FLORIDA DEPARTMENT OF TRANSPORTATION




# Florida Department of Transportation District One

## RAIL TRAFFIC EVALUATION STUDY

Rail Relocation Options Technical Memorandum

**November 2009**

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**Florida Department of Transportation**
**District One**

# Rail Traffic Evaluation Study

## *Rail Relocation Options Technical Memorandum*

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# 1. Introduction

## 1.1 Document Purpose

The following technical memorandum examines rail relocation and reconfiguration options for the Florida Department of Transportation (FDOT) District One *Rail Traffic Evaluation* study. The purpose of this report is to:

- Establish the full range of freight rail relocation options, such as:
    - Underutilized or abandoned rail rights-of-way;
    - Shared right-of-way with utility corridors;
    - Shared or adjacent right-of-way to existing or planned roadways;
    - New corridors; and
    - Other Ideas.
- Identify the potential challenges and conceptual costs of each option.
- Identify the potential impacts of each option.
- Investigate strategies for minimizing the impacts of freight rail traffic through Polk County.

## 1.2 Study Overview

The purpose of the *FDOT District One Rail Traffic Evaluation* study is to identify potential projects, improvements or strategies to address community concerns related to rail services in Polk County. The study focuses on identification of opportunities in three key areas: 1) grade crossing evaluation; 2) freight service options; and 3) passenger alternatives.

The first analysis area will evaluate impact mitigation strategies. The study will identify the potential impacts related to increased freight rail operations within Polk County, focusing on safety; increased travel delay; and increased emergency service response time at highway rail grade crossings. Potential mitigation for any identified impacts will be investigated.

Under the second analysis area, which is the subject of this report, freight service options will be evaluated. The full range of potential routings within the study area for freight services will be explored.

The third analysis area will involve the exploration of the increasing mobility options for commuters and residents in Polk County. Rail solutions will be investigated. The evaluation will determine if a need exists for increased passenger rail service.

A significant stakeholder public outreach effort was conducted throughout the study process. This public engagement effort involved an on-going exchange of information between the project team and the public to appropriately identify solutions that are likely to carry public support.

## 1.3 Study Context

## 1.4 Study Context

The planning context in which a study is performed, in this case a study year of 2030, requires that a series of assumptions be agreed upon at the onset. The environment we plan in is ever changing and is in many cases influenced by other decisions and undertakings. For this reason, FDOT and the Study Team was charged with performing this technical analysis given a number of conditions and assumptions regarding other transportation initiatives being considered within the region as a whole.

Specific assumptions utilized by the study team for the technical analysis contained herein included:

- Construction and operation of the CSX Integrated Logistics Center (ILC) in Winter Haven;
- The shifting of freight traffic from CSX's "A" Line to the "S" Line as reported by CSX;
- The construction and operation of SunRail, formerly known as the Central Florida Commuter Rail Project; and
- Miscellaneous transportation improvements programmed in the Polk County TPO planning model.

The results of the technical analysis found in this report as well as the associated reports made part of this study represents the findings of the Study Team given the context described above and the technical assumptions described within each of the reports.

Another important consideration in this study is that the potential freight relocation and the implementation of passenger rail within the CSX right of way must consider the fact that CSX is not a public entity and that outcomes of this study are subject to reaching agreement with CSX, as with any private property owner. CSX has been an active stakeholder throughout the study and remains a cooperative partner. CSX has indicated that any freight rail relocation and/or a proposal to implement passenger rail within their right of way will result in many challenges and is subject to their corporate principals being maintained. These principals include:

- Ensuring safety;
- Maintaining and growing freight rail capacity;
- Addressing liability issues; and
- Providing for compensation.

# 2. Existing & Future Conditions

## 2.1 Existing Conditions

### 2.1.1 State Freight Rail Corridor Overview

Florida's transportation infrastructure corresponds to the state's peninsular geography. Major urban population centers are situated in a north to south pattern with Jacksonville to the north, the Orlando/Lakeland/Tampa corridor in the center, and Miami/Fort Lauderdale to the south. The rail lines that service these areas function as through routes between Jacksonville and points south while also linking the state to the national rail network. These railroad corridors have linked population centers throughout the state and beyond, facilitated development, and have functioned as an economic link through the export of commercial and agricultural goods.

An overview of CSX and the Florida Midland Railroad, the two active freight operators within Polk County, as well as their active railroad lines are presented in this section.

CSX is a Class I railroad operating on over 1,500 route miles in the State of Florida. CSX's Florida route miles represent an estimated 8 percent of the company's 23,000 national route miles. CSX, headquartered in Jacksonville, provides the state with its principal connections to the national rail network. CSX transports a number of commodities including minerals, coal, intermodal shipments and phosphates from Central Florida's Bone Valley. CSX also carries imported and domestic automobile to and from Florida with auto facilities located in Jacksonville, Tampa and Miami.[1] Two major north-south rail corridors, the CSX "A" and "S" Lines, depicted in Figure 2-1 and described in Sections 2.1.2 and 2.1.3, are located within the Central Florida region and extend through Polk County, which is the primary geographical focus of this report. Both lines are situated in the Jacksonville Division of CSX's Southern Region.

### 2.1.2 CSX "A" Line

The CSX "A" Line is a major north-south line, primarily located within the eastern portion of the state. This line spans approximately 200 miles from Callahan, north of Jacksonville to Tampa. The "A" Line, formerly known as the Atlantic Coast Line, travels through a number of cities including Jacksonville, Sanford, Orlando, and Kissimmee as well as Haines City and Auburndale within Polk County. The line extends from the northeast quadrant of Polk County in the vicinity of Loughman, Florida to the Polk County / Hillsborough County boundary. The "A" Line, consisting of approximately 33.3 miles of track within the project study area, generally traverses the county parallel to Interstate 4 (I-4). The line is predominantly single-track with sidings with the exception of a 4.2-mile double-track length between South Lakeland Milepost (MP) A851.8

[1] Florida Department of Transportation. *2006 Florida Freight and Passenger Rail Plan*. February 2007. p. 4-7.

and South Winston. Five (5) sidings along this route comprise approximately 3.8 miles of track within the county. The right-of-way width along the "A" Line corridor varies from 30 to 100 feet. The right-of-way width is typically between 50 and 60 feet along the majority of the corridor.

Portions of three subdivisions are located within the primary study area along the "A" Line. The Sanford Subdivision originates southwest of Jacksonville to Auburndale. The portion of this subdivision within Polk County begins in the vicinity of Loughman, FL (MP A821.2) and extends to the McDonald Connection at MP A840.9. The approximately 11-mile Carters Subdivision runs from the McDonald Connection, also known as Auburndale Junction, to Lakeland (MP A851.8). The length of track along this subdivision is single-track and contains one siding of approximately 4,929 feet. The Lakeland Subdivision extends west from South Lakeland at MP A851.8 through Winston to Mango, Florida (MP A873.7) in Hillsborough County, beyond the extent of the project study area.

The "A" Line within Polk County is all centralized traffic control (CTC) (CPS 261/ABS 261). The double track segment begins at South Lakeland (A 851.8) and ends at South Winston Wye (A 854.7). There is a 6,060 foot controlled siding extending from South Winston Wye (A 854.7) to A 856.2.. Generally, the speed limit for passenger trains is 79 miles per hour (mph) and 60 mph for freight trains, with some speed restrictions for municipal areas and track geometry. The authorized speed for both passenger and freight trains through downtown Lakeland on CSX's "A" Line is 45 mph. However, the track geometry of the connection track where CSX's track from Vitis/Stokes connects to the "A" Line physically restricts speeds over that connection to 25 mph. The 25 mph speed restriction applies to the entire train as long as any part of the train is moving on the connection.[2] The vertical clearances on this line accommodate 20 feet 2 inch high double-stack equipment.[3]

CSX provided the data of its operating schedule for all trains operating on the CSX "A" Line from Jacksonville to Tampa for the week of March 9, 2003 to March 15, 2003. One hundred ten trains utilized this corridor in the sample week or approximately fifteen to seventeen per day. Data received from CSX from the first nine months of 2008 is consistent with the 2003 data. Rail traffic on this corridor consists of AMTRAK passenger trains, bulk coal and rock trains, autorack and manifest trains.

[2] CSX Real Property Memo to Lakeland Task Force dated July 6, 2007.

[3] United States Department of Transportation Corridors of the Future Program Application. *The Southeast 1-95 Corridor*. Applied for by CSX Corporation. May 25, 2007. p. 30.

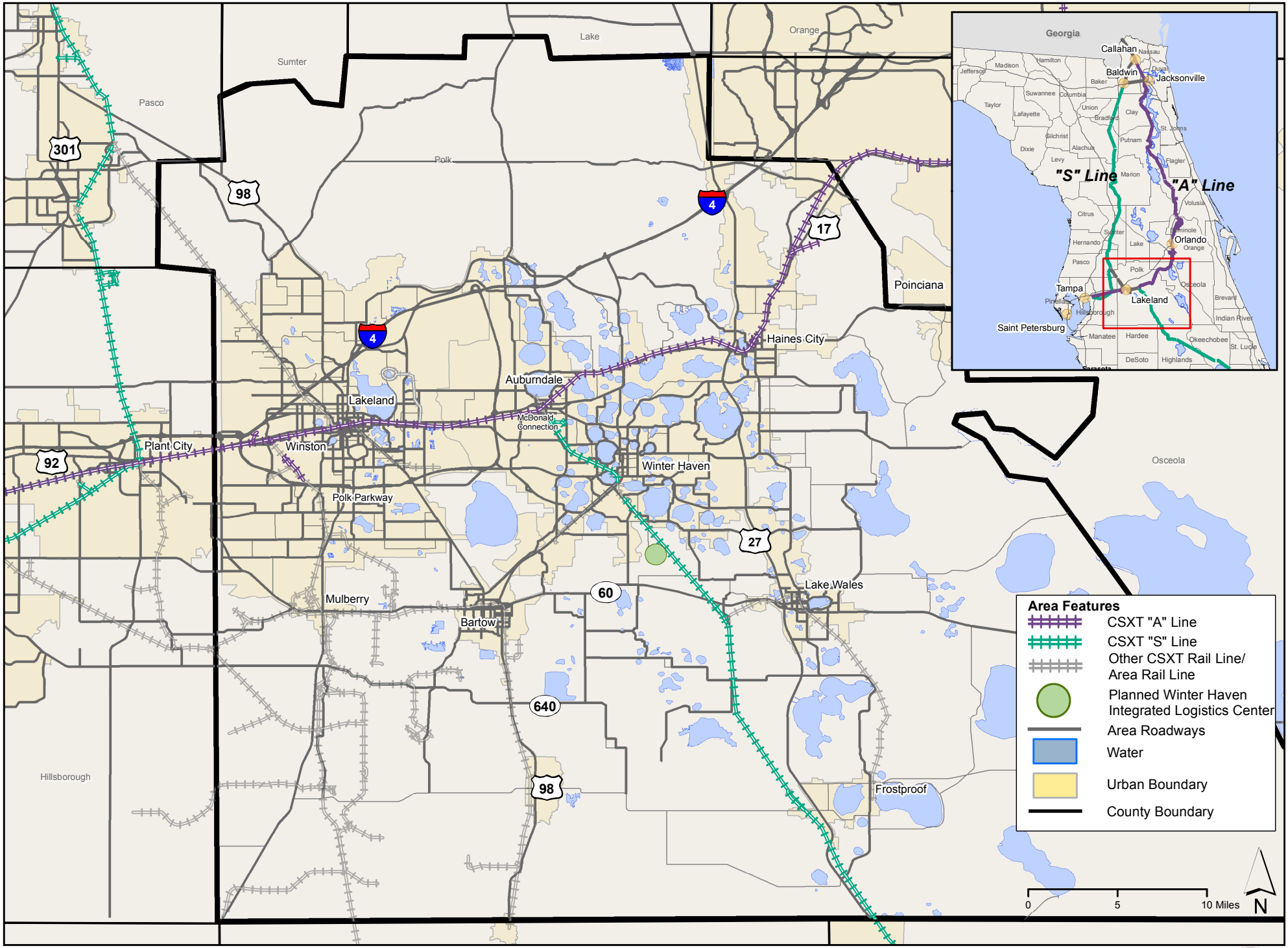


Figure 2-1:
CSX "A" and "S" Lines Location Map
FDOT District One
Rail Traffic Evaluation

Source: National Rail Network Bureau of Transportation Statistics, FDOT, Polk TPO; ESRI Data

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### 2.1.3 CSX "S" Line

The CSX "S" Line is located west of the CSX "A" Line, extending south from Callahan through the Central Florida region providing rail service to Tampa and Miami, respectively. This line, formerly known as the Seaboard Air Line, is utilized for freight rail service with a minimum of four AMTRAK passenger trains per day. Municipalities including Baldwin, Ocala, Wildwood, Zephyrhills, and Lakeland are situated along this alignment.

The "S" Line splits in the vicinity of Vitis, Florida extending south to Plant City and west to Tampa. The other segment, known as the Vitis Subdivision, runs approximately 19.2-miles from Vitis to Lakeland on a single-track section. There are two sidings along this subdivision. One approximately 1.8-mile siding is located at Vitis in Pasco County and another 2.1-mile siding at Stokes (MP AR846.6). The Vitis Subdivision intersects the "A" Line Lakeland Subdivision in the vicinity of MP AR856.5.[4] The "S" Line continues along the "A" Line to the McDonald Connection, where the "S" continues south into the Auburndale Subdivision. The "S" Line length of track from Auburndale to the southern extent of Polk County is approximately 35.2 miles. From the Polk County line, the "S" Line enters Highlands County continuing southeast towards West Palm Beach, a distance of approximately 140 miles, then on to Miami.

The right-of-way width along the entire "S" Line corridor varies from between 50 to 200 feet with the typical right-of-way width along the majority of the corridor between 100 and 200 feet. Freight train operating speeds are limited to 60 mph with speed restrictions for urban areas and track geometry. Like the "A" Line, this route can accommodate 20 feet 2 inch high double-stack equipment. The "S" Line is equipped with a traffic control system as well as automatic signals.

CSX provided the data of its operating schedule for all trains operating on the CSX "S" Line from Callahan to Lakeland for the week of March 9, 2003 to March 15, 2003. Two hundred sixty-six trains utilized this corridor in the sample week or approximately thirty-eight trains per day to various destinations throughout the corridor. The Baldwin to Vitis section of the corridor averages between 20 to 22 trains per day. Data received from CSX from the first nine months of 2008 is consistent with the 2003 data.

### 2.1.4 CSX Rail Lines

In addition to the "A" and "S" Lines, detailed above, CSX owns track comprised of several subdivisions located in the southwestern quadrant of Polk County. The Bone Valley Subdivision operates from Winston to south of Mulberry to the Hardee County Line and has historically served the area's industrial plants and phosphate mines. Additional lines include the Valrico and Plant City Subdivisions situated southwest and south of Plant City, respectively. The Plant City Subdivision extends approximately 11.1 miles between Plant City and Welcome Junction. The

[4] To simplify discussions for the public, CSX will sometimes refer to the S-Line route as being Jacksonville – Baldwin – Wildwood – Vitis – Lakeland – Auburndale – Winter Haven, even though the track between Lakeland and Auburndale is actually part of the A-Line.

Valrico Subdivision also extends to the east through Bartow and turns south toward the Hardee County line. This subdivision totals approximately 46.9 miles between Valrico and Bowling Green, Florida. These subdivisions experience a high degree of local freight switching due to phosphate-related industries.

### 2.1.5 Florida Midland Railroad

The Florida Midland Railroad (FMID) is a short-line railroad that was acquired from CSX in 1987. The FMID is a subsidiary of Pinsly Railroad Company which also operates two other short-line railroads in Florida, the Florida Central and Florida Northern Railroads. FMID operates on two separate branch lines that interchange with CSX alignments at West Lakes Wales and Winter Haven. FMID operates along approximately 16.5 miles of rail alignment between Frostproof and West Lake Wales where the route connects with the CSX "S" Line. There are two grade separations along this alignment located at SR 60 and US 27 in Lake Wales. An additional 4.8-mile segment of track is operated by the FMID between Winter Haven and Gordonville, approximately four miles north of the planned ILC site. FMID also has trackage rights over the approximately 10 miles of CSX rail line that connect the two branches.[5]

FMID serves approximately 25 customers between Winter Haven, Gordonville, Frostproof and Lake Wales. FMID trains haul a variety of commodities including food-related products, lumber, stone, building materials, citrus juice, and fertilizer.

## 2.2 Grade Crossings

Railroad lines within Polk County cross a variety of roadways including local streets, highways and interstates. Rural streets located beyond the urban boundary of county municipalities may only have crossbucks with little crossing protection. Grade crossing data was compiled from several sources including the U.S. Department of Transportation Crossing Inventory Database, U.S. Bureau of Transportation Statistics and FDOT. Refer to Table 2-1 for an inventory of grade crossings on the CSX "A" and "S" Lines in Polk County. This table details the type, position of crossing, municipality, and traffic control device information.

### 2.2.1 At-Grade Crossings

At-grade crossings often introduce a conflict point between rail and vehicular traffic since roadways intersect the rail alignment at the same level. Vehicular traffic is forced to stop since trains have the right-of-way, resulting in delay. This delay occurs because roadway crossings traverse the rail right-of-way which is considered the private property of the respective railroad owners. At-grade crossings are usually controlled by a variety of active warning devices

[5] Florida Department of Transportation. *2006 Florida Freight and Passenger Rail Plan*. February 2007. p. 4-11.

including warning lights and/or gates. These crossings consist of approximately five at-grade crossings on private roads and 57 public at-grade crossings.

### 2.2.2 Grade-Separated

Grade separations between roadways and railways eliminate the conflict between vehicular and rail traffic resulting in no delay. This type of separation also reduces the potential for incidents between vehicles and trains. Within Polk County, there are approximately six grade-separated crossings along the CSX "A" and "S" Lines. Grade-separated crossings along these rail lines within Polk County occur along several major roadways including along Interstate 4 and US 92 (see Table 2-1).

## 2.3 Future Conditions

In the future, rail conditions in Polk County are anticipated to be impacted by a number of planned changes including a proposal to shift some freight rail traffic off of the CSX "A" Line to the CSX "S" Line and the development of the planned Integrated Logistics Center (ILC) in Winter Haven.

### 2.3.1 Diversion of Freight Rail Traffic to CSX "S" Line

According to CSX, the transfer of freight rail traffic to the "S" Line is anticipated to cause an average increase in the Lakeland area of approximately 4 trains per day over a 24-hour period comprised of two automobile trains serving the planned ILC and two coal trains providing service to Orlando Utilities.[6] The two automobile trains would be a direct result of building the ILC in Winter Haven and the two coal trains would be shifted off of the "A" Line to the "S" Line as part of a train traffic realignment. The increase of four trains in addition to the existing average train count movement through Lakeland of 16 trains would total approximately 20 trains per 24-hour period. By 2030, it is estimated that freight rail traffic could increase to as many as 27 trains daily through Lakeland. An additional four trains bound for Tampa would be re-routed from the "A" Line to the "S" Line. These trains would bypass downtown Lakeland as the existing "S" Line route to Tampa is situated to the west of the municipality. Refer to Figure 5-1 for a depiction of "S" Line freight rail routing to the Winter Haven ILC site. This diversion is based on a strategic operational decision by CSX to transfer freight rail traffic and is not a result of the SunRail project.

Upgrades to existing "S" Line track, new sidings, and grade crossing improvements are anticipated to accommodate this shift. In order to increase track capacity, CSX would utilize long, passing sidings that allow trains to operate more efficiently through optimum meets and passes. Two of these sidings are being planned for the Lakeland area. These improvements could be eliminated or delayed depending on the outcome of the SunRail project.

[6] CSX Real Property Memo to Lakeland Task Force dated July 6, 2007.

**Table 2-1. CSX "A" and "S" Line Grade Crossings within Polk County**

| Crossing No. | Rail Line | US DOT No. | Rail Mile Post (MP) No. | Location/Crossing Street | Type and Position | Municipality | Traffic Control Device Information | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Signs | No. Gates | No. Bells | Type of Lights |
| 187 | AR | 622855S | 849.64 | 1st Street NW | Public At Grade | Lakeland | Advanced Warning | 2 | 2 | Mast Mounted |
| 188 | AR | 622856Y | 849.92 | Oak Ave NW | Public At Grade | Lakeland | Advanced Warning | 2 | 2 | Mast Mounted |
| 189 | AR | 622857F | 850.46 | Deeson Rd | Public At Grade | Lakeland | Advanced Warning | 2 | 2 | Mast Mounted |
| 190 | AR | 622858M | 850.46 | Unnamed Road Crossing | Private At Grade | Lakeland | - | - | - | - |
| 191 | AR | 622859U | 850.78 | Pvt. Tony Elrod Ave | Private At Grade | Lakeland | - | - | - | - |
| 192 | AR | 622860N | 851.17 | Youngs Ridge Rd | Public At Grade | Lakeland | Advanced Warning | 2 | 2 | Mast Mounted |
| 193 | AR | 622861V | 851.48 | Strickland Rd | Public At Grade | Lakeland | Advanced Warning | 2 | 3 | Mast Mounted |
| 194 | AR | 622862C | 851.59 | Private Road | Private At Grade | Lakeland | - | - | - | - |
| 195 | AR | 622863J | 851.92 | Galloway Rd | Public At Grade | Lakeland | Advanced Warning | 2 | 2 | Mast Mounted |
| 196 | AR | 622864R | 852.28 | Sleepy Hill Rd | Public At Grade | Lakeland | Advanced Warning | 2 | 2 | Mast Mounted |
| 197 | AR | 622866E | 853.16 | Knights Station/Griffin Rd | Public At Grade | Lakeland | Advanced Warning | 2 | 2 | Mast Mounted and Cantilevered |
| 198 | AR | 622867L | 853.95 | I-4/SR 400 | Public Grade Separated | Lakeland | - | - | - | - |
| 199 | AR | 927709G | 854.29 | Fairbanks St | Public At Grade | Lakeland | Advanced Warning | 2 | - | Mast Mounted |
| 200 | AR | 624286V | 854.76 | 10th St | Public At Grade | Lakeland | Advanced Warning | 2 | 2 | Cantilevered |
| 201 | AR | 624288J | 855.55 | US 92 Memorial Blvd. | Public Grade Separated | Lakeland | - | - | - | - |
| 202 | A | 624290K | 851.1 | SR 563 Sikes Road | Public Grade Separated | Lakeland | - | - | - | - |
| 203 | A | 624289R | 851.01 | New York Avenue S | Public At Grade | Lakeland | Advanced Warning | 2 | 1 | Mast Mounted |
| 204 | A | 624164R | 850.95 | Missouri Ave N | Public At Grade | Lakeland | Advanced Warning | 2 | 1 | Mast Mounted |
| 205 | A | 624163J | 850.89 | SR 35 North Florida Ave | Public At Grade | Lakeland | Advanced Warning | 2 | 2 | Mast Mounted and Cantilevered |
| 206 | A | 624162C | 850.83 | Tennessee Avenue | Public At Grade | Lakeland | - | 2 | 1 | Mast Mounted |
| 207 | A | 624161V | 850.77 | Kentucky Avenue | Public At Grade | Lakeland | Advanced Warning | 2 | 2 | Mast Mounted |
| 208 | A | 624160N | 850.7 | Massachusetts Avenue | Public At Grade | Lakeland | Advanced Warning | 2 | 2 | Mast Mounted and Cantilevered |
| 209 | A | | | SR 700 Bartow Road | | | | | | |
| 210 | A | 624158M | 850.15 | Ingraham Avenue | Public At Grade | Lakeland | Advanced Warning | 2 | 2 | Mast Mounted and Cantilevered |
| 211 | A | 624157F | 849.9 | US 98 Lake Parker Ave | Public Grade Separated | Lakeland | - | - | - | - |
| 212 | A | 624156Y | 849.79 | Gary Road | Public Railroad Over | Lakeland | - | - | - | - |
| 213 | A | 624155S | 849.39 | Interlachen Pkway | Public At Grade | Lakeland | Advanced Warning | 2 | 1 | Mast Mounted |
| 214 | A | 624154K | 848.75 | Canal Ave | Public At Grade | Lakeland | Advanced Warning | 2 | 1 | Mast Mounted |
| 215 | A | 624153D | 848.38 | Fairway Ave | Public At Grade | Lakeland | - | 2 | 2 | Mast Mounted and Cantilevered |
| 216 | A | 624152W | 848.02 | N. Eastside Drive | Public At Grade | Lakeland | Advanced Warning | 2 | 2 | Mast Mounted |
| 217 | A | 624151P | 847.88 | Combee Road | Public At Grade | Lakeland | Advanced Warning | 2 | 1 | Mast Mounted and Cantilevered |
| 218 | A | 624150H | 847.13 | Fish Hatchery Road | Public At Grade | Lakeland | Advanced Warning | 2 | 2 | Mast Mounted and Cantilevered |
| 219 | A | 624149N | 846.88 | Reynolds Road | Public At Grade | Lakeland | Advanced Warning and Crossbucks | 2 | 2 | Mast Mounted |
| 220 | A | 623085B | 844.84 | Old Dixie Highway | Public At Grade | Lakeland | Advanced Warning | 2 | 2 | Mast Mounted |
| 221 | A | 623084U | 844.15 | Payne Street | Public At Grade | Auburndale | Advanced Warning | 2 | 1 | Mast Mounted |
| 222 | A | | | SR 570 Polk Parkway | | | | | | |
| 223 | A | 623083M | 842.31 | Neptune Road | Private At Grade | Auburndale | - | - | - | - |
| 224 | A | 623082F | 842.05 | Recker Highway | Public At Grade | Auburndale | Advanced Warning | 2 | 2 | Mast Mounted and Cantilevered |
| 325 | A | 623076C | 840.97 | McKean Street | Public At Grade | Auburndale | - | 2 | 2 | Mast Mounted and Cantilevered |
| 326 | SX | 623081Y | 820.56 | McKean Street (North Crossing) | Public At Grade | Auburndale | Advanced Warning | 2 | 2 | Mast Mounted |
| 327 | SX | 625391A | 820.85 | West Derby Avenue | Public At Grade | Auburndale | Advanced Warning | 2 | 2 | Mast Mounted and Other |
| 328 | SX | 625395C | 822.89 | SR 542 Avenue G Northwest | Public At Grade | Auburndale | Advanced Warning | 2 | 3 | Mast Mounted and Cantilevered |
| 329 | SX | 625396J | 822.96 | Spirit Lake Road | Public At Grade | Winter Haven | Advanced Warning | 2 | 2 | Mast Mounted and Cantilevered |
| 330 | SX | 625397R | 824.26 | Coleman Road | Public At Grade | Winter Haven | Advanced Warning | 2 | 2 | Mast Mounted |
| 331 | SX | 625398X | 824.52 | 24th Street | Public At Grade | Winter Haven | Advanced Warning | 2 | 2 | Mast Mounted |
| 332 | SX | 625399E | 824.8 | 21st Street | Public At Grade | Winter Haven | - | 2 | 2 | Mast Mounted and Cantilevered |
| 333 | SX | 625400W | 825.37 | 15th Street | Public At Grade | Winter Haven | Advanced Warning | 2 | 2 | Mast Mounted |
| 334 | SX | 625401D | 825.52 | Lake Shipp Drive | Public At Grade | Winter Haven | Crossbucks | 2 | 2 | Mast Mounted and Cantilevered |
| 335 | SX | 625402K | 825.83 | Orrin Ave | Public At Grade | Winter Haven | Crossbucks | - | - | - |
| 336 | SX | 625403S | 826.01 | Private Central Fla Gas Drive | Private At Grade | Winter Haven | Crossbucks | 2 | 2 | Mast Mounted |
| 337 | SX | 625404Y | 826.04 | 7th Street | Public At Grade | Winter Haven | Advanced Warning | 2 | 1 | Mast Mounted and Cantilevered |
| 338 | SX | 625405F | 826.06 | Avenue R Southwest | Public At Grade | Winter Haven | - | 1 | 2 | Mast Mounted |
| 339 | SX | - | 826.31 | Private Road | | | | | | |
| 340 | SX | 625406M | 826.47 | US 17 SR 555 3rd Street | Public Grade Separated | Winter Haven | - | - | - | - |
| 341 | SX | 625409H | 827.25 | American Superior Blvd | Public At Grade | Winter Haven | - | 2 | 2 | Mast Mounted |
| 342 | SX | 625410C | 827.43 | Croton Road | Public At Grade | Winter Haven | Advanced Warning and Crossbucks | 2 | 2 | Mast Mounted and Cantilevered |
| 344 | SX | 625413X | 828.36 | CR 540A Eloise Loop Road | Public At Grade | Winter Haven | Advanced Warning | 2 | 1 | Mast Mounted |
| 345 | SX | 625414E | 828.47 | Macon Road | Public At Grade | Winter Haven | Advanced Warning | 2 | 2 | Mast Mounted |
| 346 | SX | 625415L | 828.98 | Eagle Lake Loop Road | Public At Grade | Winter Haven | Advanced Warning | 2 | 2 | Mast Mounted |
| 347 | SX | 625417A | 829.27 | Pollard Road | Public At Grade | Winter Haven | Advanced Warning | 2 | 2 | Mast Mounted |
| 348 | SX | 625418G | 832.76 | Old Bartow Road | Public At Grade | Lake Wales | Advanced Warning | 2 | 2 | Mast Mounted |
| 349 | SX | 625419N | 834.53 | SR 60 | Public At Grade | Lake Wales | Advanced Warning | 2 | 2 | Mast Mounted and Cantilevered |
| 350 | SX | 625420H | 835.45 | Old Ice House Road | Public At Grade | Lake Wales | Crossbucks | - | - | - |
| 351 | SX | 625421P | 836.09 | Lake Wales Alturas Road | Public At Grade | Lake Wales | | | | |
| 352 | SX | 627558R | 839.22 | Babson Cutoff Road | Public At Grade | Lake Wales | Advanced Warning and Crossbucks | 2 | 1 | Mast Mounted |
| 353 | A | 624304R | 857.03 | County Line Road | Public At Grade | Winston | Advanced Warning and Crossbucks | 2 | 2 | Mast Mounted and Cantilevered |
| 354 | A | - | - | SR 570 Polk Parkway | - | - | - | - | - | - |
| 356 | A | 624303J | 856.01 | Clark Road | Public At Grade | Lakeland | Advanced Warning | 2 | 2 | Mast Mounted and Cantilevered |
| 357 | A | 624302C | 855.1 | Browning Road | Public At Grade | Lakeland | Advanced Warning | 2 | 2 | Mast Mounted |
| 358 | A | 624300N | 854.76 | SR 572 Airport Road | Public At Grade | Lakeland | Advanced Warning | 2 | 2 | Mast Mounted |
| 359 | A | 624299W | 854.47 | Gay Road | Public At Grade | Lakeland | Advanced Warning | 2 | 2 | Mast Mounted |
| 360 | A | 624298P | 852.96 | Wabash Road | Public At Grade | Lakeland | Advanced Warning | 2 | 2 | Mast Mounted and Cantilevered |

*Source: U.S. Department of Transportation Crossing Inventory Database*

### 2.3.2 Winter Haven Integrated Logistics Center

The planned ILC will be constructed on land situated immediately adjacent and south of the Winter Haven wastewater treatment plant on Pollard Road and west of the CSX mainline track. Phase I is 318 acres and Phase II is 930 acres for a total build out of approximately 1250 acres. Future development adjacent to the ILC site consisting of warehouse and distribution facilities is anticipated to occur as a result of the construction of the ILC. The planned ILC site is situated near several important roadways including SR 60, an east-west arterial, and US 27 and Interstate 4. The site also contains approximately 12,000 feet of frontage along CSX track. Access to this site would be provided from the southern portion of the site via a proposed public roadway extending from SR 60 across Old Bartow Lake Wales Road to the site. This planned roadway has been formally identified in the *Polk County Transportation Improvement Plan* as the Pollard Road Extension.

The facility is anticipated to provide CSX with more efficient distribution capability for international and domestic trade moving from other parts of the country as well as domestic trade into and out of the Central Florida region. The facility would be designed to accommodate trains up to 10,000 feet. The Development of Regional Impact (DRI) was approved for Phase I of this project.

# 3. Policy Initiatives

The policy initiatives referenced in Section 3.1 describe a number of topics including future rail improvements and the relationship between freight rail capacity and regional economic stability and growth.

## 3.1 2006 Florida Freight and Passenger Rail Plan, February 2007

The *2006 Florida Freight and Passenger Rail Plan*, mandated by § 341.302 of the Florida Statutes, functions as the rail element of the *Florida Transportation Plan*, which is, in turn, the transportation component of the *State Comprehensive Plan*. The purpose of this document is to provide the necessary information in a policy framework through which strategic actions can be taken to achieve the best rail system for Florida's future. The plan presents an overview of the current freight and passenger rail system, examines drivers of future rail demand, and a freight rail needs assessment.[7]

A freight rail needs assessment was also conducted as part of the *2006 Florida Freight and Passenger Rail Plan* in order to gain an understanding of necessary and desired freight rail improvements throughout the state's freight rail system. The statewide freight rail needs assessment identified short- and long-term capital improvement projects as well as other

[7] Florida Department of Transportation. *2006 Florida Freight and Passenger Rail Plan*. February 2007. p. 1-2.

initiatives. The total cost of the projects was estimated at approximately $732 million in addition to $427 million in CSX capacity expansion projects. Therefore, the total freight rail needs in Florida were estimated at approximately $1.16 billion.[8]

## 3.2 2009 Florida Rail System Plan

The *Florida Rail System Plan*, required by §341.302 of the Florida Statutes, is developed based on statewide needs and consistent with the *Florida Transportation Plan*. The plan identifies capital improvements and priorities for funding needed to ensure the efficient movement of people and goods by rail. The *2009 Florida Rail System Plan* is being developed in two parts: 1) a Policy Element that defines the overall policy direction for state involvement in the rail system and 2) an Investment Element that defines statewide rail needs and, by using the Policy Element, determines how taxpayer funds will be applied to those needs. The Policy Element, developed based on recommendations of a 30-member Rail Stakeholder Advisory Committee, was adopted by the Department in March, 2009. The Investment Element is scheduled to be completed by late summer, 2009.

## 3.3 Tampa Port Authority 2007 Master Plan, February 2007

The Tampa Port Authority's (TPA) *Master Plan*, issued in February 2007, identified recommended improvements that would be needed to be employed in order to fulfill its ongoing mission to develop and manage marine terminals and supporting infrastructure for the benefit of the regional economy. The TPA's *Master Plan* defines the types of investments in current and future marine terminals and related infrastructure required to fulfill the TPA's *Strategic Plan*.[9]

The recommended policies detailed in the *Master Plan* involve land use and development, navigation access, economic development, environmental management, and safety and security. The land side transportation policy area is specific to rail and freight corridors on a regional level. The recommended land side transportation objective involves working on the municipal, county and state level to preserve, expand and enhance road and rail freight transportation access between the Port and West Central Florida. The components to achieve this objective are summarized below: [10]

- Collaborate with the City, County and local Metropolitan Planning Organizations to incorporate the TPA's *Master Plan* into the local, regional and state transportation improvement programs.
- Collaborate with the City, County, Port Community, CSX Corporation and State to identify, designate, preserve and protect road and freight corridors for connecting the Port and the West Central Florida Region.

[8] Ibid, p. 6-1.

[9] Northbridge. *Tampa Port Authority 2007 Master Plan.* February 18, 2007. pp. 8 and 30.
[10] Ibid, p. 34.

- Work with the City, County, and State to secure state and federal funding for all qualified freight-related road and rail access modernization, improvement and expansion projects.
- Work with the Port Community to identify and implement practical expansions of marine terminal operating hours in order to balance the effect of port-related freight operations on the region's railroads and highways.

## 3.4 Tampa Port Authority 2007 Strategic Plan, February 2008

This document outlines internal factors including management changes and new lease agreements and external events such as sustained growth in world waterborne commerce and a decline in phosphate-based fertilizer exports since the *Strategic Plan* was last updated in 2002. These events have caused opportunities and challenges for the TPA's growth and development including a relatively strong, long-term, local and regional economy, the emergence of container line of business, continued strong demand for energy and construction related products, and uncertainty for the phosphate trade. Short-term economic challenges include inflated energy costs, the weaken dollar and credit challenges.[11] These factors also initiated an update of the TPA's *Master Plan*, described in Section 3.3. Collectively, these policy documents provide a long-term framework for the growth of port commerce, capital investment, and the long-term economic growth of the region. The *Strategic Plan* is specific to the long-term direction of the TPA with a focus on major port businesses.

The *Strategic Plan* also provides a market assessment and forecasts of the TPA's major lines of business comprised of cruise and cargo activities. The assessment conducted as part of the *Strategic Plan* determining projected growth under low and high market growth forecasts. Projected volumes for the four predominant types of cargo accommodated by the Port including liquid bulk, dry bulk container, and general cargo are as follows: [12]

- Total liquid bulk cargo is estimated to increase from a 2007 volume of 9.7 million tons to between 11.4 million tons (low forecast) and 12.8 million tons (high forecast) in 2027. These projections represent compound annual growth rates of 0.8 percent and 1.4 percent, respectively.
- Dry bulk cargo is projected to increase from an existing 4.6 million tons to 10.0 million tons under the low forecast and 15.2 million tons under the high forecast. These forecasts represent compound annual rates of growth of 3.8 percent and 6.0 percent.
- Container traffic at the Port is projected to increase from 39,435 twenty-foot equivalent units (TEUs) in 2007 to between 566,000 TEUs and 718,000 TEUS in 2027, representing compound annual rates of growth of 14.3 percent and 15.6 percent, respectively.
- TPA's general cargo traffic volume is projected to increase 41 percent under a low forecast and 101 percent under a high forecast over the 2007 level.

The TPA's total cargo business is anticipated to experience moderate growth over a 20 year period. Total cargo business is projected to range from 27.9 million tons under the low forecast

[11] Northbridge. *Tampa Port Authority 2007 Strategic Plan.* February 18 ,2008. p. 8.
[12] Ibid, pp. 12-13.

scenario to 37.9 million tons under the high forecast scenario in 2027. These projections represent respective increases of 79 percent and 143 percent over the 2007 total volume of 15.6 million tons. The Port's revenue cruise passengers are projected to increase to 1.2 million in 2027 representing an average annual growth rate of 2.2 percent.

Additionally, the Panama Canal expansion project to construct a second set of locks to accommodate the demands of larger vessels will have a significant impact on both future port infrastructure and projected cargo volumes associated with larger shipping vessels. This project will increase the maximum size vessel that can fit through the canal also referred to as the Panamax size limit classification. The new Panamax size limit will be approximately 1,200 feet long, 160 feet wide with a 50-foot draft. As a result of this expansion project, large vessel traffic and the physical size of container vessels accommodated at TPA facilities is anticipated to increase resulting in Port channel dredging projects. While the Panama Canal expansion project was considered as part of this report for the purpose of long-term freight planning, no dramatic change to freight rail traffic in terms of growth is anticipated as a result of this project.

The Port of Tampa located on Tampa Bay within the City of Tampa in Hillsborough County serves both international trade originating from Mexico, Central America, portions of South America and Europe as well as domestic trade. The Port is also well-positioned to participate in all water Asia trade lanes due to its proximity to the Panama Canal. With respect to freight rail service, the Port is served by CSX, which has access to major Port cargo facilities at Hooker's Point, Port Ybor, Port Sutton and Pendola Point.[13] Freight rail transport has primarily served the Port of Tampa's outgoing phosphate trade. However, other cargo, such as liquid and dry bulk is typically transported via truck instead of rail due to the short distances and interstate network serving the Port and Central Florida.

The TPA's *Strategic Plan* details two potential container business opportunities created by the development of the planned ILC in Winter Haven. The Port could potentially attract additional Asia container services if major distribution centers are constructed near the ILC. If future facilities developed proximate to the ILC including retailers that import goods from Asia, it would likely support additional container services to the Port. Additionally, a number of distribution and warehousing centers are being developed in Polk County which could also account for additional container traffic through the Port. Another opportunity would be to develop intermodal rail business based on backhaul pricing by CSX via the planned ILC in Winter Haven.[14] For the purposes of this study, the TPA's *Strategic Plan* was considered for the purpose of long-term freight growth planning since rail access routes to the Port also run through Polk County.

This document consists of five elements that address the TPA's strategic issues. Specific landside transportation and freight movement issues are covered under the plan's *Regional Freight Transportation System Strategy*. The predominant issue under this strategy is the ability of the regional transportation network to support the Port's future growth. Recommendations to address this issue include the formation of a *Regional Freight Transportation Task Force*, implementing a regional freight transportation plan, implementing transportation projects

[13] Ibid, pp. 10-11.
[14] Ibid, pp. 11-12.

necessary to sustain landside access to the Port and to work with CSX to identify opportunities to significantly increase the use of rail wherever practical.[15]

## 3.5 Manatee County Port Authority, Port Manatee Master Planning Concepts, February 2008

This presentation, dated February 21, 2008, outlines the strategic vision for Port Manatee. This 1,100-acre, deep-water seaport is located in Palmetto, Florida at the entrance to Tampa Bay. The Port processed 9.4 tons of cargo in 2005 and this figure is projected to increase to 12.7 million tons in 2010.[16] By 2030, Port Manatee is projected to accommodate approximately 20 million tons of cargo.[17] In addition, the facility contains 8 miles of port-owned railroad track. This port is situated to serve the Central Florida region as it is closer to 25 counties than several other major Florida ports including the Ports of Miami and Jacksonville, and Port Everglades.

This presentation describes Port Manatee's future growth in the context of regional freight movements related to the planned ILC and global trade resulting from increased exports originating from Asia, and the impact of the Panama Canal widening program. As such, the Port Manatee *Master Planning Concepts*, like the TPA's *Strategic Plan* outlined in Section 3.4, was considered as part of this study for the purpose of long-term freight growth planning. This plan also notes the importance of integrating transportation systems to enhance freight mobility within Florida.

[15] Ibid, p. 18.

[16] Florida Seaport Transportation and Economic Development Council. *A Five Year Plan to Achieve the Mission of Florida's Seaports 2006/2007 – 2010/2011*. March 2007. http://www.flaports.org/archive/2007_Section_12.pdf pp. D-12-13.

[17] Manatee County Port Authority. *Master Planning Concepts*. February 21, 2008.

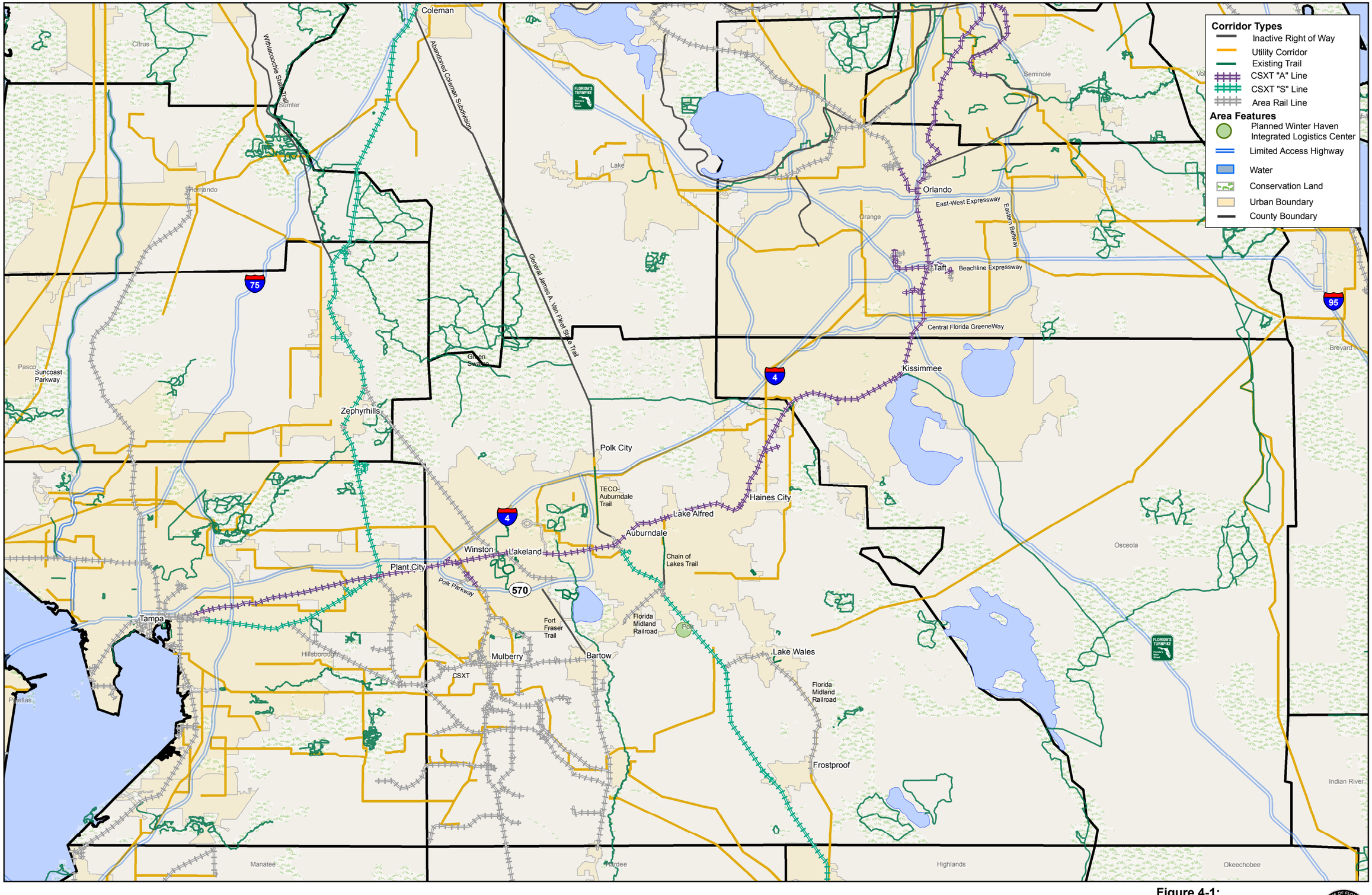
# 4. Freight Rail Corridor Types

The following section provides an inventory of several different corridor types within Polk County that have been considered to potentially facilitate freight rail relocation within the region. Corridors include active, abandoned and underutilized rail rights-of-way, existing utility rights-of-way and existing and planned roadway rights-of-way. Figure 4-1 provides an overview of the project study area depicting active and inactive rail lines, major roadways in addition utility and trail corridors. Additionally, a brief description of operational changes that could minimize the impact of freight rail traffic throughout Polk County is presented below.

## 4.1 Active Rail Rights-of-Way.

### 4.1.1 CSX Rail Lines

CSX operates the "A" and "S" Lines as described in Sections 2.1.2 and 2.1.3 of this document. In addition, CSX also owns track comprised of several subdivisions located in the southwestern quadrant of Polk County. These include the Valrico and Plant City Subdivisions situated southwest and south of Plant City, respectively. The Bone Valley Subdivision, also CSX-owned, extends from Winston to south of Mulberry to the Hardee County Line and has historically served the area's phosphate mines. The Valrico Subdivision also extends to the east through Bartow and turns south toward the Hardee County line. Refer to Section 2.1.4 for further detail.




Source: FDOT; FGDL; FDEP; Polk TPO; ESRI Data

**Figure 4-1:**
**Regional Corridors Map**
**FDOT District One**
**Rail Traffic Evaluation**

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### 4.1.2 Florida Midland Railroad Lines

The Florida Midland Railroad operates two disconnected alignments; one running from Winter Haven and Gordonville and the other operating between Frostproof and West Lake Wales. Refer to Section 2.1.5 for further detail.

## 4.2 Inactive & Abandoned Rail Rights-of-Way

A number of inactive rail corridors are situated within Polk County including abandoned rights-of-way as well as former rights-of-way that have been converted to other uses such as recreational multi-use trails. Data pertaining to such corridors was obtained from the United States Department of Transportation's Bureau of Transportation Statistics Rail Network file and are described as follows:

### 4.2.1 Coleman Subdivision

The Coleman Subdivision is an inactive CSX right-of-way extending approximately 54.9 miles from Coleman, Florida in Sumter County to Auburndale in Polk County. Coleman is a small, predominantly rural community that is segmented by CSX's "S" Line and proximate to both US Highway 301 and CR 468. The subdivision, which was abandoned by CSX on June 11, 1988, originates to the south of West Warm Springs Avenue and branches off to the east of the "S" Line. The alignment crosses US Highway 301 and runs through forest and undeveloped lands in a south-southeast direction toward Mabel, Florida. This former subdivision is also comprised of two rail-trails, the General James A. Van Fleet State Trail and TECO-Auburndale Trail (see Section 4.2.2).

### 4.2.2 Existing Trails

GIS data obtained from the Florida Department of Environmental Protection's (FDEP) Office of Greenways and Trails and the Polk Transportation Planning Organization (Polk TPO), were reviewed to identify existing or planned trails within Polk County (refer to Figure 4-2). Polk County contains over 20 existing trails cumulatively totaling approximately 125 miles. For the purposes of this study, trail corridors which were previously utilized as active rail lines were of particular interest in terms of the potential connectivity these corridors provided to existing and/or future rail corridors.

**General James A. Van Fleet State Trail (Map No. 6)**

This approximately 29.2-mile rail-trail is part of the former Coleman Subdivision described above. This land was acquired by the Board of Trustees of the Internal Improvement Trust Fund (ITTF) of the State of Florida and leased this property to the Department of Natural Resources, Division of Recreation and Parks in March 1991. The Van Fleet right-of-way has a typical width of 100 feet but varies in width to 200 feet. This trail has been operated by the FDEP, Office of Greenways and Trails since 1999. The trail, officially designated as part of Florida's Statewide System of Greenways and Trails, starts in Mabel to the north and terminates in Polk City to the

south. Four trailheads situated along various points provide access to the trail. This rural trail runs through the Green Swamp which features natural environments including former citrus lands and cattle ranches. This multi-use trail is open from 8:00 a.m. to sunset, and includes passive recreation such as walking, and active recreational opportunities like biking, horseback riding and in-line skating. The trail terminates at the Polk City trailhead at the intersection with CR 665.

**TECO-Auburndale Trail (Map No. 42)**

This 12-foot wide, multi-use trail is located approximately one mile south of the Van Fleet State Trail's Polk City trailhead. The rail-trail runs immediately to the west of Berkley Road and extends approximately 5.59 miles north from Denton Avenue to Post Road in Auburndale. This trail also runs along what was once the Coleman Subdivision. Typical trail right-of-way width is 100 feet with variations up to 300 feet. In addition, the City of Auburndale secured a 30-year lease agreement with the Tampa Electric Company (TECO) for permission to utilize a segment of their utility corridor.[18] Polk City has applied for funding the proposed Van Fleet Extension which would connect the TECO-Auburndale Trail with the General James A. Van Fleet State Trail.

**Chain of Lakes Trail (Map No. 12)**

This approximately 3.7-mile multi-use trail extends from downtown Winter Haven north to US 17/92 in Lake Alfred. This 12-foot wide paved trail provides views of several area lakes and is situated near downtown Winter Haven. The right-of-way width of this trail is generally 100 feet with variations of up to 150 to 200 feet in some places. Future plans include a 1.0-mile expansion of the trail from its northern terminus to Haines Boulevard. Data indicates that right-of-way is available as part of the US 17/92 roadway widening project.

**Fort Fraser Trail (Map No. 32)**

This trail, a former CSX abandoned rail bed extends approximately 7.8 miles between Winter Lake Road (SR 540) north of the Polk Community College (PCC) campus in Lakeland to south of Van Fleet Drive (SR 60A) in Bartow. This paved 12-foot wide trail runs parallel to US 98 for its length. The Fort Fraser Trail right-of-way is generally 100 feet wide with some variation. Trail amenities include picnic facilities, benches, a restroom and park and ride lot. Trailheads providing access to the Fort Fraser Trail are located at the PCC and Highland City north of SR 60. Another trailhead, the Wilson Avenue Trailhead, is located just north of Van Fleet Drive. The trail deviates from the linear path of the rail line, utilizing a majority of the width of the corridor in parts which is a unique design feature not commonly found among rail-trails.

**Lake Wales Trailway (Map No. 17)**

The Lake Wales Trailway extends approximately 1.74 miles from Kiwanis to 4th Street in Lake Wales. This paved multi-use trail is utilized for passive and active recreation including walking and skating. The trail is part of the former Seaboard Air Line rail bed that was laid in 1916.[19] A proposed extension of this route to Buck Moore Road (CR17B) would add an additional 0.53 miles of trail.

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[18] West Central Florida MPO Chair Coordinating Committee. *Regional Multi-Use Trail Element.* December 14, 2007. p. 10.

[19] City of Lake Wales Parks and Recreation. *Lake Wales Trailway*. http://www.cityoflakewales.com/parks/trailway.shtml.

