

**Lee County MPO Rail Feasibility Study
Contract 2012-001**



Technical Report

**Railroad Operating Agreements:
Without Acquisition of Right-of-Way or Lease**

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1. Report Summary

This report presents a general discussion of the various issues relative to shared-use operating agreements between public agencies and freight railroads that allow an agency to implement a passenger service on a freight railroad. The information contained in this report can be supplemented with additional information from National Cooperative Highway Research Program (NCHRP) Report 657, Passenger Rail Service on Shared Passenger and Freight Corridors. The NCHRP Report was published in 2010 and is publicly available from the Transportation Research Board.

Basically a shared-use operating agreement will define the requirements to allow a public agency to operate a passenger service by sharing tracks with a freight railroad. For purposes of this discussion, Seminole Gulf Railway/CSX Transportation (SGLR/CSXT) as the operator/owner of the freight rail corridor will be referred to as the "host railroad", and Lee County, the Florida DOT, or a Transit Authority as the public agency that would potentially operate the passenger rail service over the corridor will be referred to as the "tenant railroad" or "passenger agency."

This report focuses on operating agreements where the host railroad would share equipment, tracks and/or right-of-way with other passenger agency rail vehicles, either Commuter Rail Transit (CRT) or Light Rail Transit (LRT). This report will not discuss scenarios where a passenger agency would either purchase or lease all or a portion of the right-of-way from the underlying land holder. Bus Rapid Transit (BRT) would not involve any mixing of equipment on tracks since the buses would have their own dedicated roadway; under a BRT scenario, a purchase or lease would be required but not an operating agreement. Hence BRT will not be discussed in this report.

Many different scenarios for such sharing of trackage exist. Two examples of sharing scenarios that could be appropriate for Lee County include commingling of SGLR freight and Lee County passenger traffic, or time-separated shared-track freight service with diesel or electric light rail services that would use non-Federal Railroad Administration (FRA)-compliant vehicles. Shared track and shared right-of-way are potential sharing arrangements between SGLR and Lee County.

Discussions between the passenger agency and the host railroad should be initiated early in the planning process for a proposed passenger service on a freight railroad. Once it is agreed that the host railroad will consider the proposed service, it is typical for a Memorandum of Understanding (MOU) to be executed by both parties that would document roles and responsibilities for each party through the planning process. The building blocks for successful negotiations and ultimate passenger service implementation include a number of steps prior to completing an operating agreement. A long-term plan that looks 20 to 25 years into the future for the proposed service along with a thorough feasibility study appropriate to the scale of the proposed service should be prepared. Secured funding or a politically feasible plan to assemble capital and operating funds for the proposed service will help negotiations with the host railroad. Some passenger rail agencies have attempted to operate a demonstration service prior to implementing a full-scale service to show feasibility and garner support.

Access agreements are unique for each proposed passenger service; several access models exist which depend greatly on the individual local situation. Approaches for securing access include accessing existing track or acquiring space on the existing right-of-way to build parallel tracks. Infrastructure improvements and associated costs will need to consider the planned

passenger service and projected freight growth. Other factors to consider include station safety, liability issues, and Positive Train Control (PTC).

Project costs for infrastructure improvements will generally be borne by the passenger agency. The host railroad may be more willing to consider contributing a share of the investment cost if the proposed project provides tangible benefits to its freight operations costs. Host railroads will seek to ensure that they bear no costs for operating the passenger service, unless they are able to profit from the service.

Actual operating agreements between freight railroads and passenger agencies are confidential and not available to the general public. It is not known if any specific agreements could be obtained by doing a public records request with individual agencies; this would depend on state-specific public information laws.

Passenger car safety standards have been issued by the Federal Railroad Administration (FRA). Rail passenger car safety technology continues to advance, and further development of passenger car safety standards can be expected, in response to research results and the findings of accident investigations. The issues of whether and how to potentially permit non-FRA-compliant passenger rail vehicles to operate on the general railroad network have arisen regularly over the past two decades. Since a proposed CRT or LRT service on the SGLR could potentially involve the use of non-FRA-compliant passenger vehicles, this report includes a brief discussion of what is meant by "non-FRA-compliant" passenger rail vehicles along with applicable FRA safety regulation issues and the current status of efforts to introduce and use such vehicles on the general railroad network.

