

**MEMORANDUM OF UNDERSTANDING  
BETWEEN  
STATE OF FLORIDA  
DEPARTMENT OF TRANSPORTATION  
AND  
NATIONAL RAILROAD PASSENGER CORPORATION**

**THIS MEMORANDUM OF UNDERSTANDING (“MOU”)** is entered into as of this 17<sup>th</sup> day of July, 2008, by and between the STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION, whose address is Haydon Burns Building, 605 Suwannee Street, Tallahassee, FL 32399-0450 (“State”) and the NATIONAL RAILROAD PASSENGER CORPORATION, whose address is 60 Massachusetts Avenue N.E., Washington, DC 20002 (“Amtrak”).

**WHEREAS**, State and CSX TRANSPORTATION, INC. (“CSXT”) have entered into an agreement whereby State will acquire from CSXT and operate a line of railroad from Milepost A749.7(Sta. 39409+00) at or near DeLand, Florida to Milepost A814.1(Sta. 42718+10) at or near Poinciana, Florida (“State Property”) and such State Property will be used for rail freight service provided by CSXT, commuter rail provided by the State and intercity rail passenger service provided by Amtrak; and

**WHEREAS**, State intends to engage in rail construction projects within and adjacent to State Property in anticipation of commencement of its Central Florida Commuter Rail Transit (“CFCRT”) service over the State Property, which projects may cause temporary disruption to Amtrak service for which the State desires to accommodate Amtrak and its passengers; and

**WHEREAS**, Amtrak operates an Auto Train maintenance and yard facility in Sanford, FL (“Amtrak Facility” or “Facility”), certain portions of which may be suitable for use in servicing and maintaining CFCRT’s Diesel Multiple Unit (“DMU”) railcars; and

**WHEREAS**, Amtrak is willing to service and maintain CFCRT's DMU railcars, subject to the negotiation of an appropriate Contractual Services Agreement between Amtrak and State; and

**WHEREAS**, Amtrak uses passenger station facilities in Winter Park and Orlando, FL and has agreed to modifications to the platform layout at such stations for use by State's CFCRT, as shown on Exhibits IV-V hereof; and

**WHEREAS**, there will be additional passenger station facilities that will require coordination between State and Amtrak for platform and other modifications; and

**WHEREAS**, the parties desire to reach a mutual understanding as to general terms and conditions regarding the matters set forth in this MOU;

**NOW, THEREFORE**, the parties indicate their understanding to be as follows:

**I. PURPOSE.**

This MOU is entered into for the purpose of setting forth the understandings between the parties as to: (1) the provision of Bus Bridge service (as described in Section II below) for Amtrak passengers in the event Amtrak's intercity rail service is disrupted due to construction work performed by State in anticipation of CFCRT commuter rail service on State Property; (2) compensation for any Amtrak Auto Train service that must be cancelled due to such construction work; (3) negotiation of a Contractual Services Agreement pursuant to which the CFCRT DMU vehicles will be serviced and maintained at the Amtrak Facility; (4) modifications to platforms for CFCRT passenger use, initially at Winter Park and Orlando, FL, and at other locations in the future; and (5) negotiation of an Operating Agreement for Amtrak service over State Property.

The parties agree that each intends to be bound by the general understandings set forth in this MOU and to negotiate in good faith a Contractual Services Agreement and an Operating Agreement consistent with the terms of this MOU.

## **II. BUS BRIDGE SERVICE**

**A.** State shall make a good faith effort to plan and implement its construction on State Property in a manner that is least disruptive to Amtrak intercity rail service. The construction time period is estimated to be from May 2009 to and through March 2011 (“Construction Period”). In the event it becomes necessary from time to time during the Construction Period for State to request Amtrak to cancel or terminate passenger service to points in Florida south of Jacksonville, Bus Bridge service (consisting primarily of substitute bus service) shall be provided by Amtrak for affected passengers and train crews at the sole expense of State. The parties acknowledge that the Construction Period set forth above may be amended prior to actual commencement of construction.

**B.** Prior to commencement of the Construction Period, State will provide to Amtrak, for its review and approval, a proposed work schedule setting forth pre-scheduled curfew times agreed upon between CSXT and State during which State construction crews will be working on the track. Such review and approval by Amtrak shall be limited to the issue of whether the proposed work schedule will interfere with peak travel periods to or from Florida on Amtrak trains. Amtrak’s approval shall not be unreasonably withheld or delayed in the instance of any such proposed interference. Following Amtrak’s approval, Amtrak and State will prepare a tentative Bus Bridge plan based on the approved work schedule, including identification of specific time periods during which there will be no interruption of Amtrak train service. During the Construction Period, Amtrak and State will communicate on a no less than monthly basis (or more frequently as may be needed) to update the work schedule. State will provide Amtrak with 45 days’ advance written notice of the specific dates (not to exceed more than 54 contiguous hours within any 7-day period) on which Amtrak should be prepared to implement the Bus Bridge plan. Amtrak will notify State of its acceptance or disagreement as to such dates within 2 business days of receipt of State’s notice. In the event State does not receive a reply from

Amtrak within such 2-day period, State will notify Amtrak's Southern Division General Superintendent by telephone at 904-245-6620. If no acceptance or disagreement to such dates is forthcoming from Amtrak within two business days thereafter, the dates will be deemed agreed to by Amtrak. In the event Amtrak disagrees with the dates provided by State, the parties agree to consult promptly to finalize dates reasonably acceptable to the parties.