1. Green Swamp Bicycle Trails
2. Floridal National Scenic Trail
3. Green Swamp Weekend Loop
4. Withlacoochee Connector
5. Florida Trail
6. General James A. Van Fleet State Trail
7. Swamp to Ridge Trail
8. Green Swamp Trail
9. Florida Trail Connector
10. Lake Alfred to Polk City Connector
11. Lake Alfred-Haines City Trail
12. Chain of Lakes Trail
13. Lake of the Hills-Dundee Trail
14. Ridge Scenic Highway
15 Pine Ridge Trail
16. Third Street Trail
17. Lake Wales Trailway
18. Catfish Creek Preserve Hiking Trail
19. Buster Island Loop Trail
20. Kissimmee River Trail
21. Florida National Scenic Trail
22. Lake Arbuckle Trail
23. Arbuckle Tract Trail
24. Highlands County Connector
25. Tiger Creek to Scenic Highway Trail
26. Windy Hill Trail
27. Saddle Blanket Lake Preserve Loop Trail
28. Bartow-Lake Wales Trail
29. Peace River State Canoe Trail
30. Bartow-Eagle Lake Trail
31. Cypress Trail
32. Fort Fraser Trail
33. Carter Park Mountain Bike Trail
34. Alafia River Preserve
35. Lakeland to Plant City Connector
36. Lake Hollingsworth Trail
37. Fort Fraser Trail Extension
38. Fort Fraser-Lake Parker Extension
39. Tenoroc Trail
40. Gator Creek Preserve
41. Williams Trail
42. TECO-Auburndale Trail
43. TECO-Auburndale Trail Extension
44. Van Fleet Trail Extension
45. Fort Fraser Trail Extension
(Mary Holland Park to SR 60A)

Polk
Green Swamp
Polk City
Gator Creek Preserve
Davenport
Haines City
Lake Marion Creek Preserve
Lake Alfred
Auburndale
Lakeland
Winter Haven
Lake Hamilton
Disney Wilderness Preserve
Dundee
Polk Parkway
Eagle Lake
Lake Wales
Mulberry
Bartow
Highland Park
Hillcrest Heights
Tiger Creek Preserve
Sumica Preserve
Lake Wales Ridge State Forest
Peace River Park
Fort Meade
Frostproof

**Corridor Type**
- Existing Trail
- Proposed Trail

**Area Features**
- CSXT "A" Line
- CSXT "S" Line
- Area Rail Line
- Area Roadway
- Planned Winter Haven Integrated Logistics Center
- Water
- Conservation Land
- County Boundary

0 5 10 Miles N

**Figure 4-2:**
**Existing and Proposed Trails within Polk County**
**FDOT District One**
**Rail Traffic Evaluation**

Source: Florida Department of Environmental Protection; Polk TPO; Southwest Florida Water Management District; ESRI Data

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### 4.2.3 Proposed Trails

Several proposed trails within Polk County were examined for potential rail re-routing opportunities (see Figure 4-2).

A proposed multi-trail corridor located on former Atlantic Coast Line right-of-way, extending approximately 17.4 miles from Haines City to Lake Wales, was preliminarily screened as a potential re-routing option. This connection would have been comprised of a series of proposed trails including the Lake Hamilton-Haines City, Dundee-Lake Hamilton, Lake of Hills-Dundee and Lake Wales-Lake of the Hills Trails. Collectively this corridor would provide a linear connection between the existing CSX "A" Line and the Florida Midland Railroad line in Lake Wales. However, this potential corridor was not advanced because it would not bypass downtown Lakeland or provide an alternative route off of the CSX "S" Line.

An inventory of proposed trails including rail-trails that could be utilized with other corridors follows:

**Bartow-Lake Wales Trail (Map No. 28)**

This proposed multi-use trail would start in the vicinity of the Fort Fraser Trail in Bartow and extend east to the Lake Wales Trailways. This approximately 16.5 mile route would utilize an abandoned CSX rail corridor that previously connected with the CSX "S" Line and Florida Midland Railroad alignment in West Lake Wales.

**Lake Alfred to Polk City Connector (Map No. 10)**

This proposed trail would originate in Lake Alfred and run in a northwest direction connecting to the General James A. Van Fleet Trail. This route would be approximately 11.51 miles in length.

**Trail Extensions**

Two trail extensions are proposed for the Van Fleet Trail and TECO-Auburndale Trail. The Van Fleet Trail Extension (Map No. 44) would run approximately 0.92 miles connecting the Van Fleet Trail's southern terminus at the Polk City trailhead to the TECO-Auburndale Trail. The other trail extension is the proposed 1.01-mile TECO-Auburndale Extension (Map No. 43). This extension would run from the southern end of the existing TECO-Auburndale Trail to the southeast between Lake Myrtle Road and Old Dixie Highway in Auburndale.

In addition, future extension plans for the Fort Fraser Trail include an approximately 2.14-mile segment running between Mary Holland Park and SR 60A in Bartow (Map No. 45) as well as a 4.07-mile extension between SR 540 and the Lake Mirror Promenade in downtown Lakeland (Map No. 37).

## 4.3 Utility Rights-of-Way

Utility network rights-of-way were examined to in order to determine the potential for viable rail re-routing alternatives within Polk County. Data obtained from the Florida Geographic Data Library contains the location of utility corridors including major power transmission lines within

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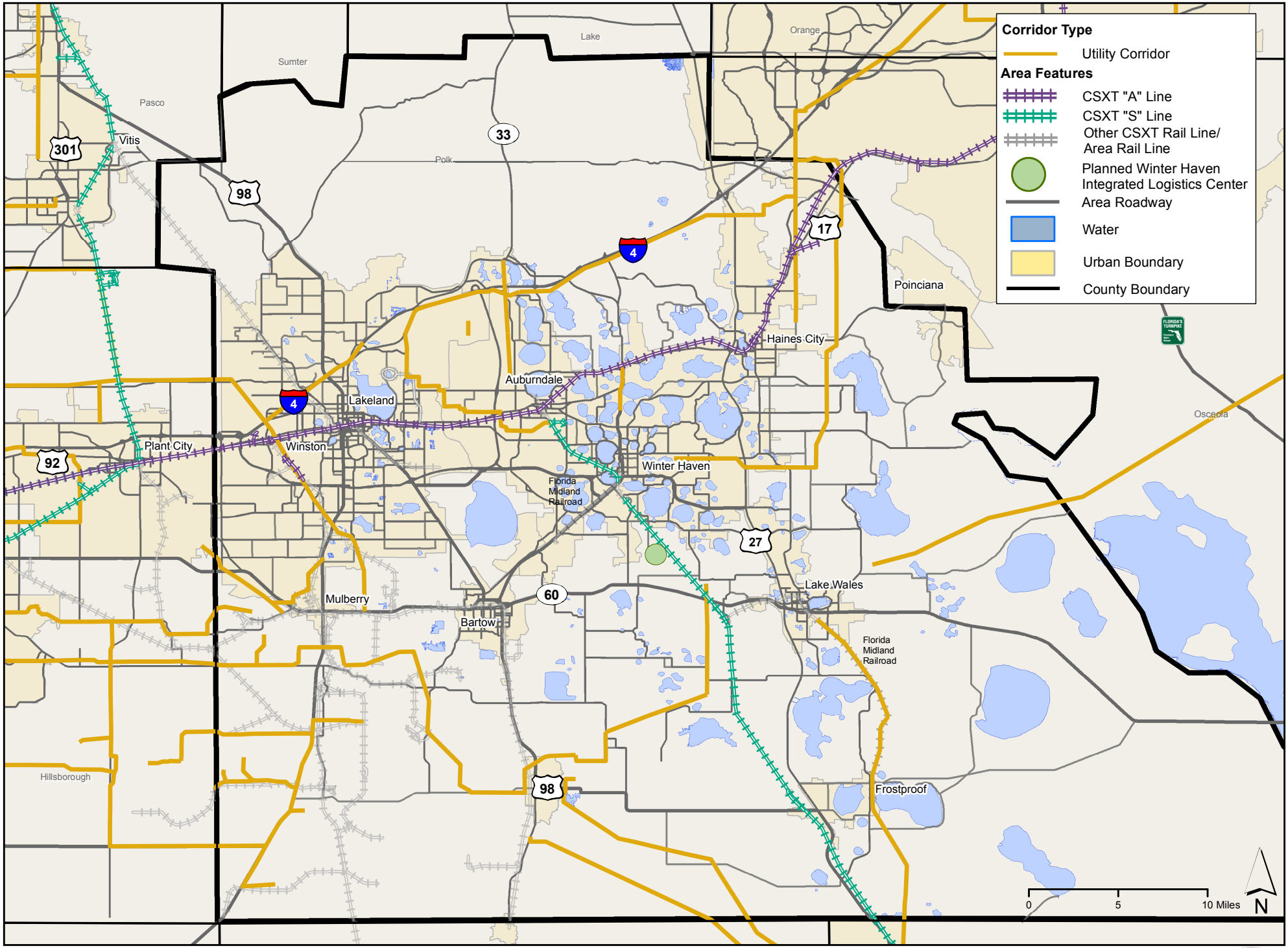


**Figure 4-3:**
**Existing Utility Corridors**
**FDOT District One**
**Rail Traffic Evaluation**

Source: Florida Geographic Data Library; FDOT, Polk TPO; ESRI Data

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the State of Florida. Refer to Figure 4-3 for a depiction of utility corridors both within and running through Polk County. Existing utility rights-of-way are situated along the Interstate 4 corridor and also extend along the Florida Midland Railroad alignment from Frostproof to West Lake Wales.

A preliminary screening was conducted of a major power transmission line corridor running east from the "S" Line near Knights, Florida in Hillsborough County towards the Polk County line. This approximately 9.4-mile route would run parallel Knights Station Road (CR 582) for approximately 5 miles before turning to the southeast towards Winston. This approximately 4.4-mile span would cross major roadways including Interstate 4, US 92, and Galloway Road (CR 542 A). This potential corridor as well as the other identified utility corridors did not provide sufficient connectivity to existing track or a direct route in bypassing Lakeland. Accordingly, the utility corridors, shown in Figure 4-3 were not advanced as potential alternative freight routes.

## 4.4 Existing & Planned Roadway Rights-of-Way

Existing and planned roadways were initially investigated as possible alternative freight rail options. GIS data pertaining to existing and future roadway improvements were obtained from the Polk TPO. In addition, supplemental GIS roadway data were collected from FDOT's Transportation Statistics Office. Refer to Figure 4-4 for proposed roadway improvement projects and area roadways within Polk County.

Potential freight re-routing options using existing or planned roadways were not advanced due to the limited feasibility of bypassing downtown Lakeland via these rights-of-way. In addition, area roadways did not provide sufficient connectivity to existing track or direct access to the planned ILC.

## 4.5 New Corridors

New corridors within Polk County or the Central Florida region could potentially be investigated in the future based on community and elected official input. The establishment of new rail corridors would potentially involve significant environmental impacts to local communities. Typically, factors associated with the establishment of new corridors range from natural resource impacts to the costs associated with the lease or acquisition of right-of-way and the resulting displacement. A review of a potential new corridor would likely take place at such a time as a feasible corridor is identified by the project sponsor or interested parties.

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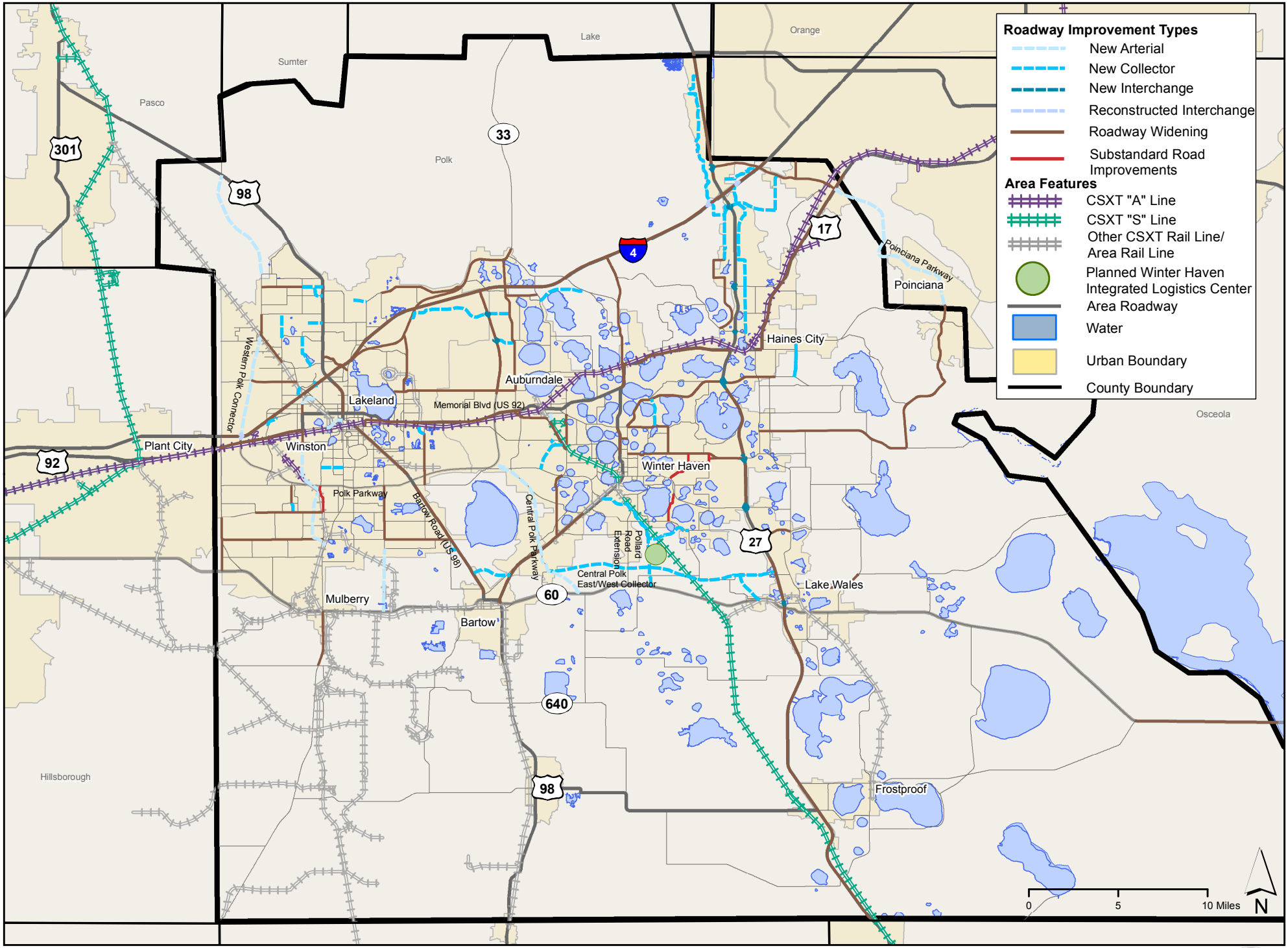


Source: National Rail Network Bureau of Transportation Statistics, FDOT, Polk TPO; ESRI Data

Figure 4-4:
Proposed Roadway Improvements within Polk County
FDOT District One
Rail Traffic Evaluation

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# 5. Freight Rail Options

## 5.1 Potential Freight Rail Relocation Alternatives

Each of the following freight relocation alternatives, presented below, assume that CSX will shift freight traffic from the CSX "A" Line to the CSX "S" Line. Potential alternatives were examined based on their ability to bypass downtown Lakeland while providing access to the ILC site located in Winter Haven. Additional criteria included maintaining CSX through routes between Jacksonville, Tampa and Miami since the existing CSX rail lines that run through Polk County are a component of a larger regional freight rail system. Accordingly, the functionality and operational efficiency of the statewide freight network was an important factor to consider with respect to the potential alternatives routes.

As described in Section 4, Alternatives 1 through 5 were established based on a screening of a variety of corridor types within the region such as active rail rights-of-way, underutilized and abandoned rail rights-of-way, utility corridors, existing and planned roadway rights-of-way and new corridors. After the initial development of these five alternatives, an additional three alternatives (Alternatives 6 through 8) were evaluated based on public feedback received during the public outreach process.

The alternatives, described in the following section, are referenced throughout the document as follows:

- Alternative 1: Van Fleet/TECO
- Alternative 2: Van Fleet/Chain of Lakes
- Alternative 3: Plant City/Bartow
- Alternative 4: Winston/Bartow
- Alternative 5: Winston/Homeland
- Alternative 6: Vitis/Polk City
- Alternative 7: McIntosh Spur
- Alternative 8: Winston/Bartow Airport

The potential alternatives branch off at various points from the CSX "S" Line. Coleman, Florida, located along the CSX "S" Line in Sumter County is used as a common point of departure for each alternative. Refer to Figures 5-1 to 5-9 for a depiction of existing freight rail routing and potential freight rail relocation alternatives. These figures identify both the proposed route as well as the alignment segment types for each route. Alignment components that comprise each alternative include existing rail right-of-way, abandoned rail right-of-way, existing rail-trails, proposed trails, and new right-of-way. Table 5-1 below, provides an overview of freight rail relocation options. Each alternative was presented against the 2010 CSX Plan which routes

## Table 5-1. Overview of Freight Relocation Options

| *Characteristic* | *2010 CSX Plan* | *Alternative* | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | **"S" Line Freight Rail Routing to Winter Haven ILC Site** | **Alternative 1: Van Fleet/TECO** | **Alternative 2: Van Fleet/Chain of Lakes** | **Alternative 3: Plant City/Bartow** | **Alternative 4: Winston/Bartow** | **Alternative 5: Winston/ Homeland** | **Alternative 6: Vitis/ Polk City** | **Alternative 7: McIntosh Spur** | **Alternative 8: Winston/ Bartow Airport** |
| ***Route Mileage*** | | | | | | | | | |
| Former Rail ROW, Vacant | None | 18 miles | 16 miles | None | None | None | 2 miles | None | 3 miles |
| Former Rail ROW, Trail | None | 35 miles | 33 miles | None | None | None | 9 miles | None | None |
| Existing Rail ROW | 79 miles | 12 miles | 5 miles | 92 miles | 87 miles | 89 miles | 55 miles | 62 miles | 90 miles |
| New ROW/Proposed Trail | None | - | 12 miles | 12 miles | 12 miles | 18 miles | 17 miles | 21 miles | 2 miles |
| Total Mileage | 79 miles | 65 miles | 66 miles | 104 miles | 99 miles | 107 miles | 83 miles | 83 miles | 95.5 miles |
| ***Physical Features*** | | | | | | | | | |
| Grade Crossings (existing/proposed) | 116 (116/0) | 60 (26/34) | 69 (9/60) | 168 (155/13) | 128(115/13) | 118(102/16) | 114 (82/32) | 114 (93/21) | 143 (133/10) |
| Amount of Property Acquisition | None | 53 miles | 61 miles | 12 miles | 12 miles | 18 miles | 28 miles | 21 miles | 10 miles |
| Major New Structures | None | None | None | Peace River Crossing | Peace River Crossing | Peace River Crossing | None | None | Peace River Crossing |
| ***Environmental, Community and Business Considerations*** | | | | | | | | | |
| Adjacent Developed Areas | Lakeland/Auburndale/Winter Haven | Auburndale/Winter Haven/Polk City | Polk City/Lake Alfred/Winter Haven | Plant City/Bartow/Mulberry | Winston/Bartow/Mulberry | Winston/Homeland/Alturas/Mulberry | Auburndale/Winter Haven/Polk City | Lakeland/Auburndale | Bartow/Mulberry/Gordonville |
| Natural Features | Partial Strategic Habitat Conservation Area; Wetland/Floodplain Infringement | Withlacoochee State Forest; Green Swamp; Strategic Habitat Conservation Area; Wetland/Floodplain Infringement | Withlacoochee State Forest; Green Swamp; Strategic Habitat Conservation Area; Wetland/Floodplain Infringement | Partial Wetland/Floodplain Infringement | Partial Wetland/Floodplain Infringement | Partial Wetland/Floodplain Infringement | Green Swamp; Partial Wetland/Floodplain Infringement; Strategic Habitat Conservation Area | Green Swamp; Partial Wetland/Floodplain Infringement; Strategic Habitat Conservation Area | Partial Wetland/Floodplain Infringement; Strategic Habitat Conservation Area |
| Other Significant Facilities or Businesses | | Lake Myrtle Sports Complex; Limestone Mine ROW (Coleman Subdivision) | Limestone Mine ROW (Coleman Subdivision) | Portions of alignment through phosphate mine boundaries; Local freight switching | Portions of alignment through phosphate mine boundaries; Local freight switching | Portions of alignment through phosphate mine boundaries; Local freight switching | Lake Myrtle Sports Complex | Local customers | Portions of alignment through phosphate mine boundaries; Local customers |
| Active Subdivisions Used | Wildwood; Vitis; Lakeland; Auburndale | Auburndale | Auburndale | Wildwood; Yeoman; Plant City; Bone Valley; Valrico; Auburndale | Wildwood; Vitis; Lakeland; Bone Valley; Auburndale | Wildwood; Vitis; Lakeland; Bone Valley; Auburndale | Wildwood; Vitis; Auburndale | Wildwood; Vitis; Lakeland; Auburndale | Wildwood; Vitis; Lakeland; Bone Valley; Valrico; FMID; Auburndale |
| Taking of Existing Trails | None | Van Fleet Trail (29 miles); TECO (6 miles) | Van Fleet Trail (29 miles); Chain of Lakes Trail (4 miles) | None | None | None | Van Fleet Trail (3.5 miles); TECO (6 miles) | None | None |
| Use of Planned Trails | None | Van Fleet Extension (1 mile); TECO-Auburndale Extension (1 mile) | Lake Alfred to Polk City Connector Trail (12 miles); Lake Alfred Trail (0.5 miles) | Bartow-Lake Wales Trail (12 miles) | Bartow-Lake Wales Trail (12 miles) | None | Van Fleet Extension (1 mile); TECO-Auburndale Extension (1 miles) | None | |

freight rail traffic on the "S" Line to the Winter Haven ILC site. This current freight rail route was used as a baseline to compare the benefits and challenges of each alternative.

In addition, freight relocation alternatives summary tables by segment are presented for each alternative under consideration. These tables contain information including the type and current use of each segment as well as a summary of required capital improvements needed for each segment. Segment depictions for each alternative are contained in Appendix A.

Tables with crossing information are also displayed for both the current freight rail routing and each alternative under study. Crossing table data includes the number of crossings by segment, whether crossings are existing or proposed, crossing types (e.g. at grade, existing or proposed grade separation), and the level of improvement needed. No improvement was assumed for existing at-grade crossings and existing grade separations, north of the "A" Line. Improvements were assumed for proposed crossings as well as existing crossings along the Lakeland, Bone Valley, Plant City and Valrico Subdivisions and some existing crossings in Auburndale and Winter Haven. Refer to alternative crossing tables contained in Section 5. An assumption was also used that grade separations would be necessary at existing State Route and U.S. Highway crossings south of Interstate 4 in order to minimize vehicular and rail traffic conflicts and to improve operational efficiency. All of these assumptions will require further engineering analysis and refinement if any of these alternatives are advanced for further consideration.

The current freight rail route from Coleman to the Winter Haven ILC site is described below while the complete "S" Line is referenced in Section 2.1.3.

### 5.1.1 "S" Line Freight Rail Routing to Winter Haven ILC Site

**Route Description**

The current freight rail route runs approximately 79 miles on existing CSX rail right-of-way from Coleman in Sumter County to the general location of the planned ILC site southeast of Pollard Road in Winter Haven. Refer to Figure 5-1. The existing route traverses Sumter, Hernando, Pasco and Polk Counties. Land uses are largely rural with agricultural, conservation lands and rural residential uses found proximate to the alignment. Several communities that have historically developed around the railroad such as Bushnell and Dade City are found along the "S" Line route. Land uses in Bushnell near the existing rail right-of-way include rural residential, municipal and industrial uses. Additional land uses found along the alignment include residential office, public/semi-public, medium density residential and general commercial uses. The alignment extends in a southwesterly direction from Coleman along the Wildwood Subdivision and then tracks to the southeast in the vicinity of Zephyrhills.

Continuing in a southeasterly direction towards Polk County, the route utilizes the Vitis Subdivision for approximately 19.2 miles. Land use around the subdivision is predominantly comprised of agricultural with low-density residential uses within Lakeland's municipal boundary. There are approximately 15 existing at-grade crossings and two grade separations along this subdivision at Interstate 4 and US 92 (Memorial Boulevard). Rail traffic then turns to the east at Lakeland Junction connecting to the combined A/S Line through downtown Lakeland. Off the junction, the existing route is grade separated from Sikes Boulevard and bisects approximately six downtown area roadways including New York, N. Missouri, N. Florida, N.

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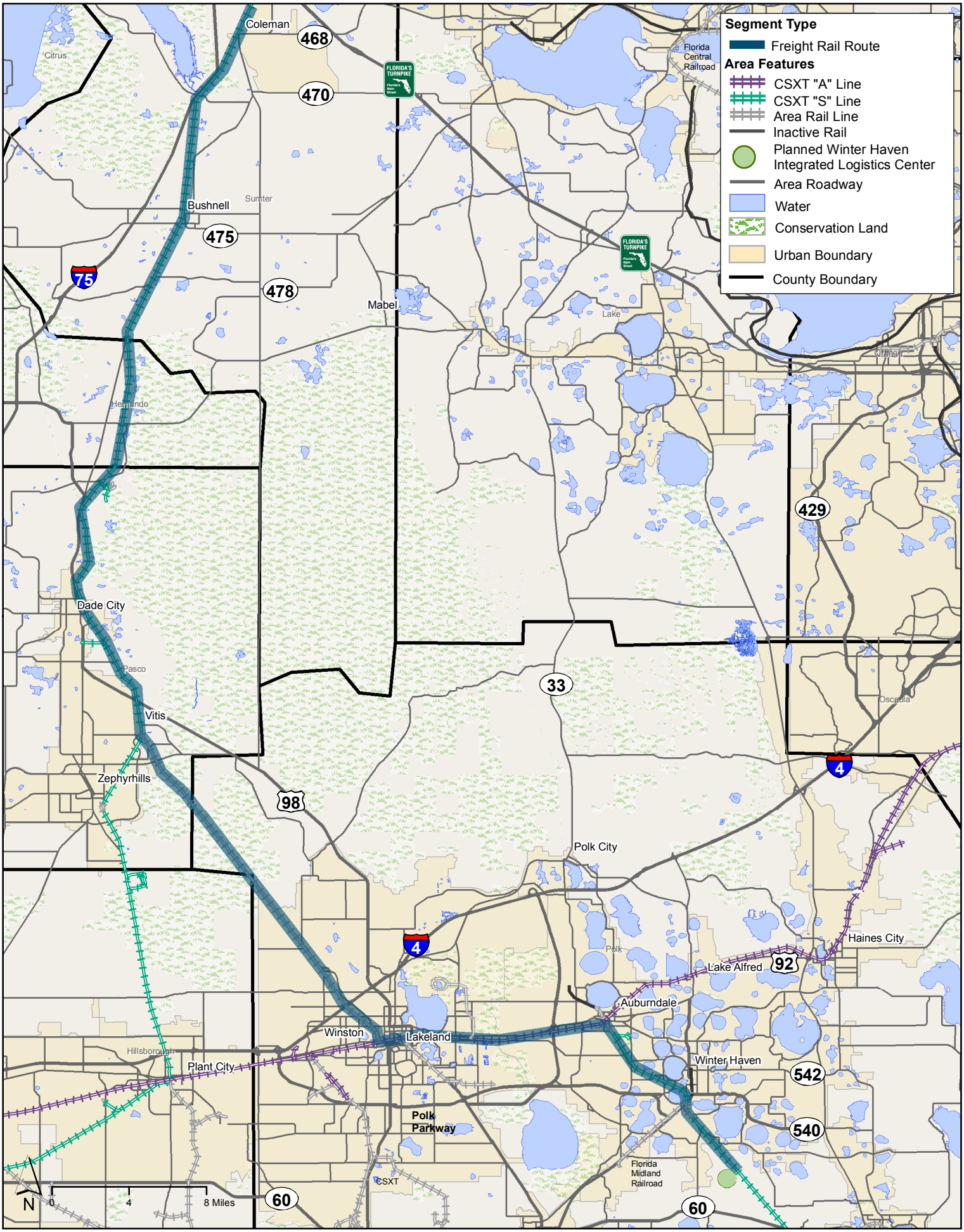


Source: Bureau of Transportation Statistics National Transportation Atlas Database; FDOT; FDEP; ESRI Data

**Figure 5-1:**
**Freight Rail Routing to Winter Haven ILC Site**
**FDOT District One**
**Rail Traffic Evaluation**

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Tennessee, N. Kentucky, and Massachusetts Avenues. The downtown area is characterized by a combination of commercial, medium-density residential and industrial uses. Further east, there are grade-separations at SR 700/Bartow Road, US 98/Lake Parker Avenue, US 92/Gary Road and SR 570/Polk Parkway.

The route continues through Auburndale passing several industrial areas, a cemetery and residential uses north of the alignment between Recker Highway and McKean Street. Before turning south and connecting to the southern portion of the "S" Line, the alignment traverses through a number of industrials uses including a citrus juice processing plant near West Derby Avenue and McKean Street. This industrial corridor, comprised of warehouse type uses and plants, continues along Recker Highway for approximately three miles to Coleman Road.

Residential clusters are found on the north and south sides of the alignment until Orrin Avenue SW in Winter Haven. Industrial uses predominate from Orrin Avenue SW until Croton Road south of US 17, a distance of approximately 1.8 miles. The alignment runs approximately 600 feet from the Chain of Lakes Park Complex however the existing rail right-of-way is interior to US 17 which acts as a buffer between the rail alignment and the recreational facility.

South of the US 17 (3rd Street SW) grade separation, the S Line extends through industrial uses crossing American Superior Boulevard and Croton Road at-grade. Continuing south land adjacent to the right-of-way between Croton Road and Eloise Loop Road is largely agricultural. Residential neighborhoods are situated on either side of the rail right-of-way between Macon and Eagle Lake Loop Roads and east of the intersection of Eagle Lake Loop Road and Pollard Road. The planned ILC site is located southeast of Pollard Road on the eastern side of the S Line right-of-way.

**Rail Crossing Data**

There are a total of 116 existing rail crossings on the S Line from Coleman to the ILC site in Winter Haven comprised of 107 at-grade crossings and nine grade separations (Refer to Table 5-2 below).

**Table 5-2. CSX "S" Line Freight Rail Routing Crossings**

| **CSX "S" Line Freight Rail Routing** | | | | | | | |
|---|---|---|---|---|---|---|---|
| ***Alignment Segment*** | | ***Crossing*** | ***Crossing Type*** | | | ***Level of Improvement*** | |
| | Roadway Name | Existing (E) / Proposed (P) | At-Grade Grade Crossing | Existing Grade Separation | Proposed Grade Separation | No Improvement Assumed | Improvement Assumed |
| **CSX "S" Line** | | | | | | | |
| | Taylor Avenue | E | ✓ | | | ✓ | |
| | Warm Spring Avenue | E | ✓ | | | ✓ | |
| | Coleman Cemetery Drive | E | ✓ | | | ✓ | |
| | CR 470 | E | ✓ | | | ✓ | |
| | Private Road | E | ✓ | | | ✓ | |
| | Private Road | E | ✓ | | | ✓ | |
| | CR 532 | E | ✓ | | | ✓ | |
| | Private Road | E | ✓ | | | ✓ | |
| | CR 542 | E | ✓ | | | ✓ | |
| | E. Belt Avenue | E | ✓ | | | ✓ | |
| | Wallace Hatchery | E | ✓ | | | ✓ | |
| | E. Noble Avenue | E | ✓ | | | ✓ | |
| | Bushnell Plaza | E | ✓ | | | ✓ | |
| | E. Central Avenue | E | ✓ | | | ✓ | |
| | CR 476 (W. Seminole Avenue) | E | ✓ | | | ✓ | |
| | Private Triple Ranch | E | ✓ | | | ✓ | |
| | Private Crossing (CR 700) | E | ✓ | | | ✓ | |
| | CR 720 | E | ✓ | | | ✓ | |
| | CR 478 | E | ✓ | | | ✓ | |
| | CR 738A | E | ✓ | | | ✓ | |
| | CR 771 (SW 103rd Place) | E | ✓ | | | ✓ | |
| | Private Road D | E | ✓ | | | ✓ | |
| | Kramer Street/Gresham Road | E | ✓ | | | ✓ | |
| | Private Road | E | ✓ | | | ✓ | |
| | SR 50 (Cortez Boulevard) | E | ✓ | | | ✓ | |
| | SR 575 | E | ✓ | | | ✓ | |
| | Bower Road | E | ✓ | | | ✓ | |
| | Cummer Road | E | ✓ | | | ✓ | |
| | Private Road | E | ✓ | | | ✓ | |
| | Mickler Road | E | ✓ | | | ✓ | |
| | Owensboro Road | E | ✓ | | | ✓ | |
| | Gould Road | E | ✓ | | | ✓ | |
| | Ashbrook Road | E | ✓ | | | ✓ | |
| | Jordan Road | E | ✓ | | | ✓ | |
| | Pioneer Museum Road/Long Avenue | E | ✓ | | | ✓ | |
| | Pasco Beverage | E | ✓ | | | ✓ | |
| | Private Pasco Beverage | E | ✓ | | | ✓ | |
| | River Road Drive | E | ✓ | | | ✓ | |
| | Martin Luther King Boulevard | E | ✓ | | | ✓ | |
| | Tuskeegee Avenue | E | ✓ | | | ✓ | |
| | Wilson Street | E | ✓ | | | ✓ | |
| | Dixie Drive | E | ✓ | | | ✓ | |
| | Old Sparkman Road | E | ✓ | | | ✓ | |
| | Johnson Street | E | ✓ | | | ✓ | |
| | Larkin Lake Drive | E | ✓ | | | ✓ | |
| | Johnson Road | E | ✓ | | | ✓ | |
| | Enterprise Road | E | ✓ | | | ✓ | |
| | Private Road (Lykes Agri In) | E | ✓ | | | ✓ | |
| | Santa Gertrudis Drive | E | ✓ | | | ✓ | |
| | Private Road (Waller Ranch) | E | ✓ | | | ✓ | |
| | Messick Road | E | ✓ | | | ✓ | |
| | SR 35/SR 700/US 98 | E | | ✓ | | ✓ | |
| | Stewart Road | E | ✓ | | | ✓ | |
| | CR 35A/Melrose Avenue | E | ✓ | | | ✓ | |
| | **Subtotal** | **54** | **53** | **1** | **0** | **54** | **0** |
| **Vitis Subdivision** | | | | | | | |
| | CR 54A/Elwood Merrick Road | E | ✓ | | | ✓ | |
| | CR 54 | E | ✓ | | | ✓ | |
| | 1st Street NW | E | ✓ | | | ✓ | |
| | Oak Avenue NW | E | ✓ | | | ✓ | |
| | Deeson Road | E | ✓ | | | ✓ | |
| | Unnamed Road Crossing | E | ✓ | | | ✓ | |
| | Pvt. Tony Elrod Avenue | E | ✓ | | | ✓ | |
| | Youngs Ridge Road | E | ✓ | | | ✓ | |
| | Strickland Avenue | E | ✓ | | | ✓ | |
| | Private Road | E | ✓ | | | ✓ | |
| | Galloway Road | E | ✓ | | | ✓ | |
| | Sleepy Hill Road | E | ✓ | | | ✓ | |
| | Knights Station/Griffin Road | E | ✓ | | | ✓ | |
| | 1-4/SR 400 | E | | ✓ | | ✓ | |
| | Fairbanks Street | E | ✓ | | | ✓ | |
| | 10th Street | E | ✓ | | | ✓ | |
| | US 92 (Memorial Boulevard) | E | | ✓ | | ✓ | |
| | **Subtotal** | **17** | **15** | **2** | **0** | **17** | **0** |
| **CSX "A" Line/Lakeland Subdivision** | | | | | | | |
| | SR 563 Sikes Road | E | | ✓ | | ✓ | |
| | New York Avenue S | E | ✓ | | | ✓ | |
| | Missouri Ave N | E | ✓ | | | ✓ | |
| | SR 35 North Florida Ave | E | ✓ | | | ✓ | |
| | Tennessee Avenue | E | ✓ | | | ✓ | |
| | Kentucky Avenue | E | ✓ | | | ✓ | |
| | Massachusetts Avenue | E | ✓ | | | ✓ | |
| | SR 700 Bartow Road | E | | ✓ | | ✓ | |
| | Ingraham Avenue | E | ✓ | | | ✓ | |
| | US 98 Lake Parker Ave | E | | ✓ | | ✓ | |
| | Gary Road | E | | ✓ | | ✓ | |
| | Interlachen Pkway | E | ✓ | | | ✓ | |

**Table 5-2. CSX "S" Line Freight Rail Routing Crossings**

| **CSX "S" Line Freight Rail Routing** | | | | | | | |
|---|---|---|---|---|---|---|---|
| ***Alignment Segment*** | | ***Crossing*** | ***Crossing Type*** | | | ***Level of Improvement*** | |
| | Roadway Name | Existing (E) / Proposed (P) | At-Grade Grade Crossing | Existing Grade Separation | Proposed Grade Separation | No Improvement Assumed | Improvement Assumed |
| | Canal Ave | E | ✓ | | | ✓ | |
| | Fairway Ave | E | ✓ | | | ✓ | |
| | N. Eastside Drive | E | ✓ | | | ✓ | |
| | Combee Road | E | ✓ | | | ✓ | |
| | Fish Hatchery Road | E | ✓ | | | ✓ | |
| | Reynolds Road | E | ✓ | | | ✓ | |
| | Old Dixie Highway | E | ✓ | | | ✓ | |
| | Payne Street | E | ✓ | | | ✓ | |
| | SR 570 | E | | ✓ | | ✓ | |
| | Neptune Road | E | ✓ | | | ✓ | |
| | Recker Highway | E | ✓ | | | ✓ | |
| | McKean Street South | E | ✓ | | | ✓ | |
| | **Subtotal** | **24** | **19** | **5** | **0** | **24** | **0** |
| **CSX "S" Line** | | | | | | | |
| | W. Derby Avenue | E | ✓ | | | ✓ | |
| | Ariana Street | E | ✓ | | | ✓ | |
| | SR 542 (Avenue G NW) | E | ✓ | | | ✓ | |
| | Spirit Lake Road | E | ✓ | | | ✓ | |
| | Coleman Road | E | ✓ | | | ✓ | |
| | 24th Street | E | ✓ | | | ✓ | |
| | 21st Street | E | ✓ | | | ✓ | |
| | 15th Street | E | ✓ | | | ✓ | |
| | Lake Ship Drive | E | ✓ | | | ✓ | |
| | Orrin Avenue | E | ✓ | | | ✓ | |
| | Private Drive | E | ✓ | | | ✓ | |
| | 7th Street SW | E | ✓ | | | ✓ | |
| | Avenue R SW | E | ✓ | | | ✓ | |
| | Private Central Florida Gas Drive | E | ✓ | | | ✓ | |
| | US 17/SR 555 (3rd Street) | E | | ✓ | | ✓ | |
| | American Superior Blvd | E | ✓ | | | ✓ | |
| | Croton Road N | E | ✓ | | | ✓ | |
| | Eloise Loop Road | E | ✓ | | | ✓ | |
| | Macon Road | E | ✓ | | | ✓ | |
| | Eagle Lake Loop Road | E | ✓ | | | ✓ | |
| | Pollard Road | E | ✓ | | | ✓ | |
| | **Subtotal** | **21** | **20** | **1** | **0** | **21** | **0** |

### 5.1.2 Alternative 1: Van Fleet/TECO Alternative

**Route Description**

The total mileage of the Van Fleet/TECO Alternative running from Coleman to the planned ILC site is estimated at approximately 65 miles. This alternative would extend off of the CSX "S" Line utilizing the former Coleman Subdivision, as well as two rail-trails located on portions of the abandoned subdivision, the General James A. Van Fleet State Trail and TECO-Auburndale Trail. The Coleman Subdivision is an inactive, former CSX right-of-way extending approximately 54.0 miles from Coleman, Florida in Sumter County to Auburndale in Polk County. The subdivision, which was abandoned by on June 11, 1988, originates to the east of Interstate 75 and south of West Warm Springs Avenue then branches off to the east of the "S" Line. The route crosses US Highway 301/SR 35 and runs through predominantly forest and undeveloped lands. The Coleman Subdivision right-of-way extends through a limestone mine approximately 0.5 miles north of West Kings Highway in Sumter County. The former rail right-of-way is generally oriented in a south-southeast direction toward Mabel, Florida. Refer to Figure 5-2.

This alternative would extend approximately 16.2 miles along the former subdivision, crossing underneath an existing grade separation at SR 50 before connecting to the Van Fleet Trail. The alternative would cross approximately seven roadways adjacent to the Van Fleet Trail including Bay Lake Road, Green Pond Road, and Deen Still Road. The potential route would continue in a southeasterly direction for a distance of approximately 29.2 miles from Mabel to the SR 33 (Commonwealth Avenue) in Polk City, the terminus of the Van Fleet Trail. From the Van Fleet Trail, the route would pass under SR 33 which is an existing grade separation and connect with the TECO-Auburndale Trail, located approximately one mile south of the Van Fleet Trail's Polk City trailhead. This rail-trail runs immediately to the west of Berkeley Road and extends approximately 5.59 miles between Denton Avenue and Post Road in Auburndale. The northern portion of the right-of-way between is framed to its east and west by residential development consisting of predominantly single-family detached housing. Residential development between Interstate 4 and Braddock Road becomes less dense with agricultural lands interspersed.

The southern portion of the TECO-Auburndale Trail runs through Lake Myrtle Park which is the future home of the Lake Myrtle Sports Complex. This recreational resource, currently undergoing expansion and renovation is generally located west of Berkley Road between Lake Myrtle Park Drive and Lake Myrtle Park Road/Denton Avenue. Proposed facilities included as part of the expansion include eight soccer fields, nine baseball fields and office space (refer to Section 6. Environmental Considerations for further detail).

This route would also utilize a proposed a 1.01 mile extension of the Auburndale Trail running south of Lake Myrtle Road to Dixie Highway. Future land use categories within this segment include low and medium-density residential uses as well as a neighborhood activity center

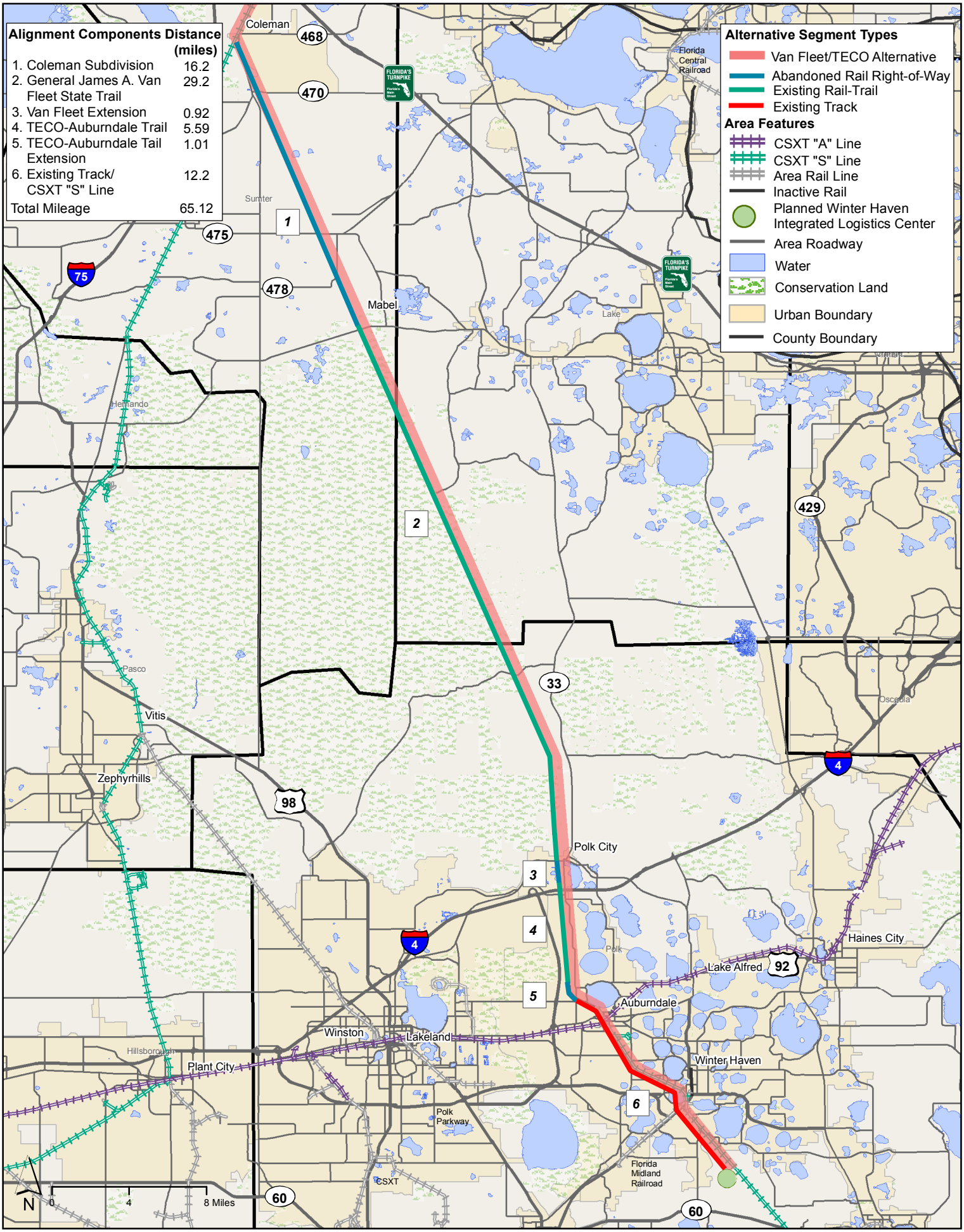


**Figure 5-2:**
**Alternative 1: Van Fleet/TECO**
**FDOT District One**
**Rail Traffic Evaluation**

Source: Bureau of Transportation Statistics National Transportation Atlas Database; FDOT; FDEP; ESRI Data

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designation which accommodates business and service needs.[20] This potential route would then connect into existing CSX track in Auburndale located south of Old Dixie Highway. This length of track is approximately 1.4 miles in length and contains approximately five existing at-grade crossings and one existing grade-separation (US 92). Land uses in this area include low-density residential near Ramsgate Road and a combination of business park and medium to low density residential uses between Pilaklakaha and Bridgers Avenues. The corridor adjacent to the right-of-way becomes predominantly industrial south of Bridgers Avenue to the existing "S" Line south of US 92. This alternative runs a distance of approximately 10.7 miles to the planned ILC site in Winter Haven on the southern portion of the existing "S" Line. Land uses for this segment are described above in Section 5.1.1, Freight Rail Routing to Winter Haven ILC Site.

**Alternative Summary by Segment**

As seen in Table 5-3, Alternative 1: Van Fleet/TECO consists of approximately seven segments comprising a total of approximately 65 miles. Segment types to be utilized for this potential route include abandoned rail right-of-way, existing active rail right-of-way and new right-of-way adjacent to existing and proposed trails. Alternative 1 would require approximately six sidings, each measuring 10,000 feet in length, with two located along the former Coleman Subdivision, three along the Van Fleet Trail, and one along TECO-Auburndale Trail. Refer to Table 5-3 for additional segment details.

**Rail Crossing Data**

There are a total of 60 rail crossings associated with Alternative 1 comprised of 26 existing crossings and approximately 34 proposed crossings. (Refer to Table 5-4 below). The alternative calls for approximately 54 at-grade crossings and six grade separations. Five locations along the proposed route are currently grade-separated including SR50, SR 33, Interstate 4, US 92, US 17 (3rd Street SW). The sole proposed grade separation along this alternative would be located at US 301/SR 35 in Coleman. As stated in Section 5.1, an assumption was used that grade separations would be necessary at existing State Route and U.S. Highway crossings in order to minimize vehicular and traffic conflicts and to improve operational efficiency. Improvements were assumed for a total thirty-six at-grade crossings including upgrades to five existing crossings under Alternative 1.

[20] City of Auburndale. City of Auburndale Future Land Use Map. Updated: August 8, 2008. http://www.auburndalefl.com/Com-DEV-FORMS/Future%20Land%20Use%20Districts.pdf (February 27, 2009).

## Table 5-3. Alternative 1: Van Fleet/TECO Summary by Segment

| | Former Coleman Subdivision | Van Fleet Trail (adjacent) | Van Fleet Extension (adjacent) | TECO-Auburndale Trail (adjacent) | TECO-Auburndale Trail Extension (adjacent) | CSX Track | CSX "S" Line | TOTALS |
|---|---|---|---|---|---|---|---|---|
| **Mileage** | 16.2 | 29.2 | 0.92 | 5.59 | 1.01 | 1.37 | 10.73 | 65 |
| **Type of Segment** | Abandoned Rail Right-of-Way | New Rail ROW Adajcent to Existing Trail | New Rail ROW Adajcent to Proposed Trail | New Rail ROW Adajcent to Existing Trail | New Rail ROW Adajcent to Proposed Trail | Existing Active Rail Right-of-Way | Existing Active Rail Right-of-Way | -- |
| **Current Use** | Vacant ROW; No Track | Various; Mostly Undeveloped | Various; Mostly Undeveloped | Various; Mostly Undeveloped | Various; Mostly Undeveloped | Predominantly single track, some double track | Predominantly single track, some double track | -- |
| **Issues** | | | | New Park Under Construction on either side | | | | -- |
| **Necessary Capital Improvements** | | | | | | | | |
| **Right-of-Way** | None/Minimal upgrade - existing former rail ROW | New Roadbed & New Embankment | New Roadbed & New Embankment | New Roadbed & New Embankment | New Roadbed & New Embankment | None/minimal - Existing Rail Roadbed | None - Existing Rail Roadbed | -- |
| **Track** | 16.2 miles of New Single Track | 29.2 miles of New Single Track | 0.92 miles of New Single Track | 5.59 miles of New Single Track | 1.01 miles of New Single Track | 1.37 miles of Upgrading Class of Track | None | 54 |
| **Sidings** | Two, 10,000 foot sidings, each with #20 turnouts on ends | Three, 10,000 foot sidings, each with #20 turnouts on each end | None | One, 10,000 foot siding, with #20 turnouts on each end | None | None | None | 6 |
| **Special Trackwork** | Wye connection to "S" Line at Coleman | -- | -- | -- | -- | Connection to "S" Line in Auburndale | -- | -- |
| **Drainage** | 16.2 miles of drainage improvements | 29.2 miles of drainage improvements | 0.92 miles of drainage improvements | 5.59 miles of drainage improvements | 1.01 miles of drainage improvements | 1.37 miles of drainage improvements | None | 54 |
| **Land Acquisition** | 16.2 miles of property acquisition for new ROW | 29.2 miles of property acquisition for new ROW | 0.92 miles of property acquisition for new ROW | 5.59 miles of property acquisition for new ROW | 1.01 miles of property acquisition for new ROW | None | None | 53 |
| **Signals** | 16.2 miles of new signals | 29.2 miles of new signals | 0.92 miles of new signals | 5.59 miles of new signals | 1.01 miles of new signals | 1.37 miles of new signals | None | 54 |
| **Bridges** | None | None | None | None | None | None | None | 0 |
| **Grade Separation Structures** | New Structure in Coleman at US301/SR35 | None | Use Existing SR50 & SR33 Grade Separation | Use Existing I-4 Grade Separation | None | None | None | 1 |
| **Grade Crossings** | Install 11 new grade crossings | Install 7 new grade crossings | Install 0 new grade crossings | Install 7 new grade crossings | Install 5 new grade crossings | Upgrade 5 existing | None | Install 30 new x-ings and upgrade 5 existing |

**Table 5-4. Alternative 1: Van Fleet/TECO Crossings**

| **Alternative 1: Van Fleet/TECO** | | | | | | | |
|---|---|---|---|---|---|---|---|
| ***Alignment Segment*** | | ***Crossing*** | ***Crossing Type*** | | | ***Level of Improvement*** | |
| | Roadway Name | Existing (E) / Proposed (P) | At-Grade Grade Crossing | Existing Grade Separation | Proposed Grade Separation | No Improvement Assumed | Improvement Assumed |
| **Coleman Subdivision** | | | | | | | |
| | Anderson Road | P | ✓ | | | | ✓ |
| | Unnamed Road | P | ✓ | | | | ✓ |
| | Route 35 | P | | | ✓ | | ✓ |
| | NE 19th Road | P | ✓ | | | | ✓ |
| | NE 22nd Way | P | ✓ | | | | ✓ |
| | CR 470 | P | ✓ | | | | ✓ |
| | County Road 520 | P | ✓ | | | | ✓ |
| | County Road 526 | P | ✓ | | | | ✓ |
| | West Kings Highway | P | ✓ | | | | ✓ |
| | Old Webster Road | P | ✓ | | | | ✓ |
| | CR 478 | P | ✓ | | | | ✓ |
| | SE 100th Avenue | P | ✓ | | | | ✓ |
| | SR 50 | P | | ✓ | | ✓ | |
| | **Subtotal** | **13** | **11** | **1** | **1** | **1** | **12** |
| **Van Fleet Trail** | | | | | | | |
| | Old 50 (SE 121st Avenue) | P | ✓ | | | | ✓ |
| | Unnamed Road | P | ✓ | | | | ✓ |
| | Bay Lake Road | P | ✓ | | | | ✓ |
| | Green Pond Road | P | ✓ | | | | ✓ |
| | Poyner Road | P | ✓ | | | | ✓ |
| | Deen Still Road | P | ✓ | | | | ✓ |
| | Fussell Road | P | ✓ | | | | ✓ |
| | **Subtotal** | **7** | **7** | **0** | **0** | **0** | **7** |
| **Van Fleet Extension** | | | | | | | |
| | SR 33 (Commonwealth Ave) | P | | ✓ | | ✓ | |
| | **Subtotal** | **1** | **0** | **1** | **0** | **1** | **0** |
| **TECO-Auburndale Trail** | | | | | | | |
| | Honey Bee Lane | P | ✓ | | | | ✓ |
| | Snow Road | P | ✓ | | | | ✓ |
| | I-4 | P | | ✓ | | ✓ | |
| | Mount Olive Road | P | ✓ | | | | ✓ |
| | Pace Road | P | ✓ | | | | ✓ |
| | Braddock Road | P | ✓ | | | | ✓ |
| | Lake Myrtle Park Driveway | P | ✓ | | | | ✓ |
| | Lake Myrtle Road/Denton Avenue | P | ✓ | | | | ✓ |
| | **Subtotal** | **8** | **7** | **1** | **0** | **1** | **7** |
| **TECO-Auburndale Trail Extension** | | | | | | | |
| | Berkley Road | P | ✓ | | | | ✓ |
| | Herrick Street | P | ✓ | | | | ✓ |
| | James Street | P | ✓ | | | | ✓ |
| | Clayton Road | P | ✓ | | | | ✓ |
| | Dixie Highway | P | ✓ | | | | ✓ |
| | **Subtotal** | **5** | **5** | **0** | **0** | **0** | **5** |
| **Existing Track** | | | | | | | |
| | Reidgate Road | E | ✓ | | | | ✓ |
| | Pilaklahana Avenue | E | ✓ | | | | ✓ |
| | W. Bridgers Avenue | E | ✓ | | | | ✓ |
| | McKean Street | E | ✓ | | | | ✓ |
| | US 92 | E | | ✓ | | ✓ | |
| | Magnolia Avenue | E | ✓ | | | | ✓ |
| | **Subtotal** | **6** | **5** | **1** | **0** | **1** | **5** |
| **CSX "S" Line** | | | | | | | |
| | W. Derby Avenue | E | ✓ | | | ✓ | |
| | SR 542 (Avenue G NW) | E | ✓ | | | ✓ | |
| | Spirit Lake Road | E | ✓ | | | ✓ | |
| | Coleman Road | E | ✓ | | | ✓ | |
| | 24th Street | E | ✓ | | | ✓ | |
| | 21st Street | E | ✓ | | | ✓ | |
| | 15th Street | E | ✓ | | | ✓ | |
| | Lake Ship Drive | E | ✓ | | | ✓ | |
| | Orrin Avenue | E | ✓ | | | ✓ | |
| | Private Drive | E | ✓ | | | ✓ | |
| | 7th Street SW | E | ✓ | | | ✓ | |
| | Avenue R SW | E | ✓ | | | ✓ | |
| | Private Central Florida Gas Drive | E | ✓ | | | ✓ | |
| | US 17/SR 555 (3rd Street) | E | | ✓ | | ✓ | |
| | American Superior Blvd | E | ✓ | | | ✓ | |
| | Croton Road N | E | ✓ | | | ✓ | |
| | Eloise Loop Road | E | ✓ | | | ✓ | |
| | Macon Road | E | ✓ | | | ✓ | |
| | Eagle Lake Loop Road | E | ✓ | | | ✓ | |
| | Pollard Road | E | ✓ | | | ✓ | |
| | **Subtotal** | **20** | **19** | **1** | **0** | **20** | **0** |

### 5.1.3 Alternative 2: Van Fleet/Chain of Lakes Alternative

**Route Description**

Similar to Alternative 1: Van Fleet/TECO, this route would also utilize portions of the Coleman Subdivision and Van Fleet Trail. This alternative would branch off of the existing CSX "S" Line at Coleman, Florida following the subdivision for approximately 16.2 miles before connecting to the Van Fleet State Trail for 29.2 miles. From the Van Fleet Trail at Polk City, the alignment would cross SR 33 and Interstate 4 near Polk City Road (557A), running to the south-southeast along the proposed Lake Alfred to Polk City Connector trail for a distance of 11.5 miles. The area is mostly undeveloped between Interstate 4 and Cass Road. Future land use classifications along the route in Lake Alfred include Very Low Density Residential, and conservation land. Low Density Single-Family residential is found on either side of North Buena Vista Drive.[21] Several water bodies are situated in the vicinity of the proposed route including Lake Mattie, Grassy Lake, and Lake Alfred.

