

FREIGHT MOBILITY

Tampa Bay Regional Freight Rail Study



Prepared By
URS

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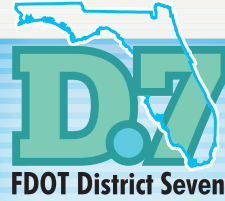
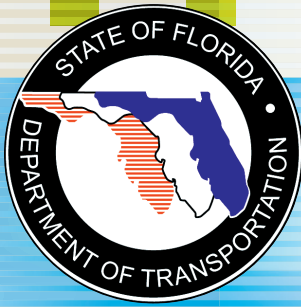
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FREIGHT MOBILITY

Introduction **1**



AN INTRODUCTION TO THE TAMPA BAY REGIONAL FREIGHT RAIL STUDY

Freight rail transportation is a vital asset in the Tampa Bay Region. Often going unnoticed, the freight rail transportation system provides a critical link to business markets across Florida, the nation, and ultimately the world. Every day, the region's rail connection supplies a critical service of transporting goods in a low-cost, efficient manner. As a key component of the region's mobility network, freight rail transportation:



- Offers opportunities to manage growing urban highway congestion;
- Is a sound economic resource that provides employment and business development opportunities; and
- Is constantly adapting to changing market conditions by using technology and innovative management tools.

The Tampa Bay Region relies on freight rail transportation to transport many of the goods consumers and businesses use every day. Practically everything consumers use on a daily basis is transported by a freight train. The food we consume, the cars we drive, and the raw materials that are used to build our homes and workplaces are all items that were transported by a freight train at some point in their journey.

Nationally, railroads transport more than 42 percent of the nation's freight (measured in ton-miles) by providing critical access to commercial centers in the U.S. These key transportation corridors, coupled with the rail industry's strategic business alliances, enable domestic businesses to transport goods to consumers around the globe. Without these transportation corridors and alliances, many American products would idle longer in warehouses and manufacturing plants awaiting transportation by trucks that utilize an increasingly congested highway system that reduces delivery reliability and adds to shipping costs that are ultimately paid by the consumer.

How commodities are typically shipped is based on several considerations – the type of product being transported, transport time, and the weight and value of the product. Freight railroads primarily transport large, heavy, bulky items for long distances that are usually inappropriate for truck or air cargo. Approximately 70 percent of domestic automobiles and 40 and 66 percent of the nation's grain and coal, respectively, are transported by freight railroads. However, more and more railroads are finding market “niches” and competing with the trucking industry for lighter load, short-haul products. Computers, fresh produce, medical equipment, and other items traditionally transported by long haul trucks are more frequently finding their way onto rail cars in containers. The containers go to intermodal yards and are delivered to the final destination by short haul trucks.

Direct economic benefits also include employment generated by the railroad industry. Nationally, the rail industry employs some 174,000 persons, with an average annual salary and benefits of \$84,000¹. In the Tampa Bay Region, approximately 570 jobs are associated with CSX Transportation (CSXT) railroad and 26,000 with the larger regional freight transportation industry.

Rail service generates additional economic development benefits when marketed with business/industrial park development opportunities in communities. Freight rail access is viewed as a positive asset when attracting new business to industrial parks. Many industries list good rail and other transportation access as a major factor in their location selection process. Forward-thinking public agency planning, private interests, and infrastructure (roads, utilities, and railroads) are elements to successful and profitable industrial park development.

- Freight railroads are developing stronger ties to communities that are affected by freight operations by working with stakeholders to explore creative solutions to common problems such as noise, congestion, and delay at railroad crossings, while providing a safer and more efficient operating environment that balances both community and industry needs.

What's in that Rail Car?

- *Automobiles*
- *Appliances*
- *Bulk Minerals, Sand, and Rock*
- *Coal*
- *Chemicals*
- *Furniture*
- *Food Products*
- *Grain*
- *Lumber*
- *Machinery*
- *Paper Products*
- *Steel*

¹ American Association of Railroads. This information is from base year 2003. Data is updated every five years with the next update for 2008 available in 2009.



STUDY PURPOSE

The Tampa Bay Regional Freight Rail Study provides a general overview of freight rail activities from a national, statewide, and regional perspective. This study effort coincides with the Tampa Bay Regional Goods Movement Study, a larger endeavor of identifying goods movement issues and opportunities for the region. The existing rail system found in Citrus, Hernando, Hillsborough, Pasco, and Pinellas Counties is documented within this study. Freight rail opportunities and issues are also examined to provide a comprehensive picture of the forces changing the rail business in the 21st century. The purpose of the study is to:

- Provide a basic understanding of freight rail infrastructure and operations within the region;
- Identify the forces that are changing the freight rail environment;
- Explain how freight rail contributes to the local economies;
- Explain the importance of freight rail as part of an overall goods movement strategy;
- Identify opportunities for increasing the efficiency of goods movement by rail and the barriers that reduce the efficiency;
- Identify community, competitive, and funding issues/constraints;
- Identify on- and off-system infrastructure needs/improvements; and
- Recommend strategies to improve freight rail operations within the region.



The Tampa Bay Regional Goods Movement Study focuses on the collective opportunities and challenges of truck, maritime, rail, and air freight modes within the five county region. The Tampa Bay Regional Goods Movement Study identifies:

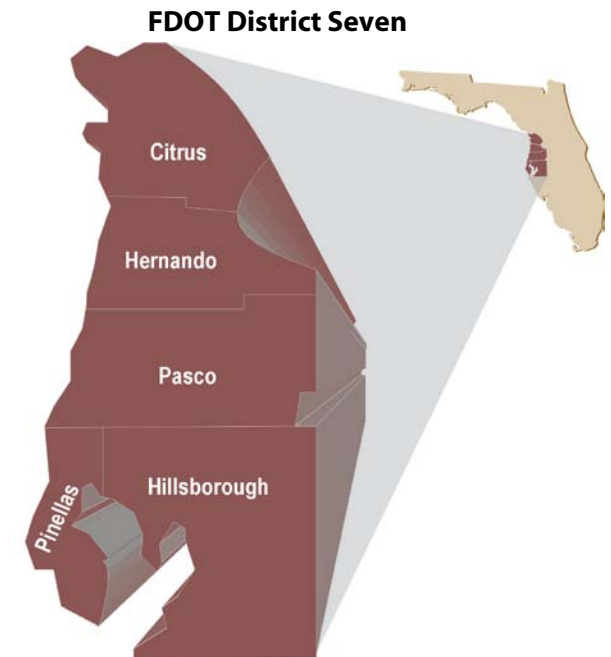
- The regional freight delivery system and its components,
- The importance of goods movement to the local and regional economies,
- Freight operational and capacity issues, and
- Emerging freight needs and development opportunities.

Together, the Tampa Bay Regional Goods Movement Study and the Tampa Bay Regional Freight Rail Study can be used both as a resource and as a planning tool to aid transportation professionals in addressing local and regional freight issues.

Recommendations found within this study are consistent with recommendations presented in the Tampa Bay Goods Movement Study.

STUDY AREA

The Tampa Bay Regional Freight Rail Study examined freight rail activities within the Florida Department of Transportation's (FDOT) District Seven consisting of Citrus, Hernando, Hillsborough, Pasco, and Pinellas Counties. FDOT District Seven, with a land area of nearly 3,332 square miles, represents five counties and approximately 2.6 million residents in the Tampa Bay area.





DOCUMENT REVIEW

As part of the research effort for the Tampa Bay Regional Goods Movement Study, various national, state, and local plans and studies were reviewed and key findings were documented. These plans and studies share a common goal of economic growth and implementation of transportation strategies to improve and maintain freight mobility in the Tampa Bay Region. The documents reviewed fall into four categories:

- County plans,
- Modal plans and studies,
- Intermodal plans and studies, and
- Other freight studies.

From this review, certain commonalities and findings emerged that are described below.

Finding 1: The amount of cargo is rapidly increasing while the capacity to handle the cargo is increasing at a slower pace.

Freight rail volumes and system congestion are growing as the nation transforms from a domestic economy to a global economy. Freight rail provides a significant savings to the cost and capacity of the highway system. Like passenger rail, freight rail offers opportunities to reduce traffic congestion, use land responsibly, and decrease massive highway infrastructure costs. A stagnation of growth in the freight rail system could add billions of dollars in highway costs and shipping costs over the next 20 years.

Capacity can be constrained by a shortage of any critical input -- infrastructure (tracks or switching systems), equipment (locomotives and other rail cars), or labor. And because the transportation industries are networks, the existence of capacity constraints at one key junction or along one key corridor can cause delays that cascade throughout the system.

*- Freight Rail Transportation:
A Review of the 2004 Experience
May 2005*

Finding 2: The major challenges to freight mobility share a common finding - congestion.

Current levels of congestion are already significant and will likely grow with increasing traffic volumes. Freight traffic is adding to congestion at a faster rate than passenger traffic especially around intermodal chokepoints and locations with inadequate road and rail capacity. The key to reducing congestion is to focus a portion of transportation funding on improvements that will lead to increased efficiency of alternative modes of freight transportation.

Finding 3: Florida's transportation infrastructure must be planned, developed, funded, and maintained to support growth within the state.

The Strategic Intermodal System (SIS) is the key to developing an efficient intermodal transportation system in Florida. Growing congestion not only threatens the quality of life within the state, but more importantly, it threatens the economic growth required to sustain and enhance this quality of life. The state must focus on the most essential statewide and regional transportation priorities in order to maintain a strong, growth-oriented economy. The SIS will provide the means to fund important transportation projects over the next 20 years. There must be a regional focus to transportation planning that includes a top-down regional Long Range Transportation Plan (LRTP) to be used for selecting regional transportation priorities from individual Metropolitan Planning Organization (MPO) processes. The SIS will provide a mechanism to fund regionally significant transportation projects.

Finding 4: Freight terminal access requires significant improvement in both capacity and maintenance of connector corridors.

While rail, air, and sea terminals add efficiencies to the movement of freight tonnage, trucks are needed for local and regional delivery as well as to dray cargo between terminals. As a result, public infrastructure needs to be improved to support efficient truck and rail movements and reduce congestion on local roadways used to access freight terminals.





The major benefit of intermodal rail is that it can divert significant numbers of trucks off the highways.

Finding 5: Intermodal transportation provides flexibility and efficiency.

The domestic economy relies on increases in productivity to grow. Productivity increases will be difficult to achieve if transportation and logistics costs escalate rather than continue to decline. Inadequate transportation capacity will reduce productivity and result in a cap on economic growth. The major benefit of intermodal rail is that it can divert significant numbers of trucks off the highways, which reduces congestion and increases the efficiency of freight operations. Because the freight transportation system is a network of inter-related and inter-dependent components, connections must reach beyond a single mode to foster an integrated and efficient freight transportation system. Freight rail is an important component of this system. As such, rail capacity will need to increase to keep pace with growth.

Finding 6: The financing of intermodal operations is a complicated process.

Investments in transportation infrastructure have a significant positive effect on productivity and economic growth. If we fail to make improvements to the landside transportation system, we could experience a significant shortfall in capacity leading to negative impacts on international trade. Expansion of intermodal rail can be made through innovative public/private partnerships that should become an integral part of transportation policy at all levels - national, state, and local. Transportation policy should be restructured and infrastructure spending should be redistributed to make effective use of all modes of freight transportation. Public spending on private rail infrastructure can be justified by the public benefits that would result from the investment including less highway congestion, cleaner air, and improved highway safety.

Finding 7: Recognition of freight needs in local comprehensive plans was not specifically translated into elements of the L RTPs.

The transportation elements of the local comprehensive plans generally address the importance of various key facilities to the economy and the future needs for both on-site and off-site infrastructure improvements. For example, the Hillsborough County Comprehensive Plan recognized the Port of Tampa, Tampa International Airport, and the various rail terminals as important contributors to the economy of the west central Florida Region and that roads are an important interface between land and water transportation.

Finding 8: Transportation planning by the public sector has traditionally been commuter oriented.

The public planning process focuses largely on projects that produce public benefits (commuter) and are wary of providing public support for projects that also yield private (rail, truck) benefits. Planners generally do not address key freight needs that extend beyond their local areas. From a freight perspective, public planners lack vision in deriving potential public benefits as an outcome from public financing of projects that, on the surface, seem to primarily benefit private enterprises. Truck use of the highway systems and local roads is increasing and will continue to increase as consumers demand more product and manufacturers need more parts and raw materials to fulfill consumer needs. Since transportation costs have a direct effect on consumer costs, it makes sense that improving the efficiency of the local transportation system for trucks and access to rail, airport, and port facilities would result in lower consumer prices - a public benefit. Another public benefit of improving the transportation system for freight movement efficiency is the attraction of industry and business companies that require good access. This public benefit equates to more jobs.

"A lack of understanding of business needs and public sector planning timelines hinders the effective integration of freight into many statewide and regional plans and transportation investment decisions. Developing and sustaining relationships, either formally or informally, with key private sector stakeholders are critical to effective freight planning."

*- Engaging the Private Sector
in Freight Planning,
Federal Highway Administration (FHWA)*



An ARTBA analysis of FHWA data found that between 1998 (the most recent year available) and 2020, the value of domestic air freight will increase 204 percent, rail freight will be up 132 percent, and water freight will rise 145 percent. The value of international freight is also expected to skyrocket by 310 percent.

- Pete Ruane, CEO, American Road and Transportation Builders Association (ARTBA) at the 8th Annual Texas Transportation Summit August 12, 2005

Finding 9: Goods movement (freight) committees have not been formed in the MPOs.

While committees within the MPOs represent the transportation interests of commuters, bicyclists, and pedestrians, none of the MPOs have a standing committee representing the interests of the freight industry (highway and rail). As a result, limited strategies for improving the movement of freight locally and regionally have been addressed in their plans.

Finding 10: Freight rail and freight planning in general are not components of the LRTPs.

For the most part, none of the LRTPs addressed the need for comprehensive goods movement planning or the importance of the transportation infrastructure to the local economies. As a result, goods movement was not used as a specific element when developing roadway project lists for funding.

TAMPA BAY REGIONAL GOODS MOVEMENT STUDY

CONNECTION AND RELEVANCE

The Tampa Bay Regional Freight Rail Study is part of the overall Tampa Bay Regional Goods Movement Study, which incorporates all modes of freight transportation. The rail component of the regional system is a key component that is used to transport vast quantities of raw minerals, chemicals, automobiles, agricultural products, bulk cargo, and intermodal containers and trailers.

Freight Activity Centers and Regional Freight Mobility Corridors

The Tampa Bay Regional Goods Movement System is divided into two components -Freight Activity Centers (FACs) and Regional Freight Mobility Corridors. The FACs are large industrial-designated areas that generally are responsible for generating significant amounts of freight traffic into and out of the region. The Regional Freight Mobility Corridor component is a primary network of major highways, rail lines, and connector roads on which the goods are transported into or out of the region or from activity center to activity center.

FACs are the “economic engines” of a region. They are major contributors to the region’s base employment and a key component of a regional economic development plan. They are also large generators of freight activity, including long-haul shipments to areas outside of the region. The purpose of defining FACs is to preserve them as areas of economic opportunity and growth in order to attract new businesses to the region.

The regional FACs include the following freight rail facilities: the collocated Uceta and Yeoman Yards, including intermodal facilities; the Total Distribution Services, Inc. (TDSI) Auto Yard; the BIDS Transflo Bulk Transfer Facility; the CSXT-owned Rockport Terminal; and the East Yard.

The Regional Freight Mobility Corridors are the transportation links of the system. The regional goods movement surface transportation infrastructure can be divided among three systems: roadway corridors, rail corridors, and waterways. The purpose of designating these corridors is to influence regional economic development through the implementation of policies and actions that will improve and preserve freight mobility in the corridors. Regional Freight Mobility Corridors are those that play a key role in moving goods beyond the local area. Major emphasis is placed on the uninterrupted movement of goods between the designated regional FACs and the SIS, which is a network of key transportation facilities including intermodal hubs, highways, and rail corridors and the roadways used to connect them.

The efficiency of the U.S. freight transportation system is increasingly influenced by congestion along access routes to ports, airports, and other freight hubs. Such congestion increases the cost, unreliability, and inefficiency of the movement of goods throughout the transportation system, revealing a need for flexible strategies and policy initiatives to address cargo access problems and requirements.

*- National Cooperative Highway Research
Program Report 497: Financing and
Improving Land Access to
U.S. Intermodal Cargo Hubs*

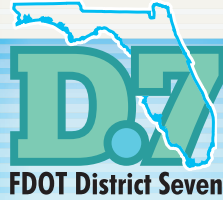
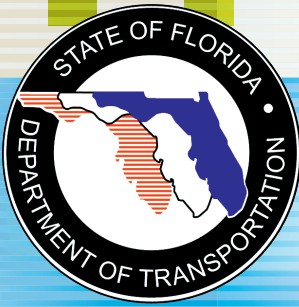


All of the highway and rail corridors designated in the Tampa Bay Regional Goods Movement Study are essential elements for transporting goods within the region and are generally complimentary in that they often depend on each other to efficiently move goods from the producer to the consumer. These corridors include the statewide SIS corridors, as well as other regional highways and rail corridors that serve the designated regional FACs by connecting them to the Florida Intrastate Highway System (FIHS) or the National Highway System (NHS). The Regional Freight Mobility Corridors, while not as comprehensive as the highway system corridors, are nonetheless an important and integral part of the regional goods movement system.

DOCUMENT ORGANIZATION

This study is divided into six sections (including this introduction) that cover the national and statewide freight rail networks, the regional freight transportation system and its components, the regional freight rail transportation network, issues and opportunities related to rail transportation within the region, and recommendations. Each section includes an introduction page that summarizes what is included in the section, what the reader needs to know, and what needs to be done. At the end of the study, there are two appendices that cover the literature reviewed and the inputs from interviews conducted with stakeholders.





FREIGHT MOBILITY

Freight Rail Transportation: National, Statewide, and Regional **2**

This section provides an overview of the national and statewide rail networks including a short description of the Class I railroads and a short history of the national and Florida rail industry. It also lists the long-term goals of the 2002 State Rail Plan. Finally this section provides an overview of the importance of rail freight to the Tampa Bay Region.

Section Highlights:

- The Staggers Act of 1980 deregulated the railroad industry, allowing it to become more competitive by eliminating non-profitable lines.
- The Railroad industry has shown large increases in efficiency while, at the same time, significantly reducing infrastructure.
- Freight railroads move over two billion tons annually, more than 40 percent of the nation's freight tonnage.

What You Need to Know:

- The national rail network consists of 7 Class I and 551 Class II (regional) and Class III (short-line) railroads over 141,000 miles of track. This infrastructure is 23 percent less than in 1980.
- In Florida there are two Class I railroads, one Class II and 10 Class III operating over 2,870 miles of track.
- CSX operates over 1,616 rail miles and accounts for 77 percent of the total tonnage transported by Florida's Class I and Class II railroads.
- Non-metallic minerals, coal, and chemicals account for 72 percent of freight transported over the rail network, most of which is heading to or from the Port of Tampa.



Key Rail Events

- 1860 **Federal Land Grant Program** - Enabled expansion of railroads to the west.
- 1877 **Interstate Commerce Act** - Established the Interstate Commerce Commission and barred monopolies and unfair business practices.
- 1903 **Elkins Act** -
- 1906 **Hepburn Act** -
- 1910 **Mann-Elkins Act** -
- 1917 **Railroads Nationalized during WW I**
- 1920 **Transportation Act of 1920** - Returned the railroads to private ownership.
- 1970 **Rail Passenger Act** - Established Amtrak to provide passenger service.
- 1976 **Railroad Revitalization Reform Act** - Created Conrail from several bankrupt northeastern railroads to provide freight service in the northeast.
- 1980 **Stagger's Act** - Partial deregulation of the railroads allowed railroads to compete with trucks, consolidate operations, shed low profit routes, and invest in the profitable routes.
- 1987 **Conrail privatized after showing a profit.** Purchased jointly by CSX and Norfolk Southern in 1999.

- Railroads, A Historical Perspective, AAR, June 2005.

NATIONAL NETWORK

HISTORY OF FREIGHT RAIL

The history of the railroad in the U.S. essentially began in the 1830s with the Baltimore & Ohio Railroad being the first to employ steam locomotives in 1831. By the end of the decade, there were over 3,000 miles of track in use, two thirds of which was located in the northeastern part of the country. Over the next two decades, the railroads expanded rapidly in support of the westward expansion of the country. By 1860, there were over 30,000 miles of track in use with many new railroads located in the midwest and the western territories. During the Civil War, both the North and South used the railroads to transport troops and supplies. Because the rail network was far more extensive in the northern states, the North had a distinct advantage in both the quantity and quality of support. Additionally, because most of the battles were fought in the southern states, the railroads in the south suffered severe damage; by the end of the war, the rail infrastructure was nearly totally destroyed.

After the war, the railroads embarked on a rapid western expansion. This expansion was aided through federal land grants that resulted in the transfer of over 130 million acres of land to the railroads in exchange for reduced rates for federal traffic. Through the land grant program, the railroads were able to construct over 19,000 miles of new track by 1871 including the completion of the first transcontinental railroad in 1869 when the Union Pacific and Central Pacific railroads met in Utah. Major expansions continued in the 1870s and 1880s culminating in a network of 164,000 miles of track in operation by 1890.

The economic depression of the early 1890s forced a decline in railroad construction. Additionally, nearly a quarter of all the railroads were in bankruptcy by mid-decade. This was the beginning of the period of mergers and consolidations and by 1906, seven railroads controlled nearly two thirds of the rail mileage in the country. After the depression and mergers, railroad mileage began to expand again, reaching a peak of over 254,000 miles of track in 1916.

Between 1887 and 1916, several key pieces of legislation impacted the operations of the railroads. The Interstate Commerce Act of 1877 barred monopolies and various unfair business practices. The Interstate Commerce Commission (ICC) was established to ensure fair freight rates. Prior to the ICC, the railroads were charging exorbitant rates to western farmers while providing rebates to other valued customers. The Elkins Act of 1903, the Hepburn Act of 1906, and the Mann-Elkins Act of 1910 eliminated free passes and rebates and provided the ICC with greater control of the railroads. In 1917, President Wilson placed the railroads under federal control for a period of over two years during World War I because the railroads were not prepared to support the sudden increase in demand created by the war effort. This was due in part to poor maintenance of equipment that resulted in a shortage of locomotives and rail cars. By the time the Transportation Act of 1920 returned the railroads to private control, they were faced with new competition that would profoundly impact their dominance of freight transportation - the development of the paved highway network from 1920 to 1950 and the emergence of the trucking industry.¹

The new competition and the Great Depression of the 1930s reduced the need for railroads even though there was a slight resurgence during World War II. Through technological gains in efficiency, the railroads were able to avoid federalization during the war by transporting 50 percent more freight than during the peak of World War I. Even with the increased traffic, profits continued to decline and market share continued to dwindle into the mid 1960s from 61 percent down to 44 percent. New technologies employed during the 1960s, 1970s, and 1980s helped to slow the decline in market share, but even so, the railroad share of freight transport was reduced to only 36 percent by 1990. During the post World War II years, the amount of rail mileage in operation by the major railroads declined 40 percent to 136,000 miles. Many railroads began terminating passenger service due to availability of passenger rail vehicles and increase in highways.

¹ Association of American Railroads, *Railroads: A Historical Perspective*, Policy and Economics Department, June 2005.



In 1970, the Rail Passenger Service Act established Amtrak to operate intercity rail passenger service. The railroads were eager to jettison this losing segment of their operations and contributed \$200 million in rolling stock and assistance to the government-subsidized Amtrak. In 1976, the Railroad Revitalization and Regulatory Reform Act created the government-subsidized Consolidated Rail Corporation known as Conrail. Conrail was established out of six bankrupt northeastern freight railroads. Unlike Amtrak, which is still heavily subsidized, Conrail began showing a profit by 1981. In 1987, Conrail was privatized and was eventually purchased jointly by CSXT and Norfolk Southern and incorporated in their systems in 1999.²

Finally, the Staggers Act of 1980 deregulated federal control over the railroads, to some degree. The Staggers Act was an outgrowth of the near collapse of the railroads in the northeast in the mid 1970s. By this time, nearly every major railroad had infrastructure that was degraded to the point that trains had to operate at reduced speeds over a large portion of the network, and the railroads could not earn enough revenue to invest the billions of dollars necessary to simply maintain the infrastructure. In order to ensure the survival of the rail system, the federal government had two choices: nationalize the system or reduce control and rely on the free market system. Nationalization would have resulted in the federal government operating the system at a cost of billions of dollars a year, which was unacceptable. However, to implement the free market approach would require relieving the railroads from the archaic regulations that placed a stranglehold on the industry.

The Staggers Act of 1980 was the vehicle used to accomplish the change from government over regulation to the free market.³ The Staggers Act:

² Association of American Railroads, *Railroads: A Historical Perspective*, Policy and Economics Department, June 2005.

³ Association of American Railroads, *Impact of the Stagger's Act of 1980*, February 2005.

- Reduced the ICC jurisdiction over the railroads in an effort to increase competition with the trucking industry through rate freedom;
- Eliminated many regulations that prevented the railroads from operating more efficiently, competing more effectively, and earning the revenues needed to maintain and upgrade infrastructure and generate a reasonable profit. After the Act was implemented, the return on investment by the railroads increased from 2.0 percent in the 1970s to 6.9 percent in 2003;
- Made it easier for the railroads to restructure. The large railroads were able to streamline their operations by shedding their unprofitable lines, many of which were spun-off into regional and short-line railroads in a process known as rationalization;
- Allowed the railroads to price routes based on competition and demand and permitted a more market-based approach to customer service;
- Resulted in lower shipping rates that have saved customers over \$10 billion per year; and
- Allowed the railroads to increase their market share after decades of decline.⁴

Throughout its history, the railroad industry has been at the forefront of new technology that has enabled it to increase capacity, productivity, and efficiency. Locomotive technology evolved from the steam engine of the 19th century, to the diesel and electric engines of the 20th century, to the powerful diesel electric engines of today. Throughout this evolution, the capacity of the trains increased significantly. For example, in 1870, the average train could haul 100 tons of freight with a steam engine. By 1915, the capacity was up to over 500 tons per train. Today's trains can efficiently haul 1,400-1,600 tons of freight using one third of the fuel that would be required to move the same amount of freight by truck.

⁴ Association of American Railroads, *Railroads: A Historical Perspective*, Policy and Economics Department, June 2005.



Railroad Network of The United States



Other technologies employed by the railroads over time included heavy rails, the design and construction of railroad bridges over major rivers, the introduction of block and interlocking signals, the introduction of the standardized time zones, new types of specialized freight equipment, welded rail, microwave communication, computers, mechanized track maintenance, as well as radio and satellite communication. Since the implementation of the Staggers Act of 1980, the railroads have invested billions of dollars in new technology that has enabled it to make significant increases in productivity that far exceed other industries. This increase in productivity has allowed the railroads to move more freight at lower costs and with less impact on the environment than ever before.

NATIONAL RAIL NETWORK TODAY

Today, the national rail network consists of seven Class I railroads and 551 regional (Class II) and short-line (Class III) railroads operating over 141,000 miles of track.⁵ Of this infrastructure, the Class I

railroads operate over approximately 100,000 miles, regional railroads over 15,000 miles, and short-line railroads over nearly 26,500 miles. Of note is that this entire infrastructure is approximately 23 percent less than in 1980.⁶ **Table 2-1** describes the various railroad classifications.

⁵ American Association of Railroads, *Freight Facts and Figures*, 2004.

⁶ Ibid.

**Tampa Bay Regional
Freight Rail Study**

**FREIGHT
MOBILITY**

**TABLE 2-1
RAILROAD CLASSIFICATION**

Class	Type	Number of Railroads	Average Trackage (Miles)	Average Number of Employees	Definition
I	Long-Haul, High Density Routes Within Many States	7	3,000-33,000+	2,600-46,000	Operating revenue of at least \$277.7 million (2003).
II	Regional	31	400-650	75-500+	Non-Class I with operating revenue >\$40 million up to the Class I threshold; at least 350 route miles.
III	Short-Line	309	<50	<50	Non-Class I or Class II with operating revenue <\$40 million; <350 route miles.
S & T	Switching and Terminal	205	N/A	<50	Switching and terminal services. Pickup and delivery within a specified area.

Source: Surface Transportation Board, Association of American Railroads, and American Association of State Highway and Transportation Officials.



CSX Bulk Phosphate Hopper cars
at Port Sutton, Tampa



Train marshaling in the Uceta classification yard

Today's railroads are capital intensive. Since 1980, the Class I railroads have spent more than \$320 billion on maintenance, infrastructure, and equipment - approximately 44 percent of their total revenue during this period. The regional and short-line railroads have spent additional billions of dollars. Together, the railroads also employ over 174,000 persons nationally with an average salary of \$84,000 (in 2003) - some of the highest paid and skilled labor in the nation. Today, "rail provides three types of freight service: bulk unit train, mixed carload, and intermodal."⁷

Bulk unit trains achieve efficiency by assembling long trains moving on high-density mainline corridors that are of uniform composition (single-commodity and rail car type) for customers that either produce or consume large quantities of the transported product. According to American Association of State Highway and Transportation Officials (AASHTO), bulk unit trains carried 1,027 million tons in 2000. This is the equivalent of 25.1 billion truck miles.⁸

Bulk unit trains have the following characteristics:

- Transport high volumes of a single-commodity, generally coal, grain, or bulk minerals; however, intermodal containers are sometimes assembled as unit trains as well;
- Flows are generally one way; and
- Flows are generally door-to-door (i.e., from the mine to a power plant or processing plant).

Mixed carload trains transport the diverse range of products that are consumed daily by people and businesses. These include such commodities as chemicals, food products, forest products, metals, auto parts, waste, and scrap.⁹

⁷ AASHTO, *Freight – Rail Bottom Line Report*, p.19 and Table 3, p.26.

⁸ Ibid. p.19.

⁹ Ibid. p.20.

According to AASHTO,¹⁰ mixed carload trains have the following characteristics:

- Trains are not typically uniform in composition. They contain a mixture of rail car types, commodities, volumes, and market areas;
- Train lengths vary by corridor and market;
- Carload customers are more diverse than bulk unit train customers; and
- Carload traffic is more dispersed than bulk unit train flows.

Intermodal trains transport containers and trailers containing finished consumer goods, refrigerated foods, parts and tools, raw material, post consumer scrap, and automobiles. Intermodal transportation relies on partnerships with other forms of transport such as trucking and maritime. Trains handle the long haul movements and trucks handle the movements from the terminal to the customer's door.¹¹ Characteristics of intermodal trains include:

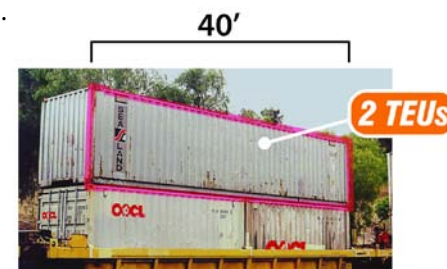
- Intermodal traffic is typically two-way; containers are loaded with imports transferred from ships and exports on return runs;
- Containers and truckload trailers allow shippers to save money by loading the containers themselves;
- Containers and trailers can be easily transferred from rail to highway or ship;
- Intermodal service accommodates higher-value, lower-weight commodities than those typically transported by bulk unit trains;

What is a TEU?

A TEU (twenty-foot equivalent unit) is the basic measure of container size.



A TEU is 20 feet long, 8 feet wide, and 8.5 feet tall.



A two TEU is 40 feet long, and is equivalent to two single containers.



A 53-foot-long trailer is equal to 2.6 TEUs.

¹⁰ AASHTO, *Freight – Rail Bottom Line Report*, p.20.

¹¹ *Ibid*, pg. 21.



- Intermodal service is faster, has higher train frequencies, and better scheduling reliability than other forms of rail transportation; and
- Intermodal service is competitive with door-to-door trucking over long distances.

Intermodal trains use the following methods to transport containers and trailers:

- Container-on-Flatcar (COFC) - Containers are placed on standard flatcars. Each flatcar can transport up to four Twenty-Foot Equivalent Units (TEUs).
- Trailer-on-Flatcar (TOFC) - Used to transport over-the-road trailers or containers on truck chassis on flatcars. A flatcar can generally accommodate one or two trailer units.
- Double-Stack - A method of transporting containers stacked two-high on special low profile flatcars. Each flatcar can transport between two and ten TEUs in different combinations of car and container sizes. This allows intermodal trains to double their capacity, increase productivity, and lower costs.¹²

In 2000, intermodal trains transported 199 million tons over 421 billion ton-miles -the equivalent of 16.2 billion truck miles.¹³

CLASS I RAILROADS

There are seven Class I railroads in the U.S., as shown in **Table 2-2**. All Class I railroads are privately owned. Together, the Class I railroads originate 84 percent of national rail freight traffic, which accounted for approximately 91 percent of rail freight revenue in 2002.¹⁴ The Class I railroads primarily concentrate on long haul routes that enable them to operate more efficiently and provide greater profitability.

Class I Railroads Operating in the U.S.

- Burlington Northern Santa Fe
- Canadian National (controls the merged Grand Trunk Western and Illinois Central)
- Canadian Pacific (controls the Soo Line)
- CSXT
- Kansas City Southern Railway
- Norfolk Southern
- Union Pacific

- AASHTO, *Freight – Rail Bottom Line Report*

¹² AASHTO, *Freight – Rail Bottom Line Report*, p. 22.

¹³ Ibid, p. 22.

¹⁴ Ibid, p. 33

**TABLE 2-2
CLASS I RAILROADS OPERATING IN THE U.S.**

Railroad	Miles Operated	Area of Operation	Heritage	Quick Facts
Burlington Northern Santa Fe	33,000	28 states and two Canadian provinces primarily west of the Mississippi River	- Chicago, Burlington, and Quincy - Northern Pacific - Spokane, Portland, and Seattle - Frisco - Great Northern - Atchison, Topeka, and Santa Fe	- Developed the first land bridge container train linking Asia to Europe via the U.S. - Responsible for several innovations in locomotive design.
Canadian National	19,300	Coast to coast in Canada plus the Midwest U.S. to the Gulf of Mexico	- Canadian National - Illinois Central Railroad - Western Canadian Railroad - British Columbia Railroad	- Serves ports on the Atlantic and Pacific Oceans and the Gulf of Mexico. - Links all three North American Free Trade Agreement (NAFTA) nations.
Canadian Pacific	14,000	Canada and the U.S. with links to Mexico via partnerships	- CP Formed in 1881 - Soo Line - Delaware and Hudson Valley Railroad - Dominion Atlantic Railway	Serves Buffalo, Chicago, Detroit, Duluth/Superior, Louisville, Milwaukee, Minneapolis, New York, and Washington D.C. in the U.S.
CSX Transportation (CSXT)	23,000 (1,616 in Florida)	23 states generally east of the Mississippi River and two Canadian provinces	- Chessie System Railway - Seaboard Coast Line Railroad - Conrail - Central Railroad of New Jersey - Penn Central Railroad - Erie Lackawanna Railroad - Lehigh and Hudson Valley Railroads	- Largest eastern railroad. - One of two Class I railroads operating in Florida. - Purchased Conrail jointly with Norfolk Southern Railroad in 1997. - Access to 70 ports. - Connects to Florida East Coast Railroad in Jacksonville, which serves the east coast of Florida from Jacksonville to Miami.



TABLE 2-2 (CONTINUED)
CLASS I RAILROADS OPERATING IN THE U.S.