State will also make a good faith effort to provide Amtrak with a minimum of 72 hours advance notice that work schedules will not require implementation of the Bus Bridge plan on a given day and time. Once Amtrak is notified to implement the Bus Bridge plan, all costs associated with the implementation, cancellation or modification of such plan shall be at State's sole cost, regardless of whether such Bus Bridge service is actually provided to Amtrak passengers and crews.

C. When the agreed-upon schedules require, Bus Bridge service shall be provided by Amtrak for its *Silver Service* trains to and from all stations between Jacksonville ("JAX") and Tampa ("TPA") and Jacksonville ("JAX") and Miami ("MIA"). State acknowledges that significant costs are incurred each time a train is cancelled or terminated due to State's construction activities and that each cancellation or termination will necessarily mean that two trains must be cancelled or terminated (one northbound and one southbound). The estimated itemized costs for cancellation or termination of each train and the associated Bus Bridge services are set forth in Exhibit I, attached hereto. The total estimated cost should a cancellation or termination be agreed upon is \$2,036 per day. In addition, the estimated cost associated with each train and the associated Bus Bridge services is \$29,368 per train for a *Silver Meteor* train (Trains 97 and 98) and \$31,339 per train for a *Silver Star* train (Trains 91 and 92). State agrees to reimburse Amtrak for actual costs incurred in cancellation or termination of each train and provision of associated Bus Bridge services. Upon each cancellation or termination of a train, State shall pay Amtrak the appropriate estimated amounts set forth above (i.e., \$29,368 or

\$31,339 plus \$2,036/day). Actual costs, for the items specifically noted on Exhibit I, shall subsequently be reconciled as set forth in Paragraph F below.

**D.** Amtrak shall make a good faith effort to minimize the expense to State for Bus Bridge services. State acknowledges that Amtrak may operate additional scheduled service or special train service during the Construction Period which may require Bus Bridge service at State's expense. Amtrak will provide State with reasonable advance notice of additional planned scheduled service or special trains and will not implement plans to operate such trains without prior consultation with State.

**E.** The Bus Bridge service described above, and the fees and actual costs paid therefor by State, are all inclusive. Amtrak shall be solely responsible for providing the Bus Bridge service contemplated herein and for responding to all complaints or claims related thereto.

**F.** State payments to Amtrak for Bus Bridge service shall be made by State in accordance with State's standard vendor invoice payment procedures. Amtrak shall invoice State for the total estimated amount set forth in Paragraph C above each time Amtrak cancels or terminates a *Silver Service* train and provides associated Bus Bridge services and State shall promptly process and pay such invoice. Subsequent to the end of each calendar year, Amtrak shall provide State with a final invoice for such calendar year setting forth, for each train cancellation or termination and associated Bus Bridge service, and for the cancellation or modification of any Bus Bridge plan, the actual costs incurred broken out for each "actual" cost item set forth in Exhibit I, indicating whether the actual cost was above or below the estimated cost for those items and, for costs claimed in excess, providing reasonable substantiation therefor. The parties agree to meet to discuss reconciliation of the overcharges and undercharges indicated on Amtrak's final invoice and arrive at a final amount due for such calendar year to Amtrak or State as the case may be. State agrees it will review such invoices in good faith and

not unreasonably deny any charges claimed by Amtrak. All invoices submitted shall be in sufficient form for pre-audit and post-audit of the services performed pursuant to Section 287.058, Florida Statutes and shall be signed by an Amtrak representative who can represent that the costs and expenditures contained in said invoices are true and correct to the best of that person's knowledge or belief.

### **III. AUTO TRAINS**

A. State shall make a good faith effort to plan and implement its construction on State Property in a manner that does not require Amtrak to cancel any Auto Trains. In furtherance of this effort, Amtrak has requested that the State perform any construction work that might affect the Auto Train during the months of February and September. State agrees to make a good faith effort to do so. State will provide Amtrak with a minimum of 60 days' advance notice in the event State requires Amtrak to cancel an Auto Train and, thereafter, State shall be obligated to reimburse Amtrak for the costs related to such cancellation as set forth in Paragraph B below. State acknowledges that each such cancellation will necessarily mean that two Auto Trains must be cancelled (one northbound and one southbound).

B. For each Auto Train cancelled hereunder, State shall reimburse Amtrak \$25,000 as further described in Exhibit I. This amount is all inclusive. The State's payments to Amtrak for any Auto Train cancellation shall be made by State in accordance with State's standard vendor invoice payment procedures. Amtrak shall be solely responsible for all complaints and/or claims related in any way related to cancellation of any Auto Train. No further reconciliation of "actual" costs associated with the cancellation of an Auto Train will be required.