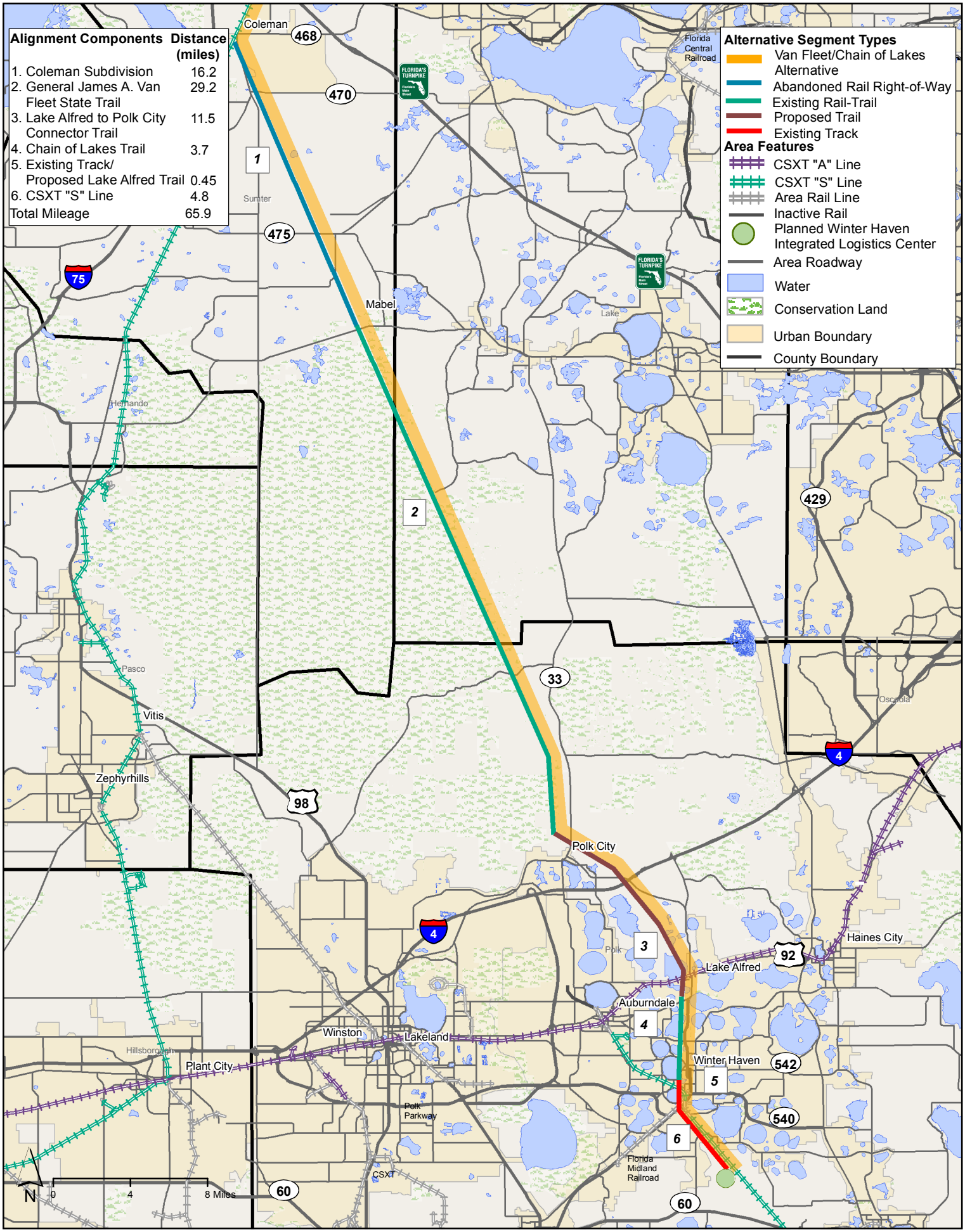
This route would then run south connecting to the proposed 0.45-mile Lake Alfred Trail near Haines Boulevard and the existing 3.7-mile Chain of Lakes Trail near the northern terminus of US 17/92 in Lake Alfred. The trail right-of-way, a former railroad alignment, loosely parallels US 17. After passing Avenue T NW (SR 544) in Winter Haven, the alignment would run adjacent to Martin Luther King Drive extending through the downtown core and Central Park area of Winter Haven. Land uses along this span are typified by low to medium density residential uses, industrial parcels, and commercial office and retail space.

This alternative would tie into existing CSX track just north of Avenue R and 4th Street SW in Winter Haven. The route would run adjacent to several industrial uses before passing beneath US 17 (3rd Street SW) on the "S" Line before running for approximately 4.8 miles to the planned ILC Site. The total distance of this alternative including the use of existing CSX and "S" Line track is estimated at approximately 66 miles. Refer to Figure 5-3: Van Fleet/Chain of Lakes Alternative for a depiction of the potential route.

**Alternative Summary by Segment**

Alternative 2: Van Fleet/Chain of Lakes is comprised of approximately six segments comprising a total of approximately 66 miles. Refer to Table 5-5, below for a summary of additional segment details. Segment types that would be utilized for this potential route include abandoned rail right-of-way, existing active rail right-of-way and new right-of-way adjacent to existing and proposed trails. Similar to Alternative 1, Alternative 2 would require approximately six sidings,

[21] City of Lake Alfred. *Planning Department, Future Land Use Map*. http://www.ci.lake-alfred.fl.us/PDF%20Docs/maps/Offical%20FLU%20Map121008.pdf (February 27, 2009).




Source: Bureau of Transportation Statistics National Transportation Atlas Database; FDOT; FDEP; ESRI Data

**Figure 5-3:**
**Alternative 2: Van Fleet/Chain of Lakes**
**FDOT District One**
**Rail Traffic Evaluation**

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**Table 5-5. Alternative 2: Van Fleet/Chain of Lakes Summary by Segment**

| | Former Coleman Subdivision | Van Fleet Trail (adjacent) | Lake Alfred to Polk City Connector Trail | Chain of Lakes Trail | Existing Track/Proposed Lake Alfred Trail | CSX "S" Line | TOTALS |
|---|---|---|---|---|---|---|---|
| **Mileage** | 16.2 | 29.2 | 11.5 | 3.7 | 0.45 | 4.8 | 66 |
| **Type of Segment** | Abandoned Rail Right-of-Way | New Rail ROW Adajcent to Existing Trail | New Rail ROW Adajcent to Proposed Trail | New Rail ROW Adajcent to Existing Trail | Abandoned Rail Right-of-Way | Existing Active Rail Right-of-Way | -- |
| **Current Use** | Vacant ROW; No Track | Various; Mostly Undeveloped | Various; Mostly Undeveloped | Various; Mostly Undeveloped | Unpaved/No Track | Predominantly single track, some double track | -- |
| **Issues** | | | New ROW | | New ROW | | -- |
| **Necessary Capital Improvements** | | | | | | | |
| **Right-of-Way** | None/Minimal upgrade - existing former rail ROW | New Roadbed & New Embankment | New Roadbed & New Embankment | New Roadbed & New Embankment | None/Minimal upgrade - existing former rail ROW | None - Existing Rail Roadbed | -- |
| **Track** | 16.2 miles of New Single Track | 29.2 miles of New Single Track | 11.5 miles of New Single Track | 3.7 miles of New Single Track | 0.45 miles of New Single Track | None | 61 |
| **Sidings** | Two, 10,000 foot sidings, each with #20 turnouts on ends | Three, 10,000 foot sidings, each with #20 turnouts on each end | One, 10,000 foot siding, with #20 turnouts on each end | -- | -- | None | 6 |
| **Special Trackwork** | Wye connection to "S" Line at Coleman | -- | -- | -- | Connection to "S" Line at Winter Haven | None | -- |
| **Drainage** | 16.2 miles of drainage improvements | 29.2 miles of drainage improvements | 11.5 miles of drainage improvements | 3.7 miles of drainage improvements | 0.45 miles of drainage improvements | None | 61 |
| **Land Acquisition** | 16.2 miles of property acquisition for new ROW | 29.2 miles of property acquisition for new ROW | 11.5 miles of property acquisition for new ROW | 3.7 miles of property acquisition for new ROW | 0.45 miles of property acquisition for new ROW | None | 61 |
| **Signals** | 16.2 miles of new signals | 29.2 miles of new signals | 11.5 miles of new signals | 3.7 miles of new signals | 0.45 miles of new signals | None | 61 |
| **Bridges** | None | None | None | None | None | None | 0 |
| **Grade Separation Structures** | New Structure in Coleman at US301/SR35 | None | New I-4, SR 33 and 17/92 Separations | New 544, 542 and US 17 Structures | None | | 7 |
| **Grade Crossings** | Install 11 new grade crossings | Install 7 new grade crossings | Install 13 new grade crossings | Install 21 new grade crossings | None | Upgrade 2 existing | Install 52 new x-ings and upgrade 2 existing |

each measuring 10,000 feet in length. Special trackwork required to implement this alternative would include a Wye Connection from the Coleman Subdivision segment to the "S" Line at Coleman and a connection to the "S" Line at Winter Haven. Additional capital improvements range from drainage improvements to new signal installation for approximately 61 miles of this 66-mile alternative.

**Rail Crossing Data**

As seen in Table 5-6, there are a total of 69 rail crossings associated with Alternative 2 consisting of 9 existing crossings and approximately 60 proposed crossings. This alternative calls for the installation of 52 new grade crossings with upgrades to two existing grade crossings. Improvements were assumed for seven potential grade separations for this alternative would be located at US 301/SR 35, SR 33, Interstate 4, US 17/92, Avenue T NW (SR 544), West Central Avenue (SR 542), and US 17 (3rd Street). Improvement upgrades were not assumed for the existing grade separations located at SR 50 in Mabel and US 17 (3rd Street SW) on the "S" Line in Winter Haven or the additional six existing grade crossings located along the southern portion of the "S" Line.

**Table 5-6. Alternative 2: Van Fleet/Chain of Lakes Crossings**

| **Alternative 2: Van Fleet/Chain of Lakes** | | | | | | | |
|---|---|---|---|---|---|---|---|
| ***Alignment Segment*** | | ***Crossing*** | ***Crossing Type*** | | | ***Level of Improvement*** | |
| | Roadway Name | Existing (E) / Proposed (P) | At-Grade Grade Crossing | Existing Grade Separation | Proposed Grade Separation | No Improvement Assumed | Improvement Assumed |
| **Coleman Subdivision** | | | | | | | |
| | Anderson Road | P | ✓ | | | | ✓ |
| | Unnamed Road | P | ✓ | | | | ✓ |
| | Route 35 | P | | | ✓ | | ✓ |
| | NE 19th Road | P | ✓ | | | | ✓ |
| | NE 22nd Way | P | ✓ | | | | ✓ |
| | CR 470 | P | ✓ | | | | ✓ |
| | County Road 520 | P | ✓ | | | | ✓ |
| | County Road 526 | P | ✓ | | | | ✓ |
| | West Kings Highway | P | ✓ | | | | ✓ |
| | Old Webster Road | P | ✓ | | | | ✓ |
| | CR 478 | P | ✓ | | | | ✓ |
| | SE 100th Avenue | P | ✓ | | | | ✓ |
| | SR 50 | P | | ✓ | | ✓ | |
| | **Subtotal** | **13** | **11** | **1** | **1** | **1** | **12** |
| **Van Fleet Trail** | | | | | | | |
| | Old 50 (SE 121st Avenue) | P | ✓ | | | | ✓ |
| | Unnamed Road | P | ✓ | | | | ✓ |
| | Bay Lake Road | P | ✓ | | | | ✓ |
| | Green Pond Road | P | ✓ | | | | ✓ |
| | Poyner Road | P | ✓ | | | | ✓ |
| | Deen Still Road | P | ✓ | | | | ✓ |
| | Fussell Road | P | ✓ | | | | ✓ |
| | **Subtotal** | **7** | **7** | **0** | **0** | **0** | **7** |
| **Lake Alfred to Polk City Connector Trail** | | | | | | | |
| | SR 33 (Commonwealth Ave) | P | | | ✓ | | ✓ |
| | Crest Road/Barfield Road | P | ✓ | | | | ✓ |
| | CR 557A (Polk City Road) | P | ✓ | | | | ✓ |
| | I-4 | P | | | ✓ | | ✓ |
| | Cass Road/Old Lake Alfred Road | P | ✓ | | | | ✓ |
| | N. Buena Vista Drive | P | ✓ | | | | ✓ |
| | E. Park Lane | P | ✓ | | | | ✓ |
| | Swoope Street | P | ✓ | | | | ✓ |
| | Junction with "A" Line | P | ✓ | | | | ✓ |
| | North Lake Shore Way | P | ✓ | | | | ✓ |
| | W. Haines Boulevard | P | ✓ | | | | ✓ |
| | W. Pierce Street | P | ✓ | | | | ✓ |
| | W. Orange Street | P | ✓ | | | | ✓ |
| | W. Cummings Street | P | ✓ | | | | ✓ |
| | Echo Street | P | ✓ | | | | ✓ |
| | US 17/92 | P | | | ✓ | | ✓ |
| | **Subtotal** | **16** | **13** | **0** | **3** | **0** | **16** |
| **Chain of Lakes Trail** | | | | | | | |
| | Private Drive | P | ✓ | | | | ✓ |
| | Bringham Road NW/Carefree Cove | P | ✓ | | | | ✓ |
| | Hyland Avenue | P | ✓ | | | | ✓ |
| | 2nd Street | P | ✓ | | | | ✓ |
| | Motor Pool Road | P | ✓ | | | | ✓ |
| | Avenue T NW (SR 544) | P | | | ✓ | | ✓ |
| | Spring Lake Court NW | P | ✓ | | | | ✓ |
| | Lake Silver Drive NW | P | ✓ | | | | ✓ |
| | Avenue L NW | P | ✓ | | | | ✓ |
| | Avenue I NW | P | ✓ | | | | ✓ |
| | Avenue E NW | P | ✓ | | | | ✓ |
| | Avenue D NW | P | ✓ | | | | ✓ |
| | Avenue B NW | P | ✓ | | | | ✓ |
| | Avenue A NW | P | ✓ | | | | ✓ |
| | W. Central Avenue (SR 542) | P | | | ✓ | | ✓ |
| | Avenue A SW | P | ✓ | | | | ✓ |
| | Avenue B SW | P | ✓ | | | | ✓ |
| | Avenue C SW | P | ✓ | | | | ✓ |
| | 4th Street SW | P | ✓ | | | | ✓ |
| | 5th Street SW | P | ✓ | | | | ✓ |
| | US 17 (3rd Street) | P | | | ✓ | | ✓ |
| | Avenue G SW | P | ✓ | | | | ✓ |
| | Avenue K SW | P | ✓ | | | | ✓ |
| | Avenue O SW | P | ✓ | | | | ✓ |
| | **Subtotal** | **24** | **21** | **0** | **3** | **0** | **24** |
| **Existing Track** | | | | | | | |
| | Avenue R SW | E | ✓ | | | | ✓ |
| | Private Drive | E | ✓ | | | | ✓ |
| | **Subtotal** | **2** | **2** | **0** | **0** | **0** | **2** |
| **CSX "S" Line** | | | | | | | |
| | US 17/SR 555 (3rd Street) | E | | ✓ | | ✓ | |
| | American Superior Blvd | E | ✓ | | | ✓ | |
| | Croton Road N | E | ✓ | | | ✓ | |
| | Eloise Loop Road | E | ✓ | | | ✓ | |
| | Macon Road | E | ✓ | | | ✓ | |
| | Eagle Lake Loop Road | E | ✓ | | | ✓ | |
| | Pollard Road | E | ✓ | | | ✓ | |
| | **Subtotal** | **7** | **6** | **1** | **0** | **7** | **0** |

### 5.1.4 Alternative 3: Plant City/Bartow Alternative

**Route Description**

Alternative 3: Plant City/Bartow would run approximately 104 miles from Coleman to the Winter Haven ILC site using a combination of existing active CSX right-of-way and right-of-way adjacent to one 12.1-mile proposed trail (Refer to Figure 5-4).

This alternative would run in a southerly direction along the existing "S" Line to the Vitis Junction. The distance from Coleman to the junction is approximately 39.5 miles. At the Vitis Junction, this route would connect to the Yeoman Subdivision extending approximately 18.1 miles to Plant City. Shortly after passing through Vitis, the existing alignment would track to the southwest through Zephyrhills. Land use proximate to the existing rail right-of-way in Zephyrhills is characterized by residential development to the west and the Zephyrhills Municipal Airport to the east. Just past the airport property near Tucker Road, the alignment turns to the southeast and then south at Jerry Road before paralleling SR 39/Paul Buchman Highway towards Plant City. Residential neighborhoods are located west of SR 39/Paul Buchman Highway between Jerry Road and County Line Road. Development thins out between County Line Road and Knights-Griffin Road with land use consisting of agricultural and undeveloped lands interspersed with rural residential development. The existing single track alignment becomes double-track immediately south of Joe McIntosh Road and continues approximately 2.4 miles to Plant City Junction. The alignment passes underneath Interstate 4 and development densities begin to increase along the alignment south of East Spencer Street into Plant City. Land use proximate to the alignment in Plant City includes a combination of industrial and commercial designations as well as a downtown core classification which allows a mixture of uses.

Plant City, which has historic ties to the railroad dating to 1885 with the extension of the South Florida Railroad, is currently serviced by the "S" Line running north-south and the "A" Line providing east-west access. These mainlines intersect at Plant City Junction which is comprised of grade level connections to the "A" Line's Lakeland Subdivision and the "S" Line's Yeoman Subdivision. Several train movements can be made at Plant City Junction. Currently, rail traffic heading south on the Yeoman Subdivision can either continue south on the Plant City Subdivision, turn east toward Lakeland, or west to Tampa along the "A" Line. Through rail traffic originating from Tampa can continue through the junction heading east toward Lakeland on the "A" Line, connect to the Yeoman Subdivision traveling north or the Plant City Subdivision on a southerly course. Rail traffic travelling west out of Lakeland on the "A" Line can make a through movement towards Tampa or connect with the Yeoman Subdivision heading north at the junction. Alternative 3 would continue on a southerly bearing through Plant City Junction connecting to the Plant City Subdivision.

This potential route would continue south from Plant City Junction for approximately 28.5 miles on existing, active CSX-owned right-of-way comprised of the Plant City and Valrico Subdivisions. The Plant City Subdivision runs approximately 11.1 miles from the Yeoman Subdivision through Plant City south to its connection with the Valrico Subdivision at Welcome Junction. Within Plant City, the alignment would pass several crossings including Martin Luther King Drive, South Collins, East Alabama, and East Alsobrook Streets before turning to the

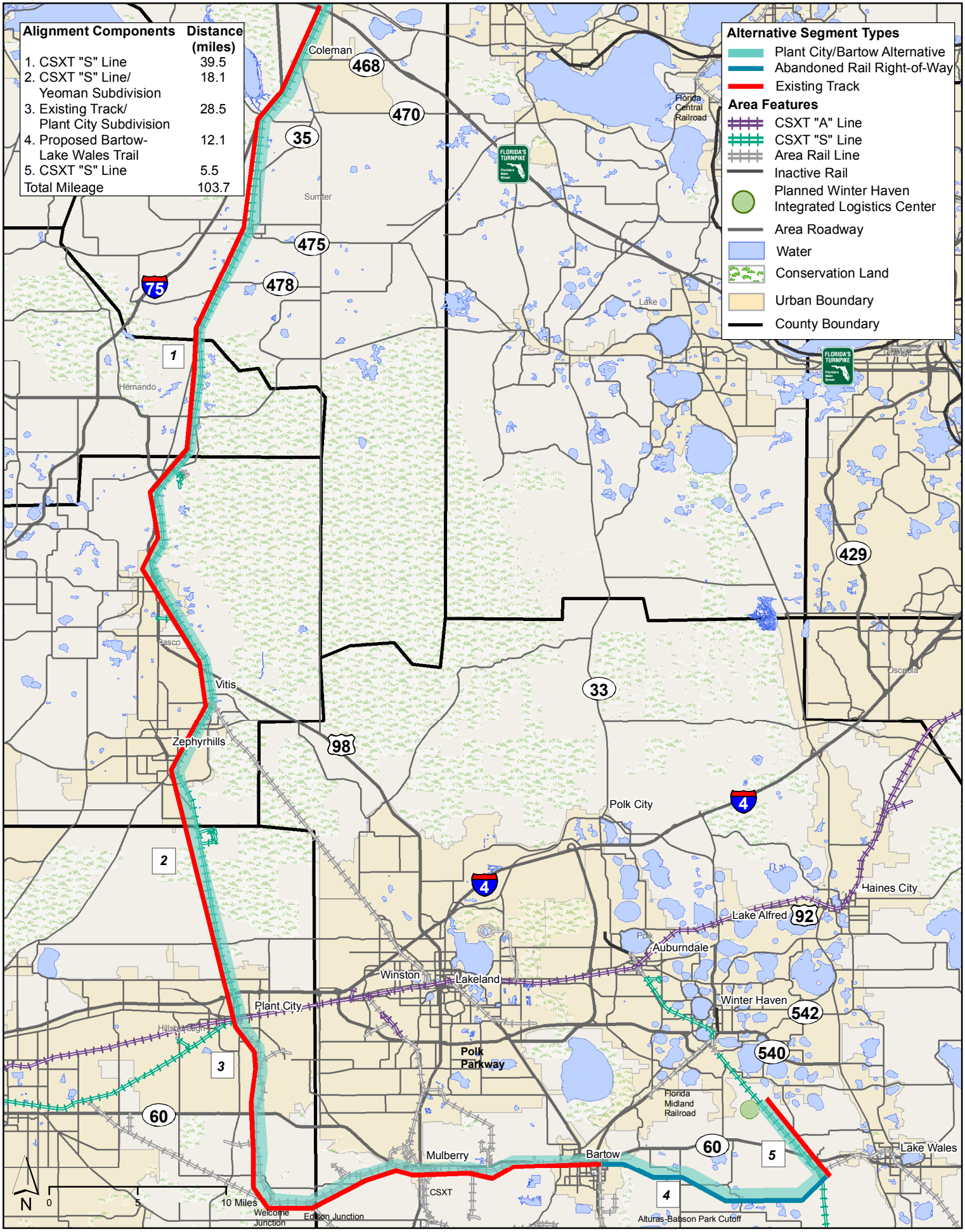


**Figure 5-4:**
**Alternative 3: Plant City/Bartow**
**FDOT District One**
**Rail Traffic Evaluation**

Source: Bureau of Transportation Statistics National Transportation Atlas Database; FDOT; FDEP; ESRI Data

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southeast passing a distribution center and stadium to the east. The route would pass distribution/warehousing uses near the intersection of Jim Johnson Road and East Alexander Street continuing south into the Trapnell area of Plant City. This area is characterized by a mix of low-density residential housing and agricultural lands. South of SR 60, the right-of-way is bounded by agricultural lands and areas near Hopewell that have been mined for phosphate. This subdivision continues south towards Keysville where it connects to the Valrico Subdivision at Welcome Junction.

Alternative 3 would utilize a portion of the Valrico Subdivision which extends approximately 11.4 miles east through Bartow, Florida. The route would run through Edison Junction then shift to a northeast heading towards Nichols Road in Mulberry. This area of Mulberry primarily serves the phosphate mine industry and other related uses. The route loosely follows Nichols Road before turning east and running parallel to SR 60 towards downtown Mulberry. Continuing east, the right-of-way passes SW 3rd and SW 2nd Avenues in Mulberry before crossing CSX-owned right-of-way on the Bone Valley Subdivision at the intersection of NW Phosphate Boulevard and SR 37. The route would cross several local roadways through Mulberry passing industrial plants which frame either side of the right-of-way.

On the western edge of Bartow, the right-of-way is framed by heavy industry, the Florida Institute of Phosphate Research, as well as a cemetery to the south and residential housing to the north. The alignment would extend beneath the SR 60/SR 60A Bypass and through downtown Bartow. While the existing active rail right-of-way turns south toward Fort Meade just after the existing US 17/98 grade separation, the proposed alternative would connect to an approximately 12.1-mile abandoned rail corridor proposed for use as the Bartow-Lake Wales Trail. In Bartow, the proposed route would continue east near SR 60 with proposed at-grade crossings at East North Street and North Restwood Avenue.

Continuing east, the proposed route would pass near the Bartow Golf Course before turning southeast towards Alturas. Land in this area is mostly undeveloped or agricultural with some residential development in Alturas. The potential alignment runs parallel to East Central Avenue before turning northeast along North Lake Wales Alturas Road connecting to the existing "S" Line track approximately 5.5 miles south of the ILC site. This alternative would then turn north-northwest passing Old Icehouse Road, SR 60, and Old Lake Wales Road before connecting to the planned ILC in Winter Haven.

**Alternative Summary by Segment**

Alternative 3: Plant City/Bartow would consist of approximately five segments comprising a total of approximately 104 miles. Segment types and potential capital improvements for this alternative are detailed below. As indicated in Table 5-7, no capital improvements would be required for the northern portion of the "S" Line. Improvements on the Yeoman Subdivision segment would include two sidings and special trackwork at Plant City. The Plant City and Valrico Subdivisions would require an entirely new second main track in addition to sidings and signal upgrades. That segment would also require reconfiguration of industry tracks to accommodate the new infrastructure with crossovers to allow industry access/service from either main track.

**Table 5-7. Alternative 3: Plant City/Bartow Summary by Segment**

| | CSX "S" Line | CSX Yeoman Subdivision | CSX Plant City & Varico Subdivisions | Proposed Bartow-Lake Wales Trail | CSX "S" Line | TOTALS |
|---|---|---|---|---|---|---|
| **Mileage** | 39.5 | 18.1 | 28.5 | 12.1 | 5.5 | 104 |
| **Type of Segment** | Existing Active Rail Right-of-Way | Existing Active Rail Right-of-Way | Existing Active Rail Right-of-Way | New Rail ROW Adajcent to Existing Trail | Existing Active Rail Right-of-Way | -- |
| **Current Use** | Mostly single track freight, some double track | Mostly single track freight, some double track | Mostly single track freight, some double track | Various; Mostly Undeveloped | Mostly single track freight, some double track | -- |
| **Issues** | | | High density of local freight switching | | | -- |
| **Necessary Capital Improvements** | | | | | | |
| **Right-of-Way** | None | None | None/Minimal upgrade - existing former rail ROW | New Roadbed & New Embankment | None - Existing Rail Roadbed | -- |
| **Track** | None | None | 28.5 miles of New Single Track | 3.7 miles of New Single Track | 5.5 of New Double Track | 52 |
| **Sidings** | None | Two, 10,000 foot siding, with #20 turnouts on each end | Three, 10,000 foot siding, with #20 turnouts on each end | One, 10,000 foot siding, with #20 turnouts on each end | None | 6 |
| **Special Trackwork** | None | Special trackwork at Plant City | Special trackwork to accommodate industrial tracks through Bone Valley (wyes and interlockings) | Wye connection to "S" Line at Winter Haven | None | -- |
| **Drainage** | None | None | 28.5 miles of drainage improvements | 12.1 miles of drainage improvements | 5.5 miles of draingage improvements | 41 |
| **Land Acquisition** | None | None | 28.5 miles of additonal property acquisition to widen ROW | 12.1 miles of property acquisition for new ROW | None | 12 miles new ROW; 29 miles widened ROW |
| **Signals** | None | None | 28.5 miles of new signals | 12.1 miles of new signals | 11 miles of signals | 52 |
| **Bridges** | None | None | None | New Bridge over Peace River | None | 1 |
| **Grade Separation Structures** | None | None | 4 grade separations of existing x-ings (SR 60, SR37, SR 60, SR 35/US98/N. Broadway) | 2 New grade separations (Flamingo Drive/SR 60 Access Road, SR 60) | No upgrades | 6 |
| **Grade Crossings** | None | None | Upgrade 51 existing crossings | Install 12 new grade crossings | Upgrade 2 existing crossings | Install 12 new x-ings and upgrade 53 existing |

**Table 5-8. Alternative 3: Plant City/Bartow Crossings**

| **Alternative 3: Plant City/Bartow** | | | | | | | |
|---|---|---|---|---|---|---|---|
| ***Alignment Segment*** | | ***Crossing*** | ***Crossing Type*** | | | ***Level of Improvement*** | |
| | Roadway Name | Existing (E) / Proposed (P) | At-Grade Grade Crossing | Existing Grade Separation | Proposed Grade Separation | No Improvement Assumed | Improvement Assumed |
| **CSX "S" Line** | | | | | | | |
| | Taylor Avenue | E | ✓ | | | ✓ | |
| | Warm Spring Avenue | E | ✓ | | | ✓ | |
| | Coleman Cemetery Drive | E | ✓ | | | ✓ | |
| | CR 470 | E | ✓ | | | ✓ | |
| | Private Road | E | ✓ | | | ✓ | |
| | Private Road | E | ✓ | | | ✓ | |
| | CR 532 | E | ✓ | | | ✓ | |
| | Private Road | E | ✓ | | | ✓ | |
| | CR 542 | E | ✓ | | | ✓ | |
| | E. Belt Avenue | E | ✓ | | | ✓ | |
| | Wallace Hatchery | E | ✓ | | | ✓ | |
| | E. Noble Avenue | E | ✓ | | | ✓ | |
| | Bushnell Plaza | E | ✓ | | | ✓ | |
| | E. Central Avenue | E | ✓ | | | ✓ | |
| | CR 476 (W. Seminole Avenue) | E | ✓ | | | ✓ | |
| | Private Triple Ranch | E | ✓ | | | ✓ | |
| | Private Crossing (CR 700) | E | ✓ | | | ✓ | |
| | CR 720 | E | ✓ | | | ✓ | |
| | CR 478 | E | ✓ | | | ✓ | |
| | CR 738A | E | ✓ | | | ✓ | |
| | CR 771 (SW 103rd Place) | E | ✓ | | | ✓ | |
| | Private Road D | E | ✓ | | | ✓ | |
| | Kramer Street/Gresham Road | E | ✓ | | | ✓ | |
| | Private Road | E | ✓ | | | ✓ | |
| | SR 50 (Cortez Boulevard) | E | ✓ | | | ✓ | |
| | SR 575 | E | ✓ | | | ✓ | |
| | Bower Road | E | ✓ | | | ✓ | |
| | Cummer Road | E | ✓ | | | ✓ | |
| | Private Road | E | ✓ | | | ✓ | |
| | Mickler Road | E | ✓ | | | ✓ | |
| | Owensboro Road | E | ✓ | | | ✓ | |
| | Gould Road | E | ✓ | | | ✓ | |
| | Ashbrook Road | E | ✓ | | | ✓ | |
| | Jordan Road | E | ✓ | | | ✓ | |
| | Pioneer Museum Road/Long Avenue | E | ✓ | | | ✓ | |
| | Pasco Beverage | E | ✓ | | | ✓ | |
| | Private Pasco Beverage | E | ✓ | | | ✓ | |
| | River Road Drive | E | ✓ | | | ✓ | |
| | Martin Luther King Boulevard | E | ✓ | | | ✓ | |
| | Tuskeegee Avenue | E | ✓ | | | ✓ | |
| | Wilson Street | E | ✓ | | | ✓ | |
| | Dixie Drive | E | ✓ | | | ✓ | |
| | Old Sparkman Road | E | ✓ | | | ✓ | |
| | Johnson Street | E | ✓ | | | ✓ | |
| | Larkin Lake Drive | E | ✓ | | | ✓ | |
| | Johnson Road | E | ✓ | | | ✓ | |
| | Enterprise Road | E | ✓ | | | ✓ | |
| | Private Road (Lykes Agri In) | E | ✓ | | | ✓ | |
| | Santa Gertrudis Drive | E | ✓ | | | ✓ | |
| | Private Road (Waller Ranch) | E | ✓ | | | ✓ | |
| | Messick Road | E | ✓ | | | ✓ | |
| | SR 35/SR 700/US 98 | E | | ✓ | | ✓ | |
| | Stewart Road | E | ✓ | | | ✓ | |
| | CR 35A/Melrose Avenue | E | ✓ | | | ✓ | |
| | **Subtotal** | **54** | **53** | **1** | **0** | **54** | **0** |
| **CSX "S" Line/Yeoman Subdivision** | | | | | | | |
| | Old Lakeland Highway | E | ✓ | | | ✓ | |
| | Lynbrook Drive | E | ✓ | | | ✓ | |
| | SR 54 | E | ✓ | | | ✓ | |
| | 6th Avenue | E | ✓ | | | ✓ | |
| | South Avenue | E | ✓ | | | ✓ | |
| | 20th Street | E | ✓ | | | ✓ | |
| | Alston Avenue | E | ✓ | | | ✓ | |
| | 20th Street South | E | ✓ | | | ✓ | |
| | Tucker Road | E | ✓ | | | ✓ | |
| | Chancee Road | E | ✓ | | | ✓ | |
| | Jerry/Marton Road | E | ✓ | | | ✓ | |
| | Bay Avenue | E | ✓ | | | ✓ | |
| | County Line Road | E | ✓ | | | ✓ | |
| | Private Road | E | ✓ | | | ✓ | |
| | Private Road | E | ✓ | | | ✓ | |
| | Private Road | E | ✓ | | | ✓ | |
| | Private Road | E | ✓ | | | ✓ | |
| | Candis Road | E | ✓ | | | ✓ | |
| | Private Road | E | ✓ | | | ✓ | |
| | Private Road | E | ✓ | | | ✓ | |
| | Hunter Road | E | ✓ | | | ✓ | |
| | Private Road | E | ✓ | | | ✓ | |
| | Private Road | E | ✓ | | | ✓ | |
| | Knights-Griffin Road | E | ✓ | | | ✓ | |
| | Private Road | E | ✓ | | | ✓ | |
| | Private Road | E | ✓ | | | ✓ | |
| | Terra | E | ✓ | | | ✓ | |
| | Private Road | E | ✓ | | | ✓ | |
| | Joe McIntosh Road | E | ✓ | | | ✓ | |
| | Chapman Road | E | ✓ | | | ✓ | |
| | Joe McIntosh Road | E | ✓ | | | ✓ | |
| | Sam Allen Road | E | ✓ | | | ✓ | |
| | Terrace Drive | E | ✓ | | | ✓ | |
| | I-4 | E | | ✓ | | ✓ | |
| | S. Frontage Road | E | ✓ | | | ✓ | |

**Table 5-8. Alternative 3: Plant City/Bartow Crossings**

| **Alternative 3: Plant City/Bartow** | | | | | | | |
|---|---|---|---|---|---|---|---|
| ***Alignment Segment*** | | ***Crossing*** | ***Crossing Type*** | | | ***Level of Improvement*** | |
| | Roadway Name | Existing (E) / Proposed (P) | At-Grade Grade Crossing | Existing Grade Separation | Proposed Grade Separation | No Improvement Assumed | Improvement Assumed |
| | E. Spencer Street | E | ✓ | | | ✓ | |
| | Calhoun Street E | E | ✓ | | | ✓ | |
| | Herring Street (Pedestrians Only) | E | ✓ | | | ✓ | |
| | US 92 (Baker Street) | E | ✓ | | | ✓ | |
| | Reynolds Street | E | ✓ | | | ✓ | |
| | **Subtotal** | **40** | **39** | **1** | **0** | **39** | **0** |
| **Plant City/Valrico Subdivisions** | | | | | | | |
| | E. MLK Drive/E. Haines Street | E | ✓ | | | | ✓ |
| | S. Collins Street | E | ✓ | | | | ✓ |
| | E. Laura Street | E | ✓ | | | | ✓ |
| | E. Alabama Street | E | ✓ | | | | ✓ |
| | E. Alsobrook Street | E | ✓ | | | | ✓ |
| | Gray Street | E | ✓ | | | | ✓ |
| | Park Road | E | ✓ | | | | ✓ |
| | E. Alexander Street | E | ✓ | | | | ✓ |
| | Jim Johnson Road | E | ✓ | | | | ✓ |
| | Private Road adjacent to Jim Johnson Rd | E | ✓ | | | | ✓ |
| | Sparkman Road | E | ✓ | | | | ✓ |
| | Trapnell Road | E | ✓ | | | | ✓ |
| | CA Bugg Road | E | ✓ | | | | ✓ |
| | Colson Road | E | ✓ | | | | ✓ |
| | SR 60 | E | | | ✓ | | ✓ |
| | Old Hopewell Road | E | ✓ | | | | ✓ |
| | Private Road | E | ✓ | | | | ✓ |
| | E. Keysville Road | E | ✓ | | | | ✓ |
| | Private Road | E | ✓ | | | | ✓ |
| | Keysville Road | E | ✓ | | | | ✓ |
| | Private Road | E | ✓ | | | | ✓ |
| | Private Road | E | ✓ | | | | ✓ |
| | Edison Road | E | ✓ | | | | ✓ |
| | County Line Road | E | ✓ | | | | ✓ |
| | Nichols Road | E | ✓ | | | | ✓ |
| | Cargill Corp. | E | ✓ | | | | ✓ |
| | CR 676 | E | ✓ | | | | ✓ |
| | Tricote Rd./Old Hwy 60 | E | ✓ | | | | ✓ |
| | Jenkins Road | E | ✓ | | | | ✓ |
| | Diesel Road | E | ✓ | | | | ✓ |
| | SW 3rd Avenue | E | ✓ | | | | ✓ |
| | SW 2nd Avenue | E | ✓ | | | | ✓ |
| | NW Phosphate Blvd (int. with SR 37) | E | ✓ | | | | ✓ |
| | SR 37 | E | | | ✓ | | ✓ |
| | SE 6th Avenue | E | ✓ | | | | ✓ |
| | SE 9th Avenue | E | ✓ | | | | ✓ |
| | Private Crossing | E | ✓ | | | | ✓ |
| | Landfill | E | ✓ | | | | ✓ |
| | W. R. Grace Cargill | E | ✓ | | | | ✓ |
| | Royster Mine Road | E | ✓ | | | | ✓ |
| | C.F. Industries | E | ✓ | | | | ✓ |
| | Bonnie Mine Road | E | ✓ | | | | ✓ |
| | Private Road | E | ✓ | | | | ✓ |
| | Private (Imperial Phosphate) | E | ✓ | | | | ✓ |
| | Private Access Road | E | ✓ | | | | ✓ |
| | SR 60 | E | | | ✓ | | ✓ |
| | Private Road | E | ✓ | | | | ✓ |
| | Private Road | E | ✓ | | | | ✓ |
| | N. Crown Avenue | E | ✓ | | | | ✓ |
| | N. Baker Avenue | E | ✓ | | | | ✓ |
| | SR 60A/SR 60 (Bypass) | E | | ✓ | | ✓ | |
| | N. Mill Avenue | E | ✓ | | | | ✓ |
| | N. Broadway (SR 35/US 98) | E | | | ✓ | | ✓ |
| | N. Wilson Avenue (RR bridge over roadway | E | | ✓ | | ✓ | |
| | N. Jackson Avenue | E | ✓ | | | | ✓ |
| | N. Oak Avenue | E | ✓ | | | | ✓ |
| | N. Searcy Avenue | E | ✓ | | | | ✓ |
| | US 17/98 | E | | ✓ | | ✓ | |
| | **Subtotal** | **58** | **51** | **3** | **4** | **3** | **55** |
| **Proposed Bartow-Lake Wales Trail** | | | | | | | |
| | E. North Street | P | ✓ | | | | ✓ |
| | N. Restwood Avenue | P | ✓ | | | | ✓ |
| | E. Flamingo Drive (SR 60 Access Road) | P | | | ✓ | | ✓ |
| | 80 Foot Road | P | ✓ | | | | ✓ |
| | Cox Road | P | ✓ | | | | ✓ |
| | Pit Road | P | ✓ | | | | ✓ |
| | Oak Drive/2nd Street | P | ✓ | | | | ✓ |
| | 3rd Street | P | ✓ | | | | ✓ |
| | Estes Road | P | ✓ | | | | ✓ |
| | Long Lake Road | P | ✓ | | | | ✓ |
| | East Central Avenue | P | ✓ | | | | ✓ |
| | Askew Drive | P | ✓ | | | | ✓ |
| | Newcombe Road | P | ✓ | | | | ✓ |
| | **Subtotal** | **13** | **12** | **0** | **1** | **0** | **13** |
| **CSX "S" Line** | | | | | | | |
| | Old Icehouse Road | E | ✓ | | | | ✓ |
| | SR 60 | E | | | ✓ | | ✓ |
| | Old Lake Wales Road | E | ✓ | | | | ✓ |
| | **Subtotal** | **3** | **2** | **0** | **1** | **1** | **3** |

**Rail Crossing Data**

There are a total of 168 rail crossings associated with Alternative 3. Of these, approximately 155 are existing crossings and the remaining 13 proposed. There are five existing grade separations in place along this route and 6 potential grade separations along state routes or major highways. This alternative calls for upgrades to 53 existing at-grade crossings along the Plant City and Valrico Subdivisions and southern portion of the "S" Line. Refer to Table 5-8.

### 5.1.5 Alternative 4: Winston/Bartow Alternative

**Route Description**

The Winston/Bartow Alternative, also known as Alternative 4, travels approximately 99 miles from Coleman to the ILC site in Winter Haven (see Figure 5-5). This route would connect to the Vitis Junction and run southeast for approximately 19.2 miles. Instead of turning east through downtown Lakeland this potential route would turn west onto the Lakeland Subdivision of the "A" Line for approximately 3.1 miles before turning south through Winston on the Bone Valley Subdivision for approximately 10.7 miles. This potential route would then extend approximately 9.1 miles east on the CSX-owned Valrico Subdivision and continue through Bartow. Like the Plant City/Bartow Alternative, this route would utilize the proposed Bartow-Lake Wales trail for approximately 12.1 miles. The alternative would then hook into the existing "S" Line track in the vicinity of West Lake Wales and then turn north-northwest for approximately 5.5 miles to the planned ILC site.

This alternative would share several segments, noted below, that have been previously summarized in this document. The following segments are referenced as follows:

- Existing "S" Line track from Coleman (Refer to Section 5.1.1, "S" Line Freight Rail Routing to Winter Haven ILC Site and Section 5.1.4, Alternative 3: Plant City/Bartow for a full description)
- Vitis Subdivision currently used for existing freight rail routing (see Sections 2.1.3, and 5.1.1).
- Proposed Bartow-Lake Wales Trail (Refer to Section 5.1.4, Alternative 3: Plant City/Bartow for a full description)
- Existing "S" Line track to ILC site in Winter Haven (see Section 5.1.4)

Segments that have already been described in other sections of this document may be described briefly within the context of Alternative 4; however the route description for this potential alignment will focus on the Lakeland/Bone Valley/Valrico Subdivision as the distinct segment of this route.

As discussed above, this potential route would turn west off of the Vitis Subdivision at Lakeland Junction proceeding toward Winston on the "A" Line (Lakeland Subdivision). The existing right-of-way would cross a railroad bridge over US 92/George Jenkins Boulevard and pass Wabash Avenue at-grade before turning south at Winston Junction and crossing Old Tampa Highway. Prominent land use features in this area include a 1.8 mile multi-track yard known as Winston

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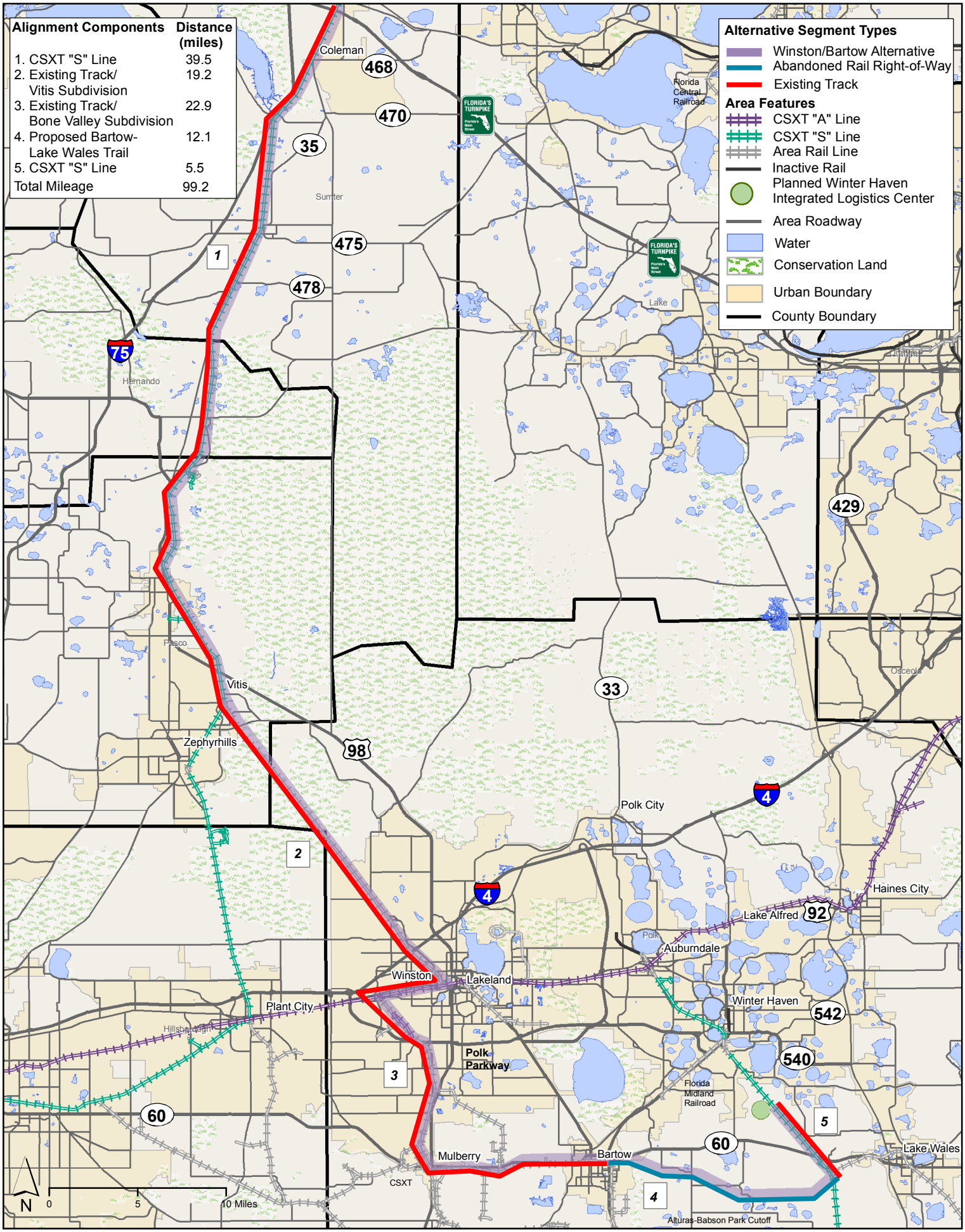


Source: Bureau of Transportation Statistics National Transportation Atlas Database; FDOT; FDEP; ESRI Data

**Figure 5-5:**
**Alternative 4: Winston/Bartow**
**FDOT District One**
**Rail Traffic Evaluation**

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Yard and the Town Center Shopping Mall which is located east of the alignment and north of Polk Parkway (SR 570). The existing right-of-way is grade separated from Polk Parkway and the alternative would continue on a southerly course towards Mulberry Yard. Residential development consisting of subdivisions and single-family homes are located east of the right-of-way between West Pipkin and Shepherd Roads. A number of commercial convenience uses such including restaurants and banks are located on the west of the alignment along SR 37.

This route would run adjacent to two golf course developments, Reservation Golf Course and Angler's Green Golf Course that are located east of the right-of-way prior to entering Mulberry Yard. From Mulberry Yard, this potential alignment would generally run parallel to SR 60. Alternative 4 would cross several local roadways through Mulberry passing industrial plants situated between Royster Mine and Bonnie Mine Roads before entering Bartow.

At the western extent of Bartow, the right-of-way crosses SR 60 which is framed by heavy industry as well as the Florida Institute of Phosphate Research. Like Alternative 3, the proposed alternative would extend through downtown Bartow before connecting to an approximately 12.1-mile abandoned rail corridor proposed for use as the Bartow-Lake Wales Trail. This alternative would connect to the existing "S" Line track before heading on a north-northwest trajectory passing Old Icehouse Road, SR 60, and Old Lake Wales Road towards the planned ILC site in Winter Haven.

**Alternative Summary by Segment**

Alternative 4: Winston/Bartow would be comprised of five segments totaling approximately 99 miles. No capital improvements would be required for the northern portion of the "S" Line with minimal improvements required for the Vitis Subdivision including two sidings and special trackwork at Winston. A number of improvements to CSX-owned track south of the "A" Line would be needed to address both the physical track condition and the high density of local freight switching through Bone Valley in order to accommodate this alternative. The Bone Valley and Valrico Subdivisions would require an entirely new second main track in addition to sidings and signal upgrades. That segment would also require reconfiguration of industry tracks to accommodate the new infrastructure with crossovers to allow industry access/service from either main track. Segment details are presented below in Table 5-9.

## Table 5-9. Alternative 4: Winston/Bartow Summary by Segment

| | CSX "S" Line | CSX Vitis Subdivision | CSX Lakeland, Bone Valley & Valrico Subdivisions | Proposed Bartow-Lake Wales Trail | CSX "S" Line | TOTALS |
|---|---|---|---|---|---|---|
| **Mileage** | 39.5 | 19.2 | 22.9 | 12.1 | 5.5 | 99 |
| **Type of Segment** | Existing Active Rail Right-of-Way | Existing Active Rail Right-of-Way | Existing Active Rail Right-of-Way | New Rail ROW Adajcent to Existing Trail | Existing Active Rail Right-of-Way | -- |
| **Current Use** | Mostly single track freight, some double track | Mostly single track freight, some double track | Mostly single track freight, some double track | Various; Mostly Undeveloped | Mostly single track freight, some double track | -- |
| **Issues** | | | High density of local freight switching | | | -- |
| **Necessary Capital Improvements** | | | | | | |
| **Right-of-Way** | None | None | None | New Roadbed & New Embankment | None | -- |
| **Track** | None | None | 22.9 miles of New Single Track | 12.1 miles of New Single Track | 5.5 of New Double Track | 46 |
| **Sidings** | None | Two, 10,000 foot siding, with #20 turnouts on each end | Two, 10,000 foot siding, with #20 turnouts on each end | Two, 10,000 foot siding, with #20 turnouts on each end | None | 6 |
| **Special Trackwork** | None | Special trackwork at Winston | Special trackwork to accommodate industrial tracks through Bone Valley (wyes and interlockings) | Wye connection to "S" Line South of Winter Haven | None | -- |
| **Drainage** | None | None | 22.9 miles of drainage improvements | 12.1 miles of drainage improvements | None | 35 |
| **Land Acquisition** | None | None | 22.9 miles of additonal property acquisition to widen ROW | 12.1 miles of property acquisition for new ROW | None | 12 miles new ROW; 23 miles widened ROW |
| **Signals** | None | None | 22.9 miles of new signals | 12.1 miles of new signals | 11 miles of signals | 46 |
| **Bridges** | None | None | None | New Bridge over Peace River | None | 1 |
| **Grade Separation Structures** | None | None | 4 grade separations of existing x-ings (SR 60, SR37, SR 60, SR 35/US98/N. Broadway) | 2 New grade separations (Flamingo Drive/SR 60 Access Road, SR 60) | No upgrades | 6 |
| **Grade Crossings** | None | None | Upgrade 33 existing crossings | Install 12 new grade crossings | Upgrade 2 existing crossings | Install 12 new x-ings and upgrade 34 existing |

**Rail Crossing Data**

There would be a total of 128 rail crossings associated with Alternative 4 comprised of 115 existing crossings and approximately 13 new crossings. Improvements were assumed for six potential grade separations for this alternative. No improvements were assumed for the eight existing grade separations along this route which would remain in place. This alternative also calls for the potential installation of 12 new at-grade crossings with upgrades to 34 existing at-grade crossings. Refer to Table 5-10.