Railroad	Miles Operated	Area of Operation	Heritage	Quick Facts
Kansas City Southern	3,100	10 states in the central and southern U.S.	- Founded in 1887 - Texas Mexican Railway - Grupo Transportacion Ferroviaria Mexicana Railroad	- Smallest of the Class I railroads. - Operates the shortest route between Kansas City and the Gulf of Mexico. - Operates on the "Dallas to Meridian Speedway," - Operates the Panama Canal Railway company in joint venture with Panama Holdings, LLC.
Norfolk Southern	21,300 (96 miles in Florida)	14 eastern U.S. states and one Canadian province	A product of more than 200 railroad mergers since 1838	- One of two Class I railroads operating in Florida. - Purchased Conrail jointly with CSXT in 1997. - Serves over 1,000 facilities from bulk transfer to just-in-time delivery centers. - Handled 4.6 million shipments in 2004. - Connects to the Florida East Coast Railroad in Jacksonville, which serves the east coast from Jacksonville to Miami.
Union Pacific	32,800	23 states west of the Mississippi River	- UP Formed in 1848 in Chicago - Merged with Southern Pacific in 1996 - Involved in numerous consolidations and mergers throughout its history - Built the eastern leg of the transcontinental railroad	- Second largest railroad in the U.S. - Links every major west coast and Gulf Coast port. - Largest hauler of chemicals in the U.S. - Only railroad serving six gateways to Mexico. - Major hauler of coal. - Operates major gateways in Chicago, St. Louis, Memphis, and New Orleans.

Source: Individual company websites.

REGIONAL AND SHORT-LINE RAILROADS

The regional and short-line railroads are 94.5 percent privately owned and 5.5 percent publicly owned. Although they originate 16 percent of all rail freight, they only generate approximately 9 percent of rail revenue. These systems were formed from a combination of historic holdings and former sections of the Class I railroad systems. The regional and short-line systems operate under a different business model than the Class I railroads and can operate profitably in "areas and under conditions that the Class I railroads cannot."¹⁵ According to AASHTO's *Freight-Rail Bottom Line Report*, these systems have two key functions within the national freight-rail network. First, they allow the Class I railroads to concentrate on higher density and long haul corridors by providing first and last miles collection and distribution of rail cars. Second, they ensure rail services for shippers along their lines that rely on rail to move heavy or bulky commodities cost-effectively. Without the regional and short line systems, these customers would have to close down or relocate their operations.

STATEWIDE NETWORK

FLORIDA FREIGHT RAIL HISTORY

The development of railroads in Florida was primarily due to three men: William D. Chipley, Henry B. Plant, and Henry F. Flagler. These men not only built mainline railroads, they created new towns and villages with the development of hotels, roads, and branch rail lines.

"Short Lines operate in 48 states and the District of Columbia. They play an important role in keeping rural areas connected to the state and national transportation network, contribute over \$75 million in taxes to state and local economies, and are often the only cost-effective shipping option for their customers..."

In Florida, short line and regional railroads employed 951 persons and paid over \$6.2 million in taxes. They also handled 412,000 railroad cars, which resulted in an estimated 917,000 reduction in trucks on the state's highways saving approximately \$69 million in pavement damage."

*- American Short Line and
Regional Railroad Association,
Short Line and Regional Railroad
Facts and Figures, 2004 Edition*

¹⁵ AASHTO, *Freight-Rail Bottom Line Report*, p. 33.



William Chipley, son of a Georgia Baptist preacher, was the main force in the development of rail lines in the Panhandle Region of Florida. Chipley's ability to develop a shipping system that saved farmers costs in getting their product helped him obtain a charter in 1874 to build the Pensacola and Atlanta Railroad across west Florida. With the development of the railroad service, the Panhandle Region became less dependent on river transportation. The new rail service provided a connection to northbound railroads in eastern Florida. The advent of the railroad spurred large-scale development of farming and lumber interests in the Panhandle Region of Florida.

Henry Plant, a businessman from Connecticut, began the expansion of the west coast of Florida with the development of his railroad interests. His acquisition in 1883 of the South Florida Railroad turned Tampa into a deep-water port for ships from Cuba and South America. The initial charter for the South Florida Railroad was from the St. Johns River port city of Sanford to Orlando. Immediately upon acquisition of the railroad, Plant pushed the rail line to Tampa. Full service from Sanford to Tampa began in January 1884. The rail service significantly reduced the 20 days it took by boat for the region's citrus and vegetable growers to get their produce to northern markets. Plant's railroad attracted the cigar industry and northern manufactures to Tampa as well as investors who built electric companies and streetcar systems. The Tampa Bay Hotel, now the campus of the University of Tampa, was built by Plant to attract northern tourists to Tampa Bay via his railroad. Eventually, the rail line from Sanford to Tampa became what was known as the Plant System and comprises what is now known as the CSXT "A" Line in Florida.

Henry Flagler developed the largest rail system in the state stretching from Jacksonville to Key West. The beginning of what is called the Florida East Coast Railroad today began with the acquisition of the Jacksonville to St. Augustine to Halifax Railroad in 1885. Flagler provided a 30-hour connection to New York City and turned St. Augustine into a winter destination. By 1895, Flagler, through acquisition and construction, had built several large resort hotels and pushed his railroad south to West Palm Beach. The big freeze in the winter of 1894-1895 convinced Flagler to build his railroad further south to Miami. The first train on the extension arrived in Miami in April 1896. By 1905, Flagler decided to extend his railroad even further south to Key West. The extension, which was known as the Florida Overseas Railroad, was completed in 1912. It was considered an engineering marvel at the time. The 128 miles from Miami to Key West was built with 91 miles of roadbed and 38 bridges. The Overseas Railroad stayed in operation until the Hurricane of 1935 destroyed it. It was never rebuilt. The Florida East Coast Railroad continues to operate today between Miami and Jacksonville.

FLORIDA FREIGHT RAIL SYSTEM TODAY

The Florida Rail System includes 12 line-haul railroads and four terminal or switching companies that collectively comprise approximately 2,796 miles of track. The 16 line-haul carriers include two Class I carriers, one Class II carrier, and 13 Class III carriers, as shown in **Table 2-3**. CSXT accounts for 54 percent of the route miles in Florida with 1,508 miles within the state. CSXT also accounts for 77 percent of the total tonnage transported by Florida's Class I and Class II railroads.¹⁶

Major commodities either originating or terminating in Florida include non-metallic minerals, coal, and chemicals/allied products. Collectively, these three commodities account for 72 percent of the freight transported over Florida's freight rail network. FDOT Districts One and Six originate most shipments and District Seven terminates the most.

¹⁶ 2006 Florida Freight and Passenger Rail Plan.



**TABLE 2-3
FLORIDA FREIGHT RAILROADS**

Railroad	Miles of Railroad Operated in Florida		Percent of Florida Rail System Owned
	Owned	Trackage Rights	
Alabama and Gulf Coast	45		1.6
Apalachicola Northern Railway	96		3.4
Bay Line	63		2.3
CSXT	1,508	130	53.9
Florida Central	66	10	2.4
<i>Florida East Coast</i>	<i>371</i>		<i>13.3</i>
First Coast Railroad	32		1.1
Florida Midland	27		1.0
Florida Northern	25		3.7
Florida West Coast	44		0.5
Georgia and Florida Railnet	50		1.8
Norfolk Southern Railway	96	53	3.4
Seminole Gulf Railway	115		4.1
South Central Florida Express	120	51	4.3
South Florida Rail Corridor	81		2.8
Terminal Companies	10		0.4
TOTALS	2,796	244	100.0

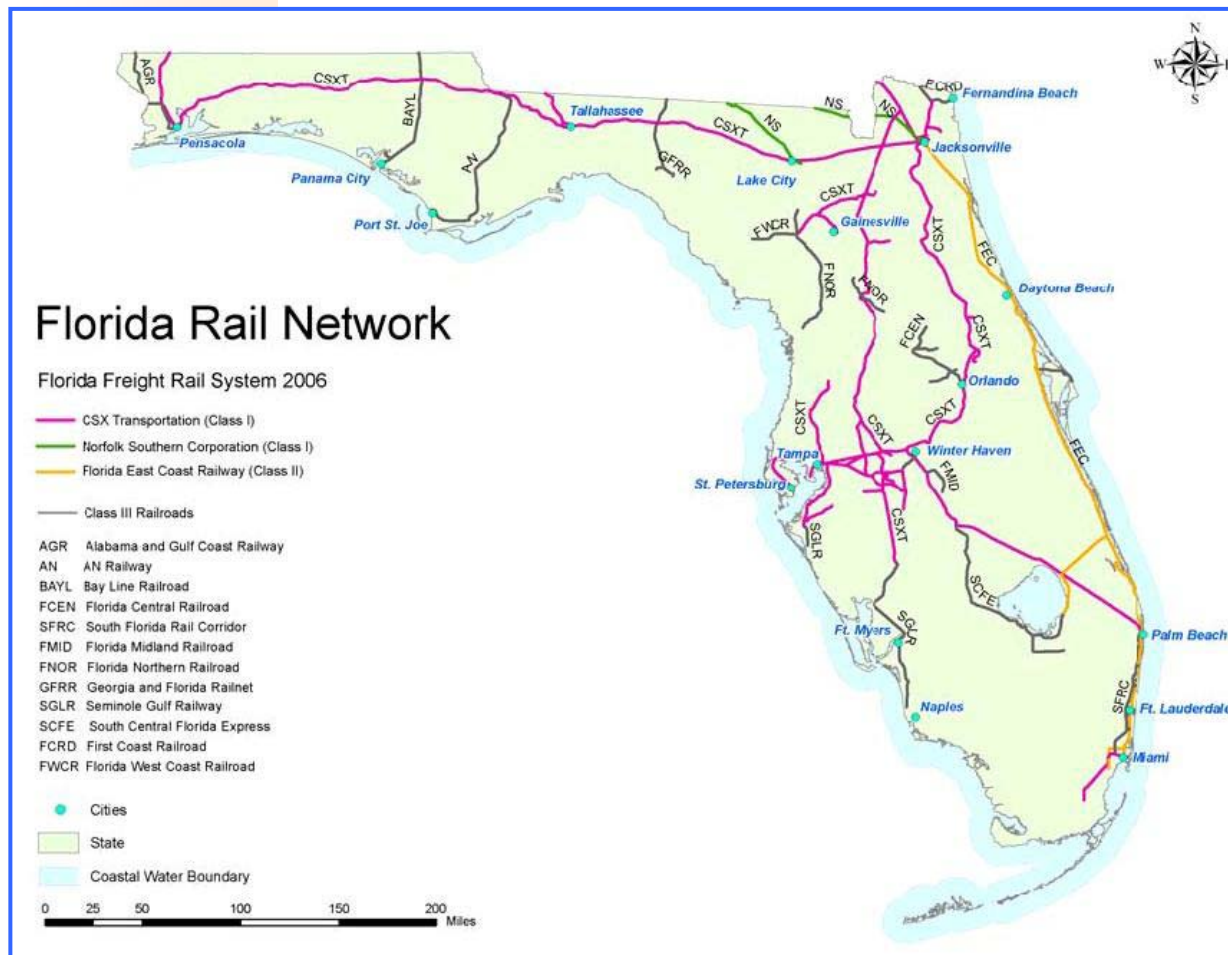
Source: 2006 Florida Freight and Passenger Rail Plan.
Bold = Class I railroads. ***Bold/Italics*** = Regional railroad.

Figure 2-1 shows the Florida Rail System in 2004. In 2005, CSXT gave Florida Northern Railroad trackage rights on the line extending from Newberry to the Progress Energy Power Plant at Red Level north of Crystal River.

Tampa Bay Regional Freight Rail Study

FREIGHT MOBILITY

FIGURE 2-1
FLORIDA RAIL SYSTEM MAP



Source: 2006 Florida Rail Systems Plan.



Alabama & Gulf Coast Railway operates over 45 miles of track within Florida, terminating in Pensacola. It has interchange connections with CSXT at Cantonment, Florida. The short-line railroad is owned by Rail America, which operates 43 similar railroads throughout North America and is headquartered in Boca Raton, Florida.

Apalachicola Northern Railway is owned by Rail Management Corporation and operates between Chattahoochee, Florida and Port St. Joe, Florida, a distance of 96 miles within Florida. The railroad serves three chemical companies, one scrap metal shipper, three forest products companies, and one barge/rail transload facility.

Bay Line Railway is also owned by Rail Management Corporation and operates between Abbeville, Alabama and Panama City, Florida, a distance of 63 miles in Florida. The railroad transports approximately 28,000 carloads annually and has 21 customers in Florida mostly located in the Panama City area. Shipments are principally building products, steel, cement, and some grain.

CSX Transportation (CSXT) is the largest railroad operating in the eastern U.S. and one of two Class I railroads operating in Florida. CSXT is by far the largest railroad operating in the state with 1,616 miles of owned track and another 130 miles of trackage rights, which is approximately 8 percent of its entire 23,000-mile system, which is based in Jacksonville. CSX Corporation operates intermodal (CSXI), bulk carload, carload, auto distribution, and warehousing and has its own truck fleet. Within Florida, major intermodal facilities are located at Jacksonville, Miami, Orlando, and Tampa. In addition to CSXT and CSXI, CSX operates other business units in Florida including TDSI, which provides value-added services and distribution to the automobile industry, and TRANSFLO, which provides multi-modal transloading and distribution services. Through its business units, CSXT transports every conceivable commodity and product including automobiles, bulk minerals, finished and scrap metals, chemicals, agricultural products, building materials, steel, wood products, and finished consumer goods. CSXT also provides connectivity to nearly all of the short-line operators located within the state providing them access to the national rail network.

Tampa Bay Regional Freight Rail Study

FREIGHT MOBILITY

Florida Central Railroad was formed in 1986 and operates over 65 miles of track formerly owned by CSXT. It serves 65 customers in ten central Florida communities including Orlando. It is one of three railroads in Florida owned by the Pinsley Railroad Company, which also owns the Florida Midland Railroad and the Florida Northern Railroad. It connects to CSXT at Taft Yard.

Florida East Coast (FEC) Railroad was founded by Henry Flagler in 1885 and was completed in 1896. The railroad operates over 386 miles in Florida from Jacksonville to Miami. The FEC operates both carload and intermodal facilities and connects to both CSXT and the Norfolk Southern railroads at Jacksonville. Its primary carload commodities are aggregate and cement. Over 100,000 carloads of aggregate per year are transported between Miami and Jacksonville. Additional aggregate distribution centers served by FEC are located at Fort Pierce, Cocoa, Daytona, and St. Augustine. FEC also has transload facilities located in Ft. Pierce, Cocoa, Pompano, Ft. Lauderdale, and Miami. Tropicana Products, Inc. has made Ft. Pierce a major distribution center for shipments of citrus juice concentrate and pulp to the northeast. Other commodities transported include lumber, steel, roofing products, bricks, plywood, wallboard, gypsum, animal feed, heavy equipment, farm equipment, automobiles, and oversized vehicles. On the intermodal side, FEC has ramp terminals in Jacksonville (141,000 lifts in 2002), Ft. Lauderdale (63,000 lifts), Ft. Pierce (N/A), and Miami (243,000 lifts). FEC also serves the Ports of Jacksonville, Miami, and Palm Beach, Florida; Charleston, North Carolina; and Savannah and Brunswick, Georgia.

Florida Midland Railroad is owned by Pinsley Railroad Company, which also owns the Florida Central Railroad and the Florida Northern Railroad. It operates over 40 miles of former CSXT branch line from Leesburg to Frostproof and serves 25 customers in five communities. It connects to CSXT at Wildwood, Winter Haven, and West Lake Wales.

Major Freight Rail Destination States



Major Freight Rail Origin States





Florida Northern Railroad is owned by Pinsley Railroad Company, which also owns the Florida Central Railroad and the Florida Midland Railroad. It was formed in 1987 and operates over 27 miles of track in north central Florida from Ocala to Candler and serves 20 customers in six cities. The Florida Northern Railroad also operates on CSX-owned track between Gainesville and Red Level. This line is used to supply coal to the Florida Power plant located at Red Level in Crystal River.

Georgia & Florida Railnet is the operating company of the Live Oak, Perry, and Georgia Railroad that runs for 82 miles in Florida from Adel, Georgia to Foley, Florida located six miles south of Perry. The railroad transports over 31,000 carloads annually of mostly agricultural products but also ships chemicals, rubber, scrap metal, steel, wood and wood pulp, and paper. It connects to NS in Georgia.

Norfolk Southern Railway is one of two Class I national network railroads operating in Florida but only operates over 96 miles of owned track, and 53 miles of trackage rights in northeast Florida over CSX lines to Palatka and over 386 miles through its connection to the Florida East Coast Railroad system from Jacksonville to Miami. This is only a minute portion of its extensive 21,300-mile network in the eastern U.S. Norfolk Southern also owns or operates distribution facilities under various subsidiaries including Thoroughbred Bulk Terminals, Thoroughbred Lumber Reload, Steel Net, Transload Services LLC., and various food grade storage and distribution facilities primarily located in Jacksonville. These facilities are located in Cape Canaveral, Cocoa, Ft. Pierce, Ft. Lauderdale, Lake City, Medley, Pompano Beach, Miami, and Jacksonville where it has extensive distribution facilities. Among these company-owned facilities is Transload Services LLC, located on Adamo Drive in Tampa.

Seminole Gulf Railway is the only freight railroad in southwest Florida and operates over 115 miles of track on two lines, the Sarasota Line and the Ft. Myers Line. The Sarasota Line runs from Oneco, south of Bradenton in Manatee County to Venice in Sarasota County. It also serves Nokomis, Sarasota, and Tallavast and has two spurs serving Fruitville and Matoka. The Ft. Myers Line runs from Arcadia in DeSoto County to Vanderbilt Beach in Collier County. This line also serves Punta Gorda, Ft. Myers, and Bonita Springs. The Sarasota Line connects to CSXT at Oneco and the Ft. Meyers Line connects to CSXT at Arcadia.

South Central Florida Express is owned and operated by the US Sugar Corporation, which also owns an internal dedicated sugar line. The South Central Florida Express was purchased by US Sugar Corporation in 1994 and operates over 171 miles on two lines that connect the agricultural areas surrounding Lake Okeechobee to the national rail network through CSXT at Sebring and the Florida East Coast Railroad at Ft. Pierce. It transports approximately 73,000 carloads annually of sugar cane, raw and refined sugar, lumber, citrus products, fertilizer, farm equipment, and paper products. US Sugar owns over 120 miles of track used to transport sugar cane to the refineries. Over 1,300 railcars are transported daily representing a truck equivalent of 2,600 trips.

LONG-TERM GOALS FOR FLORIDA'S RAIL ACTIVITIES

The *2006 Florida Freight and Passenger Rail Plan*, identified five goals and 12 broad-based recommendations to maximize the public investment in and the promotion of the rail freight industry. These recommendations are organized around to the five goals outlined in the *2025 Transportation Plan*.

GOAL #1: PROVIDE A SAFER MORE SECURE TRANSPORTATION SYSTEM FOR RESIDENTS, BUSINESSES, AND VISITORS.

- Continue to identify and support safety improvements to railroad-highway grade crossings, conduct public education campaigns, and actively monitor progress toward the reduction of grade-crossing accidents.
- Work with the rail industry to provide a more safe and secure passenger and freight rail system. This includes improved security at rail facilities, supporting any new Federal security measures, and a willingness to help expedite adoption of new technologies when they are in the best public interest.





GOAL #2: ENRICH THE QUALITY OF LIFE AND RESPONSIBLE ENVIRONMENTAL STEWARDSHIP

- Continue to support investment in freight and passenger rail projects that enrich quality of life and support responsible environmental stewardship. This includes projects that: reduce transportation delays; improve transportation safety; improve air quality; reduce noise; and, reduce other negative transportation impacts to communities.

GOAL #3: SUPPORT ADEQUATE AND COST-EFFICIENT MAINTENANCE AND PRESERVATION OF FLORIDA'S TRANSPORTATION ASSETS

- Continue to support maintenance and modernization of the rail system to enhance local freight and passenger rail service, when public benefits to the state, residents, and shippers can be demonstrated. This includes assisting short line railroads in meeting current 286,000 pound rail car weight standards. It also includes supporting new technologies, especially when those technologies support 2025 FTP goals.

GOAL #4: STRENGTHEN THE ECONOMY THROUGH ENHANCED MOBILITY FOR PEOPLE AND FREIGHT

- Continue to support expansion of a multimodal system to enhance interstate and intrastate movement of freight
- Continue to build upon the key elements of the SIS
- Strengthen coordination with Florida Economic Development agencies to ensure that rail investments are supporting and spurring the desired economic growth.
- Consider how investments in freight rail support Florida's Future Corridors program.

GOAL #5 PROVIDE SUSTAINABLE TRANSPORTATION INVESTMENTS FOR FLORIDA'S FUTURE

- Remain active in regional and national rail issues, to insure that Florida investments achieve maximum value, and to insure that efficient access to and from Florida is maintained.
- Maximize use of Federal funding available through SAFETEA-LU and other programs.
- Convene and support a statewide rail advisory group comprised of railroads, shippers, and other parties with a stake in Florida's rail system.
- Continue to engage the Florida railroads in public-private partnerships, with a goal of sustaining a freight and passenger rail system that provides benefits to both.

IMPORTANCE OF RAIL TO THE TAMPA BAY REGION

Freight rail transportation is a vital asset in the Tampa Bay Region. Often going unnoticed, the freight rail transportation system provides a critical link to business markets across Florida, the nation, and ultimately the world. Every day, the region's rail connection supplies a critical service of transporting goods in a low-cost, efficient manner. As a key component of the region's mobility network, freight rail transportation:

- Offers opportunities to manage growing urban highway congestion,
- Is a sound economic resource that provides employment and business development opportunities, and
- Constantly adapts to changing market conditions by using technology and innovative management tools.



Shifting 25 percent of projected truck traffic to rail by 2025 would result in the following savings in the Tampa- St. Petersburg-Clearwater Metropolitan Statistical Area (MSA):

- *Annual Delay Hour Saving per Commuter: 41.8*
- *Annual Gallons of Fuel Saved: 291 million*
- *Annual Congestion Cost Saving per Commuter: \$658*
- *Annual Air Pollution Tons Saved: 14,600*

Note: All financial data in 2005 adjusted dollars.

- Wendell Cox, How America's Freight Railroads Can Relieve Congestion, Belleville, IL. www.policy@publicpurpose.com

The Tampa Bay Region relies on freight rail transportation to transport goods consumers and businesses use every day. Practically everything that consumers use on a daily basis is, or can be, transported by a freight train. The food we consume, the cars we drive, and the raw materials that are used to build our homes and workplaces, are all items that could be transported by a train at some point in their journey.

The railroad has played an important role throughout the history of Tampa Bay and remains an import part of today's transportation infrastructure and economy in the bay area. Today, the CSX Corporation through its subsidiaries, CSXT, CSXI, Transflo, and TDSI, owns an extensive rail network in the Tampa Bay Region, particularly in Hillsborough County. CSX operates over 500 miles of track including sidings with track in every county in the region except Citrus County, where its tracks were sold to Florida Northern Railroad, a short-line railroad. CSXT transported over 500,000 carloads of phosphate between the mines in eastern Hillsborough and Polk Counties to the Port of Tampa and several processing facilities located within the port.

As a result, over 1,500,000 loaded heavy truck trips were eliminated from local roads (3,000,000 when counting loaded and empty trips). Nearly all of these trips would be on some of the most highly congested roads within Hillsborough County. Tampa is also a distribution center for automobiles throughout south central Florida. At the Tampa TDSI auto yards, over 223,000 automobiles were unloaded from 19,800 rail cars for distribution to dealerships throughout the region. The CSX Intermodal facility in Tampa processed over 85,000 containers and trailers, many of which came from the port for distribution inland. An additional 1,300 rail cars of chemicals was offloaded at the Transflo facility in Tampa.¹⁷ For every loaded rail car that moves through the area, three loaded truck trips are eliminated. Additionally, CSX operates a locomotive and railcar repair facility at the Uceta/Yeoman rail yard complex.

¹⁷ Information provided by CSXT.

Tampa Bay Regional Freight Rail Study

FREIGHT MOBILITY

To accomplish its mission, CSX subsidiaries employ 570 workers throughout the region with the highest concentration in Hillsborough County. Because of the skills required, railroad workers are some of the highest paid employees in the region with salaries well above the local, regional, and statewide averages.

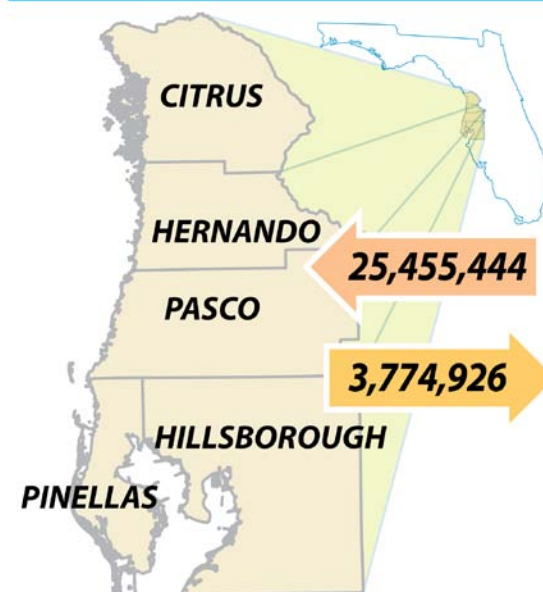
More importantly, however, is that the railroad industry supports and helps to attract other companies that depend on reliable rail transportation service. This, in turn, contributes to the employment of more workers in manufacturing, distribution, the building industry, raw material processing and handling, non-rail transportation, and value-added industries. These businesses consequently attract other supporting businesses and retailers.

The railroad is vitally important to the Port of Tampa. As the Port of Tampa expands its container business, significant additional truck volume will be added to already congested local roads. Much of this traffic will result from draying containers from the port to the CSX Intermodal facility located approximately three miles from the port gates. If these containers could be transferred directly from ships to rail, much of the additional congestion could be avoided. Congestion is also a factor in Pinellas County; however, the rail line that extends to St. Petersburg is under utilized and is a potential candidate for abandonment.

Today, CSX is developing stronger ties to communities that are affected by freight operations. Creative solutions that balance community and industry needs are being explored among stakeholders to provide a safer and more efficient operating environment.

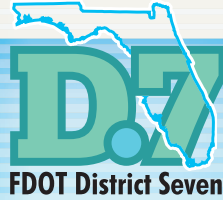
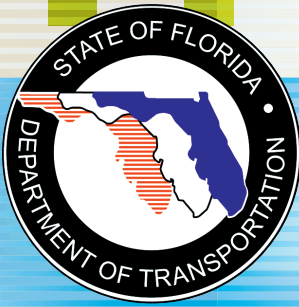
A detailed discussion of the regional network and its components is provided in Section 4.0, while Section 5.0 discusses various issues and opportunities related to rail freight in the Tampa Bay Region.

Rail Tonnage Flows for FDOT District 7



Source: 2004 Freight Rail Component of the Florida Rail Plan





FREIGHT MOBILITY

Regional Freight Activity Centers and Rail Mobility Corridors **3**

This section describes the regional freight mobility system including an overview of each of the designated Freight Activity Centers and the Regional Freight Mobility Corridors including both the rail and highway networks.

Section Highlights:

- Freight Activity Centers are the "economic engines" of the local economy.
- There are 30 existing, emerging, and future potential Freight Activity Centers located within the region.
- Most of the Freight Activity Centers have direct rail access available, even if not utilized.
- Freight Activity Centers are areas that generate large amounts of inbound or outbound freight traffic and have ties outside the region.
- The rail network is privately owned by CSX Transportation.
- Regional Freight Mobility Corridors are those that play a key role in moving goods beyond the local area.
- Major emphasis is placed on the uninterrupted movement of goods.
- Four of the rail lines are part of the SIS: the Lakeland Subdivision, the Yeoman Subdivision, the Valrico Subdivision, and the Palmetto Subdivision.



The Tampa Bay Regional Goods Movement System is divided into two components: Regional Freight Mobility Corridors and Freight Activity Centers (FACs). The corridor component is primarily a network of major highways, rail lines, and connector roads on which goods are transported into or out of the region or from activity center to activity center. The FACs are large industrial-designated areas that are responsible for generating large amounts of freight traffic into and out of the region.

REGIONAL TRANSPORTATION INFRASTRUCTURE

As stated in Section 1.0, the Regional Freight Mobility Corridors are the transportation links of the system. The regional goods movement surface transportation infrastructure can be divided among three systems: roadway corridors, rail corridors, and waterways. Regional Freight Mobility Corridors are those that play a key role in moving goods beyond the local area. Major emphasis is placed on the uninterrupted movement of goods between the designated regional FACs and the Statewide Intermodal System (SIS) corridors described below.

The SIS corridors include highways and rail lines. Besides the SIS and regional highway corridors, there are four freight rail corridors included as part of the SIS within the Tampa Bay Region including the Lakeland Subdivision, the Yeoman Subdivision, the Valrico Subdivision, and the Palmetto Subdivision.

In addition to those facilities designated on the SIS, there are "emerging" SIS facilities as well. These emerging facilities are those that do not meet all of the requirements for designation on the SIS but have met lower thresholds. They are emerging transportation elements that, with further development and/or growth in market share, may ultimately be designated as part of the SIS.

Rail facilities that meet the requirements for emerging SIS designation include the CSX Intermodal terminal and the CSX rail lines from the Uceta Yard to Busch Boulevard, from Welcome to Plant City (Hillsborough County), and from Crystal River to Newberry (Alachua, Levy, Marion, and Citrus Counties).

Also included as part of the SIS are key connectors that are defined as the first/last leg of a freight trip that provide access between SIS hubs and the nearest SIS corridor. Connectors can be highways, rail lines, or waterways. The SIS rail corridors and the FACs they serve are identified in **Table 3-1** and are depicted on **Figure 3-1**.

All of the corridors designated as part of the Tampa Bay Regional Goods Movement Study are essential for transporting goods within the region and are generally complimentary in that they often depend on each other to efficiently move goods from the producer to the consumer. Regional Freight Mobility Corridors were designated in the Tampa Bay Regional Goods Movement Study to provide a transportation network for the efficient movement of goods throughout the region while minimizing potential impacts of transporting freight on community assets such as neighborhoods and ecosystems. These corridors include the SIS corridors as well as other regional highways and rail corridors that serve the designated regional FACs by connecting them to the FIHS or the NHS.



**TABLE 3-1
REGIONAL RAIL FREIGHT MOBILITY CORRIDORS**

Rail Corridor	From	To	Freight Activity Centers Served	County
Lakeland Subdivision	Polk County Line (South of US 92, From Lakeland)	Uceta Yard, Tampa	- East Plant City Industrial - Plant City Airport Industrial - South I-75/Sabal Park Industrial	Hillsborough
Yeoman Subdivision	Vitas Junction (North of Zephyrhills)	Yeoman Yard, Tampa	- Zephyrhills Airport Industrial - Plant City Airport Industrial - Mining Activity North of Plant City	Hillsborough Pasco
Brooksville Subdivision and Hillsboro Spur	Wildwood Subdivision Junction (Northwest of Brooksville)	Clearwater Subdivision Junction (Sulphur Springs, Tampa)	- Hernando Airport - Southeast Tampa Industrial - Mining Activity North of Brooksville	Hernando Hillsborough Pasco
Valrico Subdivision	Yeoman Subdivision Junction (Valrico)	Polk County Line (Continues to Polk County Mines)	Mines in Polk County	Hillsborough
Clearwater Subdivision and Drew Spur	"A" Line Tampa Terminal (Ybor City)	St. Petersburg (End of Track at 7th Avenue South and 31st Street South) via Oldsmar and Clearwater	- Southeast Tampa Industrial - Anderson Road Industrial - Oldsmar Industrial - West Pinellas Industrial - South Central CSX Corridor - Dome Industrial	Hillsborough Pinellas
Palmetto Subdivision	East Tampa Yard (North of Alafia River)	Manatee County Line (East of US 41, Continues to Bradenton)	Big Bend/Port Redwing	Hillsborough
Tampa Terminal Subdivision	Yeoman Yard	East Tampa Yard	Rockport/Port Sutton/Pendola Point	Hillsborough
	Mango (Brandon)	Uceta Yard	South I-75/Sabal Park Industrial	Hillsborough
	Uceta Yard	Port Tampa Yard	Port Tampa	Hillsborough
	East Main	Hooker's Point Yard	Hooker's Point	Hillsborough
	"A" Main	End of Track (Sligh Avenue east of 56th Street)	East Central Industrial	Hillsborough

Boldface indicates the corridor is part of the Statewide SIS.



LEGEND

- Road Network
- Rail
- Designated Truck Route
- Proposed Designated Truck Route
- Regional Freight Mobility Corridor
- Proposed Corridor
- Airport
- Seaport
- Major Rail Intermodal Facility
- Mining Operation

SIS Corridors

- SIS Corridor Only
- SIS Corridor & Regional Freight Mobility Corridor
- Emerging SIS & Regional Freight Mobility Corridor
- SIS Connector & Regional Freight Mobility Corridor

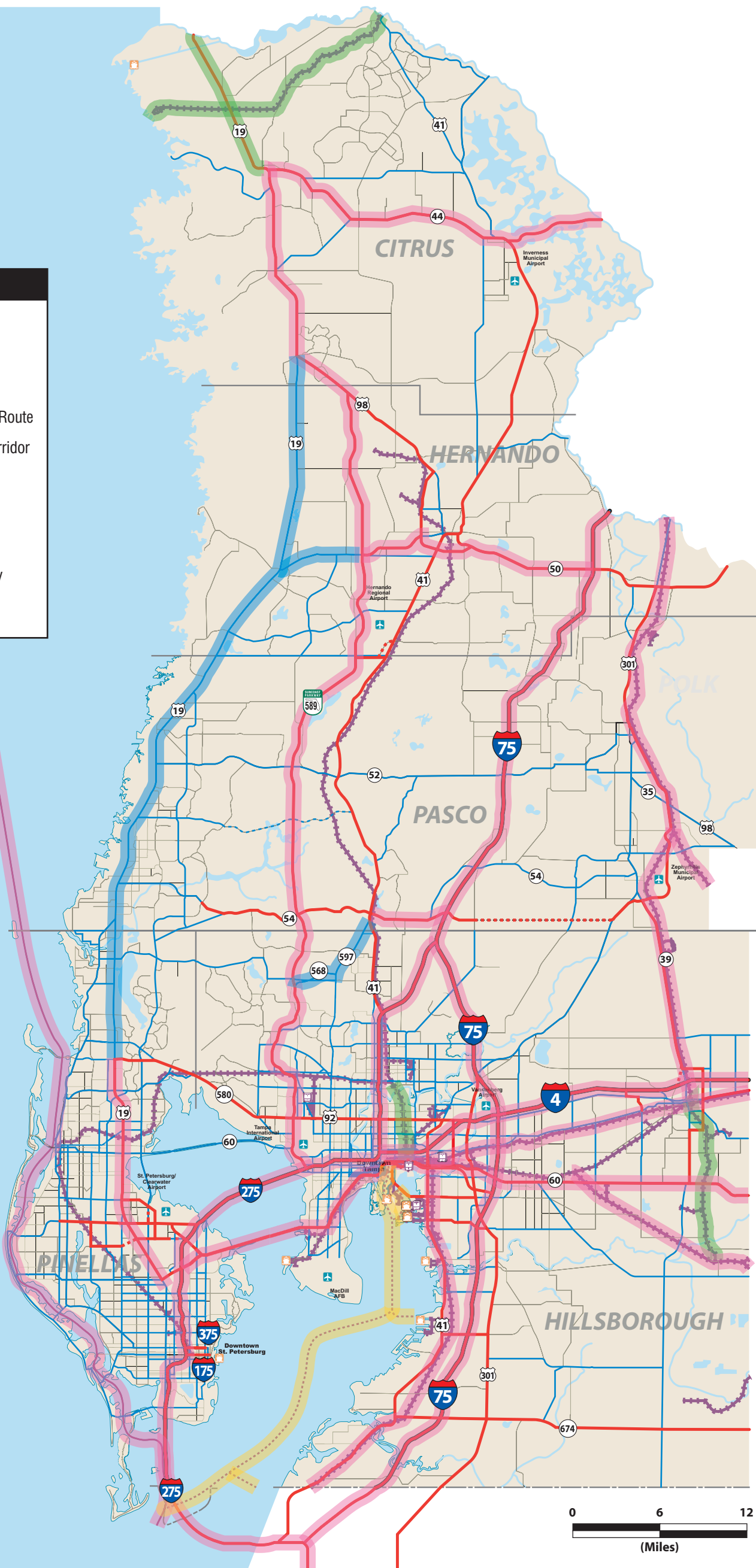
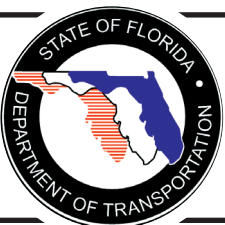


Figure 3-1



Freight Infrastructure with Rail in Tampa Bay

Source: URS Corporation

Date: January 2006

The Regional Freight Mobility Corridors are an important and integral part of the regional goods movement system. The existing rail system is used to transport a significant amount of bulk material including phosphate and crushed rock aggregate to the Port of Tampa. The system is also used to transport coal to power plants located on the eastern shore of Tampa Bay in Hillsborough County and to the Progress Energy Power Plant located north of Crystal River in Citrus County. Besides bulk materials, the railroad is also used to ship large quantities of automobiles, chemicals, petroleum products, general cargo, lumber, agricultural products, and orange juice. Additionally, CSX Intermodal transports over 85,000 containers and piggyback trailers annually with this number expected to grow significantly as the Port of Tampa expands its container operations. When this occurs, direct rail access to the container facilities at the port will become essential in order to reduce the number of trucks used to dray containers between the port and the intermodal loading facilities located in the Uceta Yard.