2. Introduction

The SGLR rail corridor is a privately-owned facility, and Lee County as the tenant proposing the passenger rail service must negotiate an access agreement with the host railroad that specifies access terms and payments. SGLR/CSXT as the owner/operator of the freight rail corridor will be referred to as the "host railroad", and Lee County as the public agency that would potentially operate the passenger rail service (or a Transit Authority) operating over the corridor will be referred to as the "tenant railroad" or "passenger agency."

Many different scenarios for such sharing of trackage exist. Examples of sharing scenarios include:

- Where a freight railroad is host to a commuter or Amtrak intercity passenger service, or both, on the same corridor. This arrangement is one of the most common and could be a scenario for Lee County to implement a Commuter Rail Transit (CRT) passenger service on the SGLR. Most of the Amtrak corridor and long-distance services outside the Northeast Corridor (NEC) are operated on host freight railroads. Other examples of this type of service are commuter rail services provided by public agencies in the Baltimore and Washington areas that operate on CSXT track shared by passenger and freight trains.
- Time-separated shared-track freight service with diesel or electric light rail services that would use non-Federal Railroad Administration (FRA)-compliant vehicles. (A discussion of FRA vehicle types is included later in this report.) This could also be a scenario for Lee County to implement a CRT or Light Rail Transit (LRT) service on the SGLR. An example of this type of service is the New Jersey Transit (NJT) River Line between Trenton and Camden.

- Where a passenger rail public agency acquires a corridor for passenger rail service and gives trackage rights back to a freight railroad to allow the freight railroad to continue freight service. Arrangements of this type exist on almost all corridors purchased by a public authority for primarily commuter rail passenger service. This is an arrangement similar to the ones used for the commuter rail services in the state of Florida. The Florida Department of Transportation (FDOT) purchased the South Florida Rail Corridor (SFRC) from CSXT who continues to operate freight service, with the South Florida Regional Transportation Authority (SFRTA) operating the commuter trains. FDOT also purchased the Central Florida Rail Corridor (CFRC) from CSXT who continues to operate freight service, with Sunrail as the operator of the commuter trains when the service is ultimately implemented. While this could be a scenario for Lee County to implement CRT or LRT in Lee County, this report will not focus on this type of agreement.
- Shared intercity and commuter rail operations on infrastructure owned and/or operated by Amtrak or the commuter rail agency. The NEC and connecting lines include examples of both Amtrak and commuter-owned or -operated infrastructure, and situations where Amtrak is responsible for operating infrastructure owned by a commuter rail agency. For example, Amtrak operates the portion of the NEC owned by the Massachusetts Bay Transportation Authority (MBTA) and hosts contractor-operated MBTA commuter services. This is not a likely scenario for Lee County, and this report will not focus on this type of agreement.
- Three-way sharing of intercity, commuter, and freight operations on freight host railroad tracks, such as on BNSF Railway Company-owned lines in the Seattle and Chicago areas that Amtrak and local commuter agencies operate on. This is not a likely scenario for Lee County, and this report will not focus on this type of agreement.

All the previous examples are of shared-use corridors that are part of the General Railroad System of Transportation. This term has a specific meaning, referring to the interconnected network of railroads in the United States. Only urban rail transit lines that are not connected to the general railroad network are specifically excluded. This definition is significant because it is used in the definition of applicability for most FRA safety regulations and for various other statutes, regulations, and government programs applicable to railroads and railroad employees. The SGLR/CSXT corridor is part of the General Railroad System of Transportation.

A shared-use railroad corridor, as defined by the FRA, is a broad term that includes three different sharing arrangements, specifically:

- Shared track, where the trains of two or more rail service providers operate over the same tracks. This could be a scenario for CRT and LRT in Lee County.
- Shared right-of-way, where two rail services are operated on separate parallel tracks having a track centerline separation less than 30 feet. Separation of 30 feet or less triggers the application of certain FRA safety regulations. Separation also may be referenced in shared-corridor agreements between railroads, for example, as limiting the kinds of permitted operation or requiring specific safety precautions. This could also be a scenario for CRT and LRT in Lee County.
- Shared corridors, where track centerline separation is between 30 and 200 feet. Two hundred feet is considered the outer limit of separation where an accident on one line could interfere with operations on the other. Normally the host railroad is also responsible for day-to-day operation of the corridor (e.g., dispatching and track maintenance), but, in a

number of cases, host railroads have contracted or delegated operating responsibilities to another party. Due to the width limitations of the existing SGLR corridor, this is not a likely scenario for Lee County.