**Table 5-10. Alternative 4: Winston/Bartow Crossings**

| **Alternative 4: Winston/Bartow** | | | | | | | |
|---|---|---|---|---|---|---|---|
| ***Alignment Segment*** | | ***Crossing*** | ***Crossing Type*** | | | ***Level of Improvement*** | |
| | Roadway Name | Existing (E) / Proposed (P) | At-Grade Grade Crossing | Existing Grade Separation | Proposed Grade Separation | No Improvement Assumed | Improvement Assumed |
| **CSX "S" Line** | | | | | | | |
| | Taylor Avenue | E | ✓ | | | ✓ | |
| | Warm Spring Avenue | E | ✓ | | | ✓ | |
| | Coleman Cemetery Drive | E | ✓ | | | ✓ | |
| | CR 470 | E | ✓ | | | ✓ | |
| | Private Road | E | ✓ | | | ✓ | |
| | Private Road | E | ✓ | | | ✓ | |
| | CR 532 | E | ✓ | | | ✓ | |
| | Private Road | E | ✓ | | | ✓ | |
| | CR 542 | E | ✓ | | | ✓ | |
| | E. Belt Avenue | E | ✓ | | | ✓ | |
| | Wallace Hatchery | E | ✓ | | | ✓ | |
| | E. Noble Avenue | E | ✓ | | | ✓ | |
| | Bushnell Plaza | E | ✓ | | | ✓ | |
| | E. Central Avenue | E | ✓ | | | ✓ | |
| | CR 476 (W. Seminole Avenue) | E | ✓ | | | ✓ | |
| | Private Triple Ranch | E | ✓ | | | ✓ | |
| | Private Crossing (CR 700) | E | ✓ | | | ✓ | |
| | CR 720 | E | ✓ | | | ✓ | |
| | CR 478 | E | ✓ | | | ✓ | |
| | CR 738A | E | ✓ | | | ✓ | |
| | CR 771 (SW 103rd Place) | E | ✓ | | | ✓ | |
| | Private Road D | E | ✓ | | | ✓ | |
| | Kramer Street/Gresham Road | E | ✓ | | | ✓ | |
| | Private Road | E | ✓ | | | ✓ | |
| | SR 50 (Cortez Boulevard) | E | ✓ | | | ✓ | |
| | SR 575 | E | ✓ | | | ✓ | |
| | Bower Road | E | ✓ | | | ✓ | |
| | Cummer Road | E | ✓ | | | ✓ | |
| | Private Road | E | ✓ | | | ✓ | |
| | Mickler Road | E | ✓ | | | ✓ | |
| | Owensboro Road | E | ✓ | | | ✓ | |
| | Gould Road | E | ✓ | | | ✓ | |
| | Ashbrook Road | E | ✓ | | | ✓ | |
| | Jordan Road | E | ✓ | | | ✓ | |
| | Pioneer Museum Road/Long Avenue | E | ✓ | | | ✓ | |
| | Pasco Beverage | E | ✓ | | | ✓ | |
| | Private Pasco Beverage | E | ✓ | | | ✓ | |
| | River Road Drive | E | ✓ | | | ✓ | |
| | Martin Luther King Boulevard | E | ✓ | | | ✓ | |
| | Tuskeegee Avenue | E | ✓ | | | ✓ | |
| | Wilson Street | E | ✓ | | | ✓ | |
| | Dixie Drive | E | ✓ | | | ✓ | |
| | Old Sparkman Road | E | ✓ | | | ✓ | |
| | Johnson Street | E | ✓ | | | ✓ | |
| | Larkin Lake Drive | E | ✓ | | | ✓ | |
| | Johnson Road | E | ✓ | | | ✓ | |
| | Enterprise Road | E | ✓ | | | ✓ | |
| | Private Road (Lykes Agri In) | E | ✓ | | | ✓ | |
| | Santa Gertrudis Drive | E | ✓ | | | ✓ | |
| | Private Road (Waller Ranch) | E | ✓ | | | ✓ | |
| | Messick Road | E | ✓ | | | ✓ | |
| | SR 35/SR 700/US 98 | E | | ✓ | | ✓ | |
| | Stewart Road | E | ✓ | | | ✓ | |
| | CR 35A/Melrose Avenue | E | ✓ | | | ✓ | |
| | **Subtotal** | **54** | **53** | **1** | **0** | **54** | **0** |
| **Vitis Subdivision** | | | | | | | |
| | CR 54A/Elwood Merrick Road | E | ✓ | | | ✓ | |
| | CR 54 | E | ✓ | | | ✓ | |
| | 1st Street NW | E | ✓ | | | ✓ | |
| | Oak Avenue NW | E | ✓ | | | ✓ | |
| | Deeson Road | E | ✓ | | | ✓ | |
| | Unnamed Road Crossing | E | ✓ | | | ✓ | |
| | Pvt. Tony Elrod Avenue | E | ✓ | | | ✓ | |
| | Youngs Ridge Road | E | ✓ | | | ✓ | |
| | Strickland Avenue | E | ✓ | | | ✓ | |
| | Private Road | E | ✓ | | | ✓ | |
| | Galloway Road | E | ✓ | | | ✓ | |
| | Sleepy Hill Road | E | ✓ | | | ✓ | |
| | Knights Station/Griffin Road | E | ✓ | | | ✓ | |
| | 1-4/SR 400 | E | | ✓ | | ✓ | |
| | Fairbanks Street | E | ✓ | | | ✓ | |
| | 10th Street | E | ✓ | | | ✓ | |
| | US 92 (Memorial Boulevard) | E | | ✓ | | ✓ | |
| | **Subtotal** | **17** | **15** | **2** | **0** | **17** | **0** |
| **Lakeland/Bone Valley/Valrico Subdivisions** | | | | | | | |
| | US 92/George Jenkins Boulevard (RR Bridge over roadway) | E | | ✓ | | ✓ | |
| | Wabash Avenue | E | ✓ | | | | ✓ |
| | Old Tampa Highway | E | ✓ | | | | ✓ |
| | Polk Parkway | E | | ✓ | | ✓ | |
| | W. Pipkin Road | E | ✓ | | | | ✓ |
| | Schoolhouse Road | E | ✓ | | | | ✓ |
| | Ewell Road | E | ✓ | | | | ✓ |
| | Private Drive | E | ✓ | | | | ✓ |
| | Shepherd Road | E | ✓ | | | | ✓ |
| | NW 7th Street | E | ✓ | | | | ✓ |
| | NW 5th Street | E | ✓ | | | | ✓ |
| | NW 2nd Street | E | ✓ | | | | ✓ |
| | Pedestrian Crossing | E | ✓ | | | | ✓ |
| | W. Badcock Boulevard | E | ✓ | | | | ✓ |
| | SR 60 | E | | | ✓ | | ✓ |

**Table 5-10. Alternative 4: Winston/Bartow Crossings**

| **Alternative 4: Winston/Bartow** | | | | | | | |
|---|---|---|---|---|---|---|---|
| ***Alignment Segment*** | | ***Crossing*** | ***Crossing Type*** | | | ***Level of Improvement*** | |
| | Roadway Name | Existing (E) / Proposed (P) | At-Grade Grade Crossing | Existing Grade Separation | Proposed Grade Separation | No Improvement Assumed | Improvement Assumed |
| | NW Phosphate Blvd (int. with SR 37) | E | ✓ | | | | ✓ |
| | SR 37 | E | | | ✓ | | ✓ |
| | SE 6th Avenue | E | ✓ | | | | ✓ |
| | SE 9th Avenue | E | ✓ | | | | ✓ |
| | Private Crossing | E | ✓ | | | | ✓ |
| | Landfill | E | ✓ | | | | ✓ |
| | W. R. Grace Cargill | E | ✓ | | | | ✓ |
| | Royster Mine Road | E | ✓ | | | | ✓ |
| | C.F. Industries | E | ✓ | | | | ✓ |
| | Bonnie Mine Road | E | ✓ | | | | ✓ |
| | Private Road | E | ✓ | | | | ✓ |
| | Private (Imperial Phosphate) | E | ✓ | | | | ✓ |
| | Private Access Road | E | ✓ | | | | ✓ |
| | SR 60 | E | | | ✓ | | ✓ |
| | Private Road | E | ✓ | | | | ✓ |
| | Private Road | E | ✓ | | | | ✓ |
| | N. Crown Avenue | E | ✓ | | | | ✓ |
| | N. Baker Avenue | E | ✓ | | | | ✓ |
| | SR 60A/SR 60 9 (Bypass) | E | | ✓ | | ✓ | |
| | N. Mill Avenue | E | ✓ | | | | ✓ |
| | N. Broadway (SR 35/US 98) | E | | | ✓ | | ✓ |
| | N. Wilson Avenue (RR bridge over roadway) | E | | ✓ | | ✓ | |
| | N. Jackson Avenue | E | ✓ | | | | ✓ |
| | N. Oak Avenue | E | ✓ | | | | ✓ |
| | N. Searcy Avenue | E | ✓ | | | | ✓ |
| | US 17/98 | E | | ✓ | | ✓ | |
| | **Subtotal** | **41** | **32** | **5** | **4** | **5** | **36** |
| **Proposed Bartow-Lake Wales Trail** | | | | | | | |
| | E. North Street | P | ✓ | | | | ✓ |
| | N. Restwood Avenue | P | ✓ | | | | ✓ |
| | E. Flamingo Drive (SR 60 Access Road) | P | | | ✓ | | ✓ |
| | 80 Foot Road | P | ✓ | | | | ✓ |
| | Cox Road | P | ✓ | | | | ✓ |
| | Pit Road | P | ✓ | | | | ✓ |
| | Oak Drive/2nd Street | P | ✓ | | | | ✓ |
| | 3rd Street | P | ✓ | | | | ✓ |
| | Estes Road | P | ✓ | | | | ✓ |
| | Long Lake Road | P | ✓ | | | | ✓ |
| | East Central Avenue | P | ✓ | | | | ✓ |
| | Askew Drive | P | ✓ | | | | ✓ |
| | Newcombe Road | P | ✓ | | | | ✓ |
| | **Subtotal** | **13** | **12** | **0** | **1** | **0** | **13** |
| **CSX "S" Line** | | | | | | | |
| | Old Icehouse Road | E | ✓ | | | | ✓ |
| | SR 60 | E | | | ✓ | | ✓ |
| | Old Lake Wales Road | E | ✓ | | | | ✓ |
| | **Subtotal** | **3** | **2** | **0** | **1** | **0** | **3** |

### 5.1.6 Alternative 5: Winston/Homeland Alternative

**Route Description**

As seen in Figure 5-6, Alternative 5: Winston/Homeland proposes an approximately 107-mile route from Coleman to the planned ILC site in Winter Haven (Refer to Figure 5-6). Alternative 5 would share two full common segments with Alternative 4 including the northern "S" Line, Vitis Subdivision and a significant portion of a third, the Lakeland/Bone Valley/Valrico Subdivisions section. As such, this alternative would be identical to Alternative 4 between Coleman and the intersection of NW Phosphate Boulevard and SR 37 in Mulberry.

This potential route would continue south from this intersection on the Bone Valley Subdivision through South Mulberry crossing Kingsford Circle and Cozart Road. Residential clusters are located east and west of the right-of-way with typical industrial/manufacturing uses interior to the alignment. The proposed route would turn to the southeast toward Achan moving through a series of switches at Tells, Achan and Bonnie Wye Junctions before running parallel to CR 640. A concentration of phosphate mine formations are located in this quadrant of Polk County some of which are serviced by the existing alignment. The existing track crosses Bonnie Mine Road, Barcola Road, and a number of private roadways prior to turning south toward Agricola.

At this turn, the proposed route would leave existing rail alignment and parallel CR 640 on new right-of-way. The proposed route would continue east through Homeland crossing several residential streets such as Hibiscus, Azalea, Mimosa and Homeland Avenues. Continuing east, this potential alignment would cross US 17/98 as well as the Peace River. The area east of the river is a combination of largely undeveloped and agricultural lands. The potential right-of-way would become rural residential in the vicinity of Sinkhole Road and Russo Road. This potential route would follow Sinkhole Road/CR 640 north crossing Rocker Road then track east along Alturas-Babson Park Cutoff Road. Alternative 5 would continue east across undeveloped lands crossing Crews Road immediately prior to tying into the "S" Line. The route would run approximately 8 miles on the existing "S" Line tracking to the north and then west at West Lake Wales towards the planned ILC site.

**Alternative Summary by Segment**

Alternative 5 would be comprised of five segments totaling approximately 107 miles (Refer to Table 5-11). Similar to Alternative 4, capital improvements would not be necessary for the northern portion of the "S" Line and minimal improvements would be required for the Vitis Subdivision. A number of improvements to CSX-owned track south of the "A" Line would be needed to address both the physical track condition and the high density of local freight switching through Bone Valley in order to accommodate this alternative. The Bone Valley and Valrico Subdivisions would require an entirely new second main track in addition to sidings and signal upgrades. That segment would also require reconfiguration of industry tracks to accommodate the new infrastructure with crossovers to allow industry access/service from either main track.

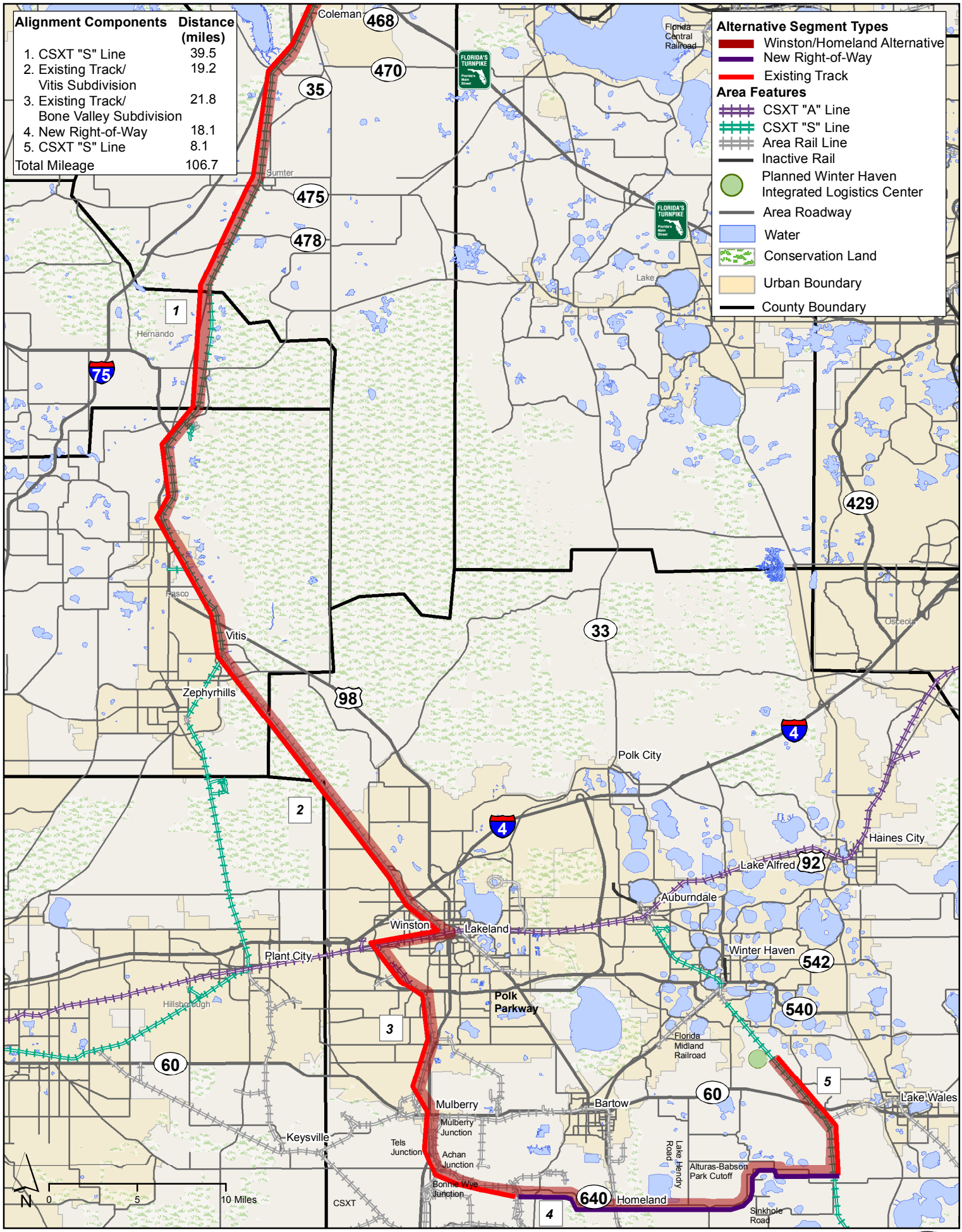


**Figure 5-6:**
**Alternative 5: Winston/Homeland**
**FDOT District One**
**Rail Traffic Evaluation**

Source: Bureau of Transportation Statistics National Transportation Atlas Database; FDOT; FDEP; ESRI Data

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## Table 5-11. Alternative 5: Winston/Homeland Summary by Segment

| | CSX "S" Line | CSX Vitis Subdivision | CSX Lakeland, Bone Valley & Valrico Subdivisions | New Right-of-Way | CSX "S" Line | TOTALS |
|---|---|---|---|---|---|---|
| **Mileage** | 39.5 | 19.2 | 21.8 | 18.1 | 8.1 | 107 |
| **Type of Segment** | Existing Active Rail Right-of-Way | Existing Active Rail Right-of-Way | Existing Active Rail Right-of-Way | New Rail ROW Adajcent to Existing Trail | Existing Active Rail Right-of-Way | -- |
| **Current Use** | Mostly single track freight, some double track | Mostly single track freight, some double track | Mostly single track freight, some double track | Various; Mostly Undeveloped | Mostly single track freight, some double track | -- |
| **Issues** | | | High density of local freight switching | New ROW | | -- |
| **Necessary Capital Improvements** | | | | | | |
| **Right-of-Way** | None | None | None | New Roadbed & New Embankment | None | -- |
| **Track** | None | None | 21.8 miles of new single track | 18.1 miles of new single track | 8.1 miles of new double track | 56 |
| **Sidings** | None | Two, 10,000 foot siding, with #20 turnouts on each end | Two, 10,000 foot siding, with #20 turnouts on each end | Two, 10,000 foot siding, with #20 turnouts on each end | None | 6 |
| **Special Trackwork** | None | Special trackwork at Winston | Special trackwork to accommodate industrial tracks through Bone Valley (wyes and interlockings) | Wye connection to "S" Line South of Winter Haven | None | -- |
| **Drainage** | None | None | 21.8 miles of drainage improvements | 18.1 miles of drainage improvements | None | 40 |
| **Land Acquisition** | None | None | 21.8 miles of additonal property acquisition to widen ROW | 18.1 miles of property acquisition for new ROW | None | 18 miles new ROW; 22 miles widened ROW |
| **Signals** | None | None | 21.8 miles of new signals | 18.1 miles of new signals | 8.1 miles of new signals | 56 |
| **Bridges** | None | None | None | New Bridge over Peace River | None | 1 |
| **Grade Separation Structures** | None | None | 2 grade separations of existing x-ings (SR60, SR37) | 2 New grade separations (US17/98, SR 60) | No upgrades | 4 |
| **Grade Crossings** | None | None | Upgrade 26 existing crossings | Install 15 new grade crossings | No upgrades | Install 15 new x-ings and upgrade 26 existing |

**Rail Crossing Data**

Under Alternative 5, there would be a total of approximately 118 rail crossings consisting of 102 existing crossings and 16 new crossings. This alternative proposes four grade separations in addition to the 5 existing along the alignment. In addition, Alternative 5 would require upgrades to 26 existing at-grade crossings and the installation of 15 at-grade crossings. Rail crossing data for this option is displayed in Table 5-12.

**Table 5-12. Alternative 5: Winston/Homeland**

| **Alternative 5: Winston/Homeland** | | | | | | | |
|---|---|---|---|---|---|---|---|
| ***Alignment Segment*** | | ***Crossing*** | ***Existing Crossing Type*** | | | ***Level of Improvement*** | |
| | Roadway Name | Existing (E) / Proposed (P) | At-Grade Grade Crossing | Existing Grade Separation | Proposed Grade Separation | No Improvement Assumed | Improvement Assumed |
| **CSX "S" Line** | | | | | | | |
| | Taylor Avenue | E | ✓ | | | ✓ | |
| | Warm Spring Avenue | E | ✓ | | | ✓ | |
| | Coleman Cemetery Drive | E | ✓ | | | ✓ | |
| | CR 470 | E | ✓ | | | ✓ | |
| | Private Road | E | ✓ | | | ✓ | |
| | Private Road | E | ✓ | | | ✓ | |
| | CR 532 | E | ✓ | | | ✓ | |
| | Private Road | E | ✓ | | | ✓ | |
| | CR 542 | E | ✓ | | | ✓ | |
| | E. Belt Avenue | E | ✓ | | | ✓ | |
| | Wallace Hatchery | E | ✓ | | | ✓ | |
| | E. Noble Avenue | E | ✓ | | | ✓ | |
| | Bushnell Plaza | E | ✓ | | | ✓ | |
| | E. Central Avenue | E | ✓ | | | ✓ | |
| | CR 476 (W. Seminole Avenue) | E | ✓ | | | ✓ | |
| | Private Triple Ranch | E | ✓ | | | ✓ | |
| | Private Crossing (CR 700) | E | ✓ | | | ✓ | |
| | CR 720 | E | ✓ | | | ✓ | |
| | CR 478 | E | ✓ | | | ✓ | |
| | CR 738A | E | ✓ | | | ✓ | |
| | CR 771 (SW 103rd Place) | E | ✓ | | | ✓ | |
| | Private Road D | E | ✓ | | | ✓ | |
| | Kramer Street/Gresham Road | E | ✓ | | | ✓ | |
| | Private Road | E | ✓ | | | ✓ | |
| | SR 50 (Cortez Boulevard) | E | ✓ | | | ✓ | |
| | SR 575 | E | ✓ | | | ✓ | |
| | Bower Road | E | ✓ | | | ✓ | |
| | Cummer Road | E | ✓ | | | ✓ | |
| | Private Road | E | ✓ | | | ✓ | |
| | Mickler Road | E | ✓ | | | ✓ | |
| | Owensboro Road | E | ✓ | | | ✓ | |
| | Gould Road | E | ✓ | | | ✓ | |
| | Ashbrook Road | E | ✓ | | | ✓ | |
| | Jordan Road | E | ✓ | | | ✓ | |
| | Pioneer Museum Road/Long Avenue | E | ✓ | | | ✓ | |
| | Pasco Beverage | E | ✓ | | | ✓ | |
| | Private Pasco Beverage | E | ✓ | | | ✓ | |
| | River Road Drive | E | ✓ | | | ✓ | |
| | Martin Luther King Boulevard | E | ✓ | | | ✓ | |
| | Tuskeegee Avenue | E | ✓ | | | ✓ | |
| | Wilson Street | E | ✓ | | | ✓ | |
| | Dixie Drive | E | ✓ | | | ✓ | |
| | Old Sparkman Road | E | ✓ | | | ✓ | |
| | Johnson Street | E | ✓ | | | ✓ | |
| | Larkin Lake Drive | E | ✓ | | | ✓ | |
| | Johnson Road | E | ✓ | | | ✓ | |
| | Enterprise Road | E | ✓ | | | ✓ | |
| | Private Road (Lykes Agri In) | E | ✓ | | | ✓ | |
| | Santa Gertrudis Drive | E | ✓ | | | ✓ | |
| | Private Road (Waller Ranch) | E | ✓ | | | ✓ | |
| | Messick Road | E | ✓ | | | ✓ | |
| | SR 35/SR 700/US 98 | E | | ✓ | | ✓ | |
| | Stewart Road | E | ✓ | | | ✓ | |
| | CR 35A/Melrose Avenue | E | ✓ | | | ✓ | |
| | **Subtotal** | **54** | **53** | **1** | **0** | **54** | **0** |
| **Vitis Subdivision** | | | | | | | |
| | CR 54A/Elwood Merrick Road | E | ✓ | | | ✓ | |
| | CR 54 | E | ✓ | | | ✓ | |
| | 1st Street NW | E | ✓ | | | ✓ | |
| | Oak Avenue NW | E | ✓ | | | ✓ | |
| | Deeson Road | E | ✓ | | | ✓ | |
| | Unnamed Road Crossing | E | ✓ | | | ✓ | |
| | Pvt. Tony Elrod Avenue | E | ✓ | | | ✓ | |
| | Youngs Ridge Road | E | ✓ | | | ✓ | |
| | Strickland Avenue | E | ✓ | | | ✓ | |
| | Private Road | E | ✓ | | | ✓ | |
| | Galloway Road | E | ✓ | | | ✓ | |
| | Sleepy Hill Road | E | ✓ | | | ✓ | |
| | Knights Station/Griffin Road | E | ✓ | | | ✓ | |
| | I-4/SR 400 | E | | ✓ | | ✓ | |
| | Fairbanks Street | E | ✓ | | | ✓ | |
| | 10th Street | E | ✓ | | | ✓ | |
| | US 92 (Memorial Boulevard) | E | | ✓ | | ✓ | |
| | **Subtotal** | **17** | **15** | **2** | **0** | **17** | **0** |
| **Lakeland/Bone Valley/Valrico Subdivisions** | | | | | | | |
| | US 92/George Jenkins Boulevard (RR Bridge over roadway) | E | | ✓ | | ✓ | |
| | Wabash Avenue | E | ✓ | | | | ✓ |
| | Old Tampa Highway | E | ✓ | | | | ✓ |
| | Polk Parkway | E | | ✓ | | ✓ | |
| | W. Pipkin Road | E | ✓ | | | | ✓ |
| | Schoolhouse Road | E | ✓ | | | | ✓ |
| | Ewell Road | E | ✓ | | | | ✓ |
| | Private Drive | E | ✓ | | | | ✓ |
| | Shepherd Road | E | ✓ | | | | ✓ |
| | NW 7th Street | E | ✓ | | | | ✓ |
| | NW 5th Street | E | ✓ | | | | ✓ |
| | NW 2nd Street | E | ✓ | | | | ✓ |
| | Pedestrian Crossing | E | ✓ | | | | ✓ |
| | W. Badcock Boulevard | E | ✓ | | | | ✓ |
| | SR 60 | E | | | ✓ | | ✓ |

**Table 5-12. Alternative 5: Winston/Homeland**

| **Alternative 5: Winston/Homeland** | | | | | | | |
|---|---|---|---|---|---|---|---|
| ***Alignment Segment*** | | ***Crossing*** | ***Existing Crossing Type*** | | | ***Level of Improvement*** | |
| | Roadway Name | Existing (E) / Proposed (P) | At-Grade Grade Crossing | Existing Grade Separation | Proposed Grade Separation | No Improvement Assumed | Improvement Assumed |
| | NW Phosphate Blvd (int. with SR 37) | E | ✓ | | | | ✓ |
| | SR 37 | E | | | ✓ | | ✓ |
| | SE 3rd Street | E | ✓ | | | | ✓ |
| | Kingsford Circle | E | ✓ | | | | ✓ |
| | Private (Cozart Road) | E | ✓ | | | | ✓ |
| | Private (Trey Brooke Farms) | E | ✓ | | | | ✓ |
| | Bonnie Mine Road | E | ✓ | | | | ✓ |
| | Barcola Road | E | ✓ | | | | ✓ |
| | Private Crossing | E | ✓ | | | | ✓ |
| | Private Crossing | E | ✓ | | | | ✓ |
| | Private Crossing | E | ✓ | | | | ✓ |
| | CR 640 | E | ✓ | | | | ✓ |
| | **Subtotal** | **27** | **23** | **2** | **2** | **2** | **25** |
| **New Right-of-Way** | | | | | | | |
| | Unnamed Road Crossing | P | ✓ | | | | ✓ |
| | Agricola Road | P | ✓ | | | | ✓ |
| | Unnamed Road Crossing | P | ✓ | | | | ✓ |
| | Old Homeland Road | P | ✓ | | | | ✓ |
| | Hibiscus Avenue | P | ✓ | | | | ✓ |
| | Azalea Avenue | P | ✓ | | | | ✓ |
| | Mimosa Avenue | P | ✓ | | | | ✓ |
| | Homeland Avenue | P | ✓ | | | | ✓ |
| | US 17/98 | P | | | ✓ | | ✓ |
| | Peace River Park Road | P | ✓ | | | | ✓ |
| | 80 Foot Road | P | ✓ | | | | ✓ |
| | Russo Road | P | ✓ | | | | ✓ |
| | Rocker Road | P | ✓ | | | | ✓ |
| | Marshall Edwards Road | P | ✓ | | | | ✓ |
| | Alturas Babson Park Cutoff Road | P | ✓ | | | | ✓ |
| | Crews Road | P | ✓ | | | | ✓ |
| | **Subtotal** | **16** | **15** | **0** | **1** | **0** | **16** |
| **CSX "S" Line** | | | | | | | |
| | N. Lake Wales Alturas Road | E | ✓ | | | | ✓ |
| | Old Icehouse Road | E | ✓ | | | | ✓ |
| | SR 60 | E | | | ✓ | | ✓ |
| | Old Lake Wales Road | E | ✓ | | | | ✓ |
| | **Subtotal** | **4** | **3** | **0** | **1** | **0** | **4** |

### 5.1.7 Alternative 6: Vitis/Polk City

**Route Description**

As seen in Figure 5-7, Alternative 6: Vitis/Polk City would extend approximately 83 miles from Coleman to the planned ILC site in Winter Haven. The potential route would utilize existing "S" Line track from Coleman to the Vitis Junction and a small segment of the Vitis Subdivision. In combination, this active rail right-of-way totals approximately 42.7 miles. This span is predominantly single track with portions of double track. The potential route would run southeast from Vitis crossing CR 54A/Elwood Merrick Road and CR 54 on the Vitis Subdivision before branching off to the east along approximately 17.3 miles of new right-of-way. This new right-of-way would generally operate at the southern extent of Green Swamp conservation lands in order to avoid more developed portions of Polk County including Lakeland located to the south.

Heading east, the potential route would pass several unnamed crossings before traversing Dade City Road at-grade. This alignment would continue past US 98 where a grade-separation is proposed. The potential route would run north of a rural residential development cluster located west of Rock Ridge Road. Extending east from Rock Ridge Road, the proposed alignment would cut through natural lands that are primarily undeveloped and forested. Alternative 6 would cross Moore Road and Fussell Road West prior to reaching the Van Fleet Trail. The potential connection to right-of-way adjacent to the trail would occur north of the trail's Fussell Road crossing and approximately 1.5 miles north of Flanders Field, a local airstrip used as a reference point in developing this alternative. The right-of-way would extend approximately 3.4 miles before reaching the terminus of the Van Fleet Trail at the Polk City trailhead.

From its connection point at the Van Fleet Trail right-of-way, Alternative 6 would function in the same manner as Alternative 1 to the ILC site in Winter Haven. Additional common segments to both alternatives aside from a shared portion of the Van Fleet Trail include the Van Fleet Trail Extension, TECO-Auburndale Trail and Extension, and CSX Track and "S" Line Track (Refer to Section 5.1.2). Like Alternative 1, this alternative would also run through the Lake Myrtle Sports Complex (refer to Section 6. Environmental Considerations for further detail).

**Alternative Summary by Segment**

Alternative 6: Vitis/Polk City consists of approximately eight segments comprising a total of approximately 83 miles. Necessary capital improvements would be similar to Alternative 1 from the Van Fleet Trail south. Segment details for this alternative are presented below in Table 5-13.

**Rail Crossing Data**

Under Alternative 6, there would be a total of approximately 114 rail crossings consisting of 82 existing crossings and 32 proposed crossings. This alternative proposes 1 grade separation at US 98 in addition to the five grade separations already in place along the alignment. In addition, Alternative 5 would require the installation of 29 new at-grade crossings and upgrades to 5 existing at-grade crossings. Rail crossing data for this option is displayed in Table 5-14.

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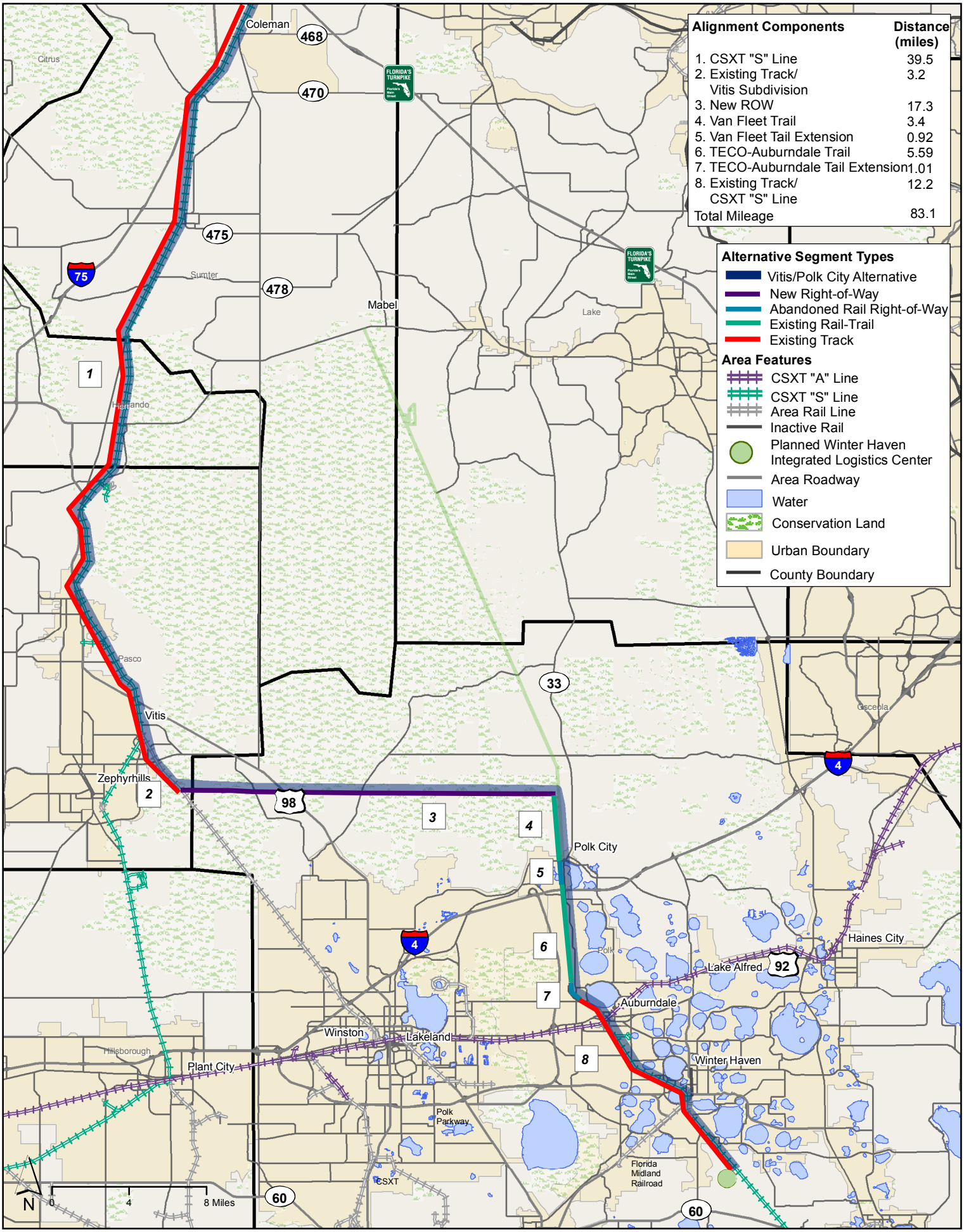


**Figure 5-7:**
**Alternative 6: Vitis/Polk City**
**FDOT District One**
**Rail Traffic Evaluation Study**

Source: Bureau of Transportation Statistics National Transportation Atlas Database; FDOT; FGDL; FDEP; ESRI Data

## Table 5-13. Alternative 6: Vitis/Polk City Summary by Segment

| | CSX "S" Line | New Right of Way | Van Fleet Trail (adjacent) | Van Fleet Extension (adjacent) | TECO-Auburndale Trail (adjacent) | TECO-Auburndale Trail Extension (adjacent) | CSX Track | CSX "S" Line | TOTALS |
|---|---|---|---|---|---|---|---|---|---|
| **Mileage** | 42.7 | 17.3 | 3.4 | 0.92 | 5.59 | 1.01 | 1.37 | 10.73 | 83 |
| **Type of Segment** | Existing Active Rail Right-of-Way | New Right-of-Way | New Rail ROW Adajcent to Existing Trail | New Rail ROW Adajcent to Proposed Trail | New Rail ROW Adajcent to Existing Trail | New Rail ROW Adajcent to Proposed Trail | Existing Active Rail Right-of-Way | Existing Active Rail Right-of-Way | -- |
| **Current Use** | Predominantly single track, some double track | Undevelopent/natural areas | Various; Mostly Undeveloped | Various; Mostly Undeveloped | Various; Mostly Undeveloped | Various; Mostly Undeveloped | Predominantly single track, some double track | Predominantly single track, some double track | -- |
| **Issues** | | New ROW Through Green Swamp | | | New Park Under Construction on either side | | | | -- |
| **Necessary Capital Improvements** | | | | | | | | | |
| **Right-of-Way** | None - Existing Rail Roadbed | New Roadbed & New Embankment | New Roadbed & New Embankment | New Roadbed & New Embankment | New Roadbed & New Embankment | New Roadbed & New Embankment | None/minimal - Existing Rail Roadbed | None - Existing Rail Roadbed | -- |
| **Track** | None | 17.3 miles of New Single Track | 3.4 miles of New Single Track | 0.92 miles of New Single Track | 5.59 miles of New Single Track | 1.01 miles of New Single Track | 1.37 miles of Upgrading Class of Track | None | 30 |
| **Sidings** | Three, 10,000 foot sidings, each with #20 turnouts on ends | Two, 10,000 foot sidings, each with #20 turnouts on ends | None | None | One, 10,000 foot siding, with #20 turnouts on each end | None | None | None | 6 |
| **Special Trackwork** | None | Wye connection to "S" Line at Vitis | None | None | None | None | Connection to "S" Line in Auburndale | None | -- |
| **Drainage** | None | 17.3 miles of drainage improvements | 3.4 miles of drainage improvements | 0.92 miles of drainage improvements | 5.59 miles of drainage improvements | 1.01 miles of drainage improvements | 1.37 miles of drainage improvements | None | 30 |
| **Land Acquisition** | None | 17.3 miles of property aquisition for new ROW | 3.4 miles of property acquisition for new ROW | 0.92 miles of property acquisition for new ROW | 5.59 miles of property acquisition for new ROW | 1.01 miles of property acquisition for new ROW | None | None | 28 |
| **Signals** | None | 17.3 miles of new signals | 3.4 miles of new signals | 0.92 miles of new signals | 5.59 miles of new signals | 1.01 miles of new signals | 1.37 miles of new signals | None | 30 |
| **Bridges** | None | None | None | None | None | None | None | None | 0 |
| **Grade Separation Structures** | None | New Structure at US98 | None | Use Existing SR33 Grade Separation | Use Existing I-4 Grade Separation | None | None | None | 1 |
| **Grade Crossings** | None | Install 16 new grade crossings | Install 1 new grade crossing | None | Install 7 new grade crossings | Install 5 new grade crossings | Upgrade 5 existing | None | Install 29 new x-ings and upgrade 5 existing |

**Table 5-14. Alternative 6: Vitis/Polk City Crossings**

| **Alternative 6: Vitis/Polk City** | | | | | | | |
|---|---|---|---|---|---|---|---|
| ***Alignment Segment*** | | ***Crossing*** | ***Crossing Type*** | | | ***Level of Improvement*** | |
| | Roadway Name | Existing (E) / Proposed (P) | At-Grade Grade Crossing | Existing Grade Separation | Proposed Grade Separation | No Improvement Assumed | Improvement Assumed |
| **CSX "S" Line** | | | | | | | |
| | Taylor Avenue | E | ✓ | | | ✓ | |
| | Warm Spring Avenue | E | ✓ | | | ✓ | |
| | Coleman Cemetery Drive | E | ✓ | | | ✓ | |
| | CR 470 | E | ✓ | | | ✓ | |
| | Private Road | E | ✓ | | | ✓ | |
| | Private Road | E | ✓ | | | ✓ | |
| | CR 532 | E | ✓ | | | ✓ | |
| | Private Road | E | ✓ | | | ✓ | |
| | CR 542 | E | ✓ | | | ✓ | |
| | E. Belt Avenue | E | ✓ | | | ✓ | |
| | Wallace Hatchery | E | ✓ | | | ✓ | |
| | E. Noble Avenue | E | ✓ | | | ✓ | |
| | Bushnell Plaza | E | ✓ | | | ✓ | |
| | E. Central Avenue | E | ✓ | | | ✓ | |
| | CR 476 (W. Seminole Avenue) | E | ✓ | | | ✓ | |
| | Private Triple Ranch | E | ✓ | | | ✓ | |
| | Private Crossing (CR 700) | E | ✓ | | | ✓ | |
| | CR 720 | E | ✓ | | | ✓ | |
| | CR 478 | E | ✓ | | | ✓ | |
| | CR 738A | E | ✓ | | | ✓ | |
| | CR 771 (SW 103rd Place) | E | ✓ | | | ✓ | |
| | Private Road D | E | ✓ | | | ✓ | |
| | Kramer Street/Gresham Road | E | ✓ | | | ✓ | |
| | Private Road | E | ✓ | | | ✓ | |
| | SR 50 (Cortez Boulevard) | E | ✓ | | | ✓ | |
| | SR 575 | E | ✓ | | | ✓ | |
| | Bower Road | E | ✓ | | | ✓ | |
| | Cummer Road | E | ✓ | | | ✓ | |
| | Private Road | E | ✓ | | | ✓ | |
| | Mickler Road | E | ✓ | | | ✓ | |
| | Owensboro Road | E | ✓ | | | ✓ | |
| | Gould Road | E | ✓ | | | ✓ | |
| | Ashbrook Road | E | ✓ | | | ✓ | |
| | Jordan Road | E | ✓ | | | ✓ | |
| | Pioneer Museum Road/Long Avenue | E | ✓ | | | ✓ | |
| | Pasco Beverage | E | ✓ | | | ✓ | |
| | Private Pasco Beverage | E | ✓ | | | ✓ | |
| | River Road Drive | E | ✓ | | | ✓ | |
| | Martin Luther King Boulevard | E | ✓ | | | ✓ | |
| | Tuskeegee Avenue | E | ✓ | | | ✓ | |
| | Wilson Street | E | ✓ | | | ✓ | |
| | Dixie Drive | E | ✓ | | | ✓ | |
| | Old Sparkman Road | E | ✓ | | | ✓ | |
| | Johnson Street | E | ✓ | | | ✓ | |
| | Larkin Lake Drive | E | ✓ | | | ✓ | |
| | Johnson Road | E | ✓ | | | ✓ | |
| | Enterprise Road | E | ✓ | | | ✓ | |
| | Private Road (Lykes Agri In) | E | ✓ | | | ✓ | |
| | Santa Gertrudis Drive | E | ✓ | | | ✓ | |
| | Private Road (Waller Ranch) | E | ✓ | | | ✓ | |
| | Messick Road | E | ✓ | | | ✓ | |
| | SR 35/SR 700/US 98 | E | | ✓ | | ✓ | |
| | Stewart Road | E | ✓ | | | ✓ | |
| | CR 35A/Melrose Avenue | E | ✓ | | | ✓ | |
| | **Subtotal** | **54** | **53** | **1** | **0** | **54** | **0** |
| **Vitis Subdivision** | | | | | | | |
| | CR 54A/Elwood Merrick Road | E | ✓ | | | ✓ | |
| | CR 54 | E | ✓ | | | ✓ | |
| | **Subtotal** | **2** | **2** | **0** | **0** | **2** | **0** |
| **New ROW** | | | | | | | |
| | Unnamed Road | P | ✓ | | | | ✓ |
| | Unnamed Road | P | ✓ | | | | ✓ |
| | Dade City Road | P | ✓ | | | | ✓ |
| | Unnamed Road | P | ✓ | | | | ✓ |
| | US 98 | P | | | ✓ | | ✓ |
| | Unnamed Road | P | ✓ | | | | ✓ |
| | Unnamed Road | P | ✓ | | | | ✓ |
| | Unnamed Road | P | ✓ | | | | ✓ |
| | Unnamed Road | P | ✓ | | | | ✓ |
| | Unnamed Road | P | ✓ | | | | ✓ |
| | Unnamed Road | P | ✓ | | | | ✓ |
| | Rock Ridge Road | P | ✓ | | | | ✓ |
| | Unnamed Road | P | ✓ | | | | ✓ |
| | Unnamed Road | P | ✓ | | | | ✓ |
| | Moore Road | P | ✓ | | | | ✓ |
| | Unnamed Road | P | ✓ | | | | ✓ |
| | Fussell Road W | P | ✓ | | | | ✓ |
| | **Subtotal** | **17** | **16** | **0** | **1** | **0** | **17** |
| **Van Fleet Trail** | | | | | | | |
| | Fussell Road | P | ✓ | | | | ✓ |
| | **Subtotal** | **1** | **1** | **0** | **0** | **0** | **1** |
| **Van Fleet Extension** | | | | | | | |
| | SR 33 (Commonwealth Ave) | P | | ✓ | | ✓ | |
| | **Subtotal** | **1** | **0** | **1** | **0** | **1** | **0** |
| **TECO-Auburndale Trail** | | | | | | | |
| | Honey Bee Lane | P | ✓ | | | | ✓ |
| | Snow Road | P | ✓ | | | | ✓ |
| | I-4 | P | | ✓ | | ✓ | |
| | Mount Olive Road | P | ✓ | | | | ✓ |
| | Pace Road | P | ✓ | | | | ✓ |
| | Braddock Road | P | ✓ | | | | ✓ |

**Table 5-14. Alternative 6: Vitis/Polk City Crossings**

| **Alternative 6: Vitis/Polk City** | | | | | | | |
|---|---|---|---|---|---|---|---|
| ***Alignment Segment*** | | ***Crossing*** | ***Crossing Type*** | | | ***Level of Improvement*** | |
| | Roadway Name | Existing (E) / Proposed (P) | At-Grade Grade Crossing | Existing Grade Separation | Proposed Grade Separation | No Improvement Assumed | Improvement Assumed |
| | Lake Myrtle Park Driveway | P | ✓ | | | | ✓ |
| | Lake Myrtle Road/Denton Avenue | P | ✓ | | | | ✓ |
| | **Subtotal** | **8** | **7** | **1** | **0** | **1** | **7** |
| **TECO-Auburndale Trail Extension** | | | | | | | |
| | Berkley Road | P | ✓ | | | | ✓ |
| | Herrick Street | P | ✓ | | | | ✓ |
| | James Street | P | ✓ | | | | ✓ |
| | Clayton Road | P | ✓ | | | | ✓ |
| | Dixie Highway | P | ✓ | | | | ✓ |
| | **Subtotal** | **5** | **5** | **0** | **0** | **0** | **5** |
| **Existing Track** | | | | | | | |
| | Reidgate Road | E | ✓ | | | | ✓ |
| | Pilaklahana Avenue | E | ✓ | | | | ✓ |
| | W. Bridgers Avenue | E | ✓ | | | | ✓ |
| | McKean Street | E | ✓ | | | | ✓ |
| | US 92 | E | | ✓ | | ✓ | |
| | Magnolia Avenue | E | ✓ | | | | ✓ |
| | **Subtotal** | **6** | **5** | **1** | **0** | **1** | **5** |
| **CSX "S" Line** | | | | | | | |
| | W. Derby Avenue | E | ✓ | | | ✓ | |
| | SR 542 (Avenue G NW) | E | ✓ | | | ✓ | |
| | Spirit Lake Road | E | ✓ | | | ✓ | |
| | Coleman Road | E | ✓ | | | ✓ | |
| | 24th Street | E | ✓ | | | ✓ | |
| | 21st Street | E | ✓ | | | ✓ | |
| | 15th Street | E | ✓ | | | ✓ | |
| | Lake Ship Drive | E | ✓ | | | ✓ | |
| | Orrin Avenue | E | ✓ | | | ✓ | |
| | Private Drive | E | ✓ | | | ✓ | |
| | 7th Street SW | E | ✓ | | | ✓ | |
| | Avenue R SW | E | ✓ | | | ✓ | |
| | Private Central Florida Gas Drive | E | ✓ | | | ✓ | |
| | US 17/SR 555 (3rd Street) | E | | ✓ | | ✓ | |
| | American Superior Blvd | E | ✓ | | | ✓ | |
| | Croton Road N | E | ✓ | | | ✓ | |
| | Eloise Loop Road | E | ✓ | | | ✓ | |
| | Macon Road | E | ✓ | | | ✓ | |
| | Eagle Lake Loop Road | E | ✓ | | | ✓ | |
| | Pollard Road | E | ✓ | | | ✓ | |
| | **Subtotal** | **20** | **19** | **1** | **0** | **20** | **0** |

### 5.1.8 Alternative 7: McIntosh Spur

**Route Description**

This potential route would cover approximately 83 miles between Coleman and the planned ILC site in Winter Haven. Similar to Alternative 6, this potential route would run on 42.7 miles of rail right-of-way comprised of "S" Line track and a small segment of the Vitis Subdivision. Branching east off of the Vitis Subdivision, Alternative 7 would utilize an 11.0-mile portion of the same new right-of-way described in Alternative 6. This new right-of-way would also traverse the southern fringe of Green Swamp conservation lands. Alternative 7 is depicted in Figure 5-8.

This alignment would turn to the south along new right-of-way east of Moore Road. Alternative 7 would loosely follow Moore Road through undeveloped land then track south-southeast after crossing Trail West and then Old Polk City Road. Moving south, development increases in the vicinity of Interstate 4 with residential clusters found west of Moore Road and south of Tom Costine Road. This alternative would avoid these residences as it extends through a swath of undeveloped land east of Moore Road. After crossing Old Polk City Road the proposed route would continue south then east before crossing Interstate 4 and SR 33. Continuing south, Alternative 7 would cross Tenoroc Mine Road before tying into an existing rail spur that currently provides access to the McIntosh Power Plant. For the purposes of this report, this segment is referenced throughout as the McIntosh Spur.

This approximately 3.0-mile rail spur is bounded to the west by a combination of residential uses between Saddle Creek Road and US 92 (East Memorial Boulevard). Industrial and distribution facilities are found on the eastern portion of the right-of-way north of Ralph Road. The existing rail spur passes near the waterside of Saddle Creek Park in the vicinity of Fish Hatchery Road. After crossing US 92 the proposed route would connect into the "A/S" Line proceeding east through Auburndale before turning south on the "S" Line at Auburndale Junction towards the planned ILC site. The "A/S" Line and "S" Line are referenced in Sections 5.1.1 and 5.1.2.

**Alternative Summary by Segment**

This segment consists of approximately four segments comprising a total of approximately 83 miles. A number of capital improvements ranging from sidings to signal installation along the new right-of-way and McIntosh Spur would be required in order to accommodate this alternative. More specifically, special track work including wyes at both the S-Line connection at Vitis and where the McIntosh spur connects to the A-Line at Lakeland as well as a new northwest quadrant connection from the new route to the power plant would be needed. Segment details for Alternative 7 are presented below in Table 5-15.

