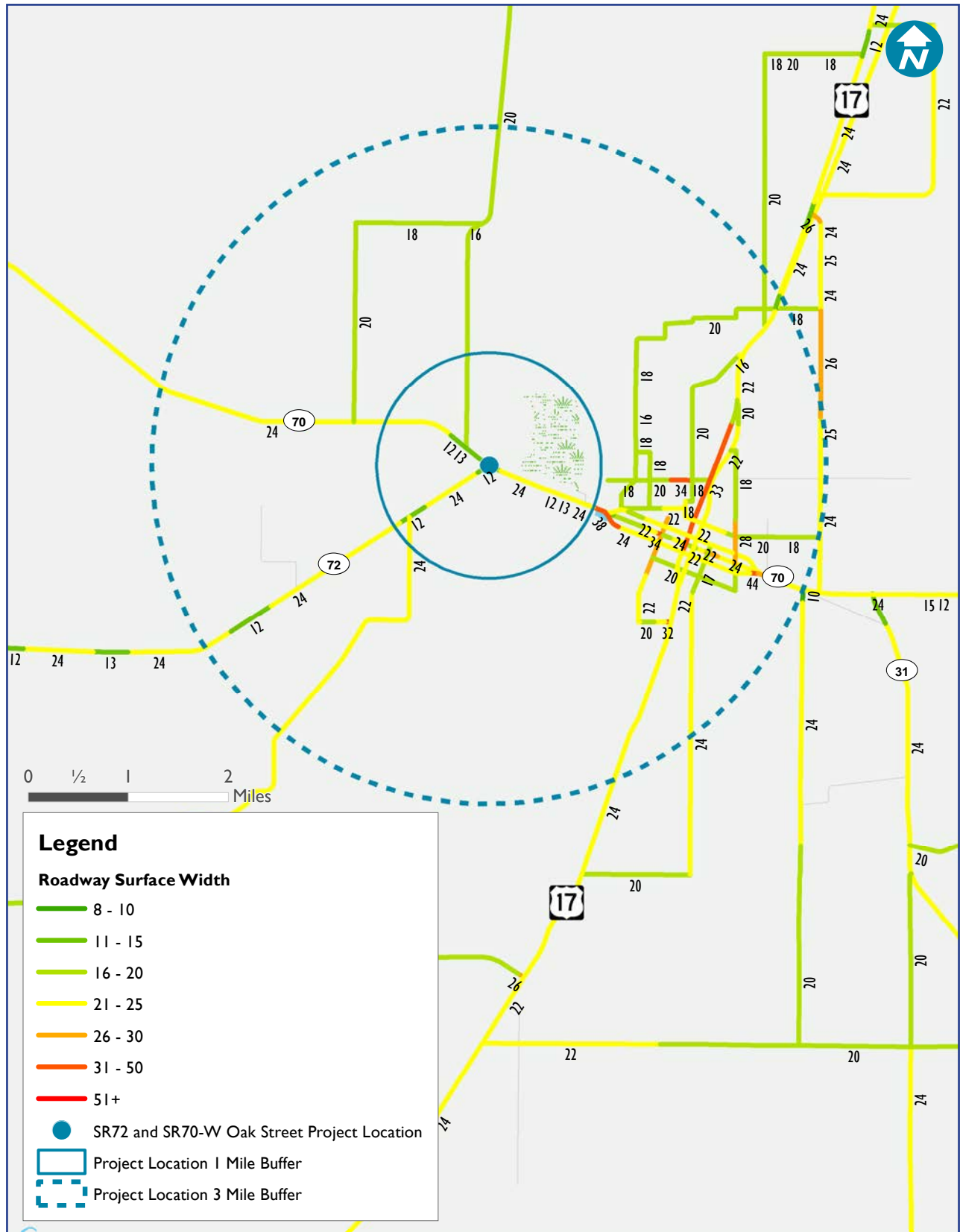




## Roadway Surface Width Assessment

Figure 119 displays the roadway surface width for roadways within the SR 72 and SR 70 / West Oak Street study area. Roadway surface width on SR 70, east of the intersection and within the one-mile buffer narrows from 24' to 12' at the intersection. This pattern also occurs approaching the intersection along SR 72 as well as northwest of the intersection, on SR 70.

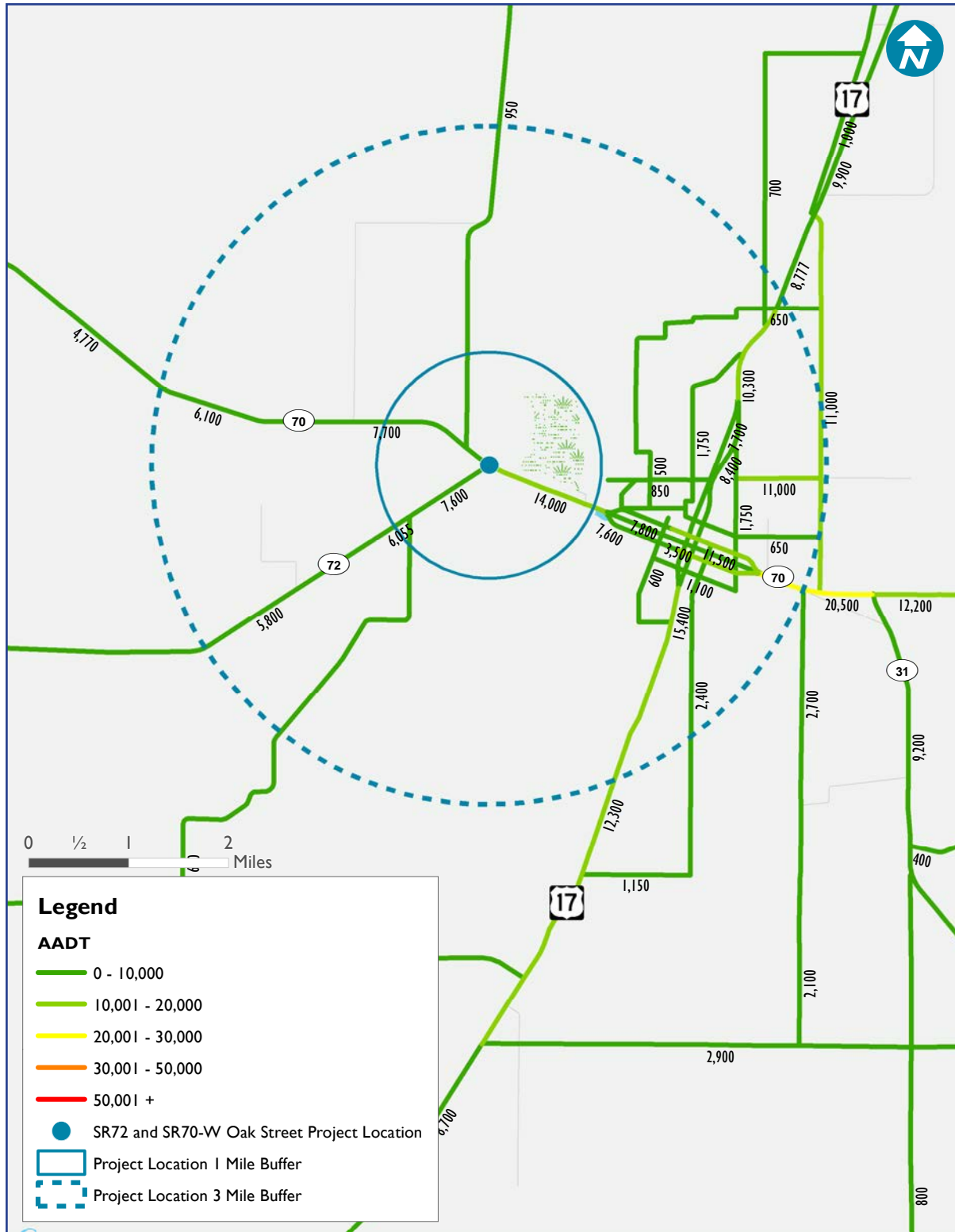
Figure 119: SR 72 and SR 70 / West Oak Street Study Area Roadway Surface Width Map



**AADT and Truck AADT**

AADT and truck AADT for the intersection of SR 72 and SR 70 / West Oak Street study area are shown below in Figure 120 and Figure 121, respectively. The highest AADT for the roadways comprising this intersection (14,000) was experienced along SR 70, just east of the intersection, within the one-mile buffer. Truck AADT at this count site was 2,184, the highest in the study area with the exception of a segment of US 17 to the southwest. AADT decreases by almost half (7,700) traveling through the intersection, west of SR 70, at the boundary of the one-mile buffer. AADT just southwest of the intersection on SR 72 was 7,600, with truck volumes of 935. The highest AADT in the study area occurs on US 17, west of the intersection, within the three-mile buffer.

Figure 120: SR 72 and SR 70 / West Oak Street Study Area AADT Map





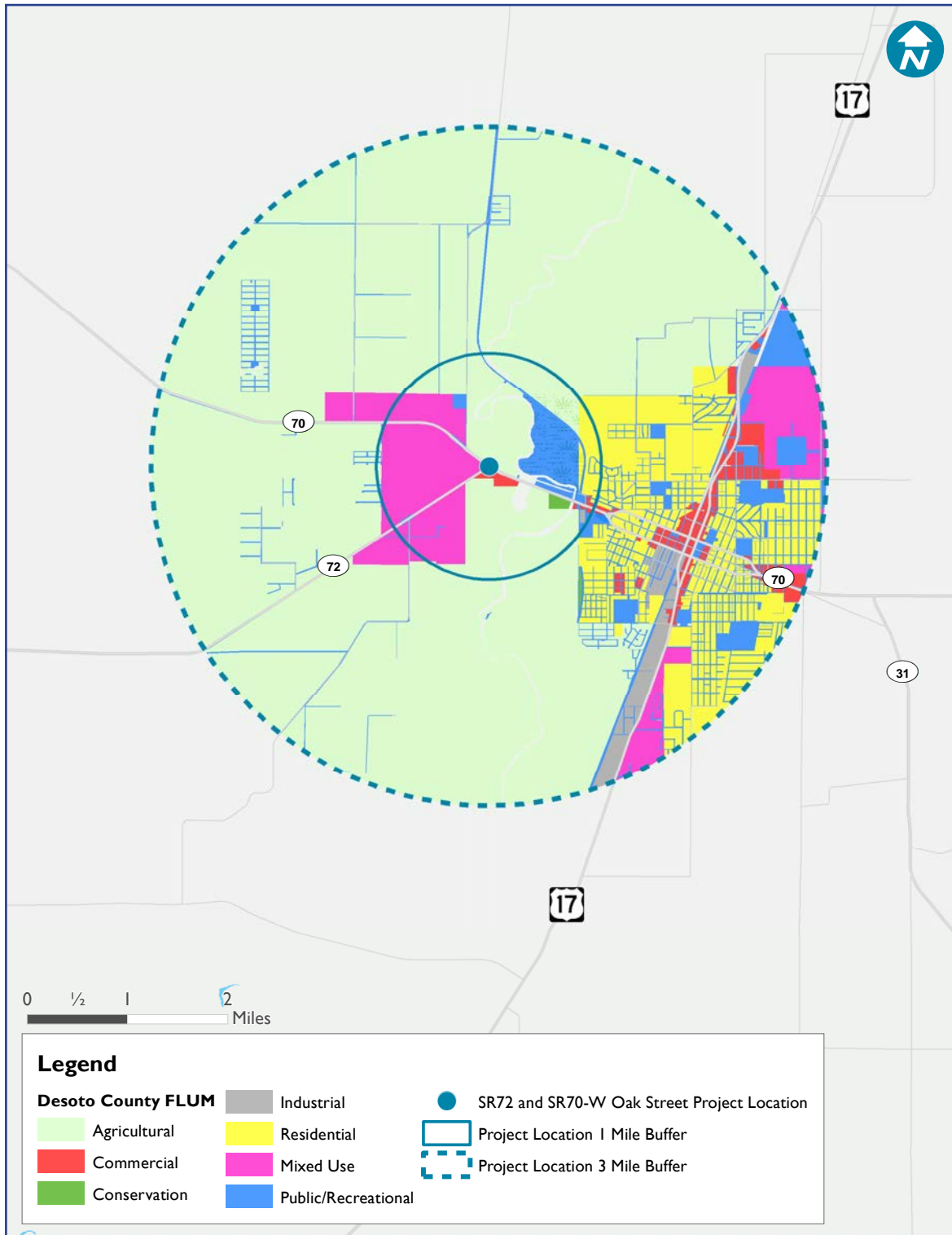


## 9.2 SR 72 and SR 70 / West Oak Street Future Conditions

### 9.2.1 Future Land Use Analysis

The DeSoto County FLUM was used to complete the future land analysis for the intersection of SR 72 and SR 70 / West Oak Street (Figure 122). Mixed-Use is the primary land use west of the intersection, inside of the one-mile buffer. A pocket of land designated for Commercial use is located in the southern portion of the intersection. The remainder of the intersection is Agricultural. Public / Recreational and Conservation lands are also located within the one-mile buffer, to the east of the intersection. A continuous segment of Industrial runs along US 17, within the three-mile buffer, southwest of the intersection.

Figure 122: SR 72 and SR 70 / West Oak Street Study Area Future Land Use Map



## 9.2.2 Projected Traffic Conditions

Over the previous eight-year period, traffic volume increased at the SR 72 and SR 70 / West Oak Street intersection by roughly 3.5 percent per year, while truck AADT grew at a rate of 6.7 percent. County population growth statistics show a 0.72 percent growth rate over this eight-year time span. Considering both AADT at the study site as well as population growth at the county level, future condition projections were developed assuming a growth rate of approximately 3.5 percent for AADT, and 6 percent for truck AADT. Table 20 shows the projected AADT and Truck AADT at the candidate intersection for the year 2030.

Table 20: Traffic Projections (2030)

AADT			Truck AADT			Truck Traffic Percentage		
2019	2030	% Change	2019	2030	% Change	2019	2030	% Change
13,927	20,313 (+6,386)	+46%	2,520	4,783 (+2,263)	+90%	18%	24%	+6%

## 9.3 Conclusion

Key findings from this analysis for the intersection of SR 72 and SR 70 / West Oak Street are highlighted below:

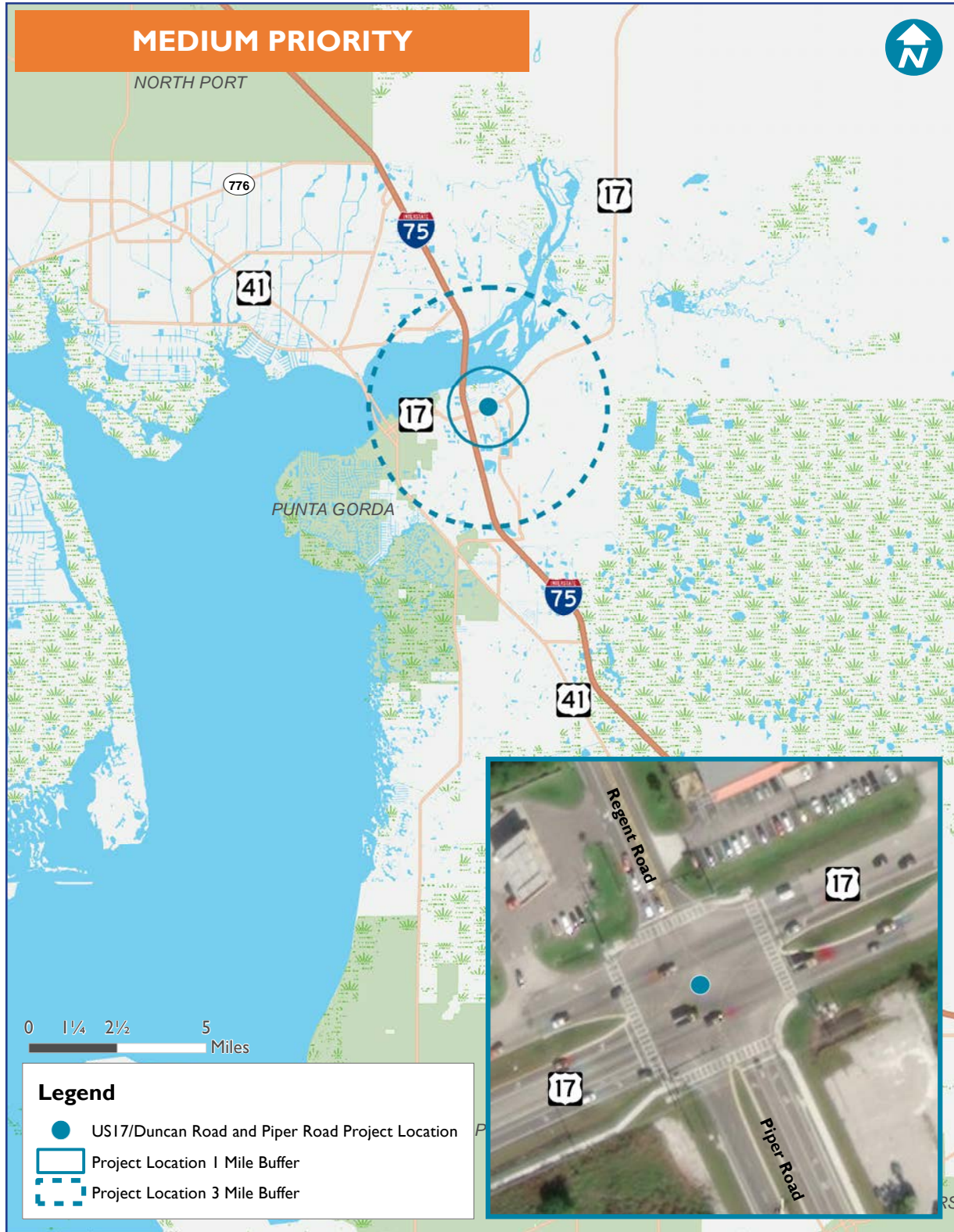
- Current zoning at the intersection includes Agriculture, Residential, Industrial, and Commercial;
- Future land uses in-and-around the study area include Agriculture, Mixed-Use, and Commercial. A tract of Industrial land is designated running along US 17, to the south of the intersection;
- A flexible pavement reconstruction project is planned for SR 72 from CR 661 to SR 70 (Item Number: 443123-1);
- US 17 and SR 70 are both included as part of the FDOT SIS network as Highway Connectors. Also within the study area, the CSX Mainline and the SGLR Mainline are both SIS rail facilities;
- The highest AADT (14,000) for the roads comprising this intersection occurs within the one-mile buffer on SR 70, east of the intersection;
- The highest truck AADT (2,184) for the roads comprising this intersection occurs along the same segment of SR 70 referenced above;
- AADT at the candidate intersection is projected to increase to 20,313 by 2030, representing a difference of +6,386 vehicles;
- Truck AADT at the candidate intersection is projected by this report to increase to 4,783 by 2030, representing a difference of +2,263 trucks

SR 70 is classified as a SIS highway corridor, and the segment adjacent to the intersection carries slightly more traffic than SR 72. The junction of SR 70 and SR 72, which is just west of Arcadia, is a common intersection for vehicles to divert in separate directions. There is roughly a 50% directional split to the north and south as vehicles approach from east. This high directional split results in more frequent turning movements. A flexible pavement reconstruction project is planned along SR 72 from CR 661 to SR 70. **The high amount of turning traffic and projected overall truck percentage (24 percent) make this a medium priority candidate for a concrete intersection.** This intersection is at a skew angle, and may be considered for a reconfiguration during construction.

# 10. US 17 / Duncan Road and Piper Road

This study identified the intersection of US 17 / Duncan Road and Piper Road as a potential candidate for concrete reconstruction. This intersection is located in Punta Gorda, FL, 33950, and shown below in Figure 123. The figure depicts the study area with one-mile and three-mile buffers for data collection and an inset aerial photo of the intersection. US 17 / Duncan Road runs east-west and Piper Road runs north-south. There is existing commercial development at the northeast and northwest quadrants of the intersection. Land to the southwest of the intersection is currently vacant and, while the southeast quadrant is currently a vacant lot.

Figure 123: US 17 / Duncan Road and Piper Road Site Map





## 10.1 US 17 / Duncan Road and Piper Road Existing Conditions

### 10.1.1 Site Visit

A site visit was conducted for the intersection of US 17 / Duncan Road and Piper Road on April 7, 2021. Photographs taken during the site visit are shown below (Figure 124 – Figure 129), and reflect conditions as of the date of the site visit.

Figure 124: Looking Southwest at US 17 from Piper Road



Figure 125: View of Intersection Looking Southeast





Figure 126: US 27 Looking East from US 17



Figure 127: US 27 Looking North from Piper Road





Figure 128: Punta Gorda Airport Wayfinding at the Intersection on US 17



Figure 129: Looking South from Piper Road

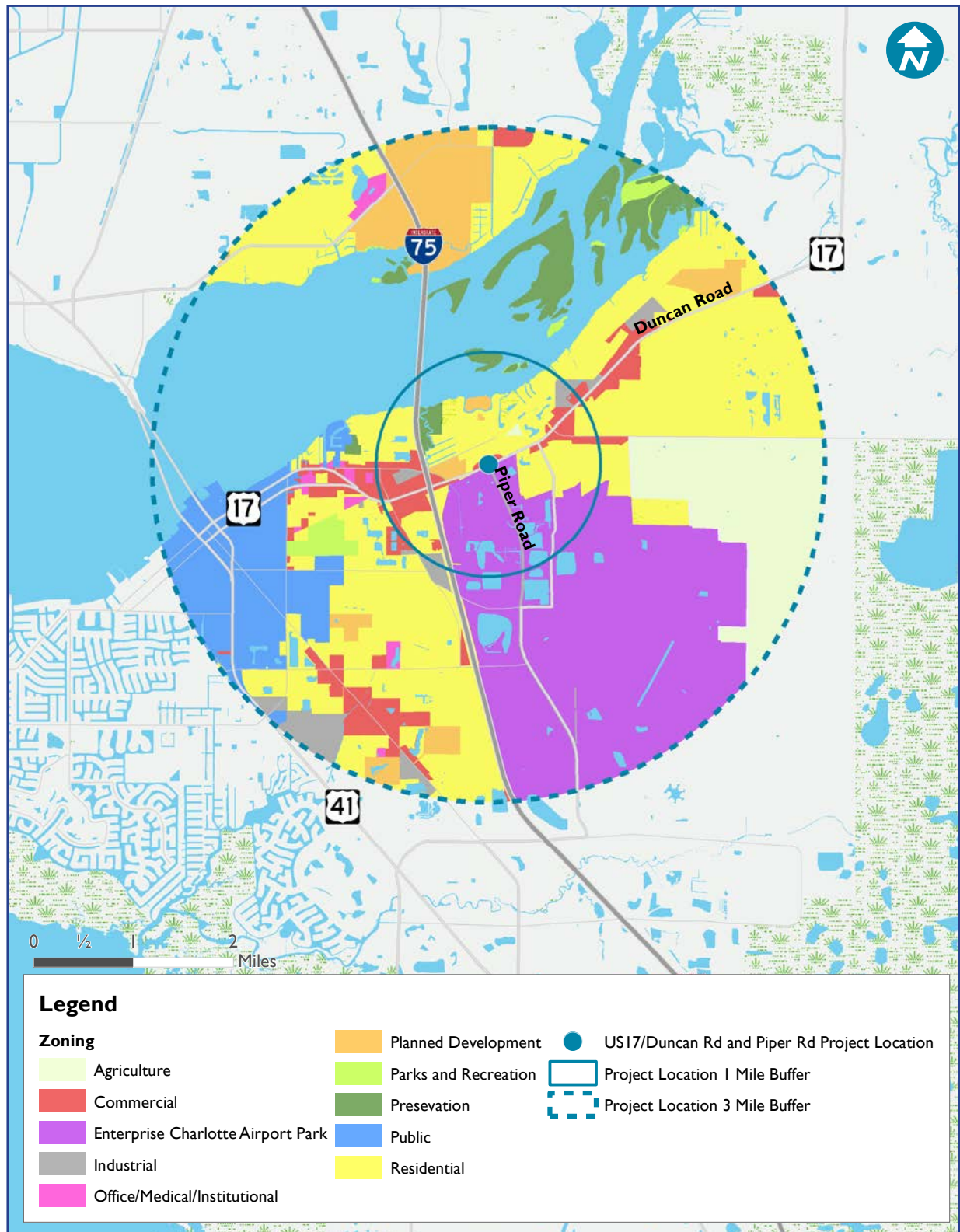




## 10.1.2 Zoning Analysis

Zoning data for the US 17 / Duncan Road and Piper Road intersection is shown below in Figure 130. Within the one-mile buffer, south of the intersection, zoning is mostly Enterprise Charlotte Airport Park, extending through both the one-mile and three-mile buffers. The remainder of the one-mile buffer consists primarily of Residential, Planned Development, and Commercial. Some Industrial zoning is present at the northeast and southwest perimeters of the one-mile buffer. Zoning patterns are consistent within the three-mile buffer, and also include a large swath of Industrial to the east. Additional Industrial zoning is located at the western edge of the three-mile buffer, adjacent to US 41.