FREIGHT ACTIVITY CENTERS

FACs are the “economic engines” of a region. They are major contributors to the region’s base employment and a key component of a regional economic development plan. They are also major generators of freight activity, including long-haul shipments to areas outside of the region. The industries located within FACs typically have significant ties to areas outside of the region.

Freight Activity Centers Characteristics

What’s included:

- *Major industrial areas including manufacturing, warehousing, and distribution centers;*
- *Intermodal transshipment locations including airports, seaports, and associated landside activities and rail intermodal facilities; and*
- *Incubators for future industrial growth.*

What’s not:

- *Isolated, small local industrial areas;*
- *Areas that are inconsistent with the region’s growth vision and incompatible with the growth plan for the surrounding area; or*
- *Areas that are significant to the local economy but not to regional, state, or national economies.*



The purpose of defining FACs is to establish their role and place in a community's vision of economic growth. The goal is to preserve these areas through the implementation of policies and strategies that will attract new industry and provide opportunities for industrial growth. Growth in these areas should be compatible with the land use and growth vision for surrounding areas identified in the future land use elements of county and municipal comprehensive plans.

The following criteria were established to define FACs throughout the Tampa Bay Region:

- Large, contiguous industrial developed areas consisting of manufacturing, bulk processing, warehousing/distribution activities, or intermodal transshipment locations;
- Areas with sufficient capacity (open and developable industrial zoned land) for growth;
- Industrial areas that are consistent with the region's vision for economic growth; and
- Areas that have an existing or emerging role in the regional economy.

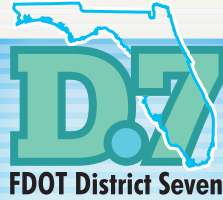
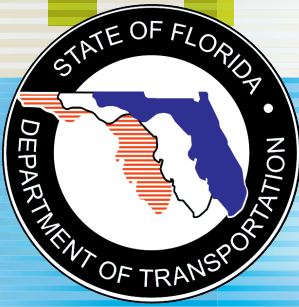
Table 3-2 shows the regional FACs, their location, and their rail access. The regional FACs with rail access in use or available are described in Section 4.0, Regional Freight Rail Infrastructure.

**TABLE 3-2
REGIONAL FREIGHT ACTIVITY CENTERS, LOCATION, AND RAIL ACCESS**

Freight Activity Center	Location	Rail Corridor
Florida Power	Citrus	• Florida Northern Railroad
Hernando County Airport Industrial Area	Hernando	• Brooksville Subdivision
Hooker's Point (Port of Tampa)	Hillsborough	• Yeoman Subdivision • Lakeland Subdivision • Hooker's Point Spur
Rockport/Port Sutton/Pendola Point (Port of Tampa)	Hillsborough	• Palmetto Subdivision
Alafia River Terminal (Port of Tampa)	Hillsborough	• Palmetto Subdivision
Big Bend/Port Redwing (Port of Tampa)	Hillsborough	• Palmetto Subdivision
Anderson Road/Tampa International Airport	Hillsborough	• Clearwater Subdivision • Drew Spur
Southeast Tampa Industrial Area	Hillsborough	• Yeoman Subdivision • Lakeland Subdivision • Yeoman and Uceta Yards
South I-75/Sabal Park Industrial Area	Hillsborough	• Yeoman Subdivision
East Central Tampa Industrial Area	Hillsborough	• NEVE Spur
Plant City Airport Industrial Area	Hillsborough	• Yeoman Subdivision • Lakeland Subdivision
East Plant City Industrial Area	Hillsborough	• Lakeland Subdivision • Plant City Subdivision
Zephyrhills Airport	Pasco	• Yeoman Subdivision • Wildwood Subdivision
Oldsmar/Tampa Road	Pinellas	• Clearwater Subdivision
West Pinellas Industrial Area	Pinellas	• Clearwater Subdivision
South Central CSX Corridor	Pinellas	• Clearwater Subdivision
Dome Industrial	Pinellas	• Clearwater Subdivision



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FREIGHT MOBILITY

The Regional Freight Rail Transportation Network **4**

This section provides a primer of the railroad industry and identifies the rail freight infrastructure within the Tampa Bay Region. Rail system components such as main lines, sub-divisions, branch lines, rail yards, structures, regional corridors and activity centers are identified to provide a comprehensive view of the regional rail system.

Section Highlights:

- Many elements comprise the Tampa Bay regional rail system.
- Rail lines have a strong intermodal connection to the Port of Tampa.
- Local rail lines connect the region to the national rail system.

What You Need to Know:

- CSXT is the only Class I rail carrier in the region.
- Rail lines provide the ability to transport products to national and global markets.
- Bridges can be viewed as operational bottlenecks to rail freight operations.

What Needs to be Done:

- Establish working relationships with the railroad industry and its major customers.
- Investigate ways to reduce rail congestion in urban areas.
- Understand that railroads are a key part of the freight mobility system.



TAMPA BAY'S REGIONAL RAIL SYSTEM: COMPONENTS DESIGNED TO MOVE

The Tampa Bay Region is primarily served by one rail carrier - CSXT. In addition to CSXT, the Florida Northern Railroad, a short line carrier, serves the Red Level power plant located in Crystal River in Citrus County over the former CSX West Coast subdivision. Tampa Bay's regional rail system includes 261 route miles of mainline track.¹ In addition to mainlines, the rail system is also comprised of such components as branch lines, yards, terminals, and spurs. All of these components work together to provide the region access to growing statewide and national markets.

Seventeen subdivisions and spurs, as listed in **Table 4-1** and depicted on **Figure 4-1**, comprise the regional rail system. All rail trackage is located within CSXT's Southern Region, Jacksonville Division. The system functions in a variety of manners including through service, the transport of rail freight that neither originates nor terminates in the region, and local service. **Figure 4-2** shows the average daily train volumes by time. The regional rail system also provides a unique operation; it accommodates the heavy flows of phosphate rock and chemicals associated with the Bone Valley Phosphate District.

RAIL SYSTEM COMPONENTS: MAINLINES, SPURS, BRANCH LINES, YARDS, AND TERMINALS

CSXT's Wildwood, Yeoman, Vitis, and Lakeland Subdivisions are rail mainlines located within the region. These subdivisions are shown in Table 4-1. With the exception of the Vitis Subdivision, mainlines handle rail traffic transported to and from the region's five counties. The Vitis Subdivision does not serve any FACs in the Tampa Bay Region.

¹ Provided by CSXT.

Tampa Bay Regional Freight Rail Study

FREIGHT MOBILITY

TABLE 4-1
REGIONAL RAIL

Regional Rail Subdivisions and Spurs														
Name ⁽¹⁾	County Location	Begin-End	Length (miles)	Operations/Controls										Primary Purpose/ Function
				Trackage ⁽²⁾	No. Passing Sidings	Number of Bridges	Train Control ⁽³⁾	Grade Crossings		Avg. No. Trains/Day	Max Freight Speed (mph)	Max Passenger Speed (mph)		Notes
								Gates	Non-Gated					
Florida Northern Railroad	Citrus	Citrus/Marion County Line – Red Level Power Plant	16.3	S		1	DTC	*	*	1	35		Serve Red Level Power Plant	(4)
Wildwood Sub "S" Line	Hernando & Pasco	Sumter/Pasco County Line – Vitis Junction	21.7	S	3	4	TCS	*	*	24	60	79	North-South Through Traffic	
Yeoman Sub "S" Line	Hernando, Pasco & Hillsborough	Vitis - Tampa (Gary)	39.0	S/D	2	10	TCS	3	4	28	50	50	Main Line to Tampa/Phosphate	
Hooker's Point Spur	Hillsborough	Gary-Hooker's Point	2.5	S				8	*	*	*		Port of Tampa Water Terminals	
Vitis Sub	Pasco & Hillsborough	Vitis Junction - Polk Line	5.5	S		2	TCS	1		18	60	79	North-South Through Traffic	
Lakeland Sub "A" Line	Hillsborough	Polk/Hillsborough County Line - Tampa	25.0	S	2	3	TCS	*	*	18	60	79	Main Line to Tampa	(5)
NEVE Spur	Hillsborough		4.8	S				11	18	3-6	*		Local Service	
Brooksville Sub	Hernando, Pasco & Hillsborough	Brooksville (Rock) - Tampa (Sulfur Springs)	44.3	S	1	7	DTC YL	16	24	2	35		Serves Brooksville Area Quarries/Cement Plants	(5)
Hillsboro Spur	Hillsborough		2.5	S				*	*	*	*		Local Service	
Broco Shands Spur	Hernando		4.8	S				*	*	*	*		Rock Mine	
Clearwater Sub	Hillsborough & Pinellas	Tampa (Gary) – St. Petersburg	47.3	S	3	24	DTC YL	*	*	3	40		Local Service	(5)
Drew Spur	Hillsborough		2.2	S	2			*	*	*	*		Auto Yard/ Local Service	

Bold = Mainline



**TABLE 4-1 (CONTINUED)
REGIONAL RAIL**

Regional Rail Lines														
				Operations/Controls										
Name ⁽¹⁾	County Location	Begin-End	Length (miles)	Trackage ⁽²⁾	No. Passing Sidings	Number of Bridges	Train Control ⁽³⁾	Grade Crossings		Avg. No. Trains/Day	Max Freight Speed (mph)	Max Passenger Speed (mph)	Primary Purpose/Function	Notes
								Gates	Non-Gated					
Former Bay Pines Sub	Pinellas		1.9					*	*				Local Service	
Palmetto Sub	Hillsborough	Tampa - Hillsborough/Manatee County Line	25.5	S	3	11	TCS DTC	*	*	27	40		Serve Water Terminals	(6)
Rockport/Sutton Spur	Hillsborough		1.5	S				*	*	24			Phosphate/Intermodal/Water Terminals	
Valrico Sub	Hillsborough	Valrico - Hillsborough/Polk County Line	14.1	S/D	2	2	DTC YL	9	3	16	40		Phosphate	
Plant City Sub	Hillsborough	Plant City - Welcome	11.1	S		2	TCS DTC	*	*	8	40		Phosphate	(5)
Brewster Sub	Hillsborough	Edison Junction – Hillsborough/Polk Line	0.7	S			YL	*	*	20	20		Phosphate	
Port Tampa Spur	Hillsborough	Tampa - Port Tampa	10.0	S	1	1	YL	17	9	1	10		Serve Port Tampa/Local Service	(6)
TOTAL REGIONAL RAIL MILEAGE (Mainlines and Primary Spurs)			280.7											

Source: CSXT

Notes: ⁽¹⁾ Portions of some lines in the Tampa area are classified as part of the Tampa terminal but this designation is not used in this description.

⁽²⁾ Trackage: S- Single Track. D - Double Track.

⁽³⁾ YL - Yard Limits not to exceed 20 mph; DTC - Direct Train Control; TCS - Train Control System.

⁽⁴⁾ Double-stack and multi-level cars are prohibited.

⁽⁵⁾ Grade crossing restrictions.

⁽⁶⁾ Bridge with weight and/or speed restrictions.

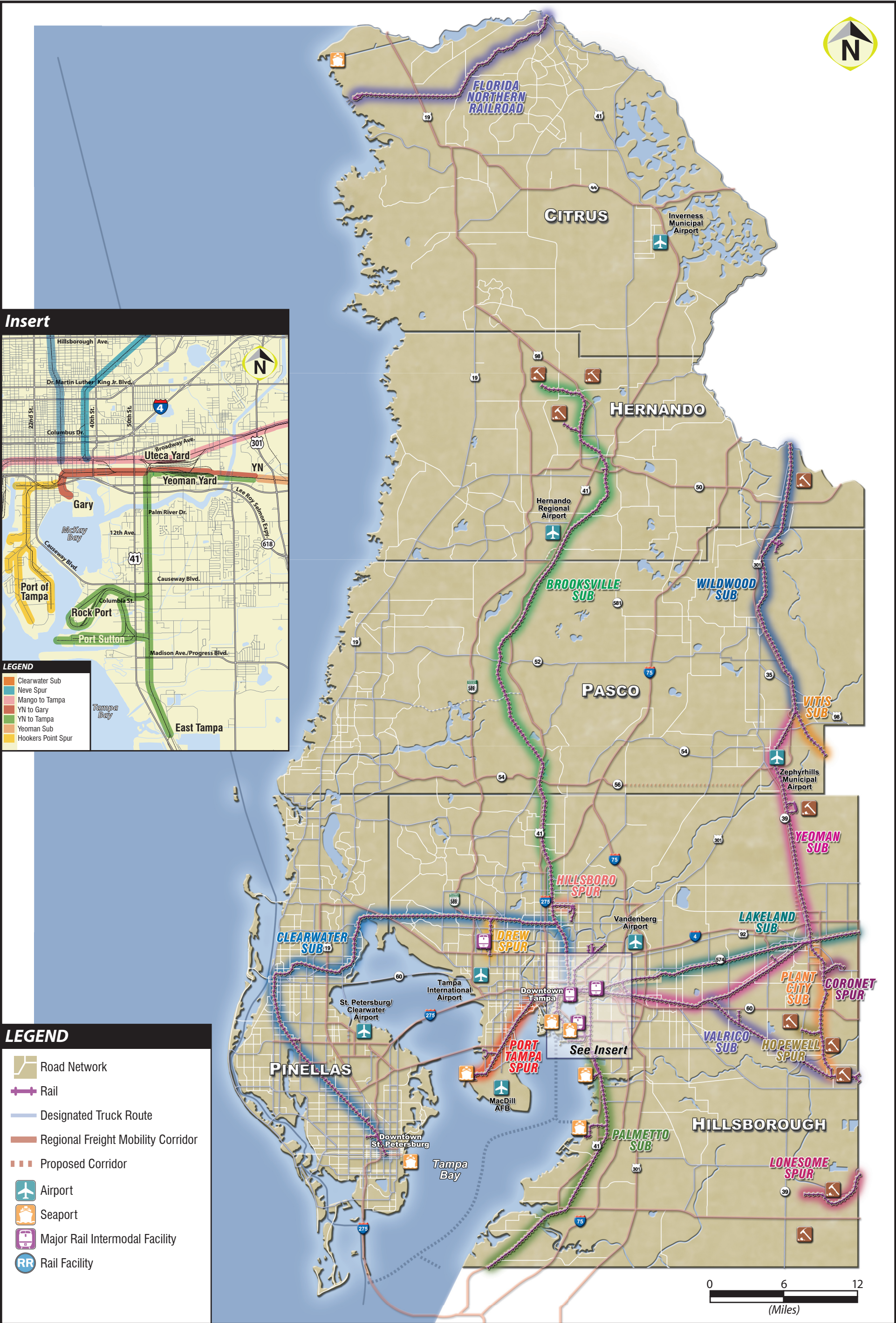
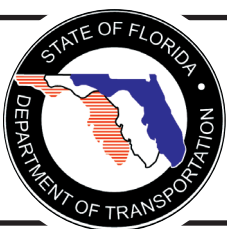


Figure 4-1



District 7 Rail Lines

Source: URS Corporation

Date: July 2008

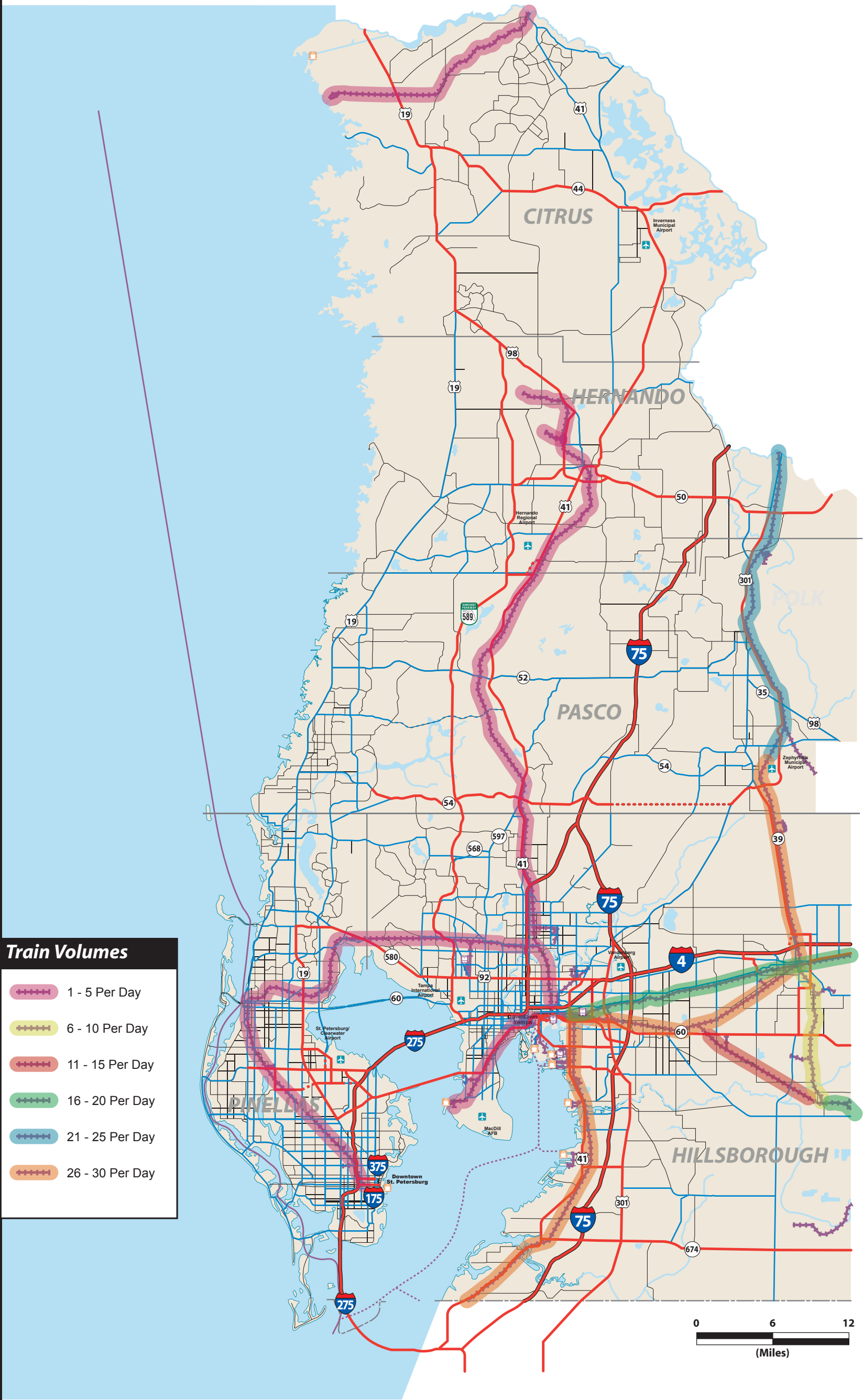
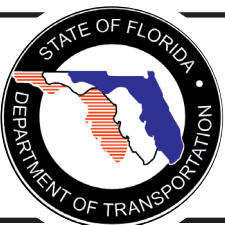


Figure 4-2



Rail Volumes

Source: URS Corporation

Date: September 2006

MAINLINES

WILDWOOD SUBDIVISION

The Wildwood Subdivision is one segment within the main north-south route for CSXT in Florida. The route runs south from Jacksonville to Wildwood and Vitis. The line splits at the Vitis junction with one route continuing southwest to Tampa, ultimately accessing the central Florida phosphate district, known as Bone Valley. The other rail route, the Vitis Subdivision, continues southeast to Miami.

The Wildwood Subdivision runs for 21.7 miles from the Sumter/Pasco County line to the Vitis Subdivision. The heavily used line supports an average of 24 trains per day including Amtrak's *Palmetto* passenger rail service. The rail line is fully signalized and operation is conducted by a train control system. The signal system and track condition permit operation at a maximum speed of 79 miles per hour (mph) for passenger trains and 60 mph for freight trains.

The Wildwood Subdivision does not serve any of the designated regional FACs although the line has customers located in Dade City.

VITIS SUBDIVISION

This line is the southeastern extension of the Wildwood Subdivision to Lakeland, and continues south to Miami. It connects with Lakeland Subdivision at Lakeland to access the study area. Approximately 5.5 miles of the line lies in the region, just touching the corners of Pasco and Hillsborough Counties to the east. The physical and operational characteristics of the line are the same as the Wildwood Subdivision except for lower train frequencies. Currently, the Vitis Subdivision does not serve any of the FACs and has no customers within District Seven.



Double diamond crossing of Yeoman and Lakeland Subdivision lines at former passenger station in central Plant City.

YEOMAN SUBDIVISION

The Yeomen Subdivision, the southwestern extension of the Wildwood Subdivision, is the principal connection to the national rail system for the region. The Yeomen, Vitis, and Wildwood Subdivisions are known as the “S” Line, a designation derived from its predecessor railroad the Seaboard Air Line. The line runs 39 miles from the Vitis Subdivision to Tampa and is the longest mainline segment within the region. The route connects Bone Valley to the deepwater terminals at the Port of Tampa for the phosphate industry. In addition, the line provides local service to a number of regional businesses with one of the largest being the CF Industries Plant City phosphate complex located just south of the Pasco/Hillsborough County line.

Portions of the route carry 28 trains per day, the highest train counts within the Tampa Bay Region. The same train control system used on the Vitis and Wildwood Subdivisions also control operations on the Yeoman Subdivision. Operating speeds are limited to 50 mph for both freight and passenger trains, although passenger trains do not currently operate over this line.

The Yeoman Subdivision serves the following FACs, all of which are located in Hillsborough County:

- Plant City Airport,
- South I-75 Corridor (Sable Park),
- South Central Tampa, and
- Port of Tampa - Hooker’s Point.

LAKELAND SUBDIVISION

The Lakeland Subdivision is also known as the “A” Line, a designation derived from its Atlantic Coast Line heritage. Its 25 miles are totally contained within Hillsborough County. The line extends east and north from the region to Lakeland, Orlando, and Jacksonville providing the region connectivity to the national rail system. An average of 18 trains, including two daily Amtrak passenger trains to and from Tampa, use this line daily. Operations are governed by a train control system operated from the CSXT headquarters in Jacksonville. Maximum speeds permitted are 79 mph for passenger trains and 60 mph for freight trains.

The Lakeland Subdivision provides service to on-line industries located on the NEVE Spur, which connects with the “A” Line in Tampa. After the Tampa industrial base, the most significant on-line businesses for the rail line exists in Plant City. CSX Intermodal’s Tampa terminal, located within Uceta Yard, is located on this line.

The Lakeland Subdivision serves the following FACs, all of which are located in Hillsborough County:

- East Plant City,
- South I-75 Corridor (Sable Park), and
- South Central Tampa.



**Lakeland Subdivision mainline grade crossing at
US 92 and Park Boulevard, Plant City.**



Coal train entering Progress Energy Power Plant at Red Level in Citrus County.



Rock quarry northwest of Brooksville served by the CSX Brooksville Subdivision.

BRANCH LINES AND SHORT LINE RAILROADS

Seven branch lines, shorter rail lines that feed into a mainline, serve industries located within the Tampa Bay Region. Additionally, one short line operator, Florida Northern Railroad, operates in Citrus County. The nature of each branch is discussed in the following paragraphs.

FLORIDA NORTHERN RAILROAD (FORMERLY CSX WEST COAST SUBDIVISION)

The Florida Northern Railroad is a short line railroad that operates over the former CSX West Coast Subdivision line; it is the northernmost component of the regional rail system. This line crosses into Citrus County from Marion County and terminates at the Red Level Power Plant, its primary user. Unit trains deliver coal to the power plant. This line is the only rail line not connected to the remainder of the region's rail system.

BROOKSVILLE SUBDIVISION

The Brooksville Subdivision serves Hernando County and its aggregate and cement businesses connecting to the regional system via the Clearwater Subdivision at Sulphur Springs. There are few on-line businesses along the 44-mile route; however, significant economic development potential exists between the immediate Tampa area and its terminus just north and west of Brooksville in Hernando County. Daily weekday train operations provide regular rail service supplemented with unit trains of coal. The Brooksville Subdivision serves the mining activity in northwest Hernando County as well as the new rail park located at the Hernando County Airport FAC. Two other customers not located in designated activity centers include Cox Lumber located at SR 54 and US 41 in Pasco County and Robbins Manufacturing located on Nebraska Avenue north of Fletcher Avenue in Tampa.

CLEARWATER SUBDIVISION

The Clearwater Subdivision provides rail service to Pinellas County over a 50-mile-long route from Tampa. It is very similar to the Brooksville Subdivision in that on-line customers are few between Tampa and Clearwater even though the line passes through the Oldsmar/Tampa Road FAC. The Drew Spur, located just north of Tampa International Airport, generates most of the on-line traffic in Tampa. A CSX Corporation subsidiary, TDSI, has an automobile facility located on this spur. In addition to TDSI, CSXT services a number of other businesses on the Drew Spur including a large Home Depot distribution center located north of Waters Avenue.

Although an average of three trains per day operate on the subdivision, train counts vary by line location. The most activity is between Tampa (Gary) and the Drew Spur with six trains per day and between Clearwater and St. Petersburg with four trains per day during the week. Operations also occur over the Drew Spur during the weekends. Train speeds are restricted due to the urban location of the line and due to rail yard speed limits.

The Clearwater Subdivision serves the following FACs in Hillsborough and Pinellas Counties:

- Anderson Road/TIA Corridor,
- West Pinellas Industrial,
- South Central CSX Corridor, and
- Dome Industrial.



Palmetto Subdivision mainline grade crossing at Causeway Boulevard.

PALMETTO SUBDIVISION

The Palmetto Subdivision is a heavily used rail line that serves a number of deepwater terminals associated both with the Port of Tampa and private businesses located within the port, as well as off-port businesses located on the east side of US 41. The phosphate industry at the port accounts for the heavy rail volumes. Twenty-five to 30 trains per day use this line, at least one-half of which handle phosphate-related business. Major phosphate terminals are located at Rockport, Port Sutton, Big Bend, and East Tampa (Alafia River). A Mosaic Company fertilizer plant is also located at the East Tampa terminal.

The line also handles through traffic just south of the region to the Sarasota-Bradenton area. Special unit trains serve as Tropicana's "Juice Train" originating in Bradenton. The Palmetto Subdivision also serves Port Manatee and a number of non-phosphate industries located between Tampa and Bradenton.

The Palmetto Subdivision serves the following regional FACs:

- Rockport/Port Sutton/Pendola Point,
- Alafia River (Port of Tampa), and
- Big Bend/Port Redwing.

VALRICO, PLANT CITY, AND BREWSTER SUBDIVISIONS

The Valrico, Plant City, and Brewster Subdivisions serve on-line customers within the region, most of which are connected to the phosphate industry. These lines serve as conduits for other phosphate mines and processing plants located to the east in Polk and Hardee Counties.

Approximately 20 trains per day operate over the short segment of the Brewster Subdivision. The Plant City Subdivision sees an average of 8 trains per day, although this number may decrease due to the closing of the Coronet Mine. Over 16 phosphate trains per day use the Valrico Subdivision and continue onto Tampa over the Yeoman Subdivision. These phosphate trains are typically 60 to 70 cars in length.

The Valrico, Plant City, and Brewster Subdivisions do not serve any of the designated FACs. They serve as the primary links to the phosphate mines in Hillsborough, Hardee, and Polk Counties.

PORT TAMPA SPUR

Businesses and terminals located in the old Port Tampa area are the principal reason for operating this 10-mile-long line that traverses the downtown Tampa business district as well as the residential areas of South Tampa. Three trains per week provide service on the Port Tampa Spur. Train speeds are very slow through downtown due to the numerous non-gated at-grade crossings. The Port Tampa Spur serves the Port Tampa regional FAC.



Valrico subdivision line and passing siding located east of Miller Road in Valrico.



Port Tampa Spur grade crossing at Gandy Boulevard near the Lee Roy Selmon Expressway.



NEVE SPUR

The NEVE Spur extends from the "A" Line east of 36th Street to approximately Sligh and Hanna Avenues. Between the "A" Line main track and 21st Avenue, the spur has six sidings serving businesses located in the Southeast Tampa Industrial FAC. There are also three sidings between 39th and 40th Streets but only a single business is served. Prior to crossing Hillsborough Avenue, three sidings serve four adjacent business locations. Once inside the Southeast Tampa Industrial FAC, a parallel siding branches into two spurs with 23 sidings serving industrial customers in the activity center. A second parallel siding branches into three spurs with five sidings and terminates at the Vulcan ICA Sligh Avenue Rail Yard. Between three and six trains per day use this spur.

YARDS, TERMINALS, AND OTHER FACILITIES

CSXT operates a number of rail facilities in the Tampa Bay Region. These facilities enable the railroad to attract more businesses and provide the necessary infrastructure to accommodate the associated rail operations. These facilities include small yards that facilitate local switching to a large classification yard where arriving trains are broken down and departing trains are built. The small yards are numerous and include:

- East Tampa Yard adjacent to US 41 near the Alafia River on the Palmetto Subdivision,
- St. Petersburg Yard on the Clearwater Subdivision,
- Edison Yard on the Valrico Subdivision,
- Port Tampa Yard on the Port Tampa Spur, and
- McCoskey and Hooker's Point Yards located at Hooker's Point.



East Tampa Yard at Mosaic Company fertilizer facility located west of US 41, north of the Alafia River.

The East Tampa Yard is located off the Palmetto Subdivision mainline west of US 41 north of the Alafia River. It serves the Mosaic Company fertilizer plant facility delivering bulk phosphate rock and ammonia. Switching operations at the yard take place close to US 41 and often block the roadway crossing the lead track that connects to the mainline resulting in delays to highway traffic several times a day.

The Yeoman, Uceta, and Coach Yards are collocated and internally linked rail yards. Yeoman Yard is the principal classification yard with supporting track contained in the adjacent Uceta Yard. Uceta Yard contains the CSX Intermodal terminal. Coach Yard, located between Yeoman and Uceta yards, contains the rail car and maintenance facilities.

Specialized CSX facilities include the CSX Intermodal terminal at the Uceta Yard, the Rockport Phosphate facility at the Port of Tampa, the BIDS (Transflo) bulk transfer terminal near the Yeoman Yard, and its TDSI automobile terminal located on the Drew Spur of the Clearwater Subdivision just north of Tampa International Airport.

The Rockport bulk loading facility is used to transfer bulk phosphate products from train to bulk cargo ship. Trains enter the yard from a lead track that crosses US 41 south of Causeway Boulevard and product is off-loaded into a holding facility prior to being transferred to the vessel. Although located within the Port of Tampa, the Rockport facility is owned by CSX. Approximately 14 inbound trains per day deliver the product to the facility, which is served by a large loop track and side tracks used for holding rail cars.



Uceta Yard with Coach Yard lead to maintenance facility on left side.



Phosphate train at Rockport Terminal, Port of Tampa.



Container being lifted onto flatcar at CSX Intermodal facility located in the Uceta Yard in East Tampa.

The CSX Intermodal terminal is located on the north side of the Uceta Yard with a vehicular entrance from 62nd Street south of Broadway Boulevard in East Tampa. Approximately 85,000 containers are transferred per year at the facility using the specialized equipment shown in the photo below. The CSX Intermodal facility is located in one of the designated regional FACs and is also designated a SIS facility on the statewide network.

The Transflo terminal located on 34th Street in East Tampa transfers solid and liquid (primarily chemicals) bulk products from rail to truck for regional distribution.

The CSX TDSI automobile terminal is located on the Drew Spur of the Clearwater Subdivision at Anderson Road in northwest Tampa. New vehicles are transferred from train to truck for regional distribution.



CSX BIDS Transflo Terminal located south of the Lee Roy Selmon Expressway.



CSX TDSI Auto Terminal on north side of Sligh Avenue at Anderson Road.

STRUCTURES

Bridges comprise 2.06 miles or 0.8 percent of the 261-mile regional rail system. The number of bridges and total length of bridges, however, is widely distributed by subdivision, as shown in **Table 4-2**. Bridges can impose limitations on railroad operations resulting from speed and weight restrictions for various reasons.

**TABLE 4-2
REGIONAL RAIL SYSTEM BRIDGES**

Subdivision	Number of Bridges	Total Bridge Length (feet)	Number Bridges (per mile)	Length of Bridge/Mile (feet)
West Coast (Florida Northern Railroad)	1	280	0.1	17
Wildwood	4	866	0.2	40
Yeoman	10	1,118	0.3	29
Vitis	2	550	0.4	100
Lakeland	3	759	0.1	30
Brooksville	7	469	0.2	11
Clearwater	24	2,564	0.5	54
Palmetto	11	2,417	0.4	95
Valrico	2	639	0.1	45
Plant City	2	634	0.2	57
Brewster	0	0	0.0	0
Port Tampa Spur	1	571	0.1	57
TOTALS	67	10,867	0.3	41

Source: CSXT Track Charts.



Approximately half of the bridges and total bridge lengths are located on two lines, the Clearwater and Palmetto Subdivisions. Both lines are at or near the top for number of bridges and feet of structure on a per-mile basis.

There are a number of significant bridges in terms of overall length within the region. These structures are identified below in **Table 4-3**.

TABLE 4-3
LENGTH OF BRIDGE CROSSINGS

Subdivision	Line	Length (ft)	Crossing
Palmetto	AZA	695	Palm River
Palmetto	AZA	653	Alafia River
Palmetto	AZA	600	Little Manatee River
Port Tampa	A	571	Hillsborough River
Clearwater	SY	861	Inlet of Old Tampa Bay
Valrico	SZ	476	North Fork of Alafia River
Lakeland	A	608	Six Mile Creek
Yeoman	S	659	Six Mile Creek
Plant City	SV	572	Alafia River

STRUCTURE TYPES

Trestles are constructed of either timber or concrete. Ninety percent of the bridge trestles within the region are constructed of timber. There are also five steel bridges or spans contained in trestle structures with a combined length of 1,007 feet, three of which are moveable spans. The bridges and associated restrictions are discussed below.

RESTRICTED STRUCTURES

Three bridges in the region have restrictions placed on them in terms of permissible speeds. On the Palmetto Subdivision, operating speeds over the drawbridge that transverse the Little Manatee River near Ruskin are restricted to 15 mph for carloads exceeding a gross weight of 263,000 lbs (the normal weight for 100 ton capacity cars). A 20-mph speed restriction for cars weighing less than 263,000 lbs is placed within a segment of track with a 40-mph permissible speed. The same restrictions are imposed for the rail drawbridge over the Alafia River at the East Tampa Yard located on the same subdivision.

The drawbridge over the Hillsborough River on the Port Tampa Spur is restricted to 10-mph operation for rail cars with a gross weight over 263,000 lbs. As the entire Port Tampa Spur is classified as “excepted track” with a maximum operating speed of 10 mph, this in itself is not a detrimental classification given the excepted speed limit condition.