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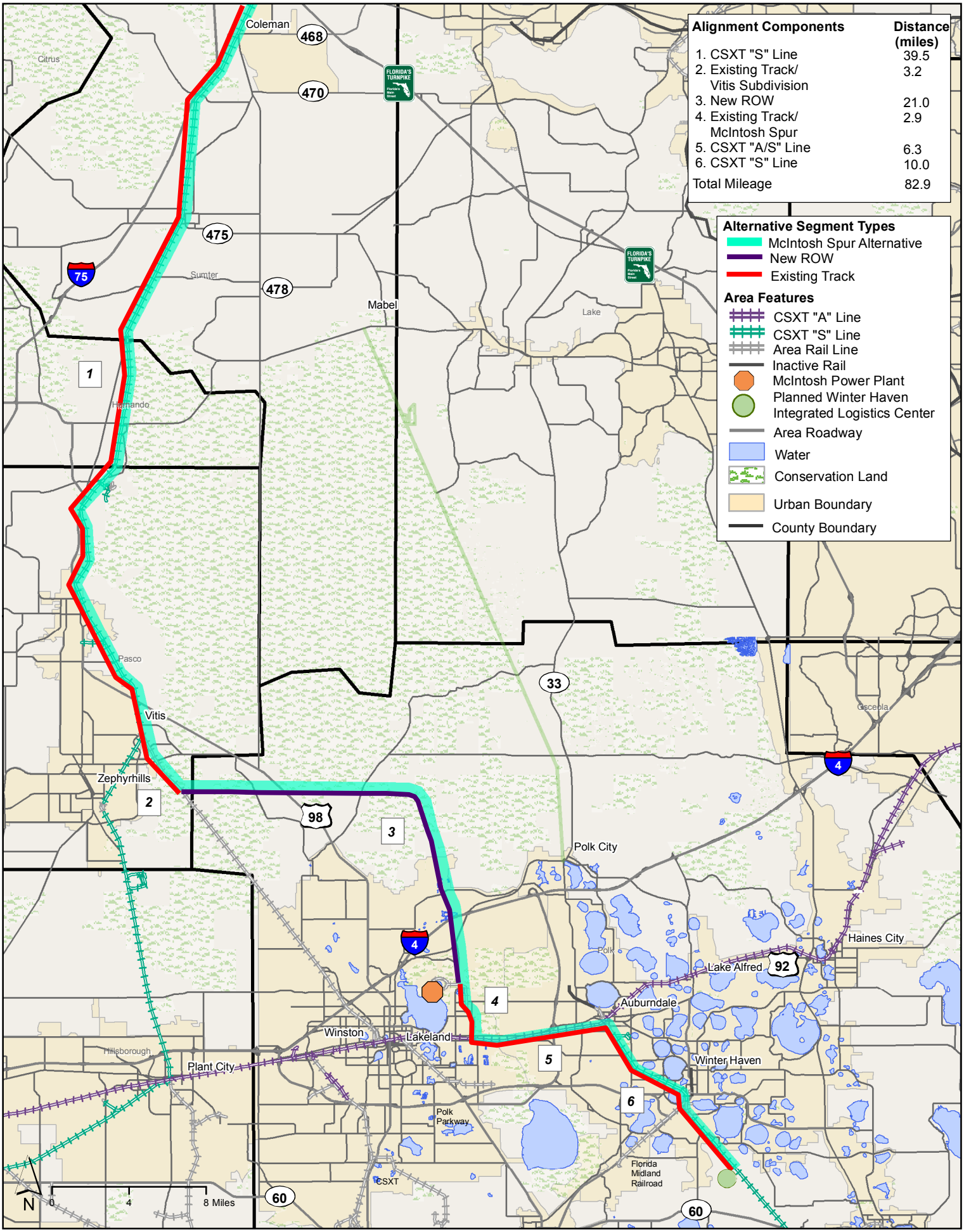


**Figure 5-8:**
**Alternative 7: McIntosh Spur**
**FDOT District One**
**Rail Traffic Evaluation Study**

Source: Bureau of Transportation Statistics National Transportation Atlas Database; FDOT; FGDL; FDEP; ESRI Data

**Table 5-15. Alternative 7: McIntosh Spur Summary by Segment**

| | CSX "S" Line | New Right of Way | CSX McIntosh Spur | CSX "S" Line | TOTALS |
|---|---|---|---|---|---|
| **Mileage** | 42.7 | 21 | 2.9 | 16.3 | 83 |
| **Type of Segment** | Existing Active Rail Right-of-Way | New Right-of-Way | Existing Active Rail Right-of-Way | Existing Active Rail Right-of-Way | -- |
| **Current Use** | Single Track | Undevelopent/natural areas | Single Track | Predominantly single track, some double track | -- |
| **Issues** | | New ROW Through Green Swamp | Local Customers | | -- |
| **Necessary Capital Improvements** | | | | | |
| **Right-of-Way** | None - Existing Rail Roadbed | New Roadbed & New Embankment | New Roadbed & New Embankment | None - Existing Rail Roadbed | -- |
| **Track** | None | 21 miles of New Single Track | 2.9 miles of New Single Track | None | 24 |
| **Sidings** | Three, 10,000 foot sidings, each with #20 turnouts on ends | Two, 10,000 foot sidings, each with #20 turnouts on ends | One, 10,000 foot siding, with #20 turnouts on each end | None | 6 |
| **Special Trackwork** | None | Wye connection to "S" Line at Vitis | Connection to "A/S" Line | None | -- |
| **Drainage** | None | 21 miles of drainage improvements | 2.9 miles of drainage improvements | None | 24 |
| **Land Acquisition** | None | 21 miles of property aquisition for new ROW | None | None | 21 |
| **Signals** | None | 21 miles of new signals | 2.9 miles of new signals | None | 24 |
| **Bridges** | None | None | None | None | 0 |
| **Grade Separation Structures** | None | New Structures at US98, I-4 and SR33 | New Structure at US 92 | None | 4 |
| **Grade Crossings** | None | Install 18 new grade crossings | Upgrade 9 existing | None | Install 18 new x-ings and upgrade 9 existing |

## Rail Crossing Data

Alternative 7 would have a total of approximately 114 rail crossings consisting of 93 existing crossings and 21 proposed crossings. This alternative would have three potential grade separations at US 98, Interstate 4, and SR 33. Three grade separations are already in place along the route. In addition, this potential route would require the upgrade of 18 new at-grade crossings and upgrades to nine existing at-grade crossings. Rail crossing data for this option is displayed in Table 5-16.

**Table 5-16. Alternative 7: McIntosh Spur Crossings**

| **Alternative 7: McIntosh Spur** | | | | | | | |
|---|---|---|---|---|---|---|---|
| ***Alignment Segment*** | | ***Crossing*** | ***Crossing Type*** | | | ***Level of Improvement*** | |
| | Roadway Name | Existing (E) / Proposed (P) | At-Grade Grade Crossing | Existing Grade Separation | Proposed Grade Separation | No Improvement Assumed | Improvement Assumed |
| **CSX "S" Line** | | | | | | | |
| | Taylor Avenue | E | ✓ | | | ✓ | |
| | Warm Spring Avenue | E | ✓ | | | ✓ | |
| | Coleman Cemetery Drive | E | ✓ | | | ✓ | |
| | CR 470 | E | ✓ | | | ✓ | |
| | Private Road | E | ✓ | | | ✓ | |
| | Private Road | E | ✓ | | | ✓ | |
| | CR 532 | E | ✓ | | | ✓ | |
| | Private Road | E | ✓ | | | ✓ | |
| | CR 542 | E | ✓ | | | ✓ | |
| | E. Belt Avenue | E | ✓ | | | ✓ | |
| | Wallace Hatchery | E | ✓ | | | ✓ | |
| | E. Noble Avenue | E | ✓ | | | ✓ | |
| | Bushnell Plaza | E | ✓ | | | ✓ | |
| | E. Central Avenue | E | ✓ | | | ✓ | |
| | CR 476 (W. Seminole Avenue) | E | ✓ | | | ✓ | |
| | Private Triple Ranch | E | ✓ | | | ✓ | |
| | Private Crossing (CR 700) | E | ✓ | | | ✓ | |
| | CR 720 | E | ✓ | | | ✓ | |
| | CR 478 | E | ✓ | | | ✓ | |
| | CR 738A | E | ✓ | | | ✓ | |
| | CR 771 (SW 103rd Place) | E | ✓ | | | ✓ | |
| | Private Road D | E | ✓ | | | ✓ | |
| | Kramer Street/Gresham Road | E | ✓ | | | ✓ | |
| | Private Road | E | ✓ | | | ✓ | |
| | SR 50 (Cortez Boulevard) | E | ✓ | | | ✓ | |
| | SR 575 | E | ✓ | | | ✓ | |
| | Bower Road | E | ✓ | | | ✓ | |
| | Cummer Road | E | ✓ | | | ✓ | |
| | Private Road | E | ✓ | | | ✓ | |
| | Mickler Road | E | ✓ | | | ✓ | |
| | Owensboro Road | E | ✓ | | | ✓ | |
| | Gould Road | E | ✓ | | | ✓ | |
| | Ashbrook Road | E | ✓ | | | ✓ | |
| | Jordan Road | E | ✓ | | | ✓ | |
| | Pioneer Museum Road/Long Avenue | E | ✓ | | | ✓ | |
| | Pasco Beverage | E | ✓ | | | ✓ | |
| | Private Pasco Beverage | E | ✓ | | | ✓ | |
| | River Road Drive | E | ✓ | | | ✓ | |
| | Martin Luther King Boulevard | E | ✓ | | | ✓ | |
| | Tuskeegee Avenue | E | ✓ | | | ✓ | |
| | Wilson Street | E | ✓ | | | ✓ | |
| | Dixie Drive | E | ✓ | | | ✓ | |
| | Old Sparkman Road | E | ✓ | | | ✓ | |
| | Johnson Street | E | ✓ | | | ✓ | |
| | Larkin Lake Drive | E | ✓ | | | ✓ | |
| | Johnson Road | E | ✓ | | | ✓ | |
| | Enterprise Road | E | ✓ | | | ✓ | |
| | Private Road (Lykes Agri In) | E | ✓ | | | ✓ | |
| | Santa Gertrudis Drive | E | ✓ | | | ✓ | |
| | Private Road (Waller Ranch) | E | ✓ | | | ✓ | |
| | Messick Road | E | ✓ | | | ✓ | |
| | SR 35/SR 700/US 98 | E | | ✓ | | ✓ | |
| | Stewart Road | E | ✓ | | | ✓ | |
| | CR 35A/Melrose Avenue | E | ✓ | | | ✓ | |
| | **Subtotal** | **54** | **53** | **1** | **0** | **54** | **0** |
| **Vitis Subdivision** | | | | | | | |
| | CR 54A/Elwood Merrick Road | E | ✓ | | | ✓ | |
| | CR 54 | E | ✓ | | | ✓ | |
| | **Subtotal** | **2** | **2** | **0** | **0** | **2** | **0** |
| **New ROW** | | | | | | | |
| | Unnamed Road | P | ✓ | | | | ✓ |
| | Unnamed Road | P | ✓ | | | | ✓ |
| | Dade City Road | P | ✓ | | | | ✓ |
| | Unnamed Road | P | ✓ | | | | ✓ |
| | US 98 | P | | | ✓ | | ✓ |
| | Unnamed Road | P | ✓ | | | | ✓ |
| | Unnamed Road | P | ✓ | | | | ✓ |
| | Unnamed Road | P | ✓ | | | | ✓ |
| | Unnamed Road | P | ✓ | | | | ✓ |
| | Unnamed Road | P | ✓ | | | | ✓ |
| | Unnamed Road | P | ✓ | | | | ✓ |
| | Rock Ridge Road | P | ✓ | | | | ✓ |
| | Unnamed Road | P | ✓ | | | | ✓ |
| | Unnamed Road | P | ✓ | | | | ✓ |
| | Moore Road | P | ✓ | | | | ✓ |
| | Trail West | P | ✓ | | | | ✓ |
| | Old Polk City Road | P | ✓ | | | | ✓ |
| | I-4 | P | | | ✓ | | ✓ |
| | SR 33 | P | | | ✓ | | ✓ |
| | Unnamed Road | P | ✓ | | | | ✓ |
| | Tenoroc Mine Road | P | ✓ | | | | ✓ |
| | **Subtotal** | **21** | **18** | **0** | **3** | **0** | **21** |
| **Existing Track/McIntosh Spur** | | | | | | | |
| | North Combee Road | E | ✓ | | | | ✓ |
| | Saddle Creek Road | E | ✓ | | | | ✓ |
| | Ralph Road | E | ✓ | | | | ✓ |
| | Mineola Drive | E | ✓ | | | | ✓ |
| | Morgan Combee Road | E | ✓ | | | | ✓ |
| | Fish Hatchery Road | E | ✓ | | | | ✓ |
| | Fish Hatchery Road | E | ✓ | | | | ✓ |
| | US 92 | E | ✓ | | | | ✓ |
| | **Subtotal** | **8** | **8** | **0** | **0** | **0** | **8** |
| **CSX "A" Line** | | | | | | | |
| | Fish Hatchery Road (needs eastbound connection to A Line) | E | ✓ | | | | ✓ |
| | Reynolds Road | E | ✓ | | | ✓ | |
| | Old Dixie Highway | E | ✓ | | | ✓ | |
| | Payne Street | E | ✓ | | | ✓ | |
| | SR 570 | E | | ✓ | | ✓ | |
| | Neptune Road | E | ✓ | | | ✓ | |
| | Recker Highway | E | ✓ | | | ✓ | |
| | McKean Street South | E | ✓ | | | ✓ | |
| | **Subtotal** | **8** | **7** | **1** | **0** | **7** | **1** |
| **CSX "S" Line** | | | | | | | |
| | W. Derby Avenue | E | ✓ | | | ✓ | |
| | Ariana Street | E | ✓ | | | ✓ | |
| | SR 542 (Avenue G NW) | E | ✓ | | | ✓ | |
| | Spirit Lake Road | E | ✓ | | | ✓ | |

**Table 5-16. Alternative 7: McIntosh Spur Crossings**

| **Alternative 7: McIntosh Spur** | | | | | | | |
|---|---|---|---|---|---|---|---|
| ***Alignment Segment*** | | ***Crossing*** | ***Crossing Type*** | | | ***Level of Improvement*** | |
| | Roadway Name | Existing (E) / Proposed (P) | At-Grade Grade Crossing | Existing Grade Separation | Proposed Grade Separation | No Improvement Assumed | Improvement Assumed |
| | Coleman Road | E | ✓ | | | ✓ | |
| | 24th Street | E | ✓ | | | ✓ | |
| | 21st Street | E | ✓ | | | ✓ | |
| | 15th Street | E | ✓ | | | ✓ | |
| | Lake Ship Drive | E | ✓ | | | ✓ | |
| | Orrin Avenue | E | ✓ | | | ✓ | |
| | Private Drive | E | ✓ | | | ✓ | |
| | 7th Street SW | E | ✓ | | | ✓ | |
| | Avenue R SW | E | ✓ | | | ✓ | |
| | Private Central Florida Gas Drive | E | ✓ | | | ✓ | |
| | US 17/SR 555 (3rd Street) | E | | ✓ | | ✓ | |
| | American Superior Blvd | E | ✓ | | | ✓ | |
| | Croton Road N | E | ✓ | | | ✓ | |
| | Eloise Loop Road | E | ✓ | | | ✓ | |
| | Macon Road | E | ✓ | | | ✓ | |
| | Eagle Lake Loop Road | E | ✓ | | | ✓ | |
| | Pollard Road | E | ✓ | | | ✓ | |
| | **Subtotal** | **21** | **20** | **1** | **0** | **21** | **0** |

### 5.1.9 Alternative 8: Winston/Bartow Airport

**Route Description**

This alternative would extend from Coleman to the ILC site covering a distance of approximately 96 miles. Alternative 7 is identical to Alternative 4 through Bartow. Common segments for these alternatives include the "S" Line, Vitis Subdivision and Lakeland/Bone Valley/Valrico Subdivisions segment. The major difference of Alternative 7 compared to Alternative 4 is that it would utilize a Florida Midland Railroad (FMID) spur, portions of which are abandoned and active rail right-of-way (Refer to Figure 5-9). Accordingly, the following narrative describes Alternative 8 from its point of departure from active track onto potential new right-of-way east of downtown Bartow.

Similar to Alternatives 3 and 4, this potential route would continue east near SR 60 with new at-grade crossings at East North Street and North Restwood Avenue. The alternative would then turn north prior to reaching the Peace River crossing SR 60 and then US 17. At US 17 this potential alignment would connect into former FMID right-of-way located between Old Bartow Road and US 17. The alignment would travel along the abandoned right-of-way on a northeast course for approximately 3.1 miles. The potential alignment would cross several local roadways at-grade including Crossover, Griffin, Radford, and Gate Roads. Additionally, the route would pass several residences located between Old Bartow Road and US 17 that back up to the former FMID right-of-way.

Alternative 8 would connect to active, existing FMID right-of-way east of Radford Road near the Bartow Municipal Airport. The alternative would continue on northeast heading toward the junction at Winter Haven passing an industrial area proximate to the airport, residences on the north side of the right-of-way from Lake Millsite Drive to Eagle Lake Road. This alternative would tie into the "S" Line at Winter Haven and proceed on a southeasterly course to the planned ILC site.

**Alternative Summary by Segment**

Segment descriptions and associated capital improvements for Alternative 8 are presented below in Table 5-17. The Bone Valley and Valrico Subdivisions would require an entirely new second main track in addition to sidings and signal upgrades. That segment would also require reconfiguration of industry tracks to accommodate the new infrastructure with crossovers to allow industry access/service from either main track. In addition, a new Wye connection to the "S" Line in Winter Haven would be needed to facilitate train movements between the FMID spur and "S" Line.

**Rail Crossing Data**

This alternative would have a total of approximately 143 rail crossings consisting of 133 existing crossings and 10 proposed crossings. This potential route would require seven new at-grade crossings and upgrades of 45 existing at-grade crossings. Rail crossing data for this option is displayed in Table 5-18.

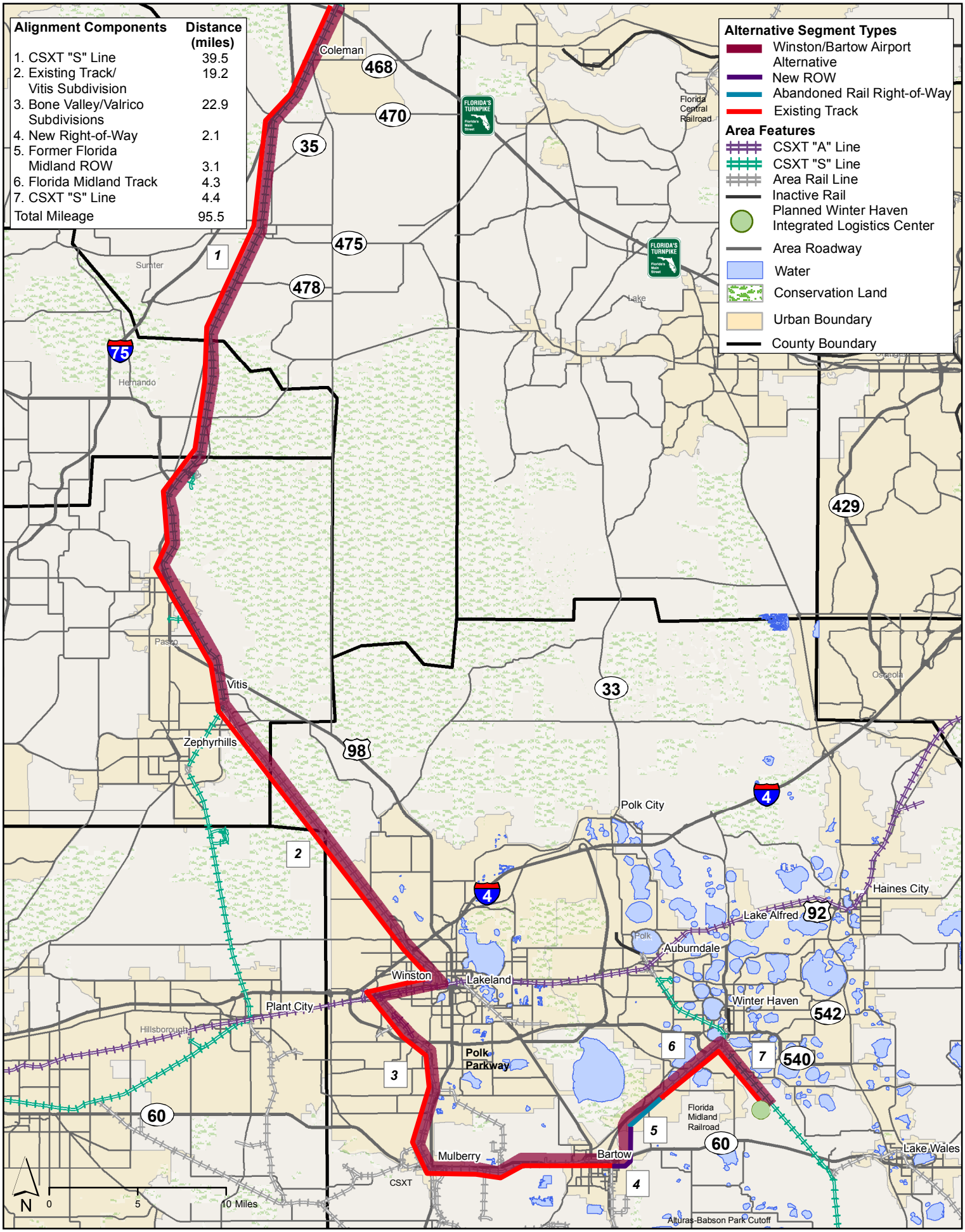


**Figure 5-9:**
**Alternative 8: Winston/Bartow Airport**
**FDOT District One**
**Rail Traffic Evaluation Study**

Source: Bureau of Transportation Statistics National Transportation Atlas Database; FDOT; FDEP; ESRI Data

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## Table 5-17. Alternative 8: Winston/Bartow Airport Summary by Segment

| | CSX "S" Line | CSX Vitis Subdivision | CSX Lakeland, Bone Valley & Valrico Subdivisions | New Right-of-Way | Former Florida Midland Right-of-Way | Florida Midland Right-of-Way | CSX "S" Line | TOTALS |
|---|---|---|---|---|---|---|---|---|
| **Mileage** | 39.5 | 19.2 | 22.9 | 2.1 | 3.1 | 4.3 | 4.4 | 96 |
| **Type of Segment** | Existing Active Rail Right-of-Way | Existing Active Rail Right-of-Way | Existing Active Rail Right-of-Way | New Rail ROW | Abandoned Rail ROW | Existing Active Rail Right-of-Way | Existing Active Rail Right-of-Way | -- |
| **Current Use** | Mostly single track freight, some double track | Mostly single track freight, some double track | Mostly single track freight, some double track | Various; Mostly Undeveloped | No track; mostly undeveloped | Single Track | Mostly single track freight, some double track | -- |
| **Issues** | | | High density of local freight switching | New ROW | New ROW | Local Customers | | -- |
| **Necessary Capital Improvements** | | | | | | | | |
| **Right-of-Way** | None | None | None | New Roadbed & New Embankment | New Roadbed & New Embankment | New Roadbed & New Embankment | None | -- |
| **Track** | None | None | 22.9 miles of New Single Track | 2.1 miles of New Single Track | 3.1 miles of New Single Track | 4.3 miles of New Single Track | None | 32 |
| **Sidings** | None | Two, 10,000 foot siding, with #20 turnouts on each end | Two, 10,000 foot siding, with #20 turnouts on each end | One, 10,000 foot siding, with #20 turnouts on each end | None | One, 10,000 foot siding, with #20 turnouts on each end | None | 6 |
| **Special Trackwork** | None | Special trackwork at Winston | Special trackwork to accommodate industrial tracks through Bone Valley (wyes and interlockings) | | | Wye connection to "S" Line in Winter Haven | None | -- |
| **Drainage** | None | None | 22.9 miles of drainage improvements | 2.1 miles of drainage improvements | 3.1 miles of drainage improvements | 4.3 miles of drainage improvements | None | 32 |
| **Land Acquisition** | None | None | 22.9 miles of additonal property acquisition to widen ROW | 2.1 miles of property acquisition for new ROW | 3.1 miles of property acquisition for new ROW | 4.3 miles of property acquisition for new ROW | None | 10 miles new ROW; 23 miles widened ROW |
| **Signals** | None | None | 22.9 miles of new signals | 2.1 miles of new signals | 3.1 miles of new signals | 4.3 miles of new signals | 11 miles of signals | 32 |
| **Bridges** | None | None | None | None | None | None | None | 1 |
| **Grade Separation Structures** | None | None | 4 grade separations of existing x-ings (SR 60, SR37, SR 60, SR 35/US98/N. Broadway) | 3 New grade separations (Flamingo Drive/SR 60 Access Road, SR 60, US 17) | None | 1 New grade separation (SR 540) | None | 6 |
| **Grade Crossings** | None | None | Upgrade 32 existing crossings | Install 2 new grade crossings | Install 5 new grade crossings | Upgrade 13 existing crossings | None | Install 7 new x-ings and upgrade 45 existing |

**Table 5-18. Alternative 8: Winston/Bartow Airport Crossings**

| **Alternative 8: Winston/Bartow Airport** | | | | | | | |
|---|---|---|---|---|---|---|---|
| ***Alignment Segment*** | | ***Crossing*** | ***Crossing Type*** | | | ***Level of Improvement*** | |
| | Roadway Name | Existing (E) / Proposed (P) | At-Grade Grade Crossing | Existing Grade Separation | Proposed Grade Separation | No Improvement Assumed | Improvement Assumed |
| **CSX "S" Line** | | | | | | | |
| | Taylor Avenue | E | ✓ | | | ✓ | |
| | Warm Spring Avenue | E | ✓ | | | ✓ | |
| | Coleman Cemetery Drive | E | ✓ | | | ✓ | |
| | CR 470 | E | ✓ | | | ✓ | |
| | Private Road | E | ✓ | | | ✓ | |
| | Private Road | E | ✓ | | | ✓ | |
| | CR 532 | E | ✓ | | | ✓ | |
| | Private Road | E | ✓ | | | ✓ | |
| | CR 542 | E | ✓ | | | ✓ | |
| | E. Belt Avenue | E | ✓ | | | ✓ | |
| | Wallace Hatchery | E | ✓ | | | ✓ | |
| | E. Noble Avenue | E | ✓ | | | ✓ | |
| | Bushnell Plaza | E | ✓ | | | ✓ | |
| | E. Central Avenue | E | ✓ | | | ✓ | |
| | CR 476 (W. Seminole Avenue) | E | ✓ | | | ✓ | |
| | Private Triple Ranch | E | ✓ | | | ✓ | |
| | Private Crossing (CR 700) | E | ✓ | | | ✓ | |
| | CR 720 | E | ✓ | | | ✓ | |
| | CR 478 | E | ✓ | | | ✓ | |
| | CR 738A | E | ✓ | | | ✓ | |
| | CR 771 (SW 103rd Place) | E | ✓ | | | ✓ | |
| | Private Road D | E | ✓ | | | ✓ | |
| | Kramer Street/Gresham Road | E | ✓ | | | ✓ | |
| | Private Road | E | ✓ | | | ✓ | |
| | SR 50 (Cortez Boulevard) | E | ✓ | | | ✓ | |
| | SR 575 | E | ✓ | | | ✓ | |
| | Bower Road | E | ✓ | | | ✓ | |
| | Cummer Road | E | ✓ | | | ✓ | |
| | Private Road | E | ✓ | | | ✓ | |
| | Mickler Road | E | ✓ | | | ✓ | |
| | Owensboro Road | E | ✓ | | | ✓ | |
| | Gould Road | E | ✓ | | | ✓ | |
| | Ashbrook Road | E | ✓ | | | ✓ | |
| | Jordan Road | E | ✓ | | | ✓ | |
| | Pioneer Museum Road/Long Avenue | E | ✓ | | | ✓ | |
| | Pasco Beverage | E | ✓ | | | ✓ | |
| | Private Pasco Beverage | E | ✓ | | | ✓ | |
| | River Road Drive | E | ✓ | | | ✓ | |
| | Martin Luther King Boulevard | E | ✓ | | | ✓ | |
| | Tuskeegee Avenue | E | ✓ | | | ✓ | |
| | Wilson Street | E | ✓ | | | ✓ | |
| | Dixie Drive | E | ✓ | | | ✓ | |
| | Old Sparkman Road | E | ✓ | | | ✓ | |
| | Johnson Street | E | ✓ | | | ✓ | |
| | Larkin Lake Drive | E | ✓ | | | ✓ | |
| | Johnson Road | E | ✓ | | | ✓ | |
| | Enterprise Road | E | ✓ | | | ✓ | |
| | Private Road (Lykes Agri In) | E | ✓ | | | ✓ | |
| | Santa Gertrudis Drive | E | ✓ | | | ✓ | |
| | Private Road (Waller Ranch) | E | ✓ | | | ✓ | |
| | Messick Road | E | ✓ | | | ✓ | |
| | SR 35/SR 700/US 98 | E | | ✓ | | ✓ | |
| | Stewart Road | E | ✓ | | | ✓ | |
| | CR 35A/Melrose Avenue | E | ✓ | | | ✓ | |
| | **Subtotal** | **54** | **53** | **1** | **0** | **54** | **0** |
| **Vitis Subdivision** | | | | | | | |
| | CR 54A/Elwood Merrick Road | E | ✓ | | | ✓ | |
| | CR 54 | E | ✓ | | | ✓ | |
| | 1st Street NW | E | ✓ | | | ✓ | |
| | Oak Avenue NW | E | ✓ | | | ✓ | |
| | Deeson Road | E | ✓ | | | ✓ | |
| | Unnamed Road Crossing | E | ✓ | | | ✓ | |
| | Pvt. Tony Elrod Avenue | E | ✓ | | | ✓ | |
| | Youngs Ridge Road | E | ✓ | | | ✓ | |
| | Strickland Avenue | E | ✓ | | | ✓ | |
| | Private Road | E | ✓ | | | ✓ | |
| | Galloway Road | E | ✓ | | | ✓ | |
| | Sleepy Hill Road | E | ✓ | | | ✓ | |
| | Knights Station/Griffin Road | E | ✓ | | | ✓ | |
| | 1-4/SR 400 | E | | ✓ | | ✓ | |
| | Fairbanks Street | E | ✓ | | | ✓ | |
| | 10th Street | E | ✓ | | | ✓ | |
| | US 92 (Memorial Boulevard) | E | | ✓ | | ✓ | |
| | **Subtotal** | **17** | **15** | **2** | **0** | **17** | **0** |
| **Bone Valley/Valrico Subdivisions** | | | | | | | |
| | US 92/George Jenkins Boulevard (RR Bridge over roadway) | E | | ✓ | | ✓ | |
| | Wabash Avenue | E | ✓ | | | | ✓ |
| | Old Tampa Highway | E | ✓ | | | | ✓ |
| | Polk Parkway | E | | ✓ | | ✓ | |
| | W. Pipkin Road | E | ✓ | | | | ✓ |
| | Schoolhouse Road | E | ✓ | | | | ✓ |
| | Ewell Road | E | ✓ | | | | ✓ |
| | Private Drive | E | ✓ | | | | ✓ |
| | Shepherd Road | E | ✓ | | | | ✓ |
| | NW 7th Street | E | ✓ | | | | ✓ |
| | NW 5th Street | E | ✓ | | | | ✓ |
| | NW 2nd Street | E | ✓ | | | | ✓ |
| | Pedestrian Crossing | E | ✓ | | | | ✓ |
| | W. Badcock Boulevard | E | ✓ | | | | ✓ |
| | SR 60 | E | | | ✓ | | ✓ |

| **Alternative 8: Winston/Bartow Airport** | | | | | | | |
|---|---|---|---|---|---|---|---|
| ***Alignment Segment*** | | ***Crossing*** | ***Crossing Type*** | | | ***Level of Improvement*** | |
| | Roadway Name | Existing (E) / Proposed (P) | At-Grade Grade Crossing | Existing Grade Separation | Proposed Grade Separation | No Improvement Assumed | Improvement Assumed |
| | NW Phosphate Blvd (int. with SR 37) | E | ✓ | | | | ✓ |
| | SR 37 | E | | | ✓ | | ✓ |
| | SE 6th Avenue | E | ✓ | | | | ✓ |
| | SE 9th Avenue | E | ✓ | | | | ✓ |
| | Private Crossing | E | ✓ | | | | ✓ |
| | Landfill | E | ✓ | | | | ✓ |
| | W. R. Grace Cargill | E | ✓ | | | | ✓ |
| | Royster Mine Road | E | ✓ | | | | ✓ |
| | C.F. Industries | E | ✓ | | | | ✓ |
| | Bonnie Mine Road | E | ✓ | | | | ✓ |
| | Private Road | E | ✓ | | | | ✓ |
| | Private (Imperial Phosphate) | E | ✓ | | | | ✓ |
| | Private Access Road | E | ✓ | | | | ✓ |
| | SR 60 | E | | | ✓ | | ✓ |
| | Private Road | E | ✓ | | | | ✓ |
| | Private Road | E | ✓ | | | | ✓ |
| | N. Crown Avenue | E | ✓ | | | | ✓ |
| | N. Baker Avenue | E | ✓ | | | | ✓ |
| | SR 60A/SR 60 9 (Bypass) | E | | ✓ | | ✓ | |
| | N. Mill Avenue | E | ✓ | | | | ✓ |
| | N. Broadway (SR 35/US 98) | E | | | ✓ | | ✓ |
| | N. Wilson Avenue (RR bridge over roadway) | E | | ✓ | | ✓ | |
| | N. Jackson Avenue | E | ✓ | | | | ✓ |
| | N. Oak Avenue | E | ✓ | | | | ✓ |
| | N. Searcy Avenue | E | ✓ | | | | ✓ |
| | US 17/98 | E | | ✓ | | ✓ | |
| | **Subtotal** | **41** | **32** | **5** | **4** | **5** | **36** |
| **New Right-of-Way** | | | | | | | |
| | E. North Street | P | ✓ | | | | ✓ |
| | N. Restwood Avenue | P | ✓ | | | | ✓ |
| | E. Flamingo Drive (SR 60 Access Road) | P | | | ✓ | | ✓ |
| | SR 60 | P | | | ✓ | | ✓ |
| | US 17 | P | | | ✓ | | ✓ |
| | **Subtotal** | **5** | **2** | **0** | **3** | **0** | **5** |
| **Former Florida Midland ROW** | | | | | | | |
| | Crossover Road | P | ✓ | | | | ✓ |
| | Griffin Road | P | ✓ | | | | ✓ |
| | James Street | P | ✓ | | | | ✓ |
| | Radford Road | P | ✓ | | | | ✓ |
| | Gate Road | P | ✓ | | | | ✓ |
| | **Subtotal** | **5** | **5** | **0** | **0** | **0** | **5** |
| **Florida Midland Track** | | | | | | | |
| | Spirit Lake Road | E | ✓ | | | | ✓ |
| | Lake Millsite Drive | E | ✓ | | | | ✓ |
| | Private Crossing | E | ✓ | | | | ✓ |
| | Eagle Lake Cemetery Road/Spruce Road | E | ✓ | | | | ✓ |
| | W. Crystal Beach Road | E | ✓ | | | | ✓ |
| | W. Lake Avenue | E | ✓ | | | | ✓ |
| | W. Central Avenue | E | ✓ | | | | ✓ |
| | W. Eagle Lake | E | ✓ | | | | ✓ |
| | W. Bay Avenue | E | ✓ | | | | ✓ |
| | W. Findley Avenue | E | ✓ | | | | ✓ |
| | Cameron Road | E | ✓ | | | | ✓ |
| | SR 540 | E | | | ✓ | | ✓ |
| | S. Lake Shipp Drive | E | ✓ | | | | ✓ |
| | Private Drive (at junction with S Line north of US 17 3rd Street) | E | ✓ | | | | ✓ |
| | **Subtotal** | **14** | **13** | **0** | **1** | **0** | **14** |
| **CSX "S" Line** | | | | | | | |
| | US 17/SR 555 (3rd Street) | E | | ✓ | | ✓ | |
| | American Superior Blvd | E | ✓ | | | ✓ | |
| | Croton Road N | E | ✓ | | | ✓ | |
| | Eloise Loop Road | E | ✓ | | | ✓ | |
| | Macon Road | E | ✓ | | | ✓ | |
| | Eagle Lake Loop Road | E | ✓ | | | ✓ | |
| | Pollard Road | E | ✓ | | | ✓ | |
| | **Subtotal** | **7** | **6** | **1** | **0** | **7** | **0** |

# 6. Environmental Considerations

## 6.1 Overview

The following section provides an overview of some of the environmental characteristics associated with each of the alternatives that have been screened as part of this study. The purpose of this section is to highlight potential environmental factors for each alternative only. A comprehensive environmental analysis was not undertaken as part of this study. If one or more alternatives are advanced for additional study or development further environmental assessment would be necessary.

This section contains a description of the data collection methodology for this effort followed by environmental overview maps for each of the eight alternatives under consideration. Lastly, specific environmental considerations relative to each alternative are described. These range from potential wetlands and floodplains issues to conservation area and parkland infringement.

## 6.2 Data Collection Methodology

An extensive data collection effort was undertaken in order to supplement this study. Geographic Information System (GIS) data were obtained from a number of federal and state sources including the Florida Geographic Data Library (FGDL). The GIS data were utilized to identify potential environmental, community, and business considerations for the various alternatives developed for this study. The data was based on the most recent information available during the data collection effort. Source information for natural features, cultural, and community datasets are as follows:

**FEMA Floodplain**

This dataset delineates special flood hazard areas that are applicable to the Central Florida region. These zones are utilized by the Federal Emergency Management Agency (FEMA) to designate the Special Flood Hazard Area (SFHA) which are typically depicted on Flood Insurance Rate Maps (FIRMs). The data are designed to provide guidance and depict the general proximity of SFHAs. The FIRM is the basis for floodplain management, mitigation, and insurance activities for the National Flood Insurance Program (NFIP). The data set is based on available information dated July 1, 1999.

**National Wetlands Inventory (NWI)**

This dataset, based on available information dated May 2006, contains information on the location and classifications of wetlands as defined by the United States Fish and Wildlife Service (USFWS).

**Strategic Habitat Conservation Area (SHCA)**

This dataset contains lands that are important to flora, fauna, and natural communities as determined by the Florida Fish and Wildlife Commission. These locations identify the actual

species of wildlife predicted to occur for that location. Available information for this dataset is dated 2000.

**Florida Managed Areas**

This polygon data layer identifies public lands that the Florida Natural Areas Inventory (FNAI) has identified as having natural resource value and that are being managed at least partially for conservation purposes. This dataset is based on available information dated December 2007. Conservation lands along with national wildlife refuge, state park and forest boundaries are depicted in the Strategic Habitat Conservation Areas/Recreation Lands map series, shown below.

**Public Facilities**

An inventory of public facilities was conducted and included community resources such as police and fire stations, schools, hospitals, religious institutions, government buildings and correctional facilities. Cultural and civic center were also included in the public facilities inventory.

Police facilities were identified from the FGDL's Law Enforcement Facilities 2008 shapefile which contains point data for local, state and federal law enforcement locations in Florida.

Fire station locations were derived from the Florida Division of Emergency Management's (FDEM) Florida Fire Stations shapefile. This dataset includes any location where fire fighters are stationed at, or based out of as well as equipment storage locations. Fire Departments not having a permanent location are depicted at the city/town hall or at the center of their service area if a city/town hall does not exist. This dataset includes those locations primarily engaged in forest or grasslands fire fighting, including fire lookout towers.

The hospital dataset for the study area was extracted from an annual set of national map data published by ESRI titled Data and Maps 9.2. More specifically, hospital locations were identified based on physical building point data and the Health Forum American Hospital Association Annual Survey Database.

The FGDL's schools database, dated July 2008, contains private and public school information for the State of Florida. This file represents a combination of schools and educational facility addresses consolidated from numerous sources including the Florida Department of Education (DOE).

The religious institution dataset contains places of worship in Florida. This dataset from the Florida Division of Emergency Management, dated July 2008, is composed of any type of building or portion of a building that is used as a place of worship. Buildings that have a primary function for something other than worship but are regularly used as a place of worship were also included in this dataset.

The government building shapefile was derived from the FGDL's Government Building Information for the State of Florida dataset which is comprised of a combination of federal, state, county and local government facilities as well as general government and administration buildings. Available information for this dataset is dated September 2005.

The FGDL's culture center shapefile, dated September 2008, contains culture center addresses and related cultural facilities data for the State of Florida. The 2008 Civic Center Facility Information shapefile was utilized to map civic center facilities. For the purposes of this data

inventory, the civic center shapefile encompassed civic centers, convention centers, auditoriums, and trade show exposition and fair space. This dataset was updated by the FGDL in June 2008.

Correctional institutions were identified from the FDEM's Florida Correctional Institutions 2007 dataset. This dataset contains correctional institutions within the state including federal and state prisons, local jails and juvenile detention facilities.

**Historic Resources**

Historic resource and district data was derived from the Florida Division of Historical Resources, Bureau of Archaeological Research's Historical Structure Locations 2008 dataset. This file is based on cultural resource locations and attributes as recorded in the Florida Master Site File (Site File). The Site file is a paper file archive and computer database of historical cultural resources in Florida. The cultural resource locations are based on location information submitted to the Site File by the site recorder and not always verified for accuracy.

**Hazardous Materials**

Hazardous materials locations were mapped utilizing three distinct databases. The United States Environmental Protection Agency (USEPA) Toxic Release Inventory (TRI) identifies TRI facilities in Florida. The TRI is a database detailing 650 chemicals that industrial, manufacturing and federal facilities manage through disposal or other releases, and waste management for recycling, energy recovery, or treatment. The locations contained in this shapefile were for the 2006 reporting year.

Brownfields within the region were mapped from the FDEP's Brownfield Point Locations shapefile dated June 2005. This dataset identifies environmental contamination on existing commercial and industrial sites that are abandoned or underused due to these hazards.

The Superfund Hazardous Waste Site dataset was utilized to identify Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) site locations within the region. This dataset contains the point locations of hazardous waste sites on the National Priority List (NPL) of CERCLIS are also known as Superfund sites. This database maintained by the USEPA is based on available information dated November 2006.

**Phosphate Mine Reclamation Status**

The Mandatory Phosphate Mine Boundary dataset contains conceptual boundaries of phosphate mines primarily within the Central Florida Phosphate Mining District which encompasses portions of Polk, Hillsborough, Manatee and Hardee Counties. This layer is intended to provide a graphical representation of phosphate mine boundaries for planning and management purposes only. The data may contain inaccuracies such as overlapping or outdated features. Current approved Conceptual Reclamation Plans should be consulted for actual legal mine boundaries. This database is maintained by the FDEP's Bureau of Mine Reclamation and based on information dated December 2005.

The Mandatory Phosphate Mine Reclamation Unit dataset was utilized to identify phosphate mine reclamation status within the study area. Land mined for phosphate as of July 1, 1975 is classified as "mandatory" and is required by state law to be reclaimed. The database is maintained by the FDEP's Bureau of Mine Reclamation which collects data on reclamation units, including number of acres mined and number of acres released. The term "reclaimed" means that

final contouring and initial revegetation has been completed. A "released" designation signifies that the reclamation has been completed and deemed successful by FDEP and the site has no further obligation to comply with the requirements of 62C-16, Florida Administrative Code.

## 6.3 Environmental Considerations Overview Maps

Environmental considerations overview maps for each alternative are presented below as Figures 6-1 through 6-8. Refer to Appendix B for full size versions of these maps. Each figure is comprised of four maps which overlay the environmental data detailed in Section 6.2 onto the routes for Alternatives 1 through 8. These environmental layers have been consolidated into the following maps which include: FEMA Floodplain/National Wetlands Locations; Strategic Habitat Conservation Areas/Recreation Lands; Public Facilities/Historic Resources; and Hazardous Material Locations/Phosphate Mine Boundaries. Refer to Section 6.4 for a narrative of environmental challenges associated with freight relocation options.

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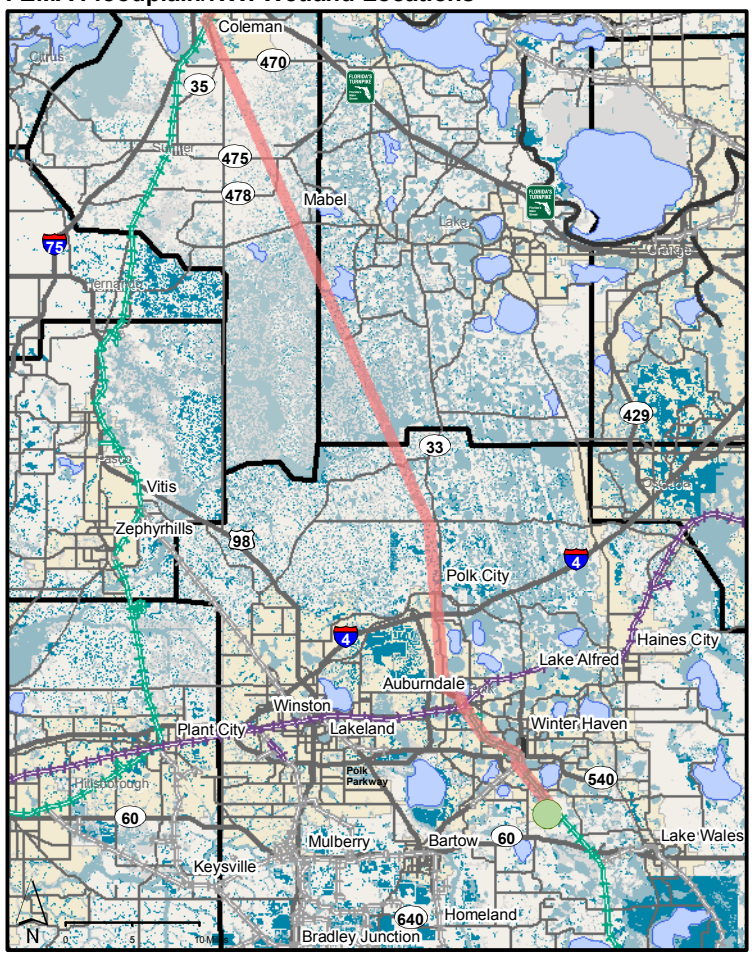
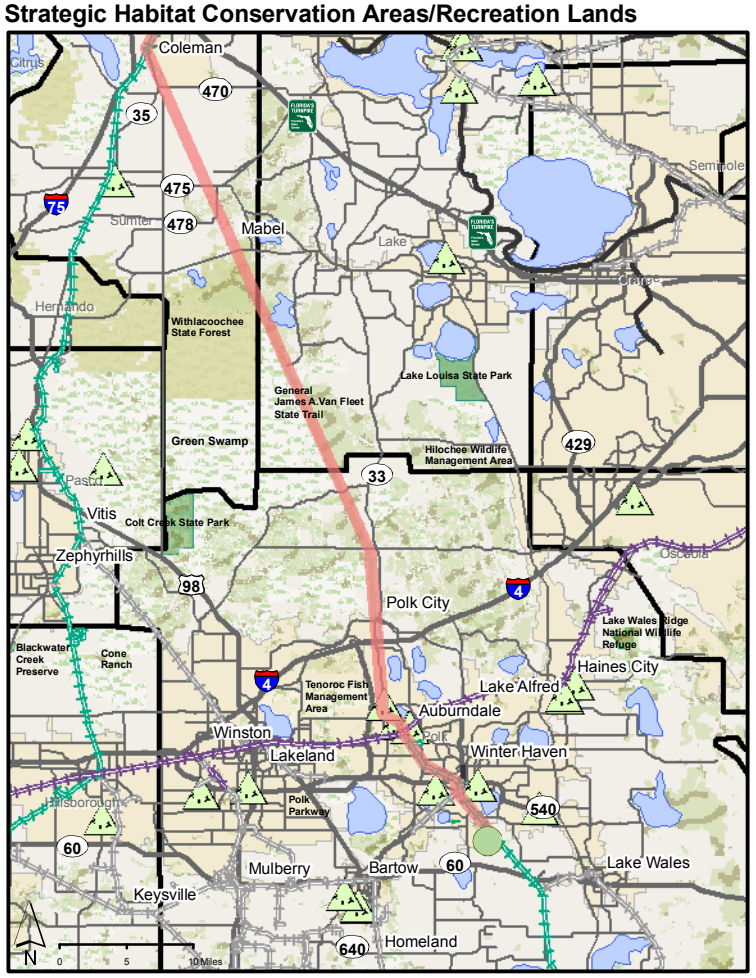
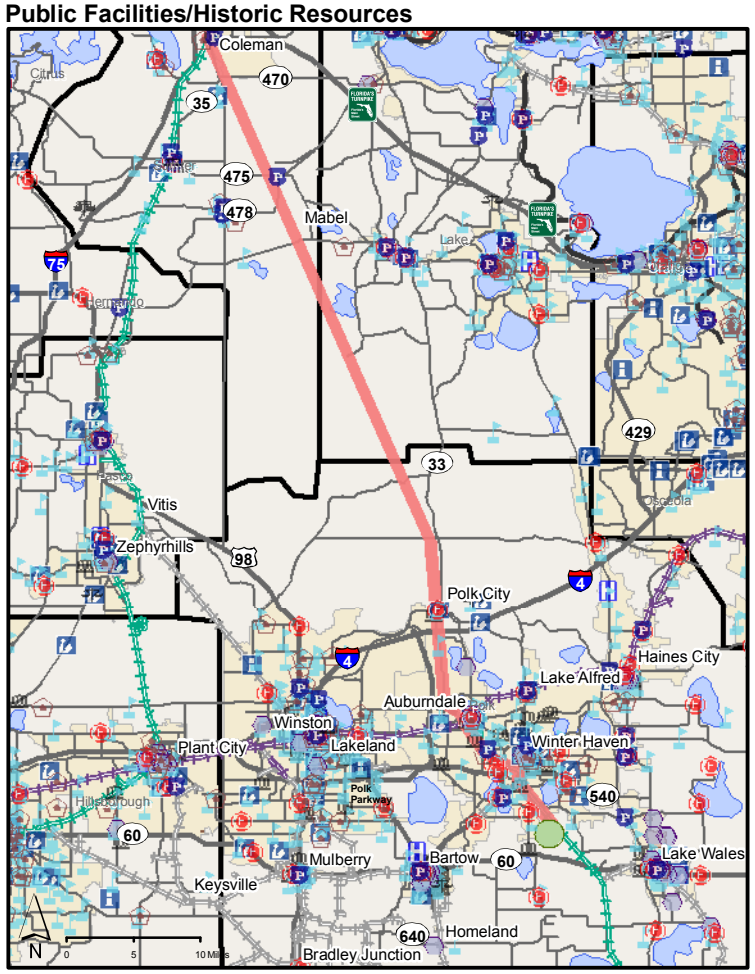
**FEMA Floodplain/NWI Wetland Locations**



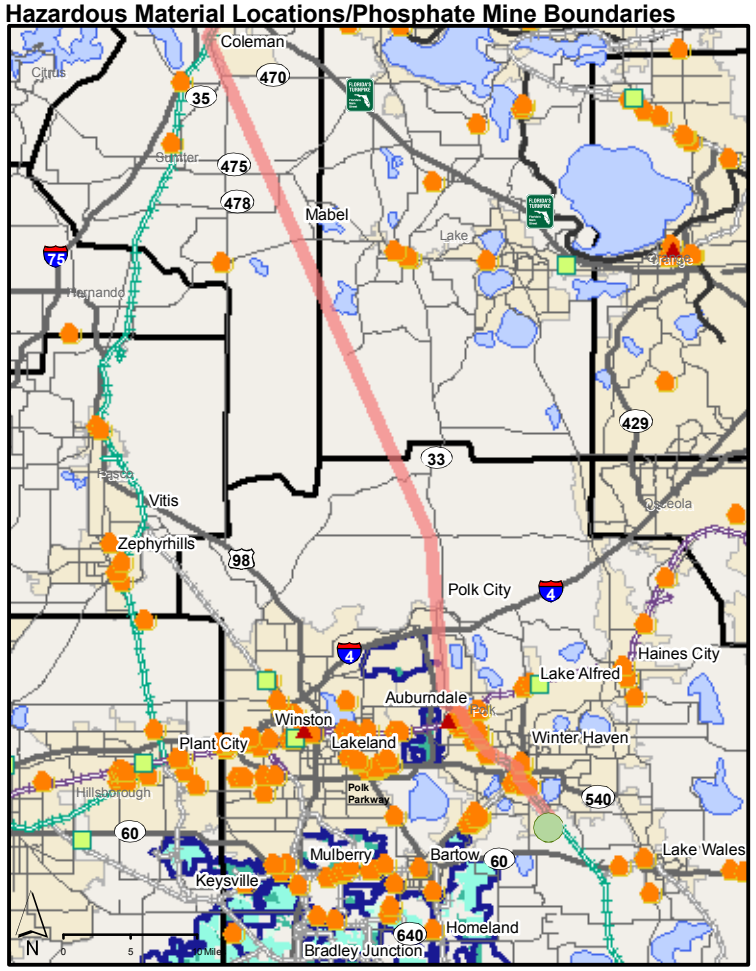

**Strategic Habitat Conservation Areas/Recreation Lands**




**Public Facilities/Historic Resources**




**Hazardous Material Locations/Phosphate Mine Boundaries**




***Environmental Data***

*FEMA Floodplain/NWI Wetlands*
- Special Flood Hazard Area
- Wetlands

*Public Facilities/Historic Structures*
- Police Station
- Fire Station
- Hospital
- School
- Religious Institution
- Government Building
- Culture Center
- Civic Center
- Correctional Facility
- NRHP Listed Resource
- NRHP Listed District

*Strategic Habitat Conservation Areas/ Recreation Lands*
- Strategic Habitat Conservation Area
- Conservation Land
- National Wildlife Refuge
- State Forest
- State Park
- Park/Playground

*Hazardous Material Locations*
- TRI Site
- CERCLIS Site
- Brownfield Location

*Phosphate Mine Reclamation Status*
- Phosphate Mine Boundary
- Not Released
- Partially Released
- Released

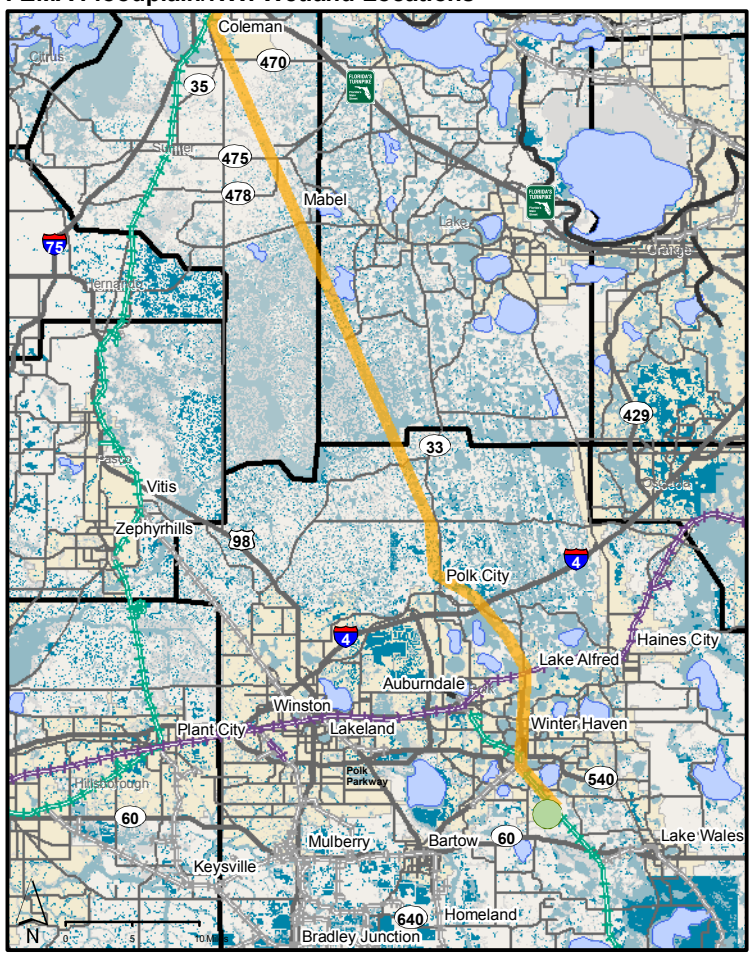
***Segment Type***
- Van Fleet/TECO Alternative