Figure 130: US 17 / Duncan Road and Piper Road Study Area Zoning Map



### 10.1.3 Planning Document Review

There were no upcoming projects or studies relevant to this intersection found during the document review.

Table 21: Planning Document Review Summary

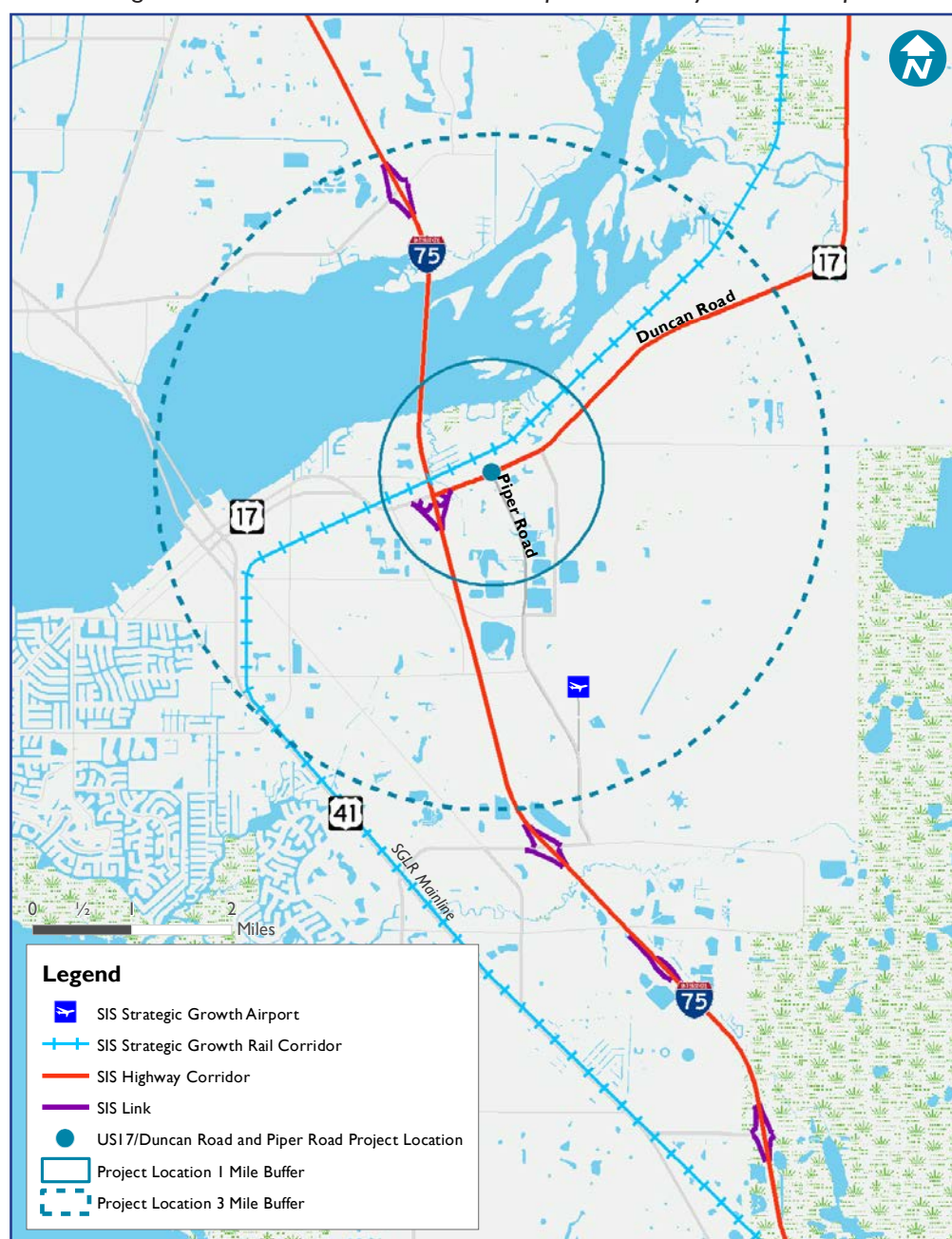
Document/Plan/Website	Source	Notes
No materials available		

### 10.1.4 Roadway Network and Existing Traffic Conditions Analysis

#### SIS Facilities

There were several SIS facilities located in the vicinity of the US 17 / Duncan Road and Piper Road intersection. Punta Gorda Airport, southwest of the intersection, within the three-mile buffer, is a Strategic Growth Airport. The SGLR Mainline, a Strategic Growth Rail Corridor, runs east-west through the study area, passing just north of the intersection. I-75 and US 17 are both designated as SIS Highway Corridors. Finally, exit ramps from I-75, within both the one-mile and three-mile buffers are SIS Links. All facilities are shown below in Figure 131.

Figure 131: US 17 / Duncan Road and Piper Road Study Area SIS Map

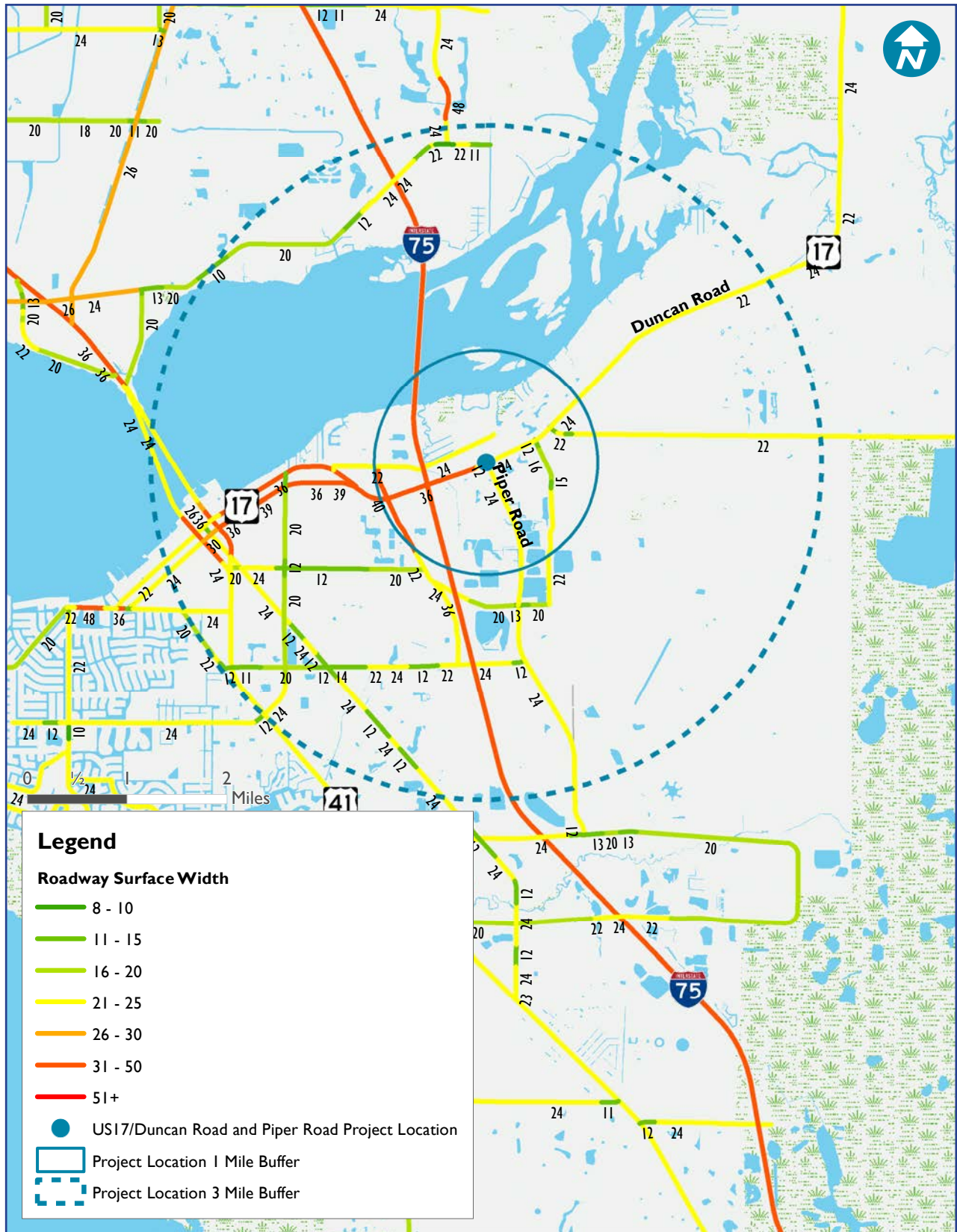




## Roadway Surface Width Assessment

Figure 132 displays the roadway surface width for roadways within the US 17 / Duncan Road and Piper Road study area. Approaching the intersection from the west, roadways surface width on US 17 was 36'. This decreases to 24' on the east side of the intersection. From the south, Piper Road roadway surface width was 24', until reaching the intersection, where width narrows to 12'.

Figure 132: US 17 / Duncan Road and Piper Road Study Area Roadway Surface Width Map





## AADT and Truck AADT

AADT and truck AADT for the intersection of US 17 / Duncan Road and Piper Road study area are shown below in Figure 133 and Figure 134 respectively. With the exception of I-75, the highest AADT recorded within the one-mile buffer occurs immediately east of the intersection on US 17 (23,000). This location also has the largest truck AADT (3,473). Continuing east on US 17, AADT volumes decrease to 17,600. West of the intersection, on US 17, AADT was 21,500. I-75 AADT within the study area was approximately 63,000. No count data was available for the recently completed extension of Piper Road, which intersects with US 17. Further south on Piper Road, AADT was measured at 5,800. Similarly, no truck AADT count was available for the Piper Road extension, but was measured at 290 to the south.

Figure 133: US 17 / Duncan Road and Piper Road Study Area AADT Map

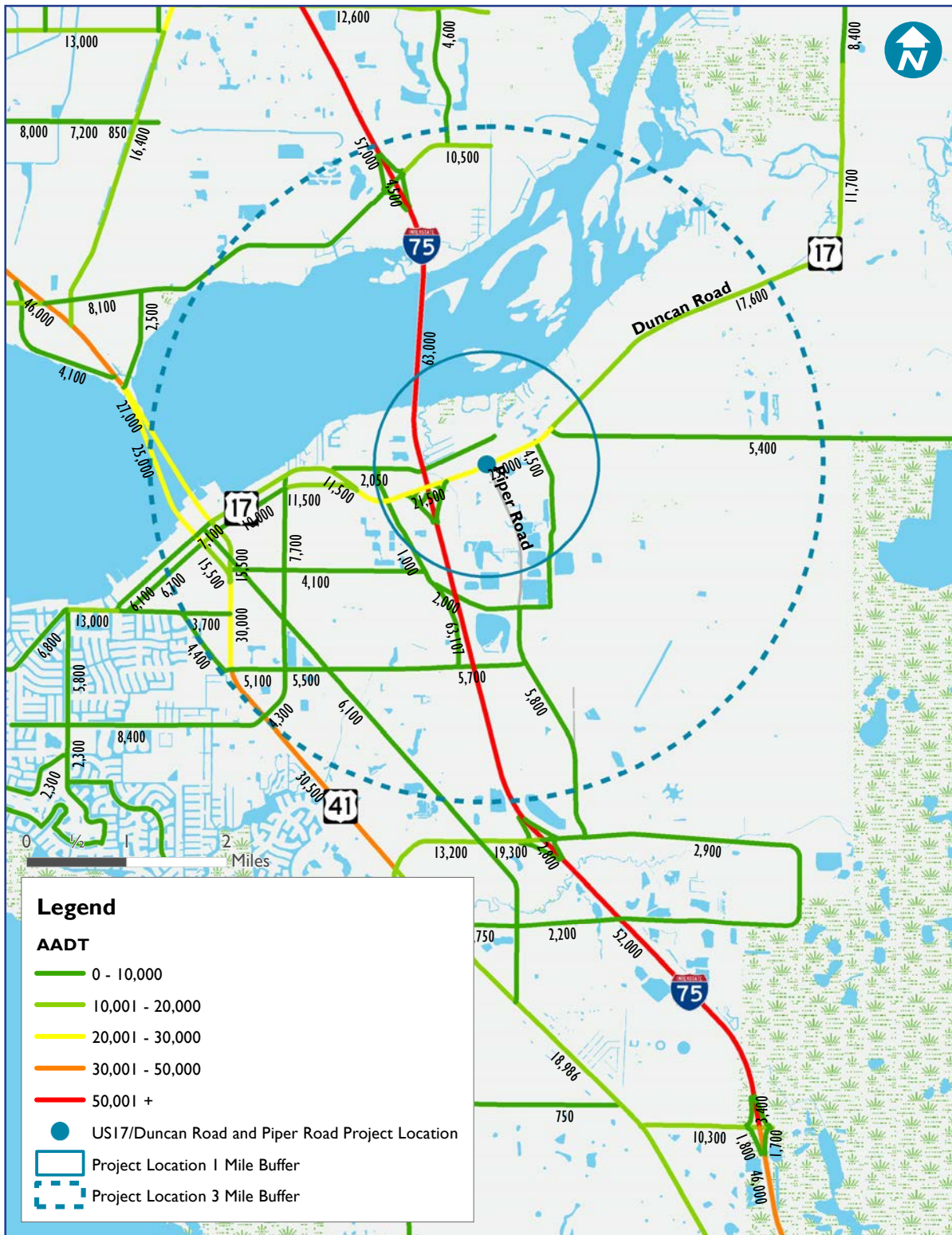
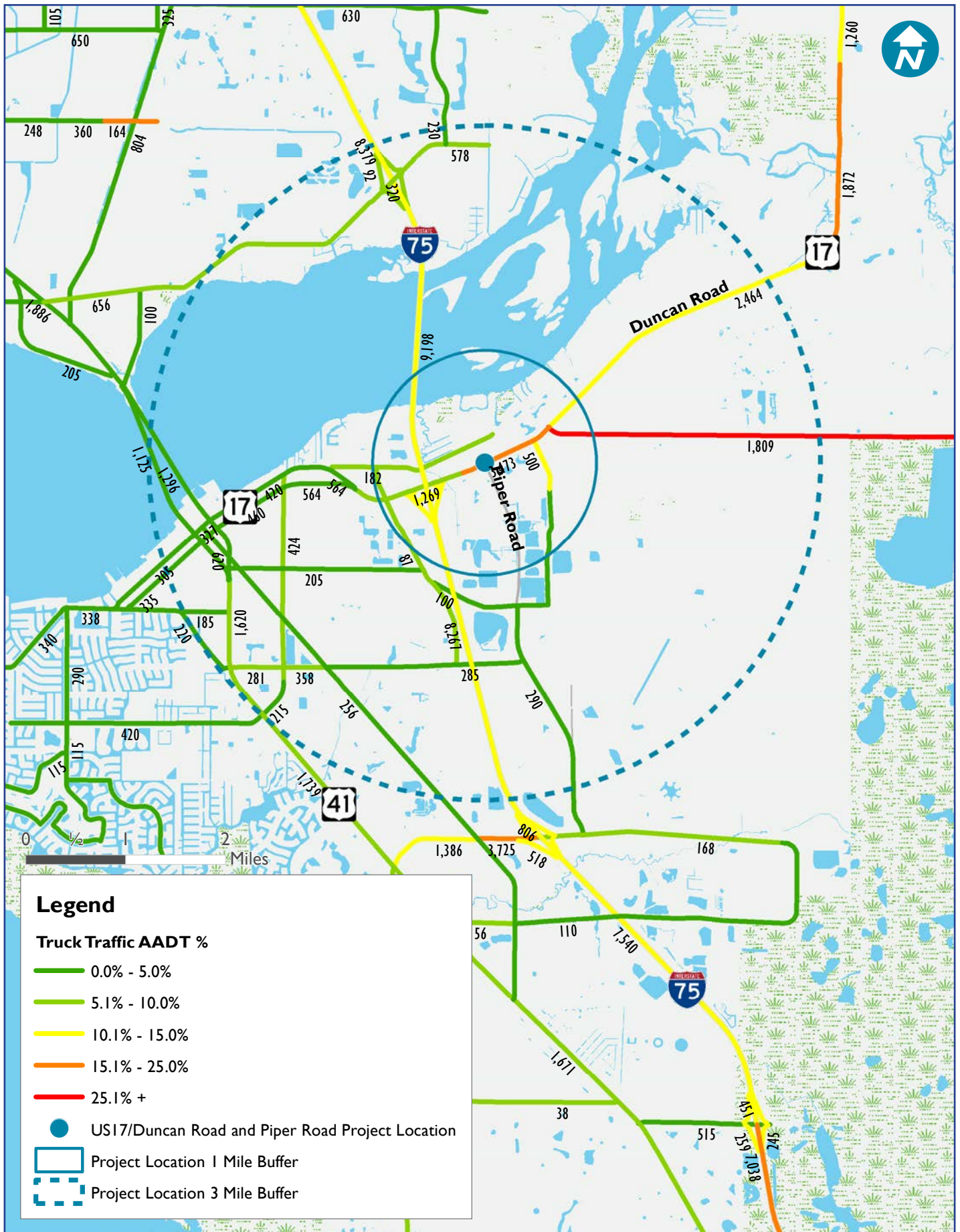




Figure 134: US 17 / Duncan Road and Piper Road Study Area Truck AADT Map



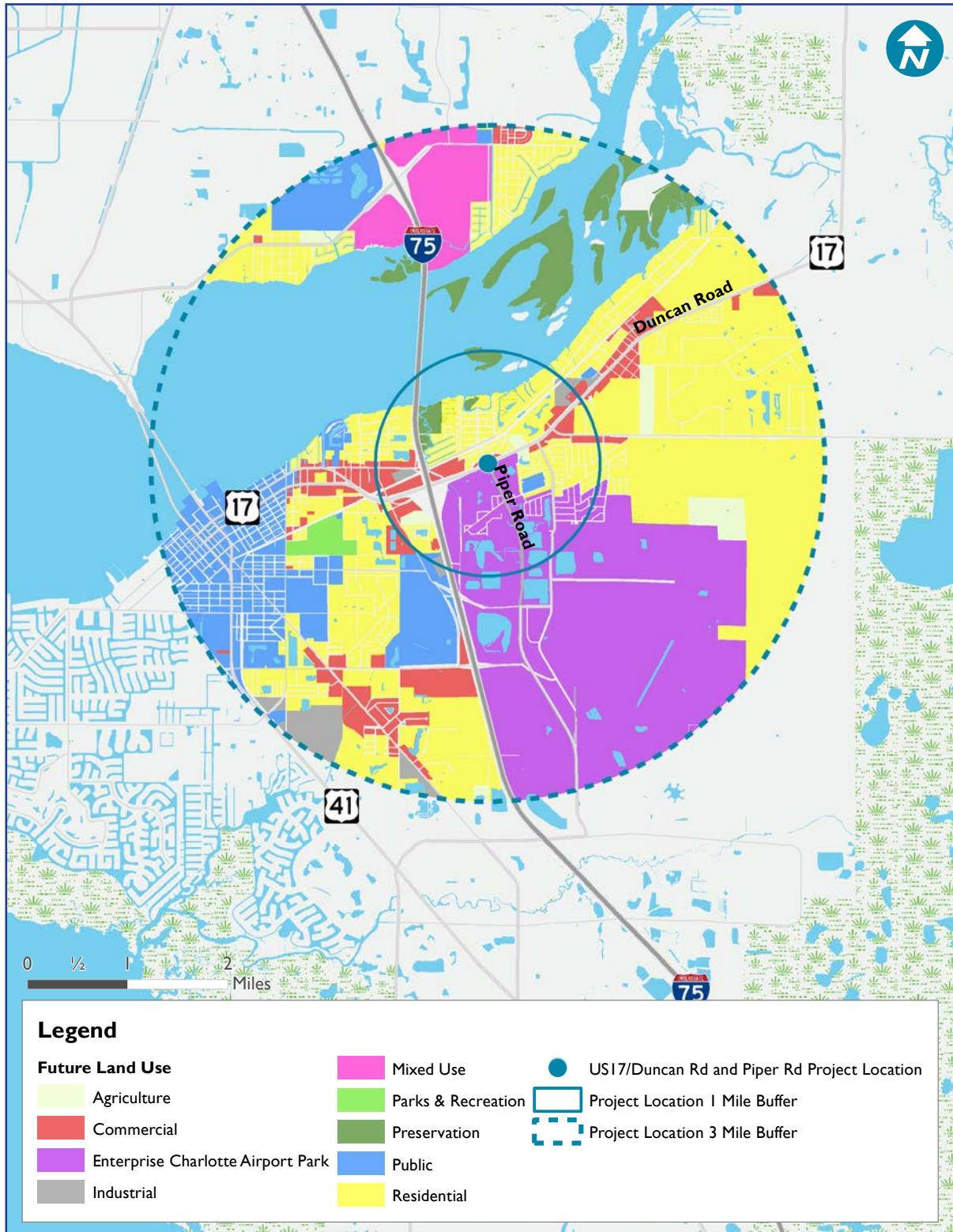


## 10.2 US 17 / Duncan Road and Piper Road Future Conditions

### 10.2.1 Future Land Use Analysis

Figure 135 displays the US 17 / Duncan Road and Piper Road intersection FLUM. The Enterprise Charlotte Airport Park is the predominate use in the study area. The park encompasses land east of I-75 and south of US 17, through the one-mile and three-mile buffers. Other future land uses in the one-mile study area are Residential and Commercial. West of I-75 are Residential, Public, and Commercial uses. Pockets of land designated for Industrial use are present at the southwest edge of the three-mile buffer, northeast of the intersection, and adjacent to the west side I-75 and US 17 interchange.

Figure 135: US 17 / Duncan Road and Piper Road Study Area Future Land Use Map





### 10.2.2 Projected Traffic Conditions

Over the previous eight-year period, traffic volume increased at the US 17 / Duncan Road and Piper Road intersection by roughly 3.9 percent per year, while truck AADT grew at a rate of 2.6 percent. County population growth statistics show a 1.52 percent growth rate over this eight-year time span. Considering both AADT at the study site as well as population growth at the county level, future condition projections were developed assuming a growth rate of approximately 3.9 percent for AADT, and approximately 2.6 percent for truck AADT. Table 22 shows the projected AADT and Truck AADT at the candidate intersection for the year 2030.