SIGNALS

Signal systems provide a number of functions for railroad operations. Over half of the U.S. rail system, identified as “dark territory,” operates without signals. Operating without signals is safe where traffic densities are low and other safety and operational procedures are instituted as appropriate. When traffic densities increase, signals provide measures of not only safety but also boost the efficiency of train operations by adding capacity to the line segment (see Capacity Implications).



Railroad drawbridge over Hillsborough River in downtown Tampa.



Crossing signal and gates on Park Road at US 92 in Plant City.



OPERATING CONTROL

Listed below are the three primary means governed by CSXT operating rules to control trains within the region. The operating controls are:

- Train Control System (TCS),
- Direct Traffic Control (DCT), and
- Yard Limits (YL).

Train Control System - TCS is a signaling system that uses block signals to control train movements. Also known as a Centralized Traffic Control (CTC) system, these signal systems, combined with power-switching capabilities, permit railroad dispatchers in a central location to control switches and signals. This capability permits railroads to attain greater capacities by controlling the timing and movement of trains. CTC significantly increases the efficiency of train movements acting like highway traffic signals, which permits railroads to reduce double-track routes to single-track lines. The capacity of a single-track line with CTC is a function of the number, length, and spacing of passing sidings.

The majority of the heavily used rail lines in the region, Wildwood, Vitis, Lakeland, and Yeoman Subdivisions, are controlled by TCS. Trains moving over shorter segments of both the Palmetto and Plant City Subdivisions are also controlled by TCS.

Direct Traffic Control - DTC is a system that divides a rail line into a number of "blocks." Within these blocks train movements are subject to authority granted by the dispatcher. The DCT, also known as a manual block system, is used in "dark territory."

The more lightly used components of the regional rail system are subject to DTC control such as the West Coast, Brooksville, and Clearwater Subdivisions, as well as more heavily used lines such as the Palmetto, Valrico, and Plant City Subdivisions.

Yard Limits - In terminal areas and rail yards that are without train control signals, trains must move over main tracks at controlled speeds not exceeding 20 mph. Yard speeds are those that will permit stopping within one-half of the range of vision. Some line segments within the region are designated as "restricted" tracks and speeds are limited to 10 mph. The Port Tampa Spur through downtown Tampa is an example of a restricted track.

CAPACITY IMPLICATIONS

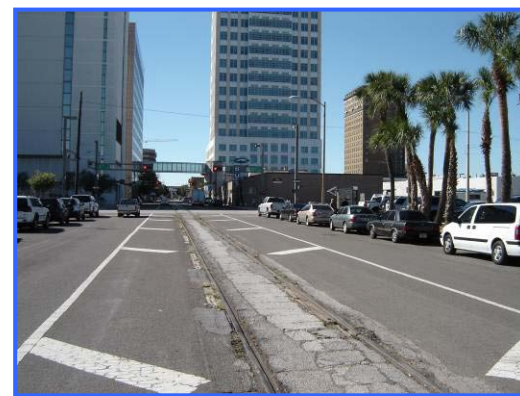
As stated earlier, the more sophisticated the train control system, the more efficient train movements will be. This assumes the pairing of the signal system with an equally adequate physical plant in terms of number of main tracks, crossovers, and/or passing sidings.

The rail lines in this study are mostly single-track routes. The capacity depends not only on the train control system, but also on the number, length, and spacing of passing tracks.

Within the region, the distances of the two main lines, the Lakeland and Yeoman Subdivisions, are too short to adequately judge route capacity and many conditions exist outside of the region that would influence overall capacity. However, a capacity study conducted for the Central Florida Regional Transportation Authority (LYNX) may provide a clue to the potential capacity of lines within the Tampa Bay Region.



Ungated signalized grade crossing at Jefferson and Polk Streets in downtown Tampa.



Port Tampa Spur running down the center of Polk Street through downtown Tampa. None of the cross streets are gated.



In 1999, Thomas K. Dyer and CANAC Consulting conducted a capacity study of the CSXT "S" Line between Baldwin (Jacksonville) and Auburndale for LYNX, the transit provider in the Orlando area. The study investigated operating alternatives to CSXT's "A" Line through Orlando that would allow for the operation of light rail and commuter rail services. The study indicated that an average of 27 trains per day were using the northern end of the line. The study estimated maximum capacity of the line to be 35 trains per day. Based on the LYNX study, there is room for additional trains on both lines. However, as the lines near capacity, the efficiency will decrease as the track usage becomes more difficult to schedule.

REGIONAL FREIGHT ACTIVITY CENTERS WITH RAIL ACCESS

The regional FACs with rail access are described on the following pages. They are considered a part of the freight rail infrastructure because they are responsible for large quantities of freight moved by rail into and out of the region in the form of raw materials and finished product. The FACs are concentrations of manufacturing and logistical distribution facilities in each of the counties within the Tampa Bay Region. Each of the Regional FACs, as well as the potential future FACs are shown on **Figure 4-3**.

While all of the FACs are important to the regional economy, one activity center stands out as the single-most important economic engine within the region - the Port of Tampa, which is made up of several publicly and privately owned facilities. The call out box on page 4-29 describes the overall economic importance of the port as well as the large number of trucks and trains generated from port activities. Because the port consists of several geographically separated facilities, each is recognized as a separate FAC.

Freight Activity Centers

- 1 Dome Industrial Center
- 2 South Central CSXT Corridor
- 3 Gateway Triangle
- 4 St. Petersburg-Clearwater International Airport
- 5 West Pinellas Industrial Area
- 6 Tampa Road Industrial Area
- 7 Anderson Road Corridor/Tampa International Airport
- 8 Port Tampa
- 9 Hookers Point/Rockport/Port Sutton/Pendola Point (Port of Tampa)
- 10 Alafia River (Port of Tampa)
- 11 Big Bend/Port Redwing (Port of Tampa)
- 12 South East Tampa Industrial Area (CSXT Intermodal Yard)
- 13 South I-75 Corridor (Sabal Park Industrial Area)
- 14 East Central Tampa Industrial Area
- 15 Vandenberg Airport
- 16 Plant City Airport Industrial Area
- 17 East Plant City Industrial Area
- 18 Ruskin Industrial Area
- 19 West Pasco Industrial Area
- 20 Wesely Chapel Corporate Park
- 21 Zephyrhills Municipal Airport Industrial Area
- 22 One Pasco Center
- 23 Kettering Road
- 24 Hernando County Airport Industrial Area
- 25 Inverness Municipal Airport
- 26 Florida Power
- 27 Central Clearwater Industrial Area
- 28 Tarpon Springs Industrial Area
- 29 Central Pasco
- 30 US 98/US 301 Industrial Area
- 31 North Brooksville Industrial Area

LEGEND

- Road Network
- Rail
- Designated Truck Route
- Proposed Designated Truck Route
- Regional Freight Mobility Corridor
- Proposed Corridor
- Major Freight Activity Center
- Emerging Freight Activity Center
- Emerging Freight Activity Center
- Airport
- Seaport
- Major Rail Intermodal Facility
- Mining Operation
- Waterways
- Waterway Connectors

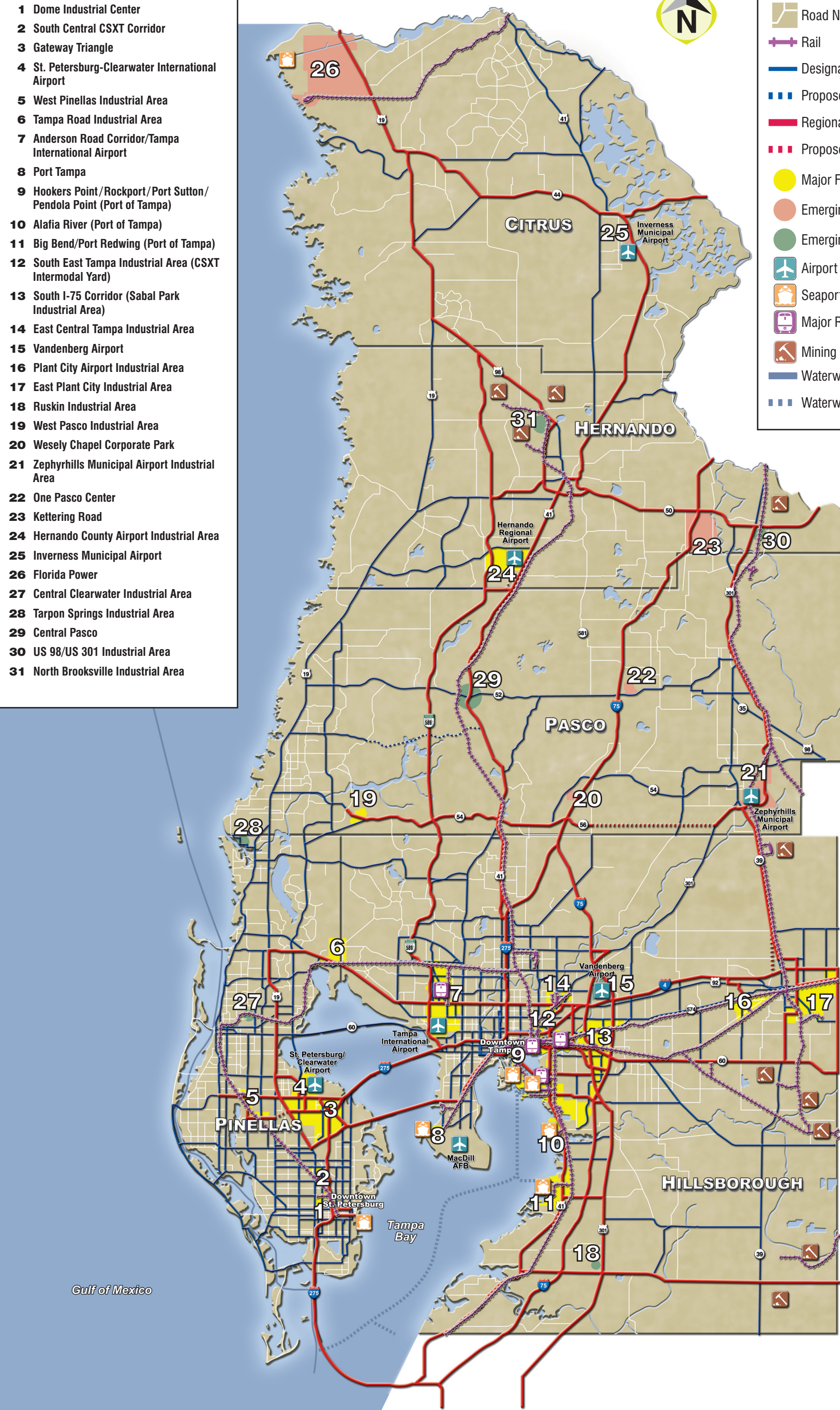
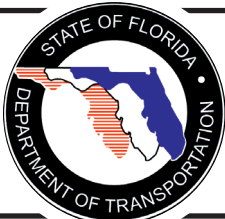


Figure 4-3



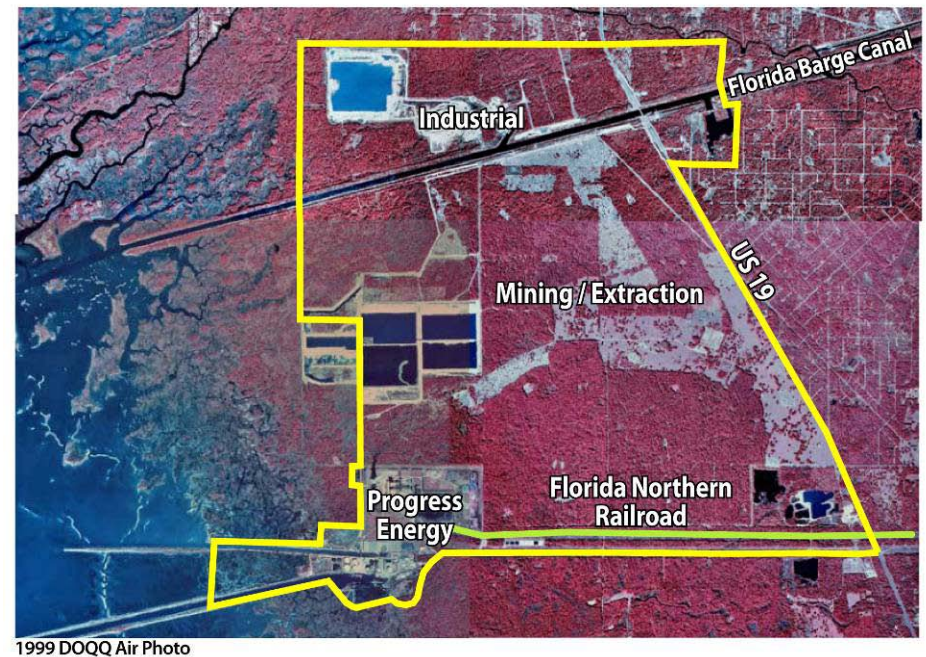
Freight Activity Centers in Tampa Bay

Source: URS Corporation

Date: May 2007

PROGRESS ENERGY POWER PLANT (CITRUS COUNTY)

The Progress Energy (formerly Florida Power) FAC is located at Red Level (see Figure 4-3, FAC #26), along the west side of US 19 in northwest Citrus County. The Withlacoochee River forms the northern boundary and the Florida Power Corporation power plant is on the south. Industrial activities include rock and sand excavation, a large power station complex, and mineral extraction. Progress Energy Corporation, Citrus County's largest employer, is a public utility with approximately 1,600 employees. The facility contains one of the three nuclear powered generators located in Florida. In addition to the nuclear generator, there are four coal-fired units on the property that generate a significant amount of truck and rail traffic. The Florida Northern Railroad² provides rail access to the power plant for the purpose of transporting coal used as fuel.



² Florida Northern Railroad, a short line operator, operates on CSXT owned tracks.



HERNANDO COUNTY AIRPORT INDUSTRIAL AREA (HERNANDO COUNTY)

The Hernando County Airport Industrial Area (see Figure 4-3, FAC #24) is currently the hub of industrial activity for Hernando County. The area's boundaries include the Suncoast Parkway on the west, Spring Hill Drive on the north, US 41 on the east, and Airport Boulevard on the south.

The Hernando County Airport property is approximately 2,400 acres. The airport's primary revenue source is tenant lease agreements with primarily local companies occupying the buildings within the industrial parks. The airport has 7,000- and 5,000-foot runways. The center of the airport between the runways will be developed into an air cargo area along Runway 09/27. Runway 09/27 will be extended by 1,000 feet to accommodate fully loaded B-737 or equivalent aircraft that are retrofitted to handle cargo. In addition to the Airport Industrial Park located on the north side of the airport, the county is developing the Corporate Air Park on the west side and the Airport Rail Park, a new development, on the southeast side along US 41. A portion of Airport Rail Park extends to the east side of US 41. This development will include a rail spur from the main CSX Brooksville Subdivision line, located on the east side of US 41. The county will extend the rail service into the Rail Park; however, individual users will be responsible for extending the service to sites.



2002 Aerial Photo

THE PORT OF TAMPA (HILLSBOROUGH COUNTY)

The Port of Tampa includes both the Tampa Port Authority (TPA) and private port operations and is the largest economic engine in West Central Florida. Home to a vibrant and diverse traffic base encompassing container, bulk, break bulk, roll-on/roll-off, and general cargo as well as cruise passengers, the port continues to attract new investment and facilitate trade growth. The port efficiently directs this traffic base through an extensive array of terminal facilities. The strategic location of the port provides the most direct route to Mexico, Latin America, the Caribbean, and the region's rapidly expanding load center hubs providing worldwide services. As one of the largest shipbuilding and repair centers in the southeast, Tampa serves as the closest U.S. full service port to the Panama Canal.

Commodity Tonnage - **Table 4-4** displays the tonnage of each commodity handled by the port in Fiscal Year (FY) 2007³. The table reveals that just over 79 percent of the port's reported FY 2007 tonnage was comprised of four commodities - petroleum, liquid sulphur, limestone, and phosphate rock. Phosphate-related materials and chemicals, including ammonia and sulphur, comprised 30.0 percent, of the total commodity tonnage for the year.

Serving as the State of Florida's largest seaport (in terms of gross tonnage), the Port of Tampa handled 45.7 million tons of cargo in FY 2002/2003. This tonnage represented 39 percent of the state's total tonnage for the year and was nearly twice the 22.7 million tons handled by the state's second largest port, Port Everglades. This large tonnage reflected the bulk nature of the cargo, not the value of the cargo. Miami was the leader in cargo value: general cargo shipped to Miami's port was valued at \$17.3 billion. The value of the cargo shipped to Tampa, \$2.8 billion, was fourth highest in the state.

*- A Five-Year Plan to Achieve the Mission of
Florida's Seaports, 2003/2004 – 2007/2008
Florida Seaport Transportation and Economic
Development Council, April 2004, p. 16.*

³ Includes both Tampa Port Authority and private port operations.



TABLE 4-4
PORT OF TAMPA COMMODITY TONNAGE
FY 2007

Commodity	Tonnage	Percent of Total
Petroleum Products	19,473,191	43.0%
Phosphate, Rock/Chemical	8,414,762	18.6%
Coal	4,658,932	10.3%
Sulphur, Liquid	3,265,999	7.2%
Other Dry Bulk Commodities	2,303,927	5.1%
Ammonia, Anhydrous	1,807,937	4.0%
Limestone	1,778,039	3.9%
Cement, Bulk	969,813	2.1%
Granite Rock, Bulk	604,411	1.3%
Scrap Metal	577,100	1.3%
Steel Products	338,099	0.7%
Citrus Pellets	330,746	0.7%
Containerized (in tons) ¹	297,457	0.7%
Other Liquid Bulk Commodities	134,766	0.3%
Sulphuric Acid	108,229	0.2%
General Cargo	84,327	0.2%
Concentrate, Citrus Bulk	64,827	0.1%
Vehicles (in tons) ²	61,255	0.1%
Reefer Cargo	16,564	0.0%
Forest Products	3,124	0.0%
TOTAL	45,293,505	100.0%

¹Total Containers (TEUs) Loaded and Empty: 39,653.

²Vehicles (Units) New & Used: 30,628.

Source: Tampa Port Authority.

Modal Tonnage - Based on results of a mail-out survey and interviews with selected terminal operators, estimates of landside transportation volumes are presented in the *Port of Tampa Intermodal Transportation Study*.⁴ The results indicate that 21 percent of total port tonnage is transported by rail, 10 percent by pipeline, and 69 percent by truck.⁵

The results also reveal that rail transports approximately 41 percent of phosphate-related materials and only one percent of non-phosphate-related materials. This estimate is based on the assumption that only ammonia, phosphate chemicals, and phosphate rock move by rail. The estimates do not include any land shipments that might be associated with on-terminal use, such as shipments to/from power plants and phosphate chemical plants.

2027 Forecast - The 2027 forecast tonnage for the TPA is expected to range between 27.9 to 37.9 million tons,⁶ a range of 79 to 143 percent increase over FY 2007. Most of this significant increase, however, is attributed to non-phosphate-related commodities. Phosphate-related commodity growth is forecast to be 10 percent, which is inconsistent with industry opinions that phosphate trade has stabilized at current levels. The major growth forecasts are for coal and break bulk cargo.

⁴ *Port of Tampa Intermodal Transportation Study*, prepared for Tampa Port Authority by Parsons Brinkerhoff Quade and Douglas, July 2000.

⁵ Representing just over half of port tonnage for FY 1998-2000.

⁶ *Port of Tampa 2007 Strategic Plan*, February 2008, pg 154-155.

Rail Carloads - Based on data gathered in the interview/survey process, carload trip rates were generated for the rail-using commodities. Applying these rates to the commodity tonnage shown in Table 4-4 results in daily rail car counts of 1,135 (both loaded and empty). The forecast tonnage for 2010 increases daily rail car counts to 1,245.⁷

Future Development - Although phosphate-related traffic comprises a very large part of the waterborne traffic and the principal rail component of landside transportation demand, most of it moves through terminals that are privately owned and operated by CSX, CF Industries, and Mosaic Company, not TPA controlled property.

Freight growth controlled by the port will be comprised of containers, coal, aggregates, and cement, all of which are local market driven. The coal and aggregates are inbound. Long-haul movements that would be rail candidates do not appear to be on the horizon because most of the imported general and container cargo is bound for destinations within the region. As a result, phosphate and related materials and products are most likely to continue to comprise the major share of rail transportation demand.

The following regional FACs are located within the port area.

⁷ Port of Tampa Intermodal Study, p. 29. July 2000.



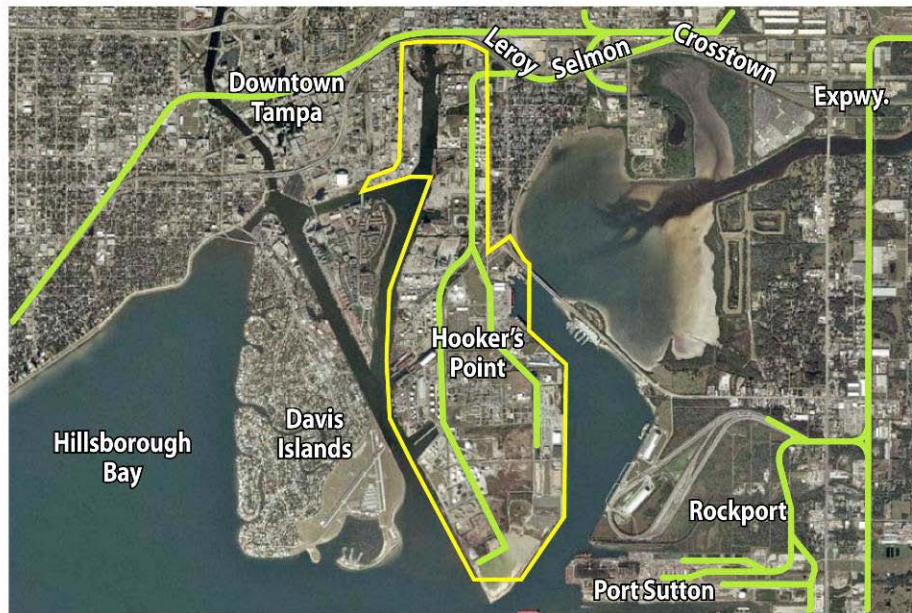
PORT OF TAMPA - HOOKER'S POINT (HILLSBOROUGH COUNTY)

Hooker's Point (see Figure 4-3, FAC #9), a peninsula east of downtown Tampa, is a premier seaport. A significant CSXT railroad network primarily used for the bulk transfer of minerals, petroleum products, agricultural products, and scrap steel serves Hooker's Point. The TPA recently began receiving new automobiles produced in Mexico through Hooker's Point and added a small but expanding container operation.

In 2000, approximately 21.9 million tons of cargo, or 43.4 percent of the total annual TPA tonnage, was processed through the terminals on Hooker's Point. Approximately 20 million tons of this was imported. Petroleum products, the primary imported commodity at

Hooker's Point, accounts for 14.9 million tons or 28 percent of the port's total cargo annually. The main commodity exported through Hooker's Point is phosphate chemicals (1.02 million tons) for CF Industries. Other commodities shipped through Hooker's Point include ammonia, sulphur and other minerals, cement, break bulk cargo, citrus, fresh and frozen foods, scrap metal, automobiles, and coal.⁸

CSXT provides rail access to the port from a spur that runs south of SR 60 and enters the port at 20th Street at Durham Street. Once inside Hooker's Point, the rail line splits to serve the east and west side of the port.



2002 Aerial Photo

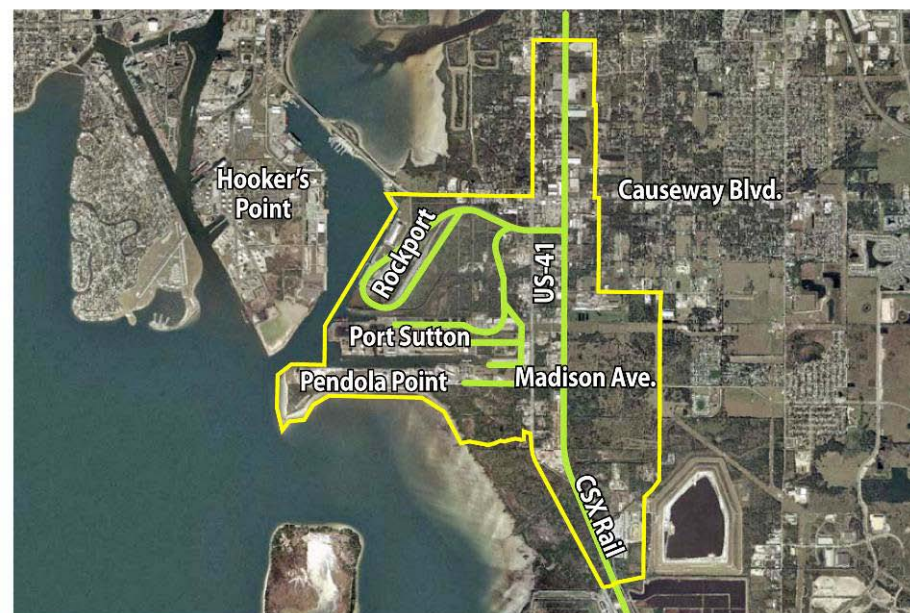
⁸ Reported by the Tampa Port of Authority for FY 2000 end of year totals.

PORT OF TAMPA - ROCKPORT/PORT SUTTON/PENDOLA POINT (HILLSBOROUGH COUNTY)

Rockport and Port Sutton/Pendola Point (see Figure 4-3, FAC #9), located on the eastern shore of Tampa Bay west of US 41, contain private and Port of Tampa-owned berths and landside facilities. This activity center also incorporates a large area of existing industrial uses and industrial designated land to the east of US 41 to 66th Street south of Hartford Street and to 54th Street north of Hartford Street. It also includes industrial land north of Causeway Boulevard on the east side of US 41 to 54th Street.

Rockport has two phosphate terminals. One is owned by CSXT and the other by Eastern Terminal. Both are served by rail. Phosphate rock and chemicals are the primary cargo exported through Rockport. Port Sutton is home to TECO's Gannon Station Power Plant, which imports approximately two million tons of coal annually for their operations. The Steel Port of Florida, Inc., PASCO Terminals, and Holnam, Inc. operate terminals on land owned by the port at the tip of Port Sutton. The southern portion of Port Sutton, known as Pendola Point, is owned by the TPA with the exception of a small piece of land occupied by Pakhoed Dry Bulk Terminals. Approximately 18 percent of the total import and export cargo tonnage for the port in 2000 was processed through Port Sutton/Pendola Point with the majority, 72 percent, imported.⁹

A CSXT Tampa Terminal rail spur serves the Rockport Intermodal Phosphate Pier with 28 trains on an average day (including return trips). The number of trains is planned to increase to 32 trains per day to serve future demand. In addition to the rail service to Rockport, CSXT serves terminals located at Port Sutton/Pendola Point via a spur that runs south from the Rockport Lead on the west side of US 41.¹⁰



2002 Aerial Photo

⁹ Based on information from the Port of Tampa.

¹⁰ Provided by CSXT.



PORT OF TAMPA - ALAFIA RIVER (HILLSBOROUGH COUNTY)

The Alafia River Terminal (see Figure 4-3, FAC #10) is located south of Pendola Point on the north side of the Alafia River west of US 41. East of US 41, the activity center extends to South Falkenburg Road north of Riverview Drive and south of Archie Creek. Approximately 1.9 million tons of phosphate chemical fertilizer is exported and approximately 710,000 tons of sulfur is imported annually through the Mosaic Company fertilizer plant facility located in this FAC. Combined imports and exports account for approximately five percent of the port's total annual cargo tonnage.

The Alafia River FAC is served by CSXT through the East Tampa Yard, located at the end of a spur from the Palmetto Subdivision mainline. Approximately 104,000 rail cars per year (6 trains per day of 25 to 65 cars)¹¹ transport phosphate into the Mosaic Company fertilizer plant for processing. Finished fertilizer product is shipped out via 2 to 3 ships per week and approximately 10,000 rail cars annually (one train per day of 20 to 30 cars). Reed's Minerals located on the east side of US 41 also receives bulk raw minerals by rail at its facility on Old US 41. Reed's then transfers the bulk materials by truck to the GAF roofing materials plant located near Madison Avenue and US 41.



2002 Aerial Photo

¹¹ Provided by CSXT.

PORT OF TAMPA - BIG BEND/PORT REDWING (HILLSBOROUGH COUNTY)

Big Bend/Port Redwing (see Figure 4-3, FAC #11) is located on the east side of Tampa Bay along the US 41 corridor north of Apollo Beach. TECO and Mosaic Company privately own most of this activity center. National Gypsum has a wallboard manufacturing plant located on US 41 in front of the TECO power plant. Port Redwing is located on publicly-owned land and has approximately 175 undeveloped acres available for future development that would be an ideal location for a major container terminal. The activity center extends east of US 41 to the CSXT railroad right-of-way and south to the northern boundary of the Apollo Beach residential community and includes general mixed-uses. The area immediately east of the CSXT right-of-way is zoned general mixed-use, but is primarily being developed as residential property.

Rail service is provided by a CSXT Palmetto Subdivision spur, which crosses US 41 north of Big Bend Road. The primary customer is the Mosaic Company fertilizer plant.

The TPA recently negotiated a long-term lease with Andino Cements USA to develop a bulk aggregate facility at Port Red Wing. This facility is expected to import 2 million tons of aggregate and 1 million tons of cement beginning in 2008. Further planned expansion of this port facility would increase the throughput to 5-7 million tons of dry and liquid bulk annually. Additionally, a 1.5-million square foot distribution center is planned between US 41 and the CSXT rail corridor north of Big Bend Road.

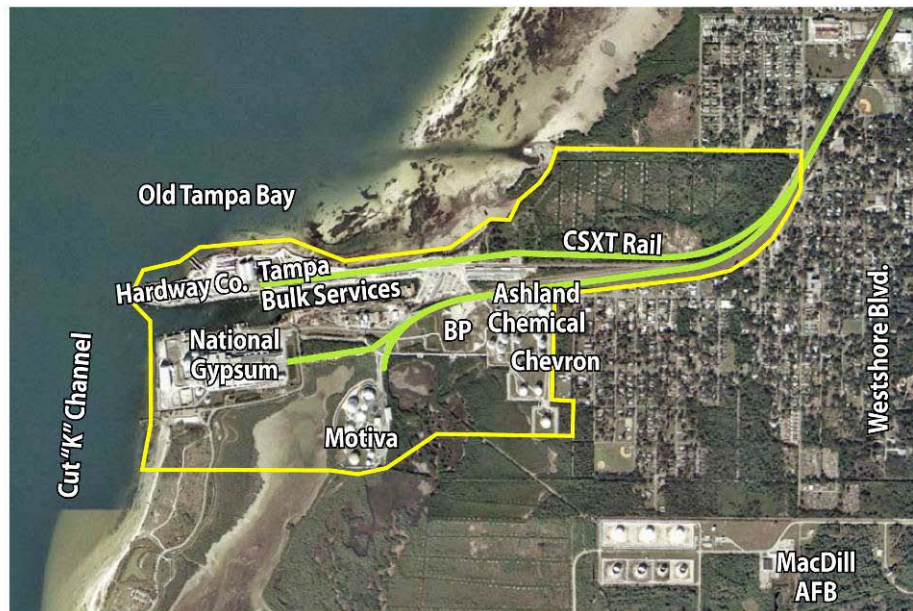


2002 Aerial Photo



PORT TAMPA (HILLSBOROUGH COUNTY)

Port Tampa (see Figure 4-3, FAC #8) is located on the southwest side of the Interbay Peninsula in Port Tampa City. This industrial enclave is surrounded by single- and multi-family residential uses as well as wetlands and public recreation uses. Due to its location and surrounding residential neighborhoods, expansion of industrial uses in this area is constrained. The Port Tampa City community is generally supportive of its industrial operations while proactively seeking methods to minimize the effects of significant truck traffic on their neighborhood. Rail access is provided by CSXT via the Port Tampa Spur.



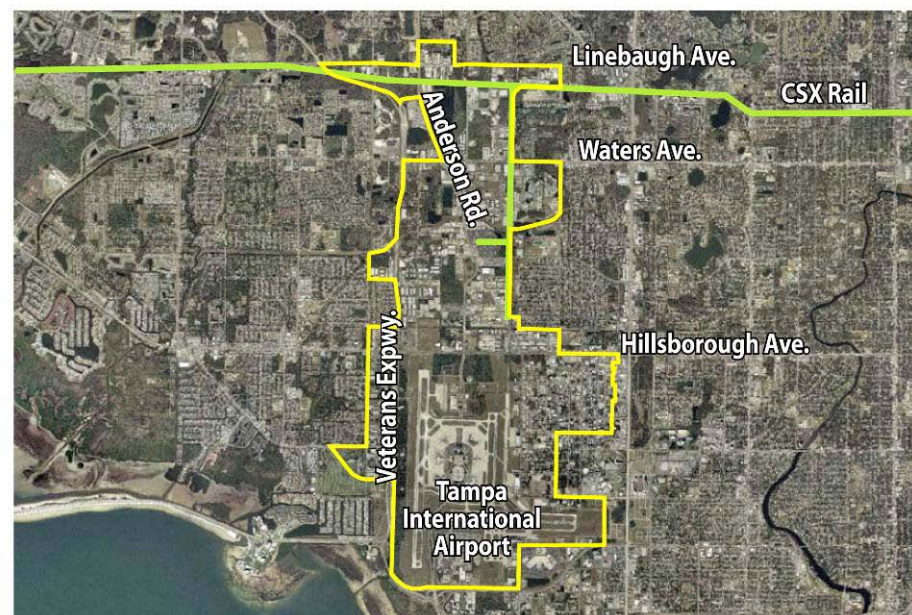
2002 Aerial Photo

Approximately six trains per week serve businesses in Port Tampa and other areas along the corridor. In addition to the Port of Tampa, the spur also provides a link to a large ammonia production plant at the former Rattlesnake port facility located south of Gandy Boulevard and west of Westshore Boulevard.

ANDERSON ROAD/TAMPA INTERNATIONAL AIRPORT (HILLSBOROUGH COUNTY)

The Anderson Road FAC (see Figure 4-3, FAC #7) is located in northwest Hillsborough County. It includes a large warehousing, distribution, and manufacturing district that extends along Anderson Road between Linebaugh Avenue and Hillsborough Avenue. It also includes Tampa International Airport and a portion of Drew Park east to Manhattan Avenue on the southern part of the activity center and the general mixed-use area on the west side of the Veterans Expressway.

Approximately six trains per week provide rail service to the Anderson Road yards and to the industrial area along Anderson Road via several sidings, off the Clearwater Subdivision Drew Spur, throughout the activity center. The area contains several railroad spurs serving local industries including the CSXT/TDSI Auto Terminal, a 100-acre facility extending along both sides of Sligh Avenue east of Anderson Road. The 75-acre north yard is used to unload new vehicles and has a 3,600 automobile capacity, while the 25-acre south yard was used to unload used vehicles but, has been recently sold for redevelopment. In 2002, CSXT delivered over 223,000 automobiles to the intermodal auto terminal located on Anderson Road and Sligh Avenue. Automobiles are delivered daily on 60-car unit trains that totaled 19,839 rail cars in 2002.¹² Additionally, Home Depot operates a large break bulk distribution center within the area that is served by CSXT.



2002 Aerial Photo

¹² Provided by CSXT.

