



LATTS II Strategic Railroad Connectors

LATIN AMERICA TRADE AND TRANSPORTATION STUDY (LATTS) II

Abstract

The Federal Highway Administration undertook a field inventory of the National Highway System (NHS) connectors in the fall of 1998, almost six years ago. Nationally, there were 616 intermodal freight terminals (253 coastal and river ports, 99 airports, 203 truck/railroad terminals, and 61 pipeline/truck terminals) representing over 1,222 connector miles. Some of the major findings of the NHS connector effort were: (1) Intermodal connectors that primarily serve freight terminals have significantly more mileage with pavement deficiencies and generally exhibit inferior physical and operational performance when compared with other similar NHS facilities; (2) An analysis of investment practices shows a general lack of awareness and coordination for freight improvements within the State and MPO planning and programming processes; and finally, (3) Given the pressing needs for passenger-related projects, there is little incentive for investing in freight projects that appear to primarily benefit only a small freight constituency (a very incorrect assumption).

Section 1106(d) of the Transportation Equity Act for the 21st Century (TEA-21) directed the

Secretary of Transportation to conduct a review of the National Highway System (NHS) freight connectors that serve seaports, airports, and major intermodal terminals and report to Congress. The objectives of this effort were to: (1) evaluate the condition of NHS connector highway infrastructure to major intermodal freight terminals; (2) review improvements and investments made or programmed for these connectors; and (3) identify strategic impediments and options to making improvements to intermodal freight connectors.

Given this charge, it became apparent early on in the process and particularly to the LATTS Alliance Member States, that a similar assessment with similar goals was needed for the railroad mode to and from key state freight intermodal hubs and transfer locations.

A major difference in this assessment, however, is that freight railroad facilities and operations almost exclusively fall within the purview of the private sector with the exception of publicly owned terminal railroad infrastructure and operations that for the most part, serve on-port gateways.

A key work task and component of the LATTS II study effort is



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development of a complementary database and inventory of strategic railroad connectors used to access the LATTS strategic intermodal hubs. This process is the starting point for identifying bottlenecks and deficiencies on the LATTS strategic railroad feeder system and connector network. The inventory process identified in this paper entailed identifying each key rail connector link to a LATTS facility, then identifying that link's owner/operator and contacting that entity to obtain data on that particular connector. Being that these are privately owned transportation infrastructures, the owner/operator may have or may not have been reluctant to share information on the connector link due to fear of liability issues (because of common carrier status) or due to proprietary issues associated with competitive market conditions.

Wilbur Smith Associates has undertaken an extensive primary and secondary research effort to create an initial railroad connector database where none existed before. We attempted to "mirror" to the extent practicable proven processes used in identification of the NHS Roadway Connector Database, but understanding there are similarities and differences in these modes.

The paper that follows documents the methodology used to approach, quantify, and inventory the railroad owner/operators and the existing or non-existing strategic railroad

connections to key LATTS freight intermodal hubs and facilities.

The Approach

As part of the research conducted by Wilbur Smith Associates in designating the initial LATTS Strategic Rail System, a set of designation criteria were followed and agreed to by member participating Alliance states:

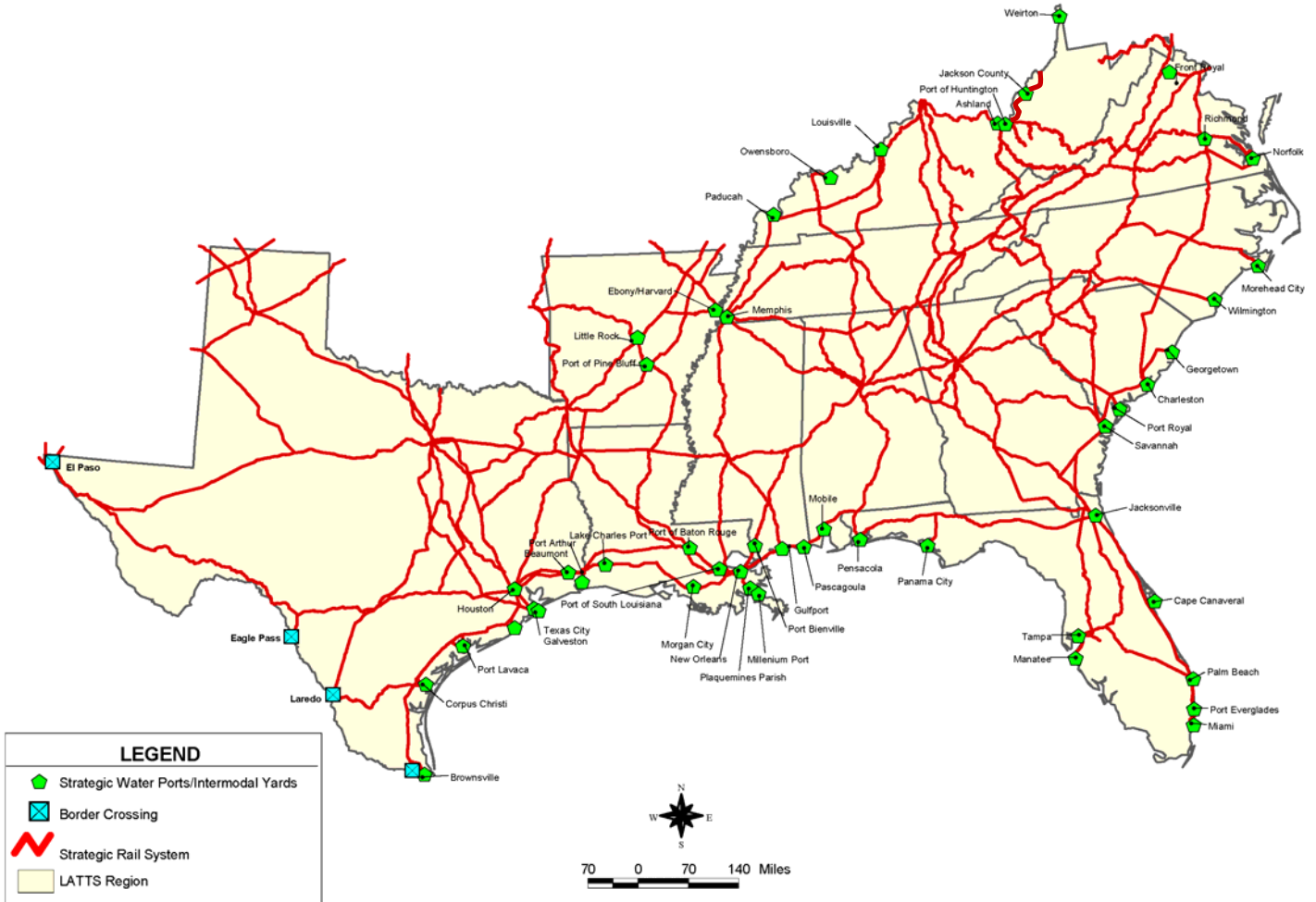
1. Portions of the railroad system of each state designated as Principal Railroad Lines by the Federal Railroad Administration that have annual freight volumes exceeding 20 million gross tons per mile;
2. All strategic military STRACNET mainlines were included;
3. *Existing railroad line connections* to all ports that are part of the LATTS Strategic Transportation System;
4. Existing railroad lines which function as part of an inland port operation;
5. Additional railroad lines which were deemed to be of special interest to Alliance members.

Exhibit 1 on page three shows the "*Initial LATTS Strategic Rail System*" meeting the aforementioned criteria as approved by the original 13 member state's Steering Committee. The States of Oklahoma and Missouri and Puerto Rico have since become Alliance members.



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Exhibit 1: Initial LATTS Strategic Rail System





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Additional investigations were conducted regarding railroad traffic flows to determine the need for additional railroad line segments that may need to be included.