### **IV. PROVISION OF SERVICES AT AMTRAK FACILITY, SANFORD, FL.**

A. The parties agree they shall negotiate in good faith to enter into a Contractual Services Agreement detailing the terms and conditions for provision by Amtrak of maintenance and other services at the Amtrak Facility, e.g., : (1) monthly, 45/92/182/365 day and two year

inspections; (2) repair, replacement and servicing of DMU roof-mounted equipment; (3) axle/wheel maintenance; (4) sanding of DMU railcars on an as needed basis; (5) exterior washing of DMU railcars; (6) storage of component parts and materials for DMU maintenance; and (7) use of other buildings and tracks as need arises. All capital and operating expenses associated with any work performed by Amtrak for the State at the Amtrak Facility shall be paid by the State. All services performed at the Amtrak Facility will be provided by Amtrak employees and shall conform to generally accepted industry or other standards of workmanship and meet all state and/or federal regulatory requirements. It is anticipated that initially up to 14 CFCRT DMU railcars will require such services; provided, however, that subsequently as many as 34 DMU railcars could require such services depending of the scope and success of CFCRT passenger service. CFCRT will be solely responsible for the acquisition of all DMU cars and associated parts/infrastructure needed to maintain them in good working condition.

**B.** The initial term for the Contractual Services Agreement shall be five (5) years with annual renewal thereafter, upon agreement of both parties, for up to a total of ten (10) years.

**C.** Amtrak acknowledges that it has reviewed “Central Florida Commuter Rail Transit Technical Memorandum – Assessment of Amtrak Auto-train Yard and Maintenance Facilities at Sanford to Perform Vehicle Maintenance for the CFCRT,” attached hereto as Exhibit II, has consulted with the State regarding the contents thereof and can provide the services set forth therein without significant modifications to the Amtrak Facility. The details of services to be provided, required equipment and facility modifications, and payment terms will be addressed in the Contractual Services Agreements to be negotiated by the parties.

**D.** Amtrak agrees to be bound by service schedules set forth in the Contractual Services Agreement.

**E.** Amtrak acknowledges that State will be constructing certain facilities on land in Sanford adjacent to the Amtrak Facility and hereby approves the construction layout as shown in

Exhibit III, "CFCRT Storage Yard and Maintenance Facility," attached hereto. State agrees to consult with Amtrak during construction to assure such construction does not have an adverse impact on Amtrak operations, on the safety of such operations or on the Amtrak Facility. The parties agree to negotiate in good faith to enter into agreements for use by Amtrak of track constructed or acquired by State near the Amtrak Facility provided such use does not unreasonably interfere with CF CRT operations and use of such track. Amtrak shall be responsible for maintenance of track within the Amtrak Facility; State shall be responsible for maintenance of all other track.

F. The parties agree that Amtrak's Auto Train shall have priority on entering and exiting the Amtrak Facility via the Aloma Spur.

G. Amtrak shall endeavor to provide State with reasonable advance notice in writing in the event Amtrak intends to close or cease services which may affect CF CRT operations or the maintenance of the DMU railcars at the Amtrak Facility. The Contractual Services Agreement shall address responsibility for Labor Protection or other labor costs, if any, associated with the provision of services under such Agreement, termination thereof or suspension or termination of services in whole or in part at the Amtrak Facility. As used herein, "Labor Protection" shall mean the costs, if any, incurred by Amtrak as a result of the sale of, or other suspension or cessation of services (in whole or in part) at, the Amtrak Facility, which costs may be incurred pursuant to the provision of a collective bargaining agreement or pursuant to rule, decision, or final order of any governmental agency having jurisdiction over the event or costs, if any, incurred by Amtrak or State pursuant to Federal Transit Act Section 13 (c).

**V. WINTER PARK AND ORLANDO, FL AMTRAK PASSENGER STATIONS**

Amtrak hereby agrees to the platform modifications which the State intends to make at the Winter Park and Orlando passenger stations as set forth in Exhibit IV, "Winter Park Station" and Exhibit V, "Orlando Park Station", attached hereto. The State shall be solely responsible for



obtaining Federal Transit Administration (FTA), Federal Railroad Administration (FRA), and any other approvals prior to construction of any platform modifications.

Amtrak further agrees it shall assist the State to obtain any FTA, FRA or other approvals for the modifications set forth in Exhibits IV and V relating to issues involving transportation and/or the Americans with Disabilities Act.

## **VI. CONTRACTUAL SERVICES AND OPERATING AGREEMENTS**

The parties agree they shall use every good faith effort to finalize by August 2008: (1) a Contractual Services Agreement and (2) an Operating Agreement for Amtrak passenger service over State Property, which will include terms and conditions regarding dispatching priority for Amtrak trains while operating on State Property, station operations, maintenance and leasing terms as applicable. The parties acknowledge that various issues (e.g., those relating to sovereign immunity, indemnity, insurance, legislation and the rights, duties and obligations of the parties) remain unresolved as of the date hereof, and that agreement on these issues must be reached before the parties can execute either a Contractual Services Agreement or an Operating Agreement.