Table 22: Traffic Projections (2030)

AADT			Truck AADT			Truck Traffic Percentage		
2019	2030	% Change	2019	2030	% Change	2019	2030	% Change
25,800	39,153 (+13,353)	52%	2,674	3,565 (+891)	33%	10%	9%	-1%

### 10.3 Conclusion

Key findings from this analysis for the intersection of US 17 / Duncan Road and Piper Road are highlighted below:

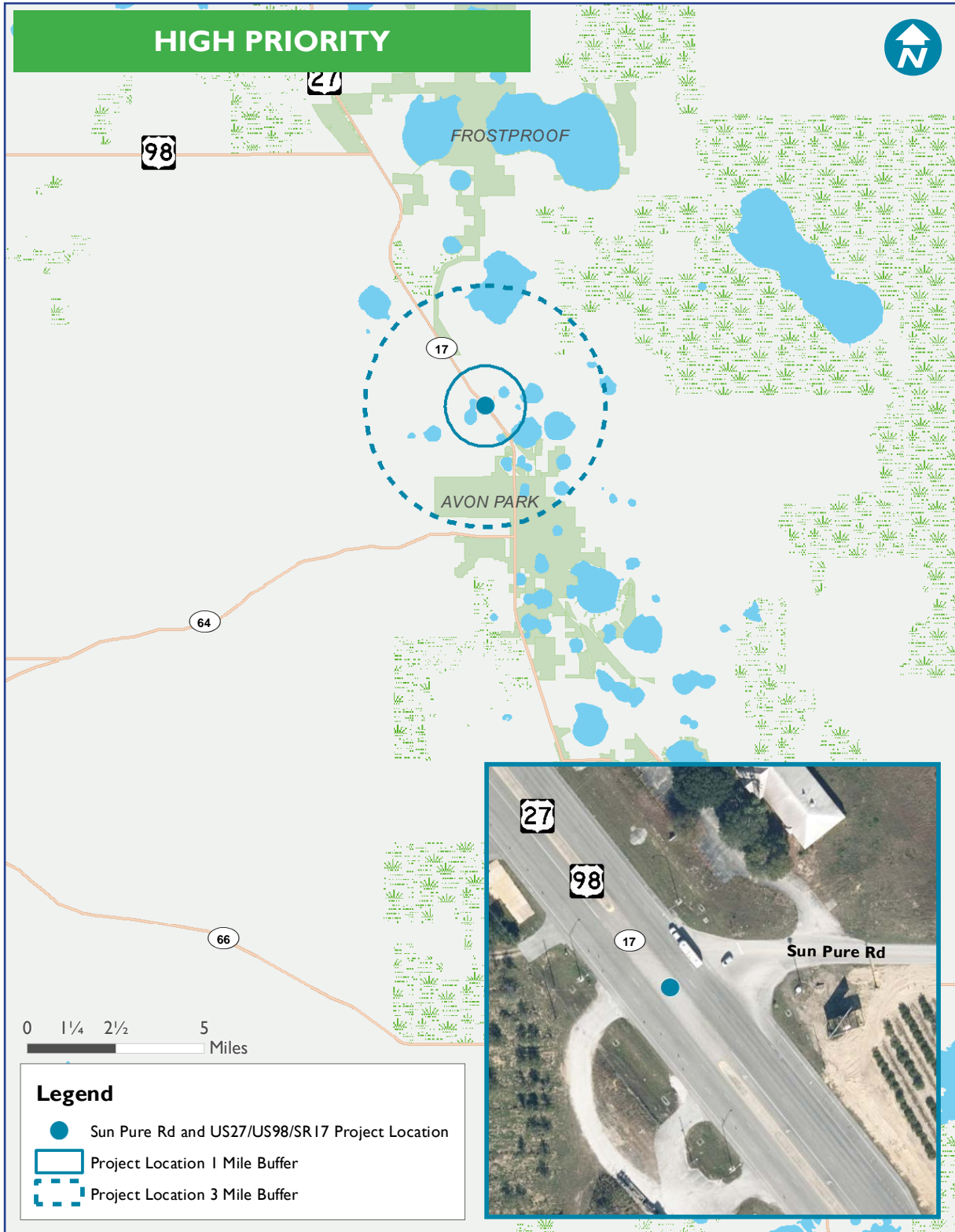
- Current zoning in the immediate vicinity of the intersection includes Enterprise Charlotte Airport Park, Residential, Planned Development, and Commercial.
- Future land uses within the study area include Enterprise Charlotte Airport Park, Residential, and Commercial;
- Piper Road was recently extended to include this intersection with US 17;
- Punta Gorda Airport, XX rail line, I-75, US 17, and I-75 / US 17 ramps are all included as part of the FDOT SIS network;
- Study area AADT was highest (23,000), with the exception of I-75, at a count site on US 17, immediately east of the intersection;
- Also excluding I-75, study area truck AADT was highest at the same count site mentioned above, east of the intersection (3,473);
- AADT at the candidate intersection is projected by this report to increase to 39,153 by 2030, representing a difference of +13,353 vehicles;
- Truck AADT at the candidate intersection is projected by this report to increase to 3,565 by 2030, representing a difference of +891 trucks

The intersection of US 17 / Duncan Road and Piper Road was constructed in 2018, and the pavement is in good condition. This intersection is immediately north of the Punta Gorda Airport and several other industrial facilities. Based on the Charlotte County FLUM, the area surrounding the airport is identified for future development as Enterprise Charlotte Airport Park. Given these land use goals, more industrial and freight-oriented facilities are expected to be located in the vicinity of this intersection. There are only two primary access points from I-75 near these facilities, so a large percentage of heavy vehicles use this intersection for turning movements. **Although this intersection is fairly new and in good condition, the increase in truck volumes and industrial development near the airport make US-17 and Piper Road a medium priority for future improvements.**

# 11. West Sun Pure Road and US 27 / US 98 / SR 17

This study identified the intersection of West Sun Pure Road and US 27 / US 98 / SR 17 as a potential candidate for concrete reconstruction. This intersection is located in Avon Park, FL, 33825, and shown below in Figure 136. The figure depicts the study area with one-mile and three-mile buffers for data collection and an inset aerial photo of the intersection. West Sun Pure Road runs east-west, and US 27 runs northwest-southeast at the intersection. The northeast portion of the intersection is home to the new Nucor Steel mill, a 600,000+ sq. ft. rebar facility. West of the intersection is undeveloped private property. The southeast quadrant is currently citrus trees.

Figure 136: West Sun Pure Road and US 27 / US 98 / SR 17 Site Map





## 11.1 West Sun Pure Road and US 27 / US 98 / SR 17 Existing Conditions

### 11.1.1 Site Visit

A site visit was conducted for the intersection of West Sun Pure Road and US 27 / US 98 / SR 17 on April 7, 2021. Photographs taken during the site visit are shown below (Figure 137 – Figure 142), and reflect conditions as of the date of the site visit.

*Figure 137: West Sun Pure Road Looking West to US 27*



*Figure 138: Looking Northwest on US 27*





Figure 139: Looking Southeast on US 27



Figure 140: Looking East to West Sun Pure Road





Figure 141: West Side of the Intersection



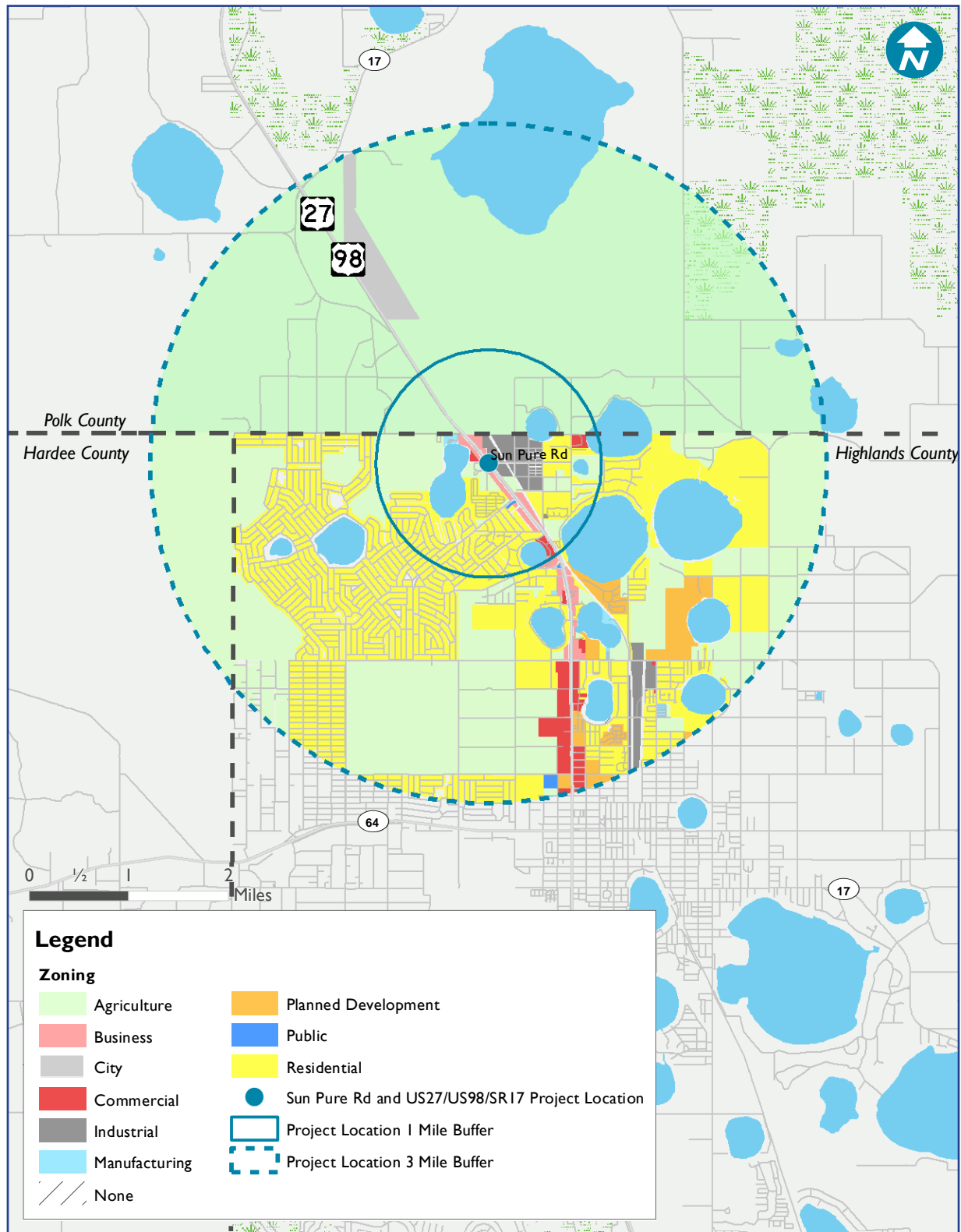
Figure 142: Nucor Steel Mill Aerial (Source: <https://www.facebook.com/NucorFlorida/photos/>)



## 11.1.2 Zoning Analysis

Zoning data for the West Sun Pure Road and US 27 / US 98 / SR 17 intersection is shown below in Figure 143. At the intersection, Highlands County designates the land to the northeast and southeast for Industrial Use. Land to the west of the intersection, along US 27 is zoned for Business. A pocket of Commercial zoning is located to the northwest. Residential and Agriculture uses comprise the remainder of the one-mile buffer. North of the three-mile buffer, in Polk County, is entirely Agriculture. The remainder of the three-mile buffer is comprised of Residential, Business, Commercial, and Planned Development. A pocket of Industrial zoning is located southeast of the intersection, along CR 17A W.

Figure 143: West Sun Pure Road and US 27 / US 98 / SR 17 Study Area Zoning Map





### 11.1.3 Planning Document Review

A list of all materials identified as part of this effort are shown below in Table 23. The table includes the document name and source as well as relevant findings from the research. There are no planned projects and development in the study area with the exception of the recently opened Nucor Steel mill located on West Sun Pure Road, in close proximity to the intersection. Articles providing some background on the development of the facility have been cited below.

The Central Florida Development Council gives some insight into the decision making process for Nucor Steel related to site selection in Polk County. The mill had to be close to the scrap metal Nucor buys to save on freight, and Polk County provides this proximity. Next, there are 650 Nucor-related employees already in Florida, including some in the recycling business. Nucor also had to have a low-cost production plan, and be close to its consumer base. The biggest markets for rebar, which is what the micro mill will produce, are from Tampa to Orlando, and south to Miami. Other factors included the mill's close proximity to Duke Energy and nearby transportation infrastructure (road and rail). The Polk County location was selected following a search which extended from South Carolina to Miami.

Table 23: Planning Document Review Summary

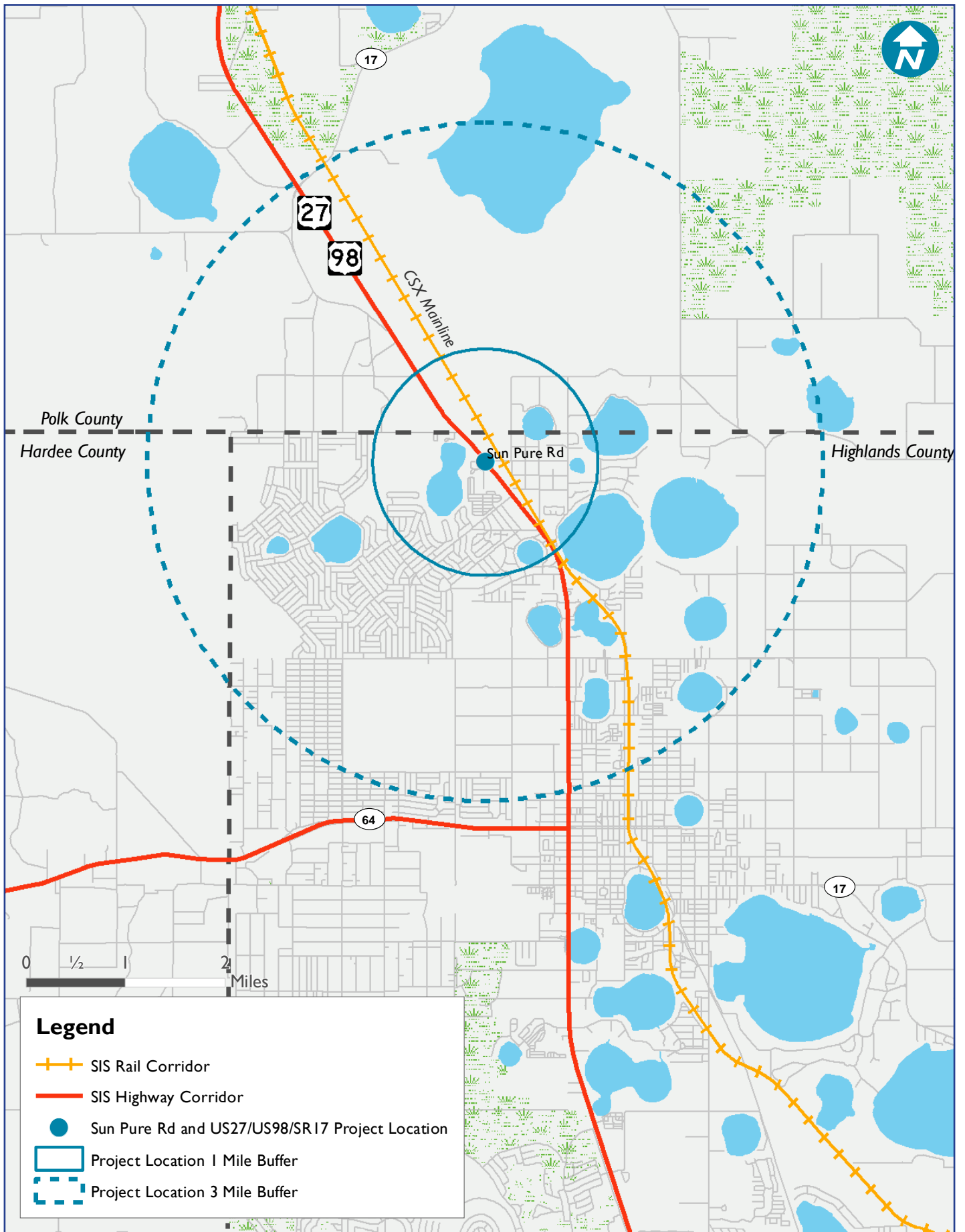
Document/Plan/Website	Source	Notes
<a href="https://www.theledger.com/story/news/2020/09/03/nucor-open-frostproof-steel-mill-end-year/5702969002/">https://www.theledger.com/story/news/2020/09/03/nucor-open-frostproof-steel-mill-end-year/5702969002/</a>	The Ledger	The Nucor plant is one of the largest industrial development in Polk County over the past several decades
<a href="https://www.cfdc.org/three-reasons-why-nucor-is-building-in-polk-county/">https://www.cfdc.org/three-reasons-why-nucor-is-building-in-polk-county/</a>	Central Florida Development Council	Article describes the reasons Nucor Steel chose Polk County for its new micro mill location

### 11.1.4 Roadway Network and Existing Traffic Conditions Analysis

#### SIS Facilities

There were two SIS facilities located in the vicinity of the West Sun Pure Road and US 27 / US 98 / SR 17. US 27 is designated by FDOT as Strategic Highway Corridor. The CSX Mainline, designated as a SIS Rail Corridor parallels US 27, passing to the north of the intersection through the one-mile and three-mile buffers. Both facilities are shown below in Figure 144.

Figure 144: West Sun Pure Road and US 27 / US 98 / SR 17 Study Area SIS Map



Roadway Surface Width Assessment

Figure I45 displays the roadway surface width for roadways within the West Sun Pure Road and US 27 / US 98 / SR 17 study area. Roadway surface width on West Sun Pure Road, approaching the intersection from the east was 18'. Approaching the intersection from the southeast on US 27, roadway surface width was 36', while at the intersection, it was 20'. US 27 to the northwest of the intersection was fairly consistent at 24'. The roadway widens to 36' prior to the intersection, before narrowing again to 24' at the intersection. As currently constructed, the intersection roadway surface width is appropriate for large truck traffic and higher speeds of travel. Widening of West Sun Pure Road at the entrance to the Nucor mill could be included as part of a concrete reconstruction project.

Figure I45: West Sun Pure Road and US 27 / US 98 / SR 17 Study Area Roadway Surface Width Map

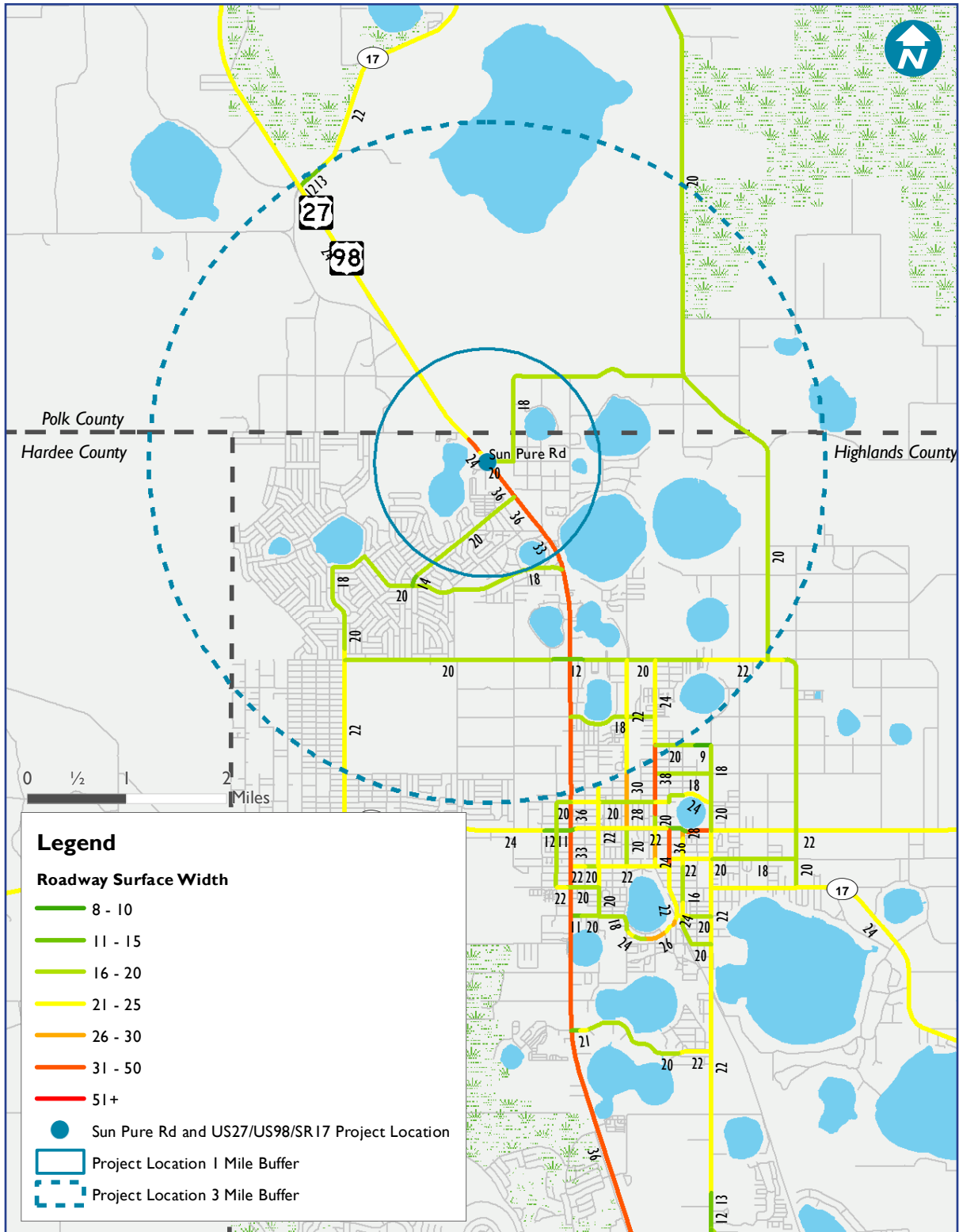
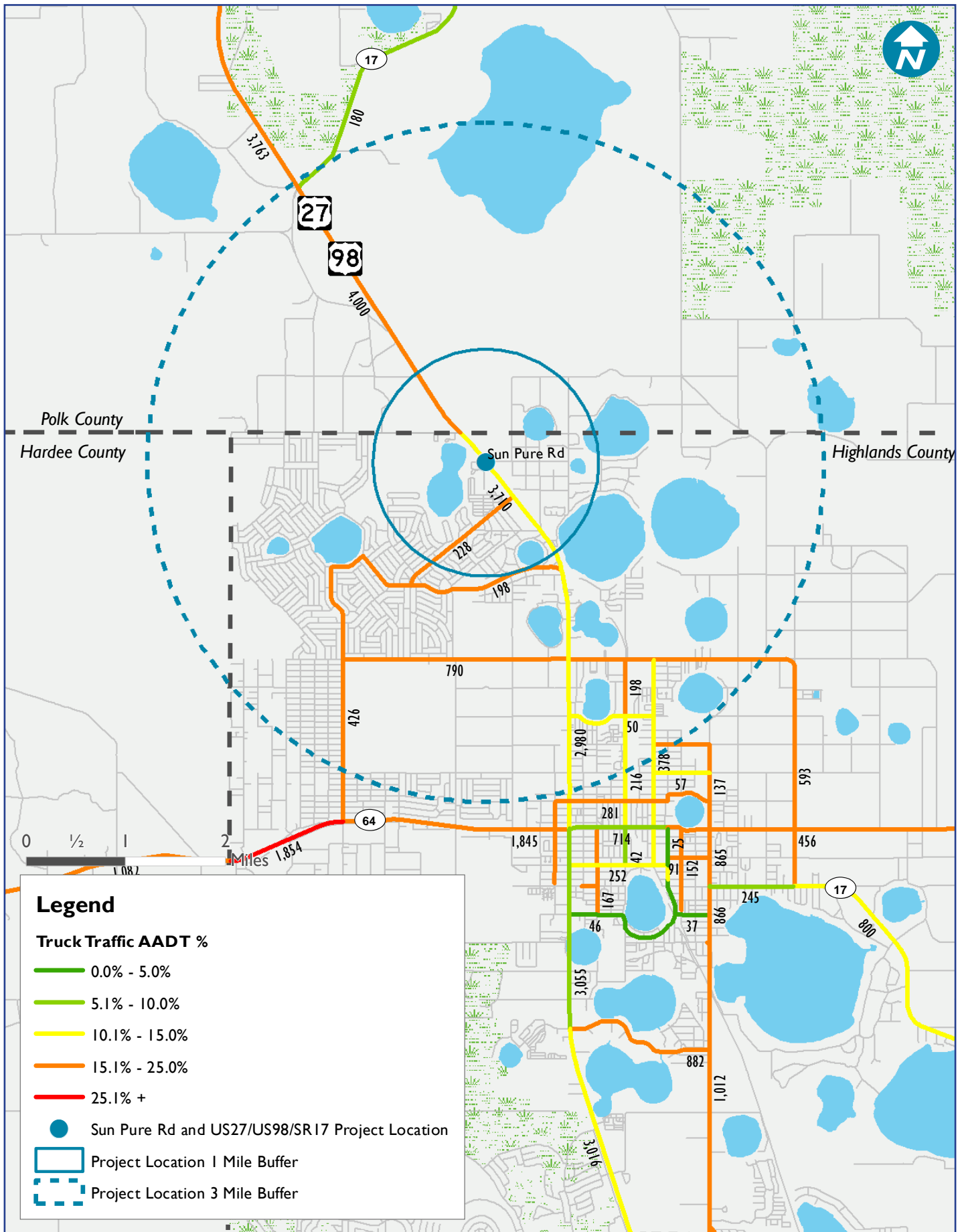






Figure 147: West Sun Pure Road and US 27 / US 98 / SR 17 Study Area Truck AADT Map

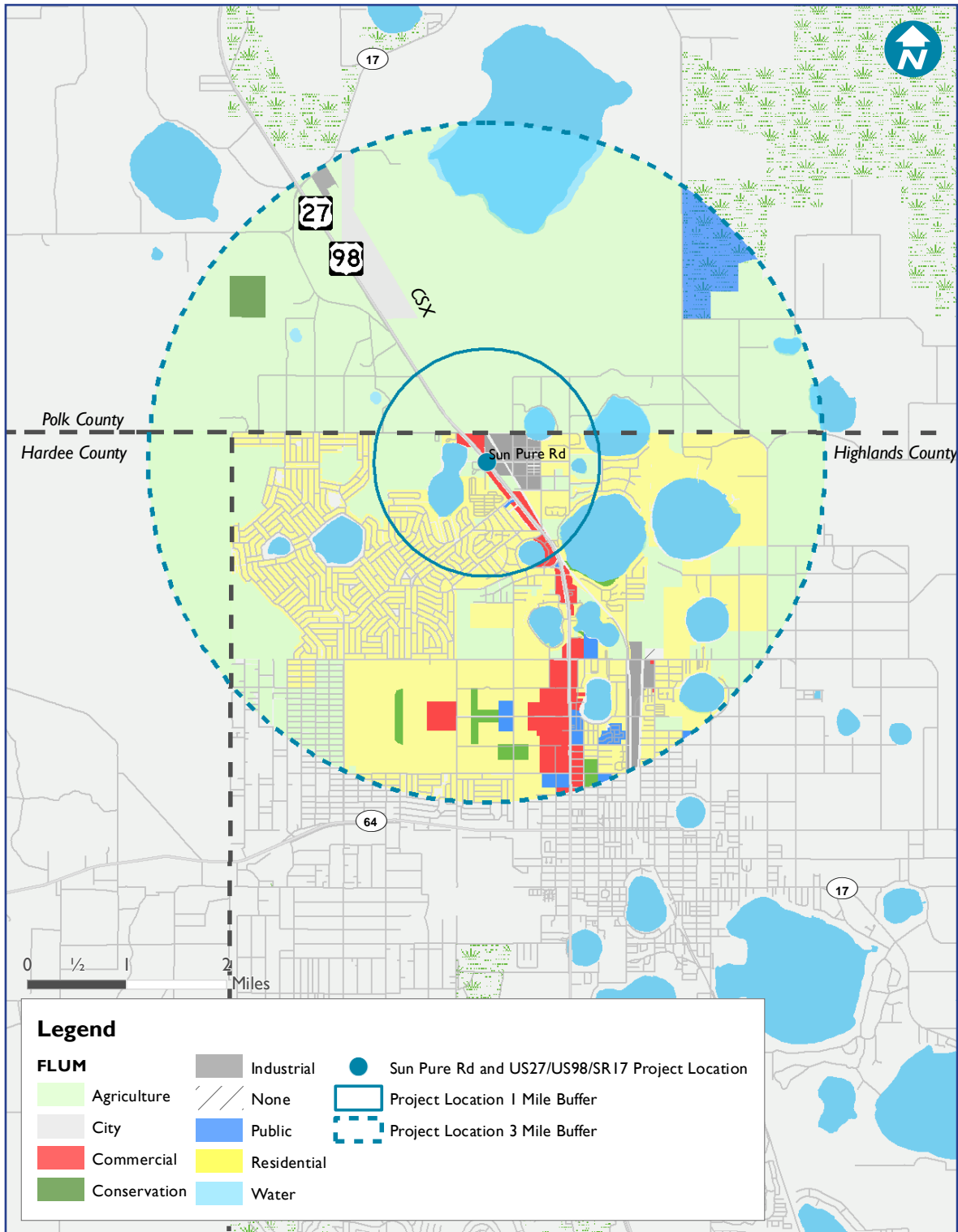


## 11.2 West Sun Pure Road and US 27 / US 98 / SR 17 Future Conditions

### 11.2.1 Future Land Use Analysis

The Polk, Hendry, and Highlands County FLUMs were used to complete the future land analysis for the intersection of West Sun Pure Road and US 27 / US 98 / SR 17. Figure 148 displays the FLUMs for all three counties. A large area of Industrial is designated east of the intersection, on both sides on West Sun Pure Road. This area represents the location of the Nucor Steel Mill facility. The west side of US 27, at the intersection, is designated for future Agriculture use. Approaching the intersection from the south, through both the one-mile and three-mile buffers, Commercial land runs along US 27 to the Polk County line. The remainder of the one-mile buffer consists of Residential and Agriculture uses.