The Federal Railroad Administration has defined a core national railroad system known as the Principal Railroad Lines. These railroad lines have the following attributes:

- Amtrak passenger service
- National defense essential
- Annual freight volumes exceeding 20 million gross ton-miles per mile (MGTMM)

Other railroad line segments were added to the initial system even though they did not qualify under the system criteria previously presented base on their uniqueness and/or critical reliance by the facility owner/operator.

For example, there are certain rail-highway intermodal facilities which function as off-dock facilities for water ports. This situation exists at Charleston, South Carolina, Miami, Florida, in Virginia, and elsewhere. These railroad connections were considered to be part of the LATTS Strategic Transportation System. In all, 26,029 miles of strategic railroad system mileage for then 13 Alliance member states was identified in the original LATTS study effort.

LATTS II Railroad Connectors - The Next Step

The LATTS II scope of work, *Subtask A 3: Enhancement Railroad Gateway & Connector Data* required Wilbur Smith Associates to take the Strategic Railroad System to the next level of research. Alliance members needed to know, by designated strategic facility what railroad carrier served the facility, what was the primary railroad branch line/mainline used to serve the facility (if any) and what physical attributes/constraints may be unique and strategic to the facility that may be critical to successfully ensuring future capture of Latin American trade and commerce.

Wilbur Smith Associates embarked on a comprehensive outreach to facility owner/operators by direct telephone contact in completing a database of key railroad connections to and from each Alliance member state's designated key LATTS facilities. A comprehensive contact list and physical inventory of facility railroad connectors has been successfully undertaken and complete that will greatly assist each Alliance member as a beginning point for extensive future on-site survey of railroad connector needs, for their respective state.

Like National Highway System intermodal connectors, railroad connectors represent the "feeder" network carrying the majority of bulk commodity to and from the trunk



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route railroad mainline system of the United States. These feeder branch lines, and in some cases mainlines, represent "the critical last mile" of the strategic national railroad system. The condition, capacity, and maintenance of these connections is paramount to the overall health of the freight intermodal system and the economic well-being of the nation.

Methodology

The initial railroad connector effort began with identifying the "role" and "facility type" of each designated LATTS strategic facility (e.g. - deep water port, airport, river port and whether an international gateway, national, regional, or local facility). This was done by screening each facility based on the volume of passenger and/or freight handled annually, the hinterland served by the facility, and the general infrastructure and capacity available to service and transport product or people. Some reasonable assumptions had to be made. However, the resulting classification is fairly representative of the primary market segment served by each facility.

Next, basic physical attributes and inventory information was sought for each railroad connector identified. Unlike the long established Roadway Characteristics Inventory (RCI) database maintained by each state department of transportation and the Federal Highway Administration, no such comprehensive database exists

for private railroad or public railroad carriers and therefore, one had to be created from scratch by the Study Team. Initially, facility operator/owners were asked for data relative to their respective railroad connector(s) by telephone survey including:

- Number of railroad companies serving the facility,
- Key contact person for railroad company,
- Most used and primary railroad connection,
- Milepost limits of the connection (facility to trunk line railroad),
- Total mileage of the connector link,
- Connector active? Yes/No,
- Service frequency - Daily? Weekly? Other?
- Abandoned or Embargoed,
- Owner/Operator of the Connector,
- Average Annual Tons transported over the Connector,
- FRA Track Class of the Connector,
- Weight of rail (majority of the



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Connector),

- Number of bridges and structures on the Connector,
- Weight restrictions of bridges/structures.

Responsiveness to the phone survey for this information was mixed. Some facility owners were well advised of the railroad infrastructure accessing their respective facilities; others, had no information whatsoever; and still others had some, but not all of the information requested.

The Study Team contacted all 106 existing LATTS II Strategic Intermodal Facilities, and received feedback and confirmation of railroad connector data in some form from 119 out of 121 terminals representing a 98% response rate. As a result of these extensive efforts, the consultant team was able to identify whether each terminal had or did not have railroad connector service and some of the attributes of those connections that do in fact exist.