## **VII. COORDINATION MEETINGS**

The Parties acknowledge that the understandings herein require coordination and cooperation to implement. The parties agree to make reasonable efforts to do so through effective communications and timely, well informed, decision making and, to this end, agree to:

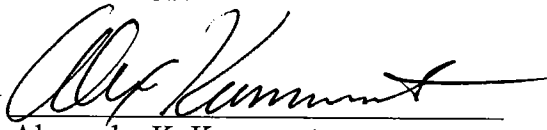
- (1) Designate one or more representatives for coordination of the following: (a) negotiation of the Contractual Services Agreement anticipated hereunder; (b) negotiation of the Operating Agreements anticipated hereunder; and (c) to serve as a point of contact for coordination of day-to-day activities during the Construction Period, most particularly activities related to Bus Bridge service and passenger station modifications.

(2) Hold monthly meetings or conference calls of such representatives, and other appropriate personnel as designated thereby, until execution of the Contractual and Operating Agreements and thereafter through completion of Construction Period, unless such representatives agree otherwise. Regarding the Construction Period, the parties acknowledge that State and CSXT have agreed to monthly meetings and that Amtrak has been invited to participate in those meetings, which will constitute fulfillment of Amtrak's coordination agreement under this Section.

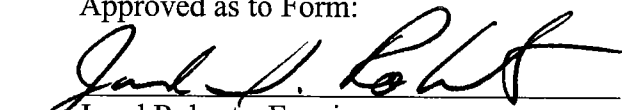
(3) Provide timely exchange of information and response to requests in order to ensure a better understanding of issues and problems and, thereby, assist in eliminating uncertainties and ambiguities. The parties agree to cooperate with one another with respect to the exchange of information that each of the parties, in its discretion, considers necessary to fulfill the requirements of this MOU.

IN WITNESS WHEREOF, State and Amtrak have caused this MOU to be executed by their duly authorized respective representatives as of the date first above written.

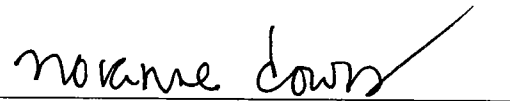
NATIONAL RAILROAD PASSENGER CORPORATION

By   
Alexander K. Kummant  
President and Chief Executive Officer


Approved as to Form:

  
Jared Roberts, Esquire  
National Railroad Passenger Corporation

FLORIDA DEPARTMENT OF TRANSPORTATION

By 

Approved as to Form:

  
E. Clay McGonagill, Jr., Esquire  
Fla. Dept. Transportation

Attached Exhibits:

Exhibit I: Estimate of Itemized Costs for Bus Bridge Service and Cancellation of Train Sets Related Thereto (per instance costs)

Exhibit II: “Central Florida Commuter Rail Transit Technical Memorandum – Assessment of Amtrak Auto-train Yard and Maintenance Facilities at Sanford to Perform Vehicle Maintenance for the CFCRT”

Exhibit III: CFCRT Storage Yard and Maintenance Facility Layout

Exhibit IV: Winter Park Station Layout

Exhibit V: Orlando Park Station Layout

**EXHIBIT I****MEMORANDUM OF UNDERSTANDING BETWEEN STATE OF FLORIDA DOT AND NRPC  
ESTIMATE OF ITEMIZED COSTS FOR BUS BRIDGE SERVICE AND CANCELLATION OF TRAINS****FOR SILVER SERVICE TRAINS:****Costs Per Day:**

Switch Crew - Sanford FL (SFA)	\$1,028
Communications	100
Security *	150
Catering Transportation *	<u>644</u>
Sub-Total	\$1,922
General & Administrative @ 5.93%	<u>\$114</u>
<b>Total</b>	<u><u>\$2,036</u></u>

<b>Costs Per Train:</b>	<b>Silver Meteor Trains 97/98</b>	<b>Silver Star Trains 91/92</b>
Food Cost for Busing *	\$1,750	\$2,130
Passenger Transportation *	9,270	12,096
OBS Transportation	650	650
T&E Transportation	1,200	1,000
T&E Lodging SFA *	240	180
Fuel Savings	(4,200)	(5,400)
Mechanical Labor *	4,000	4,000
CSX Mileage Rate	(666)	(861)
Net Loss of Revenue *	<u>15,480</u>	<u>15,790</u>
Sub-Total	\$27,724	\$29,585
General & Administrative @ 5.93%	<u>\$1,644</u>	<u>\$1,754</u>
<b>Total</b>	<u><u>\$29,368</u></u>	<u><u>\$31,339</u></u>

Example - Costs billable for the cancellation of one Silver Meteor train and one Silver Star train for one day will be \$62,743 (\$2,036+\$29,368+\$31,339) .

\* Actual costs/revenue loss detail will be provided for these items during reconciliation process outlined in Section II.F. All other costs will be assumed as actual expenses .

**FOR AUTO TRAIN SERVICE:**

Amtrak will charge and the State will pay a flat rate of \$25,000 for each Auto Train cancelled. This reflects Amtrak's revenue loss and is based on Amtrak's ability to re-schedule Auto Train passengers to alternative booking dates with advanced notice and coordination of Auto Train cancellations. This flat rate is fixed and will not be subject to any reconciliation process.