Although shared-use corridor arrangements are considerably diverse, common and very challenging situations occur when a new or expanded passenger service seeks to operate on the tracks of a busy corridor owned and operated by a major freight railroad, where the freight railroad will be the host for the new service. In almost all cases, state, regional, and local governments generally establish separate specialist agencies to manage the funding, development and operation of passenger rail services. These agencies go under a variety of titles, depending on local laws and practices, and in this report they are referred to generically as passenger rail agencies which could be responsible for any type of passenger rail service. It is likely that Lee County would consider setting up a separate passenger rail agency if a proposed service is progressed.

This report focuses on operating agreements where the host railroad would share equipment, tracks and/or r/w with other passenger agency rail vehicles, either CRT or LRT. If BRT is the preferred mode, there would not be any mixing of equipment of equipment since the buses would have their own dedicated roadway, albeit on the same right-of-way. For a BRT scenario, there would not be an "operating agreement" as such because the two modes are distinctly different and would operate on separate guideways. Instead for BRT, there would be a lease or purchase of a portion of the r/w from the host railroad by the passenger agency to build the busway(s). Details of what such a lease or purchase would include for BRT will not be discussed in this report.

3. Steps Toward Negotiations

Discussions between the passenger agency and the host railroad should be initiated early in the planning process for a proposed passenger service on a freight railroad. The goals for the passenger agency will need to be considered along with the business plan for the future operations of the host railroad's freight franchise. These initial discussions will determine early-on whether the host railroad will seriously consider the passenger agency's proposed service. Once it is agreed that the host railroad will consider the proposed service, it is typical for a Memorandum of Understanding (MOU) to be executed by both parties that would document roles and responsibilities for each party through the planning process. The ultimate goal will be to successfully negotiate the details of an operating agreement. The building blocks for successful negotiations and ultimate passenger service implementation include:

- A long-term plan that looks 20 to 25 years into the future for the proposed service. This plan should be based on a state or regional long-term rail plan for both passenger and freight service. For example, if the ultimate goal is 12 round trips per day to be reached over a period of several years in various stages as funding and ridership growth allow, then this goal should be clearly stated in the plan. This ultimate service goal should be stated even if only say two round trips will be operated initially. Only negotiating for the initial two trips and returning one or more times to develop new agreements for additional trips would likely prove to be cumbersome, time consuming, costly, and prone to failure.
- A thorough feasibility study that is appropriate to the scale of the proposed service and that establishes reasonable expectations for service, expected ridership and revenue, infrastructure improvements, and capital and operating costs. The feasibility study should

also address anticipated growth in freight traffic to ensure that freight operations will not be adversely impacted by the proposed passenger service.

- Regardless of the level of detail in the feasibility study, a clear description of service expectations at each stage of development. This would include the number of daily round trips and approximate departure times in each direction; station locations; projected run times; and service quality expectations that would identify acceptable percentages of delays.
- Secured funding or a politically feasible plan to assemble capital and operating funds for the proposed service. A host railroad could be reluctant to negotiate unless it can verify that funding is secured, or at a minimum that the funding process is well advanced and the proposed service plans are credible given the funding status.
- Preliminary description of the services desired from the host railroad. Train dispatching and infrastructure inspection and maintenance are almost always provided by the host railroad. The passenger agency may be interested in support from other parties in areas such as train operations. Some host railroads actively prefer to be responsible for running the passenger operations so that they do not have to work with a third-party contract operator.

Some passenger rail agencies have attempted to operate a demonstration service prior to implementing a full-scale service. Such a trial service is intended to demonstrate feasibility to stakeholders and build support for the full service. Potential advantages of a demonstration service approach are that the service could be implemented quickly and at a relatively low cost using second-hand equipment with local funding. If successful, the demonstration service would provide stakeholders with evidence of success that could then be leveraged to obtain increased funding from local, state, and federal sources. The potential negative is that the demonstration could fail and damage future prospects for passenger rail in the area. A demonstration service project could be negotiated more easily on a light density railroad like the SGLR where disruption to the normal flow of freight traffic could be minimal. The large Class 1 railroads generally would deny "trial" operations, fearing that the politics surrounding a service proposal could become ever more difficult from their perspective to keep in balance with protecting freight service capacity.