Figure 148: West Sun Pure Road and US 27 / US 98 / SR 17 Study Area Future Land Use Map





## 11.2.2 Projected Traffic Conditions

Over the previous eight-year period, traffic volume increased at the West Sun Pure Road and US 27 / US 98 / SR 17 intersection by roughly 3.3 percent per year, while truck AADT grew at a rate of 2.3 percent. County population growth statistics show a 1.04 percent growth rate over this eight-year time span. Considering both AADT at the study site as well as population growth at the county level, future condition projections were developed assuming a growth rate of 3.3 percent for AADT, and 2.3 percent for truck AADT. Table 24 shows the projected AADT and Truck AADT at the candidate intersection for the year 2030.

Table 24: Traffic Projections (2030)

AADT			Truck AADT			Truck Traffic Percentage		
2019	2030	% Change	2019	2030	% Change	2019	2030	% Change
23,000	32,800 (+9,800)	43%	4,049	5,197 (+1,148)	28%	18%	16%	-2%

## 11.3 Conclusion

Key findings from this analysis for the intersection of West Sun Pure Road and US 27 / US 98 / SR 17 are highlighted below:

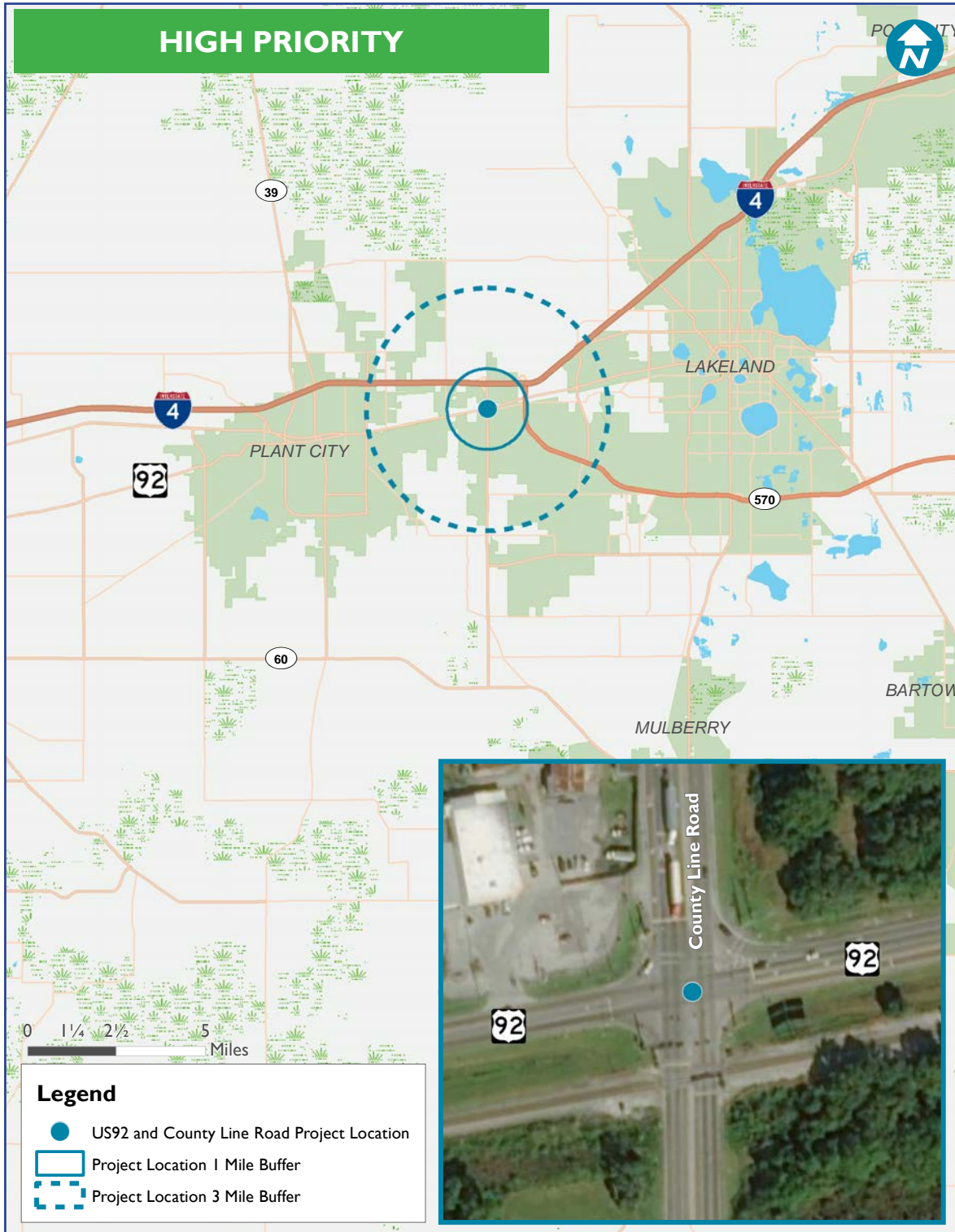
- Current zoning in the immediate vicinity of the intersection includes Industrial, Business, Agriculture, and Residential;
- Future land use within the study is primarily Agriculture, Industrial, Residential, and Commercial;
- Nucor Steel opened a new mill on Sun Pure Road, just east of US 27 in January 2021. The facility is the largest industrial development in Polk County in several decades. The mill will produce approximately 350,000 tons of steel rebar a year.
- US 27 and a CSX rail line are both included as part of the FDOT SIS network;
- Current US 27 AADT at the intersection was 26,500; the second highest in the study area;
- Truck AADT on US 27 at the intersection was 3,710. The highest truck volumes (4,000) also occur on US 27, to the northwest of the intersection;
- AADT at the candidate intersection is projected to increase to 32,800 by 2030, representing a difference of +9,800 vehicles;
- Truck AADT at the candidate intersection is projected by this report to increase to 5,197 by 2030, representing a difference of +1,148 trucks

This is the primary intersection for truck access to the newly constructed Nucor Steel Mill and a small residential development. The facility is 620,000 square-feet, and is anticipated to generate a large number of daily trips, specifically heavy truck trips. This intersection is not currently signalized, and there will be a large number of heavy trucks decelerating and accelerating at this intersection, traveling to-and-from the mill. Additionally, pavement conditions on West Sun Pure Road at the intersection show signs of degradation to the roadway surface. **This intersection is a high priority candidate for a concrete intersection due to its high volume of heavy turning truck traffic and poor pavement conditions along West Sun Pure Road.**

## 12. County Line Road and US 92 / SR 600 / New Tampa Highway

This study identified the intersection of County Line Road and US 92 / SR 600 / New Tampa Highway as a potential candidate for concrete reconstruction. This intersection is located in Plant City, FL, 33566, and shown below in Figure 149. The figure depicts the study area with one-mile and three-mile buffers for data collection and an inset aerial photo of the intersection. County Line Road runs north-south and US 92 / SR 600 / New Tampa Highway runs east-west. The northwest quadrant of the intersection has a small commercial plaza with entrances from both County Line Road and US 92. The three remaining intersection quadrants are vacant and undeveloped, with the exception of the Buris Logistics PRV building, which is offset approximately 325 feet from County Line Road in the northeast quadrant. An at-grade crossing is located approximately 100-feet south of the intersection.

Figure 149: County Line Road and US 92 / SR 600 / New Tampa Site Map



## 12.1 County Line Road and US 92 / SR 600 / New Tampa Highway Existing Conditions

### 12.1.1 Site Visit

A site visit was conducted for the intersection of County Line Road and US 92 / SR 600 / New Tampa Highway on January 1, 2021. Photographs taken during the site visit are shown below (Figure 150 – Figure 157) and reflect conditions as of the date of the site visit.

*Figure 150: Looking East to County Line Road*



*Figure 151: View from Northwest Quadrant of Intersection*





Figure 152: Looking Northeast to US 92



Figure 153: Looking Northwest to US 92



Figure 154: Looking Southwest from County Line Road



Figure 155: At-Grade Rail Crossing Located on US 92 - South of Intersection





Figure 156: Looking South to At-Grade Crossing on US 92 from the Northeast



Figure 157: Looking Northwest to US 92

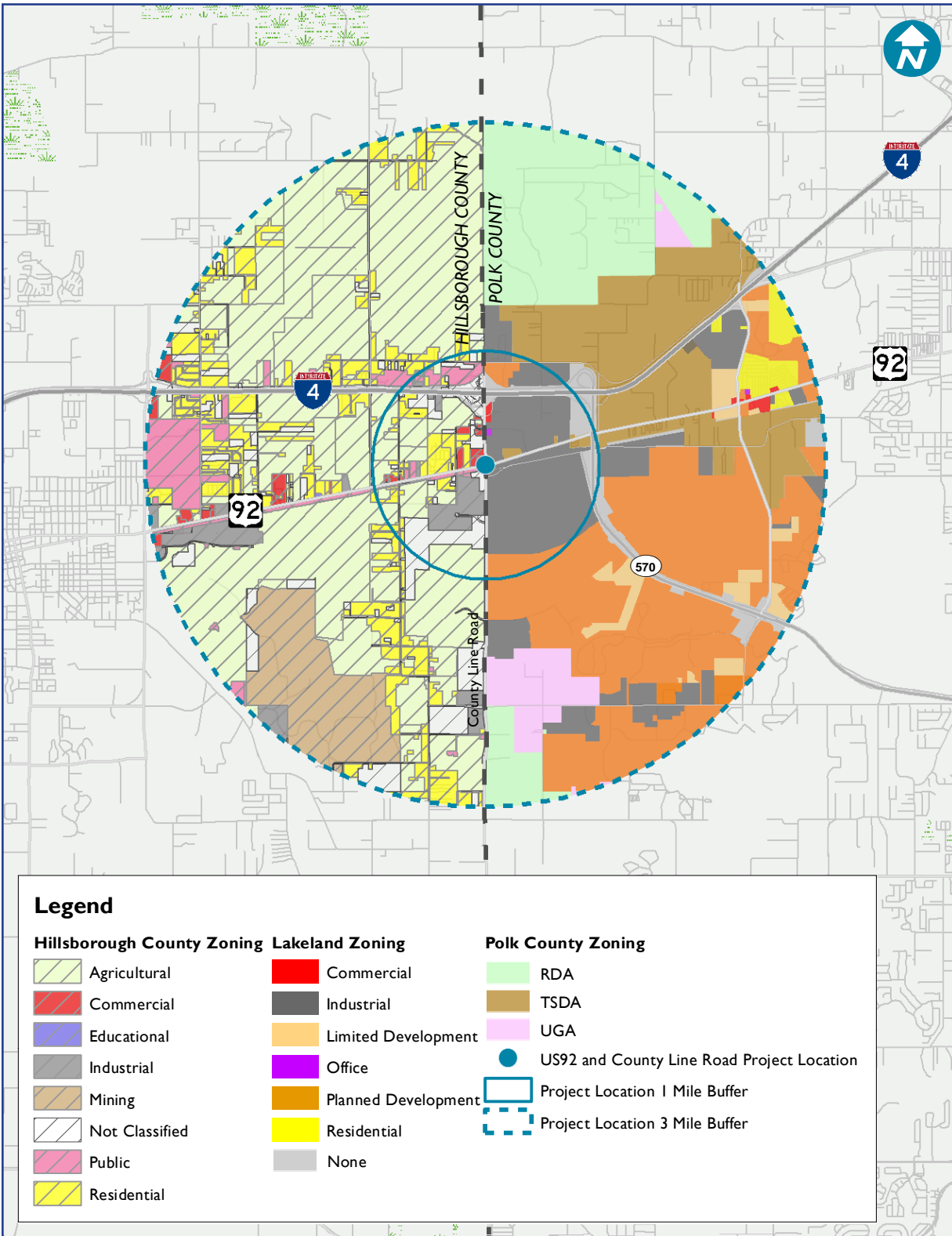




### 12.1.2 Zoning Analysis

Data for the County Line Road and US 92 / SR 600 / New Tampa Highway intersection is shown below in Figure 158. On the Polk County (east) side of the intersection, zoning within the one-mile buffer consists of Industrial and TSDA. TSDA zoning includes areas with the existing infrastructure in place to support 10 year population growth and existing/planned community in transit. Zoning for the Hillsborough County (west) portion of the intersection is primarily Commercial (northwest) and Industrial (southwest). Residential and Agricultural zoning is also present in close proximity to the intersection.

Figure 158: County Line Road and US 92 / SR 600 / New Tampa Study Area Zoning Map



### 12.1.3 Planning Document Review

A list of all materials identified as part of this effort are shown below in Table 25. The table includes the document name and source as well as relevant findings from the research. The FDOT District I Five-Year Work Program includes two projects at the intersection, including a PD&E on SR 600 / US 92 from County Line Road to Wabash Avenue for the purpose of adding lanes and reconstruction. Design for this effort is funded in 2023/2024/2025. The Polk TPO also identifies the lane addition and reconstruction within its 2022/21 – 2024/25 TIP.

Table 25: Planning Document Review Summary

Source	Document/Plan/Website	Notes
Polk TPO	<a href="#">FY 2020/21 to FY 2024/25 TIP</a>	SR 600 (US 92) from County Line Rd. to Wabash Ave. Add lanes & reconstruct
FDOT	<a href="#">FDOT District I Five-Year Work Program</a>	PD&E study being completed on SR 600 (US 92) from County Line Rd. to Wabash Ave. Add lanes & reconstruct
FDOT	<a href="#">FDOT District I Five-Year Work Program</a>	Design funded 2023/2024/2025. Add lanes & reconstruct (two lanes to four lanes)

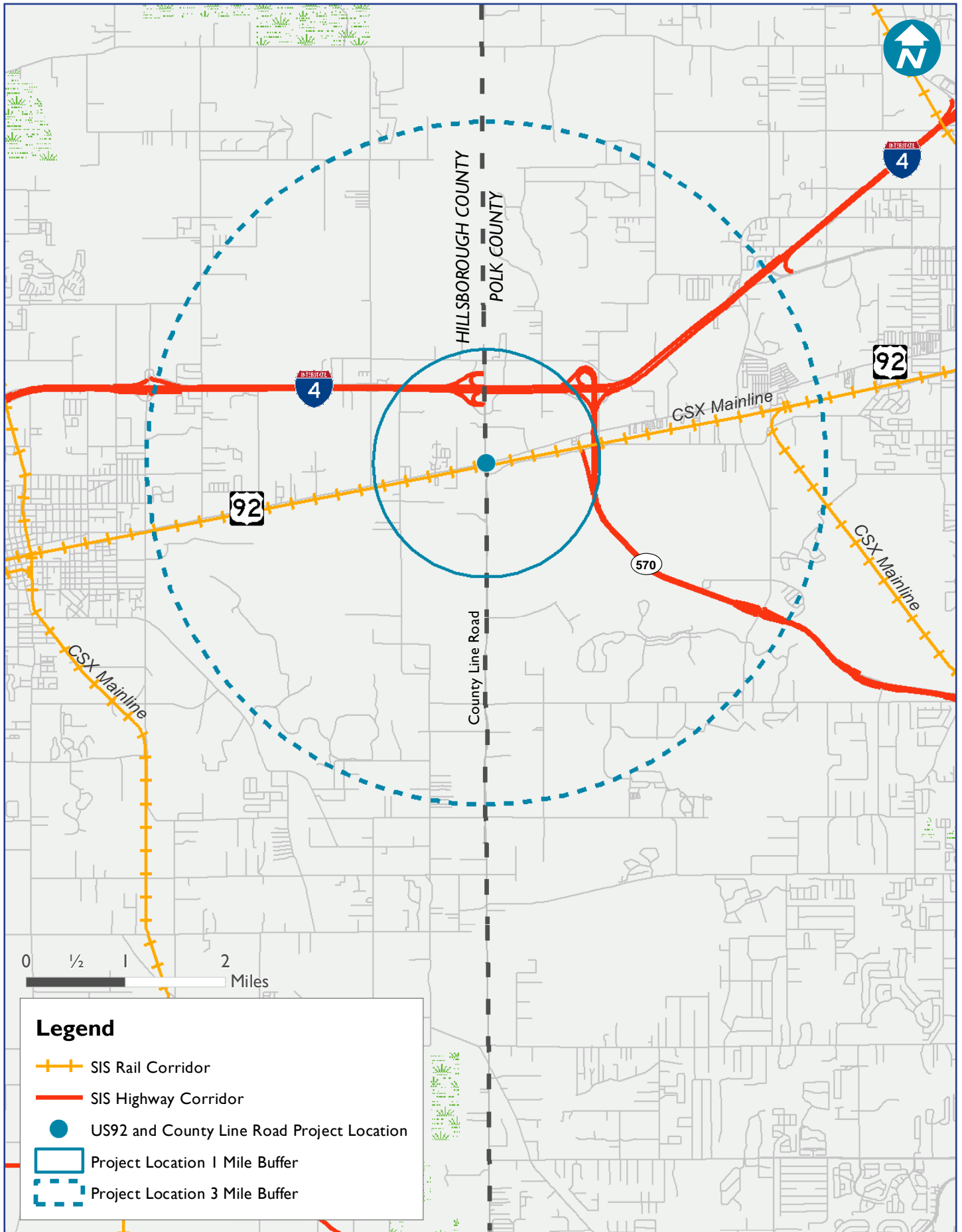
In addition to the projects listed above, Polk County is planning for improvements to the railroad crossing just south of the intersection. Additionally, the intersection of County Line Road and Old Tampa Highway will become right-in/right-out access only.

### 12.1.4 Roadway Network and Existing Traffic Conditions Analysis

#### SIS Facilities

There were three SIS facilities located in the vicinity of the County Line Road and US 92 / SR 600 / New Tampa Highway intersection. I-4 and SR 570/Polk Parkway are designated by FDOT as Strategic Highway Corridors. The CSX Mainline runs east – west, directly south of the intersection, passing through both the one-mile and three-mile buffers. All SIS facilities are shown below in Figure 159.

Figure 159: County Line Road and US 92 / SR 600 / New Tampa Study Area SIS Map





Roadway Surface Width Assessment

Figure I60 displays the roadway surface width for roadways within the County Line Road and US 92 / SR 600 / New Tampa Highway study area. Roadway surface width along County Line Road is primarily 24'. Roadway surface width on US 92, traveling west to east within the one-mile buffer, ranges from 24' to 12' at the intersection, expanding again to 24', and then decreasing to 12'. Maximum US 92 roadway surface width (26') occurs east of the intersection, within the three-mile buffer.

Figure I60: County Line Road and US 92 / SR 600 / New Tampa Highway Study Area Roadway Surface Width Map

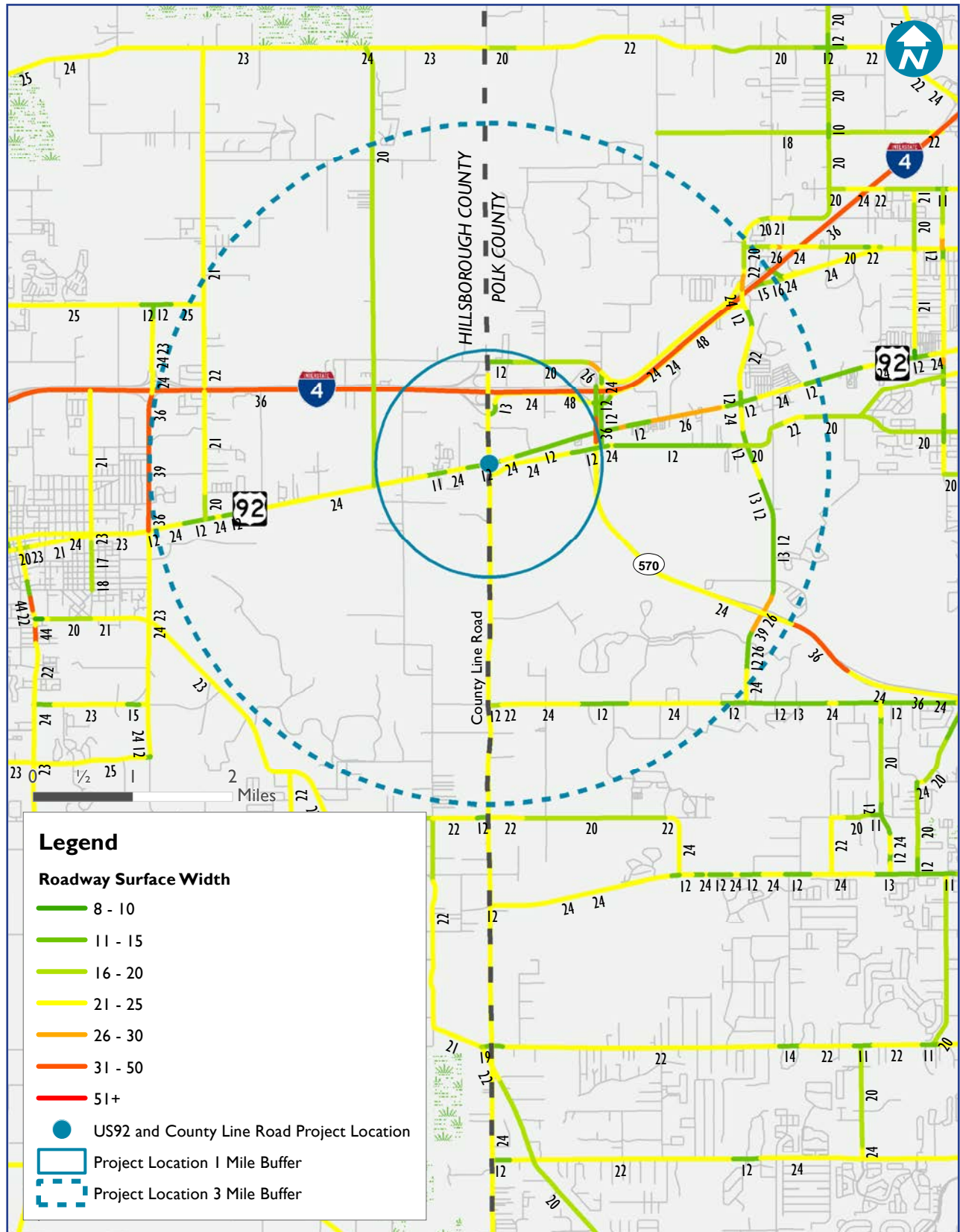
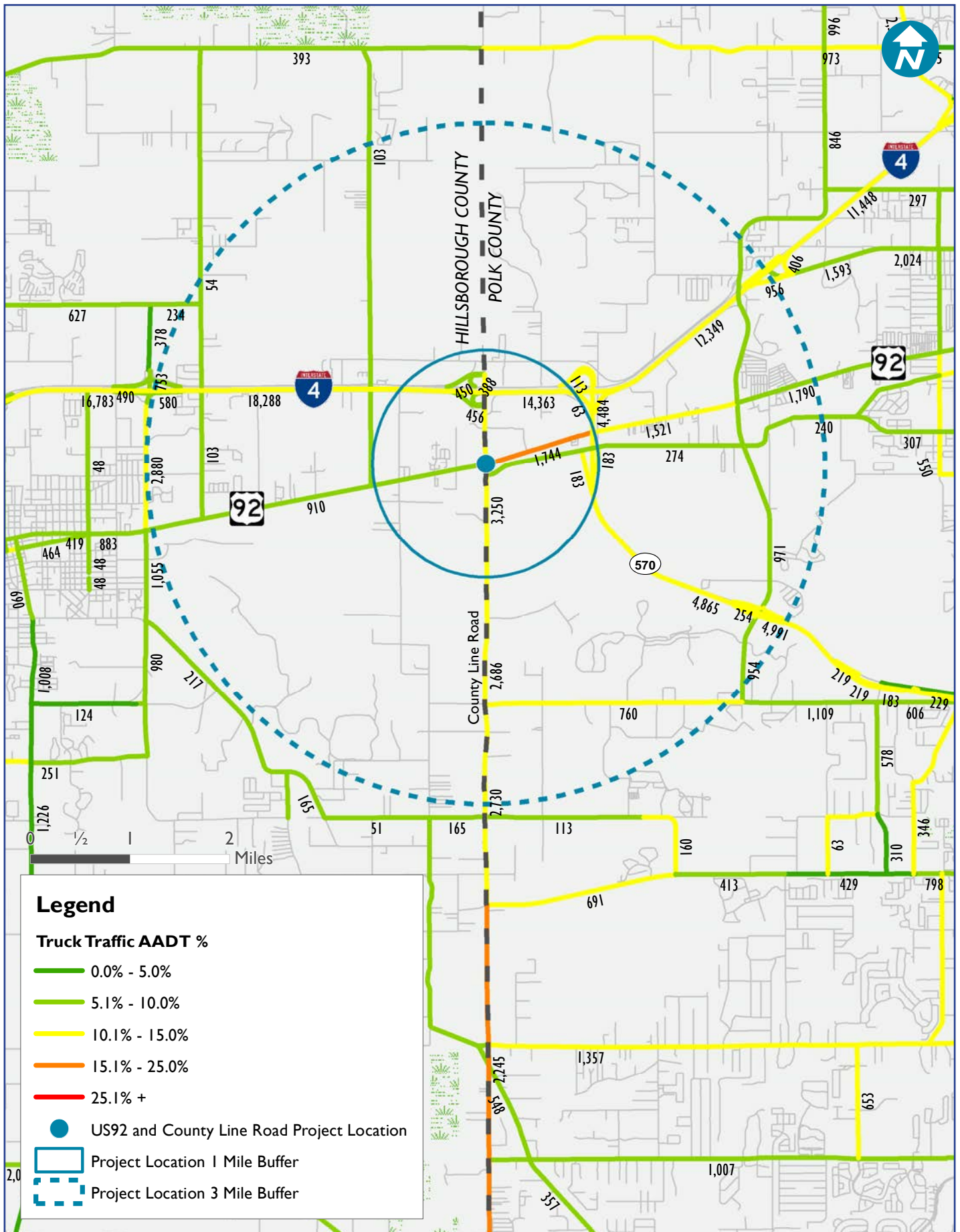