Summary Results

As stated previously, the LATTS Steering and Working Committees designated 106 LATTS facilities representing 121 terminals for the 16 member states and commonwealths (the states of Florida, Georgia, Louisiana, Mississippi, South Carolina, Texas, and West Virginia

have multiple terminals as part of one port facility -see *LATTS II STS - Designated Rail System* Exhibit 2 on page seven). To-date, 62 terminals at 121 designated LATTS II Strategic Intermodal Terminals have been confirmed to have at least one critical railroad connector (branch line or mainline) that is strategic and important to the facility's economic well-being (51%). Eighteen (18) other facilities or 15% are within close proximity to railroad trunk lines and have potential for railroad connection, but likely lack the type of commerce or trade conducive to railroad transport that would be necessary to justify private expenditure in constructing a railroad link. Still others (39 - 32%) have no railroad alternative and do not expect to have railroad service in the foreseeable future (passenger airport facilities). Most railroad connectors identified by the consultant team, access seaport or river port facilities as these intermodal hub points provide the synergies for bulk or break-bulk products best suited to railroad transport. Some airport facilities are located near railroad mainlines and some do have spur lines accessing cargo aprons or warehouses on airport properties, but these are few. Other airports have plans to, or are currently underway, with plan design for railroad passenger access to airside terminals (Miami Intermodal Center). Discussions also indicated that one (1) facility has a railroad connector, but that it has been abandoned (Birmingham International Airport)