EXHIBIT II

Central Florida Commuter Rail Transit

**Technical Memorandum - Assessment of Amtrak Auto-train Yard and  
Maintenance Facilities at Sanford to Perform Vehicle Maintenance  
for the CFCRT**

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## Central Florida Commuter Rail Transit

### Technical Memorandum - Assessment of Amtrak Auto-train Yard and Maintenance Facilities at Sanford to Perform Vehicle Maintenance for the CFCRT

#### 1. Executive Summary

Amtrak has indicated receptiveness to their Auto-train maintenance shops and yard facility at Sanford being used for CFCRT vehicle maintenance. This Technical Memorandum will examine the Amtrak Auto-train facilities and assess the suitability of the shops and other facilities for maintaining the fleet of DMU vehicles for the CFCRT.

The Auto-train shops and yard complex is used on a daily basis as the terminus for the Auto-train and all inspection, repairs and cleaning of the Auto-train locomotives, coaches and auto carriers. The yard and most shop areas are fully utilized each day after the Auto-train arrives at 08:30 and departs at 16:30. Outside of this period, the shops have minimal or no Amtrak activity and may be available for maintaining the CFCRT vehicles.

The Auto-train yard is conveniently located off the main line and adjacent to the old Sanford Station where it is proposed to construct a train storage yard for the CFCRT vehicles. The shop facilities however, have limitations with regard to their suitability for maintaining the DMU vehicles. Inspection track(s) with posted rails and good undercar and lower side access are required to adequately inspect and maintain the DMU vehicles and only one such location for a single vehicle exists in the Auto-train Diesel Shop. Consequently, it will be necessary to construct a separate Inspection Shed with posted rails. For the Full Build, this memorandum recommends that a four-car Inspection Shed with support facilities be constructed in the proposed train storage yard adjacent to the old Sanford Station/Terminal. The Inspection Shed would primarily be used for Daily and Weekly Inspections and possibly interior cleaning.

For other longer term periodic maintenance activities it would be practical to use the Amtrak Auto-train facilities, as follows:

- Diesel Servicing Area in the Diesel Shop: Monthly, and 45/92/182/365 Day Inspections; maintenance and change-out of roof mounted equipment; and intermediate repairs
- Service Pit Shop: Two year inspections; maintenance and change-out of roof mounted equipment; truck change-out; and heavy repairs
- Drop Table Shop: Axle/Wheel Set Changing
- Materials Storage Building: Partition part of enclosed/secure storage area for storing DMU components and consumable items
- Additional Shop Equipment: For the above shops, some additional shop equipment will be required, as follows:
  - Two (or four) additional portable car jacks would be required to lift complete DMU car bodies (Cost \$70,000 to \$130,000)
  - Portable scissor lift platform(s) or portable ladder trestles (Cost \$10,000 to \$30,000) to facilitate change-out Roof Mounted Equipment

- Additional partitions/caged areas and additional shelving units for Material Storage Building (Cost \$5,000 to \$20,000)
- Car Wash: While the Amtrak Auto-train Car Wash is basically suitable for cleaning the DMU cars, the existing clearance through the car wash is not sufficient for the double-decker DMU cars. Therefore, the wash equipment will need to be modified (raised) approximately 12". While this would be relatively straightforward, further investigation will be required to ascertain the extent of modifications required and associated cost.
- Fueling and Sanding Facility: This is located at the east end of the Diesel Shop and fueling (for Amtrak locomotives) is done from a tanker truck. This may not be practical for a large number of DMU vehicles (34 vehicles for Full Build) but would possibly be workable for the IOS (14 vehicles). Further investigation will be necessary with Amtrak and local distributors/vendors in the area, which could provide the fuel truck service, to ascertain the practicality of fueling 14 or more DMU vehicles each night. If fueling from a tanker truck proves not practical, consideration will need to be given to installing a small fueling storage and dispensing system either within the Auto-train yard or possibly in the proposed train storage yard adjacent to the old Sanford Station/Terminal.

The Initial Operating Segment (IOS) is currently planned to have a total of 14 DMU vehicles. Assuming the same requirements for daily and weekly inspections, at least a two-car inspection track/shed will be required (approximately 30' x 220'). This could initially be constructed and expanded at a later date for the Full Build alternative.

It is recommended that the support facilities for the Full Build be constructed for the IOS. The complete Control Room will be required in any event and to construct approximately half of the remaining facilities and expand at a later date would not be cost effective.

For the Amtrak Auto-train facilities, the same facilities will be required for the IOS as for the Full Build, except that the daily (or nightly) usage would be approximately 50% less.

Subsequent to review of this Technical Memorandum by FDOT, copies should be provided to Amtrak and Colorado Railcar for their review and comment.

## **2. Background**

### **2.1 Earlier Assessment of Maintenance Facilities**

In February 2006 a Vehicle Storage and Maintenance Facilities Technical Memorandum was submitted. The report identified the basic functional requirements for a Vehicle Storage and Maintenance Facility (VSMF) for 34 DMU vehicles for the 60.8 mile Full Build option for the CFCRT. The memorandum also briefly evaluated five potential locations for the VSMF. At that time, the Rand Yard was recommended as the preferred location for the VSMF, along with a recommendation to consider and further assess the suitability of the Sanford Amtrak Auto-train yard and maintenance facility.