Figure 162: County Line Road and US 92 / SR 600 / New Tampa Study Area Truck AADT Map



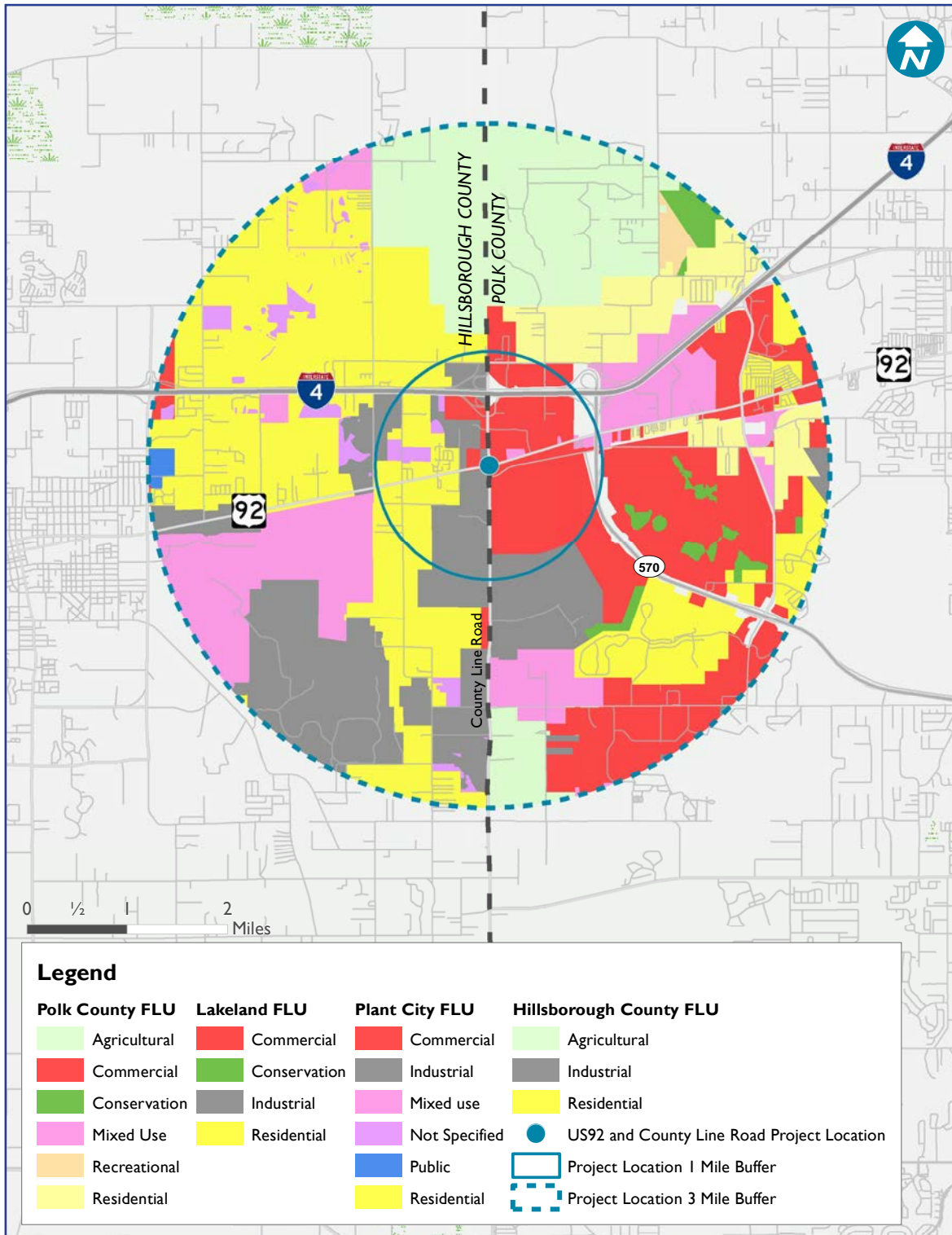


## 12.2 County Line Road and US 92 / SR 600 / New Tampa Highway Future Conditions

### 12.2.1 Future Land Use Analysis

The Hillsborough and Polk County FLUMs were used to complete the future land analysis for the intersection of County Line Road and US 92 / SR 600 / New Tampa Highway. Figure 163 displays the FLUMs for both counties. At the intersection, future land use consists of Industrial (northwest and southwest) and Commercial (northeast and southeast). Mixed Use and Residential zoning are also present within the one-mile buffer. Large tracts of Industrial future use are located along both sides of County Line Road, north and south of the intersection. Given these stated land development goals, the types of uses identified for the areas around the intersection are likely to create additional vehicular traffic, particularly, truck traffic.

Figure 163: County Line Road and US 92 / SR 600 / New Tampa Study Area Future Land Use Map



### 12.2.2 Projected Traffic Conditions

Over the previous eight-year period, traffic volume increased at the County Line Road and US 92 / SR 600 / New Tampa Highway intersection by roughly 4.6 percent per year, while truck AADT grew at a rate of 2.5 percent. County population growth statistics show a 2.15 percent growth rate over this eight-year time span. Considering both AADT at the study site as well as population growth at the county level, future condition projections were developed assuming a growth rate of approximately 4.6 percent for AADT, and approximately 2.5 percent for truck AADT. Table 26 shows the projected AADT and Truck AADT at the candidate intersection for the year 2030.

Table 26: Traffic Projections (2030)

AADT			Truck AADT			Truck Traffic Percentage		
2019	2030	% Change	2019	2030	% Change	2019	2030	% Change
38,900	63,933 (+25,033)	+64%	5,431	7,114 (+1,683)	+31%	14%	11%	-3%

### 12.3 Conclusion

Key findings from this analysis for the intersection of County Line Road and US 92 / SR 600 / New Tampa Highway are highlighted below:

- Current zoning in the vicinity of the intersection includes Industrial and Commercial.
- Future land uses surrounding the intersection are primarily Industrial and Commercial;
- The FDOT Five-Year Work Program shows a PD&E study being completed on SR 600 (US 92) from County Line Road to Wabash Avenue. The study involves widening from two lanes to four lanes and reconstruction. Design is funded for the project in 2023/2024/2025. The Polk County TPO also lists the aforementioned design project in its 2024/205 TIP;
- The study area includes two SIS Highways I-4 and SR 570 / Polk Parkway and an FDOT SIS Railway (CSX Mainline);
- The highest study area AADT for either US 92 or County Line Road (25,000) occurs on County Line Road, just south of the intersection;
- The largest truck AADT numbers for both facilities (3,250) also occurs at this same location on County Line Road.
- AADT at the candidate intersection is projected by this report to increase to 63,933 by 2030, representing a difference of +25,033 vehicles;
- Truck AADT at the candidate intersection is projected by this report to increase to 7,114 by 2030, representing a difference of +1,683 trucks

This intersection is located just south of I-4, a major roadway connecting Tampa to Orlando. Because US 92 runs adjacent to I-4 at this location, additional traffic may use this intersection when avoiding congestion along the interstate. Additionally, the adjacent land uses at the intersection are primarily industrial. With multiple large undeveloped tracts within the study area, industrial development is expected to continue, resulting in increasing truck volumes at this intersection for the next 10-20 years. US 92 / SR 600 is currently undergoing a PD&E study for widening and reconstruction, to include this candidate intersection site. Railroad crossing improvements and modifications to the intersection of County Line Road and Old Tampa Highway may have an effect on the traffic volumes at the subject intersection. Some vehicles traveling to/from the industrial facilities along Old Tampa Highway may continue to use County Line Road and u-turn at an adjacent intersection; however, some traffic may use alternative routes. As most traffic is still anticipated to continue to use the intersection, and many other nearby industrial facilities will be unaffected by the improvements surrounding the intersection, the traffic volumes are anticipated to follow the growth listed in Table 26. Consideration should be given to rigid pavement at the intersection as part of future programmed projects. **The high amount of existing and projected trucks and overall traffic volumes make this intersection a high priority candidate to be converted to concrete.**

## Summary of Results

This study proposes 12 intersections as candidates for further study in relation to reconstruction using concrete pavement. Research into each intersection included a review of both existing and future conditions at the candidate site. Existing conditions considered a zoning analysis, planning document review, SIS facility identification, roadway surface widths, AADT and truck AADT, and a desktop review and site visit. Future conditions were forecasted using future land use maps and projected traffic conditions.

Once the aforementioned datasets were compiled, an analysis using both qualitative and quantitative methods was performed to prioritize each intersection based on suitability for concrete reconstruction. Each candidate intersection was then assigned a classification of either high, medium, or low priority, with the exception of SR 62 and US 17 / SR 35, which is programmed for rigid pavement reconstruction in 2025. The results of this prioritization process are shown below in Table 27.

Table 27: Future Candidate Intersection Prioritization Results

Site Number	Site Name	Priority for Concrete Construction
1	US 27 / SR 80 and Flaghole Rd (Airglades)	High*
2	US 27 and US 98 / CR 630	Low
3	US 27 and CR 640	Low
4	US 98 and US 471	High
5	SR 33 / North Commonwealth Ave and Church Rd	Low
6	US 92 and SR 559 (Berkley Road)	High
7	SR 60 and Alturas Rd / Old Bartow Lake Wales Rd	High
8	SR 62 and US 17 / SR 35	Programmed (2025)
9	SR 72 and SR 70 / West Oak St	Medium
10	US 17 / Duncan Road and Piper Rd	Medium
11	West Sun Pure Rd and US 27 / US 98 / SR 17	High
12	County Line Rd and US 92 / SR 600 / New Tampa Hwy	High

\*US 27 and Flaghole Rd prioritization is based on the planned development of the air cargo complex at Airglades International Airport. This intersection becomes low priority should development not occur.

In addition to the candidates shown above, this study proposes five intersections for future consideration during similar, subsequent efforts. These five intersections are summarized in the remainder of this document, to include high-level analysis of existing conditions at each site.



### 13. Future Candidate Intersections

During the candidate intersection selection process, five additional sites were suggested for future consideration. At their present state, these intersections did not meet the criteria for being included as part of this round of candidate identification; however, may warrant further study in similar, future efforts. The five intersections referenced above are shown below in Figure 164, and include:

- SR 70 and SR 710
- US 441 / US 98 and SR 70
- SR 37 and SR 60
- SR 37 and SR 62
- SR 37 and SR 674

Figure 164: Intersections Warranting Future Consideration for Rigid Pavement



A high-level analysis was conducted as a means to introduce each of these future sites and reflect the existing conditions as of the time of this report. A brief summary of each site is provided below, along with GIS mapping to show AADT, truck AADT, zoning, and future land use surrounding the facility.

### 13.1 SR 70 and SR 710

The intersection of SR 70 and SR 710 is located in Okeechobee, FL 34792. A public works facility is located at the southeast quadrant of the intersection. All other areas immediately surrounding the intersection are vacant and undeveloped. Figure 165 shows aerial imagery of the site as of January 2021.

Figure 165: Intersection of SR 70 and SR 710 (Source: Google Earth)



Figure 166 – Figure 169 reflect the current AADT, truck AADT, zoning and future land use surrounding the intersection. Within the one-mile buffer, AADT increases on SR 70 from 9,000 east of the intersection to 25,000 directly west of the intersection. AADT on SR 710 is 12,800 just southeast of the intersection. Truck AADT follow a similar pattern along SR 70, increasing from 1,426 to 4,475 west of its intersection with SR 710. Zoning at the intersection consists primarily of Public/Institution and Agricultural. A small pocket of Industrial is present to the south. Spotted Residential zoning occurs adjacent to the intersection in all directions. Future land use within the one-mile buffer is almost entirely comprised of Mixed Use, with Agricultural and Residential uses present to the north and east, respectively.