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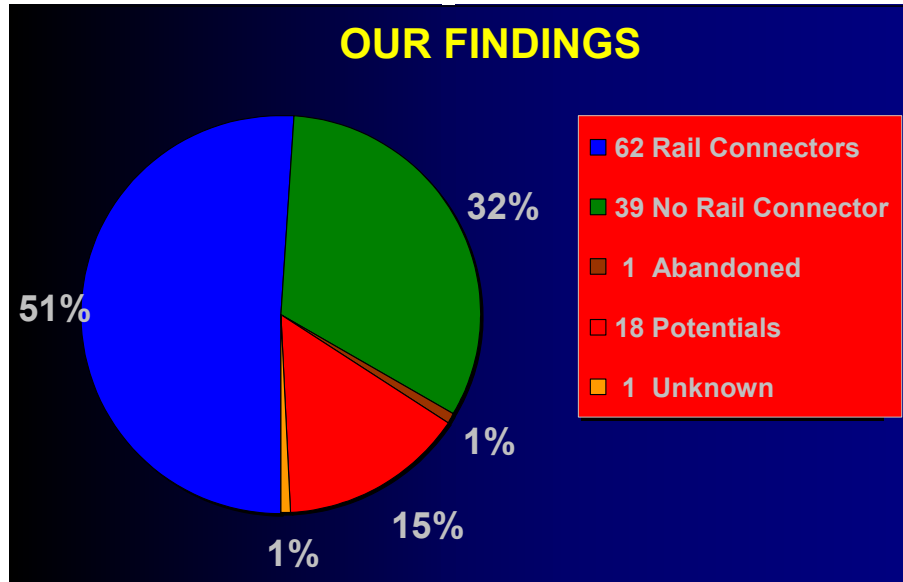
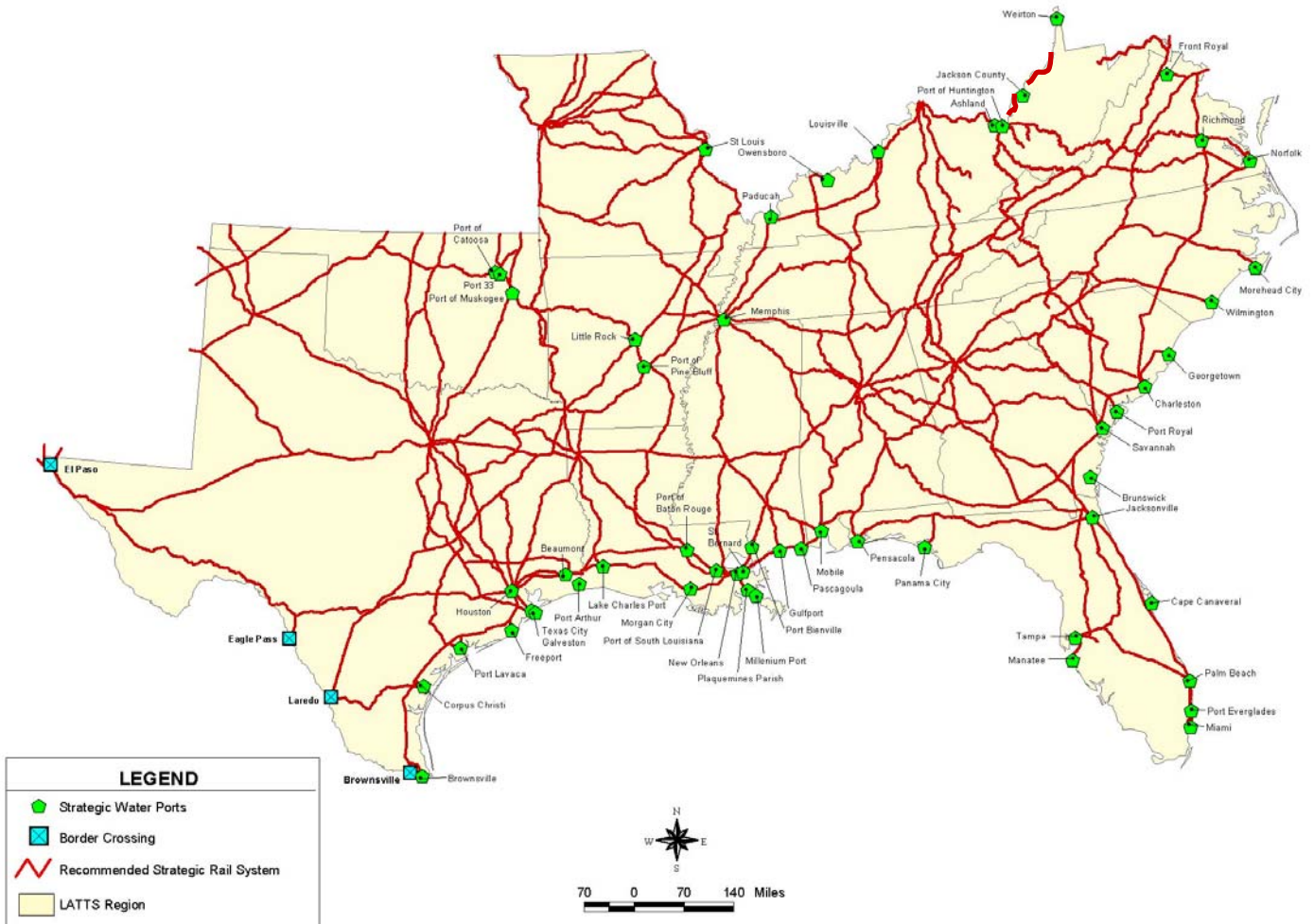


Exhibit 2: LATTS II STS – Designated Rail Network





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and, one (1) facility (Port of Brownsville) could not be contacted to verify whether or not railroad freight service exists.

It is recommended as a future action, that each Alliance Member State undertake its own on-site condition survey of the facilities within its jurisdiction should it see fit to do so; this would entail in-depth site visitation to each facility to complete a physical condition inventory and to personally meet with each facility owner/operator.

The database developed includes:

- The LATTS facility name,
- A LATTS facility identifier number,
- Whether the facility currently has railroad service or not,
- The current owner/operator of the railroad connector(s),
- The current status of the railroad connector, whether operational, abandoned or embargoed,
- A description of the connector and/or its attributes,
- A "strategic rationale" for why the connector is important to the facility and carrier,
- Additional information that

may be relevant or important to know,

- Strategic considerations for why the connector is important or why its retention is important to capture of LATTS commerce.

This information will provide a baseline "stepping off" point for each Alliance state member to perform more in-depth on site rail connector evaluations should that state desire to do so. The information collected thus far also allows for the identification of probable problem areas or congestion points on the connectors at each facility that may require further investigation.