### **2.2 Consideration of Amtrak Auto-train Yard and Maintenance Facility for CFCRT Maintenance**

Since the VSMF Technical Memorandum was produced in February 2006, Amtrak indicated they will consider providing the Auto-train facility for CFCRT vehicle maintenance. At a meeting with FDOT and Amtrak on June 21, 2007, Amtrak agreed that

further investigations could be made to use the Auto-train maintenance facility for some or all CFCRT vehicle maintenance. However, they stated that maintenance activities will primarily have to be performed during evenings and nights when little or no Auto-train activity occurs. Amtrak also agreed at the June 21 meeting that the CFCRT design consultant could visit the Auto-train facility to perform an assessment of the facility and current operations and its suitability as the VSMF for the CFCRT. A field trip was subsequently arranged with Tom Farr, Master Mechanic and the Auto-train facility manager on July 5, 2007.

### **3. Description of Amtrak Auto-train Yard and Maintenance Facility**

#### **3.1 Introduction**

The Amtrak Auto-train yard and maintenance facility is located in Sanford, adjacent to the CSXT main line tracks and the Auto-train Terminal and just to the north of the CSXT Rand Yard. The former Sanford Terminal/Station, located southwest of the yard, is now closed and abandoned and all Auto-train Terminal activity is located on the north side of the yard with access from the CSXT lead to the Aloma industrial track that heads east towards Sanford and the Airport (see the Functional Layout plan).

Amtrak Auto-train No. 53 is scheduled to arrive daily from the north at 08:30. Auto-train No. 52 is scheduled to depart daily at 16:30. Car and motorcycle vehicle unloading and loading occurs throughout the day. All Auto-train maintenance activities are performed during the day on the diesel locomotives, Superliner passenger coaches and the auto carriers in the adjacent maintenance facility.

#### **3.2 Auto-train servicing performed**

Each day, the summary of maintenance performed is as follows:

##### Locomotives

Daily Inspections (2)  
Exterior Cleaning (2)  
92/180/365 day inspections (none)  
Servicing, fueling and sanding (2)  
Repairs as required

##### Superliner Coaches

Daily Inspections (16)  
Exterior Cleaning (16)  
Interior Cleaning (16)  
92/180 day inspections (5)  
365 day inspections (1)  
Repairs as required  
Wheel changing approx 2 axles a day

##### Auto Carriers

Daily Inspections (24)  
Exterior Cleaning (24, three times a week)  
180/365 day inspections (1)  
Repairs as required  
Wheel changing approx 2 axles a day



All of the above maintenance is performed during a single day shift by Amtrak forces. The maintenance facilities are effectively closed from 17:00 until 08:00 the next day. On average, there are seven Superliner coaches, ten auto carriers and one locomotive in the yard overnight. Generally these are held on yard tracks and not on shop tracks unless more extensive repairs are required than can be performed during the normal day shift. The full compliment of Amtrak maintenance and operations staff on the day shift is 96.

### 3.3 Detailed Description of Amtrak Auto Train Maintenance Facilities

Each shop or area is shown on the attached Functional Layout plan and described below. Photos are attached under Appendix C.

#### Service Pit Shop

*120' x 30' (3,600 SF)*

- There is one track through the shop with an inspection pit approximately 100' long
- The floor either side of the inspection pit is approximately level with ToR
- Shop has open sides and ends
- Lowest clearance in shop is 22' from ToR, and crane clearance is 23'
- A 10 ton bridge runs the full length of the shop and two portable 35 ton jacks are used to lift auto carriers (and occasionally Superliner cars) to change-out trucks
- Trucks are overhauled in the open shed to the rear of the shop
- This shop is primarily used to perform 184/365 day inspections on the Auto Carriers

#### Drop Table Shop

*180' x 50' (9000 SF)*

- There are two tracks through shop with shallow inspection pits (approx 10' x 10') either side of single axle drop table on the south track S2
- The north track S1 is used only to stage and store axle/wheel sets
- The floor throughout the shop is level with ToR
- Shop has open sides and ends
- Lowest clearance in shop is 22' from ToR
- There are two portable 50 ton jacks in this shop but they are not used on a regular basis
- There is a 5 ton bridge crane over track S1 at the drop table with 16' 10" clearance
- Currently there is no high bridge crane over both tracks but it is understood that a 10 ton bridge is to be installed in this shop
- The shop is primarily used to change-out single axles/wheel sets from Auto Carriers and Superliner cars.

#### Diesel Shop

*360' x 410' x 38' (14,600 SF)*

- The shop has two tracks, D1 and D2, approximately 19' apart
- The Diesel Servicing area is 81' long with platforms on all sides, depressed floor and posted rails. The pit between the rails is 3' below ToR, the depressed floor is 2' 5" below ToR, and the platforms are 5' 3" above ToR
- The tracks either side of the Diesel Servicing area are on exposed ties and the surrounding floor is approximately level with the top of ties (about 8" below ToR)

- The shop has open ends and, with the exception of the Diesel Servicing area, the shop has predominantly open sides
- Lowest clearance in shop is 22' 5" from ToR
- A 5 ton bridge crane runs over the Diesel Servicing area only. The clearance under the bridge to ToR is 23'
- The tracks at the east end of the shop are used primarily for refueling and sanding (see further below)

#### Enclosed Store House Building

*240' x 60' (14,500 SF)*

- The west end of the shop is predominantly open with two stacked office trailers approximately 12' x 40'
- The east end is fully enclosed and secure with pallet racks, shelves, and a storage mezzanine. The enclosed storage area is approximately 8,000 SF and estimated to have approximately one third spare capacity.