***Area Features***
- CSXT "A" Line
- CSXT "S" Line
- Area Rail Line
- Inactive Rail
- Planned Winter Haven Integrated Logistics Center
- Area Roadway
- Water
- Urban Boundary
- County Boundary

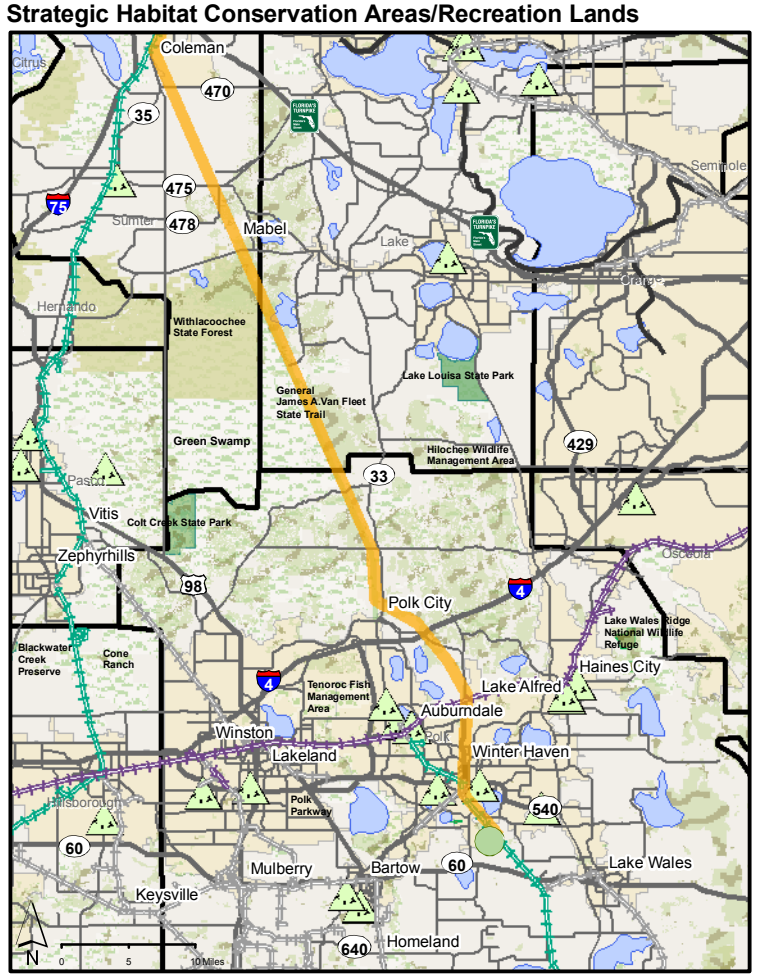
Source: Bureau of Transportation Statistics National Transportation Atlas Database; USFWS Branch of Habitat Assessment; FEMA; USEPA; FDOT; FGDL; FDEP; FDOF; Google Earth; Microsoft Live Local; ESRI Data

**Figure 6-1:**
**Alternative 1: Van Fleet/TECO**
**Environmental Considerations Overview**
**FDOT District One**
**Rail Traffic Evaluation Study**

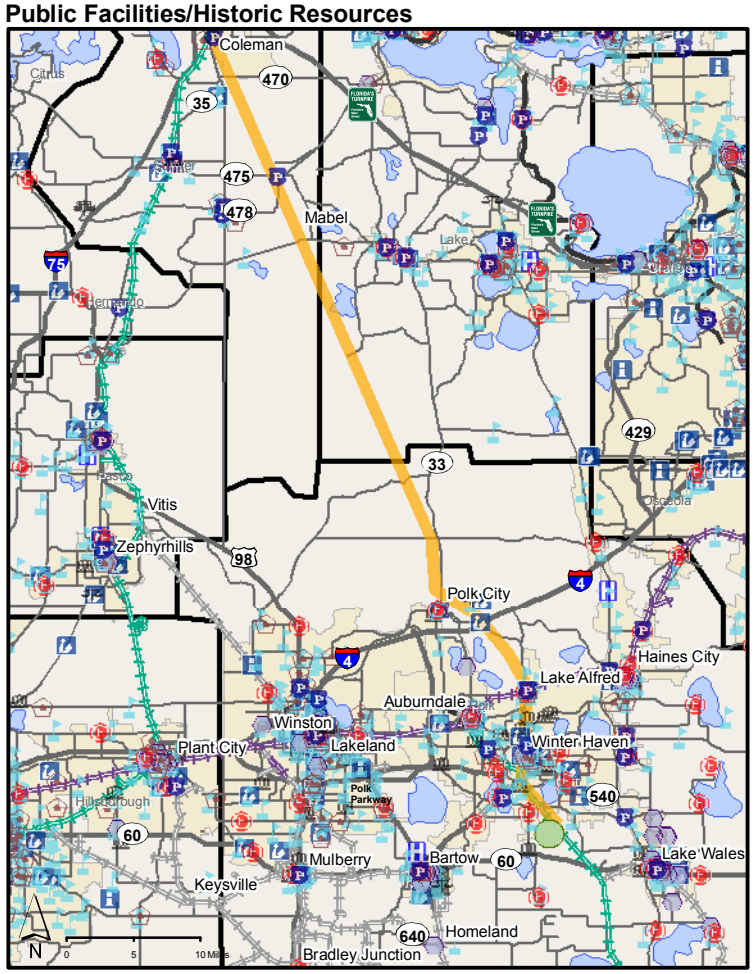
**FEMA Floodplain/NWI Wetland Locations**



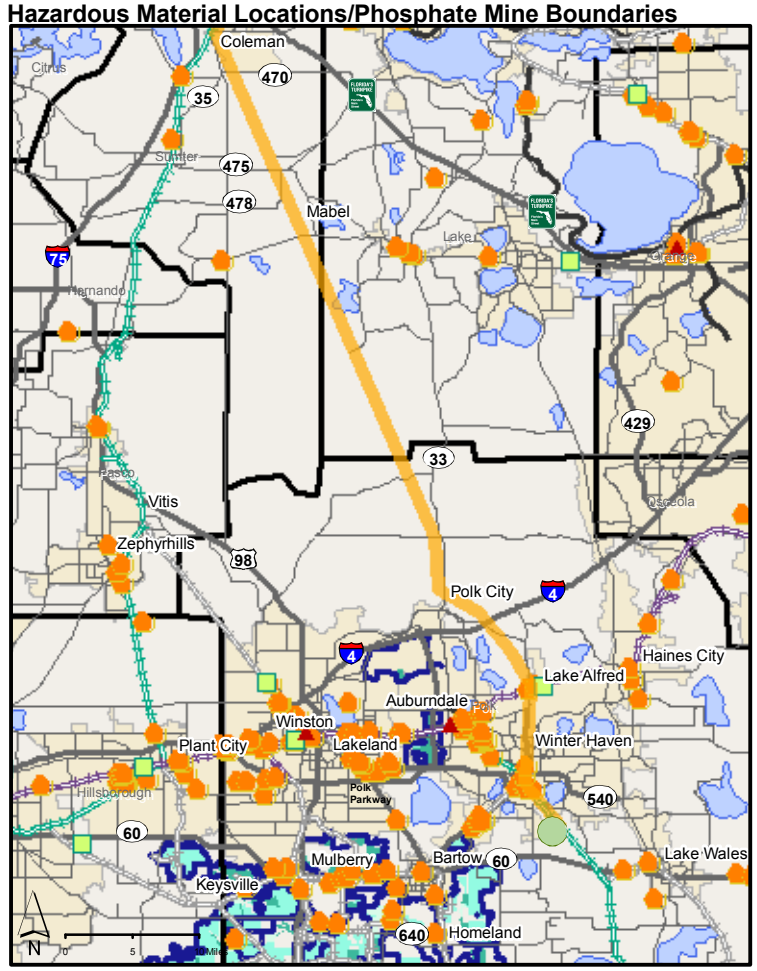

**Strategic Habitat Conservation Areas/Recreation Lands**




**Public Facilities/Historic Resources**




**Hazardous Material Locations/Phosphate Mine Boundaries**




***Environmental Data***

*FEMA Floodplain/NWI Wetlands*
- Special Flood Hazard Area
- Wetlands

*Public Facilities/Historic Structures*
- Police Station
- Fire Station
- Hospital
- School
- Religious Institution
- Government Building
- Culture Center
- Civic Center
- Correctional Facility
- NRHP Listed Resource
- NRHP Listed District

*Strategic Habitat Conservation Areas/ Recreation Lands*
- Strategic Habitat Conservation Area
- Conservation Land
- National Wildlife Refuge
- State Forest
- State Park
- Park/Playground

*Hazardous Material Locations*
- TRI Site
- CERCLIS Site
- Brownfield Location

*Phosphate Mine Reclamation Status*
- Phosphate Mine Boundary
- Not Released
- Partially Released
- Released

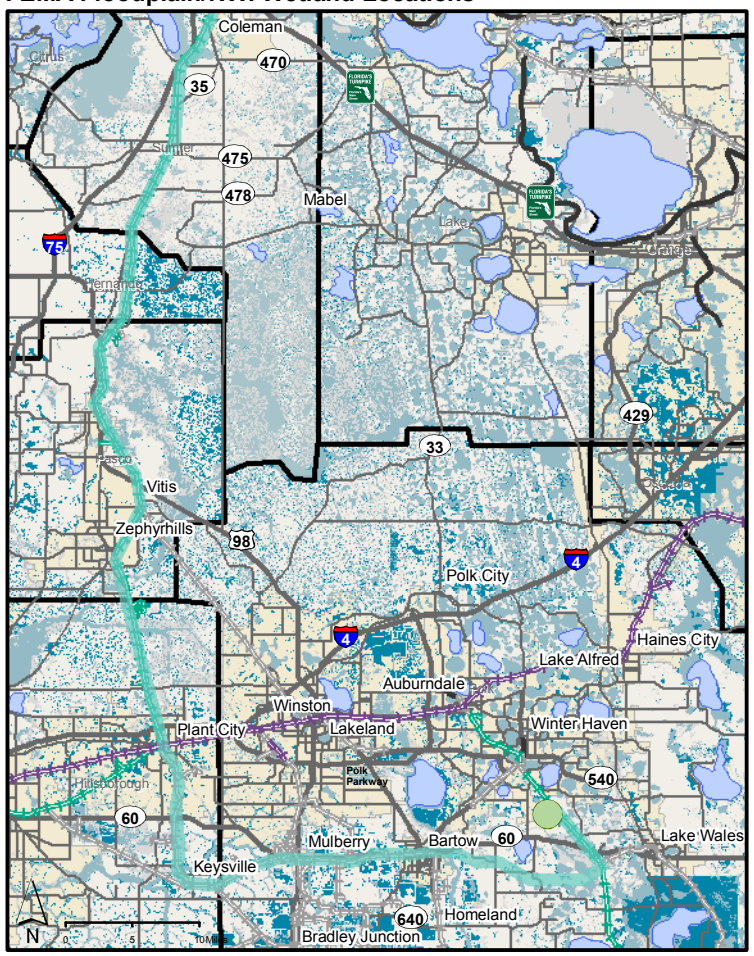
***Segment Type***
- Van Fleet/Chain of Lakes Alternative

***Area Features***
- CSXT "A" Line
- CSXT "S" Line
- Area Rail Line
- Inactive Rail
- Planned Winter Haven Integrated Logistics Center
- Area Roadway
- Water
- Urban Boundary
- County Boundary

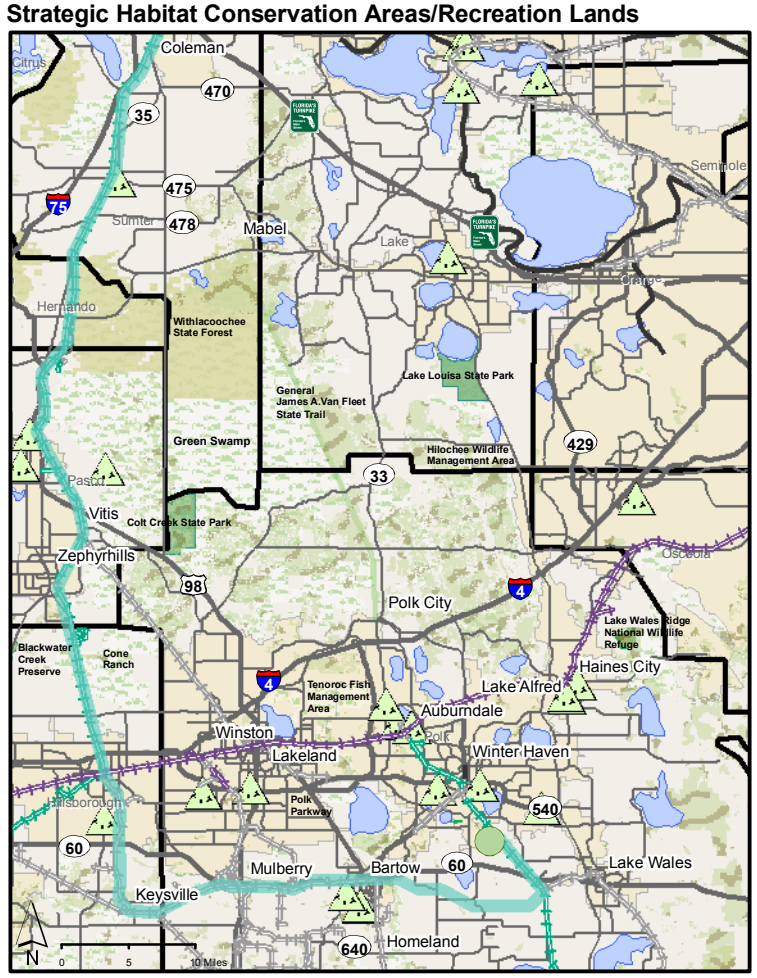
Source: Bureau of Transportation Statistics National Transportation Atlas Database; USFWS Branch of Habitat Assessment; FEMA; USEPA; FDOT; FGDL; FDEP; FDOF; Google Earth; Microsoft Live Local; ESRI Data

**Figure 6-2:**
**Alternative 2: Van Fleet/Chain of Lakes**
**Environmental Considerations Overview**
**FDOT District One**
**Rail Traffic Evaluation Study**

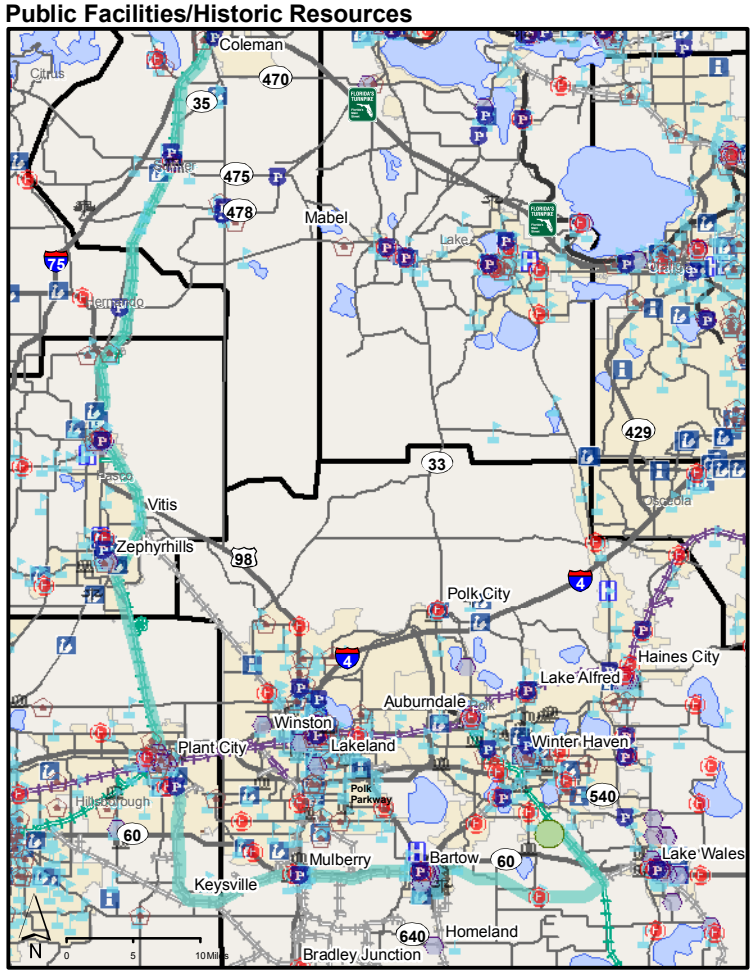
**FEMA Floodplain/NWI Wetland Locations**



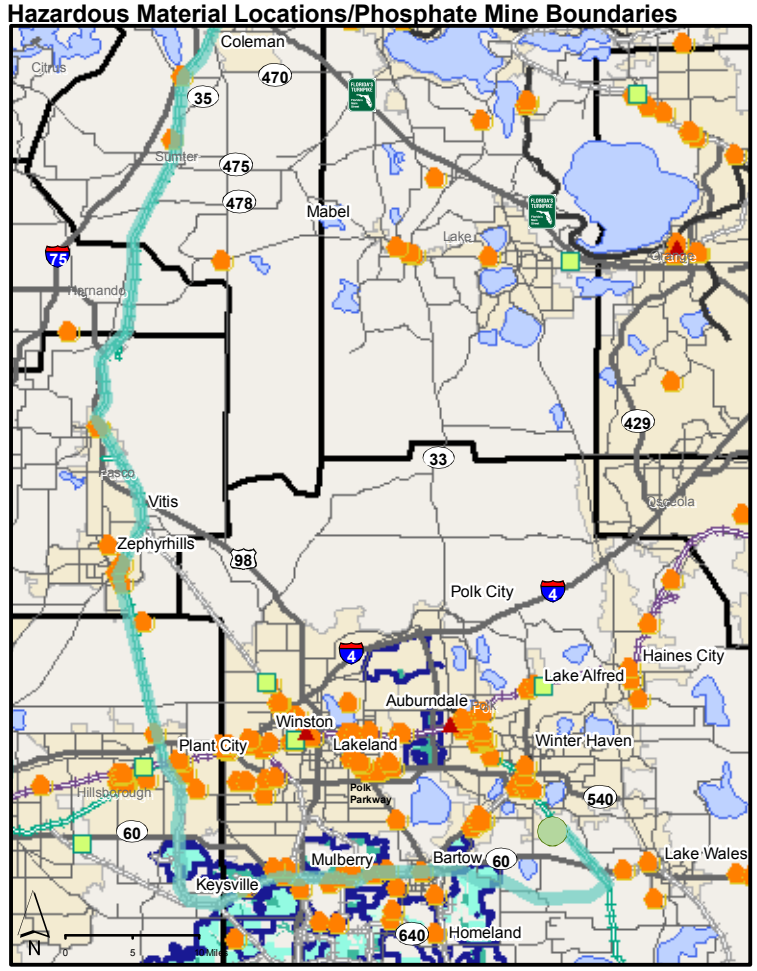

**Strategic Habitat Conservation Areas/Recreation Lands**




**Public Facilities/Historic Resources**




**Hazardous Material Locations/Phosphate Mine Boundaries**




***Environmental Data***

*FEMA Floodplain/NWI Wetlands*
- Special Flood Hazard Area
- Wetlands

*Public Facilities/Historic Structures*
- Police Station
- Fire Station
- Hospital
- School
- Religious Institution
- Government Building
- Culture Center
- Civic Center
- Correctional Facility
- NRHP Listed Resource
- NRHP Listed District

*Strategic Habitat Conservation Areas/ Recreation Lands*
- Strategic Habitat Conservation Area
- Conservation Land
- National Wildlife Refuge
- State Forest
- State Park
- Park/Playground

*Hazardous Material Locations*
- TRI Site
- CERCLIS Site
- Brownfield Location

*Phosphate Mine Reclamation Status*
- Phosphate Mine Boundary
- Not Released
- Partially Released
- Released

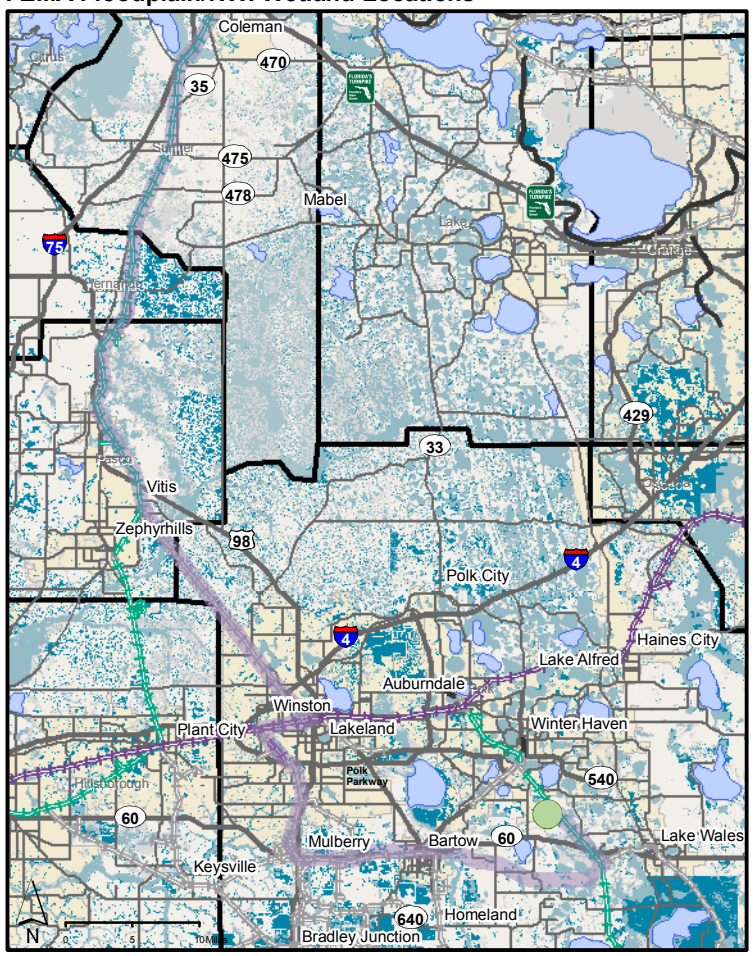
***Segment Type***
- Plant City/Bartow Alternative

***Area Features***
- CSXT "A" Line
- CSXT "S" Line
- Area Rail Line
- Inactive Rail
- Planned Winter Haven Integrated Logistics Center
- Area Roadway
- Water
- Urban Boundary
- County Boundary

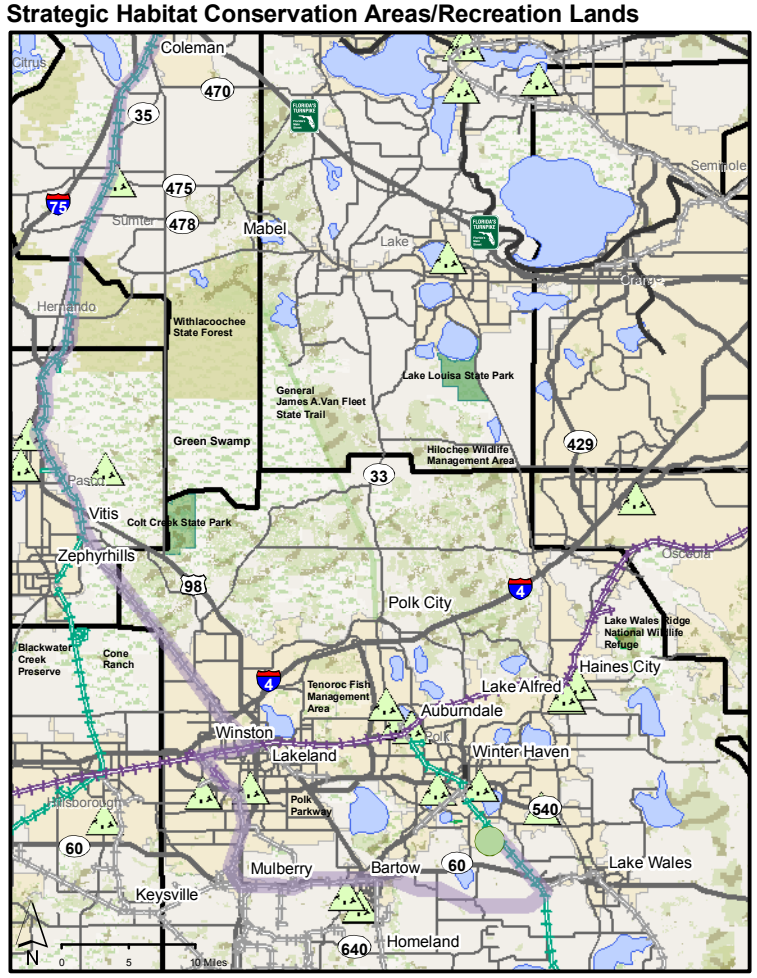
Source: Bureau of Transportation Statistics National Transportation Atlas Database; USFWS Branch of Habitat Assessment; FEMA; USEPA; FDOT; FGDL; FDEP; FDOF; Google Earth; Microsoft Live Local; ESRI Data

**Figure 6-3:**
**Alternative 3: Plant City/Bartow**
**Environmental Considerations Overview**
**FDOT District One**
**Rail Traffic Evaluation Study**

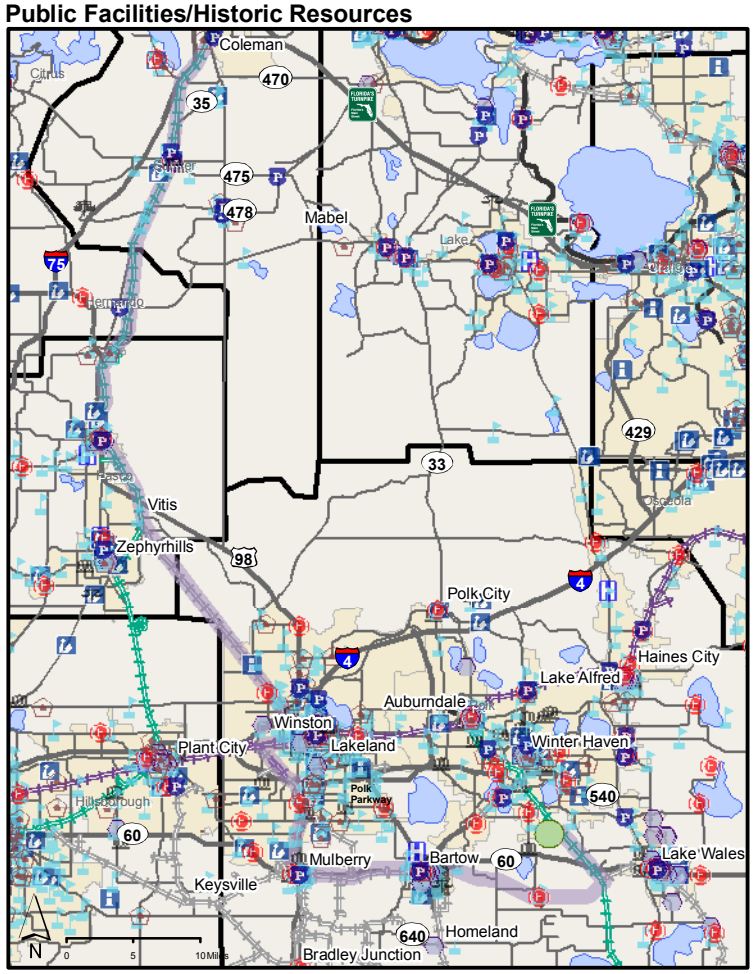
**FEMA Floodplain/NWI Wetland Locations**



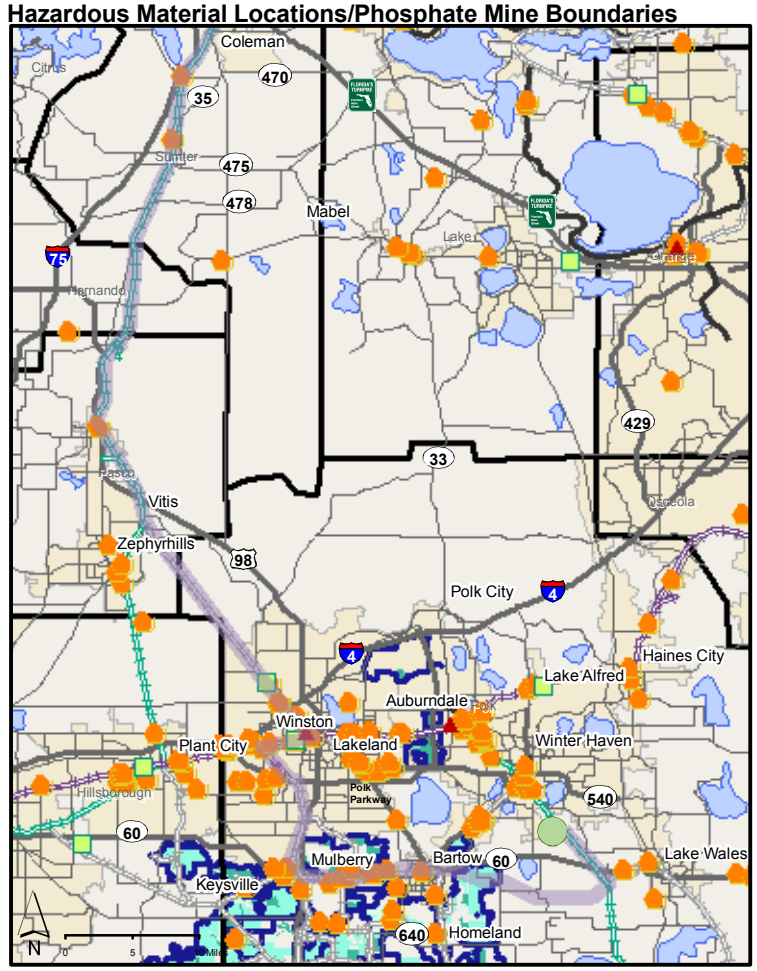

**Strategic Habitat Conservation Areas/Recreation Lands**




**Public Facilities/Historic Resources**




**Hazardous Material Locations/Phosphate Mine Boundaries**




***Environmental Data***

*FEMA Floodplain/NWI Wetlands*
- Special Flood Hazard Area
- Wetlands

*Public Facilities/Historic Structures*
- Police Station
- Fire Station
- Hospital
- School
- Religious Institution
- Government Building
- Culture Center
- Civic Center
- Correctional Facility
- NRHP Listed Resource
- NRHP Listed District

*Strategic Habitat Conservation Areas/ Recreation Lands*
- Strategic Habitat Conservation Area
- Conservation Land
- National Wildlife Refuge
- State Forest
- State Park
- Park/Playground

*Hazardous Material Locations*
- TRI Site
- CERCLIS Site
- Brownfield Location

*Phosphate Mine Reclamation Status*
- Phosphate Mine Boundary
- Not Released
- Partially Released
- Released

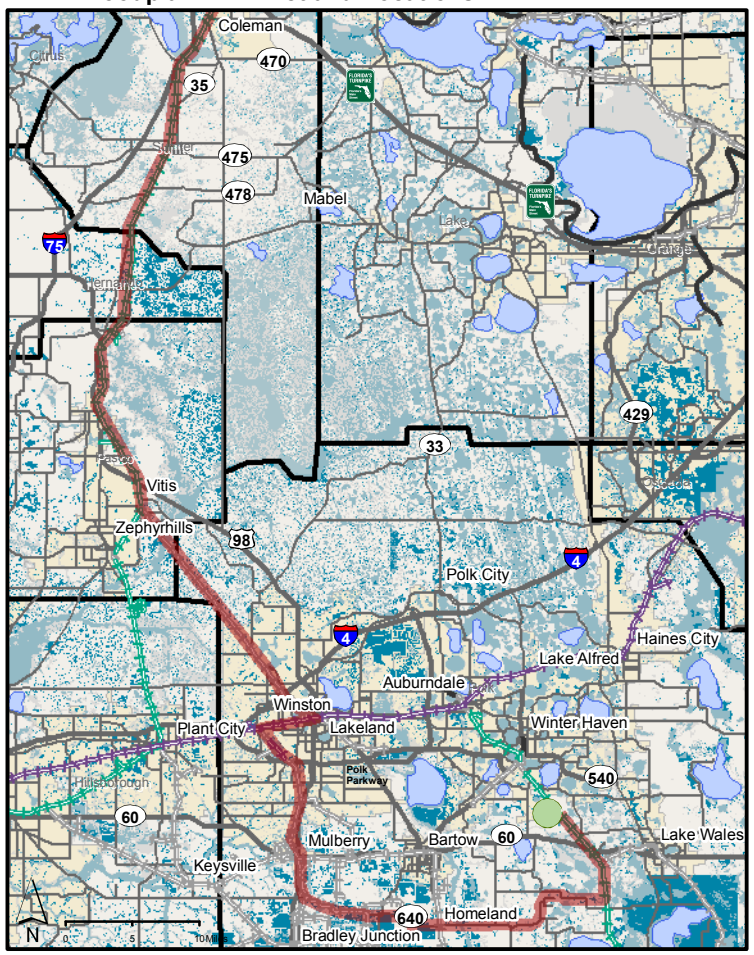
***Segment Type***
- Winston/Bartow Alternative

***Area Features***
- CSXT "A" Line
- CSXT "S" Line
- Area Rail Line
- Inactive Rail
- Planned Winter Haven Integrated Logistics Center
- Area Roadway
- Water
- Urban Boundary
- County Boundary

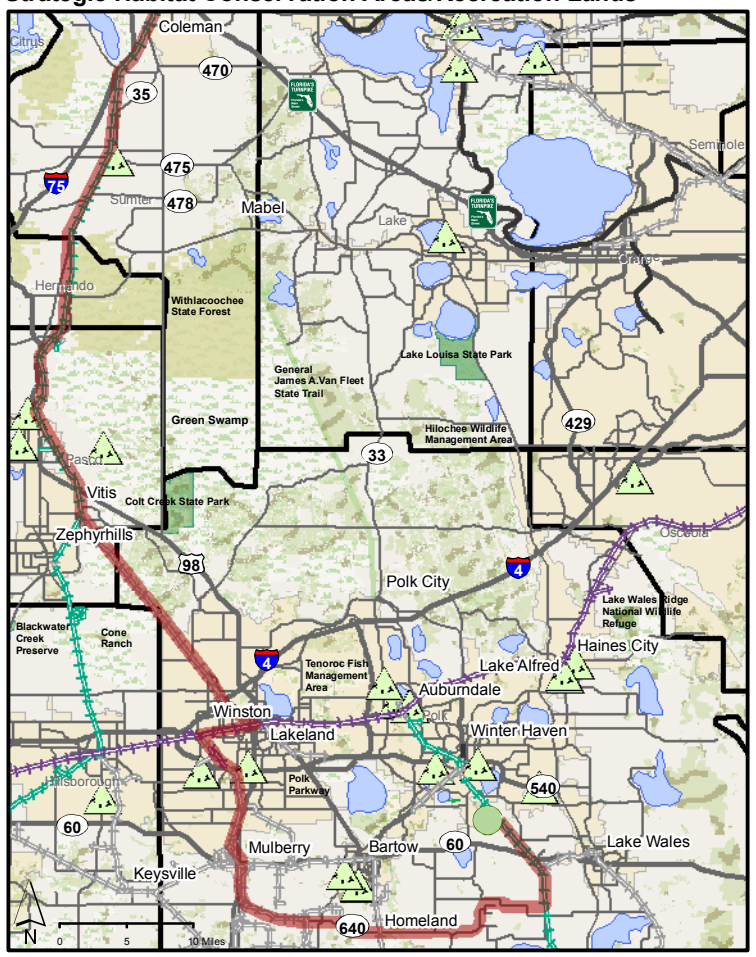
Source: Bureau of Transportation Statistics National Transportation Atlas Database; USFWS Branch of Habitat Assessment; FEMA; USEPA; FDOT; FGDL; FDEP; FDOF; Google Earth; Microsoft Live Local; ESRI Data

**Figure 6-4:**
**Alternative 4: Winston/Bartow**
**Environmental Considerations Overview**
**FDOT District One**
**Rail Traffic Evaluation Study**

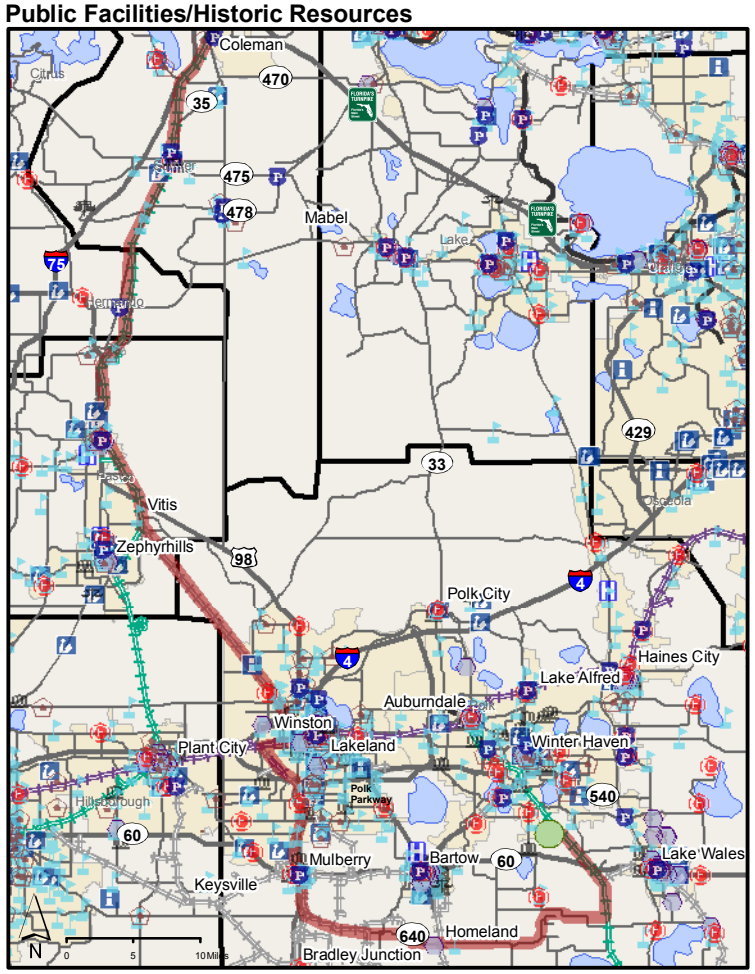
**FEMA Floodplain/NWI Wetland Locations**



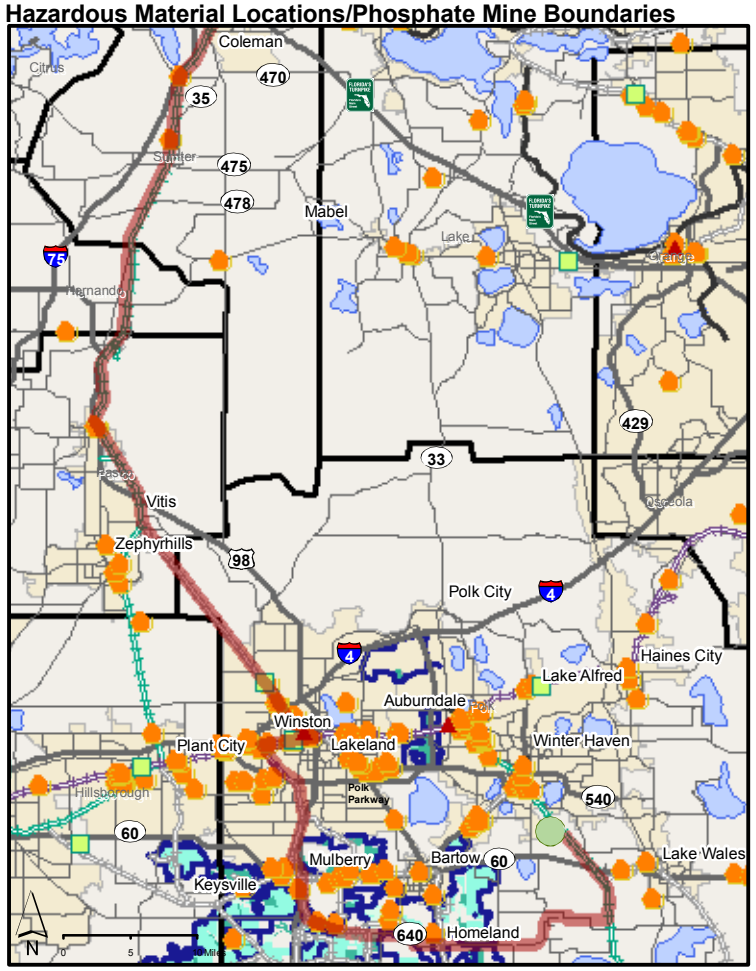

**Strategic Habitat Conservation Areas/Recreation Lands**




**Public Facilities/Historic Resources**




**Hazardous Material Locations/Phosphate Mine Boundaries**




***Environmental Data***

*FEMA Floodplain/NWI Wetlands*
- Special Flood Hazard Area
- Wetlands

*Public Facilities/Historic Structures*
- Police Station
- Fire Station
- Hospital
- School
- Religious Institution
- Government Building
- Culture Center
- Civic Center
- Correctional Facility
- NRHP Listed Resource
- NRHP Listed District

*Strategic Habitat Conservation Areas/ Recreation Lands*
- Strategic Habitat Conservation Area
- Conservation Land
- National Wildlife Refuge
- State Forest
- State Park
- Park/Playground

*Hazardous Material Locations*
- TRI Site
- CERCLIS Site
- Brownfield Location

*Phosphate Mine Reclamation Status*
- Phosphate Mine Boundary
- Not Released
- Partially Released
- Released

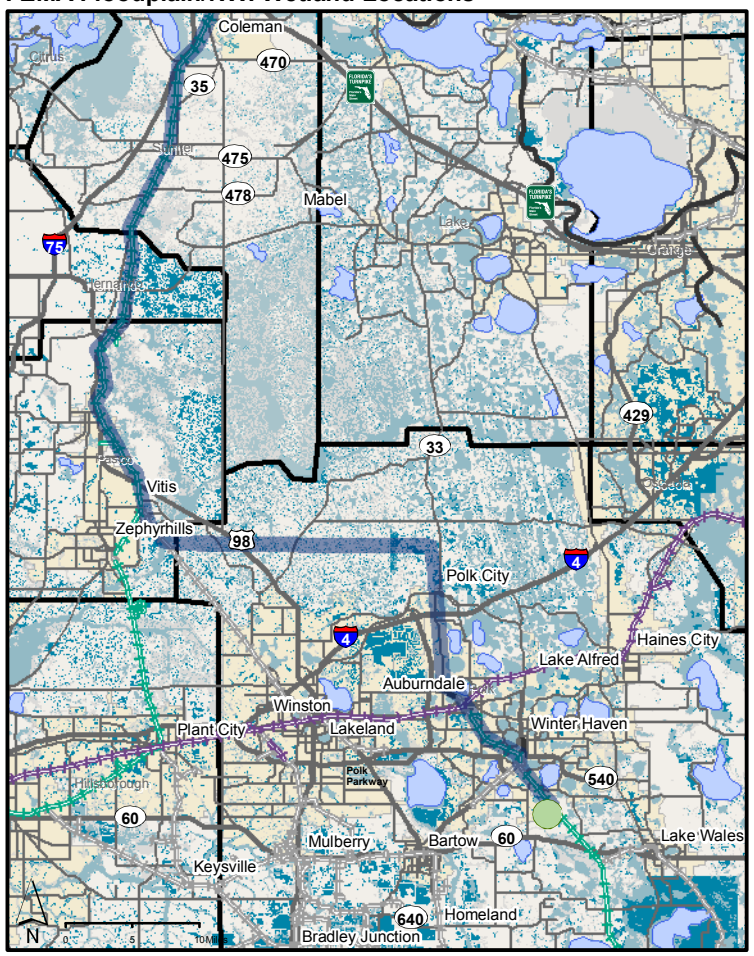
***Segment Type***
- Winston/Homeland Alternative

***Area Features***
- CSXT "A" Line
- CSXT "S" Line
- Area Rail Line
- Inactive Rail
- Planned Winter Haven Integrated Logistics Center
- Area Roadway
- Water
- Urban Boundary
- County Boundary

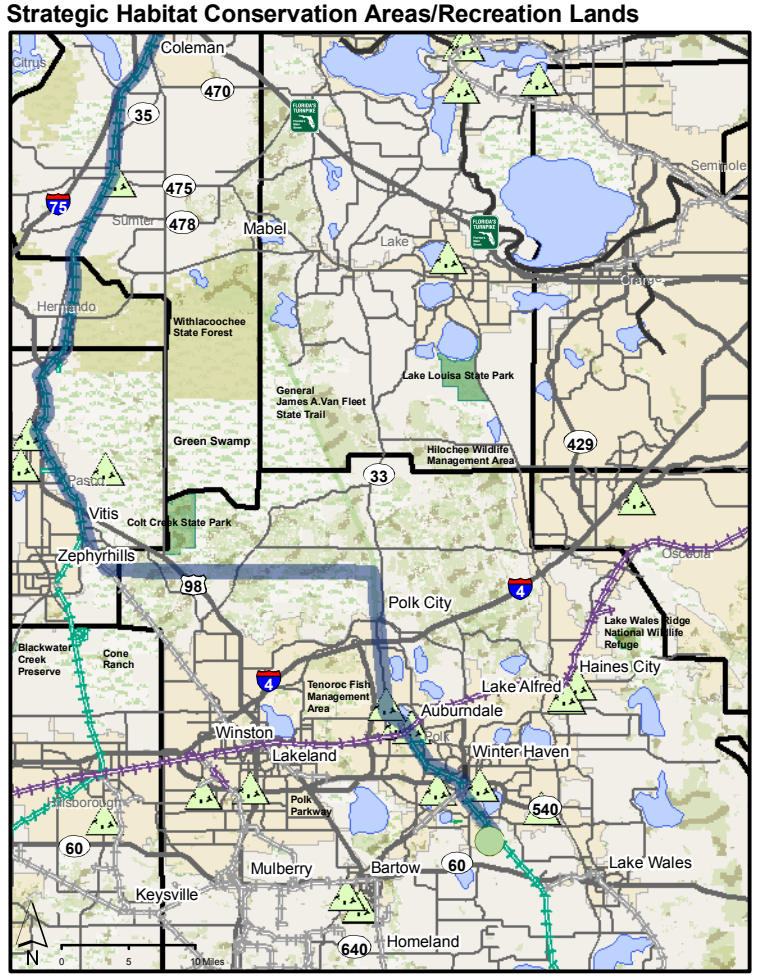
**Figure 6-5:**
**Alternative 5: Winston/Homeland**
**Environmental Considerations Overview**
**FDOT District One**
**Rail Traffic Evaluation Study**

Source: Bureau of Transportation Statistics National Transportation Atlas Database; USFWS Branch of Habitat Assessment; FEMA; USEPA; FDOT; FGDL; FDEP; FDOF; Google Earth; Microsoft Live Local; ESRI Data

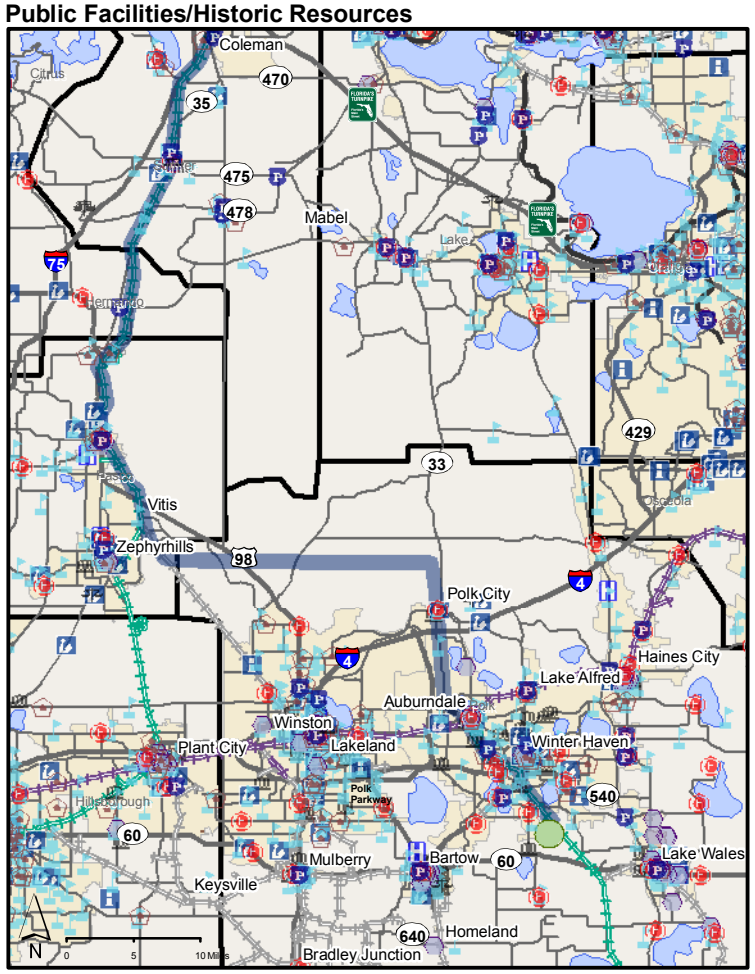
**FEMA Floodplain/NWI Wetland Locations**



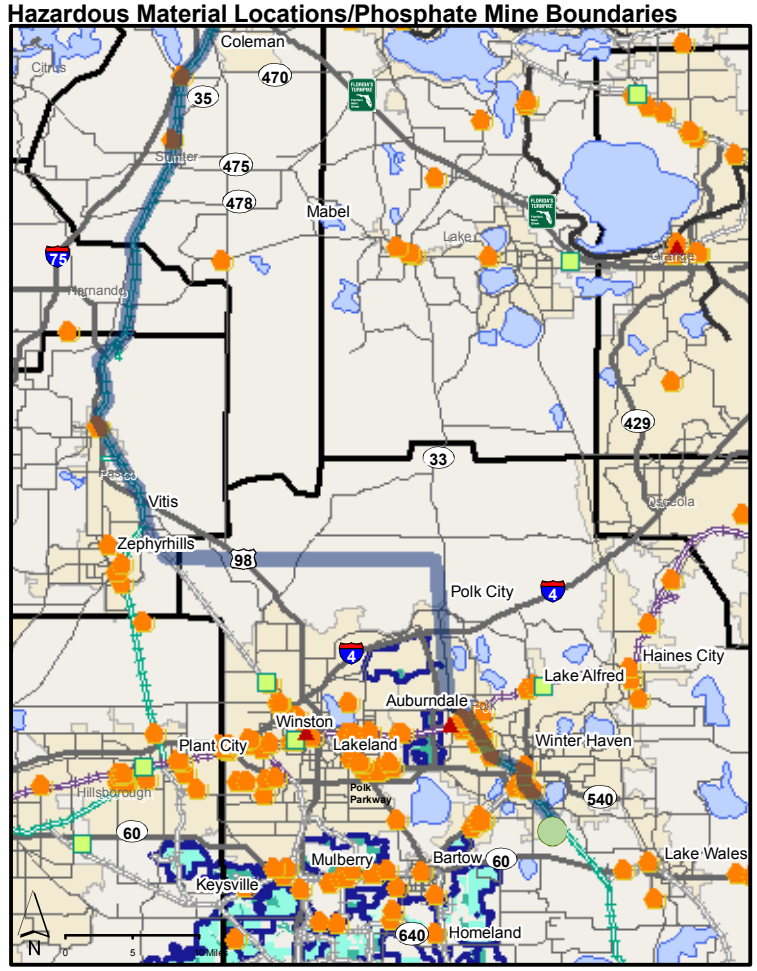

**Strategic Habitat Conservation Areas/Recreation Lands**




**Public Facilities/Historic Resources**




**Hazardous Material Locations/Phosphate Mine Boundaries**




***Environmental Data***

*FEMA Floodplain/NWI Wetlands*
- Special Flood Hazard Area
- Wetlands

*Public Facilities/Historic Structures*
- Police Station
- Fire Station
- Hospital
- School
- Religious Institution
- Government Building
- Culture Center
- Civic Center
- Correctional Facility
- NRHP Listed Resource
- NRHP Listed District

*Strategic Habitat Conservation Areas/ Recreation Lands*
- Strategic Habitat Conservation Area
- Conservation Land
- National Wildlife Refuge
- State Forest
- State Park
- Park/Playground

*Hazardous Material Locations*
- TRI Site
- CERCLIS Site
- Brownfield Location

*Phosphate Mine Reclamation Status*
- Phosphate Mine Boundary
- Not Released
- Partially Released
- Released