4. Content of Access Agreements

The first issue that the passenger agency will need to negotiate with the host railroad is the basic access arrangement for the corridor being considered. There are sharp differences between obtaining access for Amtrak intercity service and access for a local or regional CRT or LRT service. Since the Lee County service would not be considered intercity in nature, the following discussion will be limited to issues that do not involve Amtrak intercity service.

Unlike Amtrak, passenger agencies proposing CRT or LRT services have no right of access and must negotiate at arm's length with the host railroad. The host railroad will be asked to provide access to a passenger agency separate from sharing operating and maintenance costs. Access costs can be high, and passenger agencies generally seek alternative approaches. Several access models exist which depend greatly on the individual local situation. Because public grant money can be available for capital costs, passenger agencies almost always prefer that the access payment to be in the form of a one-time capital investment rather than ongoing payments based on the number of train miles operated.

4.1 Approaches for Securing Access

Approaches for securing access include the following options:

- Access Existing Track. The passenger rail agency can negotiate access to existing freight tracks, which on active routes may require added capacity and track and signal system upgrades. This approach makes the most sense where the corridor is a key link in a freight network and the owner will not consider a sale. It is also the approach commonly taken for intercity services, because the desired routes are less likely to be realistic purchase candidates and often carry substantial freight traffic. Within this general category, there are three approaches to ensuring that passenger service requirements can be met:
 1. Pay a lump sum for a perpetual easement on a freight railroad corridor to operate a specified passenger rail service. The agreement would specify the number of trips, run times, and schedules, but the railroad takes responsibility for selecting the infrastructure improvements needed to deliver the service. The Sounder commuter service on BNSF north from Seattle to Everett, Washington, took this approach.
 2. Fund agreed-upon infrastructure improvements in the corridor to meet passenger service requirements. This approach is probably the most common where purchase of the line from the host freight railroad is not a realistic option.
 3. Pay for access as an ongoing usage payment, based on the number of train miles operated. This approach means that access would be paid for as an ongoing operating expense.
- Acquire Space on Existing Freight Railroad Rights-of-Way and Build Parallel Track. Another approach is to purchase or lease space in the right-of-way of the freight railroads for construction of an exclusive passenger track or tracks. This option is available where the ROW is wide enough and the freight railroad does not expect to need the space for additional sidings or running tracks. In the past, this option has been used most often for heavy rail transit service (such as in Atlanta, Georgia; Washington, D.C.; and more recently for commuter service in the Salt Lake City and Denver areas). Freight railroad concerns about accident liability have sometimes led to purchase conditions requiring a rather high minimum lateral separation between passenger rail operations and active freight lines, or restrictions on the kinds of equipment that the passenger operation can use. These conditions sometimes make the parallel track option infeasible, especially if the agency is considering the use of non-FRA-compliant passenger equipment.
- Expand Existing Arrangements. If the project is for further development of an existing service, the usual approach is to expand on existing arrangements with the freight railroad and make whatever infrastructure investments necessary to provide the required capacity and facilities. However, intervening developments in both passenger and freight traffic may be such that the parties decide to negotiate a new agreement on a different basis.
- Purchase the Rail Corridor. If the passenger volume is adequately identified and the host railroad does not consider its route to be a key strategic freight corridor, then it can make sense for the passenger agency to purchase the corridor. The freight railroad would continue to have access to the line for freight service. The advantage for the passenger agency is that access is guaranteed, and the advantages for the freight railroad are that it receives a substantial up-front payment for the corridor that can be invested elsewhere on its system. The availability of a corridor for purchase depends on how the freight railroad views the future use of the line. The Class 1 railroads are still active in spin-offs by selling their low density lines to concentrate their efforts on high-volume corridors. Indeed this has been the case where FDOT was able to successfully negotiate the sales of two CSXT

corridors for the purpose of implementing commuter service. It should be noted that CSXT already has leased their line through Lee County to SGLR. Considerations could be given to purchase of the corridor from CSXT. Details of the SGLR lease arrangement are provided in a separate report.