Figure 166: SR 70 and SR 710 AADT

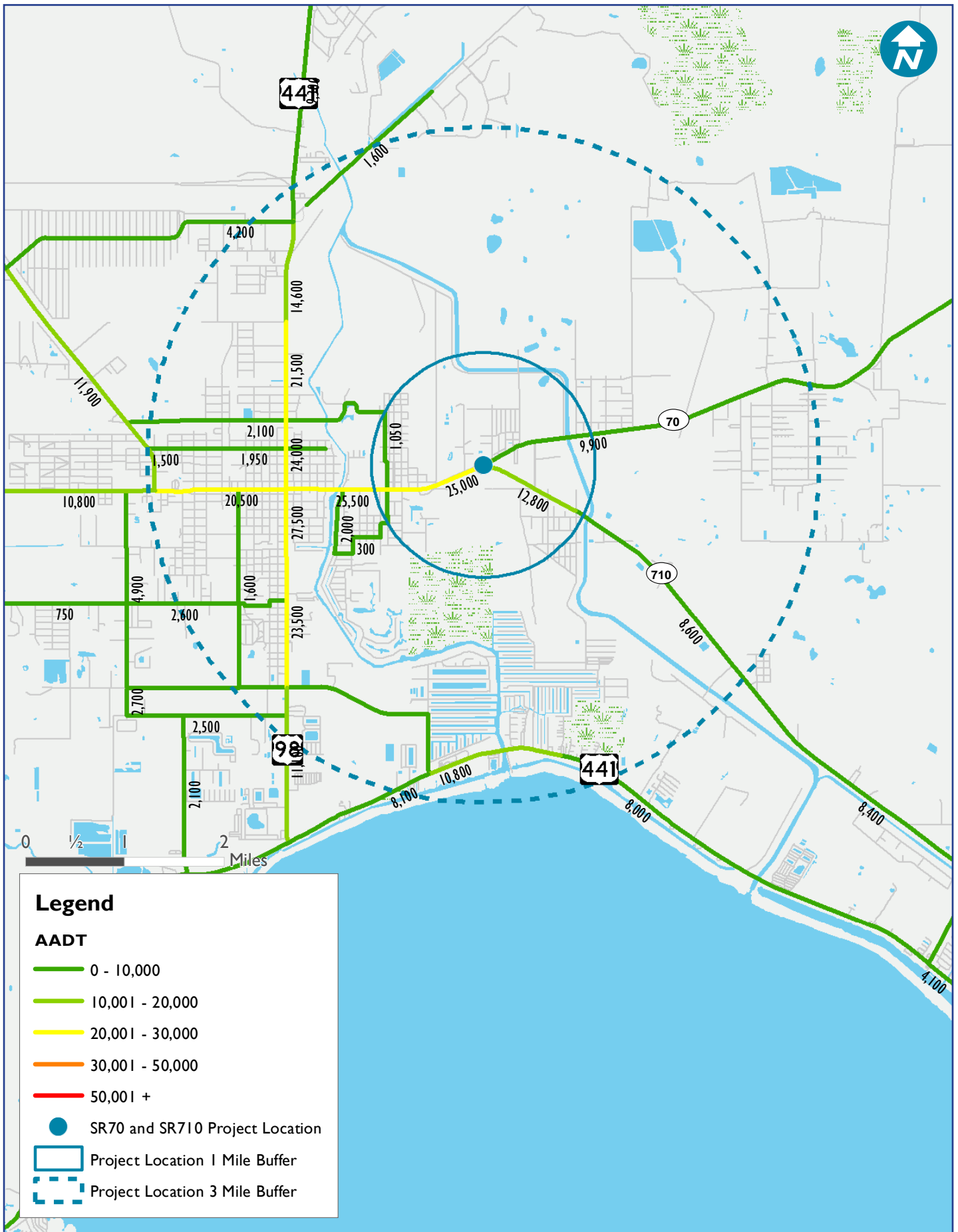




Figure 167: SR 70 and SR 710 Truck AADT

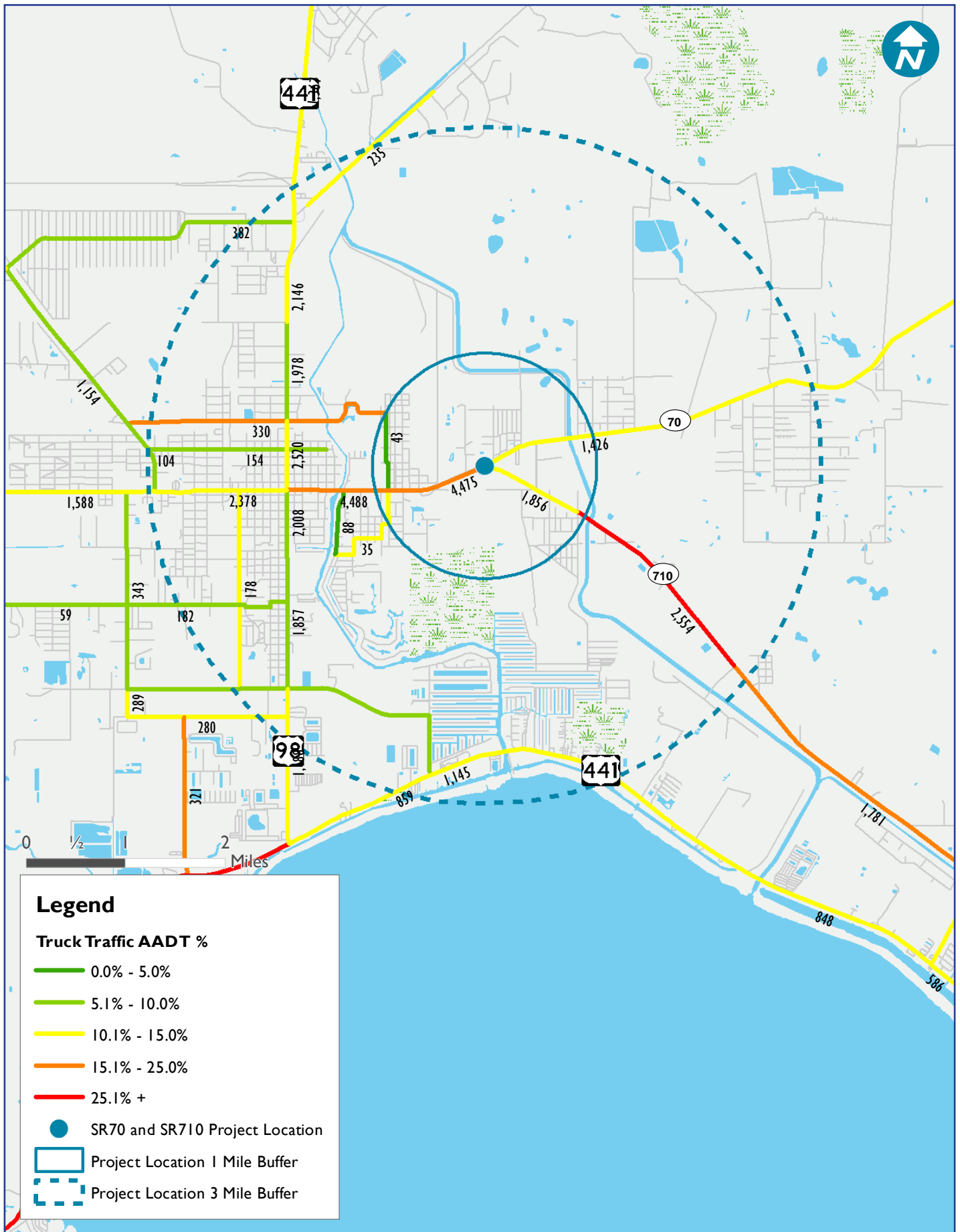


Figure 168: SR 70 and SR 710 Zoning

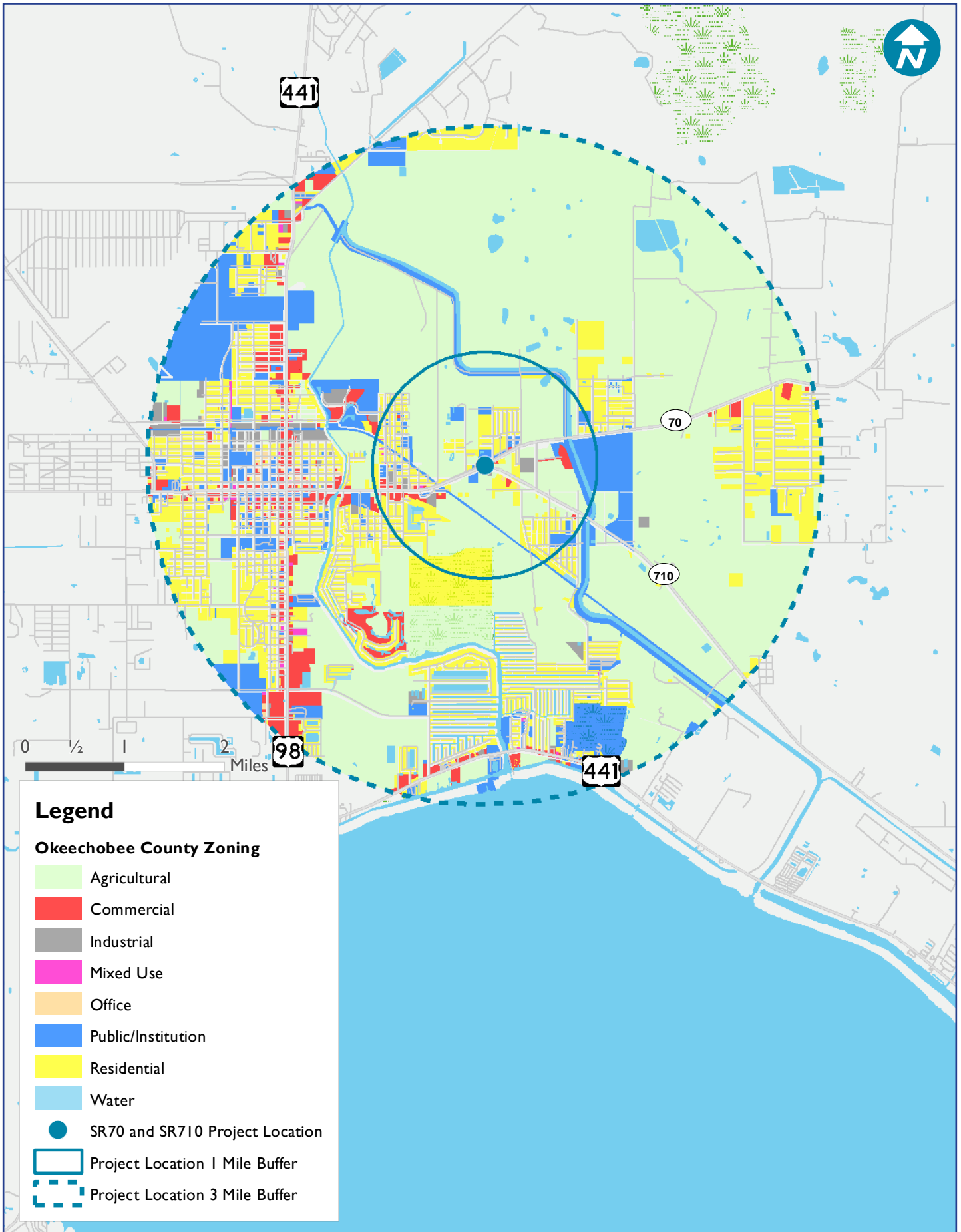
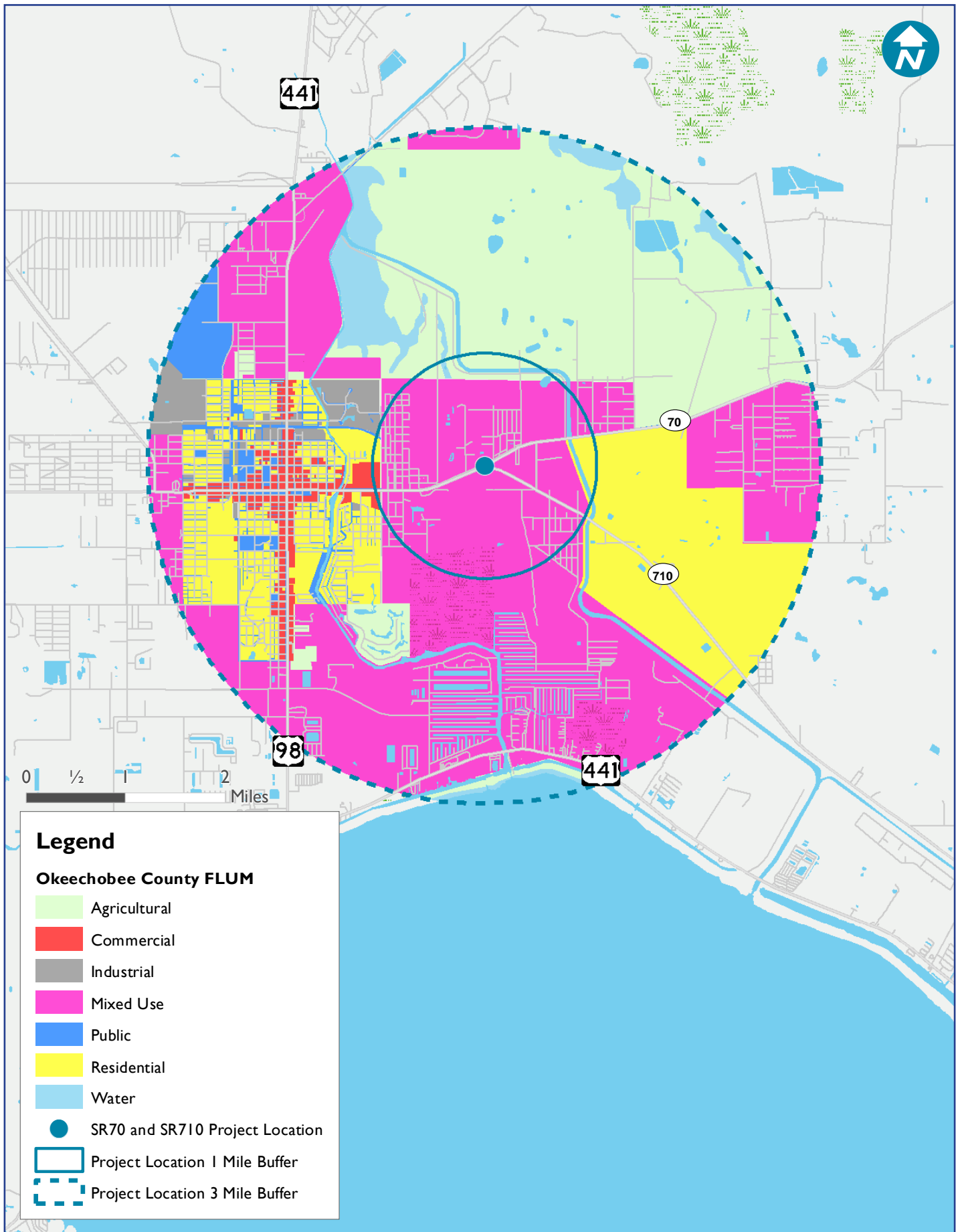


Figure 169: SR 70 and SR 710 FLUM





## 13.2 US 441 / US 98 and SR 70

The intersection of US 441 / US 98 and SR 70 is located in Okeechobee, FL 34792. A Walgreens Pharmacy is located at the northwest corner of the intersection. The northeast corner is a CVS Pharmacy. Veterans Park is located at the southwest quadrant of the intersection. The Okeechobee County Tourist Development Council is located to the southeast of the intersection.

Figure 170: Intersection of US 441 / US 98 and SR 70 (Source: Google Earth)

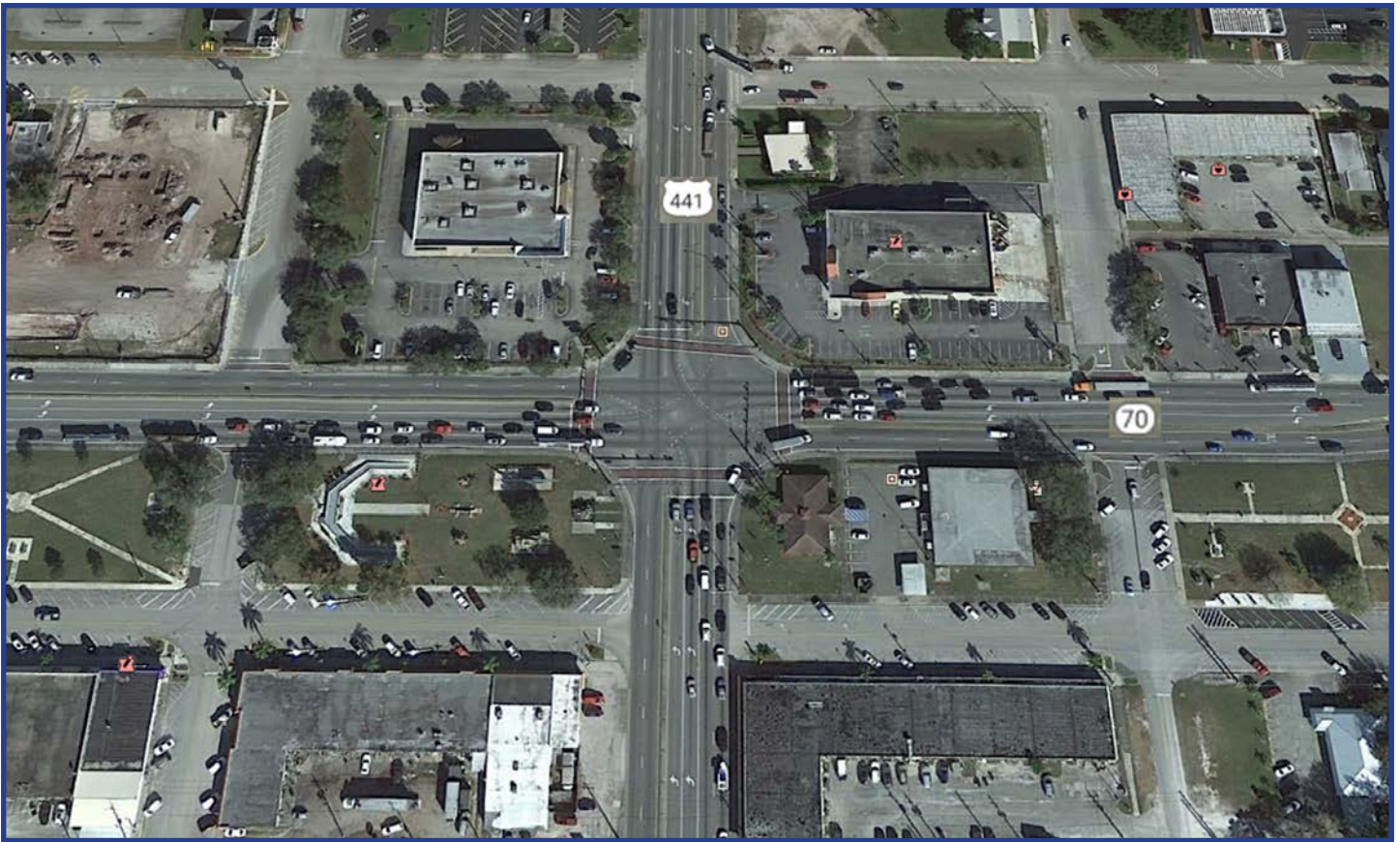


Figure 171 – Figure 174 reflect the current AADT, truck AADT, zoning, and future land use surrounding the intersection. AADT of greater than 20,000 is shown for all approaches at the intersection. The highest volume of 27,500 occurs from the south on US 441 / US 98. Truck AADT of greater than 2,000 is present at all approaches, but highest (4,475) to the east on SR 70. Zoning at the intersection consists of Commercial and Public/Institution. A pocket of industrial is located to the north, within the one-mile buffer area. Scattered areas of residential and industrial are also present within the one-mile buffer. Future land use at the intersection is designated as commercial with some Public as well. The remainder of the one-mile buffer consists of Residential as well as scattered industrial areas. Large Industrial use concentrations are also located at the northwest and northeast edges of the one-mile buffer.

Figure 171: US 441 / US 98 and SR 70 AADT

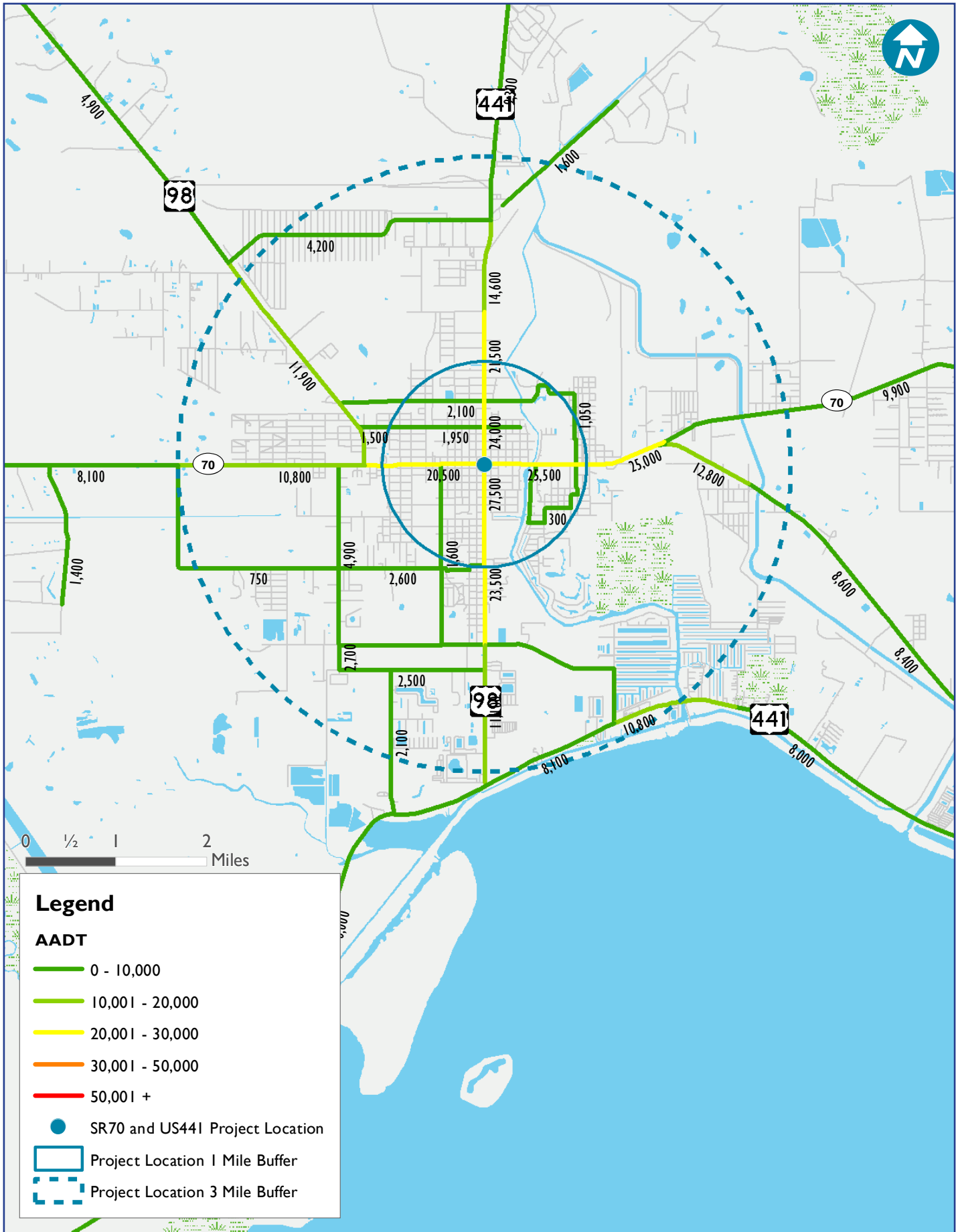


Figure 172: US 441 / US 98 and SR 70 Truck AADT

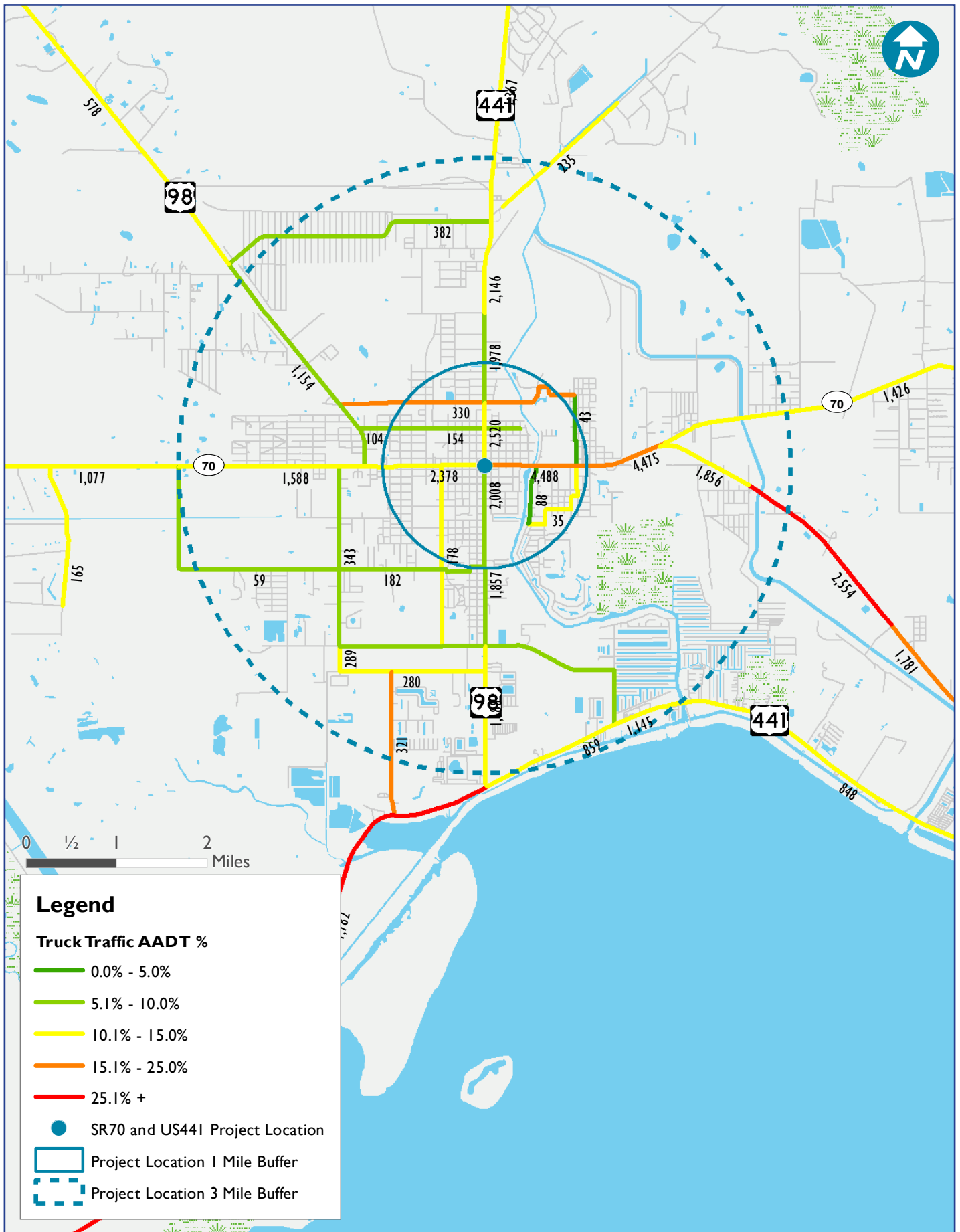




Figure 173: US 441 / US 98 and SR 70 Zoning

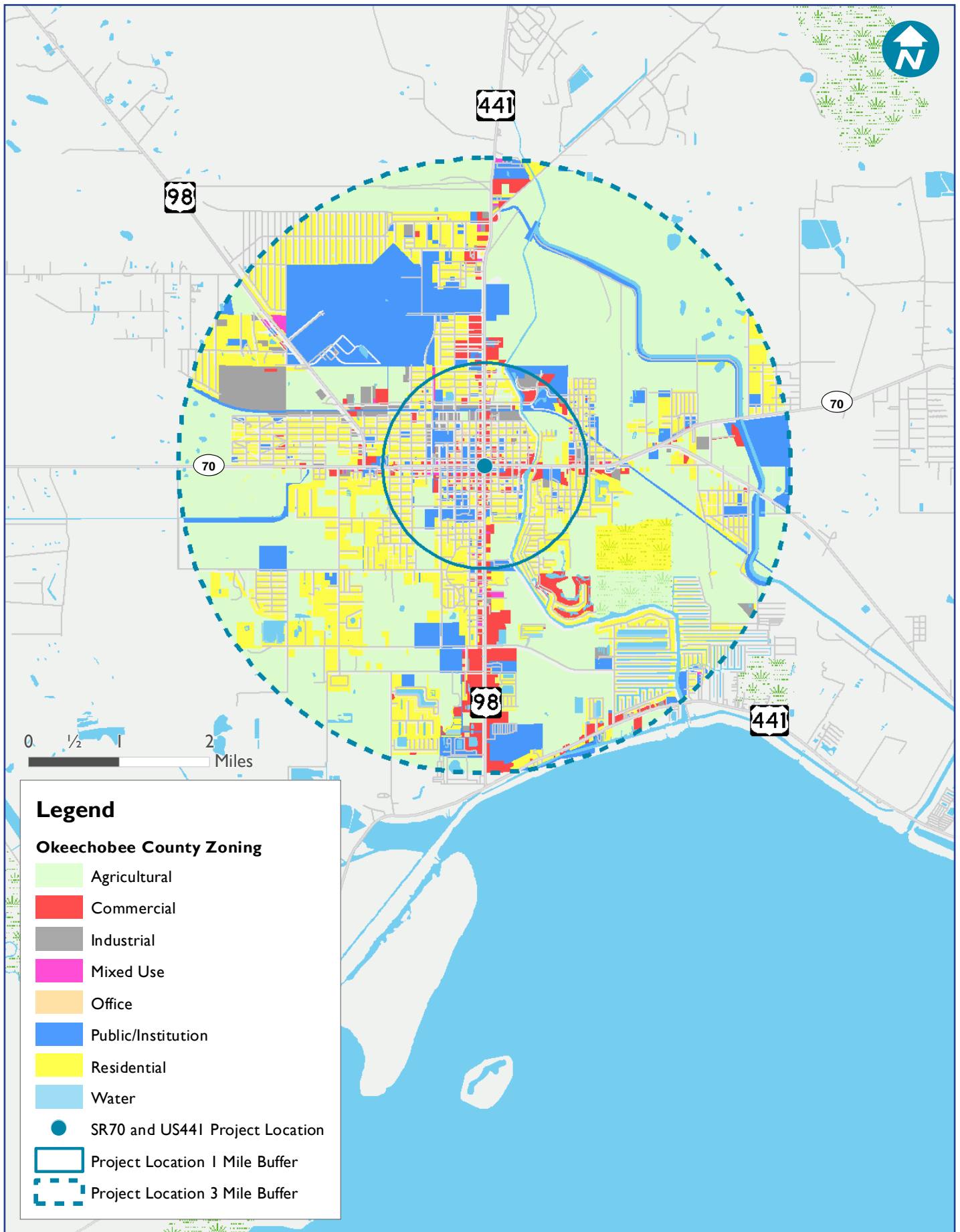
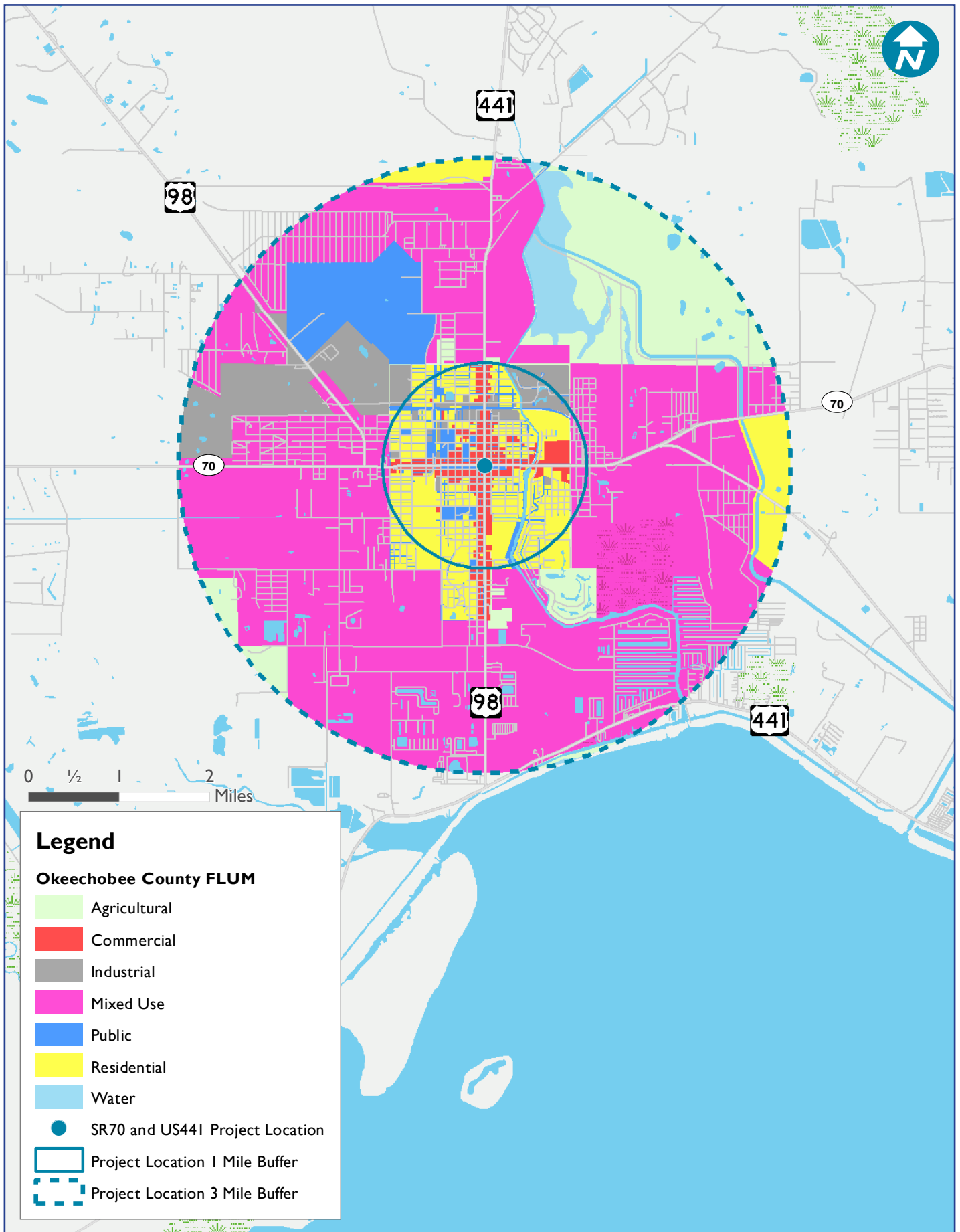


Figure 174: US 441 / US 98 and SR 70 FLUM



### 13.3 SR 37 and SR 60

The intersection of SR 37 and SR 60 is located in Mulberry, FL. A gas station is located at the northwest corner of the intersection. The northeast corner is a commercial shopping plaza. A small auto dealership is located at the southwest quadrant of the intersection. The Mulberry City Hall is located to the southeast of the intersection. An at-grade CSX rail line crossing occurs just west of the intersection.