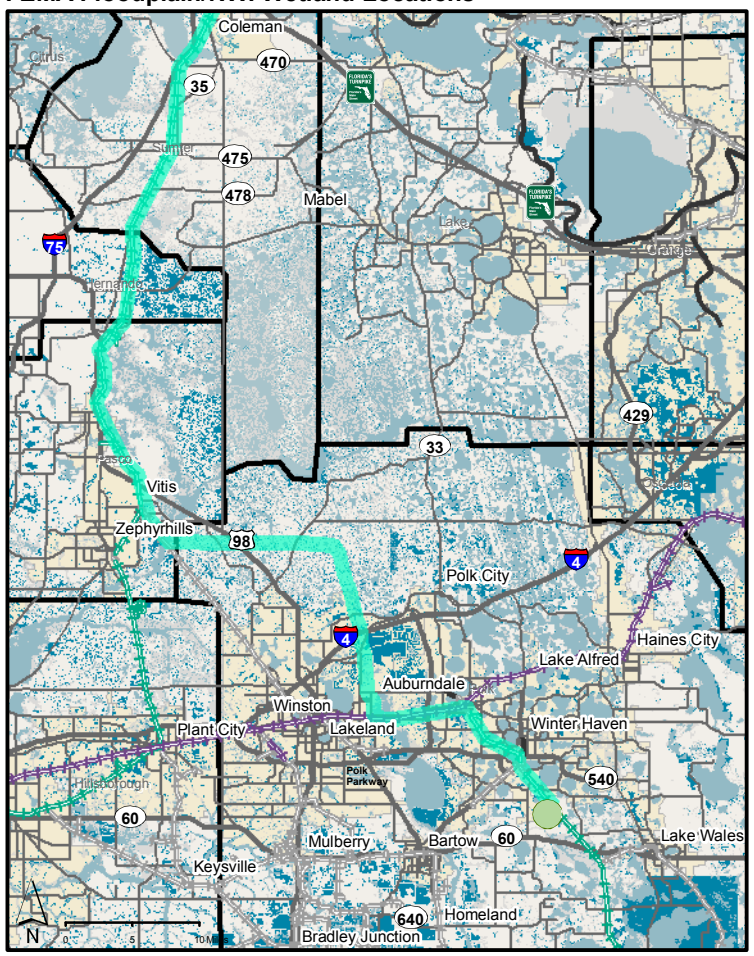
***Segment Type***
- Vitis/Polk City Alternative

***Area Features***
- CSXT "A" Line
- CSXT "S" Line
- Area Rail Line
- Inactive Rail
- Planned Winter Haven Integrated Logistics Center
- Area Roadway
- Water
- Urban Boundary
- County Boundary

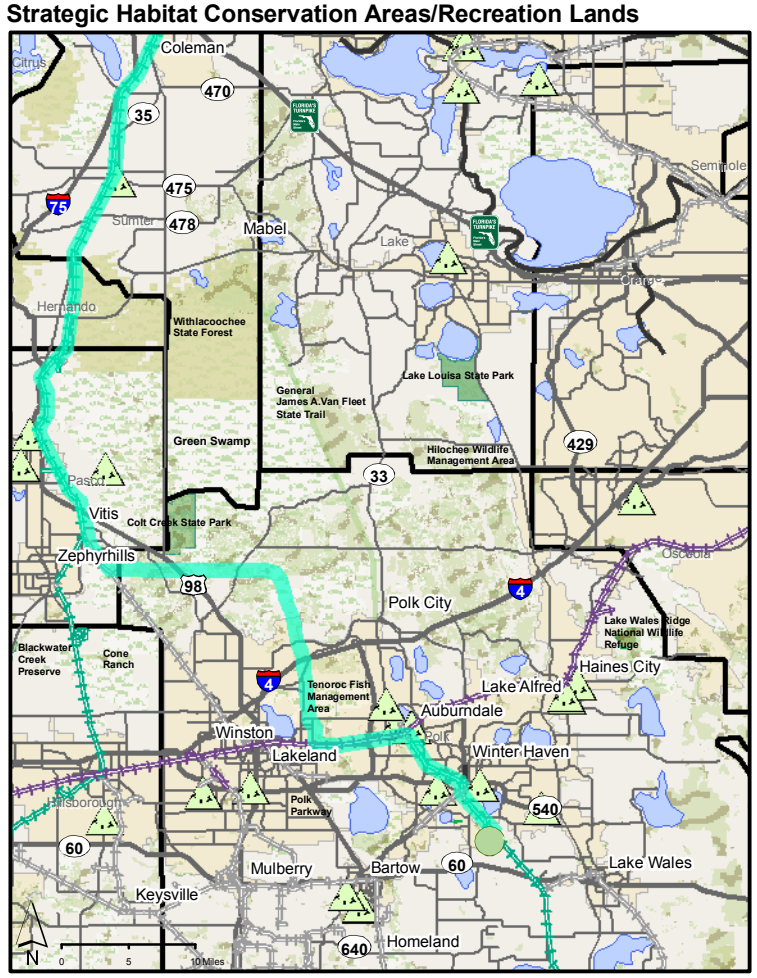
Source: Bureau of Transportation Statistics National Transportation Atlas Database; USFWS Branch of Habitat Assessment; FEMA; USEPA; FDOT; FGDL; FDEP; FDOF; Google Earth; Microsoft Live Local; ESRI Data

**Figure 6-6:**
**Alternative 6: Vitis/Polk City**
**Environmental Considerations Overview**
**FDOT District One**
**Rail Traffic Evaluation Study**

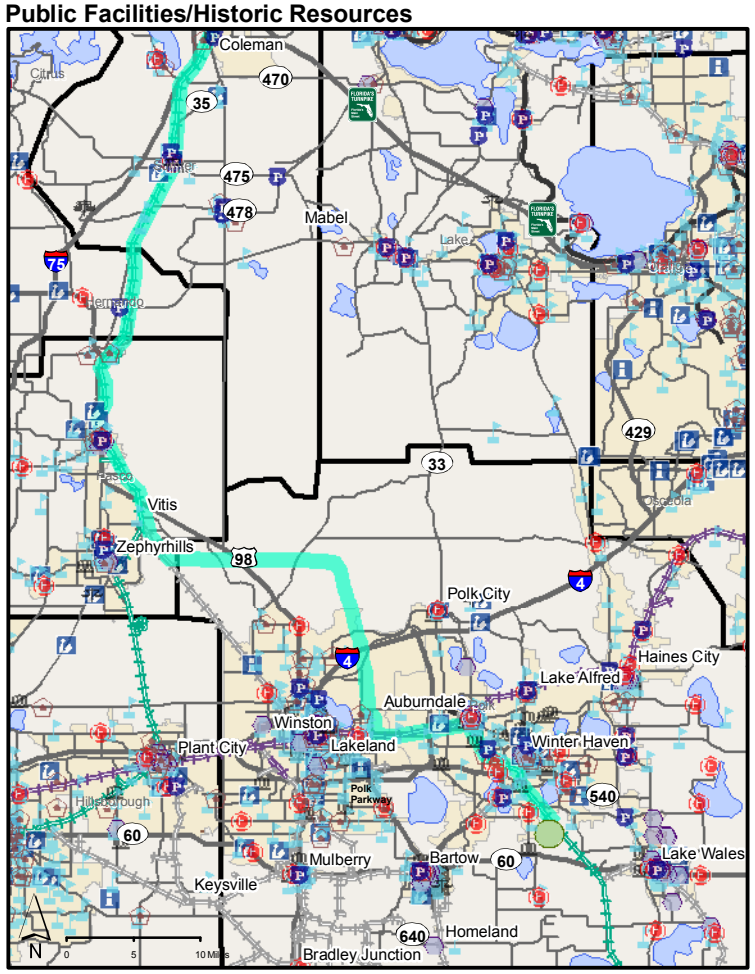
**FEMA Floodplain/NWI Wetland Locations**



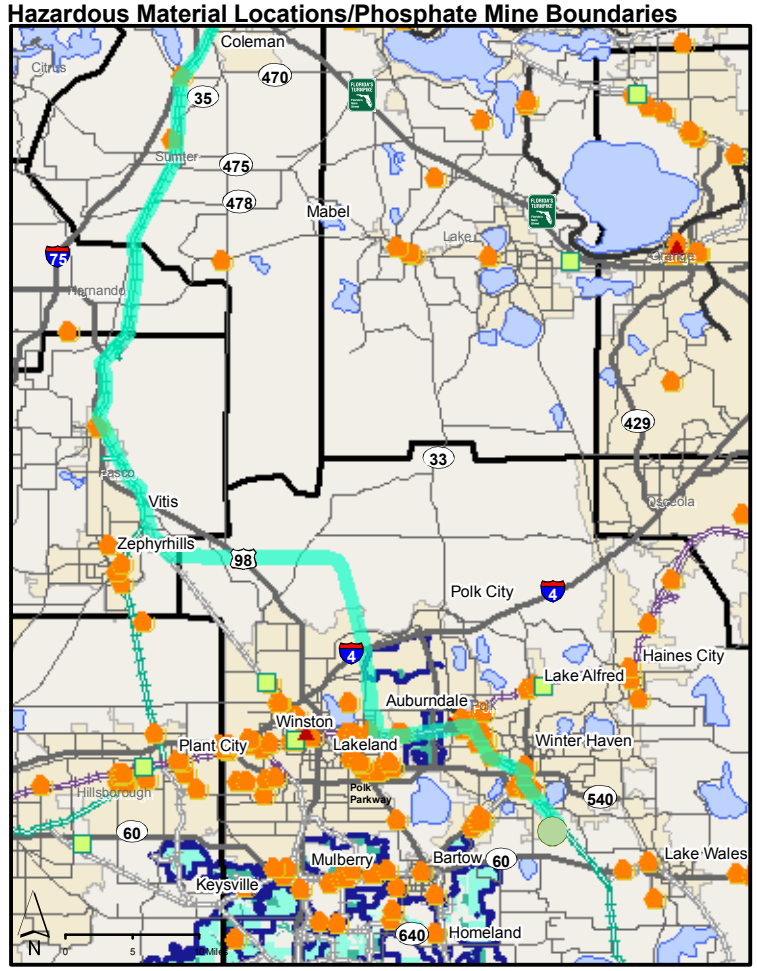

**Strategic Habitat Conservation Areas/Recreation Lands**




**Public Facilities/Historic Resources**




**Hazardous Material Locations/Phosphate Mine Boundaries**




## *Environmental Data*

*FEMA Floodplain/NWI Wetlands*
- Special Flood Hazard Area
- Wetlands

*Public Facilities/Historic Structures*
- Police Station
- Fire Station
- Hospital
- School
- Religious Institution
- Government Building
- Culture Center
- Civic Center
- Correctional Facility
- NRHP Listed Resource
- NRHP Listed District

*Strategic Habitat Conservation Areas/ Recreation Lands*
- Strategic Habitat Conservation Area
- Conservation Land
- National Wildlife Refuge
- State Forest
- State Park
- Park/Playground

*Hazardous Material Locations*
- TRI Site
- CERCLIS Site
- Brownfield Location

*Phosphate Mine Reclamation Status*
- Phosphate Mine Boundary
- Not Released
- Partially Released
- Released

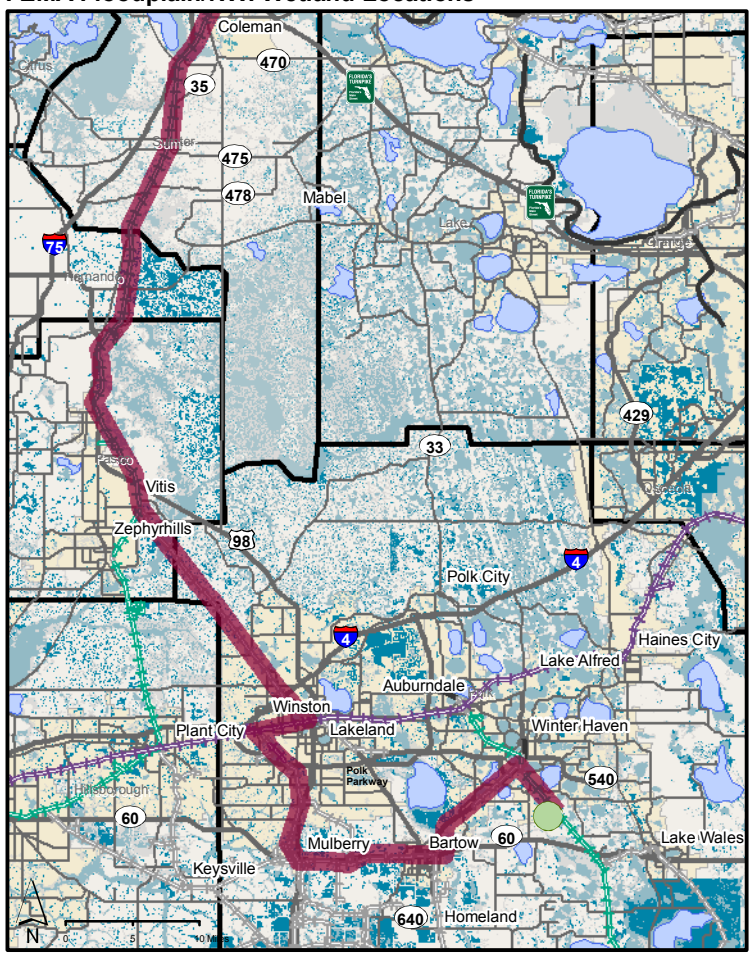
## *Segment Type*
- McIntosh Spur Alternative

## *Area Features*
- CSXT "A" Line
- CSXT "S" Line
- Area Rail Line
- Inactive Rail
- Planned Winter Haven Integrated Logistics Center
- Area Roadway
- Water
- Urban Boundary
- County Boundary

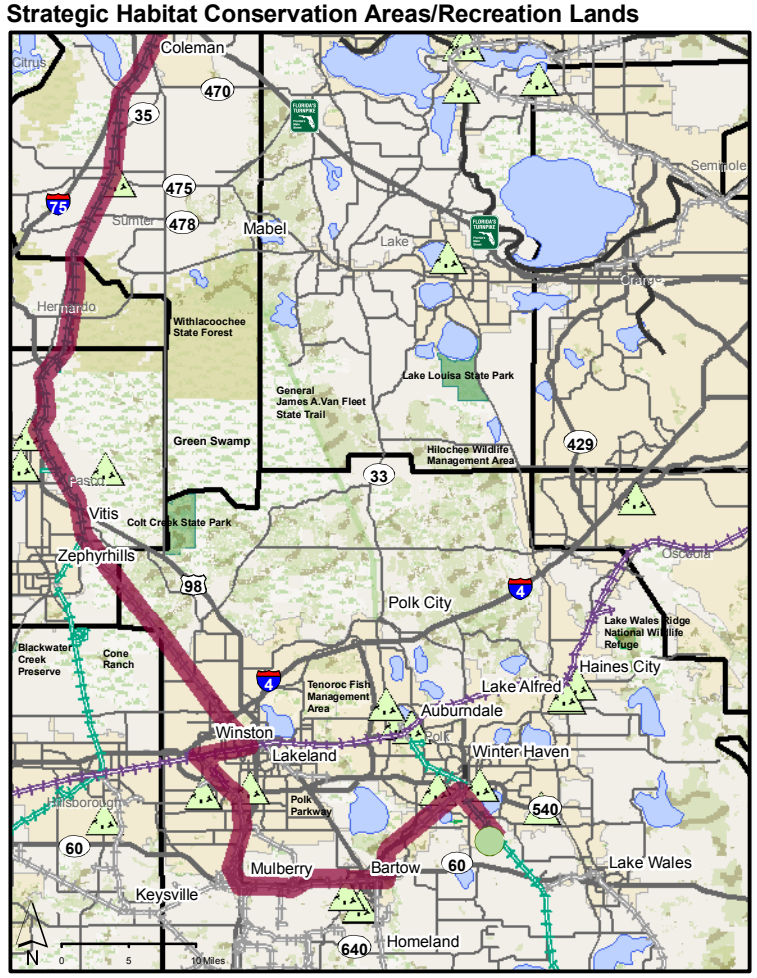
Source: Bureau of Transportation Statistics National Transportation Atlas Database; USFWS Branch of Habitat Assessment; FEMA; USEPA; FDOT; FGDL; FDEP; FDOF; Google Earth; Microsoft Live Local; ESRI Data

**Figure 6-7:**
**Alternative 7: McIntosh Spur**
**Environmental Considerations Overview**
**FDOT District One**
**Rail Traffic Evaluation Study**

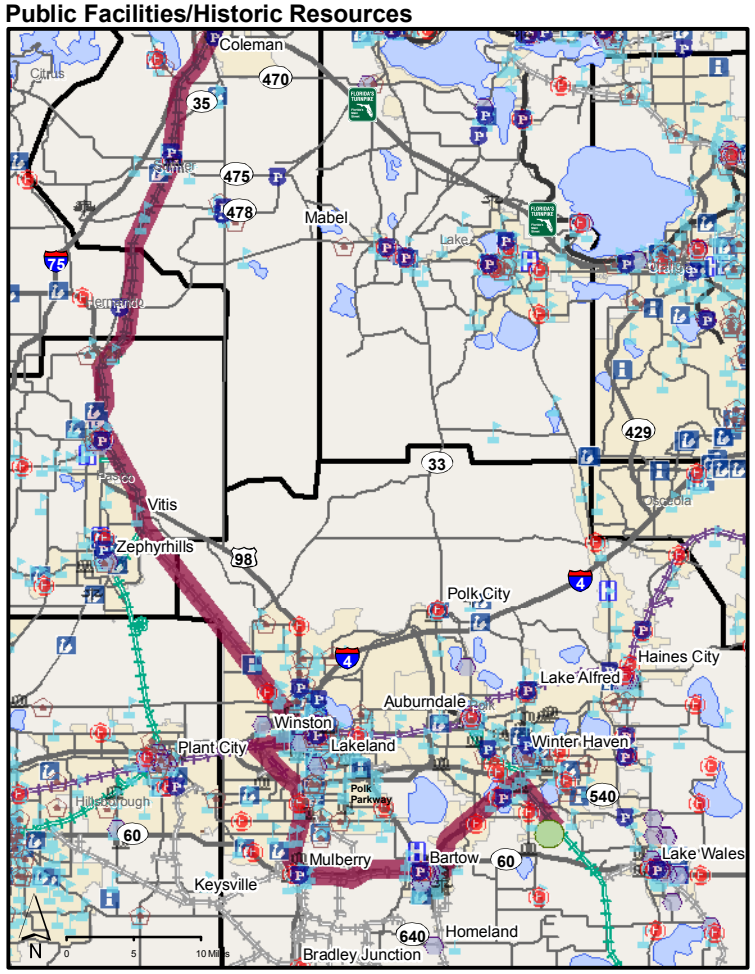
**FEMA Floodplain/NWI Wetland Locations**



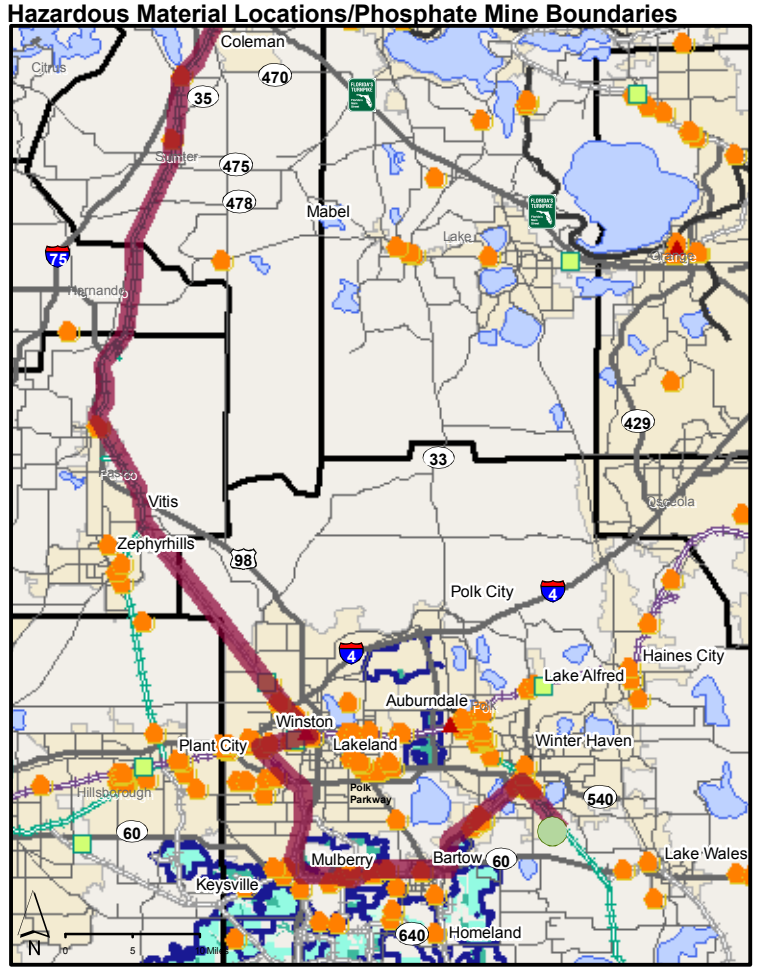

**Strategic Habitat Conservation Areas/Recreation Lands**




**Public Facilities/Historic Resources**




**Hazardous Material Locations/Phosphate Mine Boundaries**




***Environmental Data***

*FEMA Floodplain/NWI Wetlands*
- Special Flood Hazard Area
- Wetlands

*Public Facilities/Historic Structures*
- Police Station
- Fire Station
- Hospital
- School
- Religious Institution
- Government Building
- Culture Center
- Civic Center
- Correctional Facility
- NRHP Listed Resource
- NRHP Listed District

*Strategic Habitat Conservation Areas/ Recreation Lands*
- Strategic Habitat Conservation Area
- Conservation Land
- National Wildlife Refuge
- State Forest
- State Park
- Park/Playground

*Hazardous Material Locations*
- TRI Site
- CERCLIS Site
- Brownfield Location

*Phosphate Mine Reclamation Status*
- Phosphate Mine Boundary
- Not Released
- Partially Released
- Released

***Segment Type***
- Winston/Bartow Airport Alternative

***Area Features***
- CSXT "A" Line
- CSXT "S" Line
- Area Rail Line
- Inactive Rail
- Planned Winter Haven Integrated Logistics Center
- Area Roadway
- Water
- Urban Boundary
- County Boundary

**Figure 6-8:**
**Alternative 8: Winston/Bartow Airport**
**Environmental Considerations Overview**
**FDOT District One**
**Rail Traffic Evaluation Study**

Source: Bureau of Transportation Statistics National Transportation Atlas Database; USFWS Branch of Habitat Assessment; FEMA; USEPA; FDOT; FGDL; FDEP; FDOF; Google Earth; Microsoft Live Local; ESRI Data

## 6.4 Environmental Challenges

Potential environmental challenges related to the freight relocation options discussed throughout this document are specified below. These potential environmental issues are based on a number of sources including the environmental data referenced in Section 6.2 as well as concerns raised from the public and interested agencies comment throughout the public outreach process.

### 6.4.1 Green Swamp

The Green Swamp encompasses parts of Lake, Polk, Sumter, Hernando and Pasco Counties east of Dade City. This 870-square mile area includes lands held in public and private ownership. The Southwest Florida Water Management District (SWFWMD) owns approximately 110,000 acres in the Green Swamp which is divided into three management units: Green Swamp East (67,670 acres); Green Swamp West (37,350 acres); and the Little Withlacoochee Flood Detention Area (4,446 acres). Collectively these management areas are known as the Green Swamp Wilderness Preserve. Adjoining public land to these areas total over 63,000 acres. In total almost 173,000 acres of the Green Swamp are under public ownership.

The Green Swamp is comprised of a series of wetlands, flat lands, and sand hills which support agriculture, wildlife habitat, conservation areas and rural residential development.[22] This area is significant as the critical recharge area for the Floridan aquifer, which is the primary source of drinking water for most of the state. The Green Swamp also forms the headwaters of four major river systems: the Peace, Hillsborough, Withlacoochee and Oklawaha Rivers. The Green Swamp has the ability to store significant amounts of surface water thereby reducing the flow of floodwaters. The region's high elevation above outlying areas in combination with the shallow depth to the aquifer helps the Green Swamp to function as a pressure head for the aquifer. Accordingly, the Green Swamp region was designated by the Florida Legislature under Section 380 of the *Florida Statutes* as an Area of Critical State Concern in 1974.

As an Area of Critical State Concern, regional and county governments are authorized to partner with the Florida Department of Community Affairs (DCA), the state's land planning agency, to address land development activities within the Green Swamp. The counties within this region have adopted special regulations for development within this area. More specifically, Polk County's regulations are found in Chapter 5 of the Land Development Code and Appendix 2.132 of the Comprehensive Plan.[23]

The Green Swamp is also home to a number of natural plant and wildlife communities which are discussed under Section 6.4.2, Strategic Habitat Conservation Areas.

Management of the Green Swamp entails coordination among various state agencies and private organizations. The SWFWMD functions as the lead agency responsible for regulating, protecting, preserving, restoring and making available for public use the water resources and

[22] Polk County. *Polk's Profile*. http://www.polk-county.net/subpage.aspx?menu_id=8&nav=res&id=120 (March 5, 2009).
[23] Ibid.

lands of the Green Swamp Wilderness Preserve.[24] Other agencies with interests in the Green Swamp include the following:

- Florida Fish and Wildlife Conservation Commission (FWCC) which manages the area's fish and wildlife species including popular game species.
- Florida Division of Recreation and Parks (DRP) is responsible for supervision of the Van Fleet Trail.
- Florida Division of Forestry (DOF) oversees forested lands in selected areas of the Green Swamp.

Following are four freight relocation options that would infringe upon portions of the Green Swamp:

- Alternative 1: Van Fleet/TECO would proceed through the Green Swamp along the Coleman Subdivision, a former rail right of way.
- Alternative 2: Van Fleet/Chain of Lakes would extend through the Green Swamp on a similar route to Alternative 1.
- Alternative 6: Vitis/Polk City would cut through the Green Swamp on an east-west trajectory and also use a portion of the Van Fleet Trail right-of-way.
- Alternative 7: McIntosh Spur would also extend on the same path as Alternative 6 but for a shorter distance.

Alternatives 1, 2, and 6 also utilize portions of active Van Fleet Trail right-of-way located within the Green Swamp. This trail is discussed in further detail below (See Section 6.4.5).

### 6.4.2 Strategic Habitat Conservation Areas

Strategic Habitat Conservation Areas (SHCA) contain lands that are important to flora, fauna, natural communities and wildlife species as determined by the Florida Fish and Wildlife Commission. SHCA designated-land is contained within several portions of the project study area; however conservation land is primarily located within the Green Swamp region. A variety of natural communities are situated in this region such as upland hardwoods, herbaceous wetlands, pine flatwoods, cypress and floodplain swamps.[25] There are an estimated 330 wildlife species within the Green Swamp some of which include white-tailed deer, bobwhite quail, armadillo, gray squirrels, feral hogs, alligator, and various bird species.[26] The Green Swamp also contains over 30 threatened or endangered species including the Florida scrub-jay, Florida black bear and wood stork.[27]

[24] Southwest Florida Water Management District. *Green Swamp Interactive.* http://www.swfwmd.state.fl.us/education/interactive/greenswamp/textonly.html (March 5, 2009).

[25] Ibid.

[26] Florida Fish and Wildlife Conservation Commission. Green Swamp Wildlife Management Area. http://myfwc.com/RECREATION/cooperative/green_swamp.asp (March 8, 2009).

[27] Southwest Florida Water Management District. *Green Swamp Wilderness Preserve* http://www.swfwmd.state.fl.us/recreation/areas/greenswamp.html (March 5, 2009).

Alternatives that are routed through the Green Swamp would also infringe upon SCHA lands. These include Alternatives 1, 2, 6, and 7. Alternative 8 would operate in the vicinity of wading birds located east of Bartow and south of Lake Hancock.

### 6.4.3 Wetlands and Floodplains

Florida is segmented into five water management districts designed to manage and preserve the state's water resources. The majority of the study area region primarily falls under the jurisdiction of the Southwest Florida Water Management District with the extreme eastern portion of Polk County designated as part of the South Florida Water Management District. Floodplains typically serve a number of functions such as to provide temporary storage of floodwaters to minimize flood damage in other areas; serve as recharge areas for aquifers; and improve water quality by filtering sediment.

Wetlands and floodplains are pervasive throughout the project study area. Much of the study area in the Green Swamp region is designated as a Special Flood Hazard Area. Wetland types within the project study area range from freshwater forested and shrub wetlands to freshwater emergent wetlands.

Based on GIS data, all of the alternatives under consideration infringe or partially infringe upon study area wetlands and floodplains. Thorough wetland investigations would need to be conducted if any alternative is advanced. In addition, it is anticipated that a Section 404 Permit from the Army Corps of Engineers (ACOE) would be required for the implementation of any of the relocation options under study. The permit approval process would likely require compensatory mitigation to replace the values and functions of impacted wetlands once they are determined.

### 6.4.4 Parkland and Recreational Resources

Some of the freight relocation options considered as part of this study would have potential impacts to parkland and existing recreational trails within the project study area. More specifically, the implementation of Alternatives 1, 2, and 6 would likely trigger a Section 4(f) evaluation due to potential right-of-way acquisitions and recreational utility issues. Affected open space resources under Alternatives 1, 2, and 6 include the Van Fleet Trail and TECO-Auburndale Trail. The Chain of Lakes Trail right-of-way would also be utilized under Alternative 2 (See Section 6.4.5). Refer to Section 6.4.6 for a summary of impacts to planned trails. The Lake Myrtle Sports Complex, also detailed below, would be impacted under Alternatives 1 and 6. Section 4(f) regulations are summarized in the later part of Section 6.4, Environmental Challenges.

**Lake Myrtle Sports Complex**

Lake Myrtle Park which is the future home of the Lake Myrtle Sports Complex is located west of Berkley Road between Lake Myrtle Park Drive and Lake Myrtle Park Road/Denton Avenue in Auburndale (See Figure 6-9). The southern portion of the TECO-Auburndale Trail bisects the park which is currently undergoing an approximately $14.2 million expansion. Three existing soccer fields are situated east of the trail's right-of-way with a large portion of the new development occurring west of the right-of-way. Upon completion, the Lake Myrtle Sports

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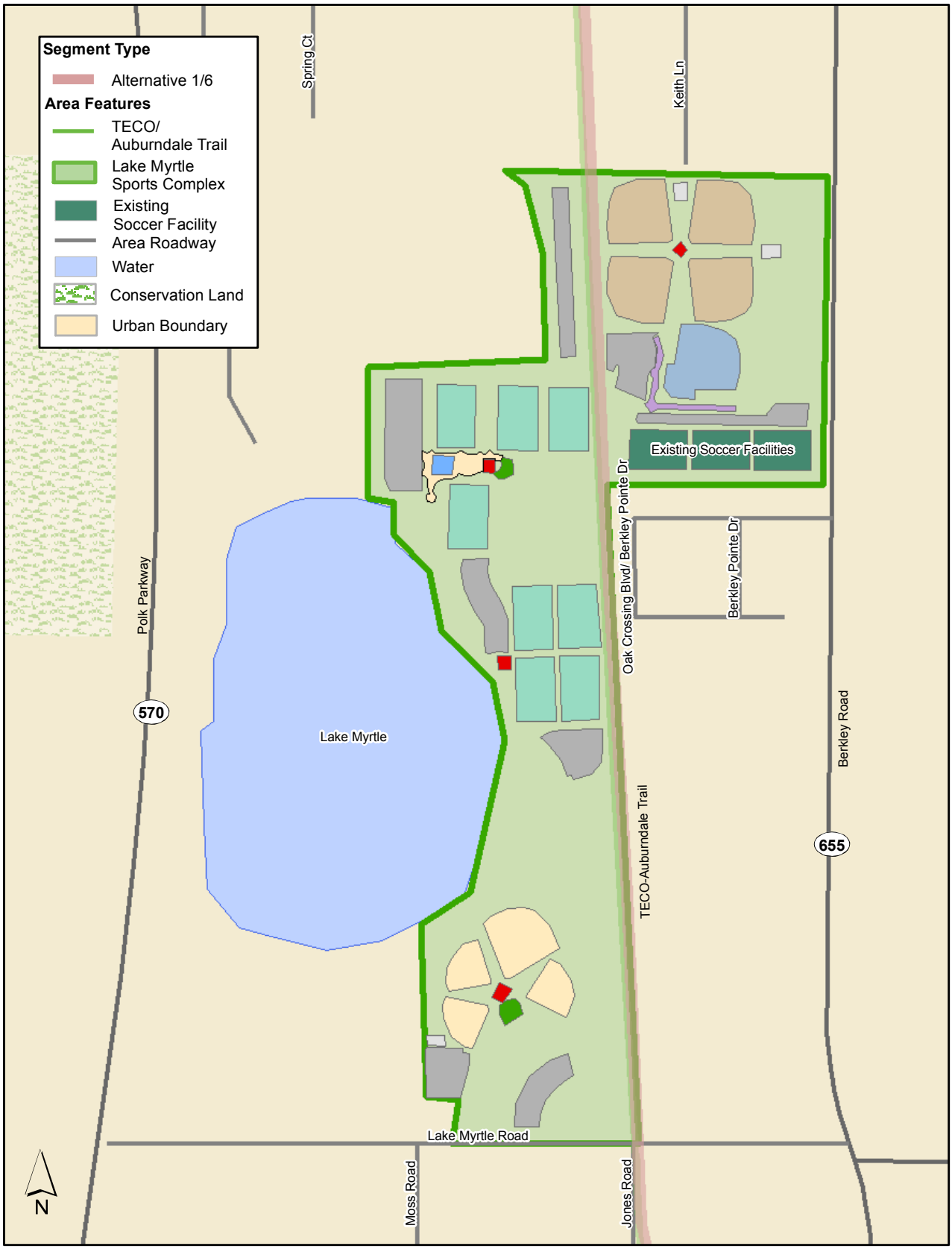


**Proposed Facilities**

- Baseball
- Champion's Plaza
- Championship Baseball Stadium
- Concession/ Restroom
- Little League Baseball
- FYSA HQ
- Festival Street
- Parking/ Overflow Parking
- Plaza/ Event Overlook
- Soccer
- Batting Cages
- Playground

**Figure 6-9:**
**Lake Myrtle Sports Complex**
**Existing and Proposed Facilities**
**FDOT District One**
**Rail Traffic Evaluation Study**

Source: Glatting Jackson Kercher Anglin Lake Myrtle Sports Complex Rendering; FGDL; FDOT; ESRI Data

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Complex will encompass a total of 250 acres featuring a number of recreational amenities. These include baseball complexes with a total of 9 baseball diamonds comprised of 4 youth and 5 collegiate fields, 8 soccer fields with a championship stadium. Other features will include a fishing pier, playground and open space plaza. The complex will also contain office space for the Florida Youth Soccer Association and Polk County Tourism and Sports Marketing as well as the Polk County Sports Hall of Fame, Florida Sports Hall of Fame. The park is anticipated to act both as a local and regional recreation destination attracting additional baseball and soccer tournaments as a result of this expansion.

Alternatives 1 and 6 would segment Lake Myrtle Sports Complex which spans either side of the TECO-Auburndale Trail's right-of-way. Potential issues include Section 4(f), referenced below, mitigating for the potential loss of park utility as well as pedestrian/park user safety crossing an active right-of-way.

### 6.4.5 Taking of Active Trails

The project study area contains a well-developed network of trails and greenways. Three of the eight freight relocation alternatives that have been screened as part of this study would necessitate the acquisition of active trail right-of-way. Potential impacts to active trails are as follows:

**Van Fleet Trail**

The Van Fleet Trail would be impacted by Alternatives 1, 2, and 6. These alternatives could be developed either on or adjacent to Van Fleet Trail right-of-way due to the undeveloped nature of the area and the presence of sufficient right-of-way width where available. Alternatives 1 and 2 would utilize a 29.2-mile length of right-of-way either on or adjacent to the Van Fleet Trail. Alternative 6 would require approximately 3.4 miles of adjacent or trail right-of-way impacting the Van Fleet Trail to a lesser extent than Alternatives 1 and 2.

**TECO-Auburndale Trail**

Alternatives 1, 2, and 6 would also run on right-of-way adjacent to this trail for its 5.59-mile length.

**Chain of Lakes Trail**

The Chain of Lakes Trail would be impacted by Alternative 2. This alternative would utilize the 3.47-mile trail's right-of-way which runs through the downtown district of Winter Haven.

### 6.4.6 Taking of Planned Trails

Several of the alternatives under evaluation would also require the taking of right-of-way adjacent to planned trails. Alternatives 1, 2, 3, 4, and 6 would make use of planned trails rights-of-way.

**Van Fleet Trail Extension**

The Van Fleet Trail Extension is a planned 0.92-mile trail extension that would link the Van Fleet Trail to the TECO-Auburndale Trial. Alternatives that would utilize this right-of-way include Alternatives 1, 2, and 6.

**TECO-Auburndale Trail Extension**

This proposed 1.01-mile TECO-Auburndale Extension would run from the southern terminus of the TECO-Auburndale Trail from Lake Myrtle Road to Old Dixie Highway in Auburndale. This proposed extension would be impacted by Alternatives 1, 2, and 6.

**Lake Alfred Trail**

This proposed trail would be impacted by Alternative 2.

**Bartow-Lake Wales Trail**

This proposed 12.1-mile trail utilizes abandoned rail right-of-way between Bartow and West Lake Wales. Alternatives that would utilize the full length of this proposed trail include Alternative 3 and Alternative 4. Alternative 8 would utilize a small portion of the proposed trail between US 17 and Flamingo Drive (SR 60 Access Road).

### 6.4.7 Section 4(f)

Section 4(f) of the U.S. Department of Transportation Act of 1966 as amended (49 USC 303(c)), stipulates that federally funded or approved transportation projects may not use land from a publicly owned park, recreation area, wildlife or waterfowl refuge, or from a significant historic site, unless a determination is made that: (1) there is no feasible or prudent alternative to the use of the land from the property; and (2) the project or action includes all possible planning to minimize harm to the land resulting from its use. A Section 4(f) evaluation is not required when parks, recreational areas, and waterfowl or wildlife refuges are privately owned, even if such areas are open to the public.

The word "use" of a protected Section 4(f) resource, as defined in 23 CFR § 771.135, means the taking or acquisition of land or property for construction of a permanent transportation facility, or if not taken or acquired, the substantial impairment of the land's or property's use for its intended purpose as a publicly owned park, recreation area, refuge, or historic site. Generally, a taking or use of parkland would occur where a portion of a Section 4(f) land is physically used for a new right-of-way without sufficient replacement of the land or other mitigation, or where Section 4(f) land is adjacent to or near a proposed transportation facility and is adversely affected by audible, visual, or other similar changes in surrounding conditions. The three types of "use" described in 23 CFR § 771.135 are expanded upon below:

- Permanent Use – Land from a 4(f) site is permanently incorporated into a transportation project through partial or full acquisition;
- Temporary Use – There is a temporary occupancy of land that is adverse in terms of Section 4(f) statutes preservationist purposes; or,
- Constructive Use – There is no permanent incorporation of land, but the proximity of a transportation facility results in a constructive use of the property. This type of use results in impacts so severe that the protected activities, features, or attributes that qualify a resource for protection under Section 4(f) are substantially impaired.

### 6.4.8 Peace River Crossing

The Peace River originates at Lake Hancock extending 120 miles downriver to Charlotte Harbor near Punta Gorda. The Peace River has a storied history within Florida since it was mapped by the Spanish in 1544. In 1842, the river was the demarcation point of Native American territory to the east and settler lands to the west. A number of skirmishes occurred along its banks during the Seminole Wars (third conflict 1855-1858).

The approximately 2,400 square mile basin is comprised predominantly of agricultural, ranch land, and smaller streams and waterways that empty into the river.[28] The northern quadrant of the river basin is situated within the Bone Valley. The hydrology and ecology of the river and its basin have been altered due to long-standing phosphate mining and agricultural use, in addition to urban development.

In addition, publicly-owned waters that are federally designated as National Wild and Scenic Rivers are protected under Section 4(f). The Peace River is not a federally-designated Wild and Scenic River in the State of Florida and therefore is not subject to Section 4(f).

Four freight relocations options would cross the Peace River. Alternatives 3 and 4 would cross the river south of SR 60 in Bartow requiring an approximately 200 foot crossing. An approximately 300 foot crossing would be needed for Alternative 5 proximate to CR 640 in Homeland. Lastly, Alternative 8 would require an approximately 100 foot span to cross the Peace River in the vicinity of US 17.

### 6.4.9 Mine Boundaries in Right-of-Way

Several types of mining activities occurring within the project study area are briefly described below.

**Limestone/Sand/Peat Mining**

Sand mining and peat and limestone mining are prevalent throughout the Green Swamp. The mining of sand in this area often occurs along old dune ridges that extend in a north to south direction to a depth of between 20 and 50 feet. This activity results in a significant void in the topography which often results in lake creation within the Green Swamp. This lake creation is estimated at 100 acres per year.[29]

The right-of-way for Alternatives 1 and 2 runs through a limestone mine approximately 0.5 miles north of West Kings Highway in Sumter County. Based on recent aerial imagery the right-of-way appears to be intact through the mine property however in the event that one of these two alternatives is advanced further assessment would be needed.

**Phosphate Mining**

Typically, phosphate ore in Florida is found roughly 15 to 50 feet beneath the earth's surface and is approximately 10 to 20 feet thick. The mining process involves utilizing draglines to strip off

[28] Johnny Molloy. *A Canoeing and Kayaking Guide to Florida*. Menasha Ridge Press 2005. p. 192.
[29] Florida Department of Environmental Protection. *Green Swamp Area of Critical State Concern Report to the Administrative Commission*. December 1993.

the top layers of earth to uncover the phosphate ore. This ore, also called matrix, is then processed to separate the phosphate from the sand and clay that compose this layer of earth.

A typical Florida phosphate mine extracts approximately 9,000 tons of phosphate rock per acre of land. Often, these mines are miles from rock processing plants. The rock is dumped in a pit at the mining site and high pressure water guns turn it into slurry which is then pumped to the beneficiation plant where the phosphate is separated from the sand and clay.[30]

Phosphate mines are temporary in nature often changing locations on a yearly basis however changes to the landscape such as open settling pits and scarred earth are long lasting. As such, existing and former phosphate mines present physical barriers and operational challenges for freight relocation options running through Mulberry, Bartow, and south through phosphate mine areas of the Bone Valley. Routes that extend into this area include Alternatives 3, 4, and 5.

### 6.4.10 Property Acquisition

The implementation of Alternatives 1 through 8 would require some degree of property acquisition ranging from new right-of-way acquisition to existing right-of-way widening as needed. Property acquisition estimates for each of the alternatives are displayed in Table 6-1.

**Table 6-1. Estimated Property Acquisition by Alternative**

| Alternative | Estimated Property Acquisition (acres) |
|---|---|
| Alternative 1: Van Fleet/TECO | 893 |
| Alternative 2: Van Fleet/Chain of Lakes | 740 |
| Alternative 3: Plant City/Bartow | 321 |
| Alternative 4: Winston/Bartow | 285 |
| Alternative 5: Winston/Homeland | 352 |
| Alternative 6: Vitis/Polk City | 339 |
| Alternative 7: McIntosh Spur | 272 |
| Alternative 8: Winston/Bartow Airport | 228 |

[30] Florida Institute of Phosphate Research. *Mining and Beneficiation*. http://www.fipr.state.fl.us/research-area-mining.htm (March 8, 2009).

# 7. Stakeholder Considerations

An extensive public outreach effort was undertaken during the course of this study in order to provide an ongoing exchange of information between the project team and the public. The outreach effort was also utilized to appropriately identify freight rail alternatives as well as to gauge the level of public support that each alternative would carry. During the preparation of this study, FDOT and its project team conducted a series of four public workshops, noted below, as well as several presentations for involved agencies, interested parties, and local elected officials in an effort to engage in public discussion in order to understand and respond to community concerns.

- Public Workshop No. 1 held on July 10, 2008 at the Bartow Civic Center.
- Public Workshop No. 2 held on December 10, 2008 at the Lakeland Civic Center.
- Public Workshop No. 3 held on January 28, 2009 at the Bob Crawford Agricultural Center.
- Public Workshop No. 4 held on February 25, 2009 at the John Fuller Auditorium, Winter Haven City Hall.

Project updates, meetings, and local briefings with representatives of a number of municipal, county, regional and state concerns were held in an effort to ensure that the study adequately discloses the potential capital improvement, operating and environmental considerations associated with each alternative. These entities include CSX, Polk County TPO, Polk TAC, Polk County Citizen Advisory Committee, the West Central Florida Chairs Coordinating Committee and Central Florida Metropolitan Organization Alliance. Project materials are also available on the project website at www.fdotrailtrafficevaluation.com.

During the public outreach process, three new alternatives were developed and screened based upon public input. These alternatives, described in Section 5, are briefly referenced below:

- Alternative 6: Vitis/Polk City was developed in an attempt to create an east-west bypass around downtown Lakeland.
- Alternative 7: McIntosh Spur was conceived based on a suggestion from the public to utilize the existing rail spur servicing the McIntosh Power Plant in Lakeland.
- Alternative 8: Winston/Bartow Airport, which utilizes former and existing Florida Midland right-of-way, was based on public input obtained at Public Workshop No. 3 in January 2009.

Stakeholders that have been identified during the public outreach process are detailed below:

## 7.1 Community Concerns

A significant issue common to all freight relocation options under study is the concept that each respective alternative shifts potential freight traffic from Lakeland and communities along the S Line to other communities along potential alternative routes. As a result, several communities

within Polk County and the region have expressed reservations about alternative freight rail relocation options which run through their jurisdictions. These concerns including potential environmental considerations, quality of life impacts, and right-of-way acquisition are fairly uniform concerns across municipalities.

**City of Mulberry**

The City of Mulberry has expressed support for Alternative 1: Van Fleet/TECO. While recognizing that the capital cost associated with this alternative is significant, the municipality feels that the alternative would have a less dramatic impact on the quality of life and health of Polk County's citizens. The city has concerns regarding four routes under study, specifically Alternatives 3, 4, 5 and 8. Alternative 3: Plant City/Bartow would utilize existing tracks along the Nichols Road frontage to carry new rail traffic which could conflict with potential future residential development within this area of Mulberry. Additionally, the municipality has safety concerns involving the number of at-grade crossings in this area. The city's opposition to Alternatives 4, 5 and 8 stems from the additional freight rail traffic to the existing north-south line that parallels SR 37 and potential impacts to three residential areas along the west side of the existing rail right-of-way which are already affected by existing freight traffic.

**City of Auburndale**

The City of Auburndale is opposed to Alternatives 1 and 6 which would utilize existing or portions of existing trails including the TECO-Auburndale Trail which was developed with DEP funding and Florida Recreation Development Assistance Program (FRDAP) grants. The FRDAP provides financial assistance to local governments for development or acquisition of land for public outdoor or recreation use. These alternatives would also run through the Lake Myrtle Sports Complex which is currently undergoing extensive development.

**Polk City**

This municipality is opposed to the introduction of freight rail traffic associated with Alternatives 1, 2, and 6. In addition, Polk City has concerns related to these alternatives due to the use of all or portions of existing and proposed trails in the municipality such as the Van Fleet Trail and TECO-Auburndale Trail.

**City of Lake Alfred**

The City of Lake Alfred has expressed concerns involving the introduction of additional freight rail traffic, proposed trail and right-of-way acquisition and quality of life issues associated with Alternative 2: Van Fleet/Chain of Lakes.

**City of Winter Haven**

The City of Winter Haven is opposed to Alternative 2 due to its potential for significant environmental issues including trail acquisition, extensive right-of-way acquisition, significant community disruption as well as the segmentation of Winter Haven's downtown core.

**Plant City**

Plant City currently experiences a significant amount of daily freight rail traffic as it is bisected by the Yeoman Subdivision and transected by the A Line which runs on an east-west course

through the municipality. Additional freight rail traffic and its associated community impacts are prominent concerns of Plant City officials and residents with respect to Alternative 3.

**City of Bartow**

The potential diversion of freight rail traffic through Bartow, the county seat of Polk County, with Alternatives 3, 4 and 8 has raised similar community objections and issues to those specified above.

**Homeland/Alturas**

These communities would be impacted by Alternative 5.

**City of Lakeland**

The City of Lakeland has opposed additional freight rail traffic extending through its downtown core. While Alternative 7 bypasses a significant portion of the downtown area, this alternative does not completely avoid downtown. This route shifts rail traffic to other portions of the municipality, specifically, the northeast quadrant of Lakeland and further east along the A Line in Lakeland.

**Gordonville**

This community would be impacted by Alternative 8 which would utilize former and current Florida Midland Railroad right-of-way. Community concerns include disruption to residential areas proximate to the right-of-way as well as additional freight rail traffic on the FMID track segment.

## 7.2 CSX

CSX considerations with respect to alternatives include the following:

- Preserving functionality and operational efficiency of the statewide freight network.
- Maintaining CSX through routes between Jacksonville, Tampa and Miami since the existing CSX rail lines that run through Polk County are a component of a larger regional freight rail system.
- Additional infrastructure maintenance with respect to longer potential freight routes.
- Additional freight transportation time and higher operating costs. CSX has stated that they are concerned “over being placed at a competitive disadvantage due to extended run times over the longer routes adversely impacts time sensitive traffic in addition to higher operating costs.”
- Disinterest in operating through Mulberry and phosphate mine areas due to increased local train switching. CSX has stated they are “concerned about interference with local heavy industrial switching by the introduction of higher speed, higher priority trains that would disrupt industrial switching.”
- Economic and operational sensibility of alternative alignments for CSX compared to the existing S Line route.

## 7.3 Florida Midland Railroad

Alternative 8 uses an active segment of Florida Midland Railroad track between Winter Haven and Gordonville. The potential implementation of this alternative would create operational issues between the Florida Midland Railroad, a short-line railroad, and CSX, a Class 1 railroad that would need to be addressed. An additional railroad operating consideration would be the FMID right-of-way connection with the S Line in the vicinity of US 17 in Winter Haven.

## 7.4 FDEP Office of Greenways and Trails

The FDEP's Office of Greenways and Trails (OGT) is working to establish a statewide system of greenways and trails for recreation, conservation, and alternative transportation. The OGT works with local communities, developers, private landowners and state and federal agencies to facilitate the establishment of this statewide system. This effort is guided by a legislatively adopted plan titled *Connecting Florida's Communities*.[31]

OGT has voiced support for routes that do not require the use of existing trails including Alternative 3, 4, and 5.

The OGT has raised objections to Alternatives 1, 2 and 6 primarily because of the utilization of existing rail-trails such as the Van Fleet Trail and Chain of Lakes Trail for these potential routes. The Van Fleet Trail was purchased by the State of Florida for recreation and conservation purposes with monies from the Land Acquisition Trust Fund (LATF) and subsequently developed using Transportation Equity Act 21 funds. The OGT has specified that the Van Fleet Trail is an integral component of the Florida Greenways and Trails System. Portions of the Chain of Lakes Trail were purchased through the OGT Land Acquisition Program utilizing Florida Forever funds. The OGT has also stated that the Chain of Lakes Trail is considered as conservation lands and thus qualifying for protected status under the Florida Constitution.

Additionally, the uses of these lands may be protected under Section 4(f) of the U.S. Department of Transportation Act of 1966 as amended (49 USC 303(c)). This act stipulates that federally funded or approved transportation projects may not use land from a publicly owned park, recreation area, wildlife or waterfowl refuge, or from a significant historic site, unless a determination is made that: (1) there is no feasible or prudent alternative to the use of the land from the property; and (2) the project or action includes all possible planning to minimize harm to the land resulting from its use.

## 7.5 Trail Preservation Groups

### 7.5.1 Friends of the Parks Foundation, Inc.

The Friends of the Parks Foundation, Inc. (FOPF) is a non-profit organization representing parks jurisdictions within Polk County. FOPF helps to maintain recreational resources throughout the

[31] Florida Department of Environmental Protection. Office of Greenways and Trails. http://www.dep.state.fl.us/gwt (February 26, 2009).

county by securing programming funding, promoting public awareness with respect to recreational programming, and advocating for the acquisition of green space and the enhancement of public parks.[32] FOPF opposes the conversion of existing rail-trails to active railroad lines in Polk County. Re-routing options that utilize existing rail-trails include Alternatives 1, 2, and 6.

## 7.6 Local Community Groups

### 7.6.1 Downtown Lakeland Partnership, Inc.

The Downtown Lakeland Partnership, Inc. is an organization comprised of local businesses and individuals which was formed to promote downtown Lakeland. Some of the goals of the partnership are to create a general awareness of the downtown area, represent the downtown's collective business community, and to promote the continued growth, vibrancy and development of downtown Lakeland.[33] The partnership has voiced concern about the impact that additional freight rail traffic through Lakeland would have on downtown businesses.

[32] Friends of the Parks Foundation, Inc. *About Us*. http://www.friendsoftheparks.net/index.html (February 26, 2009).

[33] Downtown Lakeland Partnership. *Downtown Lakeland Partnership, Inc. About Us.* www.downtownlakelandfl.com/about.cfm (February 26, 2009).

# 8. Capital Costs

## 8.1 Purpose

The following chapter estimates the capital costs of rail relocation alternatives. The purpose of this chapter is to:

- Establish a set of unit costs for standard capital items;
- Identify the quantities of capital items that would be required for each of the relocation alternatives; and
- Estimate order of magnitude capital costs for each of the rail relocation options under consideration.

## 8.2 Unit Costs

A variety of local, regional, and national sources of costs were used in this effort to develop unit costs including:

- FDOT Florida Intercity Passenger Rail Vision Plan
- Central Florida Commuter Rail
- Tampa Bay Area Regional Transportation Authority (TBARTA)
- Florida High Speed Rail Plans
- Denver Regional Transportation District (RTD) FasTracks Program
- Quakertown Pennsylvania Rail Restoration Study
- NJ TRANSIT Lackawanna Cut-Off Rail Restoration Project

Unit costs are presented in Table 8-1.

## 8.3 Escalation

The unit costs were dollars for earlier years. Therefore it was necessary for the current study to escalate these figures to 2009 dollars.

An examination was performed of the appropriateness of the application of historical escalation rates for rail projects, comparing a number of indices including the Consumer Price Index (CPI); the Producer Price Index (PPI); CPI by product/industry and geographic location; the PPI by product/industry and geographic location; the Construction Cost Index (CCI); the Engineering News Record (ENR) construction material price index; and specific combinations of PPI data, as compiled by the American Road and Transportation Construction Agency (ARTBA), and Federal Highway Administration Price Index (FHWA BPI).