#### Special Projects Shop

*100' x 100' (10,000 SF)*

- The shop has three tracks (#1, 2, and 3) approximately 30' apart
- The two north tracks (#1 and 2) have between-rail 3' deep inspection pits, 85' long
- The south track (#3) has a flat floor level with ToR.
- The shop is fully enclosed with coiling doors at each track. The clear height at these doors is only 18'
- There is a 2 ton transverse bridge at the east end of the shop crane spanning all three tracks
- Storage pallet racks are located between the two west tracks
- This shop is used for special projects on the Superliner cars and evidently underutilized, other than where it's used for component storage and repairs.

#### Exterior Inspection Tracks #1, 2 and 3

- The complete open area east of the Special Projects Shop for approximately 120' is paved flush to ToR on each track
- Each track is equipped with standby power, compressed air and water for coach servicing
- 92 and 184 day inspections are performed on the Superliner coaches each day

#### Fueling and Sanding Tracks

- Locomotive fueling and sanding is performed each day at the east end of tracks D1 and D2
- The tracks at this end of the diesel shop have an industrial drainage system to contain and treat any fuel or oil run-off should it occur
- All fueling is done from a tank truck and shelter is provided for the tank truck. The tank truck service is provided by a local fuel vendor/distributor and is on site for limited periods only
- Sand is dispensed via a small compressed air hopper system adjacent to track D2

#### Elevated Yard Track #14

- This track is elevated approximately 18" from the surrounding ballast and can accommodate up to 9 cars
- In the past, the track was used for car inspections. It is now only used for holding Superliner and/or auto carrier consists.

#### Car Wash

120' x 25' (3000 SF)

- The wash system is simple single pass process consisting of a detergent application arch, single vertical agitator brushes on each side and a clean rinse arch. There is no recirculation system.
- Run-off from the wash process is discharged directly to a city sanitary sewer system
- The clear height to the underside of the detergent and rinse arches, and the brush frame assembly is 19' 9" (from equipment drawings)
- The car wash is used on average twice a day for partial consists of Auto-train coaches and auto-carrier cars

### **4. Description of DMU Maintenance Requirements**

#### **4.1 Earlier Assessments of Maintenance Requirements**

The February 2006 Vehicle Storage and Maintenance Facilities Technical Memorandum summarized the cleaning, inspection and repair requirements for a fleet of DMU cars. These requirements were further enumerated in the Rail Fleet Maintenance Plan, Version 1.2, submitted June, 2007.

As part of this assessment, the consultant discussed DMU maintenance requirements with Colorado Railcar. Colorado Railcar subsequently produced a detailed description of all inspection and maintenance requirements based on their experience with the South Florida RTA DMU operations – their document is attached under Appendix A. A summary of required maintenance periods and work performed, based primarily on the Colorado Railcar information, is provided in Section 4.2

For maintenance assessment purposes the, Full Build Option assumes a maximum of 34 DMU cars. It is also assumed that this includes a 20% Maintenance Spares Ratio (MSR), as stipulated in the Rail Fleet Maintenance Plan. This implies a service requirement of 28 cars and 6 spare cars.

#### **4.2 Summary of Required Inspection Periods and Maintenance for DMU Cars**

All manhours in this section are based on information provided by Colorado Railcar. A copy is attached under Appendix A.

##### Daily Inspections

This is the most important interval for vehicle reliability and safety and includes the mandatory Class I air brake test. In addition to a thorough test and inspection of braking systems, it includes a primarily visual inspection and some functional testing of all car systems. Side and undercar access is required to perform most aspects of this inspection.

- Estimated man-hours per car: 6.8. Four cars need to be inspected per hour assuming an 8 man gang and an 8 hr shift. Each inspection requires approximately 1 hour (32 cars per day).

#### Weekly Inspections

Additive to the Daily Inspection. Includes wheel gauging, air conditioning, batteries, radiator system, engine fuel and water system and more detailed interior inspection.

- Estimated man-hours per car: 3.15 in addition to the Daily Inspection. Assuming a 3 man gang, these inspections would take approximately 1 hour (5 cars per day). These inspections can be performed in conjunction with the Daily Inspection.

#### Monthly and 45 Day Inspections

Additive to the Daily and Weekly Inspection but could be performed at a different location equipped to service engines and transmission systems. Engine oil and all filters changed. Transmission and final drive systems checked.

- Estimated man-hours per car: 3.70 if Monthly and 45 Day Inspections combined (1.55 + 2.15 man-hours). Assuming a 4 man gang, these inspections will take approximately one hour (one to two cars required per day).