Figure 175: Intersection of SR 37 and SR 60 (Source: Google Earth)



Figure 176 – Figure 179 reflect the current AADT, truck AADT, zoning, and future land use surrounding the intersection. AADT is highest directly to the west of the intersection at 21,500. Truck AADT volumes are also highest (3,763) directly west of the intersection. Zoning immediately adjacent to the intersection is composed on Commercial, Industrial, and Residential. Land to the south of the intersection is primarily RDA. Industrial zoning is extremely prevalent within the one-mile buffer of the future land use map.



Figure 176: SR 37 and SR 60 AADT

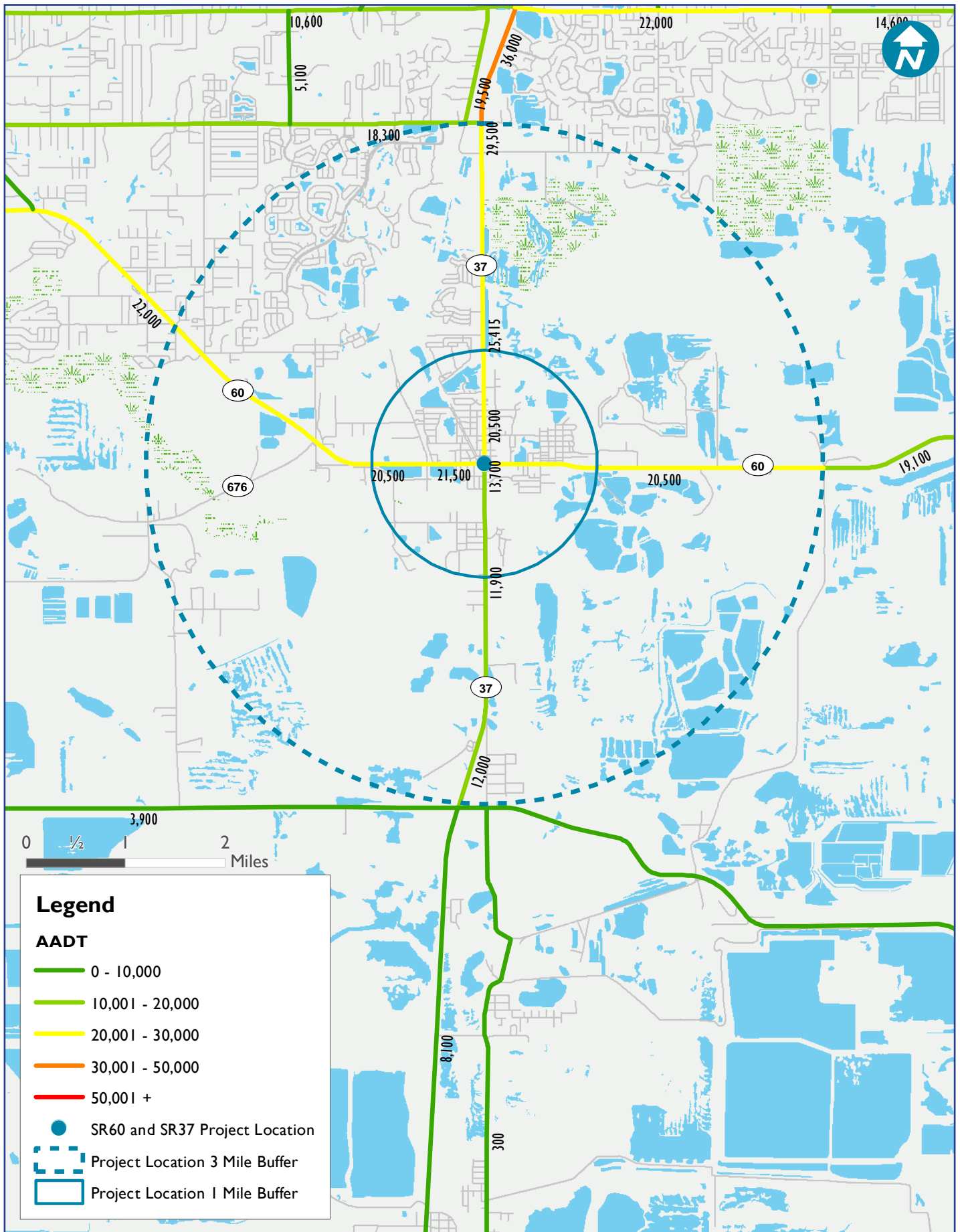


Figure 177: SR 37 and SR 60 Truck AADT

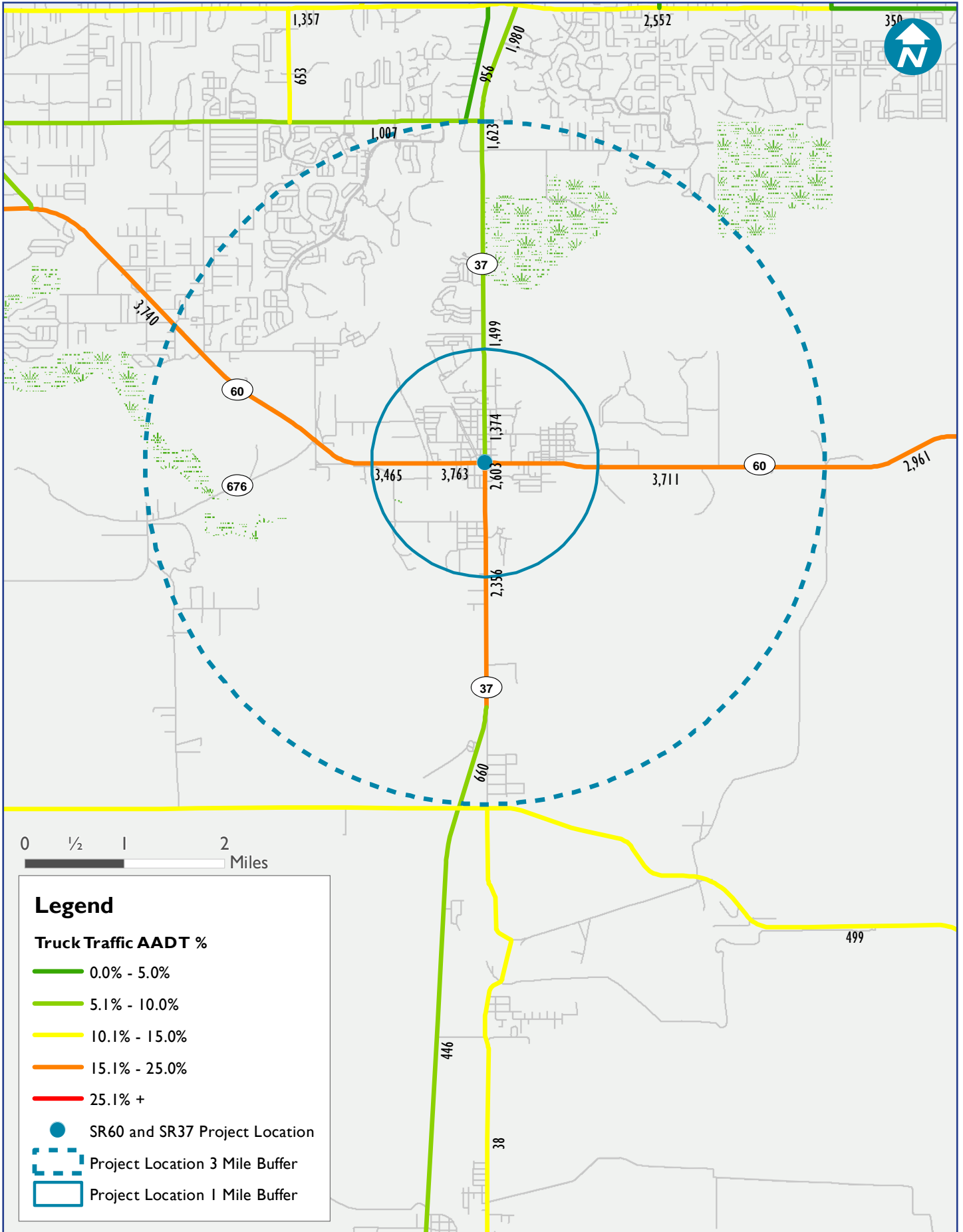
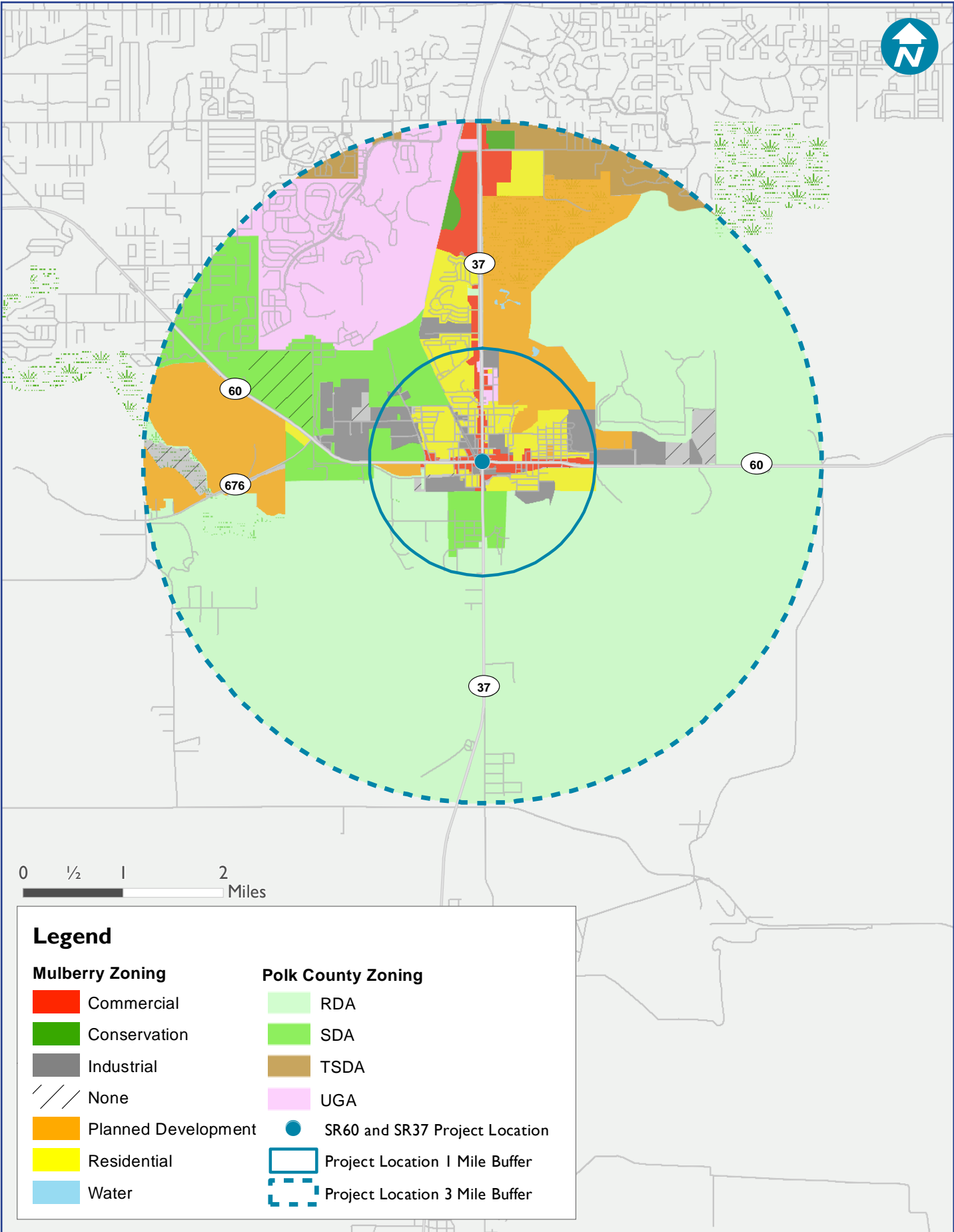


Figure 178: SR 37 and SR 60 Zoning



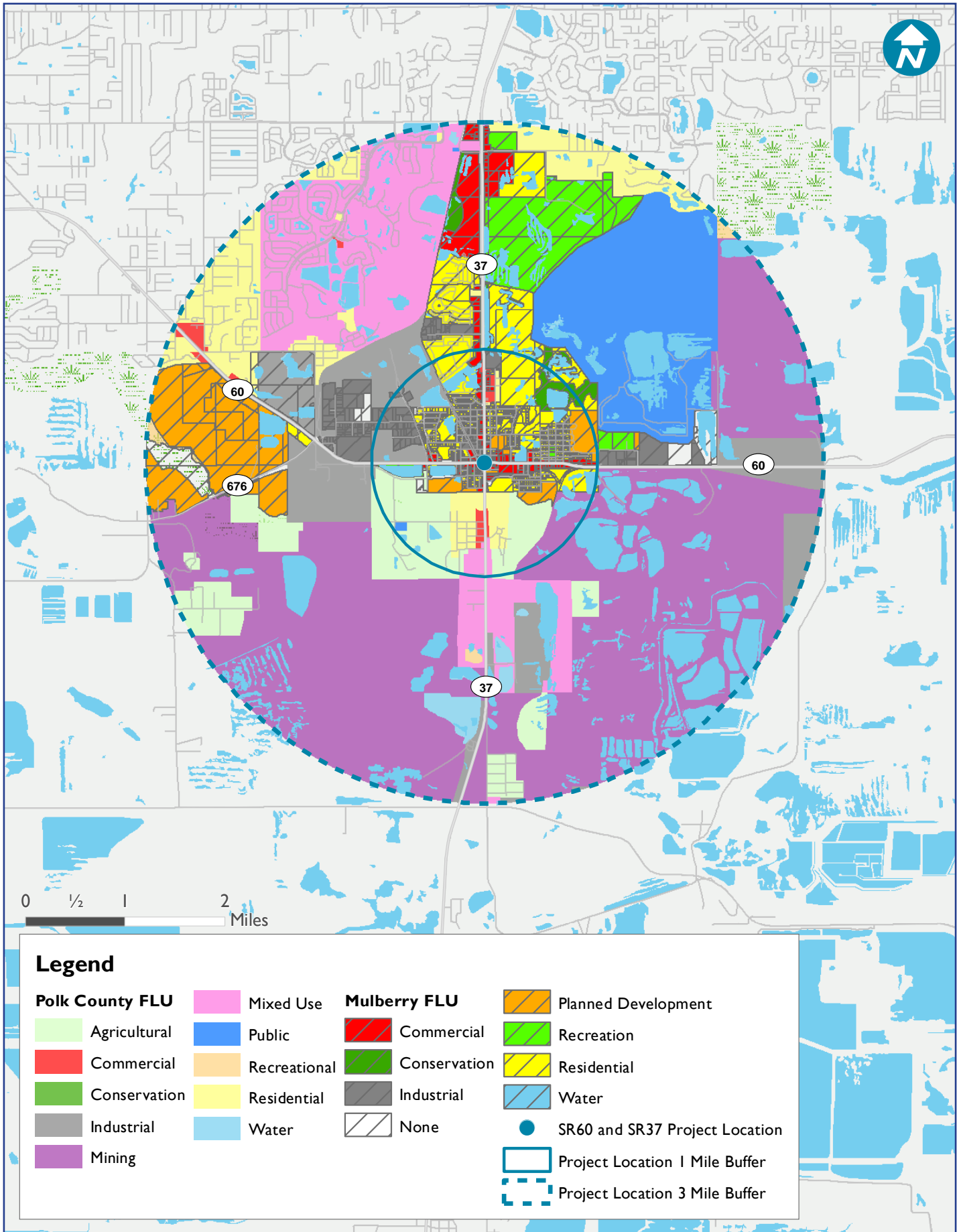
0 1/2 1 2 Miles

**Legend**

<b>Mulberry Zoning</b>	<b>Polk County Zoning</b>
<span style="display:inline-block; width:15px; height:15px; background-color:red; border:1px solid black;"></span> Commercial	<span style="display:inline-block; width:15px; height:15px; background-color:lightgreen; border:1px solid black;"></span> RDA
<span style="display:inline-block; width:15px; height:15px; background-color:green; border:1px solid black;"></span> Conservation	<span style="display:inline-block; width:15px; height:15px; background-color:mediumgreen; border:1px solid black;"></span> SDA
<span style="display:inline-block; width:15px; height:15px; background-color:grey; border:1px solid black;"></span> Industrial	<span style="display:inline-block; width:15px; height:15px; background-color:brown; border:1px solid black;"></span> TSDA
<span style="display:inline-block; width:15px; height:15px; border:1px solid black; border-style:dashed;"></span> None	<span style="display:inline-block; width:15px; height:15px; background-color:pink; border:1px solid black;"></span> UGA
<span style="display:inline-block; width:15px; height:15px; background-color:orange; border:1px solid black;"></span> Planned Development	<span style="display:inline-block; width:15px; height:15px; background-color:blue; border-radius:50%;"></span> SR60 and SR37 Project Location
<span style="display:inline-block; width:15px; height:15px; background-color:yellow; border:1px solid black;"></span> Residential	<span style="display:inline-block; width:15px; height:15px; border:2px solid blue; border-radius:50%;"></span> Project Location 1 Mile Buffer
<span style="display:inline-block; width:15px; height:15px; background-color:lightblue; border:1px solid black;"></span> Water	<span style="display:inline-block; width:15px; height:15px; border:2px dashed blue; border-radius:50%;"></span> Project Location 3 Mile Buffer



Figure 179: SR 37 and SR 60 FLUM



## 13.4 SR 37 and SR 62

The intersection of SR 37 and SR 62 is located in Duette, FL. Land to the south of the intersection is undeveloped and currently used for farming. The northeast and northwest portions of the intersection are vacant and undeveloped.

Figure 180: Intersection of SR 37 and SR62 (Source: Google Earth)



Figure 181 – Figure 184 reflect the current AADT, truck AADT, zoning, and future land use surrounding the intersection. Both AADT (5,400) and truck AADT (297) are highest on SR 62, just west of the one-mile buffer. Zoning at the site is comprised of Conservation and Agricultural. Extraction Districts, zoned for the purpose of mining, beneficiation, and other closely related activities, are located at the western and northeastern boundaries of the three-mile buffer. Future land uses at the intersection are Conservation and Agricultural Residential.