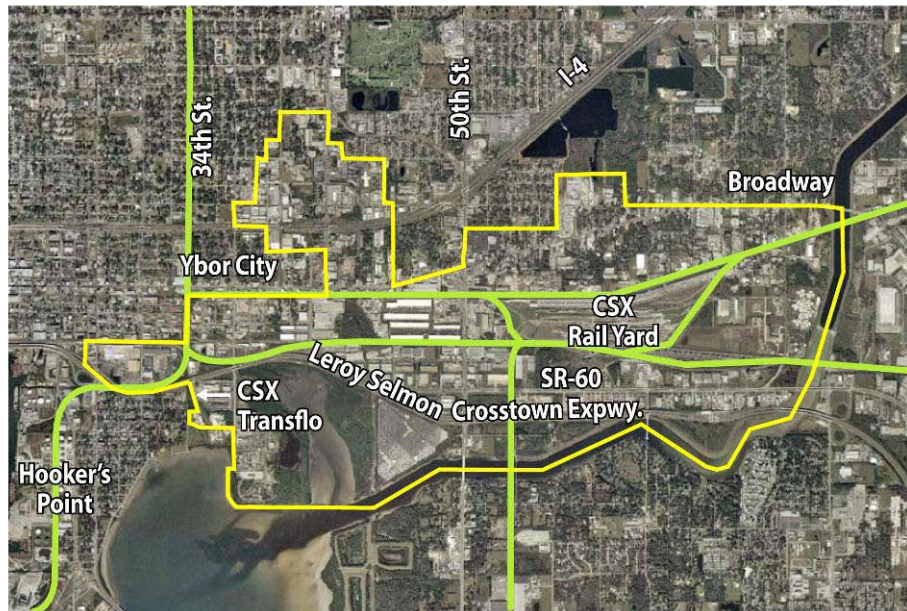


SOUTHEAST TAMPA INDUSTRIAL AREA (HILLSBOROUGH COUNTY)

The Southeast Tampa Industrial Area (see Figure 4-3, FAC #12) is located along the Adamo Drive (SR 60) corridor between 24th Street and Orient Road. The CSX Intermodal facility north of SR 60 and the CSXT TransFlo terminal south of SR 60 at 30th Street are the primary freight generators in this area although there are numerous large warehouse/distribution facilities and manufacturing plants located within the area.

The CSXT Yeoman yard is used to marshal large bulk trains destined mainly for the Port of Tampa. There is also a large CSXT engine repair facility at the yard. The CSXT Intermodal facility is divided into two rail yards. At the Uceta yard, over 85,000 piggyback trailers and containers are transferred between CSXT rail cars and trucks annually. This intermodal facility generates approximately 480 truck trips per day. The Yeoman yard is used for bulk transfer and to marshal phosphate and other product specific trains.¹³

The CSXT TransFlo yard, south of SR 60, is used for bulk transfer of chemicals, petroleum, and other bulk products from rail to truck. In 2002, 1,300 rail car loads were transferred to 4,500 trucks for distribution.¹⁴ CSXT also operates or serves several warehousing operations within the Southeast Tampa Industrial Area including Americold Storage and Avon Distribution Systems.



2002 Aerial Photo

¹³ Provided by CSXT.

¹⁴ Ibid.

SOUTH I-75 CORRIDOR/SABAL PARK INDUSTRIAL AREA (HILLSBOROUGH COUNTY)

The South I-75 Corridor (Sabal Park Industrial Area) (see Figure 4-3, FAC #13) generally incorporates the area bound by Martin Luther King Jr. Boulevard on the north, US 301 on the west, and I-75 on the east. It also includes several smaller industrial parks along the west side of US 301. The western boundary is the Tampa By-Pass Canal to the north and Falkenburg Road to the south. The southern boundaries include the Lee Roy Selmon Expressway and the area south of Progress Boulevard. The primary industrial site within this area is Sabal Park. Other industrial parks that fall within the area include Interstate Industrial Park, Tampa East Industrial Park, Silo Bend Industrial Park, Crescent Industrial Park, Interchange Center, Crosstown Center, and Parkway Center.

This area is primarily developed with large warehousing and distribution companies as well as specialized manufacturing. Cigar manufacturing, bottling and distribution, baked goods distribution, lumber products distribution, regional retail distribution, and mail distribution are major industrial operations in this area. Industrial activities within this area are expected to expand as many of the business/industrial parks listed above are in the beginning stages of development.

CSXT provides rail service throughout the Sabal Park Industrial Area with several rail sidings off the CSXT Lakeland Subdivision mainline. Rail freight includes building products, bulk materials, and flavored syrup. Because rail service is provided into Sabal Park, this area should be promoted to industries requiring rail access.



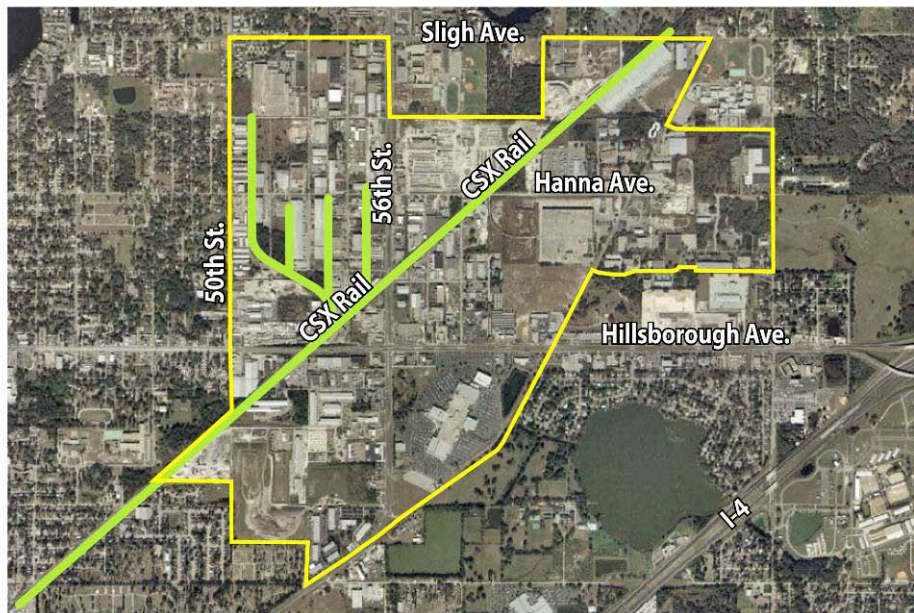
2002 Aerial Photo



EAST CENTRAL TAMPA INDUSTRIAL AREA (HILLSBOROUGH COUNTY)

The East Central Tampa Industrial Area (see Figure 4-3, FAC #14) is located in the area generally bound by 50th Street on the west, Orient Road on the east, Hillsborough Avenue on the south, and Sligh Avenue on the north. The area is bisected by 56th Street, a major north/south commuter corridor that serves Temple Terrace, the University of South Florida, and the Busch Gardens amusement park.

This area consists of several large industrial operations that manufacture pre-stressed concrete construction products such as cement pipes and beams as well as wood trusses and iron pipes. The area also includes distribution centers, warehouses, trucking firms, and a large recycling center. This FAC is served by the CSXT NEVE Spur, which has several rail sidings used for intermodal transfers and shipment of raw materials required by manufactures and finished manufactured products.

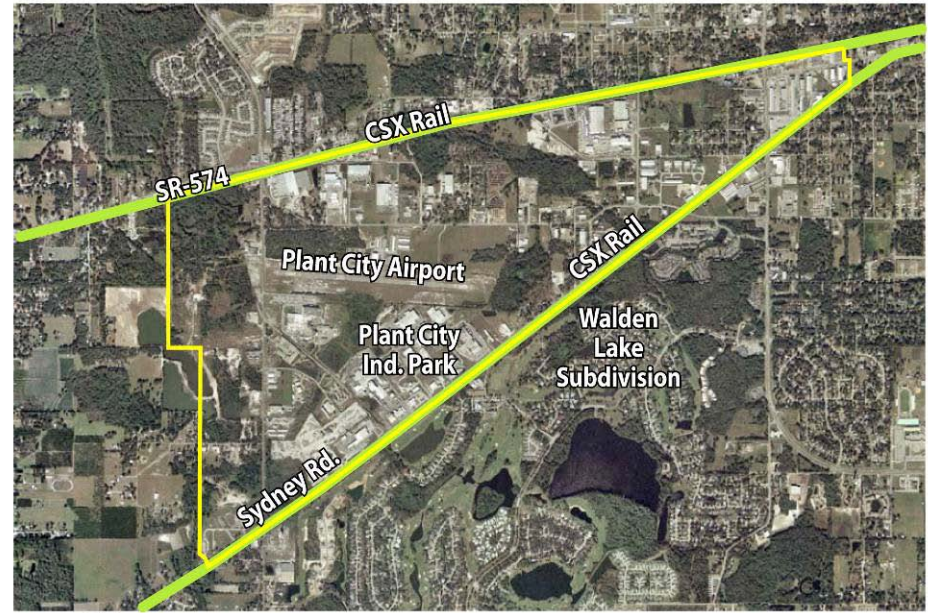


2002 Aerial Photo

PLANT CITY AIRPORT INDUSTRIAL AREA (HILLSBOROUGH COUNTY)

The Plant City Airport Industrial Area (see Figure 4-3, FAC #16) is bounded by SR 574 on the north, Sydney Road/ Woodrow Wilson Street on the south, and Turkey Creek Road on the west. Plant City Airport and Plant City Industrial Park are located within this activity center. A diversified list of products are manufactured within this activity center including canning, meat and seafood packaging, manufactured homes, aluminum building products, bulk tank manufacturing, steel and concrete pipes, and concrete building products.

The Plant City Airport Industrial Park is served by both the CSXT Yeoman and Lakeland Subdivisions, which have several rail sidings to businesses located in the area. This area is currently in the early development stages with significant opportunity for growth.



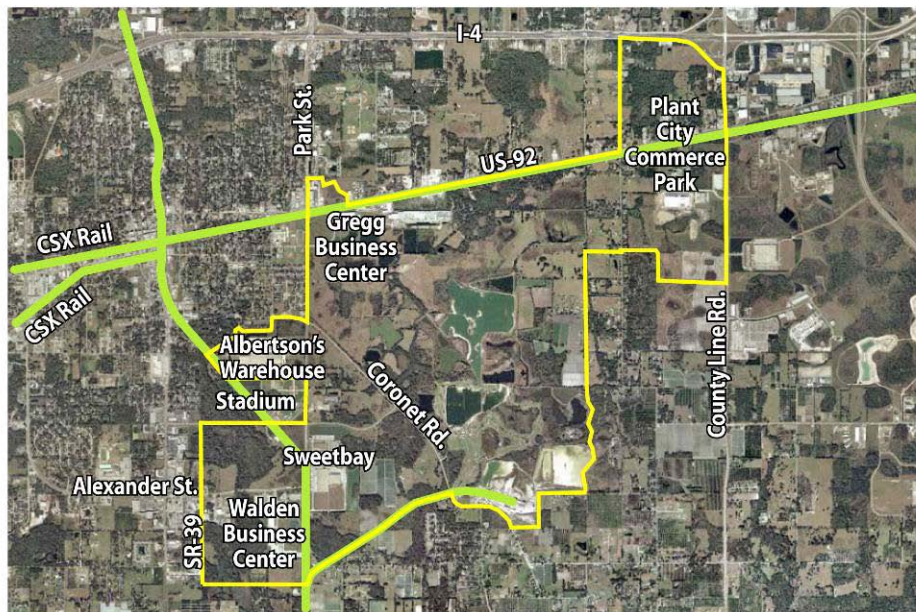
2002 Aerial Photo



EAST PLANT CITY INDUSTRIAL AREA (HILLSBOROUGH COUNTY)

The East Plant City Industrial Area (see Figure 4-3, FAC #17) is located along the Park Road corridor and extends eastward along US 92 to County Line Road. Major industrial operations in the area include Albertson's, Sweetbay, and Sav-a-Lot distribution centers, Walden Business Park, Gregg Industrial Park, and the Plant City Commerce Center. The Coronet Industries Plant on Coronet Road, a heavy user of bulk phosphate product received by rail, has closed.

CSXT serves this activity center with the Lakeland Subdivision, which runs along the north side of the area and has sidings to 84 Lumber, International Paper, and Starr Distribution. Spurs off the Plant City Subdivision also serve the Walden Woods Industrial Park, which is poised for expansion and would benefit from development of new industries that require rail access to reduce transportation costs.

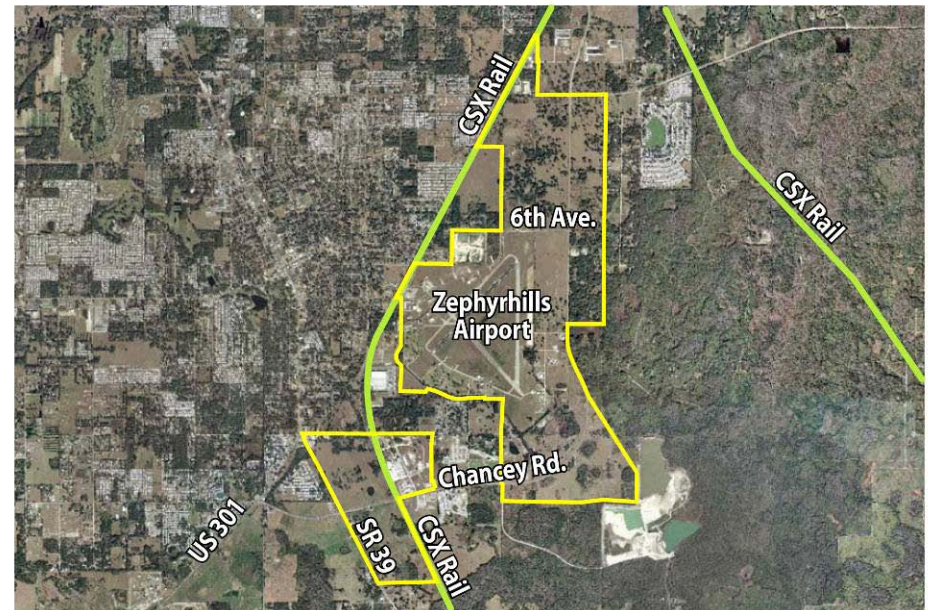


2002 Aerial Photo

ZEPHYRHILLS AIRPORT (PASCO COUNTY)

The Zephyrhills Airport FAC (see Figure 4-3, FAC #21) is located east of US 301 and north and west of Chancey Road north to SR 54 in the southeastern corner of Pasco County. This activity center includes all of the area designated for industrial uses by the Pasco County Future Land Use Map. It also includes an area that is slightly geographically separated from the primary airport industrial area. This area includes the Copeland Industrial Park and extends westward across the CSXT right-of-way to US 301/SR 39. It includes the area between SR 39 and the CSXT tracks south to approximately Pattie Road. The Zephyrhills Airport and two adjacent industrial parks, the Copeland Industrial Park and the Zephyrhills Airport Industrial Airpark, are the primary existing industrial activities in the area. The remaining adjoining area consists of vacant land zoned industrial so there is ample capacity for expansion of these manufacturing and industrial activities.

The CSXT Yeoman Subdivision passes through the activity center and although it is not currently serving industries located within the center, the opportunity exists to expand into multi-modal operations by attracting businesses that require good rail access.



2002 Aerial Photo



OLDSMAR (TAMPA ROAD) INDUSTRIAL AREA (PINELLAS COUNTY)

The Oldsmar (Tampa Road) Industrial Area FAC (see Figure 4-3, FAC #6) is located in the Oldsmar area extending from Commerce Drive on the west to Racetrack Road (Hillsborough County Line) on the east and north of Tampa Road. It also includes the area bounded by Tampa Road, State Street, and Forrest Lakes Boulevard. It includes the Burbank Center Industrial Park, the industrial portion of Bay Arbor, the Tri-County Business Park, Brooker Creek Corporate Park, Cypress Industrial, Mears Industrial Park, and the Tampa Bay Park of Commerce. Together, these industrial parks include over 3.5 million square feet of approved industrial land uses.



2002 Aerial Photo

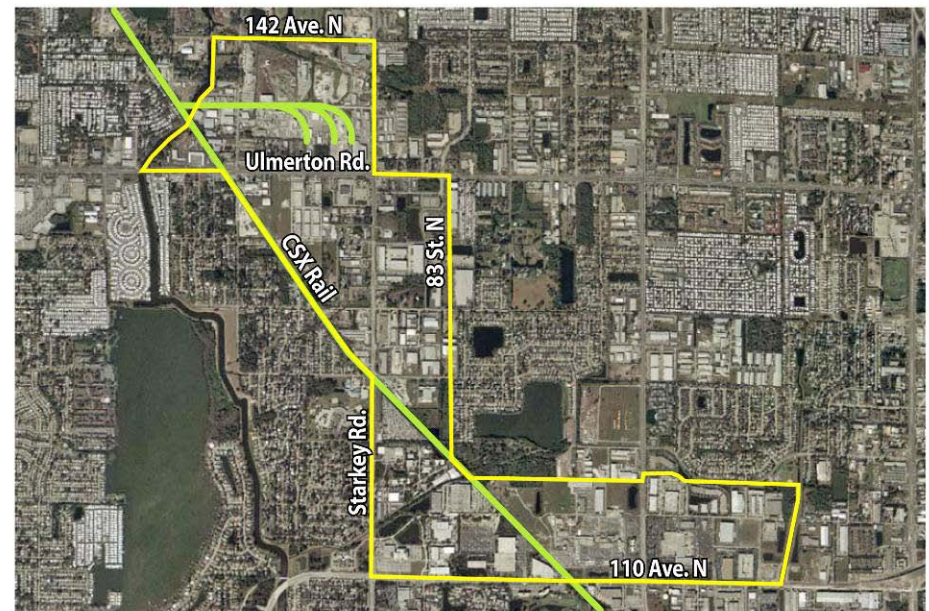
Oldsmar's location also helps attract new businesses. It is equally convenient to downtown Tampa in Hillsborough County, Clearwater in Pinellas County, and New Port Richey in Pasco County. In addition, low taxes and competitive land prices have sparked a commercial building boom in Oldsmar since the late 1990s attracting many new and relocated businesses.

The CSXT Clearwater Subdivision rail line passes through the area providing service to Pinellas County. An existing inactive rail spur provides the area with the potential for future rail service, which is an opportunity that should be explored due to heavy congestion on the highway corridors that serve the area as well as opposition from local residents to truck traffic on the main streets through their developments.

WEST PINELLAS INDUSTRIAL AREA (PINELLAS COUNTY)

The West Pinellas Industrial Area FAC (see Figure 4-3, FAC #5) is located south of 142nd Avenue North and north of 110th Avenue North. CSXT tracks and Starkey Road form the western boundary and 83rd Street and CSXT is the eastern border.

A spur off the Clearwater Subdivision provides service to businesses north of Ulmerton Road. Opportunities should be explored to expand with new businesses that can take advantage of the existing rail line for freight transportation.

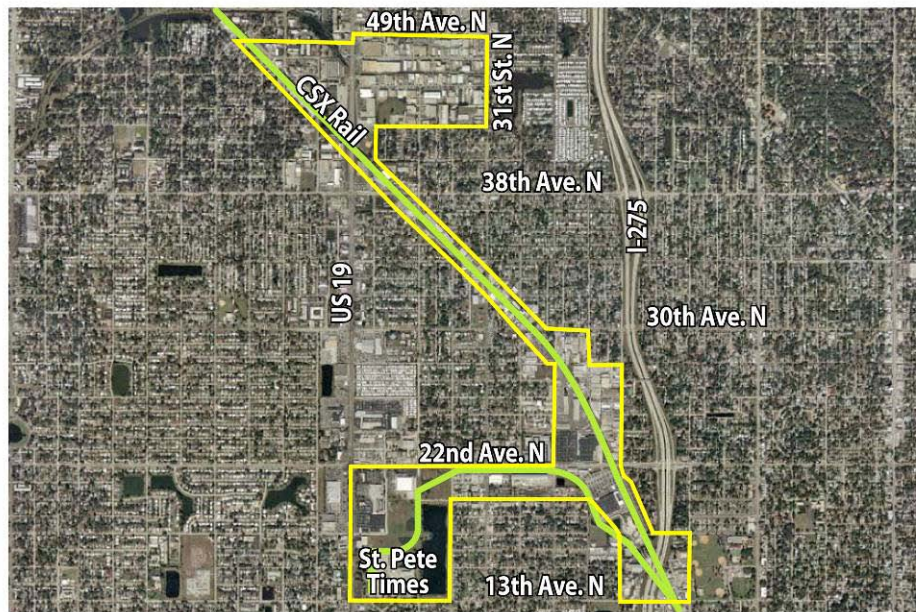


2002 Aerial Photo



SOUTH CENTRAL CSXT CORRIDOR (PINELLAS COUNTY)

The South Central CSXT Corridor (see Figure 4-3, FAC #2) includes a northern and southern portion connected by a CSXT railroad corridor (Clearwater Subdivision). The northern portion of the area includes the Joe's Creek Industrial Park and is generally bounded by 46th Avenue North on the north, the CSXT rail corridor on the west, 31st Street North on the east, and 42nd Avenue North on the south. The southern portion is bounded by 30th Avenue North on the north and 9th Avenue North on the south and includes several blocks on either side of the rail corridor including an area that follows the 22nd Avenue North spur to the St. Petersburg Times plant on 34th Street North. This activity center is adjacent to the Clearwater Subdivision and the opportunities to develop new rail business should be explored.



2002 Aerial Photo

REGIONAL PHOSPHATE PRODUCTION AND TRANSPORTATION

As shown in the discussions of rail traffic in the region, the production and transportation of phosphate and phosphate-related materials comprise the major demand for rail service in FDOT District Seven. Although this activity occurs in a multi-county area, its heart has historically resided in neighboring Polk County. The activity in the region has more or less been limited to Hillsborough County with production facilities, mines, and chemical plants located in the east and port terminals and plants along Tampa Bay in the west. Train movements between the Tampa Bay facilities and the remainder of the activity to the east, both within and beyond the county, have been numerous over the years and produce significant impacts on the region.

PHOSPHATE PRODUCTION

Florida currently produces about 75 percent of the phosphate fertilizers used in the U.S. and 25 percent of the world's supply. While production is centered in an area commonly called Bone Valley in the west central part of the state, some is also produced in north Florida, principally in Hamilton County. Approximately 90 percent of Florida phosphate is used for fertilizer, 5 percent for animal feed supplements, and the remainder for a variety of products.

Processes - Phosphate, when mined, also contains rock, clay, and sand. The latter materials are separated from the phosphate in a beneficiation plant. The phosphate is then sent to a chemical plant for further processing. Here, phosphoric acid is created by a reaction of phosphate rock and sulfuric acid. Further reaction with ammonia produces monoammonium phosphate (MAP) and diammonium phosphate (DAP), the principal fertilizer products. Chemical processing is necessary to make phosphate water soluble for use as fertilizer as the natural phosphate rock is insoluble.

Phosphates - Not Just for Fertilizer...

Most people think that phosphates are used for fertilizers and animal feed products, but phosphate chemicals are used in a variety of everyday products as well, including:

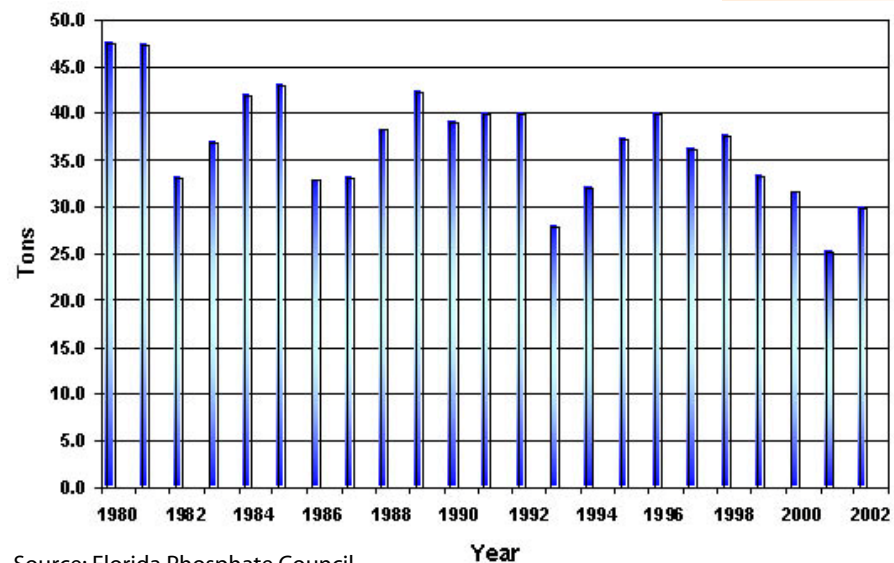
- Antifreeze
- Athletic Drinks
- Automatic Dishwashing Detergents
- Baking Powder
- Bath Beads
- Cake Mixes
- Car Wash Detergents
- Chicken Tenders
- Cola Drinks
- Cooked Ham
- Evaporated Milk
- Fire Extinguishers
- French Fries
- Frozen Fish
- Gelatin
- Heavy-Duty Cleaners
- Industrial and Institutional Cleaners
- Instant Pudding
- Latex Paint
- Nutritional Supplements
- Paint and Wall Cleaners
- Pet Foods
- Powdered Drinks
- Processed Cheese
- Surimi
- Toothpaste

Source: Florida Phosphate Council



Products and Volumes - During 2003, 28.7 million metric tons (31.6 million short tons¹⁵) of phosphate were extracted from 4,501 acres of land in Florida¹⁶. As can be seen on **Figure 4-4**, current phosphate production is lower than historic production levels over the last two decades. Although mining activity approached 50 million tons annually in the early 1980s and remained at or near 40-million-ton levels through the early 1990s, more recent years have stabilized at around 30 million tons per year and is expected to remain at those levels for the foreseeable future.¹⁷

FIGURE 4-4
PHOSPHATE ROCK PRODUCTION
(in million short tons)



Source: Florida Phosphate Council.

¹⁵ 2,000 lbs.

¹⁶ Florida Phosphate Council, 2004 *Florida Phosphate Facts*.

¹⁷ Industry interviews.

Further processing of the extracted phosphate results in production of a number of finished products. An example of the magnitudes of the major products is shown in **Table 4-5**.

**TABLE 4-5
MAJOR PHOSPHATE FINISHED PRODUCTS
2003**

Product	Short Tons
Diammonium Phosphate (DAP)	8,554,846
Monoammonium Phosphate (MAP)	3,443,484
Superphosphoric Acid	573,153
Triple Super Phosphate	971,235
Phosphoric Acid	21,550
Animal Feed Supplements	1,110,209
Sulfuric Acid	315,801

Source: 2004 Florida Phosphate Facts, Florida Phosphate Council.

TRANSPORTATION

As discussed previously, rail transportation in FDOT District Seven and local phosphate production are truly intertwined. Rail transportation costs for the Florida phosphate industry totaled \$162.1 million in 2003 as compared with truck transportation expenditures of \$36.5 million. Pipeline transportation costs for industry-related commodities moving through the Port of Tampa totaled \$11.5 million. During 2003, more than 19 million tons of phosphate-related materials were shipped through the Port of Tampa.¹⁸

¹⁸ 2004 Florida Phosphate Facts, Florida Phosphate Council.



The Port of Tampa is a major element of the industry's transportation network. Phosphate products, as well as commodities required for production such as ammonia and sulphur, move through the port. These products move by truck, rail, and pipeline. Annual throughput of phosphate and related materials account for 15.1 million tons or about 40 percent of the port's total annual tonnage.¹⁹

INDUSTRY STATUS

There have been many changes in the industry in terms of its structure, operations, and markets over the last two decades. These changes affect rail service demand and the resulting impact on the region.

Mergers - Two of the largest local phosphate producers, IMC Phosphate Company and Cargill Fertilizer, Inc., merged in January 2005 to become Mosaic Company, Inc. As a result of this merger, the local industry is comprised of only three companies: Mosaic, CF Industries, Inc., and U.S. Agri-Chemicals Corp. In 1979, there were 11 companies operating mines and 10 producers of finished phosphate products.²⁰

Markets - The changing position of U.S. produced phosphate and that of Bone Valley in the global marketplace has also resulted in changes in production and shipping trends over the last two decades. The largest volumes of phosphate demand in the past were for export of phosphate rock. That has stopped and only finished products are now exported due to the growing demand for phosphate fertilizers and the development of new mines internationally. The only phosphate rock movements to Tampa Bay terminals now consist of material being shipped to local production facilities or being forwarded by water to out-of-state domestic chemical plants largely in Louisiana.

¹⁹ 2004 Florida Phosphate Facts, Florida Phosphate Council.

²⁰ West Central Florida Regional Rail Study, prepared for FDOT by Wilbur Smith and Associates and Zellar-Williams Inc., June 1980.

Future Production - Florida phosphate reserves could last up to 300 years at current production rates. However, much of the reserves are underneath land surfaces that have already been developed (such as in Jacksonville and in the Boyette area in Hillsborough County in District Seven). Technological developments in both mining and processes will also impact mineable reserves and production rates.

Another limiting factor lies in permitting of both mines and plants. Current processes and requirements make development of new facilities and operations very difficult. Even without new mines and plants, there are enough current and modern operations to sustain current production rates for 30 years.²¹ Approximately one-half of current phosphate rock extraction occurs at recently opened mines located in Manatee, Hardee, and DeSoto Counties.

RAILROAD OPERATIONS

Phosphate rail operations within the region are comprised principally of: movements between mines and plants for phosphate rock processing; phosphate rock and finished products shipped to Tampa Bay terminals; and finished products shipped to the interior of the country.

The principal rail lines used in phosphate-related train movements include the Brewster, Plant City, Valrico, Yeoman, and Palmetto Subdivisions as depicted on **Figure 4-5**. The latter three comprise the port terminal route. Major yard operations associated with phosphate movement occur in Polk County, outside of District Seven.

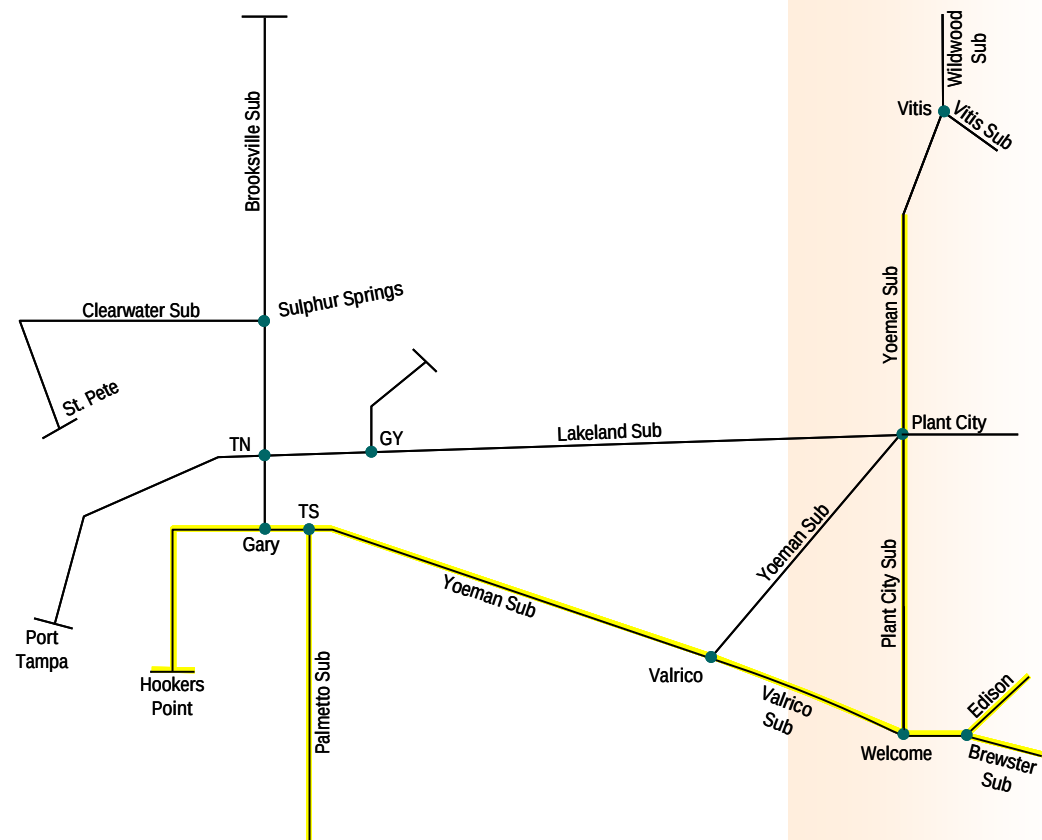


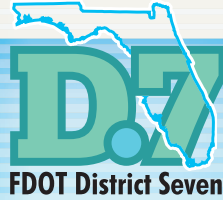
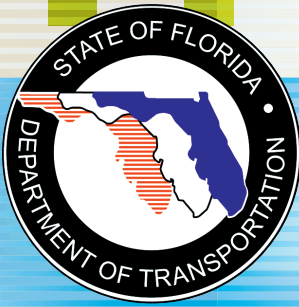
²¹ Industry interviews.



The availability of crews and equipment are the largest rail problems cited in industry interviews. The age of significant portions of the phosphate car fleet necessitating their retirement impact the latter.

**FIGURE 4-5
TAMPA AREA PHOSPHATE LINES**





FREIGHT MOBILITY

Issues and Opportunities **5**

This section discusses the issues affecting the regional rail system and opportunities to improve not only the rail system but, for congestion relief, port expansion, and economic development as well.

Section Highlights:

- Numerous issues affect freight rail transportation, many of which are out of the railroad's control.
- There are many opportunities afforded to the region by shifting significant amounts of freight from truck to rail.

What You Need to Know:

- Issues affecting freight rail include: line sharing with passenger rail, rail and highway congestion, adjacent land use, environmental concerns, safety, and security.
- A single freight train can carry the load of 500 trucks. Trains are more energy efficient than trucks and create less air pollution.
- Similar to public sector road improvements, the railroads do not have the capital capacity to make all the infrastructure improvements required.

What Needs to be Done:

- Investigate potential public/private infrastructure funding partnerships that will provide benefits to the public as well as the railroad.
- Be mindful of public concerns such as noise, light, and air pollution as well as vibration before making land use changes that will have an adverse affect on freight rail operations.



ISSUES AFFECTING FREIGHT RAIL

PASSENGER RAIL

Rationalization is a term used to describe the process of abandoning unprofitable rail segments by selling or leasing the right-of-way to short-line operators, transferring corridors to "rails to trails" as a means of rail banking for future needs, or simply by abandoning the line and selling the right-of-way or returning leased easements to adjacent land owners.

The Staggers Act of 1980 and the Canada Transportation Act in 1996 made rationalization easier. Much of the early track rationalization was due to the severe reduction in passenger service in the US. For example, by the late 1990s, passenger service was reduced to a mere ten percent of its peak in the post World War II era. Mergers, bankruptcies, and technological advances resulted in additional rationalization and a more efficient freight rail system.

Virtually all of the nation's principal urban areas have accelerated plans to increase the use of public transportation as a means to meet travel demand. In all forms of the demand - local, regional, and intercity - rail has become a popular alternative to continued roadway infrastructure improvement and expansion. The study area is no different as several rail transit and conventional rail passenger service, commuter and intercity alike, proposals have been advanced and studied as discussed elsewhere.

Stabilization/Rationalization - Many impacts could result from the institution of rail passenger service over existing rail lines. One impact is the retention of those that might become abandonment candidates as rail freight business tapers. These candidates typically come from the light freight density category. Public use justifies the need for the line, which at the same time permits freight operation to continue and make a contribution toward upkeep without having to bear the full brunt of related costs that could not be justified from meager freight revenues.

Improvements - On more heavily used lines, the institution of rail passenger service typically results in line capacity demand by passenger trains that degrade rail freight service. That in turn requires capacity and/or other line improvements (rail, ties, train control signals, grade crossing warning devices) that the freight carrier cannot justify for freight-only operations. However, once implemented to support passenger service, these improvements quite often provide benefits to the freight operator. There are a multitude of arguments on both the freight and passenger side of joint track use, but regardless, rail passenger use of the study area rail system will have to be considered in the future because the proposed Florida High Speed Rail, and the often-proposed light rail system for Hillsborough County recommend using the existing freight corridors and track.

It is important to coordinate work in partnership with all of the transit agencies in the region, including the newly formed Tampa Bay Regional Transportation Authority (TBRTA).