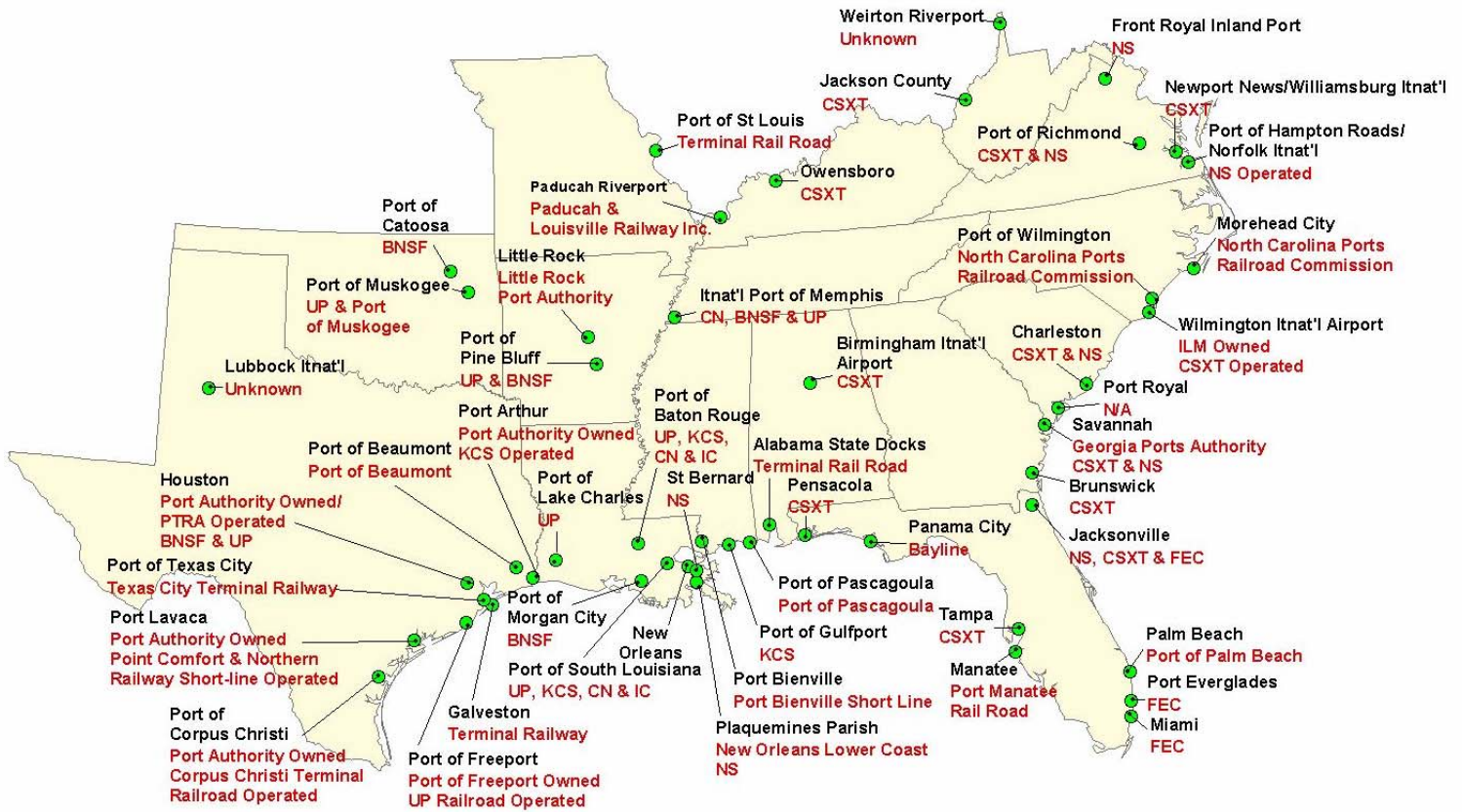
Also assimilated and verified is a comprehensive list of contacts by Alliance member state for each facility whose primary charge is managing, operating, being familiar with or the spokesperson for the railroad infrastructure accessing each. Exhibit 3 on page nine identifies the railroad operators providing services by railroad connection or terminal operation. Exhibit 4 on page ten provides a sample of data collected for the railroad connector database.