**Table 8-1. Unit Cost for Capital Items, 2009$s[1, 2]**

| *Item* | *Unit* | *2009 $s* |
|---|---|---|
| **Trackwork** | | |
| Upgrade Class of Track on Existing Rail Roadbed | per mile | $1,600,000 |
| New Rail on Existing or Former Rail ROW | per mile | $2,000,000 |
| New Rail on New Roadbed & New Embankment | per mile | $2,400,000 |
| **Other Trackwork/Sitework** | | |
| Freight Siding | per mile | $1,500,000 |
| #20 Crossover For Sidings | each | $600,000 |
| Special Trackwork | lump sum | |
| Drainage Improvements | per mile | $800,000 |
| Geotechnical Contingency | 20% of track in new ROW | |
| **Land Acquisition** | | |
| New ROW Acquisition | lump sum | |
| Additional ROW Acquisition | lump sum | |
| **Signals** | | |
| Install Signal System | per mile | $1,100,000 |
| **Major Structures** | | |
| Bridges | per foot | $13,000 |
| **Crossings** | | |
| Conventional Gate - Upgrade Existing | each | $220,000 |
| Conventional Gate - Install New | each | $420,000 |
| Grade Separations - US/State Routes | each | $24,500,000 |
| Grade Separations - Interstates | each | $52,900,000 |
| **Environmental Mitigation** | | |
| Environmental Mitigation | 5% | |
| **Design, Environmental Documentation, Permitting and Construction Management** | | |
| Design, Environmental Documentation, Permitting and Construction Management | 18% | |
| **Contingency** | | |
| Contingency | 30% | |

[1] These capital cost estimates were prepared for purpose of evaluating the alternatives and as such are considered planning level estimates subject to refinement during any future engineering evaluations.

[2] These costs represent only the capital costs associated with property acquisition and construction. These figures do not include the cost of operation and maintenance of the alternative.

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The recommended approach for this project was the application of the Producer Price Index (PPI) for Bridge and Highway Construction to escalate costs to current year dollars. The PPI-BHWY tallies the prices for typical inputs to transportation construction, such as steel, concrete, asphalt, copper, and diesel fuel.

The escalation rates are based on longer term trends. Recent market fluctuations resulting in lower cost in some segments are short term in nature therefore these changes cannot be reflected in these costs.

Costs calculated in 2009 dollars were then escalated to estimate the year of expenditure dollars. A ten-year horizon was assumed; therefore, costs were escalated to the year 2019. An escalation rate of four percent per year was applied.

## 8.4 Cost Items

A capital cost model for freight rail relocation options was developed. The categories of capital items in the cost model are:

- Trackwork by Alignment Segment
- Other Trackwork /Sitework
- Land Acquisition
- Signals
- Structures
- Grade Crossings
- Environmental Mitigation
- Soft Costs
- Contingency

### 8.4.1 Trackwork by Alignment Segment

This category of cost items is the general cost to upgrade a typical single track section from one condition to another. Three categories to trackwork improvement were included:

- Upgrade Class of Track on Existing Railroad
- Construct New Rail on Existing or Former Rail ROW
- Construct New Rail on New Roadbed & New Embankment

The unit cost per mile is greatest for the creation of new railroad with new track where it does not currently exist. The cost is least for upgrading the class of track of an existing railroad.

### 8.4.2 Other Trackwork/Sitework

This category of cost items is the cost for other trackwork or sitework in addition to the typical per mile costs of upgrade. This includes

- Freight sidings
- Turnouts for typical Class 4 operations (45 mph on the turnout) utilizing a #20 crossovers
- Special trackwork such as interlockings
- Drainage improvement costs
- Geotechnical contingency, applied as a percentage of the trackwork cost to account for the additional cost of geotechnical work required in certain land areas.

### 8.4.3 Land Acquisition

Land acquisition costs were considered for entire new railroad right-of-way and for widening of existing railroad right-of-way. The cost of land acquisition was estimated by FDOT and a lump sum cost was applied for each alternative. Should an option be pursued for more detailed analysis, a detailed evaluation on a per parcel basis of the cost of land acquisition would need to be performed.

### 8.4.4 Signals

This cost includes a per mile cost for a positive train control (PTC) signaling system.

### 8.4.5 Structures

A generalized cost per foot for major new structures was applied where the need for structures was known. A structural analysis was not performed as part of this conceptual planning study. Should an option be pursued for more detailed analysis, a detailed evaluation of necessary structures would need to be performed. More detailed engineering work will permit costing of individual structures items that may be needed, such as major river crossings, rail over rail grade separations, major vertical construction facilities, and highway flyovers.

### 8.4.6 Crossings

This is the cost for at-grade or grade separated crossings of the rail alternative. At-grade crossings assume conventional gated grade crossings. Two line items have been included, for upgrade of an existing rail grade crossing and for installation of a new grade crossing where one does not currently exist. Costs for grade separation structures have been included for a typical separation at a state or U.S. highway, and for a more significant separation at Interstate 4, where applicable to the alternative.

### 8.4.7 Environmental Mitigation

This is the cost for the mitigation of environmental issues or impacts that may be discovered during future environmental studies. Examples of environmental mitigation include hazardous

materials clean-up, wetland replacement, traffic improvements, etc. As the nature and extent of potential environmental issues in unknown until such time as these studies are performed, this figure represents a placeholder. A typical percentage is applied to the subtotal of the construction cost for capital items.

An additional cost was included as a lump sum for mitigation to relocate and replace the Lake Myrtle Park, which would be significantly impacted by several of the alternatives.

An additional cost was included as a percentage for more wetland mitigation required by alternatives which create new right-of-way through environmentally sensitive areas.

### 8.4.8 Soft Costs

This is the cost for program management, construction oversight, quality control, environmental studies and start up testing. Insurance is not included. A typical percentage is applied to the subtotal of the construction cost for capital items.

### 8.4.9 Contingency

In planning studies, such as this, in which detailed engineering plans are not yet available, a contingency is always applied to cover unknown capital items. Given the early planning nature of the current study, a 30 percent contingency was applied to the subtotal of the capital costs.

## 8.5 Capital Costs Development

Capital costs were developed for eight rail relocation alternatives using the cost model:

- Alternative 1: Van Fleet/TECO - 65 Miles in length
  - Former Rail ROW, Vacant (18 miles)
  - Former Rail ROW, Trail (35 miles)
  - Existing Rail ROW (12 Miles)
- Alternative 2: Van Fleet/Chain of Lakes - 66 Miles in length
  - Former Rail ROW, Vacant (28 miles)
  - Former Rail ROW, Trail (33 miles)
  - Existing Rail ROW (5 Miles)
- Alternative 3: Plant City/Bartow - 104 Miles in length
  - Former Rail ROW, Vacant (12 miles)
  - Existing Rail ROW (92 Miles)
- Alternative 4: Winston/Bartow - 99 Miles in length
  - New Rail ROW, Vacant (12 miles)
  - Existing Rail ROW (87 Miles)
- Alternative 5: Winston / Homeland -107 Miles in length

  - New Rail ROW, Vacant (18 miles)
  - Existing Rail ROW (89 Miles)
- Alternative 6: Vitis/Polk City - 83 Miles in length
  - New Rail ROW, Vacant (17 miles)
  - Former Rail ROW, Trail (11 miles)
  - Existing Rail ROW (55 Miles)
- Alternative 7: McIntosh Spur - 83 Miles in length
  - New Rail ROW, Vacant (21 miles)
  - Existing Rail ROW (62 Miles)
- Alternative 8: Winston/Bartow Airport - 90 Miles in length
  - New Rail ROW, Vacant (2 miles)
  - Former Rail ROW (3 miles)
  - Existing Rail ROW (90 Miles)

Quantities of items were applied for each of these alternatives in the model. Mileages were measured from Coleman, FL on the northern portion of the CSX "S" Line to the ILC site in Winter Haven, FL.

## 8.6 Capital Costs Results

Table 8-2 presents a summary of the capital cost estimate for each alternative. Tables 8-3 through 8-10 present the details for each alternative.

The capital cost for each alternative in 2019 dollars is:

- Alternative 1: Van Fleet/TECO - $812 M
- Alternative 2: Van Fleet/Chain of Lakes - $1,297 M
- Alternative 3: Plant City/Bartow- $1,035 M
- Alternative 4: Winston/Bartow- $ 971 M
- Alternative 5: Winston / Homeland- $988 M
- Alternative 6: Vitis/Polk City - $639 M
- Alternative 7: McIntosh Spur - $753 M
- Alternative 8: Winston/Bartow Airport - $971 M

**Table 8-2. Freight Relocation Alternative Capital Cost Summary [1, 2]**

| | Alternative 1: Van Fleet/TECO | Alternative 2: Van Fleet/Chain of Lakes | Alternative 3: Plant City/Bartow | Alternative 4: Winston/Bartow | Alternative 5: Winston/ Homeland | Alternative 6: Vitis/Polk City | Alternative 7: McIntosh Spur | Alternative 8: Winston/Bartow Airport |
|---|---|---|---|---|---|---|---|---|
| Trackwork By Alignment Segment | $122,720,000 | $139,860,000 | $108,040,000 | $96,840,000 | $119,440,000 | $69,920,000 | $57,360,000 | $65,640,000 |
| Other Trackwork/Sitework | $73,632,000 | $79,040,000 | $87,680,000 | $83,200,000 | $87,120,000 | $62,176,000 | $59,400,000 | $81,120,000 |
| Land Acquisition | $28,000,000 | $52,000,000 | $13,125,000 | $11,725,000 | $47,450,000 | $14,931,202 | $11,836,100 | $10,435,744 |
| Signals | $59,719,000 | $67,155,000 | $56,760,000 | $50,600,000 | $61,710,000 | $32,549,000 | $26,290,000 | $35,640,000 |
| Major Structures | $0 | $845,000 | $20,150,000 | $20,150,000 | $3,900,000 | $0 | $0 | $20,150,000 |
| Crossings | $38,620,000 | $225,120,000 | $163,920,000 | $159,740,000 | $110,020,000 | $37,780,000 | $135,940,000 | $209,060,000 |
| Environmental Mitigation | $47,909,000 | $28,200,000 | $22,500,000 | $21,100,000 | $21,500,000 | $74,163,545 | $52,681,818 | $21,100,000 |
| Design, Environmental Documentation, Permitting and Construction Management | $66,700,000 | $106,600,000 | $85,000,000 | $79,800,000 | $81,200,000 | $52,500,000 | $61,800,000 | $79,800,000 |
| Contingency | $111,200,000 | $177,700,000 | $141,700,000 | $133,000,000 | $135,300,000 | $87,500,000 | $103,100,000 | $132,900,000 |
| **TOTAL 2009 $s** | **$548,500,000** | **$876,500,000** | **$698,900,000** | **$656,200,000** | **$667,600,000** | **$431,500,000** | **$508,400,000** | **$655,800,000** |
| **TOTAL YEAR OF EXPENDITURE 2019 $s (assuming average 4% inflation)** | **$811,900,000** | **$1,297,400,000** | **$1,034,500,000** | **$971,300,000** | **$988,200,000** | **$638,700,000** | **$752,600,000** | **$970,700,000** |

[1] These capital cost estimates were prepared for purpose of evaluating the alternatives and as such are considered planning level estimates subject to refinement during any future engineering evaluations.

[2] These costs represent only the capital costs associated with property acquisition and construction. These figures do not include the cost of operation and maintenance of the alternative.

**Table 8-3. Alternative 1: Van Fleet/TECO Capital Cost[1, 2]**

| Item | Type of Segment | Current Use | Upgrade | Unit | Unit Cost (2009 $s) | Total Cost |
|---|---|---|---|---|---|---|
| **Trackwork (Alignment Segment)** | | | | | | |
| Coleman Subdivision | Abandoned Rail Right-of-Way | No Track | New Rail on Existing or Former Rail ROW | 16.2 Miles | $2,000,000 per mile | $32,400,000 |
| Van Fleet Trail (adjacent) | New Rail ROW Adjacent to Trail | Various; Mostly Undeveloped | New Rail on New Roadbed & New Embankment | 29.2 Miles | $2,400,000 per mile | $70,080,000 |
| Van Fleet Extension (adjacent) | New Rail ROW Adjacent to Trail | Various; Mostly Undeveloped | New Rail on New Roadbed & New Embankment | 0.92 Miles | $2,400,000 per mile | $2,208,000 |
| TECO-Auburndale Trail (adjacent) | New Rail ROW Adjacent to Trail | Various; Mostly Undeveloped | New Rail on New Roadbed & New Embankment | 5.59 Miles | $2,400,000 per mile | $13,416,000 |
| TECO-Auburndale Trail Extension (adjacent) | New Rail ROW Adjacent to Trail | Various; Mostly Undeveloped | New Rail on New Roadbed & New Embankment | 1.01 Miles | $2,400,000 per mile | $2,424,000 |
| Existing Track CSXT Track | Existing Rail Right-of-Way | Predominantly single track, some double track | Upgrade Class of Track on Existing Rail Roadbed | 1.37 Miles | $1,600,000 per mile | $2,192,000 |
| Existing Track/CSXT "S" Line | Existing Rail Right-of-Way | Predominantly single track, some double track | None | 10.73 Miles | $0 per mile | $0 |
| *Subtotal* | | | | *65.02 Miles* | | *$122,720,000* |
| **Other Trackwork/Sitework** | | | | | | |
| Freight Siding | | | | 12 Miles | $1,500,000 per mile | $18,000,000 |
| #20 Crossover For Sidings | | | | 12 Each | $600,000 each | $7,200,000 |
| Special Trackwork | | | | | $5,000,000 lump sum | $5,000,000 |
| Drainage Improvements | | | | 54.29 Miles | $800,000 per mile | $43,432,000 |
| **Land Acquisition** | | | | | | |
| New ROW Acquisition | | | | | $28,000,000 lump sum | $28,000,000 |
| Additional ROW Acquisition | | | | | $0 lump sum | $0 |
| **Signals** | | | | | | |
| Install Signal System | | | | 54.29 Miles | $1,100,000 per mile | $59,719,000 |
| **Major Structures** | | | | | | |
| Bridges | | | | 0 Feet | $13,000 per foot | $0 |
| **Crossings** | | | | | | |
| Conventional Gate - Upgrade Existing | | | | 5 Each | $220,000 each | $1,100,000 |
| Conventional Gate - Install New | | | | 31 Each | $420,000 each | $13,020,000 |
| Grade Separations - US/State Routes | | | | 1 Each | $24,500,000 each | $24,500,000 |
| **Environmental Mitigation** | | | | | | |
| Environmental Mitigation | | | | | 5% | $16,100,000 |
| Lake Myrtle Park Mitigation | | | | | $31,809,000 lump sum | $31,809,000 |
| **Design, Environmental Documentation, Permitting and Construction Management** | | | | | | |
| Design, Environmental Documentation, Permitting and Construction Management | | | | | 18% | $66,700,000 |
| **Contingency** | | | | | | |
| Contingency | | | | | 30% | $111,200,000 |
| **TOTAL 2009 $s** | | | | | | **$548,500,000** |
| | | | | | | |
| **TOTAL YEAR OF EXPENDITURE 2019 $s (assuming average 4% inflation)** | | | | | | **$811,900,000** |

[1] These capital cost estimates were prepared for purpose of evaluating the alternatives and as such are considered planning level estimates subject to refinement during any future engineering evaluations.

[2] These costs represent only the capital costs associated with property acquisition and construction. These figures do not include the cost of operation and maintenance of the alternative.

**Table 8-4. Alternative 2: Van Fleet/Chain of Lakes Capital Cost[1, 2]**

| Item | Type of Segment | Current Use | Upgrade | Unit | Unit Cost (2009 $s) | Total Cost |
|---|---|---|---|---|---|---|
| **Trackwork (Alignment Segment)** | | | | | | |
| Coleman Subdivision | Abandoned Rail Right-of-Way | No Track | New Rail on Existing or Former Rail ROW | 16.2 Miles | $2,000,000 per mile | $32,400,000 |
| Van Fleet Trail | Existing Rail-Trail | Paved Multi-Use Trail/No Track | New Rail on New Roadbed & New Embankment | 29.2 Miles | $2,400,000 per mile | $70,080,000 |
| Lake Alfred to Polk City Connector Trail | Proposed Trail | Natural area, No Track | New Rail on New Roadbed & New Embankment | 11.5 Miles | $2,400,000 per mile | $27,600,000 |
| Chain of Lakes Trail | Existing Rail-Trail | Paved Multi-Use Trail/No Track | New Rail on New Roadbed & New Embankment | 3.7 Miles | $2,400,000 per mile | $8,880,000 |
| Existing Track/Proposed Lake Alfred Trail | Existing Rail Right-of-Way | Unpaved/No Track | New Rail on Existing or Former Rail ROW | 0.45 Miles | $2,000,000 per mile | $900,000 |
| CSXT "S" Line | Existing Rail Right-of-Way | Double track, 1.42 mi.; single track, 3.38 mi. | None | 4.8 Miles | $0 per mile | $0 |
| *Subtotal* | | | | *65.9* Miles | | *$139,860,000* |
| **Other Trackwork/Sitework** | | | | | | |
| Freight Siding | | | | 12 Miles | $1,500,000 per mile | $18,000,000 |
| #20 Crossover For Sidings | | | | 12 Each | $600,000 each | $7,200,000 |
| Special Trackwork | | | | | $5,000,000 lump sum | $5,000,000 |
| Drainage Improvements | | | | 61.05 Miles | $800,000 per mile | $48,840,000 |
| **Land Acquisition** | | | | | | |
| New ROW Acquisition | | | | | $52,000,000 lump sum | $52,000,000 |
| Additional ROW Acquisition | | | | | $0 lump sum | $0 |
| **Signals** | | | | | | |
| Install Signal System | | | | 61.05 Miles | $1,100,000 per mile | $67,155,000 |
| **Major Structures** | | | | | | |
| Bridges | | | | 65 Feet | $13,000 per foot | $845,000 |
| **Crossings** | | | | | | |
| Conventional Gate - Upgrade Existing | | | | 2 Each | $220,000 each | $440,000 |
| Conventional Gate - Install New | | | | 59 Each | $420,000 each | $24,780,000 |
| Grade Separations - US/State Routes | | | | 6 Each | $24,500,000 each | $147,000,000 |
| Grade Separations - Interstates | | | | 1 Each | $52,900,000 each | $52,900,000 |
| **Environmental Mitigation** | | | | | | |
| Environmental Mitigation | | | | | 5% | $28,200,000 |
| **Design, Environmental Documentation, Permitting and Construction Management** | | | | | | |
| Design, Environmental Documentation, Permitting and Construction Management | | | | | 18% | $106,600,000 |
| **Contingency** | | | | | | |
| Contingency | | | | | 30% | $177,700,000 |
| **TOTAL 2009 $s** | | | | | | **$876,500,000** |
| **TOTAL YEAR OF EXPENDITURE 2019 $s (assuming average 4% inflation)** | | | | | | **$1,297,400,000** |

[1] These capital cost estimates were prepared for purpose of evaluating the alternatives and as such are considered planning level estimates subject to refinement during any future engineering evaluations.

[2] These costs represent only the capital costs associated with property acquisition and construction. These figures do not include the cost of operation and maintenance of the alternative.

**Table 8-5. Alternative 3: Plant City/Bartow Capital Cost[1, 2]**

| Item | Type of Segment | Current Use | Upgrade | Unit | Unit Cost (2009 $s) | Total Cost |
|---|---|---|---|---|---|---|
| **Trackwork (Alignment Segment)** | | | | | | |
| CSX "S" Line | Existing Rail Right-of-Way | Mostly single track freight, some double track | None | 39.5 Miles | $0 per mile | $0 |
| CSX Yeoman Subdivision | Existing Rail Right-of-Way | Mostly single track freight, some double track | None | 18.1 Miles | $0 per mile | $0 |
| CSX Plant City & Valrico Subdivisions | Existing Rail Right-of-Way | Mostly single track freight, some double track | New Rail on Existing or Former Rail ROW | 28.5 Miles | $2,000,000 per mile | $57,000,000 |
| Proposed Bartow-Lake Wales Trail | Abandoned Rail Right-of-Way | No Track; undeveloped land, orchards, power lines | New Rail on New Roadbed & New Embankment | 12.1 Miles | $2,400,000 per mile | $29,040,000 |
| CSX "S" Line | Existing Rail Right-of-Way | Mostly single track freight, some double track | Two New Tracks on Existing Rail ROW | 5.5 Miles | $4,000,000 per mile | $22,000,000 |
| *Subtotal* | | | | 103.7 Miles | | *$108,040,000* |
| **Other Trackwork/Sitework** | | | | | | |
| Freight Siding | | | | 12 Miles | $1,500,000 per mile | $18,000,000 |
| #20 Crossover For Sidings | | | | 12 Each | $600,000 each | $7,200,000 |
| Special Trackwork (Plant City) | | | | | $10,000,000 lump sum | $10,000,000 |
| Special Trackwork (Mulberry/Bone Valley) | | | | | $20,000,000 lump sum | $20,000,000 |
| Drainage Improvements | | | | 40.6 Miles | $800,000 per mile | $32,480,000 |
| **Land Acquisition** | | | | | | |
| New ROW Acquisition | | | | | $6,000,000 lump sum | $6,000,000 |
| Additional ROW Acquisition | | | | | $7,125,000 lump sum | $7,125,000 |
| **Signals** | | | | | | |
| Install Signal System | | | | 51.6 Miles | $1,100,000 per mile | $56,760,000 |
| **Major Structures** | | | | | | |
| Bridges | | | | 1550 Feet | $13,000 per foot | $20,150,000 |
| **Crossings** | | | | | | |
| Conventional Gate - Upgrade Existing | | | | 54 Each | $220,000 each | $11,880,000 |
| Conventional Gate - Install New | | | | 12 Each | $420,000 each | $5,040,000 |
| Grade Separations - US/State Routes | | | | 6 Each | $24,500,000 each | $147,000,000 |
| **Environmental Mitigation** | | | | | | |
| Environmental Mitigation | | | | | 5% | $22,500,000 |
| **Design, Environmental Documentation, Permitting and Construction Management** | | | | | | |
| Design, Environmental Documentation, Permitting and Construction Management | | | | | 18% | $85,000,000 |
| **Contingency** | | | | | | |
| Contingency | | | | | 30% | $141,700,000 |
| **TOTAL 2009 $s** | | | | | | **$698,900,000** |
| | | | | | | |
| **TOTAL YEAR OF EXPENDITURE 2019 $s (assuming average 4% inflation)** | | | | | | **$1,034,500,000** |

[1] These capital cost estimates were prepared for purpose of evaluating the alternatives and as such are considered planning level estimates subject to refinement during any future engineering evaluations.

[2] These costs represent only the capital costs associated with property acquisition and construction. These figures do not include the cost of operation and maintenance of the alternative.

**Table 8-6. Alternative 4: Winston/Bartow Capital Cost[1, 2]**

| Item | Type of Segment | Current Use | Upgrade | Unit | Unit Cost (2009 $s) | Total Cost |
|---|---|---|---|---|---|---|
| **Trackwork (Alignment Segment)** | | | | | | |
| CSXT "S" Line | Existing Rail Right-of-Way | Mostly single track freight, some double track | None | 39.5 Miles | $0 per mile | $0 |
| CSX Vitis/Lakeland Subdivisions | Existing Rail Right-of-Way | Mostly single track freight, some double track | None | 19.2 Miles | $0 per mile | $0 |
| CSX Bone Valley/Valrico Subdivisions | Existing Rail Right-of-Way | Mostly single track freight, some double track | New Rail on Existing or Former Rail ROW | 22.9 Miles | $2,000,000 per mile | $45,800,000 |
| Proposed Bartow-Lake Wales Trail | Abandoned Rail Right-of-Way | No Track; undeveloped land, orchards, power lines | New Rail on New Roadbed & New Embankment | 12.1 Miles | $2,400,000 per mile | $29,040,000 |
| CSXT "S" Line | Existing Rail Right-of-Way | Mostly single track freight, some double track | Two New Tracks on Existing Rail ROW | 5.5 Miles | $4,000,000 per mile | $22,000,000 |
| *Subtotal* | | | | *99.2 Miles* | | *$96,840,000* |
| **Other Trackwork/Sitework** | | | | | | |
| Freight Siding | | | | 12 Miles | $1,500,000 per mile | $18,000,000 |
| #20 Crossover For Sidings | | | | 12 Each | $600,000 each | $7,200,000 |
| Special Trackwork (Winston) | | | | | $10,000,000 lump sum | $10,000,000 |
| Special Trackwork (Mulberry/Bone Valley) | | | | | $20,000,000 lump sum | $20,000,000 |
| Drainage Improvements | | | | 35.0 Miles | $800,000 per mile | $28,000,000 |
| **Land Acquisition** | | | | | | |
| New ROW Acquisition | | | | | $6,000,000 lump sum | $6,000,000 |
| Additional ROW Acquisition | | | | | $5,725,000 lump sum | $5,725,000 |
| **Signals** | | | | | | |
| Install Signal System | | | | 46.0 Miles | $1,100,000 per mile | $50,600,000 |
| **Major Structures** | | | | | | |
| Bridges | | | | 1550 Feet | $13,000 per foot | $20,150,000 |
| **Crossings** | | | | | | |
| Conventional Gate - Upgrade Existing | | | | 35 Each | $220,000 each | $7,700,000 |
| Conventional Gate - Install New | | | | 12 Each | $420,000 each | $5,040,000 |
| Grade Separations - US/State Routes | | | | 6 Each | $24,500,000 each | $147,000,000 |
| **Environmental Mitigation** | | | | | | |
| Environmental Mitigation | | | | | 5% | $21,100,000 |
| **Design, Environmental Documentation, Permitting and Construction Management** | | | | | | |
| Design, Environmental Documentation, Permitting and Construction Management | | | | | 18% | $79,800,000 |
| **Contingency** | | | | | | |
| Contingency | | | | | 30% | $133,000,000 |
| **TOTAL 2009 $s** | | | | | | **$656,200,000** |
| | | | | | | |
| **TOTAL YEAR OF EXPENDITURE 2019 $s (assuming average 4% inflation)** | | | | | | **$971,300,000** |

[1] These capital cost estimates were prepared for purpose of evaluating the alternatives and as such are considered planning level estimates subject to refinement during any future engineering evaluations.

[2] These costs represent only the capital costs associated with property acquisition and construction. These figures do not include the cost of operation and maintenance of the alternative.

**Table 8-7. Alternative 5: Winston/ Homeland Capital Cost [1, 2]**

| Item | Type of Segment | Current Use | Upgrade | Unit | Unit Cost (2009 $s) | Total Cost |
|---|---|---|---|---|---|---|
| **Trackwork (Alignment Segment)** | | | | | | |
| CSXT "S" Line | Existing Rail Right-of-Way | Mostly single track freight, some double track | None | 39.5 Miles | $0 per mile | $0 |
| CSX Vitis/Lakeland Subdivisions | Existing Rail Right-of-Way | Mostly single track freight, some double track | None | 19.2 Miles | $0 per mile | $0 |
| CSX Bone Valley/Valrico Subdivisions | Existing Rail Right-of-Way | Mostly single track freight, some double track | New Rail on Existing or Former Rail ROW | 21.8 Miles | $2,000,000 per mile | $43,600,000 |
| New Right-of-Way | New Right-of-Way | No track; phosphate, undeveloped and agricultural lands, some residences | New Rail on New Roadbed & New Embankment | 18.1 Miles | $2,400,000 per mile | $43,440,000 |
| CSXT "S" Line | Existing Rail Right-of-Way | Mostly single track freight, some double track | Two New Tracks on Existing Rail ROW | 8.1 Miles | $4,000,000 per mile | $32,400,000 |
| *Subtotal* | | | | 106.7 Miles | | *$119,440,000* |
| **Other Trackwork/Sitework** | | | | | | |
| Freight Siding | | | | 12 Miles | $1,500,000 per mile | $18,000,000 |
| #20 Crossover For Sidings | | | | 12 Each | $600,000 each | $7,200,000 |
| Special Trackwork (Winston) | | | | | $10,000,000 lump sum | $10,000,000 |
| Special Trackwork (Mulberry/Bone Valley) | | | | | $20,000,000 lump sum | $20,000,000 |
| Drainage Improvements | | | | 39.9 Miles | $800,000 per mile | $31,920,000 |
| **Land Acquisition** | | | | | | |
| New ROW Acquisition | | | | | $42,000,000 lump sum | $42,000,000 |
| Additional ROW Acquisition | | | | | $5,450,000 lump sum | $5,450,000 |
| **Signals** | | | | | | |
| Install Signal System | | | | 56.1 Miles | $1,100,000 per mile | $61,710,000 |
| **Major Structures** | | | | | | |
| Bridges | | | | 300 Feet | $13,000 per foot | $3,900,000 |
| **Crossings** | | | | | | |
| Conventional Gate - Upgrade Existing | | | | 26 Each | $220,000 each | $5,720,000 |
| Conventional Gate - Install New | | | | 15 Each | $420,000 each | $6,300,000 |
| Grade Separations - US/State Routes | | | | 4 Each | $24,500,000 each | $98,000,000 |
| **Environmental Mitigation** | | | | | | |
| Environmental Mitigation | | | | | 5% | $21,500,000 |
| **Design, Environmental Documentation, Permitting and Construction Management** | | | | | | |
| Design, Environmental Documentation, Permitting and Construction Management | | | | | 18% | $81,200,000 |
| **Contingency** | | | | | | |
| Contingency | | | | | 30% | $135,300,000 |
| **TOTAL 2009 $s** | | | | | | **$667,600,000** |
| | | | | | | |
| **TOTAL YEAR OF EXPENDITURE 2019 $s (assuming average 4% inflation)** | | | | | | **$988,200,000** |

[1] These capital cost estimates were prepared for purpose of evaluating the alternatives and as such are considered planning level estimates subject to refinement during any future engineering evaluations.

[2] These costs represent only the capital costs associated with property acquisition and construction. These figures do not include the cost of operation and maintenance of the alternative.

**Table 8-8. Alternative 6: Vitis/Polk City Capital Cost[1, 2]**

| Item | Type of Segment | Current Use | Upgrade | Unit | Unit Cost (2009 $s) | Total Cost |
|---|---|---|---|---|---|---|
| **Trackwork (Alignment Segment)** | | | | | | |
| CSXT "S" Line | Existing Rail Right-of-Way | Mostly single track freight, some double track | None | 42.7 Miles | $0 per mile | $0 |
| New Right-of-Way | New Right-of-Way | Undeveloped and agricultural lands, some residences | New Rail on New Roadbed & New Embanki | 17.3 Miles | $2,400,000 per mile | $41,520,000 |
| Van Fleet Trail (adjacent) | New Rail ROW Adjacent to Trail | Various; Mostly Undeveloped | New Rail on New Roadbed & New Embanki | 3.4 Miles | $2,400,000 per mile | $8,160,000 |
| Van Fleet Extension (adjacent) | New Rail ROW Adjacent to Trail | Various; Mostly Undeveloped | New Rail on New Roadbed & New Embanki | 0.92 Miles | $2,400,000 per mile | $2,208,000 |
| TECO-Auburndale Trail (adjacent) | New Rail ROW Adjacent to Trail | Various; Mostly Undeveloped | New Rail on New Roadbed & New Embanki | 5.59 Miles | $2,400,000 per mile | $13,416,000 |
| TECO-Auburndale Trail Extension (adjacent) | New Rail ROW Adjacent to Trail | Various; Mostly Undeveloped | New Rail on New Roadbed & New Embanki | 1.01 Miles | $2,400,000 per mile | $2,424,000 |
| Existing Track CSXT Track | Existing Rail Right-of-Way | Predominantly single track, some double track | Upgrade Class of Track on Existing Rail Roa | 1.37 Miles | $1,600,000 per mile | $2,192,000 |
| Existing Track/CSXT "S" Line | Existing Rail Right-of-Way | Predominantly single track, some double track | None | 10.73 Miles | $0 per mile | $0 |
| *Subtotal* | | | | *83.02 Miles* | | *$69,920,000* |
| **Other Trackwork/Sitework** | | | | | | |
| Freight Siding | | | | 12 Miles | $1,500,000 per mile | $18,000,000 |
| #20 Crossover For Sidings | | | | 12 Each | $600,000 each | $7,200,000 |
| Special Trackwork | | | | | $5,000,000 lump sum | $5,000,000 |
| Drainage Improvements | | | | 29.59 Miles | $800,000 per mile | $23,672,000 |
| Geotechnical Contingency | | | | | 20% new rail/ROW | $8,304,000 |
| **Land Acquisition** | | | | | | |
| New ROW Acquisition | | | | | $14,931,202 lump sum | $14,931,202 |
| Additional ROW Acquisition | | | | | $0 lump sum | $0 |
| **Signals** | | | | | | |
| Install Signal System | | | | 29.59 Miles | $1,100,000 per mile | $32,549,000 |
| **Major Structures** | | | | | | |
| Bridges | | | | 0 Feet | $13,000 per foot | $0 |
| **Crossings** | | | | | | |
| Conventional Gate - Upgrade Existing | | | | 5 Each | $220,000 each | $1,100,000 |
| Conventional Gate - Install New | | | | 29 Each | $420,000 each | $12,180,000 |
| Grade Separations - US/State Routes | | | | 1 Each | $24,500,000 each | $24,500,000 |
| **Environmental Mitigation** | | | | | | |
| Environmental Mitigation | | | | | 5% | $10,900,000 |
| Lake Myrtle Park Mitigation | | | | | $31,809,000 lump sum | $31,809,000 |
| Wetland/Floodplain Mitigation | | | | | $31,454,545 lump sum | $31,454,545 |
| **Design, Environmental Documentation, Permitting and Construction Management** | | | | | | |
| Design, Environmental Documentation, Permitting and Construction Management | | | | | 18% | $52,500,000 |
| **Contingency** | | | | | | |
| Contingency | | | | | 30% | $87,500,000 |
| **TOTAL 2009 $s** | | | | | | **$431,500,000** |
| | | | | | | |
| **TOTAL YEAR OF EXPENDITURE 2019 $s (assuming average 4% inflation)** | | | | | | **$638,700,000** |

[1] These capital cost estimates were prepared for purpose of evaluating the alternatives and as such are considered planning level estimates subject to refinement during any future engineering evaluations.

[2] These costs represent only the capital costs associated with property acquisition and construction. These figures do not include the cost of operation and maintenance of the alternative.

**Table 8-9. Alternative 7: McIntosh Spur Capital Cost[1, 2]**

| Item | Type of Segment | Current Use | Upgrade | Unit | Unit Cost (2009 $s) | Total Cost |
|---|---|---|---|---|---|---|
| **Trackwork (Alignment Segment)** | | | | | | |
| CSXT "S" Line | Existing Rail Right-of-Way | Mostly single track freight, some double track | None | 42.7 Miles | $0 per mile | $0 |
| New Right-of-Way | New Right-of-Way | Undeveloped and agricultural lands, some | New Rail on New Roadbed & New Embankment | 21 Miles | $2,400,000 per mile | $50,400,000 |
| CSXT MacIntosh Spur | Existing Rail Right-of-Way | Predominantly single track, some double track | New Rail on New Roadbed & New Embankment | 2.9 Miles | $2,400,000 per mile | $6,960,000 |
| CSXT "A"/"S" Line | Existing Rail Right-of-Way | Predominantly single track, some double track | None | 16.3 Miles | $0 per mile | $0 |
| *Subtotal* | | | | *82.9 Miles* | | *$57,360,000* |
| **Other Trackwork/Sitework** | | | | | | |
| Freight Siding | | | | 12 Miles | $1,500,000 per mile | $18,000,000 |
| #20 Crossover For Sidings | | | | 12 Each | $600,000 each | $7,200,000 |
| Special Trackwork | | | | | $5,000,000 lump sum | $5,000,000 |
| Drainage Improvements | | | | 23.90 Miles | $800,000 per mile | $19,120,000 |
| Geotechnical Contingency | | | | | 20% new rail/ROW | $10,080,000 |
| **Land Acquisition** | | | | | | |
| New ROW Acquisition | | | | | $11,111,100 lump sum | $11,111,100 |
| Additional ROW Acquisition | | | | | $725,000 lump sum | $725,000 |
| **Signals** | | | | | | |
| Install Signal System | | | | 23.90 Miles | $1,100,000 per mile | $26,290,000 |
| **Major Structures** | | | | | | |
| Bridges | | | | 0 Feet | $13,000 per foot | $0 |
| **Crossings** | | | | | | |
| Conventional Gate - Upgrade Existing | | | | 9 Each | $220,000 each | $1,980,000 |
| Conventional Gate - Install New | | | | 18 Each | $420,000 each | $7,560,000 |
| Grade Separations - US/State Routes | | | | 3 Each | $24,500,000 each | $73,500,000 |
| Grade Separations - Interstates | | | | 1 Each | $52,900,000 each | $52,900,000 |
| **Environmental Mitigation** | | | | | | |
| Environmental Mitigation | | | | | 5% | $14,500,000 |
| Wetland/Floodplain Mitigation | | | | | $38,181,818 lump sum | $38,181,818 |
| **Design, Environmental Documentation, Permitting and Construction Management** | | | | | | |
| Design, Environmental Documentation, Permitting and Construction Management | | | | | 18% | $61,800,000 |
| **Contingency** | | | | | | |
| Contingency | | | | | 30% | $103,100,000 |
| **TOTAL 2009 $s** | | | | | | **$508,400,000** |
| | | | | | | |
| **TOTAL YEAR OF EXPENDITURE 2019 $s (assuming average 4% inflation)** | | | | | | **$752,600,000** |

[1] These capital cost estimates were prepared for purpose of evaluating the alternatives and as such are considered planning level estimates subject to refinement during any future engineering evaluations.

[2] These costs represent only the capital costs associated with property acquisition and construction. These figures do not include the cost of operation and maintenance of the alternative.

**Table 8-10. Alternative 8: Winston/Bartow Airport Capital Cost[1, 2]**

| Item | Type of Segment | Current Use | Upgrade | Unit | Unit Cost (2009 $s) | Total Cost |
|---|---|---|---|---|---|---|
| **Trackwork (Alignment Segment)** | | | | | | |
| CSXT "S" Line | Existing Rail Right-of-Way | Mostly single track freight, some double track | None | 39.5 Miles | $0 per mile | $0 |
| CSX Vitis/Lakeland Subdivisions | Existing Rail Right-of-Way | Mostly single track freight, some double track | None | 19.2 Miles | $0 per mile | $0 |
| CSX Bone Valley/Valrico Subdivisions | Existing Rail Right-of-Way | Mostly single track freight, some double track | New Rail on Existing or Former Rail ROW | 22.9 Miles | $2,000,000 per mile | $45,800,000 |
| New Right-of-Way | New Right-of-Way | Various | New Rail on New Roadbed & New Embankment | 2.1 Miles | $2,400,000 | $5,040,000 |
| Former Florida Midland RR ROW | Abandoned Rail Right-of-Way | No track; undeveloped land | New Rail on Existing or Former Rail ROW | 3.1 Miles | $2,000,000 per mile | $6,200,000 |
| Florida Midand RR ROW | Existing Rail Right-of-Way | Single track | New Rail on Existing or Former Rail ROW | 4.3 Miles | $2,000,000 per mile | $8,600,000 |
| CSXT "S" Line | Existing Rail Right-of-Way | Mostly single track freight, some double track | None | 4.4 Miles | $0 per mile | $0 |
| *Subtotal* | | | | *95.5 Miles* | | *$65,640,000* |
| **Other Trackwork/Sitework** | | | | | | |
| Freight Siding | | | | 12 Miles | $1,500,000 per mile | $18,000,000 |
| #20 Crossover For Sidings | | | | 12 Each | $600,000 each | $7,200,000 |
| Special Trackwork (Winston) | | | | | $10,000,000 lump sum | $10,000,000 |
| Special Trackwork (Mulberry/Bone Valley) | | | | | $20,000,000 lump sum | $20,000,000 |
| Drainage Improvements | | | | 32.4 Miles | $800,000 per mile | $25,920,000 |
| **Land Acquisition** | | | | | | |
| New ROW Acquisition | | | | | $4,710,744 lump sum | $4,710,744 |
| Additional ROW Acquisition | | | | | $5,725,000 lump sum | $5,725,000 |
| **Signals** | | | | | | |
| Install Signal System | | | | 32.4 Miles | $1,100,000 per mile | $35,640,000 |
| **Major Structures** | | | | | | |
| Bridges | | | | 1550 Feet | $13,000 per foot | $20,150,000 |
| **Crossings** | | | | | | |
| Conventional Gate - Upgrade Existing | | | | 46 Each | $220,000 each | $10,120,000 |
| Conventional Gate - Install New | | | | 7 Each | $420,000 each | $2,940,000 |
| Grade Separations - US/State Routes | | | | 8 Each | $24,500,000 each | $196,000,000 |
| **Environmental Mitigation** | | | | | | |
| Environmental Mitigation | | | | | 5% | $21,100,000 |
| **Design, Environmental Documentation, Permitting and Construction Management** | | | | | | |
| Design, Environmental Documentation, Permitting and Construction Management | | | | | 18% | $79,800,000 |
| **Contingency** | | | | | | |
| Contingency | | | | | 30% | $132,900,000 |
| **TOTAL 2009 $s** | | | | | | **$655,800,000** |
| | | | | | | |
| **TOTAL YEAR OF EXPENDITURE 2019 $s (assuming average 4% inflation)** | | | | | | **$970,700,000** |

[1] These capital cost estimates were prepared for purpose of evaluating the alternatives and as such are considered planning level estimates subject to refinement during any future engineering evaluations.

[2] These costs represent only the capital costs associated with property acquisition and construction. These figures do not include the cost of operation and maintenance of the alternative.

# 9. Summary

## 9.1 Study Criteria

This technical memorandum examines freight rail relocation options for the Florida Department of Transportation's District One Rail Traffic Evaluation Study. This document presents: 1) existing and future conditions related to freight rail operations; 2) background information on previous rail corridor and port studies within the region; 3) a corridor inventory; and (4) freight relocation options. This section also summarizes the criteria against which these alternatives were based as well as expected environmental issues associated with each alternative.

Potential alternatives were screened based on a number of criteria which include:

- Connectivity between identified corridors and existing, active rail rights-of-way.
- Provision of alternatives to current freight route while maintaining access to the planned ILC site in Winter Haven.
- Ability to maintain through routes between Jacksonville and points south.
- Ability to meet delivery needs of CSX and its customers.

## 9.2 Synopsis of Freight Relocation Options

The eight (8) alternatives screened as part of this study are briefly summarized below. Detailed alternative descriptions are contained in subsections 5.1.2 through 5.1.9 of Section 5, Freight Rail Options. Capital costs for each alternative are referenced in Section 8.

Alternative 1: Van Fleet/TECO would follow the former Coleman Subdivision, Van Fleet Trail and TECO-Auburndale trail before connecting to the existing "S" Line right-of-way in Auburndale. The distance from Coleman, FL to the planned ILC site in Winter Haven is estimated to be 65 miles. This route would be advantageous in that it offers a shorter travel distance than the current freight route, reduces the number of grade crossings, and would re-route some trains from Lakeland. Challenges of this alternative include extensive right-of-way acquisition, high infrastructure needs, and potentially-significant environmental impacts to the Green Swamp. Parkland and trail impacts would be anticipated at Lake Myrtle Sports Complex and the abovementioned trails.

Alternative 2: Van Fleet/Chain of Lakes is a 66-mile route that would utilize the Coleman, Subdivision, Van Fleet Trail, and proposed trails such as the Lake Alfred Trail, and the Lake Alfred to Polk City Connector trail. The route would extend along Chain of Lakes Trail right-of-way through downtown Winter Haven before connecting to existing "S" Line track to the ILC site. Like Alternative 1, this route would be shorter than the current freight operating plan and would re-route some trains from Lakeland. Challenges include a significant number of right-of-way acquisitions, recreational trail interference, environmental impacts to the Green Swamp and community disruption to Winter Haven's downtown district.

Alternative 3: Plant City/Bartow would run approximately 104 miles from Coleman through Plant City, Mulberry and Bartow before heading north on the southern portion of the "S" Line to the ILC site. This alternative would require moderate right-of-way acquisition and would keep some trains from downtown Lakeland. Potential issues with Alternative 3 include operational challenges for CSX resulting from longer travel distances with extended run times creating competitive disadvantages on time sensitive traffic, significant interference with the high volumes of industrial switching and additional maintenance costs for existing freight route plus Alternative 3 and the high density of local freight switching through Mulberry and Bartow from phosphate-related industries. Other challenges include higher infrastructure costs, increased number of crossings, and presence of wetlands and floodplains along the route.

Alternative 4: Winston/Bartow would be a 99-mile route from Coleman to the planned ILC site. This route would travel along the Vitis Subdivision then through Winston and the Winston Rail Yard before extending through Mulberry and Bartow. This route is similar to Alternative 3 in terms of its benefits and challenges. In addition, CSX is concerned about adverse impacts on CSXT's Winston Yard operations affecting the entire Bone Valley area.

Alternative 5: Winston/Homeland would run approximately 107 miles to the planned ILC site and would extend south from Mulberry then east through the Homeland and the Alturas area before connecting to the southern segment of the "S" Line. Like Alternatives 3 and 4, this alternative would create additional freight transportation time, additional infrastructure maintenance and delays due to local train switching. Alternative 5 would have operational challenges for CSX resulting from longer travel distances with extended run times creating competitive disadvantages on time sensitive traffic, significant interference with the high volumes of industrial switching and additional maintenance costs. In addition, CSX is concerned about adverse impacts on CSXT's Winston Yard operations affecting the entire Bone Valley area. Environmental considerations include wetlands and floodplain infringement and crossing the Peace River. Additional considerations include new right of way acquisition, and community disruption to Mulberry, Homeland and Alturas.

Alternative 6: Vitis/Polk City would run on the "S" Line through Vitis Junction before extending through the Green Swamp and connecting to the Van Fleet Trail. From its connection point at the Van Fleet Trail, this alternative would operate like Alternative 1. Challenges of this 83-mile route would range from Green Swamp and parkland and trail interference described under Alternative 1 to an estimated 339 acres of property acquisition. CSX is concerned about long term roadbed stability and potential for flooding that could take the track segment out of service severing CSXT's artery in times of heavy rains, hurricanes, etc.

Alternative 7: McIntosh Spur, an 83-mile route would cut through Green Swamp then turn south in order to connect to an existing rail spur near the McIntosh Power Plant. Challenges include environmental considerations related to the Green Swamp, local train switching near the power plant and a new grade separated crossing at Interstate 4.

Alternative 8: Winston/Bartow Airport would extend approximately 96 miles utilizing a combination of active and former rail rights-of-way as well as new rights-of-way. Alternative 8 would have operational challenges for CSX resulting from longer travel distances with extended run times creating competitive disadvantages on time sensitive traffic, significant interference with the high volumes of industrial switching and additional maintenance costs. In addition, CSX

is concerned about adverse impacts on CSXT's Winston Yard operations affecting the entire Bone Valley area. Other considerations include right-of-way acquisition costs, conflicts with existing train movements in phosphate areas near Mulberry, and community disruption to Mulberry, Bartow and Gordonville.

## 9.3 Matrix of Freight Relocation Options

The following matrix of freight relocation options contains a graphic depiction and a comparative overview of the physical features, and considerations related to capital improvements, operations and maintenance, and the environment for each alternative described above (Refer to Section 9.2). Table 9-1 also notes stakeholder concerns, as applicable, to the eight alternatives under consideration (See Section 7, Stakeholder Considerations).

**Table 9-1. Summary of Freight Rail Relocation Options**

| | Alternative 1: Van Fleet/TECO | Alternative 2: Van Fleet/Chain of Lakes | Alternative 3: Plant City/Bartow | Alternative 4: Winston/Bartow | Alternative 5: Winston/ Homeland | Alternative 6: Vitis/Polk City | Alternative 7: McIntosh Spur | Alternative 8: Winston/Bartow Airport |
|---|---|---|---|---|---|---|---|---|
| ***Physical Features*** | | | | | | | | |
| Number Miles (Coleman to ILC in Winter Haven) | 65 | 66 | 104 | 99 | 107 | 83 | 83 | 96 |
| Use of Former Coleman Subdivision | √ | √ | | | | | | |
| Use of ROW Adjacent to Van Fleet Trail/Extension | √ | √ | | | | √ | | |
| Use of ROW Adjacent to TECO-Auburndale Trail/Extension | √ | | | | | √ | | |
| Use of CSX Auburndale Subdivision north of the S Line | √ | | | | | √ | | |
| Use of ROW of Proposed Lake Alfred – Polk Connector | | √ | | | | | | |
| Use of Chain of Lakes Trail | | √ | | | | | | |
| Use of CSX Plant City Subdivision | | | √ | | | | | |
| Use of CSX Valrico Subdivision | | | √ | √ | √ | | | √ |
| Use of ROW of Proposed Bartow-Lake Wales Trail | | | √ | √ | | | | |
| Use of CSX Bone Valley Subdivision | | | | √ | √ | | | √ |
| Use of New Right-of-Way | | √ | | | √ | √ | √ | √ |
| Use of CSX McIntosh Spur | | | | | | | √ | |
| Use of Florida Midland ROW/former ROW | | | | | | | | √ |
| ***Capital Improvement Considerations*** | | | | | | | | |
| Miles of New Track and Signals | 54 | 61 | 46 | 41 | 48 | 30 | 24 | 32 |
| Number of Existing At-Grade Crossings for Improvement | 5 | 2 | 55 | 39 | 26 | 5 | 9 | 46 |
| Number of New At-Grade Crossings | 31 | 59 | 12 | 12 | 15 | 29 | 18 | 7 |
| Number of New Grade Separation Structures | 1 | 7 | 5 | 5 | 4 | 1 | 3 | 8 |
| Miles of Property Acquisition for New ROW | 53 | 61 | 12 | 12 | 18 | 28 | 21 | 10 |
| Miles of Property Acquisition for Existing ROW Widening | | | 29 | 23 | 22 | | 3 | 23 |
| Special Trackwork on CSX Plant City/ Valrico/ Bone Valley Subdivisions | | | √ | √ | √ | | | √ |
| New Grade Separation Structure at I-4 | | √ | | | | | √ | |
| ***Operating Considerations*** | | | | | | | | |
| Increased CSX Operating Cost Due to Longer Route | | | √ | √ | √ | √ | √ | √ |
| Additional Maintenance Cost for CSX For Existing Route, Plus Alternative | √ | √ | √ | √ | √ | √ | √ | √ |
| High Density of Local Freight Switching | | | √ | √ | √ | | √ | √ |

**Table 9-1. Summary of Freight Rail Relocation Options** (continued)

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| ***Environmental Considerations*** | | | | | | | | |
| Wetlands/Floodplains | √ | √ | √ | √ | √ | √ | √ | √ |
| Conservation Area(s)/Green Swamp | √ | √ | | | | √ | √ | |
| Parks/4(f) | √ | √ | | | | √ | | |
| Peace River Crossing | | | √ | √ | √ | | | √ |
| Limestone or Phosphate Mines in ROW | √ | √ | √ | √ | √ | | | |
| Lake Myrtle Sports Complex | √ | | | | | √ | | |
| Taking of Active Trail(s) | √ | √ | | | | √ | | |
| Taking of Planned Trail(s) | √ | √ | √ | √ | | √ | | |
| ***Stakeholder Input with Concerns*** | | | | | | | | |
| Auburndale (Community Issues) | √ | | | | | √ | | |
| Polk City (Community Issues) | √ | √ | | | | √ | | |
| Lake Alfred (Community Issues) | | √ | | | | | | |
| Winter Haven (Community Issues) | | √ | | | | | | |
| Plant City (Community Issues | | | √ | | | | | |
| Mulberry (Community Issues) | | | √ | √ | √ | | | √ |
| Bartow (Community Issues) | | | √ | √ | | | | √ |
| Homeland (Community Issues) | | | | | √ | | | |
| Alturas (Community Issues) | | | | | √ | | | |
| Lakeland (Community Issues) | | | | | | | √ | |
| Gordonville/Gordon Heights (Community Issues) | | | | | | | | √ |
| Lake Myrtle Sports Complex(New Park) | √ | | | | | √ | | |
| Florida DEP Department of Greenways and Trails (Trails) | √ | √ | | | | √ | | |
| Friends of the Park Foundation (Trails) | √ | √ | | | | √ | | |
| CSX (Operational Issues) | | | √ | √ | √ | | √ | √ |
| Florida Midland Railroad (Operational Issues) | | | | | | | | √ |

## 9.4 Common Issues to All Relocation Options

A number of characteristics are common to each of the freight rail relocation alternatives that have been screened as part of this report. In order to implement any alternative considered as part of this study, CSX would have to agree to move their operations to that new route. As such, alternative routes would need to be feasible in terms of CSX's service delivery to their customers. Under all options, freight would continue to operate through downtown Lakeland due to local trains operating on the "A" and "S" Lines. Infrastructure improvements would still be required on the "S" Line in order to service the planned ILC site in Winter Haven. These include track siding in the Lakeland area and a number of improvements north of Lakeland.

Another significant issue common to all the freight relocation options under study is the concern that each respective alternative shifts potential freight traffic from Lakeland and communities along the S Line to other communities along potential alternative routes.

Aside from CSX's current freight rail route which requires no additional right-of-way, each alternative would also require varying degrees of property acquisition. Additional commonalities include significant infrastructure costs, increased operations and maintenance costs as well as significant environmental challenges.

## 9.5 Next Steps

The conceptual review of the freight rail relocation alternatives contained in this study indicates that there are potential options to re-reroute some proposed "S" Line trains. This re-routing potential must be balanced with the capital, operating and maintenance costs for each, as well as their potential environmental and community impacts. Should decision-makers determine that these alternatives warrant further consideration, the recommended next step would be to conduct a Project Development and Environment Study (PD&E).