Figure 181: SR 37 and SR 62 AADT

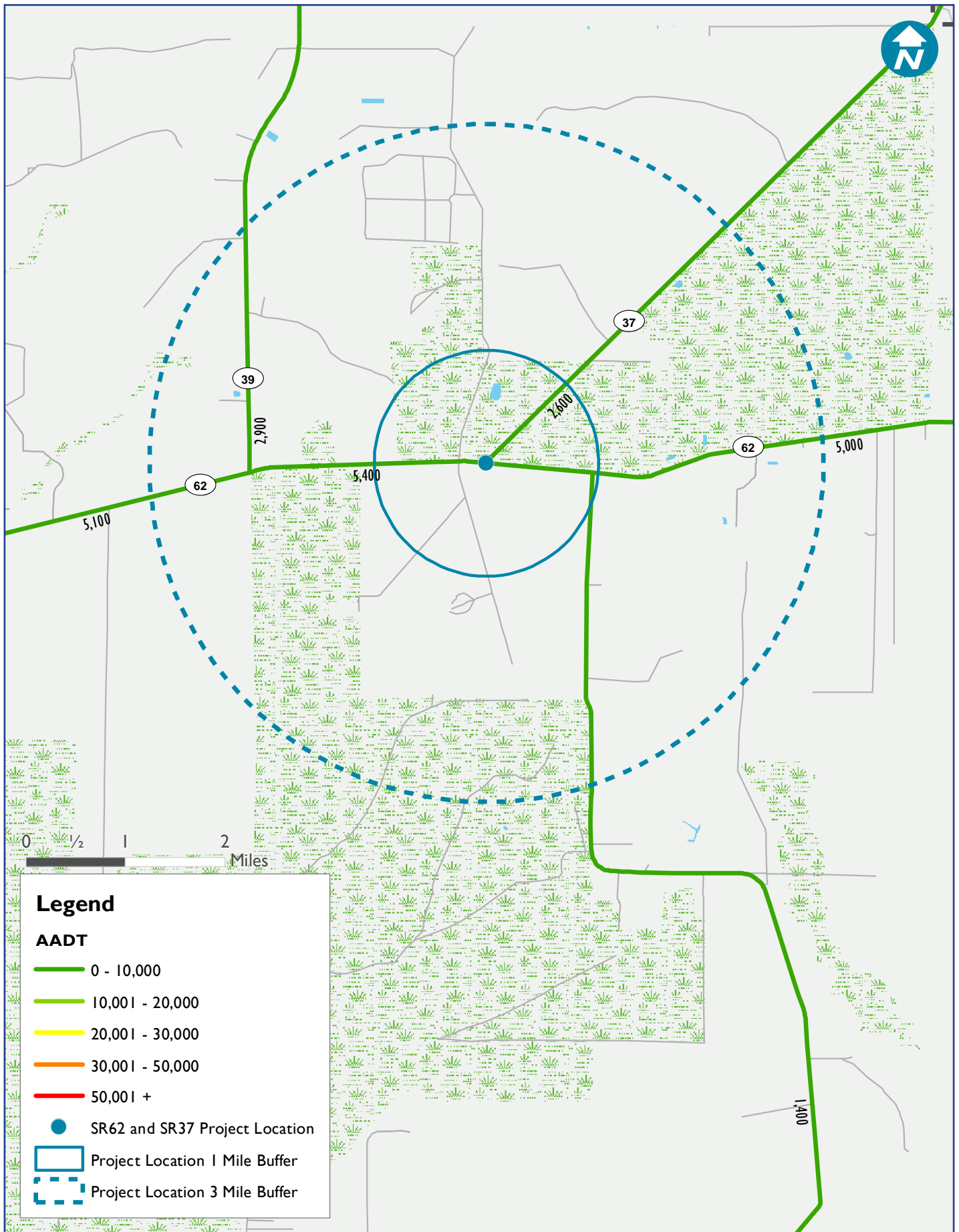




Figure 182: SR 37 and SR 62 Truck AADT

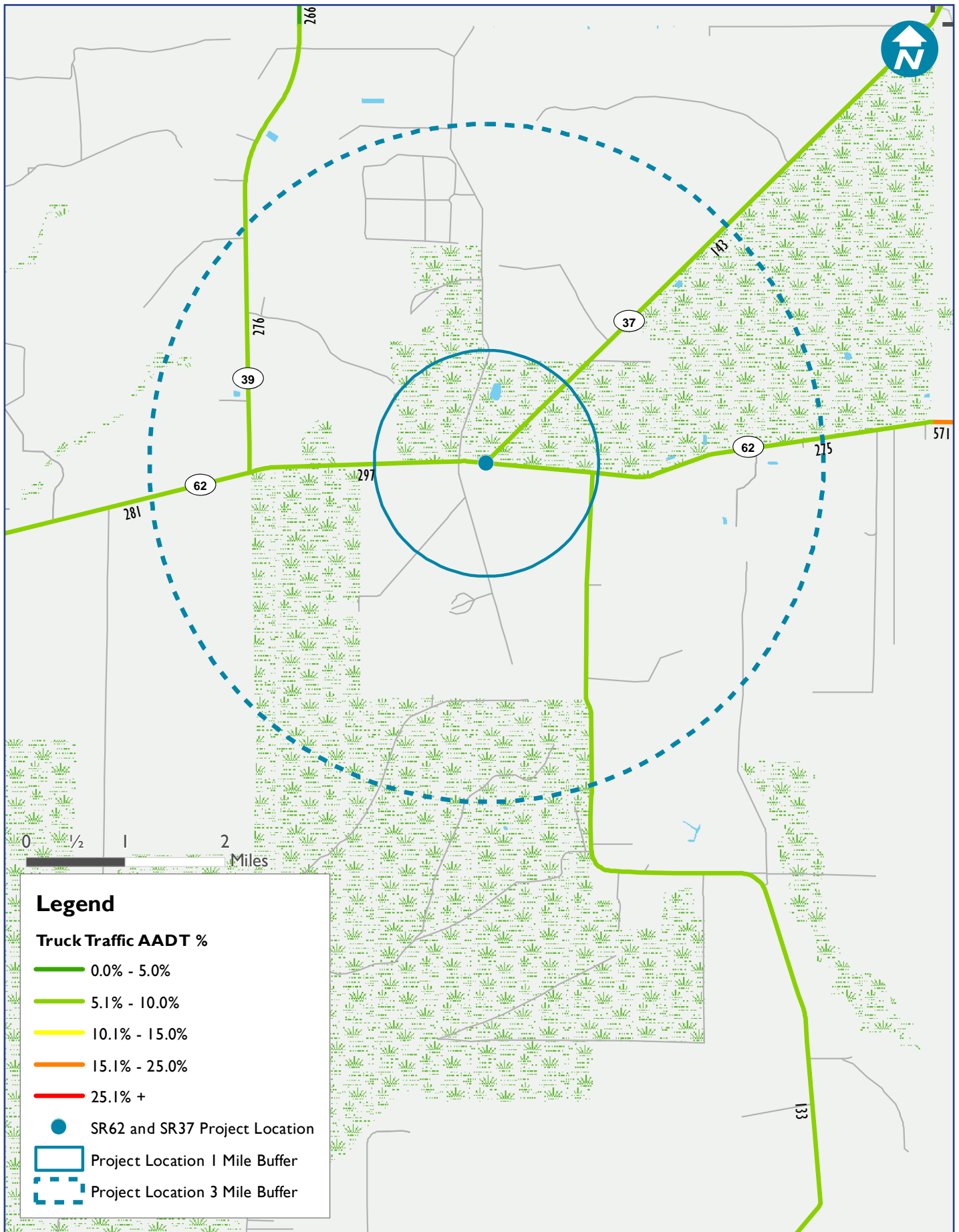


Figure 183: SR 37 and SR 62 Zoning

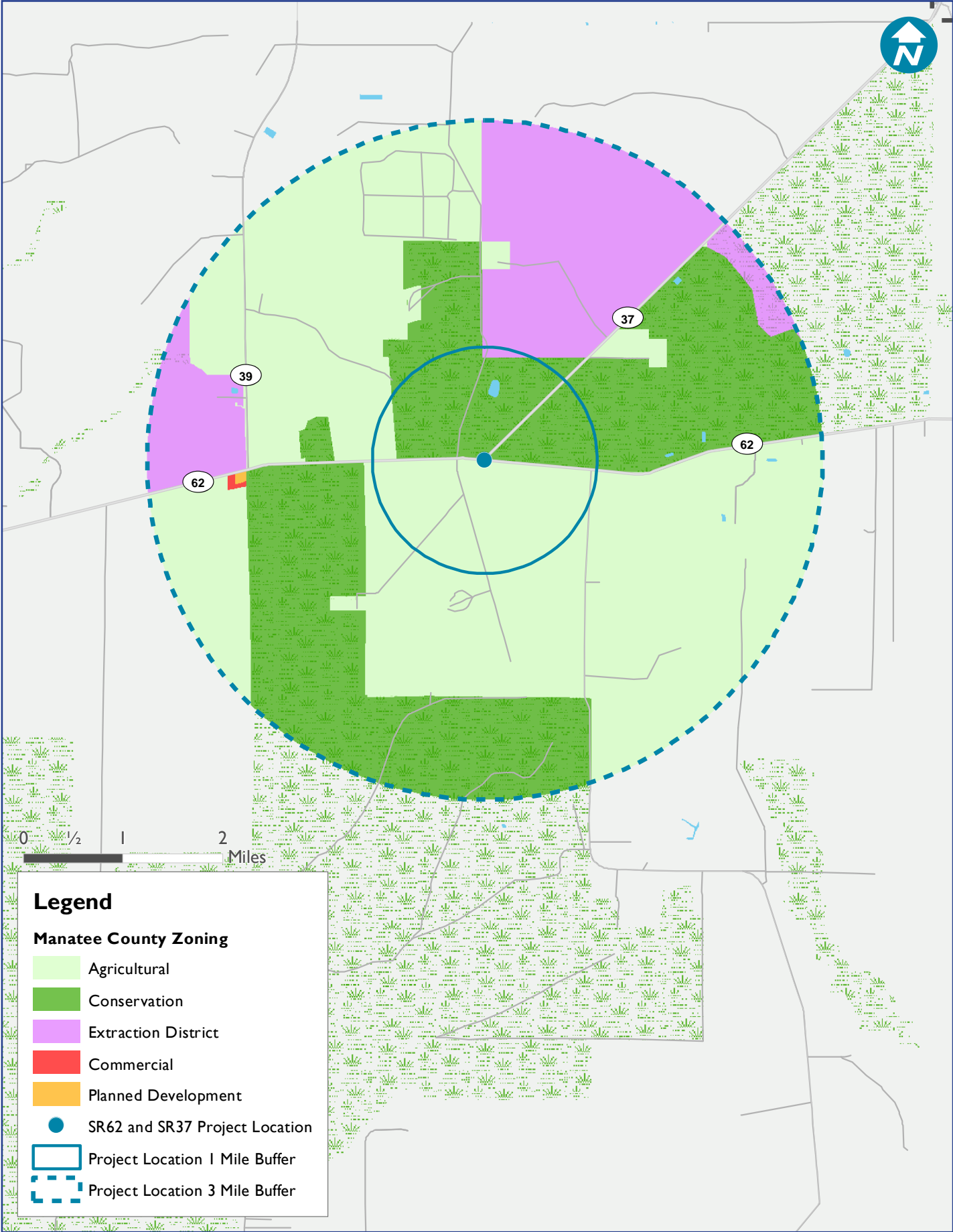
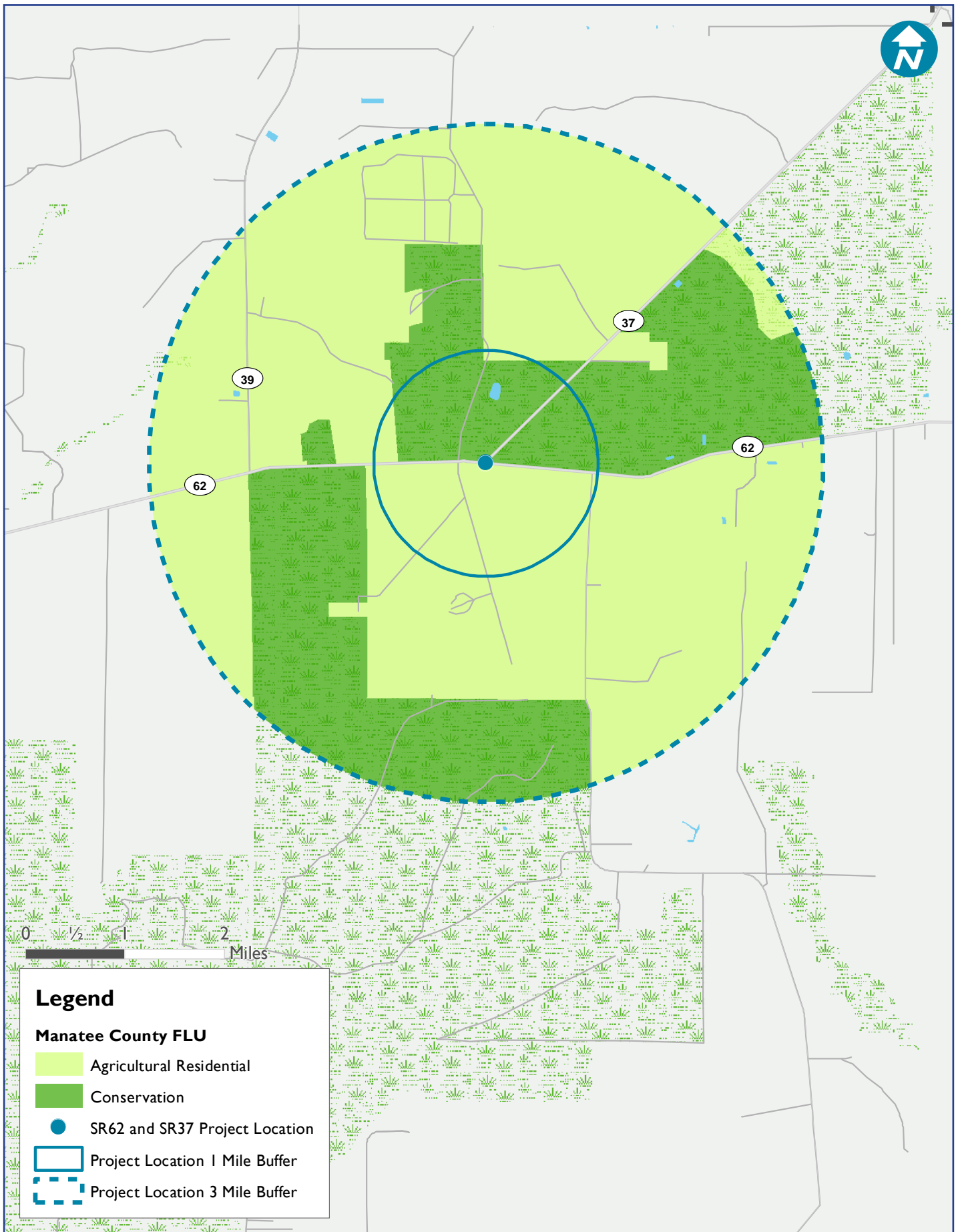


Figure 184: SR 37 and SR 62 FLUM





## 13.5 SR 37 and SR 674

The intersection of SR 37 and SR 674 is located in Polk County, FL. All lands adjacent to the intersection are currently vacant and undeveloped.

Figure 185: Intersection of SR 37 and SR674 (Source: Google Earth)



Figure 186 – Figure 189 reflect the current AADT, truck AADT, zoning, and future land use surrounding the intersection. Study area AADT is highest just northeast of the intersection (6,500), along SR 37; however, the largest truck AADT numbers (667) occur west of the intersection, on SR 674. Zoning at the intersection is entirely comprised of Polk County Rural Development Area. Future land uses surrounding the intersection are designated for mining and agricultural uses.

Figure 186: SR 37 and SR 674 AADT

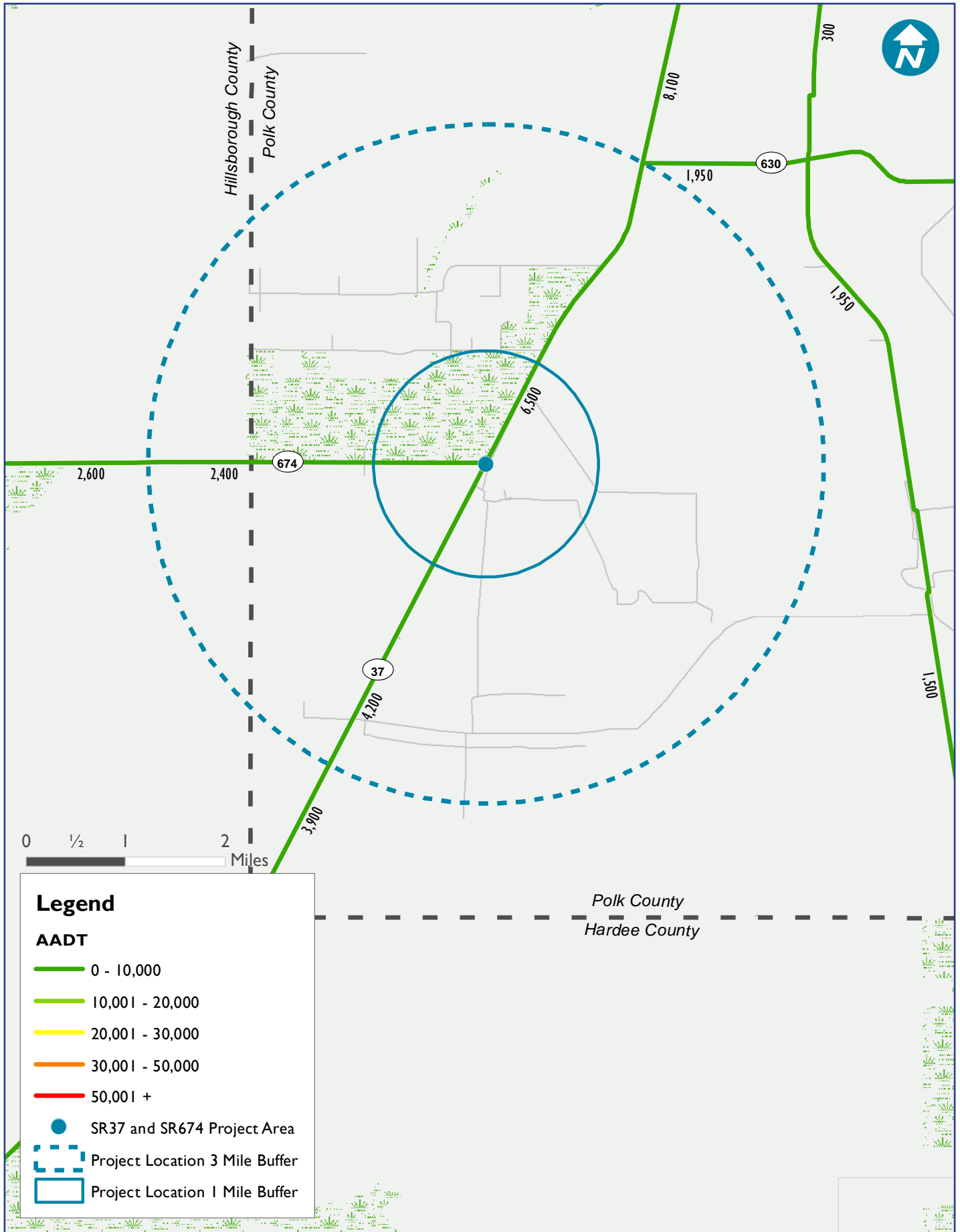


Figure 187: SR 37 and SR 674 Truck AADT

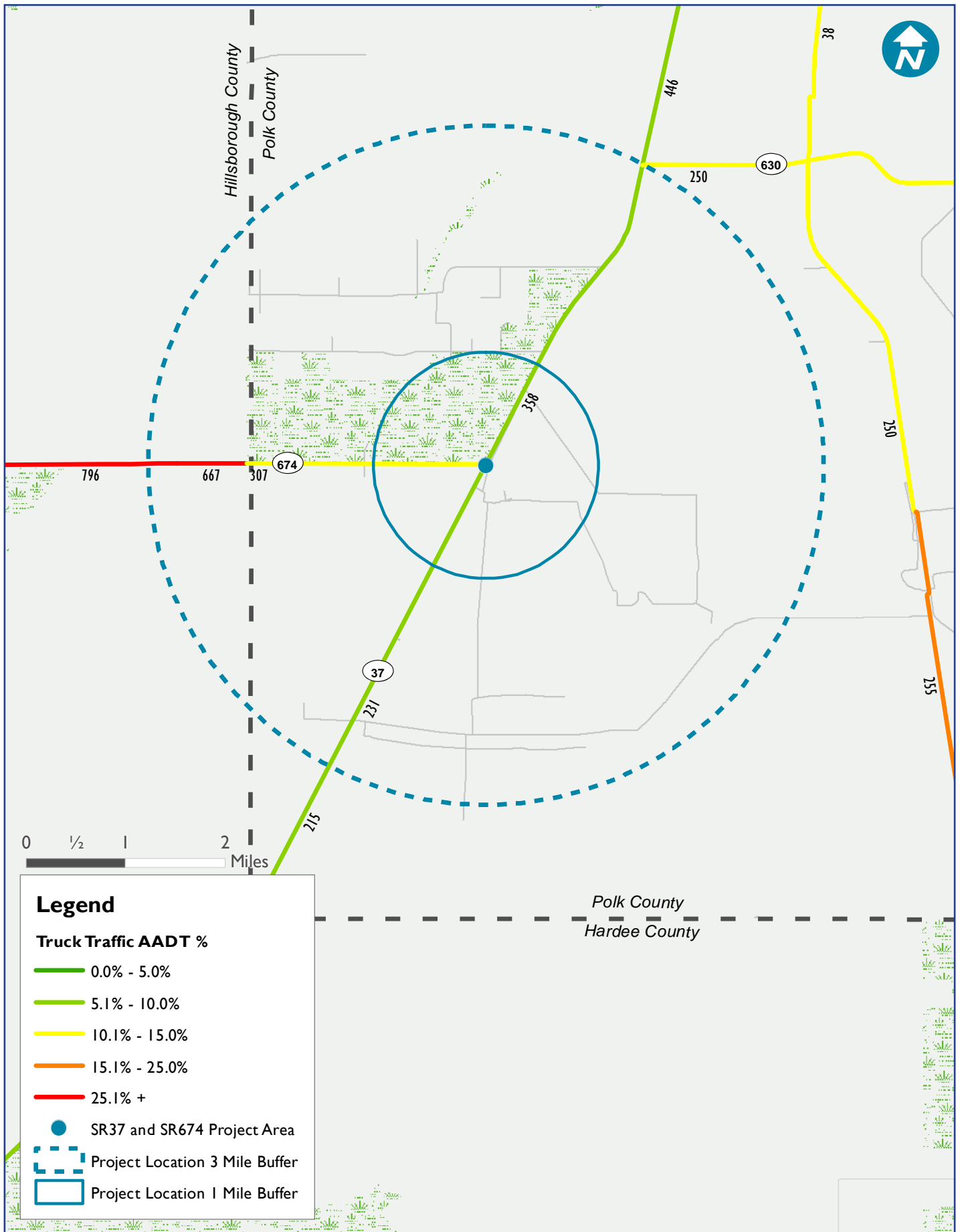




Figure 188: SR 37 and SR 674 Zoning

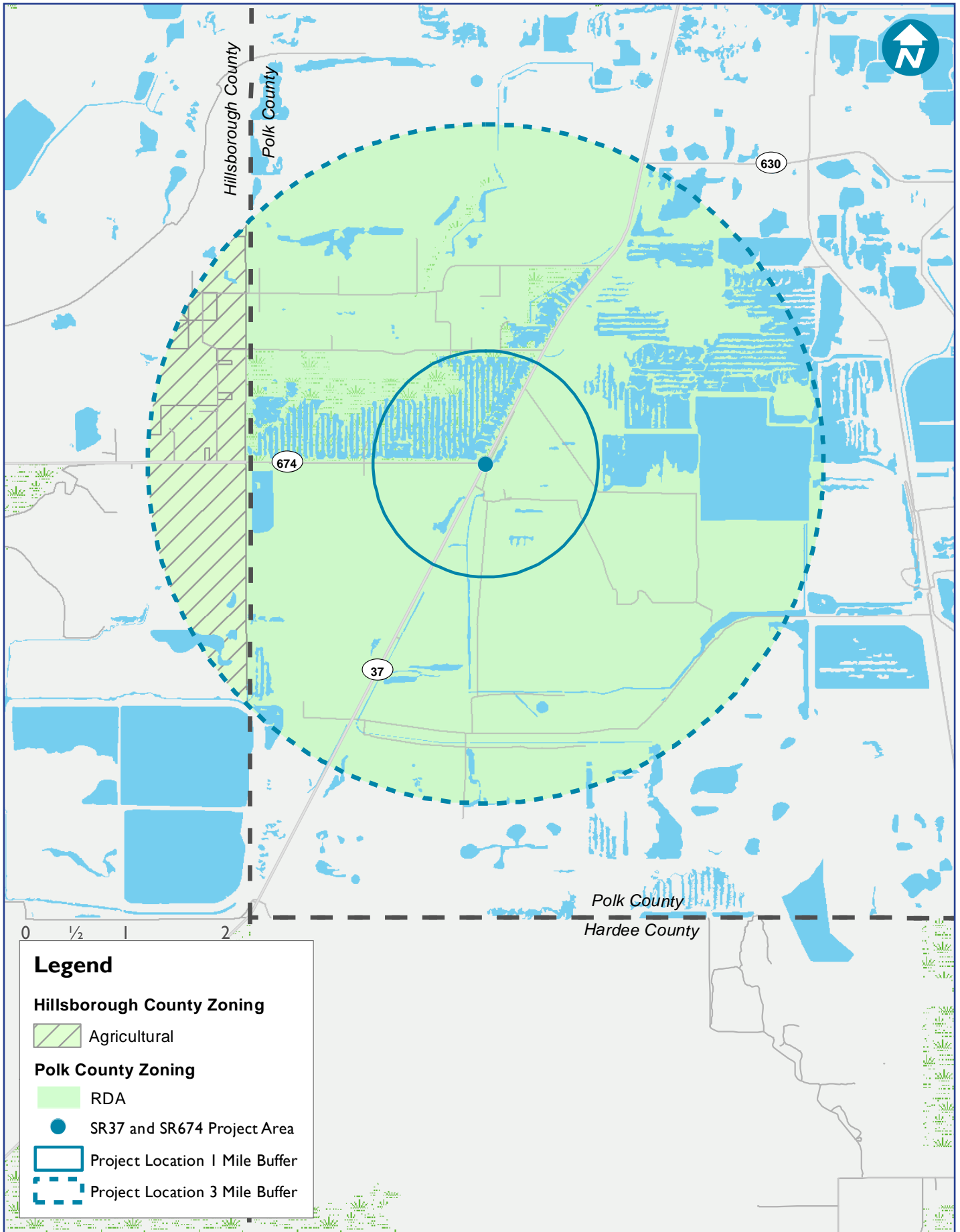
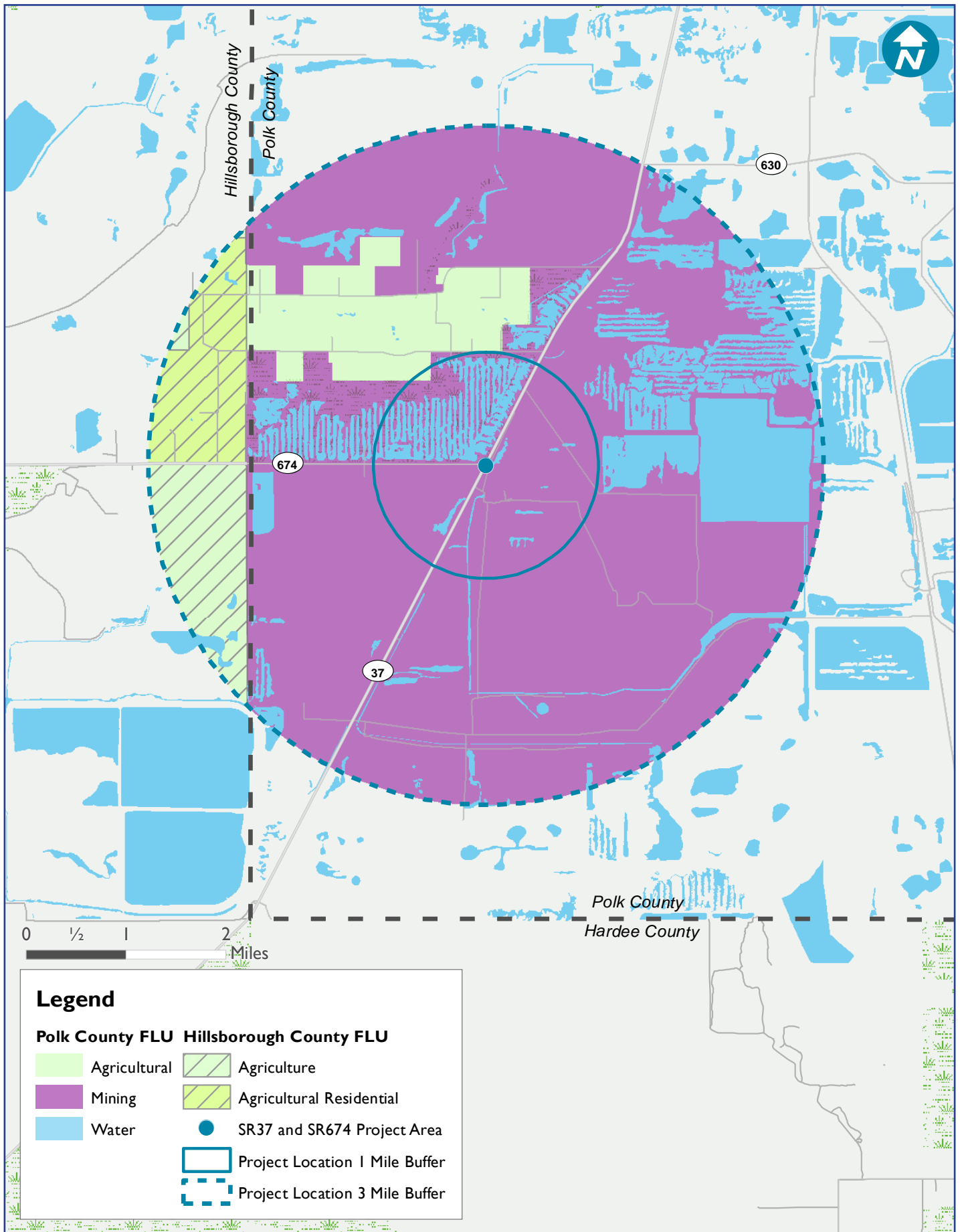


Figure 189: SR 37 and SR 674 FLUM



## Conclusion

As mentioned in the introduction to this section, the five future candidate sites represent locations suggested for future consideration for concrete reconstruction. At their present state, these intersections did not meet the criteria for being included as part of this round of candidate identification; however, may warrant further study in future efforts. While it is expected that conditions at each location will change, baseline existing conditions were detailed above to provide the District with a context for moving forward with future studies. The five intersections included in this effort were:

- SR 70 and SR 710
- US 441 / US 98 and SR 70
- SR 37 and SR 60
- SR 37 and SR 62
- SR 37 and SR 674

These five locations, along with intersections that were classified as either medium or low priority in sections 1 – 12 of this report, provides a viable pool of concrete candidates should the District pursue similar efforts in the future.