Because railroad ownership and operations are primarily under the purview of the private sector (exception: public port terminal railroads), many facilities and railroad operators have been reluctant to provide the study team



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Exhibit 3: LATTS II Railroad Connector Owners / Operators



LEGEND	
●	Rail Connector Facility
Miami	Rail Connector Facility Name
CSXT	Connector Owner/Operator
	LATTS II Region



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with the detail information sought pending contact and further discussion with each state department of transportation. Much of the inventory and operational information being sought is considered proprietary by the railroad, and until such time as they can perceive a benefit in participating in an inventory and/or condition survey (e.g. dollars), they will be understandably reluctant to provide information and market sensitive data.

The Study Team believes that it will

Strategic Considerations

Most of the 39 facilities not having railroad connections represent regional or international airport facilities. Because the types of freight customarily handled by air cargo carriers represent high value, time sensitive, low volume type commodities, these products (e.g. - jewelry, cut flowers, clothing/apparel, etc.) are not the type of cargoes that are customarily conducive to railroad transportation. This is one reason why freight railroad service is not present at these airport facilities (and

Exhibit 4: Sample of Railroad Connector Database

Facility Name	Facility ID#	Rail Connector?	Connector Owner / Operator	Current Status	Description	Strategic Rationale	Additional Information	Strategic Considerations
Alabama State Docks	AL7P	YES	Alabama State Docks - owner Terminal Railroad - operator	Operational	Terminal railroad - class VI railroad that operates on port facility and connects to four mainline railroads (Burlington Northern / Santa Fe, CSXT, Illinois Central, and Norfolk Southern).	Major Hub Connection for Four Class I railroads	The 70 plus year old Terminal railway is older than the port facility. It owns and operates 8 switching locomotives.	Strategic intermodal connector currently exists and is used extensively today.
Birmingham International Airport	AL1A	YES Abandoned	CSXT - owner	Not Operational	Abandoned CSXT spur line to airport facility.	Possible future freight spur to facility.		Physical infrastructure will need extensive rehabilitation.
Huntsville International Airport	AL6A	NO	NA	NA	No appropriate rail connector exists.	NA	NA	NA

be necessary for the individual state departments of transportation to become actively involved in soliciting the participation of their respective LATTS facilities and railroad operators to gain better access to critical information.

if it is, or is planned for, it is for passenger transport design). However, if Foreign Trade Zones (FTZ) were better utilized and the infrastructure provided to attract the type of cargoes that railroad companies could compete with at these airport locations (e.g.-example, foreign- owned automobile



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manufacturing/processing plants or automobile parts providers), railroad would provide access and capacity to these locations. Transportation access and supply chain logistics are very important. General purpose FTZs are located at or near airports and ports. Inland FTZs could be strategically established with the right type of businesses and production to entice railroad operations to such facilities. Successful FTZs leverage a particular manufacturing niche (specialized electronic products, machinery, auto-related parts and processing operations). This approach could be better utilized for value added and economic development purposes. A drawback to this approach, however, is that for many FTZ facilities, there is a lack of air service to Latin America making it difficult to promote trade and thus to entice airport authorities to utilize available land for other medium to heavy manufacturing uses.