4.2 Infrastructure Improvements

Except where a passenger rail agency proposes to purchase an easement from the host railroad and will not be involved in infrastructure improvement details, the passenger rail agency and the host railroad must reach agreement on infrastructure improvements needed to support each passenger service development stage. Detailed capacity and train performance analyses are used to understand infrastructure improvement needs.

Some other points on infrastructure improvements are:

- The staged infrastructure investment plan must be designed to accommodate expected growth for the planned passenger service development. It will also be helpful to include expected freight growth in the analysis so that all the parties are aware of potential freight-related investment needs and plans that coordinate shared investments to benefit both host and tenant.
- Beyond the initial investment for the first stage in passenger service development, there must be a process for regular reevaluation of the infrastructure investment plan to adjust as external circumstances change.
- While infrastructure investments will be required on most corridors in order to obtain desired service quality for a new passenger rail service, this may not always be the case. Much depends on the current use of the corridor. If the corridor already accommodates passenger service, then it may be possible to add further trips without investments. This would not be the case for Lee County.

The infrastructure investments must be tied explicitly to a specific passenger service frequency and performance level in order to assure that the infrastructure is matched to the agency's needs. A staged program, where specific projects and the associated funding are tied to frequency increments and/or trip time reductions in the master agreement, has worked well in the past. If not stated specifically in the agreement, the passenger agency may fail to realize the expected benefits from its investments.

Passenger station requirements raise a number of unique issues for infrastructure investments and train operations. The passenger agency will likely need to purchase or lease land from the host railroad for station buildings and parking areas. Stations will need vehicular and pedestrian access, which may involve crossing active tracks. For safety reasons, pedestrian crossings at grade are considered very hazardous and may not be permitted in some situations. Grade-separated pedestrian crossings are costly and raise Americans with Disabilities Act (ADA) accessibility issues. Another primary issue for shared operations is providing adequate physical clearance for freight operations, at the same time as meeting ADA requirements for boarding trains.

Some aspects of safety are likely to arise that can affect proposed passenger operations. Liability that cannot be mitigated may cause a freight railroad host to restrict the use of non-FRA-compliant passenger equipment, even on parallel tracks and independent of FRA approvals. Operation of freight trains through passenger stations while passenger trains are

loading may be restricted, depending on station layout, which can affect capacity. The FRA may impose conditions on some operations relating to federally-mandated Positive Train Control (PTC) capabilities, track-to-track separation, and roadway worker activities, etc. All these matters must be resolved and factored into operations analyses and infrastructure improvement plans. PTC is almost certain to be required by the FRA if the passenger operation is commingled with freight operations.

4.3 Capital, Operations and Maintenance Costs

Many technical issues relate to estimating capital and operating costs and how they should be shared between the host railroad and the passenger service. This section discusses how and where these estimates play into negotiations with the host railroad.

Capital costs are for infrastructure improvements to add capacity to a rail corridor and to upgrade track and signal systems to support the desired passenger service performance. Early stages in the negotiation will have provided a list of projects needed for each passenger service development stage and to accommodate forecast freight traffic. Estimates of the cost of each project will likely be developed by the passenger agency then verified by the host railroad, because the host railroad will be the contractor for the work.

The negotiations will center on the share of project costs, if any, to be contributed by the host railroad. Generally, the host railroad may be more willing to consider contributing a share of the investment cost if the proposed project provides tangible benefits to its freight operations and is aligned with the host railroad's business and investment plans. It is harder to convince a host freight railroad to contribute if the benefits are limited. It may take the position that other investments have a higher priority. Typically, host railroads insist that they will bear no costs, no risks, and no liability for the passenger railroad operation, unless they are the contractor for the operation, and exchange risk for profit. "No-cost, no-risk," scenarios can be very costly for passenger agencies, and typically the costs include reimbursement for the host railroad's expenses for review of plans, meetings, legal counsel, and overhead, during the planning and negotiation process.