STRATEGIC INTERMODAL SYSTEM

CSX INTERMODAL RAIL YARD DESIGNATION

The primary issue with the SIS from a regional rail freight perspective is the failure to designate the CSX Intermodal facility at the Uceta Yard as a SIS Hub rather than as an emerging SIS Hub. According to the adopted SIS Plan, 360,000 intermodal tons or 4 million bulk tons are required for a facility to be designated as a SIS Hub. According to CSXT, over 85,000 containers and trailers and 11 million bulk tons of cargo passed through the Uceta and co-located Yeoman Yards annually. The 85,000 lifts represent more than 360,000 tons assuming that the average container transports more than 5 tons of goods. Additionally, the CSX Intermodal facility is the only such rail facility of significance serving West Florida.

SIS DESIGNATION CRITERIA

A second freight related issue with the SIS is the use of weight-based criteria for determining the status of a facility as a hub or emerging intermodal freight hub. While weight is a good indicator of total throughput, it does not adequately account for the number of trucks used to transport goods to the facility, which has a greater impact on connector routes and local roads.

A significant barrier to freight transportation is congestion, which is measured in the number of vehicles affecting a particular corridor or facility gateway. By using tonnage as the criteria, this threshold fails to recognize that lighter weight products require more containers/trailers to transport than heavier/more dense products. Light products "cube-out" before reaching the maximum weight capacity of a container or trailer.

"Freight flows rapidly across our system but then comes to a virtual stop as vehicles come off exit ramps out to congested, narrow streets with multiple stoplights leading to our seaports, airports, rail terminals and stations, and major manufacturing facilities. If we focus on less than 2 percent of the system, we can significantly increase productivity."

*Federal Highway Administrator
(as quoted in TRB SR 271 from: Smallen,
D. 1998 Intermodal Connectors: NHS
Catches Up to the 1990s. Public Roads,
May-June 1998)*



It does not matter if a truck is full or empty - it is still a truck on the road that adds to local congestion.

Also, every container/trailer generally results in two movements (loaded and empty, unless a return load is booked). In either case, there are two trips produced, both of which impact the road system.

Using the CSX Intermodal facility as an example, 85,000 annual lifts could equate to between 170,000 (load and return load) or (loaded and empty) truck movements (in and out) of the facility.

RAIL FREIGHT AND THE COMMUNITY

Freight transportation is responsible for delivering the products we use. As freight transportation activities amplify, rail freight facilities will have to add capacity to accommodate the increased activity. Concurrently, residential areas are expanding and compete for the same land, roads, air, and water resources. As rail freight facilities expand and/or intensify operations, concerns over congestion, land use, environmental issues, economic development, noise, aesthetics, safety and security can be expected. As these development conflicts occur, creative solutions must be developed to balance freight mobility and community interests.

AT-GRADE CROSSINGS

Congestion and traffic flow are a growing concern among communities and commuters. Trains crossing roads at-grade can cause disruption to traffic flow when long freight trains block roadways. Roadway blockage can sometimes last for many minutes and cause miles of delayed commuter traffic. Factors that contribute to train blockage could include poor spacing between rail crossings (too many crossings), temporary deficient track conditions, rail line congestion, switching operations, or equipment failure.



At the same time, the use of rail to move freight results in a decrease in the number of trucks that contribute to local highway congestion. According to FHWA, one rail car is estimated to represent the equivalent capacity of 3.8 trailer trucks. On the other hand, longer and more trains will result in additional delays at the at-grade crossings. Although expensive, the solution to this dilemma lies with constructing highway/rail grade separations on heavily traveled highways.

Collision avoidance between motorists and trains at grade crossings is a major concern of the railroad, the FDOT, and the FRA. Vehicles circumventing installed safety devices at some crossings continue to be a problem that has resulted in the implementation of additional safety barriers to prevent circumvention actions by motorists. Changes included raising the heights of or adding medians at railroad crossing approaches, and double gating known as "quad gates."

Blocked grade crossings is another contentious issue affecting railroad operations. Because many crossings are in cities and towns where traffic is increasing, blocked crossings have become a source of motorist frustration. Additionally, blocked crossings can impede emergency vehicles and lead to circumvention of safety devices immediately prior to train arrival that may result in collisions.

As a result, many locations have attempted to regulate the amount of time that crossings may be blocked by trains. There are currently no federal laws governing the blocking of crossing by trains because they would conflict with interstate commerce laws. From the railroad perspective, restricting operations will lead to higher costs for shippers and consumers alike and could result in the abandonment of some rail lines that would result in an increase in truck traffic on congested local roadways.

Rail/highway grade separated crossings are opportunities for developing public/private-financing partnerships where both the private rail operators and the public realize long-term benefits. Grade separations allow both rail and highway traffic to proceed unimpeded at busy crossings thus reducing congestion caused by delay and increasing safety.

A single train can carry the load of up to 500 trucks; a single boxcar can transport approximately as much as three trucks. Since a single combination truck requires the same highway capacity as four automobiles, a single freight train can mean the equivalent of more than 2,000 fewer cars on the highway.

Freight Rail Fact Book, Chapter 2

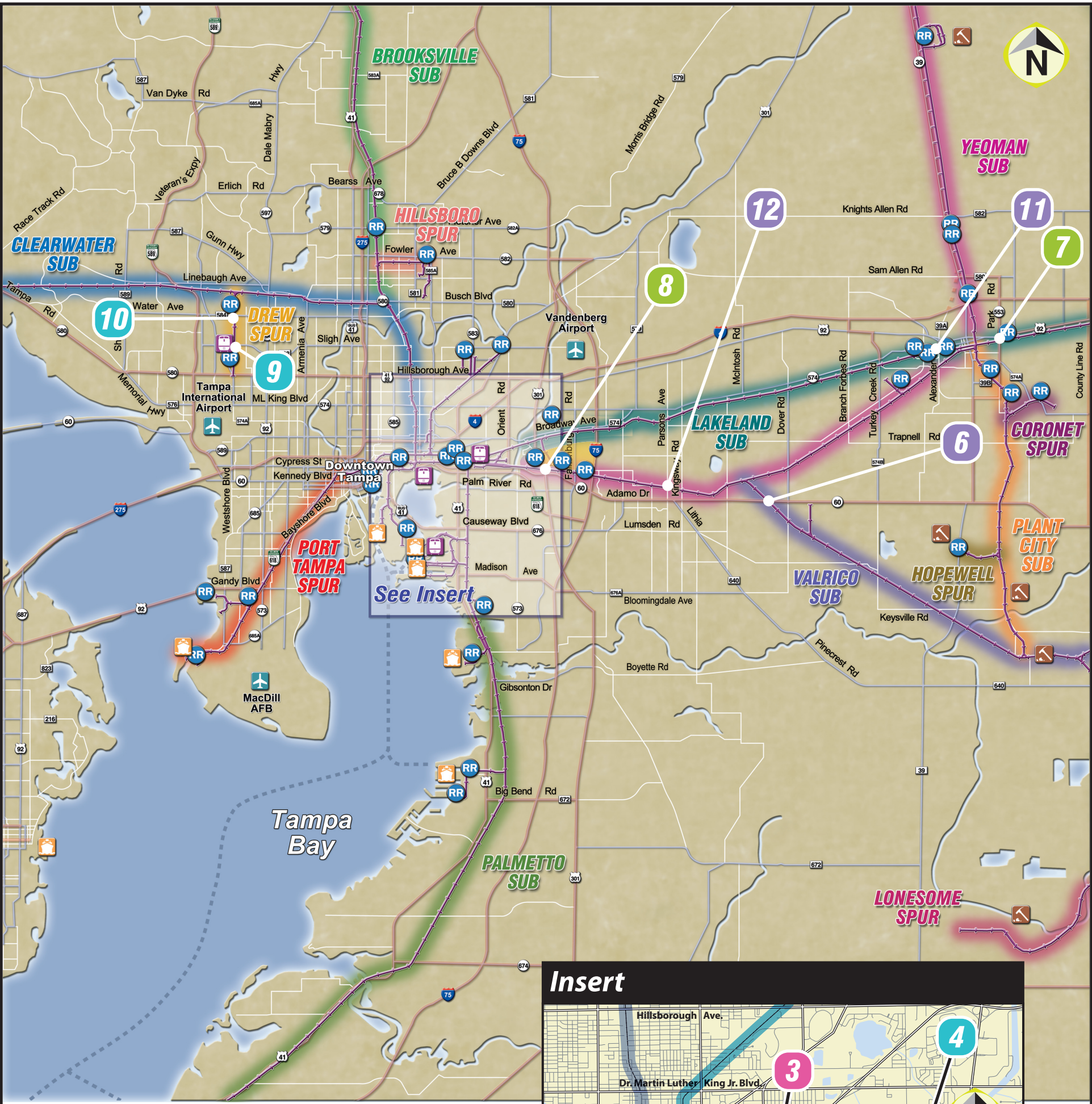


Table 5-1 provides a prioritized listing of potential crossings where grade separations would be appropriate. Because of the cost of right-of-way and construction, it may not be possible to build these grade separations. Nevertheless there are twelve locations recommended for grade separation by either CSXT, FDOT or the Study Team. There are an additional six locations that are recommended for future consideration when highway improvements are evaluated and if the number of trains and vehicle traffic warrant such separation.

The following crossings (**Table 5-1**) discussed below should be considered for grade separation improvements (**Figure 5-1**). Note: All vehicle counts provided by FDOT are for year 2002.

**TABLE 5-1
PRIORITIZED LIST OF GRADE SEPARATIONS**

Priority	Location	Recommend	Consider	By
1	SR 60 (Adamo) E of 50th St. over the Palmetto Main	X		CSXT, FDOT
2	US 41 over the Rockport Lead	X		CSXT, FDOT
3	50th St. over the "S" and "A" Lines and Broadway Ave.	X		CSXT, FDOT
4	Orient Rd. over the "A" Line	X		CSXT
5	Causeway Blvd. over the Palmetto Mainline	X		CSXT
6	SR 60 (Brandon Blvd.) over the Valrico Subdivision Line	X		CSXT
7	Park Rd. (Plant City) over the "A" Line	X		Study Team
8	Faulkenburg Rd. over the "S" Line	X		Study Team
9	Sligh Ave. over the Drew Spur		X	CSXT
10	Waters Ave. over the Drew Spur		X	CSXT
11	Alexander St. (Plant City) over the "A" Line	X		Study Team
12	Parsons Ave. (Brandon) over the "S" line	X		FDOT
13	Valrico Rd. (Brandon) over the "S" Line	X		FDOT
14	SR 50 East of US 301 over the "S" Line		X	Study Team
15	SR 54 over the Brooksville Sub and US 41		X	Study Team
16	SR 52 W of US 41 over the Brooksville Subdivision		X	Study Team
17	US 41 N of SR 52 over the Brooksville Sub Subdivision		X	Study Team
18	SR 50 E of US 41 over the Brooksville Sub Subdivision		X	Study Team



LEGEND

1

SR 60, East of 50th Street

2

US 41 over Rock Port

3

50th St. over "S" & "A" Lines

4

Orient Road over "A" Line

5

Causeway Blvd. over Palmetto

6

SR 60 (Brandon Blvd.) over Valrico Sub

7

Park Rd. (Plant City) over "A" Line

8

Faulkenburg Rd. over "S" Line

9

Sligh Ave. over Drew Spur

10

Waters Ave. over Drew Spur

11

Alexander St. (Plant City) over the "A" Line

12

Parsons Ave. (Brandon) over the "S" Line

X

Recommended by Both CSX & FDOT (Diagnostic Field Review)

X

Recommended by CSXT

X

Recommended by FDOT (Diagnostic Field Review)

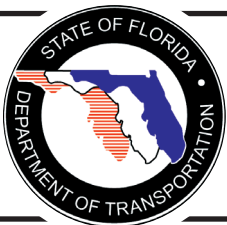
X

Recommended by Study Team

Insert



Figure 5-1



Recommended Grade Separations

Source: URS Corporation

Date: July 2008

1. SR 60 (Adamo Drive) East of 50th Street Over the Palmetto Main (Recommended)

Without question, this crossing is the one in most need of a grade separation. Over 37,000 vehicles per day including over 3,000 trucks per day (1,100+ heavy trucks) and 25 to 30 trains per day use this crossing. SR 60 is a four-lane facility that is listed in the Hillsborough MPO 2025 LRTP Needs as requiring improvement to six-lanes. The crossing is approximately 0.25 miles east of US 41 (50th Street), which is also heavily used by trucks, making this area one of the most congested in the region. Compounding the problem is that this line begins in Yeoman Yard, which lies immediately north of the highway. Almost all of the southbound trains are loaded with phosphate rock or products bound for Rockport. These trains can reach 65-100 cars in length and move very slowly across the highway resulting in significant backups and delays, especially during the morning and afternoon peak periods. (Recommended by CSXT and FDOT)

2. US 41 Over the Rockport Lead (Recommended)

Like the crossing at SR 60 east of 50th Street, this crossing is extremely problematic due to the number of vehicles (27,500 vehicles per day including 1,400 heavy trucks) using this north-south corridor providing access to the port as well as a primary commuter route from the south county area. Traffic on this route is expected to continue to grow due to planned residential development to the south and east. Truck traffic is also expected to grow as the port expands operations. US 41 is the only highway with direct access to all of the port facilities located along the eastern shore of Tampa Bay. The crossing is located at the entrance to the CSX Rockport Phosphate Terminal and also provides access to port facilities at Port Sutton and Pendola Point to the south. Approximately 28 trains per day use this crossing. Switching tracks within Rockport causes the train to slow and block the roadway for periods of 10 to 15 minutes resulting in one-mile or larger backups on US 41 and significant delays to port and non-port related trucking operations and for commuters. (Recommended by CSXT and FDOT)



**Northbound queue at Rockport Crossing on US 41,
South of Causeway Boulevard.**



There are two potential methods of achieving the grade separation. First, extend the bridge over both the railroad and Causeway Boulevard for through traffic utilizing local surface lanes for turning and business access. Second, relocate the Rockport Lead further south allowing the road to return to grade prior to reaching Causeway Boulevard. (Recommended by CSXT and FDOT)

3. 50th Street Over the "S" and "A" Lines and Broadway Avenue (Recommended)

This crossing lies north of SR 60 and is located on the most congested road segment in Tampa. Over 41,000 vehicles, including over 7,000 trucks (4,200+ heavy trucks) use this road daily accessing I-4 to the north and the CSX Intermodal yard to the east. Approximately 500 of the truck trips through this area are a result of the activity at CSX Intermodal yard. Approximately five trains per day use the "S" line crossing. However, the primary problem is due to switching movements inside the Yeoman Yard and switching from the "S" to the "A" lines inside the yard. These operations cause long delays in both directions on 50th Street and cause queues beyond intersections to the north and south adding to the congestion. Due to the proximity of the "A" Line (less than 0.25 miles north of the "S" line and the intersection of Broadway Avenue (1,000 feet north of the "A" line), as well as numerous access points to distribution centers in the area that generate significant truck turning movements, this entire segment should be considered for a single grade separation for through traffic from north of SR 60 to north of Broadway Avenue where it can tie into new improvements recently constructed south of the I-4/50th Street interchange. *Note: that in the event that a new connection between the "S" and "A" lines is implemented along with a tie into the Port of Tampa lead, the "S" line from west of 50th Street to the Yeoman Yard can be abandoned with trains diverted to the "A" line. In this case the grade separation should consist of crossing only the "A" Line and the Broadway Boulevard intersection.* (Recommended by CSXT and FDOT)

4. Orient Road Over the "A" Line (Recommended)

Orient Road is a congested two-lane road that crosses with the "A" Line immediately east of the Uceta Yard and the CSX Intermodal facility. Over 11,300 vehicles per day including over 300 heavy trucks use this roadway. Long intermodal trains entering and leaving the yard as well as switching operations cause the road to be blocked resulting in long delays on a heavily used north south route that connects Hillsborough Avenue, I-4, and SR 60. Between 16 and 20 trains per day affect this crossing in an area that is heavily industrialized and extremely congested throughout the day. A similar overpass already exists over the "S" line to the south. (Recommended by CSXT)

5. Causeway Boulevard Over the Palmetto Mainline (Recommended)

Causeway Boulevard provides a direct link to the Port of Tampa from US 301 to the east and is heavily used by trucks going to and from the port. The existing facility is two lanes but the corridor is under construction to be improved to four lanes. Construction is scheduled for completion by the end of 2009. Approximately 25 to 30 trains per day use this crossing, mostly to access the Rockport Terminal and other port facilities east of US 41. Long phosphate-loaded trains block the crossing for long periods as they switch to the Rockport Lead to the south of Causeway Boulevard. Slow-moving trains longer than 50 cars will block the crossing due to switching operations inside Rockport. During the morning peak, traffic backs up over a mile to the east blocking access to side streets as far to the east as 78th Street. Once Causeway Boulevard is improved, traffic is expected to increase as more people use this route as an alternative to congested SR 60 and the Lee Roy Selmon Crosstown Expressway (toll) from Brandon to downtown and to Mac Dill Air Force Base (AFB). This facility has been designated as a SIS Connector road and the rail line is also designated as an SIS facility. (Recommended by CSXT)



6. SR 60 (Brandon Boulevard) Over the Valrico Subdivision Line (Recommended)

SR 60 is an important east-west corridor that connects the Tampa area with the Atlantic Coast. It is also a primary truck route that is especially important to the phosphate/fertilizer industries located in western Polk County. The Valrico Subdivision line is also used to transport phosphate from the mines in western Polk County to the Port of Tampa. Approximately 11 to 15 trains per day use this crossing merging with the "S" Line to the northwest a short distance from the crossing. Over 36,000 vehicles per day use this portion of SR 60 which will become more congested in the future due to residential and commercial development in the immediate vicinity of the crossing and to the east. (Recommended by FDOT)

7. Park Road (Plant City) Over the "A" Line (Recommended)

Park Road is a designated truck route that bypasses Plant City on the east side, provides access to several industrial parks, and connects to I-4. It crosses the "A" Line, which carries 18 trains per day, and siding track immediately south of US 92. Over 19,000 vehicles per day including over 1,000 heavy trucks use this crossing. Truck traffic is expected to increase due to recently approved industrial floor space between County Line Road and Park Road south of I-4. This crossing is also used by numerous school busses daily due to the location of Marshall Middle School immediately south of the "A" Line. Because of its close proximity to the intersection, vehicles often stop on the tracks presenting a significant safety problem. Additionally, there is no room for vehicles to stop short of the crossing when approaching from the north. When trains pass this crossing, traffic turning from US 92 onto Park Road is also delayed. The recommended grade separation should cross both the rail line and US 92. (Recommended by Study Team)



New homes built in close proximity to the existing rail line.

In addition to the crossings discussed above, there are several other locations where grade separations may be appropriate in the future. These locations are discussed as opportunities, as shown on Figure 5-2, later in this section.

8. Faulkenburg Road (Brandon) Over the Yeoman Subdivision lead into the Yeoman Yard (Recommended)

Approximately 25,800 vehicles per day use this facility, including trucks accessing Sabal Park Industrial Area from SR 60. This facility is also a primary north/south corridor linking Martin Luther King Jr. Boulevard with SR 60 (Adamo Drive), the Lee Roy Selmon Expressway, US 301, and I-75. Between 25 and 30 trains per day also cross the corridor. (Recommended by Study Team)

9. Sligh Avenue Over the Drew Spur (Consider)

Approximately one to five trains per day use this crossing, which serves the CSX TSDI Auto Yards on Sligh Avenue as well as the industrial area to the north and south of Waters Avenue. Sligh Avenue is only two lanes and carries over 15,000 vehicles per day including nearly 400 heavy trucks that access the CSX TSDI Auto Yards at Sligh Avenue and Anderson Road. Traffic backs up affecting the intersection with Manhattan Avenue (also a two lane road) to the east and Anderson Road to the west as well as access to Leto High School located at the northwest corner of Sligh and Manhattan Avenues. *Note: If CSXT relocates the Auto Yard to the proposed ILC, this grade separation is unnecessary.* (Recommended by CSXT)

10. Waters Avenue Over the Drew Spur (Consider)

Approximately one to five trains per day use this crossing, which serves the CSX TSDI Auto Yards on Sligh Avenue as well as the industrial area to the north and south of Waters Avenue. Waters Avenue is extremely congested (45,000 vehicles per day including over 1,000 heavy trucks) in this area due to large residential areas to the north and west as well as industries included in the Airport Freight Activity Center which extends south to Hillsborough Avenue and Tampa International Airport. (Recommended by CSXT)

Recent developments with CSXT include a proposed new Intermodal Logistics Center (ILC) to be located in Winter Haven, Florida. CSXT plans to consolidate many of its facilities including the TSDI Uceta terminal in Tampa. This would result in a reduction of truck traffic at the crossings of Sligh Avenue and Waters Avenue. Relocation of the Intermodal facility at the UCETA Yard would also reduce the need for a grade-separated crossing at Orient Road.



11. Alexander Street (Plant City) Over "A" Line (Recommended)

Alexander Street serves as the western bypass of downtown Plant City and has recently been designated as a truck route. It crosses both the "A" Line and the "S" Line which are located only a short distance apart. Any grade separation should consider both crossings in a single structure, if possible. Alexander Street is being extended north of I-4 to connect back to SR 39 north of Plant City and traffic, currently over 20,000 vehicles per day including over 900 heavy trucks, is expected to increase due to population increases as well as designation as a truck route through Plant City.

Between 25 and 30 trains per day cross Alexander on the "S" Line and another 16 to 20 trains per day cross Alexander on the "A" Line. Trains passing through Plant City often block several north-south roadways simultaneously and a grade separation at Alexander Street would allow emergency vehicles to cross the lines as well as provide an alternative route to get from south of the line to I-4. (Recommended by FDOT)

12. Parsons Avenue (Brandon) Over the "S" Line (Recommended)

Parsons Avenue is a primary four-lane north-south commuter corridor in central Brandon that is becoming increasingly congested. This roadway is not on the Hillsborough County truck route list; however, approximately 25,000 vehicles per day use this facility. The crossing lies between two east-west roads that end at Parsons Avenue. Victoria Street parallels the line on the south and extends westward from Parsons Avenue. Clay Avenue parallels the line on the north and extends from eastward Parsons Avenue. The "S" line carries approximately 25 to 30 trains per day through Brandon. (Recommended by FDOT)

13. Valrico Road (Brandon) Over the "S" Line (Recommended)

See 12 above. Currently 12,800 vehicles per day and 25 to 30 trains per day use this crossing, which is located immediately south of Front Street in Valrico. Valrico Road is one of only three north-south corridors that provide a direct connection from Martin Luther King, Jr. Boulevard to the north and SR 60, Lumsden Road, to the south. For long trains, traffic backs up along Front Street and in both directions on Valrico Road. Because there is no signal at this intersection, it takes between 5 and 10 minutes to clear the congestion, especially during the peak travel periods. As an interim solution, a traffic signal should be considered at this location. A grade separation of this north-south corridor should be considered when the road is improved to four lanes. It may be possible to position the roadway under the railroad due to an elevation change along the roadway. In this configuration the intersection with Front Street would need to be relocated north of its current position. (Recommended by FDOT)

14. SR 50 East of US 301 over the "S" Line (Consider)

SR 50 is a major east-west connection between I-75 and Orlando that also carries significant numbers of trucks. Over 7,000 vehicles per day use this facility including over 1,800 trucks of which 980 are heavy trucks. In addition, Wal Mart has a large regional distribution center located south of SR 50 on Kettering Road that generates approximately 400 truck trips per day. After construction of the proposed ILC in Polk County, CSXT will reroute all the freight traffic currently running through Orlando to the "S" Line. This will increase the number of trains on this line to over 30 per day. (Recommended by FDOT)

15. SR 54 West of over the Brooksville Sub and US 41 (Consider)

This crossing is located immediately to the west and alongside US 41 and affects both SR 50 and US 41. Over 56,000 vehicles per day use SR 54 including over 4,000 trucks and over 53,000 vehicles per day use US 41 including over 3,800 trucks. Both routes are designated as regional Goods Movement Corridors by the Tampa Bay Regional Goods Movement Study.



SR 54 acts as the southern Pasco County connection between US 19, the Suncoast Parkway, US 41 and I-75. While the number of trains is minimal at this time, there is potential for increased rail freight to Brooksville as well use as a future commuter rail line from Brooksville to Tampa. Because of the proximity of the rail line to US 41 it is recommended that any future highway grade separation should extend over the rail line as well.

16. SR 52 West of US 41 over the Brooksville Subdivision (Consider)

SR 52 acts as the northern Pasco county east-west truck rout connecting US 19, the Suncoast Parkway, US 41 and I-75. Approximately 20,000 vehicles per day use this intersection including nearly 3,000 (10.4%) trucks. Although the number of vehicles is relatively low by comparison to SR 54 at this time, the percentage of trucks using this facility is significant. This crossing should be considered for long-term planning purposes and implemented only if there are significant increase in both vehicle and rail traffic.

17. US 41 North of SR 52 over the Brooksville Subdivision (Consider)

US 41 is carries a large number of heavy trucks daily between Inverness in Citrus County and Tampa in Hillsborough County and is a designated regional freight corridor by the Tampa Bay Regional Goods Movement Study. Approximately 11,800 vehicles per day use this corridor including about 1,200 are trucks. As with the SR 52 crossing this grade separation should be considered for future long-term planning purposes should the number of trains increase significantly on the Brooksville Subdivision.

18. SR 50 By-Pass East of US 41 over the Brooksville Subdivision (Consider)

SR 50 carries approximately 27,000 vehicles per day including over 3,000 trucks as the primary east-west connector between US 19, the Suncoast Parkway, I-75, US 301 and Orlando. Rail traffic at this crossing is limited with generally less than 5 trains per day. As a result, a grade separation is not necessary at this time and is probably unlikely in the future unless CSXT adds more freight trains to the line or if commuter rail is started between Brooksville and Tampa.

LAND USE

Land use conflicts arise when residential areas are in close proximity of rail freight operations. As residential areas expand and previously designated industrial land is converted for new residential development, the general population is becoming increasingly exposed to the effects of rail freight operations. This results in complaints of noise, vibration, air pollution, congestion, and non-congruent aesthetics (litter, neglect of right-of-way [ROW]) - issues that are a result of incompatible land use. Many of these complaints can be mitigated by adopting changes to the land use code that requires developers of residential communities adjacent to industrial and transportation facilities to provide appropriate buffer zones and other mitigating devices as part of the development orders. Overall, jurisdictions must plan their communities to provide a transitioning of land uses from more intensive industrial uses to more sensitive uses further away.

While these issues are important due to the vocal nature of those affected, there is a much larger issue that must be addressed by land planners that affects not only rail operations but also, port facilities, airports, and industrial operations in general. While most Future Land Use Elements of comprehensive plans contain protections for industrial lands, developers within the region have been successful in obtaining changes to these elements that allow mixed-use development. The result is the declining inventory of land designated for industrial growth, which directly impacts the local and regional economies. Converting industrial land inventory to residential uses is short sighted and lacks vision for future economic growth. From a rail transportation perspective, limiting the ability to expand operations will result in the potential relocation of important facilities to other areas of the state along with the jobs, and tax revenues that access to major rail facilities generate. Additionally, as rail corridors are abandoned, the number of trucks on local roads will increase substantially contributing to the ever-increasing issue of roadway congestion.



ENVIRONMENTAL ISSUES

Because the railroads were able to operate profitably after the enactment of the Staggers Act, they began investing in improved technology. For example, the investment in technology resulted in a 72 percent improvement in fuel efficiency since 1980. Through the development more efficient locomotives, a gallon of diesel fuel that was able to move a ton of freight an average of 235 miles in 1980 was able to move the same amount of freight an average distance of 406 miles in 2001.

*- Transportation Technology Center, Inc.
(ttci.aar.com website) Railroads and
Technology: A Cleaner Environment*

More Recently, CSXT states that it can now move a ton of freight 423 miles on a gallon of fuel.

--2008 CSXT Television Commercial

Environmental issues located around or at freight and port facilities are concerns that many communities share. Air and water pollution, noise, loss of habitat, dredging, and the transporting and storing of hazardous materials related to freight operations may need to be addressed when freight facilities alter, intensify, or expand operations. Mitigation measures may be required to defray negative impacts to the community.

On a positive note, the railroads have developed new locomotives that use AC (alternating current) power instead of DC (direct current) power. These locomotives are more efficient and can move more freight a longer distance on the same amount of fuel formerly consumed by older locomotives. There are also air quality rules requiring the use of more fuel efficient diesel engines.

Further environmental improvements can be achieved through the use of new, cleaner burning, diesel fuels that are being developed in Europe. CSXT is also investing in "idle reduction technology" the goal of which is to reduce fuel consumption and emissions by as much as 80 percent.¹ Idle reduction technology reduces or eliminates long periods of idling the main locomotive engine by using an alternative technology such as automatic shut-down/start-up systems or auxiliary power units (APUs) and batteries to power systems, while idling or moving. Besides reducing fuel consumption and costs, idle reduction technologies also reduce atmospheric pollutants.²

NOISE ISSUES

Noise pollution is also becoming a significant issue. In addition to the noise and vibration experienced from passing trains there is the issue of noise from loud train whistles in the vicinity of grade crossings. To combat the sounding of the train

¹ AAR News, *Railroads Sign On to EPA's SmartWay Partnership*, www.aar.org, downloaded August 2005.

² EPA *SmartWay Partnership*, www.epa.gov/otaq/smartway/idlingtechnologies.htm, downloaded August 2005.

whistles, many communities are seeking to establish Quiet Zones. Quiet Zones are areas where the sounding of train whistles while approaching grade crossings is prohibited.

The FRA recently issued a rule that provides for the establishment of Quiet Zones provided that grade crossings within the zone have specific safety devices installed and the projected accident rates at these crossings are lower than established thresholds. Quiet Zones are becoming a contentious issue within the region due to the growth of residential development near or adjoining rail lines. At least one community within the region has requested the establishment of a Quiet Zone. At issue is whether a person who knowingly purchases a home next to a railroad track can reasonably expect a quiet environment. While the new FRA ruling permits local governments to establish Quiet Zones, they must also bear the costs associated with meeting the federal requirements. In Hillsborough County, where most of the regional rail activity takes place, the costs of improving the crossing infrastructure to meet the required standards may become prohibitive, assuming that if one neighborhood were afforded a Quiet Zone then other neighborhoods would make similar demands.

The following crossing devices are used in implementing a Quiet Zone.

- [Median Barrier](#) – Prevents drivers from traveling around lowered gates.
- [Wayside Horn](#) – Device used in place of a train horn at crossing location.
- [Four Quadrant Gate](#) – Use of four gates blocks vehicle passage.
- [Street Closure](#) – Closure of streets prevents accidents and eliminates use of train horns.



RAIL FREIGHT SAFETY AND SECURITY ISSUES

The existing freight transportation information system is a confederation of company-to-company information system integrations constructed to permit more efficient operation. The design is not uniform, not specified, not documented, not evaluated, not tested, and not under configuration control. These features make security design analysis and evaluation extraordinarily difficult.

*- Transportation Research Board
Special Report 274*

The transportation of hazardous materials (Hazmat) is an environmental as well as a safety issue because many hazardous materials including toxic chemicals are transported via rail that passes through residential and commercial areas. Examples of hazardous materials transported on local rail corridors include ammonia, sulfuric acid, gasoline, oil, and chemicals used in manufacturing to name a few. However, statistics show that the safest method of transporting hazardous materials is by rail. According to the Association of American Railroads, "Hazmat accident rates have declined 90 percent since 1980 and 49 percent since 1990. . . rail is 16 times safer than [transporting by] truck."³

Rails-with-Trails is an issue that is becoming more prevalent as communities desire to obtain some public use from existing rail corridors. Rails-with-Trails differs from Rails-to-Trails in that the former is a shared use concept while the latter is a conversion of abandoned lines to trail use (see corridor preservation in the Opportunities section below). The railroad is generally opposed to establishing public trails within its right-of-way especially on heavily used corridors. According to the U.S. Department of Transportation report *Rails-with-Trails: Lessons Learned*, the reasons for railroad opposition are many; however, safety, liability, and future capacity concerns are the most important. For the most part, the FRA shares the concerns for public safety and for the potential to limit the ability of the railroads to add capacity when needed. From a regional freight transportation perspective, the capacity issue is significant.

As the region's highways become more congested, increasing amounts of freight will need to be shifted to rail. As previously stated, congestion will also increase within the limited number of regional rail corridors, which will require the addition of new track capacity. The fear is that once a part of the rail ROW is allowed for public use, it will be difficult to revert back to rail use even though the railroads own the land. However, trail proponents continue to pressure the railroad to "free up space adjacent to rail

³ AAR News: *Information on Rail Hazmat Transport*, www.aar.org, downloaded July 2005.

lines for trail usage, pitting the railroad's safety, capacity, and liability concerns against the trail proponents' desires to create shared use paths and other trails."⁴

Freight security issues have become an increasing concern in ensuring domestic safety due to the events of September 11, 2001. Security and transportation agencies involved in protecting freight shipments, have established operating practices that call for more frequent and intensive cargo inspection, with special attention paid to international shipments. Other changes to ensure freight integrity call for increased examination and clearance of shippers and closer analysis of freight guardianship as goods travel through the freight delivery system.

Security activities at our nation's freight gateways will increase the level of confidence in our ability to ensure freight safety. Such activities at the regional level, will call for more cooperation and coordination among law enforcement, public transportation agencies and private providers. According to the American Association of Railroads, an independent analysis by the Washington Post rates the railroads "as one of the few private sector industries to receive an 'A' for its security efforts." Some of the security efforts include:

- Increased cyber security,
- Restricted access to railcar location data,
- Spot employee identification checks,
- Increased tracking and inspection of shipments,
- Increased security of physical assets, and
- Increased employee security training.⁵

⁴ USDOT, *Rails-with-Trails: Lessons Learned*, www.fra.dot.gov, downloaded July 2005.

⁵ AAR News: *Facts About Railroad Security*, www.aar.org, downloaded July 2005.



OPPORTUNITIES FOR FREIGHT RAIL

MARKET GROWTH

The opportunities for expanding the freight rail market share in the Tampa Bay Region are many and each needs to be exploited to the fullest extent. For example, the regional highway system has nearly reached its capacity and planned improvements will not make significant inroads in adding capacity or reducing future congestion. In Florida, the number of large trucks is increasing at a faster rate than that of automobiles. In fact, the FHWA stated that in Florida the "demand for freight transportation will double by 2020."⁶

As the state's (and the region's) population increases, so does the consumption of goods, which need to be transported into, through, and within the region. At the same time that demand is doubling, public spending for all modes of transportation infrastructure will increase at an incrementally smaller rate.

Estimates are that Florida will have a \$30 billion shortfall in funds needed to not only maintain the highway system but to add the new capacity required to support growth.⁷ The result of this shortfall will be increased congestion and the inefficiencies that result in higher shipper and consumer costs. By increasing the movement of freight by rail, the rate at which we proceed to the point of reaching ultimate highway capacity will be slowed.

⁶ FHWA, *Long Range Freight Forecast*, November 2002.

⁷ Ibid.

Short Haul

Containers and General Freight - Former conventional wisdom states that for rail freight to be efficient it has to move cargo for distances greater than 600 miles. This may have been the case in the past, especially in the days of regulation prior to the Staggers Act of 1980. Now, however, there are opportunities to expand into the middle and short-range markets as well such as, expanding the use of the direct rail link between Tampa and Jacksonville to efficiently move boxcars, containers, and trailers. This may require increasing capacity on this route by double-tracking all or a portion of this land bridge to accommodate longer and more frequent trains between the east and west coasts of Florida and the Ports of Jacksonville and Tampa.

With the development of the CSXT Intermodal Logistics Center (ILC) in Polk County and the expansion of the Port of Tampa container operation, there is an opportunity for direct Port to ILC rail drayage.

The opportunity for short line operations in this region could include phosphate and shipments to and from the Port of Tampa. There is also some potential in the St. Petersburg/Clearwater/Oldsmar corridor that should be examined. Many of the industrial areas along this corridor are old, built out, and will be a target for future redevelopment. These areas should be viewed as opportunities to develop new industries that can take advantage of the efficiencies of rail transportation.