Of the 62 LATTS Strategic Intermodal Terminals that do have railroad connections, most of these represent gateway port facilities; primarily bulk and break-bulk facilities that transship or package for export railroad compatible cargoes (e.g. ores, aggregates, metals, food stuffs, automobiles or automobile parts, containerized or palletized products). For each of the 106 existing LATTS II Strategic Intermodal Facilities where a railroad connector exists or a potential for one exists, a "strategic rationale and

strategic considerations" column with comments was created for the database. In every case, a railroad line is in place and operational because the demand for railroad service for a particular commodity (or commodities) is present and service to and from the facility covers marginal cost for the railroad to provide service to that particular facility. As with NHS roadway connectors, it became quite evident that railroad connectors in almost every case are maintained to a level and FRA track class (Class I) suitable for low speed transport of bulk commodity. Almost all of the connectors could use additional rehabilitation (according to the facility owner/operator) but this would have to be verified and detailed estimates prepared from on-site investigation of each connector. Most of the railroad connectors currently in use were described by the LATTS facility owner to be "major feeder lines to trunk lines" and key logistics supply links to the national domestic transcontinental railroad system.

The following strategic considerations should be further researched with respect to each LATTS facility railroad access plan or planning exercise:

- Is the connector a major link to a railroad "hub" or part of a convergence of more than one railroad? If so, preserving two or more railroad carrier services to the facility will help keep rates



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- reasonable due to competition
- Is the LATTS facility within 1 - 10 miles of a major trunk-route railroad carrier's mainline? If so, future strategic plans should consider costs of rights-of-way and construction to providing a railroad link to the facility for future targeted economic development purposes
 - Is there a need to reduce "freight congestion" in proximity to the facility due to its geographic location in an urbanized area? If so, existing railroad rights-of-way should be strategically protected either by private or public ownership (or a combination of the two) as an alternative to truck only service.
 - Deferred maintenance is usually an issue on all connector railroad branches and should be a major consideration in any strategic planning for improving access to LATTS intermodal facilities.

Impediments to Investment

Similar to the NHS roadway connector evaluation performed by departments of transportation some four years ago, study team research for railroad connectors revealed that funding for railroad connector

infrastructure along with the lack of cargo volumes to and from LATTS Strategic Facilities necessary to support railroad investment appeared to be the most consistent concern raised by facility owner/operators regarding improvements to railroad connections.

As found with the NHS roadway connector survey, many states and metropolitan planning organizations often see freight as a low priority when compared to the pressing financial needs for passenger travel. This is further exacerbated by the acknowledgment that freight railroads are private sector enterprises thus statutorily making them ineligible for public funding in some state jurisdictions. Consistent with freight initiatives in general, the challenge for improving and enhancing LATTS railroad connectors to strategic facilities is competition for public transportation funding resources and the need for proven (not anticipated) business capture of railroad transportable cargoes. The ability of a facility or gateway to produce contractual commitments from suppliers is paramount to justify and secure private sector investment for railroad infrastructure and the appropriate connection(s) to the facility.

Only with complete coordination and cooperation of the common carrier railroad or, through creation of a terminal railroad owner/operator acceptable to the Class I carrier for



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interchange, can a successful railroad alternative be established.

Railroad connections to most intermodal facilities (LATTS facilities included) are for the most part, underutilized, are in less than optimum condition, or are just not useable or available. New creative funding approaches are required to correct deferred maintenance and to enhance access to LATTS Strategic Intermodal Facilities.

State Infrastructure Banks (SIBS), revenue bonding schemes, private and local funds, Transportation Infrastructure Finance and Innovation Act of 1998 (TIFIA for large projects of \$100M or over) and other sources of revenue must be creatively utilized to purchase rights-of-way, rehabilitate, and maintain the critical railroad links from the LATTS gateway facilities to the national railroad system.

Conclusion

Although a comprehensive database and inventory of railroad connections and contacts has been successfully assimilated by the Study Team over the past year, additional work is required to validate the need, physical inventory, engineering deficiencies, and future strategic potential for use of the railroad connectors thus far identified for LATTS Strategic Intermodal Facilities. A commitment of resources, (fiscal and manpower), will be required from the federal

government, departments of transportation, the private railroad companies and the facilities themselves, to further evaluate the practicality of utilizing existing railroad connectors for future strategic purposes or to create new connections where none previously existed.

Only a thorough on-site evaluation and survey of each LATTS Strategic facility's railroad attributes will provide the necessary level of detail required to determine if future freight railroad use is a valid transportation alternative.