In most cases, the passenger rail agency must contract directly with the host railroad for capital improvements to track, signals, and structures. On an active railroad, railroad managers must coordinate construction work with train operations and have FRA safety regulatory requirements they must fulfill. Even on projects for an intercity corridor, Amtrak is not normally involved with capital improvement projects unless it is the owner of the corridor.

In the case of commuter service, the passenger agency will be expected to contribute its share of total Operations and Maintenance Costs (O&M) costs. Generally the share of total costs is higher than the incremental increase of O&M costs on a train-mile basis, when passenger service is added. This share is higher because a railroad incurs a number of costs as soon as it is put into service and before any trains run. Examples are basic track and signal inspection costs and the cost of vegetation control, which are unrelated to traffic level and traffic mix. These "fixed" costs are allocated between users on the basis of corridor-use parameters such as train-miles or ton-miles, depending on which can be most closely linked to the cost. Host railroads will seek to ensure that they bear no costs for operating the passenger service, unless they are able to profit from the service.

4.4 Other Considerations

Access agreements are large and complex in nature. In addition to the items mentioned above, access agreements will also include provisions for:

- Liability for passenger, employee, contractor, and property casualty
- Insurance
- Performance payments and penalties
- Remedies for track or safety or FRA deficiencies
- Payment schedule
- Access by third parties and their liability and insurance
- Maintenance allocations
- Liability for environmental hazards and events
- Liability for FRA penalties and criminal citations
- Train dispatching
- At-grade crossing and trespasser casualties and property damage
- Equipment inspections
- Damages caused by track to equipment or equipment to track
- Force majeure

4.5 Sample Operating Agreements

Actual operating agreements between freight railroads and passenger agencies are confidential and not available to the general public. For this report, HDR did an Internet search for various passenger agencies and was not able to find any actual operating agreements in the public domain. It is not known if any specific agreements could be obtained by doing a public records request with specific agencies; this would depend on state-specific public information laws.

5. Passenger Equipment Considerations

Passenger car safety standards that were issued by the Federal Railroad Administration (FRA) on May 12, 1999 are contained in 49 CFR Part 238 (49 CFR 238, Passenger Equipment Safety Standards). Car builders are familiar with the standards, and almost all vehicles purchased after this regulation became effective are fully compliant. Rail passenger car safety technology continues to advance, and further development of passenger car safety standards can be expected, in response to research results and the findings of accident investigations. This development will likely include the conditions under which operation of non-compliant passenger cars will be permitted, and reflect the changes in exposure to collision risk resulting from universal application of PTC.

The issues of whether and how to permit non-FRA-compliant passenger rail vehicles to operate on the general railroad network have arisen regularly over the past two decades. This interest has been driven by a desire to offer innovative rail services or to use attractive existing train designs from outside North America without incurring the cost and time delay of redesigning trains to meet U.S. standards.

Since a proposed CRT or LRT service on the SGLR could potentially involve the use of non-FRA-compliant passenger vehicles, a discussion follows of what is meant by "non-FRA-compliant" passenger rail vehicles along with applicable FRA safety regulation issues and the current status of efforts to introduce and use such vehicles on the general railroad network.

5.1 FRA Standards for Passenger Vehicles

A non-FRA-compliant passenger vehicle is one that does not fully meet all current FRA safety regulations applicable to passenger rail vehicles operating on the general rail network. The primary area of non-compliance has been the regulations and standards for the crashworthiness and hence strength of passenger car structures, which can have a major bearing on the safety of rail passenger cars in collisions. There have been substantial changes to the regulatory landscape over the past 15 years.

Prior to the early 1980s, the Association of American Railroads (AAR) Manual of Recommended Standards and Practices contained a volume devoted to passenger cars. There have been substantial changes to the regulatory landscape over the past 15 years. This Manual required the end-load compression strength (commonly called buff strength) of a passenger car for unrestricted use in interchange service to be 800,000 pounds, with other structural requirements to match. A lower buff strength of 400,000 pounds was permitted for trains having an empty weight below 600,000 pounds since collision impact loads are lower for lighter trains. This exception was rarely used. The only instance since 1970 has been the French-built turbo trains purchased in the early days of Amtrak, which had the European buff strength of 440,000 pounds. Most buyers did not want to operate a vehicle that would be restricted to lightweight trains. FRA regulations of the same era, in 49 CFR Part 229 (strictly applicable only to Multiple Unit (MU) cars not expressly covered in the AAR Manual), were identical to the AAR standards. Otherwise, the FRA took the view that passenger car structural safety was effectively managed by the AAR.