Bulk - Another opportunity for short haul operations is the transportation of coal to the Lakeland Power Plant. This plant receives over 600,000 tons of coal by rail from Kentucky and 200,000 tons by truck from the Port of Tampa.⁸ This equates to about 150 round truck trips per day between Tampa and Lakeland. One daily 50-car coal train could replace these truck trips at a lower cost.

⁸ 2004 Florida Rail Plan, p. 4-41.



Intermodal

Intermodal activities, especially those involving trailers and containers, comprise the current growth segment in rail transportation. While this form of intermodal traffic has large growth potential, it has always been a marginal contributor to industry profits, and thus rail carriers are examining ways to increase efficiency and lower costs. One area that needs to be exploited in this regard is the expansion of container activity at the Port of Tampa.

Port of Tampa - The TPA has a long-term goal to increase the number of containers imported to over 50,000 (100,000 TEUs) and potentially up to 350,000 (700,000 TEUs) per year. However, this will not be possible if the port depends on trucks to dray the containers from its existing container facility on Hooker's Point to the rail intermodal facility or out of town to the proposed ILC because of the limited capacity of the local connector roads and highway system needed to efficiently move the containers off the port. At the same time, it is unlikely that the port could approach 350,000 containers per year unless it develops sufficient land required for expansion for container storage and additional wharf space to handle the number of ships that would be required to transport this large number of containers to Tampa. While most of the containers entering through Port of Tampa today are destined for the immediate region, future increases in containerization would be a result of the port becoming a gateway to Central and South America, the Panama Canal, and potentially to Cuba. To this end, there is an opportunity for a CSXT/Port of Tampa partnership to develop a new, state of the art, container facility on Port property outside the general area of downtown Tampa with direct ship to rail intermodal transfer that could substantially reduce the number of trucks moving containers to and from the port.

Benefits - The result of the above opportunities would provide the following benefits to the railroad, the port, and the public:

- It would benefit the port by showing that the Port of Tampa is serious about becoming a world-class container facility. It is the closest US port to the Panama Canal and could become the gateway for containers into the southeast and eastern US.
- It would benefit CSXT by providing substantial new and increasing intermodal container business. It could serve as one end of a land bridge to the Jacksonville rail facilities.
- It would provide a public benefit by reducing the number of heavy trucks accessing the port through local streets and highways as well as reduce the number of long-haul trucks on I-4 and I-75. It could also contribute to a reduction in the amount of air pollution attributed to trucks in the local area.
- It would benefit the trucking industry by reducing congestion, thus allowing the remaining trucks to operate more efficiently on local roads and highways.

Because of the benefits stated above, the development of container facilities off Hookers Point is highly recommended and should be aggressively pursued as a public/private partnership that includes the Port of Tampa, CSXT, Hillsborough County, and the FDOT.

Railroad facility needs and system improvements are identified in **Figure 5-2**.

NEW CORRIDOR DEVELOPMENT

One issue that leads to a potential opportunity is that of congestion along rail corridors in eastern Hillsborough County, in particular the area surrounding the Port of Tampa to eastern Brandon. Increased traffic congestion at many grade crossings results in long delays to both commuters and trucks due to the large number of trains, especially long, slow moving phosphate trains on the "S" Line and the Palmetto Subdivision.



The average freight car capacity is now 93 tons.

Freight Rail Fact Book, Chapter 2

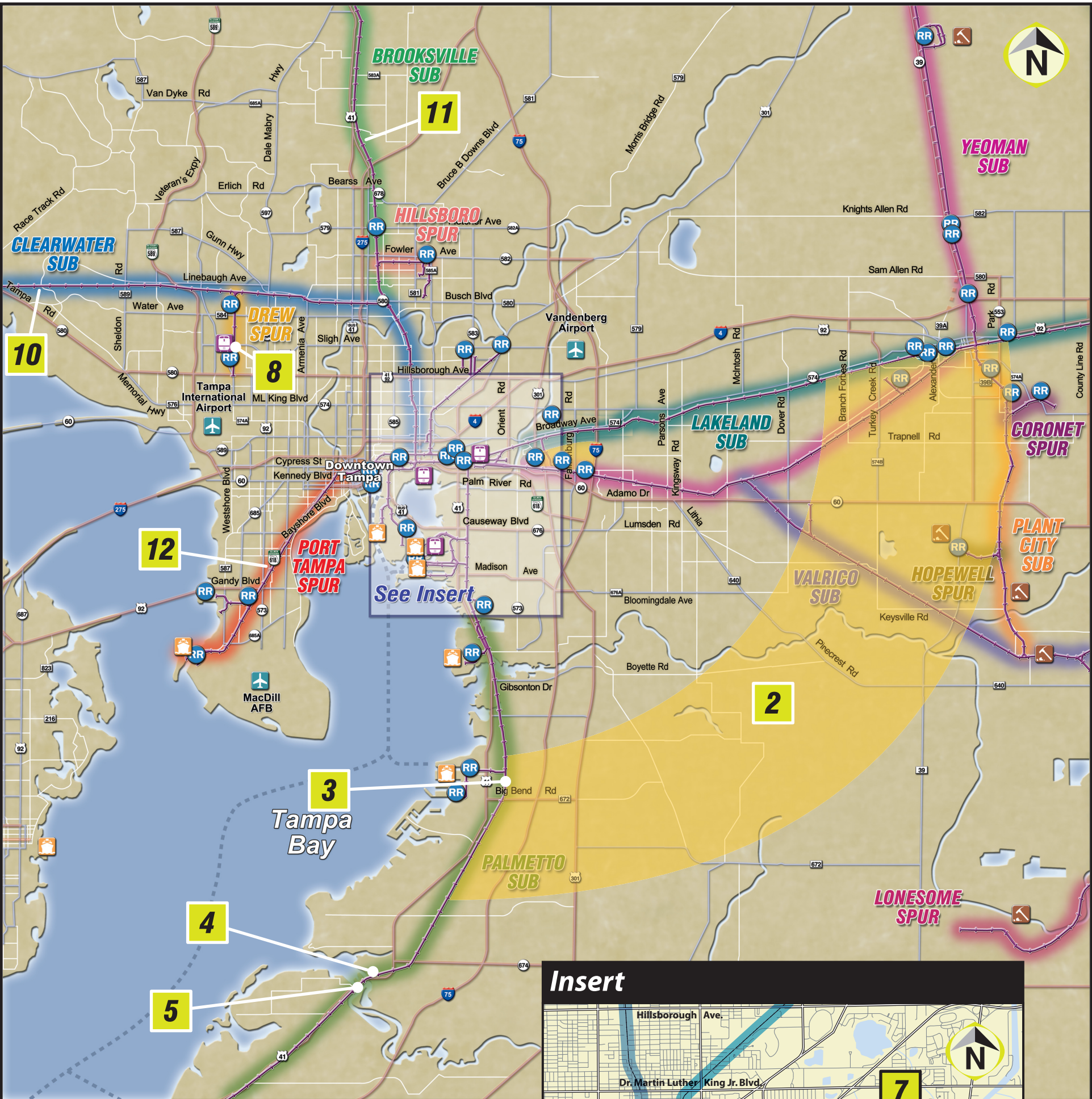
In addition to the congestion delays, many residents living in new communities, built alongside the tracks, have complained about the sounding of loud train whistles that are required by law as warnings to roadway vehicles of approaching trains. Since most of these trains pass through the area at night, residents complain about loss of sleep and quality of life. Careful consideration should be given to developing a new rail corridor that connects the "SV" Line to the Palmetto Subdivision in southern Hillsborough County. This new line would handle most of the phosphate operations from the Bone Valley in eastern Hillsborough and western Polk counties destined for the Port of Tampa, as well as pass-through cargo to/from Port Manatee. This issue/opportunity merits a thorough analysis of the opportunities and challenges including:

Opportunities:

- Divert 25 to 30 trains per day from the "S" Line, freeing capacity for other freight and potential commuter rail operations.
- Reduce the number of grade crossing conflicts that cause significant delay to highway traffic in highly developed areas of the county.
- Partially mitigate noise and other rail related complaints from residents living adjacent to the existing rail corridor.

Challenges:

- Identifying and acquiring ROW along the corridor. New residential development and large tracts of county-owned environmentally sensitive land in southern Hillsborough County will make it difficult to develop an acceptable corridor.
- The projected life span of available phosphate to be mined.
- The cost of construction and impacts to the environment will be substantial.



LEGEND

1

Connection between the "A" & "S" Lines

2

New South County Rail Line

3

Big Bend runaround and switching trackage

4

Ruskin siding & signalization

5

Draw Span speed/weight restriction

6

Hookers Point (various Improvements)

7

Uceta Yard (capacity)

8

Auto Yard - Drew Spur (capacity)

9

Transflo Yard (capacity)

10

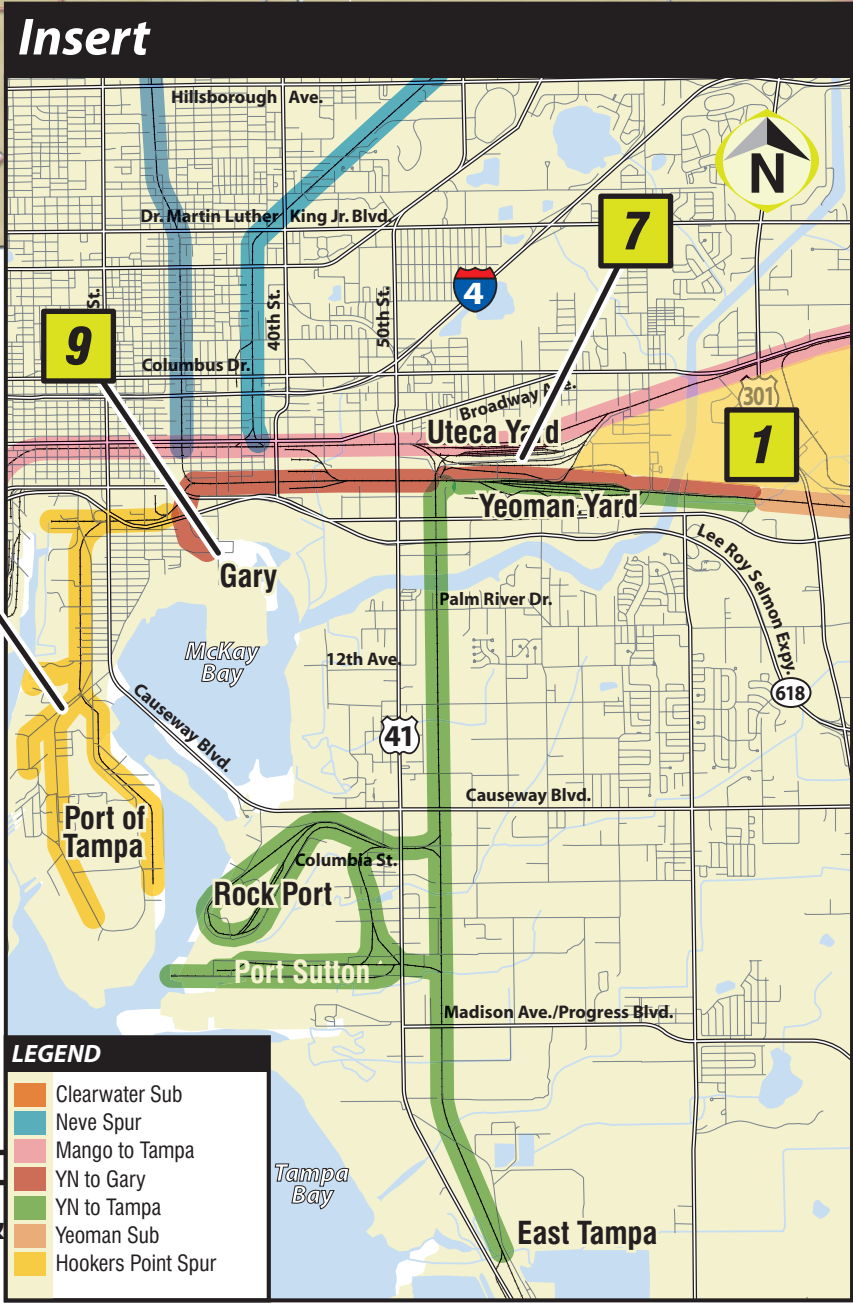
Clearwater Subdivision (upgrades)

11

Brooksville Subdivision (upgrades)

12

Port Tampa Spur (upgrades)



- The potential of shifting a problem from one part of the county to another.
- A minimum of three major grade separations (US 301, I-75, and US 41).
- Structural upgrades to rail bridges at the Little Manatee and Alafia Rivers.

In order to evaluate the merits of this opportunity, a Freight Rail Alternative Corridor Analysis should be undertaken to investigate all of the physical, social, environmental, and financial impacts compared to the benefits that would be derived in terms of capacity improvements and cost avoidance for infrastructure improvements on the existing line. These include at a minimum double tracking or other capacity increasing measures, grade crossing improvements needed to implement a Quiet Zone through Brandon, and grade separations at three high-volume road corridors. Other considerations should include public/private partnerships for financing and selecting a new shared major transportation corridor through southern and eastern Hillsborough County that includes a proposed new outer beltway.

ENHANCED RAIL OPERATIONS/CAPACITY

OPERATIONS

Enhancing operations primarily focuses on maximizing the performance of the existing system. This can be accomplished through capacity improvements, improved technologies, train scheduling, and improved safety. The railroad is often at the forefront in applying new technologies that improve efficiencies and reduce operating costs. These technologies include improved, more powerful and less polluting, locomotives that allow two to do the work of three older locomotives, double stacking containers, rail-runner (roadway to track) trains, trailer on flatcar (TOFC), positive train control, improved signaling, automated switching, portable locomotive control technology, improved safety inspections of rolling stock and track.



Scheduling enhancements might include the 24/7 operation of the Uceta intermodal facility in order to maximize the utility of the available yard capacity. As more and more containers and trailers are shipped intermodally, additional trains will need to be scheduled each day. None of these enhancements will work, however, if the capacity of the mainlines is not increased to handle more trains.

Today, most of the product shipped in the Tampa Bay Region via rail is bulk material including phosphate rock, finished fertilizer, chemicals, building products, and agricultural products. However, as the Port of Tampa develops its container operation, and more businesses shift to rail transport in order to increase reliability over the congested road system, rail operators will have to plan to transport the additional containers and boxcars generated by the port.

SAFETY

Rail safety in the study area is principally an effort conducted at the state level. The State of Florida through the Rail Office of the Department of Transportation conducts a variety of programs. More details on state programs are contained in the *2002 Florida Rail System Plan*.⁹

Rail Safety Inspector Program - FDOT in conjunction with the Federal Railroad Administration (FRA) uses safety inspectors in several disciplines to determine the compliance of the railroads operating in the state with appropriate safety regulations. The disciplines involved include track, equipment, operating practices, signals (train control and grade crossing warning devices), and shipment of hazardous materials. Violations are subject to various penalties as specified in federal regulations.

⁹ FDOT with assistance from Wilbur Smith Associates.

Grade Crossings - The largest safety effort is directed at highway - rail at-grade crossings. Improved warning devices and at-grade crossing elimination through closure or grade separation are the focus of a variety of efforts that include, among others: diagnostic review teams to assess and recommend improvements; pre-emption determinations for crossings with nearby vehicle traffic signals; grade crossing consolidation reviews on a corridor-wide basis, and increased public education and awareness. A major component of the later effort is Florida's Operation Lifesaver Program.

Operational Lifesaver is a national, non-profit program¹⁰ aimed at ending collisions, injuries and fatalities at grade crossings and on railroad rights-of-way (trespassing). The thrust of the program is through its three Es - Education, Enforcement, and Engineering. Begun in Idaho in 1972, it spread throughout the country after crossing fatalities dropped by 43 percent in Idaho during the first year of the effort. Forty-nine states, including Florida, now have active programs. CSX Transportation participation in Operation Lifesaver and the Rail Office's Administrator of Rail Operations serves as Florida's Official Operational Lifesaver spokesperson and State Coordinator.

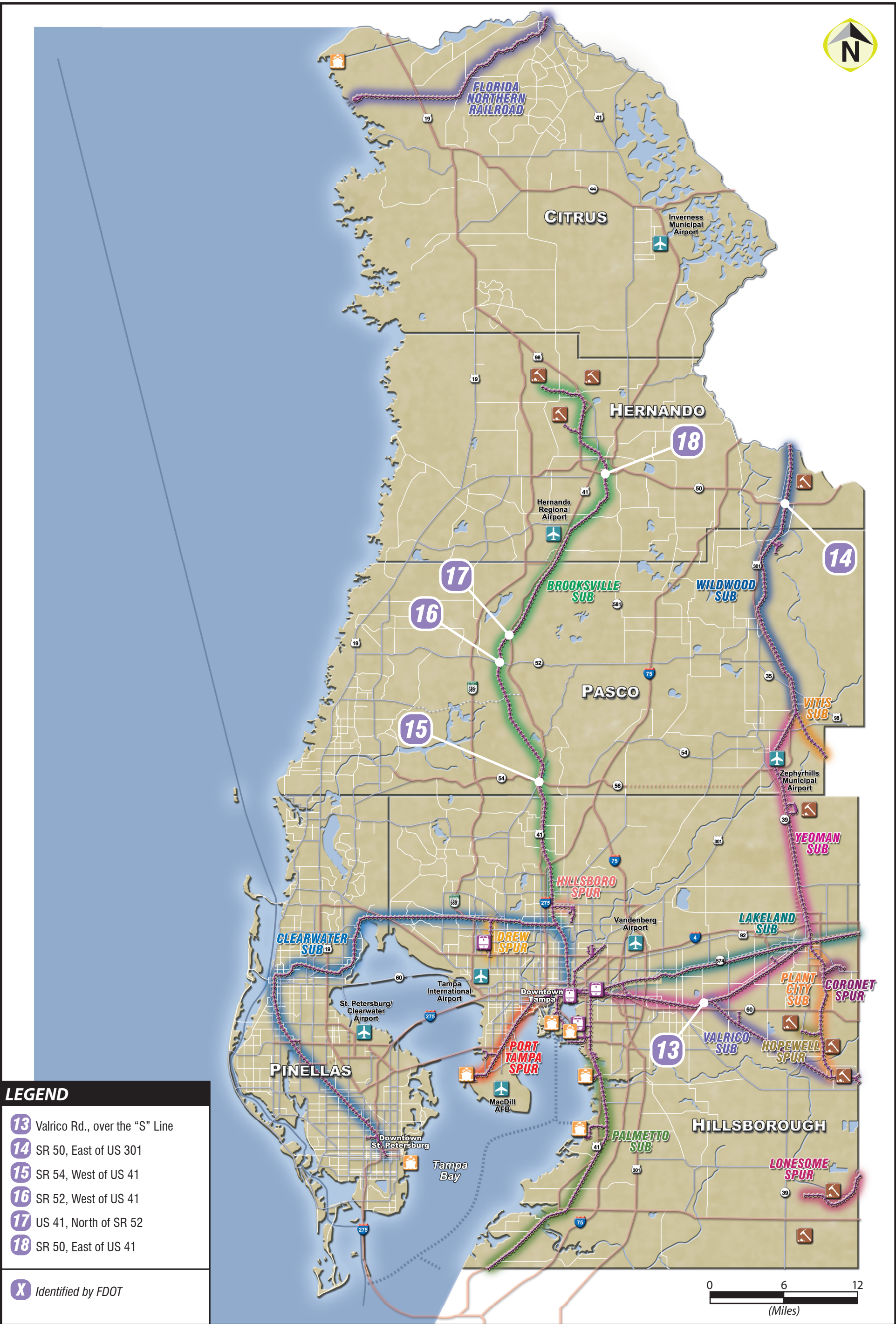
Enhanced safety improvements are needed to reduce the number of train/vehicle collisions at highway-rail grade crossings, which is a significant problem impacting the public sector and the railroads. These collisions often result in train derailments, the occasional release of hazardous materials, costly repairs to infrastructure and rolling stock, damage to non-railroad property, and the loss of life. But the problem is much larger. These collisions result in significant system wide delays that reach beyond the region when trains are rerouted, resulting in impacts to businesses that depend on the delivery of parts and materials by rail. Additionally, train derailments block crossings for long periods forcing detours that result in increased congestion and delay on otherwise uncongested roadways.

¹⁰ See www.ols.org for more information on the national program and www.floridal.org for more information on the Florida effort.



One way to reduce the number of train/motor vehicle collisions is through the use of grade separations at crossings at key locations heavily used by both vehicles and trains. Earlier, potential grade separations at problematic crossings were identified and discussed. These crossings were all located in Hillsborough County on highly congested road corridors. While those crossings should be considered a high priority, there are others throughout the region where an opportunity exists to improve not only safety but reduce future congestion as well. All of these crossings are located on regionally designated goods movement corridors that have significant truck traffic. All but five are located on the Brooksville Subdivision line. However, due to the limited number of existing trains per day traveling on the Brooksville Subdivision, grade separations at these locations may be too costly to justify until the train frequency increases. However, when warranted, grade separations should at least be considered for the following grade crossings (**Figure 5-3**):

- Valrico Road (Hillsborough County),
- SR 54 west of US 41 (Pasco County),
- Ridge Road Extension (Pasco County),
- SR 52 west of US 41 (Pasco County),
- US 41 north of SR 52 (Pasco County),
- SR 50 east of US 301 (Hernando County), and
- SR 50 by-pass east of US 41 (Hernando County).



- LEGEND**
- 13 Valrico Rd., over the "S" Line
 - 14 SR 50, East of US 301
 - 15 SR 54, West of US 41
 - 16 SR 52, West of US 41
 - 17 US 41, North of SR 52
 - 18 SR 50, East of US 41
- X Identified by FDOT

In order to prepare for these potential grade separations, consideration should be given to identifying (and possibly purchasing) the required ROW as well as modifying land use and zoning to ensure future development does not encroach to the point that the grade separations could not be built when required.

CAPACITY

Capacity enhancements of the rail system can be divided between the rail corridors and the rail yards. Like the highway system, the rail system is becoming more congested. Due to operational efficiencies developed since deregulation, the railroads have been able to move more freight while, at the same time, reducing track infrastructure mileage. However, unless more capacity is added back into the system, the railroads will reach a saturation point where growth is no longer possible. While track abandonment is relatively simple, developing new rail corridors will be extremely cost prohibitive in the future.

Increasing the capacity of the rail system is crucial for expanding freight rail within the Tampa Bay Region. Like the highway system, the rail lines often suffer from congestion and delay. This is because most of the region's rail corridors consist of a single-track system requiring trains to use parallel sidings for passing slower or opposing trains or to wait their turn on the single track segments of the system. Unlike the road system, the rail system does not include convenient alternative routes to bypass congested rail segments. Double tracking where possible allows trains to operate in opposite directions simultaneously.

Potential mainline segments that would benefit from double-tracking and increase rail capacity include the Wildwood and Yeoman Subdivisions from Hernando county to the recommended Lakeland Subdivision connection at Plant City and the "A" and "S" lines from the Uceta and Yeoman yards east Tampa to Plant City for the following reasons:



- Expansion of the container operations at the Port of Tampa (the nearest port to the Panama Canal) will include containers destined for, or inbound from, beyond the Tampa Bay Region contributing to increased congestion on these lines.
- Expanding the capacity on these lines will facilitate direct drayage from the Port of Tampa to the proposed ILC in Polk County.
- Expansion could facilitate a land bridge from the Port to Jacksonville for further distribution along the East Coast resulting in a reduction in transportation time.
- As fuel prices climb impacting trucking operations, the potential for TOFC will increase as trucking companies seek ways to reduce long distance trucking where parallel rail lines exist.

Similarly, railroad yards and intermodal terminals in the region are also reaching capacity and in most cases there is little room for expansion due to their location with respect to adjoining land uses. Technologies need to be explored that will increase capacity within the yards including improved loading, classifying, and marshalling trains at intermodal facilities and large rail yards. One way to lower costs and improve efficiency would be to automate as much as possible the loading and unloading of containers and trailers at intermodal yards. For example, the length of trains that can be accommodated within the CSX Intermodal terminal located at the Uceta Yard in Tampa and space available to park trailers awaiting shipment limits the capacity of the facility. Increasing the capacity of this facility is crucial if CSXT is to expand its intermodal operations in the Tampa market.

One option being investigated to increase the capacity is to relocate the terminal or at least a portion of its operations outside of Tampa to a proposed ILC in Polk County, but other options should be explored as well because transporting containers from the new intermodal facility would increase the number of trucks on congested

corridors such as I-4, SR 60, and US 92 for freight destined for Tampa, as well as points along I-75 to the south. Another alternative option would be to grade separate the crossing on Orient Road. This will allow longer trains access to the terminal without blocking the roadway.

Opportunities for capacity improvements within the region include:

- Constructing new connections between the “A” and “S” lines west of the Yeoman Yard and in Plant City. This would allow CSXT to divert all trains from the “S” line that cross 50th Street to the “A” line.
 - Connect these lines in Tampa by constructing a new wye permitting north and south connection to the “SY” (**Figure 5-4**).
 - Extend the “SY” south to connect to Port of Tampa spur south of the existing wye from the “S” line to the “SY” and Port of Tampa spur. This will remove the skewed crossing 626919 at SR 60 by relocating the crossing further west.
 - Remove the existing mainline at NCGN 624466 west of 50th Street to the Port of Tampa Spur, leaving one track crossing 50th Street from the “S” line.
 - When designing the “Crosstown Connector” allow room for the constructing the wye from the “A” line to the north and southbound “SY” line.
 - In Plant City add new connecting wyes from the “S” line to the “SV” and from the “A” line to the “SV” line and the “S” line (**Figure 5-5**).

**FIGURE 5-4
NEW WYE CONNECTION BROOKSVILLE SUB TO “SY”**

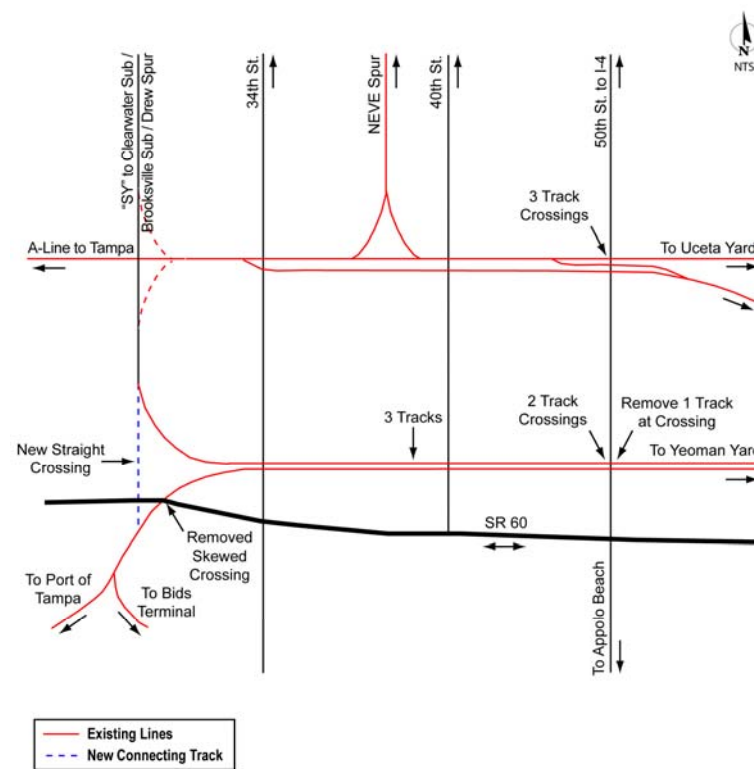
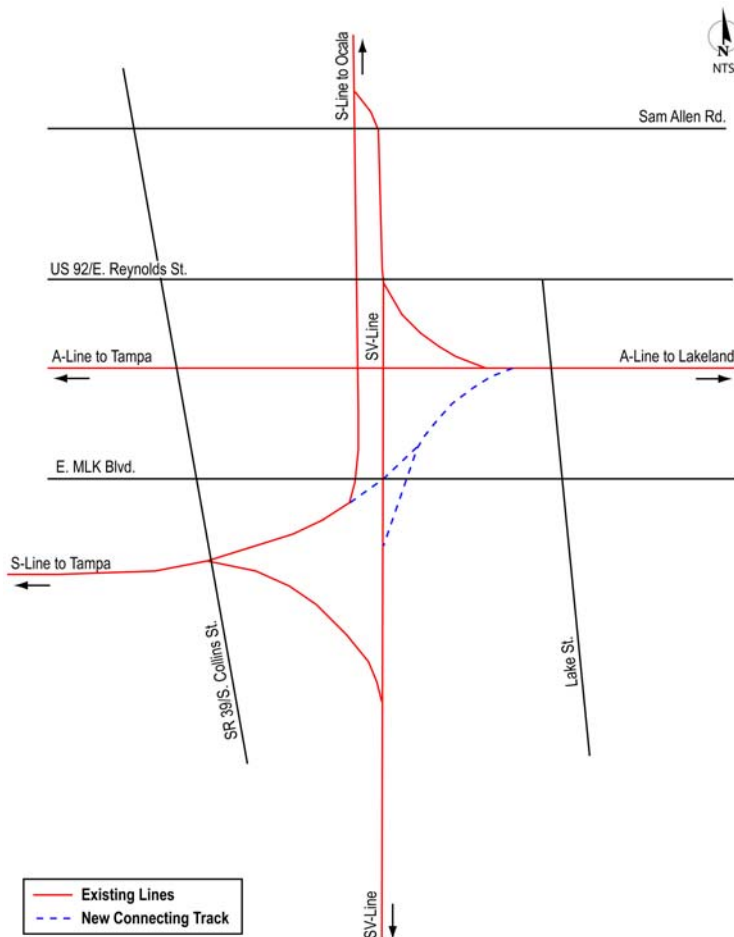




FIGURE 5-5
"A" LINE TO "S" LINES CONNECTION, PLANT CITY



- Constructing a new rail line linking the Bone Valley phosphate operations with the Palmetto Subdivision in the southern part of Hillsborough County. This would divert most of the phosphate traffic off the "S" line increasing capacity of the line for other types of cargo movements. It would also significantly reduce the number of at-grade crossing conflicts in the Brandon and east Tampa areas.
- Adding passing/switching sidings and improved track control signals to the Palmetto Subdivision to facilitate improved service to on-line industries and terminals located in the Port of Tampa and to free up capacity on the main line.
- Constructing a loop track and additional service sidings on Hooker's Point to facilitate train movements within the port and to serve dockside customers.

ECONOMIC DEVELOPMENT

Investments in freight transportation, including freight rail, that reduce the cost of moving goods to and from markets help to sustain increases in economic growth. Adequate transportation is considered a key site location parameter as it affects an area's business costs, market, and overall competitiveness for attracting large-scale manufacturing investment. To capture its share of future economic opportunities, it is essential to integrate local and regional economic development plans with transportation and comprehensive plans. Therefore, it is important that business promoting organizations, such as the Chamber of Commerce, the Tampa Bay Partnership and professional groups representing the freight transportation industry work with the public agencies involved in the transportation and land use planning process.

Developing new opportunities for economic growth is the basis for attracting new businesses with high-paying jobs. Recognizing and developing freight rail as an economic asset is a key tool for economic growth. In the Tampa Bay Region opportunities exist for freight rail in the following four categories:

- Supporting existing businesses,
- Developing new rail accessible industrial parks and expanding rail into existing industrial areas,
- Supporting the incubation of new manufacturing and distribution businesses,
- Developing multimodal freight villages, and
- Developing rail freight public/private funding partnerships.

SUPPORTING EXISTING BUSINESSES

In a recent survey conducted for the Tampa Bay Partnership, 18 percent of the survey respondents stated that rail transportation was a viable means but not necessarily an essential mode to ship their products or receive components for assembly in their business. That means that 82 percent or more of businesses depend on trucks to transport their goods. However, due to congestion within the major metropolitan areas of the region, long haul and short haul reliability has been eroding as traffic increases on a fixed amount of highway travel lanes. By increasing the availability of rail transport to existing businesses, the number of trucks moving goods into and out of the region can be reduced. Nearly any product shipped by truck can be shipped by rail in containers or on trailers piggy-backed on rail cars.

Virtually every designated regional FAC plus many other smaller business/industrial parks have one or more businesses using existing rail sidings/spurs to send or receive product.



Seven regional FACs have several spurs/sidings including Anderson Road/Tampa International Airport, Southeast Tampa Industrial Area, East Central Industrial Area, South I-75 Corridor, the Port of Tampa, Plant City Airport Industrial Area, and the South Central CSX Corridor. Additionally, rail service is potentially available to many more businesses through existing rail sidings or the development of new sidings from existing rail corridors. For example, new rail access is available at the Hernando County Airport near the Brooksville Subdivision.

In addition, products imported or exported through the Port of Tampa with origins or destinations outside the Tampa Bay Region can be shipped directly from the port by train. This would require rail infrastructure improvements within the port, but the benefits derived by reducing truck traffic on local streets and freeways would justify the expense.

DEVELOPING NEW OR EXPANDING EXISTING INDUSTRIAL PARKS

When developing or selecting sites for heavy industrial uses, areas where rail service is already available or close enough that it can be economically extended into the industrial area should be considered. Convenient rail service is often instrumental in attracting new businesses that ship or receive oversized bulky items, large quantities of raw materials, or components that can be transported in bulk.

One such industrial park is being developed in Hernando County at the Hernando County Airport along US 41. The southeast section of the airport is under development as the Airport Rail Park, which includes a spur from the CSXT Brooksville Subdivision crossing US 41 into the park.

While Hernando County paid for the lead track, developers of individual parcels with the rail park will be responsible for building their own sidings. Other potential rail park locations are listed below. All have access to nearby rail corridors.

- Proposed new warehouse/distribution center located at US 41 and Big Bend Road adjacent to the Palmetto Subdivision;
- Zephyrhills Airport, located along the Yeoman Subdivision;
- East Plant City FAC located along the Lakeland Subdivision or "A" Line;
- The Oldsmar FAC located along the Clearwater Subdivision; and
- The area in Hernando County located near the intersection of US 301 and SR 50 along the Wildwood Subdivision.

Additionally, other established FACs with existing rail service identified in the Tampa Bay Regional Goods Movement Study have an opportunity to expand this service by attracting businesses with a high potential for using rail.

US 41 and Big Bend Road – This site is proposed for development into a 1,500,000-square-foot warehouse/distribution/light industrial center. The site is located adjacent to the Palmetto Subdivision and could provide rail/truck transfer with easy access to I-75.

Zephyrhills Airport – This general aviation airport is comprised of over 600 acres and has an industrial component. The CSXT "S" Line (Yeoman Subdivision) runs immediately west of the site. The entire area between US 301, Chancy Road, SR 54, and the CSXT railroad contains over 1,600 acres that could be developed into an ILC. US 301 would require improvements from Zephyrhills to I-75 and Chancy Road/CR 535/CR 3JA/US 301 would also need to be improved. However, this corridor would provide an alternative to I-75 between US 301 and SR 50 and provide connectivity to Orlando via SR 50 and the Florida Turnpike at Clermont.



East Plant City FAC – This site is located immediately south of the Lakeland Subdivision between Park Road and County Line Road. The area was recently rezoned back to industrial. Plans include over 10 million square feet of industrial and warehouse floor space located between Park Road (east) and County Line Road (west) and I-4 (north) and Coronet Road (south). Access to I-4 less than 1 mile north would be via Park Road and County Line Road.

The Oldsmar FAC – Located in eastern Pinellas County, this industrial park is developed and includes the CSXT Clearwater Subdivision. This area is primarily manufacturing and could benefit by including rail transportation.

Hernando County – The area near the intersection of US 301 and SR 50 adjacent to the rail. This area is vacant and is located close to I-75 and SR 50, which provides access to Orlando to the east. Since there is currently no site development, the site could be developed into a new state-of-the-art intermodal facility and a potential ILC location.

SUPPORTING THE INCUBATION OF NEW MANUFACTURING AND DISTRIBUTION BUSINESSES

Industrial incubators are important to a growing economy. Industrial incubators are generally large manufacturing operations or research and development companies that require a readily available source for specialized parts and assemblies used in the manufacture of larger products. These incubators help to nurture the small up-start companies that tend to co-locate with other industries in similar stages of development or that develop to support major industries within the area. As the smaller industries expand they create more new jobs, eventually outgrow their existing facilities, and relocate to larger facilities. They are replaced by new up-start industries within the area. Whether they relocate within the local economic region or go elsewhere depends on many factors, but availability of a good transportation system is one key factor in deciding where to relocate.

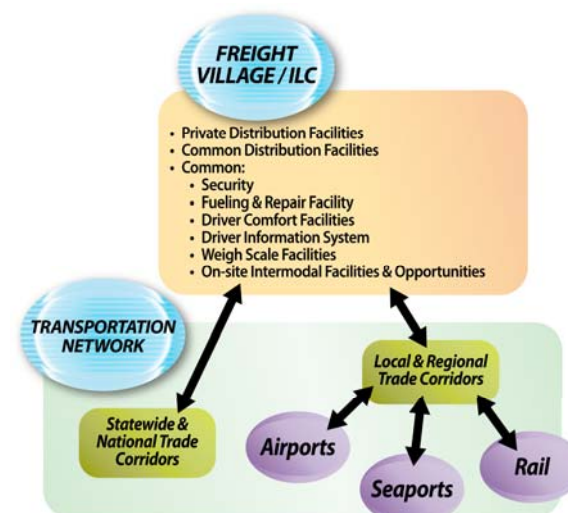
Rail incubators support industries that not only require or find it more advantageous to ship a product by rail but, also industries such as freight forwarders that arrange shipments and are usually involved in the local pickup of shipments to be delivered to a railhead or airport. In some instances freight forwarders even package the freight into containers or trailers ready for loading onto a train.

DEVELOPING MULTIMODAL FREIGHT VILLAGES/ILC

Freight villages (**Figure 5-6**), also referred to ILCs in the United States, are areas where goods storage, distribution, repackaging, and value-added activities occur in a multimodal environment. The ILC provides a seamless transfer of goods to road, rail, and, in some cases, to air and marine transportation. ILCs are being developed in response to growing congestion in the urban core and residential development pressure on historically industrial areas. ILCs are generally located on the fringe of the urban area with excellent access to the freeway system as a key component driving location. ILCs are a new concept within the US but are a proven concept in Europe particularly in France, Spain, Belgium, and the United Kingdom. They include not only the activities stated above and direct access but also provide 24-hour security, office space, parking for heavy trucks, rest facilities, and maintenance facilities. Within the United States, ILCs are being developed in Illinois, Ohio, Texas, and California.

The challenge to locating a large multimodal ILC in the Tampa Bay Region is finding developable land large enough (500 to 1,500 acres) to accommodate the facility and that meets the requirements for access and location. While the rail portion of an ILC needs only to encompass a small area of the overall ILC site, it is a key element in attracting businesses that would benefit from the economics that rail transport provides. A secondary challenge that must be overcome is the rapid residential growth that is generally incompatible with a large industrial site that operates 24 hours a day, 365 days per year. Additionally, rapid residential development drives up the cost of land acquisition. Therefore, it is important to be proactive in developing a master plan for the ILC area.

**FIGURE 5-6
FREIGHT VILLAGE CONCEPT**





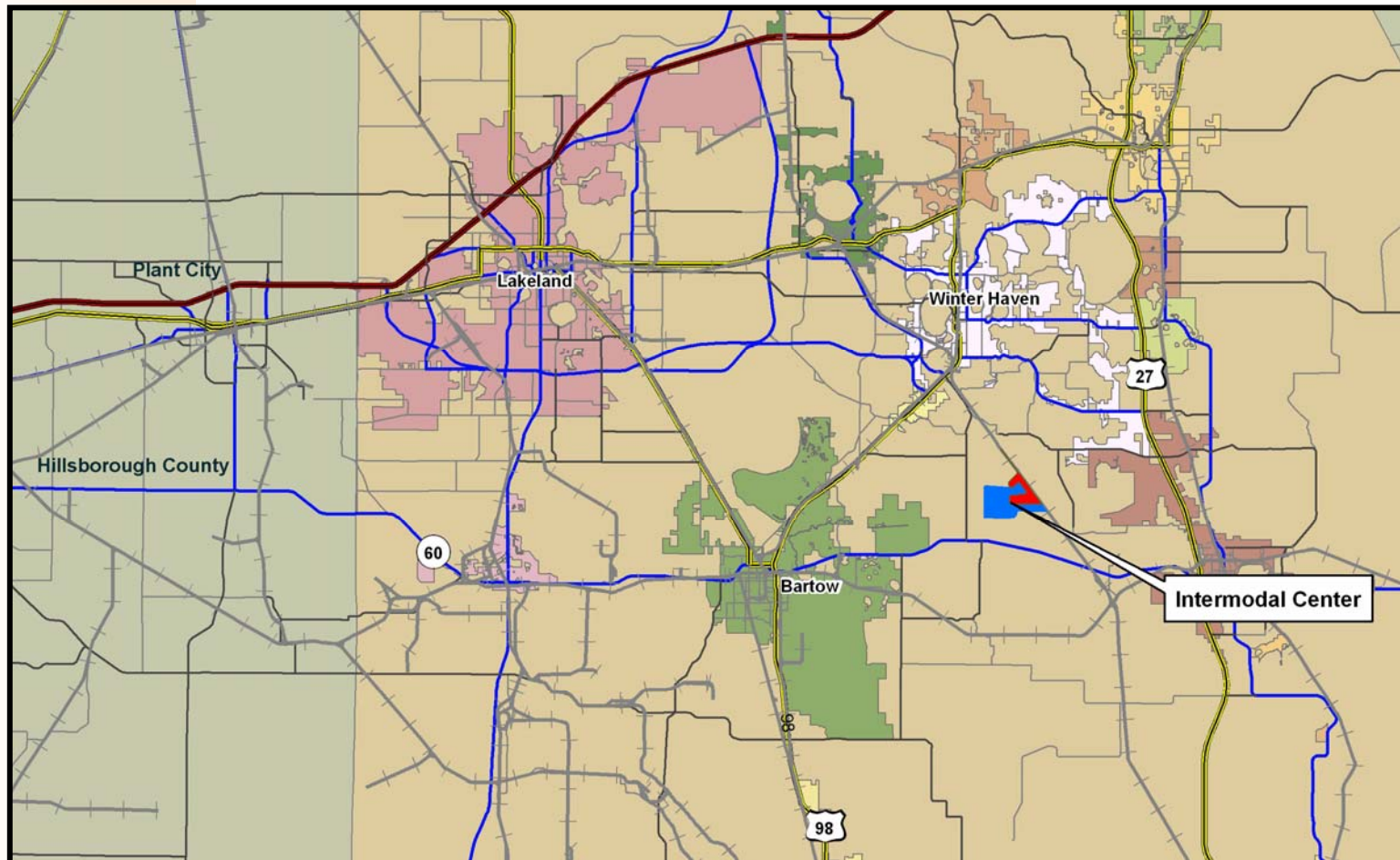
Locations with access to both rail and the interstate highway system are ideally suited for ILC development and provide an opportunity to reduce the number of trucks in the local area to those primarily required for pickup or delivery. To this end, CSXT has purchased a 1,250-acre parcel in Polk County near Winter Haven (**Figure 5-7**) for development of an ILC. This facility will be completed in two phases and include a rail intermodal facility in Phase One and over 4.5 million square feet of warehouses/distribution and industrial development in Phase Two. Additionally, large distribution facilities are expected to be developed adjacent to the ILC in order to take advantage of rail to ship their goods in containers or TOFC. There will also likely be significant commercial development in support of the ILC, including hotels, truck stops, restaurants, gas service stations, etc. Overall, CSX stated the ILC could generate up to 8,000 direct and indirect jobs in Polk County¹¹.

While rail is generally used to move large quantities of goods to and from other parts of the state or country, it could also be used to dray imports and exports passing through the Port of Tampa to/from the ILC for distribution beyond the local market area. In other words, rail could be used to dray containers over a dedicated rail shuttle service between the port and the ILC or smaller regional ILCs for assembling trains to distant destinations, for transfer to trucks for short to medium range transport where more flexibility is required, or to co-located value-added manufacturing facilities for final assembly prior to shipping.

ILCs are also ideal incubators for developing businesses that support freight transportation such as freight forwarders, logistics services providers, importers and exporters, distributors, and value added manufacturers.

¹¹ CSX Takes First Step Toward New Logistics Center, CSX Media Release, January 19, 2006.

FIGURE 5-7
INTERMODAL LOGISTICS CENTER LOCATION MAP





A properly planned and developed ILC will result in a competitive advantage to not only the businesses located on the site, but also to the region because of the operational efficiencies associated with a development specifically designed to move cargo. The efficiencies don't come without some unintended consequences, such as an increase in heavy truck traffic on local roads in the vicinity of the ILC. This is why it's important to locate these facilities near major limited access highways.

DEVELOPING RAIL FREIGHT PUBLIC/PRIVATE PARTNERSHIPS (P³) FUNDING

While the freight railroads show increasing potential to divert significant amounts of truck traffic from our regional highway system and local roads they lack the financial capacity to make many of the infrastructure improvements required to increase the efficiency of the rail system. This is not to say that the railroad industry is not making investments in the system. In fact, railroads continue to heavily invest in projects with the highest potential return to their systems.

In the past, the line between public and private transportation spending was clear. The established principle was that public money could not be spent on projects that directly benefited a private enterprise or industry. The primary reason was to avoid favoring one business or industry over another and not to lose public monies on poor investments. As a result, the freight rail system began to deteriorate because the investment required to make improvements to the lines was generally cost prohibitive. Simultaneously, public spending on improved highways, which generally had a public benefit, was inadvertently favoring the trucking industry, providing it with an advantage over the rail system. Trucks, although owned and operated by private businesses, use public highways during the course of their operations.

While the real advantage of trucks over rail is their ability to go virtually anywhere and access locations not served by rail, there is a challenge. The advantage that trucks once had through flexibility is being eroded by increased demand that results in more trucks in the system adding to highway congestion. This results in delay, decreased

delivery reliability, and higher costs to the operator, the shipper, and the consumer. For large intercity or interregional shipments, rail, where available, is clearly the winner in terms of cost and in many cases reliability.

Opportunity for change in this area appears to be on the horizon. As our roadways become more congested with both cars and trucks, there will be an increasingly negative impact on both personal and freight mobility and the economy. In order to help maintain economic growth and control shipping costs it is important that government at all levels look for solutions to reduce highway congestion. This will require new ways of approaching the public/private funding issue for transportation infrastructure. Just as public/private partnerships are routinely justified for commuter rail systems and residential/business development that is deemed for "the public good," there is also a public good that can be justified from partnerships with the rail industry to improve freight mobility and reduce congestion, both of which benefit the public.

The CSXT ILC proposed for Polk County is a step in the direction of P³ that benefits both the rail industry, as well as the public.

The State of Texas recently took the lead in the area of public/private partnerships for funding rail enhancements when an agreement was reached "between the state of Texas and the Union Pacific railroad to work in partnership to relocate freight rail out of densely populated urban areas."¹² This partnership has a win-win potential for both the state and Union Pacific in that:

- It will allow the railroad to operate more efficiently at higher speeds;
- It will reduce the amount of hazardous cargo moved through populated areas;
- It will help reduce the number of train/vehicle collisions;

¹² Brotherhood of Locomotive engineers and Trainmen, *State of Texas Takes Steps to Prevent Rail Gridlock*, www.ble.org, March 22, 2005.



Requirements for a Successful P³

Vision – of an integrated freight system

Goals – milestones

Commitment – of Freight Community
Economic Development of Public
Offices

Cooperation – of all the above

Courage – of elected officials to
implement the vision or at least start
the process

- It will allow the state to acquire prime urban property for ROW of new streets, highways, and commuter rail lines without affecting homes and businesses; and
- It will provide the railroad with new ROW that is external to urban congestion.

However, since there is no funding in place, and the plan will require zoning changes as well as changes to local land use and transportation plans, it may be several years before the full impact of this agreement will be seen. Nevertheless, the potential exists to pave the way for more enlightened public/private transportation partnerships nationwide and specifically in the Tampa Bay Region.¹³

The Texas experiment should be closely monitored and where possible duplicated. Within the five counties that encompass FDOT District Seven, potential areas for public/private partnering with CSXT include:

- Grade separations of railroad crossings on Adamo Drive (SR 60) and US 41;
- Improved access to the Uceta Intermodal Yard, potential relocation of the Uceta Yard and/or the Anderson Road Auto Yard outside urban area and redeveloping the existing locations;
- Developing a southern rail entrance into the eastern port facilities; and
- Development of a rail freight village and industrial park east of the urban area.

Achieving success in developing freight-related P³ will require a focused vision; cooperation between rail, road, port, and public officials; commitment from all; and the courage to bring the vision to the public.

¹³ Brotherhood of Locomotive engineers and Trainmen, *State of Texas Takes Steps to Prevent Rail Gridlock*, www.ble.org, March 22, 2005.

CORRIDOR PRESERVATION

Railroads are a business and they are constantly seeking ways to improve their profitability. One way to accomplish this is to abandon light density lines in favor of improving capacity on the profitable lines. Abandonment has occurred in the Tampa Bay Region in the past and may continue in the future as there are several light use lines or line segments that would be ideal abandonment candidates. For example, the southern end of the Clearwater Subdivision has been abandoned and, based on current activity, CSXT may decide to abandon additional segments. Abandonment allows the railroad to terminate operations over a line, remove track, and sell the ROW. ROW obtained through easement may be returned to the original or adjacent property owners depending on the terms of the easement agreement. However, an opportunity exists for the state or local government to retain the corridor for future transportation requirements.

The railroad might also see an opportunity to preserve a corridor that is not being used by giving up ownership but retaining the right to repurchase and restore the corridor for rail use in the future. This can be accomplished through some form of railbanking.

Railbanking is a provision of the National Trails Systems Act (16 USC 1247 Section 8d) adopted in 1983. It is a method of preserving a rail corridor as opposed to abandonment and has resulted in the preservation of nearly 4,500 miles of rail corridors nationally, of which approximately half have been converted to trails. It is a voluntary program where the railroad is permitted to sell, lease, or donate an out of service corridor that would have otherwise been abandoned, to a public agency or private entity to use as a public trail. It also allows the railroad to restore the corridor to railroad use if a need develops at a later date. The advantage of railbanking over abandonment is that railbanking preserves the corridor for future transportation needs because it remains under federal jurisdiction. Abandonment, on the other hand, allows the corridor or portions of the corridor to be sold or revert back to

An optional opportunity to preserve these corridors would be for the State, through FDOT, to purchase the line and lease trackage rights back to the railroad. A potential target for this type of acquisition could be the Brooksville Subdivision, which could be used as a commuter line linking Brooksville in Hernando County and Tampa with stops in Connerton, Wesley Chapel, and Lutz in between. Freight could run outside of commuter blocks.



another landowner as in the case of a rail corridor easement making it virtually impossible to restore the corridor in the future.¹⁴

Although railbanking is popular in many states, especially in the west and midwest, there is only one railbanked trail in Florida, the Suwannee River Greenway. However, with the number of light density lines and spurs located within the Tampa Bay Region, railbanking is an opportunity to preserve rail corridors through public use while allowing the railroad to save costs until a future need arises. It also is an opportunity for the state to preserve rail corridors for future use as light rail or commuter rail corridors that will reduce the future ROW acquisition costs for these systems.

SUCCESS STORIES: OUTCOMES OF EXCEPTIONAL FREIGHT PLANNING

Today there are many examples where public and private interests have come together to identify and implement projects that enhance local or regional freight movement. Some efforts have been long-term and complex in both scope and in investment costs. Others have been quickly implemented with low-cost solutions. A common element for successful implementation of both large and small-scale projects is the ability of diverse interests groups to collectively determine the key freight investments in their area. Efforts from such coalitions have a positive impact on freight analysis and give greater integrity to proposed freight improvement projects. Four noteworthy freight planning efforts involving railroads include the Alameda Corridor in Los Angeles; CREATE in Chicago; FAST in Seattle; and Portway in northern New Jersey.

¹⁴ Rails to Trails Conservancy, *Railbanking and Rails to Trails A Legacy for the Future*, Washington D.C., March 2005, pg 1.

ALAMEDA CORRIDOR

The Alameda Corridor is a grade separated rail corridor that runs from the ports of Los Angeles and Long Beach to a connection with the transcontinental rail network located near downtown Los Angeles. The corridor consolidates the operations of three freight railroads with miles of branch lines into a single high-speed rail corridor. Rail and road traffic is separated increasing the efficiency of both systems by eliminating over 200 at-grade crossings. The project's centerpiece is the Mid-Corridor Trench, which carries freight trains in an open trench that is 10 miles long, 33 feet deep and 50 feet wide between State Route 91 in Carson and 25th Street in Los Angeles. Construction began in April 1997. Operations began in April 2002.¹⁵ The Alameda Transportation Authority estimates that over 15,000 hours of delay have been eliminated daily for vehicles waiting at the former railroad crossings.

The following objectives and benefits were excerpted from *The Alameda Corridor Project: A National Priority*:

Public Sector Project Objectives

- Reduce Highway Traffic Delays
- Improve Safety
- Improve Rail Operations
- Mitigate Environmental Impacts
- Improves Economy
- Maximize Cost Effectiveness
- Minimize Construction Impacts

¹⁵ Alameda Corridor Transportation Authority, *Fact Sheets*, www.acta.org.



Railroad Components

- Consolidation of Railroad Traffic
- Double Track Railroad with Centralized Control
- Depressed Track Railroad from 25th Street to Route 91
- At-Grade Railway with Highway Grade Separations South of Route 91
- Continuous At-Grade Drill Track to Serve Local Industries

Key Project Benefits

- Highway Traffic Delays and Congestion Will Be Significantly Reduced
- Rail, Vehicular, and Pedestrian Traffic Operations Will Be Safer
- Significant Economic and Environmental Benefits Will Be Realized
- Railroad Operations Will Be Significantly Improved
- 77 Percent Reduction of Track-Miles
- Elimination of Conflicts at Nearly 200 At-Grade Highway Crossings
- State-Of-The-Art Train and Traffic Control Systems.¹⁶

CREATE

In Chicago, Illinois, private and public sector interests are developing a course of action known as CREATE (Chicago Region Environmental and Transportation Efficiency) to address intermodal bottlenecks, rail passenger delays and safety issues.

¹⁶ Alameda Corridor Transportation Authority, *Fact Sheets*, www.acta.org.

Representatives from railroads, trucking companies and transit agencies identified a \$1.5 billion (2003) plan to increase rail capacity in the Chicago area. Projects include the conversion of at-grade rail crossings to grade-separated crossings, upgrading tracks and modernizing signaling equipment and building six rail-to-rail connections that will separate passenger train operations from freight train operations. Additionally, 25 highway-rail grade separations will reduce delay for both motorists and truck freight while improving safety at the crossings and decreasing energy consumption and air pollution.

Ultimately, the planned freight investments will reduce intermodal travel time through the Chicago rail network and increase service reliability and on-time performance will increase for passenger rail trains. The project will also reduce the number of trucks required to dray containers between railroad lines that are currently not connected by adding new crossovers, truckage, and other improvements to five rail corridors. Motorist delay will be reduced at 163 other crossings. The time value of the reduced delay is estimated at \$202 million.

FAST (FREIGHT ACTION STRATEGY) FOR EVERETT-SEATTLE-TACOMA

The objective of FAST is to streamline the movement of rail and truck freight through the Puget Sound region of western Washington from Everett in the north to Tacoma in the south. FAST is a public/private partnership that involves three counties and twelve cities, state and local transportation agencies, the ports of Everett, Seattle, and Tacoma, economic development organizations, the trucking and rail industries, and local businesses.¹⁷

Fifteen projects were identified to improve freight movement of which seven were completed as part of Phase I with additional projects under construction. Phase I was so successful that an additional six projects have been identified for Phase II. The funding goal for Phase II is \$262.8 million. Improvements are targeted for corridors that offer the "biggest bang for the buck."¹⁸

CREATE Benefits (2042 Estimated)

Savings (in millions of \$)

<i>Reduced Passenger Rail Travel Times</i>	190
<i>Reduced Highway Construction</i>	77
<i>Reduced Highway Accidents</i>	94
<i>Reduced Highway Delay</i>	202
<i>Reduced Grade Crossing Accidents</i>	32

*Reduced Fuel
Consumption (Trains)* 18 million gallons

*Reduced Air Pollution
(Trains)* 1,453 tons NO_x
225 tons CO
80 tons VOCs
51 tons particulates

- www.createprogram.org,
downloaded December 23, 2005.

¹⁷ FAST web site: www.wsdot.wa.gov/mobility/FAST.

¹⁸ Ibid.



Most of the projects are grade separations in the vicinity of the three ports, which combined are the third largest container facility in the country. Costs for the individual projects completed so far range from \$12.4 million to \$41.5 million. A major new project under construction is the South Spokane Street Viaduct in Seattle, which is a critical link between the I-5 and the West Seattle Freeway. This highway carries 45 percent of the Port of Seattle truck traffic.

The \$93 million project minimizes the conflicts between truck freight movement, freight rail traffic, commuter traffic, and ferry access and improves connections to the industrial areas near the port.¹⁹

PORTWAY

The northern area of New Jersey, which includes the Port of Newark/Elizabeth, Newark International Airport and numerous rail and truck facilities, is one of the most congested areas on the east coast. The port handles over 75 percent of the total tonnage that moves through New York Harbor and the on-dock rail intermodal terminal moved over 228,000 containers in 2002.²⁰

In order to expedite the movement of freight through this area various improvements to the transportation system had to be implemented. Portway is a series of transportation projects designed to improve the connectivity of the Newark/Elizabeth Air/Seaport Complex of intermodal rail yards, trucking facilities, and warehouse distribution centers to the regional rail and highway system. The combined projects are expected to cost over \$1 billion and take over 10 years to complete.²¹

¹⁹ FAST web site: www.wsdot.wa.gov/mobility/FAST.

²⁰ PSE&G Transportation Fact Sheet, 2005.

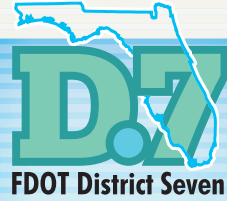
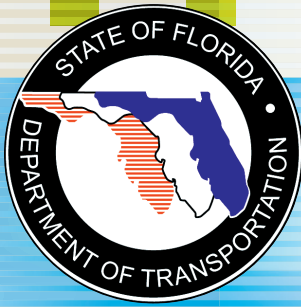
²¹ NJDOT Portway website, www.state.nj.us/transportation/works/portway, 2005.

The projects involve four counties, and nine cities. Three projects have been completed thus far, two are in final design or scope development, and the remaining six are undergoing feasibility studies.

The Portway Projects will:

- Increase safety and support seamless intermodal and roadway connections;
- Relieve current high levels of congestion and meet growing future demands resulting from increased activity at port facilities, rail yards, and distribution centers;
- Promote economic development, create jobs, and improve the environment; and
- Improve access to brown-field sites and facilitate their re-use as value-added processing centers and for other goods movement logistics purposes.²²

²² NJDOT Portway website, www.state.nj.us/transortation/works/portway, 2005.



FREIGHT MOBILITY

Recommendations 6



Freight is an ongoing joint venture of government and the private sector. The performance of the system and the adequacy of the freight capacity in the next decades will reflect the outcome of government decisions on numerous spending, regulator, and operational issues that arise in the course of administering established programs.

*- Transportation Research Board,
Special Report 271*

Freight rail transportation is a vital asset to the Tampa Bay Region. Every day, the region's rail connection supplies a critical service of transporting goods in a low-cost, efficient manner. Freight rail also provides other economic benefits as well including high paying jobs, the potential for congestion reduction, and acts as an attractor for new manufacturing businesses that require economical long-range transport of raw materials and finished products. In the future, rail transportation will become more important as the Port of Tampa expands its international markets and increases its focus on containerization.

The recommendations, when implemented, will improve the flow of freight within the Tampa Bay Region by relieving congestion around the Port of Tampa and increasing the capacity and efficiency of the rail system. Some of the following recommendations were made in previous studies and reports and are repeated in this study because they offer opportunities:

- To improve the flow for freight into, out of, and through the region;
- To help to reduce the problem of increasing congestion on the regional highway system and on local roads around the port and other industrial centers; and
- To expand or relocate existing rail facilities of regional importance.

Implementation of the recommendations will require the cooperation of the region's governments and transportation entities. The major entities would be:

- Florida Department of Transportation (FDOT)
- Metropolitan Planning Organizations (MPOs)
- Tampa Bay Regional Transportation Authority (TBARTA)

- Chairman's Coordinating Committee (CCC), a coordinating group among the region's MPOs
- Cities and municipalities
- Counties
- Florida's Turnpike Authority
- Tampa Port Authority
- CSXT
- Trucking Industry

RECOMMENDATION 1

FDOT and the MPOs should work closely with CSXT on further rationalization of the existing rail corridors to:

- Identify short-line railroads willing to operate any corridor proposed for abandonment particularly the Port Tampa spur and the Brooksville and Clearwater Subdivisions;
- Purchase the ROW of underutilized lines for the future development of public transportation; and
- Preserve the rail corridor through rail banking programs such as Rails-with-Trails, which permits converting the ROW back to the railroad as future needs arise.

(Reference: Section 5, pages 5-49 and 5-50)

Implementation Agencies: CSXT, FDOT, MPOs, CCC



RECOMMENDATION 2

Construct a connection between the “A” and “S” Lines west of the Yeoman/Uceta Yards in Tampa and between the “SV” and “A” Lines in Plant City.

This improvement would increase flexibility in the use of either main track to access all components the study area rail system and reduce roadway delay at key grade crossings. Trains making backing moves out of the Yeoman Yard in order to switch between lines block the at-grade road crossing at 50th Street causing long delays to both commuters and trucks in one of the most highly congested freight corridors in Tampa.

(Reference: Section 5, page 5-37)

Implementation Agencies: CSXT

RECOMMENDATION 3

Implement previously proposed improvements to the Palmetto Subdivision to increase train speeds including:

- Extending the Ruskin siding and upgrading train control signalization,
- The Big Bend runaround and switching tracks,
- Upgrading the Big and Little Manatee River bridges to remove the existing speed and weight restrictions,
- Expanding the crossing signal approaches,
- Grade separation at Adamo Drive (SR 60), and
- Grade separation at Causeway Boulevard.

(Reference: Section 5, page 5-6)

Implementation Agencies: CSXT, FDOT

RECOMMENDATION 4

Implement previously proposed rail improvements at Hooker's Point including:

- Completing the on-port loop by connecting the east and west spurs;
- Mosaic Company (formerly Cargill) wye track; and
- Service tracks to CF Industries, Amalie Oil, scrap metal dock, Berth 220, CSXT Yard, and the container facility.

(Reference: Section 5, page 5-24)

Implementation Agencies: CSXT

RECOMMENDATION 5

Construct a dockside rail siding adjacent to the container berths on Hooker's Point that will facilitate the direct ship to rail intermodal transfer of containers destined for areas outside Tampa. This will eliminate on-port and off-port draying and additional lifts while transferring containers between ship and train.

Note: Assuming the ILC is built in Polk County, direct rail to port connectivity will reduce the number of trucks draying cargo between the two facilities on SR 60 and I-4 and reduce the number of container trucks accessing the Port at Hookers Point, as well as on-port congestion.

(Reference: Section 5, page 5-38)

Implementation Agencies: CSXT, Port of Tampa



"Freight Advisory Committees are a great way to build awareness and enthusiasm about freight. And over time, Freight Advisory Committees can spearhead efforts to include freight in all aspects of transportation planning."

*-Ted Dahlburg, Manager,
Office of Freight Planning
Delaware Valley Regional Planning Commission*

RECOMMENDATION 6

Investigate the potential for developing a state-of-the-art container facility at Port Redwing or other location adjacent to US 41 in lieu of Recommendation 5 and relocating all container operations to this facility. Include, as part of this development, a direct ship to rail and ship to truck intermodal transfer capability, as well as grade separated direct rail and truck only access to the Palmetto Subdivision mainline (rail) and I-75 (trucks). Expansion of the Port Redwing to handle bulk aggregate, cement, and petroleum products may preclude this option at Port Redwing. However, this is still a potentially viable idea and the port should look at other areas for potential expansion.

(Reference: Section 5, page 5-24)

Implementation Agencies: Port of Tampa, FDOT, MPOs, Hillsborough County, CSXT

RECOMMENDATION 7

In consideration of the proposed ILC in Polk County, conduct an existing intermodal facility study to examine the potential expansion in-place or redeveloping the land of existing facilities for other uses.

(Reference: Section 5, page 5-36)

Implementation Agencies: CSXT, FDOT, Hillsborough County, City of Tampa

RECOMMENDATION 8

Conduct an Alternative Freight Rail Corridor Feasibility Study:

Compare to costs and benefits of:

- Constructing a new rail corridor connecting the “SY” from Plant City through southern Hillsborough County to the Palmetto mainline;
- Constructing grade separations at SR 60, US 301, I-75 and possibly US 41;
- Shifting all phosphate trains from “S” line to the new corridor; and
- Shifting cargo to/from Manatee County and Port manatee to the new corridor.

To the cost and benefits of:

- Constructing grade separations as specified in Recommendation 10;
- Construction grade separations on US 41 over the Rockport Lead, the East Yard Lead, and the Port Red Wing Lead as well as at SR 60 and Causeway Boulevard;
- Potential joint use of a portion of the proposed future Outer Beltway corridor;
- Freeing the “S” line for use by general cargo and container trains between the Port of Tampa and the proposed CSXT Intermodal Logistics Center in Polk County; and
- Freeing the “S” line for regional commuter rail service.

(Reference: Section 5, page 5-29)

Implementation Agencies: CSXT, FDOT, Hillsborough County MPOS, Florida’s Turnpike Authority, Port of Tampa



RECOMMENDATION 9

Develop/appoint a Tampa Port Access Transportation Strategy (TPATS) coalition task force that includes FDOT, Hillsborough County, the MPOs, the Port of Tampa, the City of Tampa, CSXT, the trucking industry, the Expressway Authority, Tampa Bay Partnership, and the Greater Tampa Chamber of Commerce with the purpose of developing short- and long-term strategies for improving port access by rail and road through the elimination of at-grade crossing conflicts on designated regional freight corridors similar in nature to the *Freight Action Strategy (FAST)* employed by the Ports of Seattle, Tacoma, and Everett, Washington and the other successful public/private partnerships described at the end of Section 5.0. Crossing conflicts include both rail/highway and congested highway intersections. The task force mission would be to develop a planning strategy, identify and prioritize grade separations (see Recommendation 10 below), as well as other port access connector projects and develop and implement a funding strategy that will ensure completion of these projects in the shortest amount of time.

(Reference: Section 5, page 5-50 to 5-55)

Implementation Agencies: CSXT, FDOT, Hillsborough County, MPOS, Expressway Authority, Port of Tampa, Trucking Industry

RECOMMENDATION 10

Construct grade separations (see Figure 5-1) at the following high traffic locations to expedite the movement of freight, relieve congestion delays resulting from train movements within and through Hillsborough County, and improve safety.

- Adamo Drive (SR 60) east of 50th Street (expedite), Regional Freight Corridor Impacts both commuters and truck freight;

- US 41 (50th Street) over the Rockport lead (expedite; can be extended to separate US 41 from Causeway Boulevard as well) – impacts commuter and truck freight;
- 50th Street over the "S" Line (could also be extended over the "A" Line and the intersection at Broadway Avenue) – impacts truck freight Regional Freight Corridor;
- Orient Road over the "A" Line – impacts truck freight (16-20 trains per day; 11,300 vehicles per day);
- Causeway Boulevard east of US 41 – Regional Freight Corridor impacts commuters and truck freight;
- Brandon Boulevard (SR 60) over the Valrico Subdivision line – SIS Facility, impacts truck freight;
- Park Road over the "A" Line and US 92 (recommended);
- Faulkenburg Road over the Yeoman Subdivision lead (S- Line) – impacts truck freight (25-30 trains per day; 25,800 vehicles per day);
- SR 50 east of US 301 (Hernando County) – when SR 50 is included in this area S Line Regional Freight Corridor;
- Alexander Street (Plant City) over the "A" Line – impacts commuters and truck freight (16-30 trains per day; 20,000 vehicles including 900 trucks per day); and
- Parsons Avenue over the Yeoman Subdivision Line – impacts commuters (25-30 trains per day; 25,000 vehicles per day).



The Faulkenburg Road grade separation was not originally recommended by CSXT or FDOT but should be considered. The already heavy traffic flow is expected to increase in the future.

There are eight additional crossings (see Figure 5-3) that should be considered for upgrading to grade separations based on the existing and projected vehicle traffic and the potential to increase the number of trains in the future, including the possibility of commuter trains on this corridor.

- Valrico Road over the "S" Line (when the road is improved to four lanes) – impacts commuters (25-30 trains per day; 12,000+ vehicles per day);
- Sligh Avenue over the Drew Spur;
- Waters Avenue over the Drew Spur;
- SR 54 west of US 41 (Pasco County) – Regional Freight Corridor;
- Future Ridge Road Extension (Pasco County);
- SR 52 west of US 41 (Pasco County) – Regional Freight Corridor;
- US 41 north of SR 52 (Pasco County) – Regional Freight Corridor; and
- SR 50 by-pass east of US 41 (Hernando County).

(Reference: Section 5, pages 5-6 to 5-16 and 5-32)

Implementation Agencies: FDOT, MPOs, CSXT

RECOMMENDATION 11

Upgrade the CSX Intermodal facility to full SIS hub status. The primary issue from a regional rail freight perspective is the failure to designate the CSX Intermodal facility at the Uceta Yard as a SIS hub rather than as an emerging SIS hub. The CSX Intermodal facility conducts 85,000 lifts annually. This equates to approximately 170,000 truck movements (in and out) of the facility, which is located in a highly congested industrial area with narrow streets. By including the yard as a full SIS hub, 62nd Street and Columbus Drive can be upgraded to SIS connector status and receive funding for critical roadway improvements for trucks accessing the facility.

(Reference: Section 5, page 5-3)

Implementation Agencies: FDOT, MPOs, CSXT

RECOMMENDATION 12

Investigate and consider developing a multimodal ILC/freight village outside the congested urban area that incorporates the concepts discussed in Section 5.0 to include direct access to the interstate, SIS, truck route systems, and rail network and sufficient land to develop complementary businesses such as distribution centers, warehouses, intermodal transfer facilities, and common fueling stations, security, weight scales, and driver comfort facilities. The freight village should be planned as an industrial zoned DRI with sufficient land to include a buffer zone to reduce impact to adjacent residential communities.

(Reference: Section 5, pages 5-43 and 5-44)

Implementation Agencies: FDOT, MPOs, Counties, CSXT



RECOMMENDATION 13

When constructing the “Crosstown Connector” allow room for a “Wye” connection from the A-Line to the SY-Line (both north and south). This will permit CSXT to divert all through trains on the S-mainline west of the Yeoman Yard that currently cross 50th Street north of SR-60 to the A-Line. Remove the mainline track west of 50th Street eliminating one of the two tracks at the crossing. (See Figure 5-4)

(Reference: Section 5, page 5-37)

Implementing Agencies: FDOT, CSXT

RECOMMENDATION 14

Double track the following mainline segments to increase rail capacity in conjunction with the proposed ILC located south of Winter Haven in Polk County:

- S-Line (wildwood and Yeoman Subdivisions) Hernando County to the recommended A-Line connector at Plant City,
- Double track the S-Line from the Yeoman Yard in Tampa to Plant City, and
- Double track the “A” Line from east of Tampa to Plant City.

(Reference: Section 5, Page 5-36)

Implementing Agency: CSXT