In the early 1980s, the AAR stopped maintaining passenger car standards, and safety standards were left to the specification writers for individual passenger rail service operators, who continued to follow earlier practice. This regulatory vacuum became a concern as interest grew in the operation of high-speed and new-design intercity passenger trains. The FRA responded by initiating a substantial program of research into passenger car collision safety and the development of new passenger car standards applicable to both conventional and high-speed trains. The development of specifications for Amtrak's Acela trains for use on the Northeast Corridor was deeply enmeshed in the process. Safety-related specification requirements for Acela were reviewed with the FRA, and the agreements reached influenced development of the resulting FRA standards. The new regulations in 49 CFR Part 238 became effective in May 1999 (49 CFR Parts 200-299, Specifically Part 238, current FRA Safety Standards contained in Passenger Car Safety Standards (Effective May 1999), Part 236, Signal and Train Control Standards, and Part 213, Track Safety Standards). The regulations eliminated the exception to the 800,000 lb buff strength requirement for trains under 600,000 lb and added new requirements for collision safety for trains operating at over 125 mph (i.e., the Acela). There have been a number of additions to passenger car safety requirements since 1999, notably in fire safety and emergency egress, and regulatory development continues.

There is only one exception to Part 238 that was implemented during the 1990s for intercity passenger service that allowed the use of non-FRA-compliant passenger equipment that comingles with freight trains. Talgo trains operate on Amtrak's Pacific Northwest corridor between Portland, Oregon and Seattle, Washington on track shared with host railroad BNSF. The Spanish-built Talgo includes a unique articulated train design which uses passive tilting technology to increase speed in curves and thus reduce travel times. Five train sets were put into service between 1995 and 1999, and this equipment is regarded as a commercial and operational success. The Talgos are operated push-pull fashion with an Amtrak locomotive at one end and a cab-baggage car (an F40 locomotive with the power equipment removed) at the other. These Talgo trainsets are nearly identical with the European version and are built to

European structural requirements, including 440,000 pound buff strength. This operation takes advantage of a “grandfathering” provision in the 49 CFR Part 238 (Passenger Car Safety Standards) permitting the operation of non-compliant equipment put into service before the effective date of the rule, subject to review and approval by the FRA.

This discussion of FRA passenger car standards is relevant for the proposed Lee County service. If Lee County decides to progress the implementation of a CRT service on shared trackage with SGLR with comingled freight and passenger operations, the passenger trainsets would have to meet the FRA passenger car safety standards. This is not a significant issue since there are a number of manufacturers that have experience with fabricating this equipment which is commonly used. The train sets that currently operate on the SFRC and the proposed train sets that will operate on the CFRC meet these FRA standards. The potential use of non-compliant vehicles is discussed in the next section.

5.2 Potential Use of Non-FRA-Compliant Equipment

An example of limited acceptance of non-compliant shared use is the NJT’s River Line service between Camden and Trenton where a light rail service sharing track with local freight operations was implemented. The Diesel Multiple Unit (DMU) equipment used on this service is not FRA-compliant. A request was submitted to the FRA by NJT in 1999 for approval of the proposed operation, which directly conflicted with the new Part 238, which was then about to be published and which would have prohibited such operation. After some deliberation, the FRA and the FTA published a proposed joint rule that shared operation would be permitted but with strict time-of-day, or temporal, separation of passenger and freight train operations. NJT had to revise their planned River Line operations to comply with this requirement, with daytime passenger and overnight freight operations. Both parties had to accept less than ideal restrictions. Two other light rail transit lines with limited sharing (Baltimore, Maryland and St. Louis, Missouri) also complied, but with little inconvenience due to very sparse freight operations. The San Diego Trolley, which had operated a shared use LRT line without attracting attention for years, also had to modify its operations.

A proposed Lee County CRT or LRT service could potentially involve the use of non-FRA-compliant passenger train sets on shared trackage. Temporal separation of passenger and freight operations, similar to those services mentioned above, could be a viable option given the low density of freight train operations.