#### 92/182/365 Day Inspections

This includes a detailed inspection, adjustments and change-out of various components to meet mandatory requirements, plus other necessary maintenance. Side and undercar access is essential to perform most aspects of these inspections. Given the time involved, these inspections may be best performed at different location to all shorter inspections. Unless defects are found, it should NOT be necessary to lift cars for any of these inspections.

- Estimated man-hours per car: 37.75, 45.65, and 53.85 respectively for 92, 182 and 365 day inspections, or an average over a year of 48 man-hours per car. Assuming a 6 man gang, these inspections would take approximately 8 hours (one car every 3 days or 11 per month).

#### Two Year Inspections

These are basically the same as an annual (365 day) inspection but cars are lifted and trucks rolled out for inspection, maintenance and change-out of worn components. A flat floor either side of shop track equipped with four portable jacks would be best suited to this inspection. An inspection pit between the rails would be optional. A bridge crane, minimum 10 ton capacity would be required to handle trucks.

- Estimated man-hours per car: 122. Assuming an eight man gang, these inspections will take approximately 16 hours or two days - assuming single shift operation (one car every 24 days for two days or one-two cars per month).

#### Beyond Two Years

As stated in the Colorado Railcar document, the South Florida DMU maintenance contract does not extend beyond the two year period. Major overhaul of trucks, diesel engines and other components will have to be scheduled during the 5 to 10 year timeframe. However, assuming most of these items (trucks, engines, etc.) were outsourced or sent to another more comprehensive overhaul and rebuilding facility, the change-out of such equipment can be performed either in conjunction with on-going Two Year Inspections or on separate

cycle(s) with little additional shop time/occupation involved, other than allocating storage space for replacement trucks, engines, etc.

Roof Mounted Equipment

Air conditioning condensers and engine cooling radiators are roof mounted on the Colorado Railcars and will periodically need to be removed. On a program basis, this will hopefully be no less than every five years or so but inevitably these items will occasionally become defective and require change-out. A 2 to 3 ton bridge crane, with sufficient clearance over a car (ideally at least 25') will be required. Fixed roof access platform(s) or a portable scissor lift platform will also be required to gain access to the roof mounted equipment.

Wheel Maintenance

Axle/wheel sets may be changed-out with a single axle drop table when re-profiling or replacement is necessary. While this is a variable, wheels should not require re-profiling in less than one year. Access to an underfloor wheel truing machine would be extremely beneficial for re-profiling but it is understood that no such facility exists within, or close to, the Full Build CFCRT route.

Fueling and Sanding

The DMU cars will probably need to be refueled once a day and, assuming full servicing running, at least every two days. Sanding would be required infrequently.

Exterior Cleaning

Depending on time of year and other local conditions, cars should be exterior washed at least every two to three days.

Interior Cleaning

Basic cleaning and sweeping/vacuuuming will be performed each night and this can be done in conjunction with daily inspection or on yard storage tracks. More complete cleaning of all interior surfaces will be required at intervals of one week to one month and performed in conjunction with weekly or monthly inspections. The initial estimate is four cleaning staff-for interior cleaning.

Staff Requirements

Based on the above assessment and assumptions, staffing needs for a single night shift are estimated as follows:

Task	Staff	Notes
Daily Inspections	32	8 per car x 4 cars
Weekly Inspections	3	
Monthly/45 Day Inspections	2	
92/182/365 Day Inspections	6	
Two Year Inspections	8	For approx 20% of work days
Beyond Two Years	0	Same staff as Two Year Inspections
Wheel Maintenance	0	Same staff as Two Year Inspections
Miscellaneous	0	Same staff as Two Year Inspections
Fueling and Sanding	2	
Car Wash	1	
Interior Clean	4	
Total	58	
Supervisory Staff	6	

This is an approximate assessment and the exact numbers of required staff requires further analysis. However, this analysis will be adequate for assessing facility requirements (locker rooms, toilets, etc.)

## 5. Assessment of Amtrak Auto-train Maintenance Facilities to Perform CFCRT Vehicle Maintenance

### Daily and Weekly Inspections

These inspections need good undercar and side access. Ideally the inspection track(s) have a depressed floor with posted rails in the 3' to 4' height range. Good lighting is essential along with electrical receptacles and compressed air outlets. Also, approximately 30 cars will need to be inspected each day (or night) and assuming the one hour period (identified in Section 4.2) required to perform these inspections, at least four car inspection positions will be required. This also assumes that the four cars will be removed/replaced eight times during a normal eight hour shift ( $8 \times 4 = 32$ ).

No such track with the above facilities exists within the Auto-train shop complex. Track 14 does have an elevated track approximately 18" above the adjacent grade, but this will not permit easy access to the undercar equipment on the DMU cars. The Diesel Servicing area in the Diesel Shop would be suitable but it is only a single position and it would be impossible to cycle all of the cars on to this track during a single shift.

Consequently, it is recommended that the Daily/Weekly Inspection facilities are constructed on one track in the proposed train storage yard adjacent to the old Sanford Station (see Amtrak Autotrain plan). This could be a single track with posted rail track/depressed floor sufficiently long enough to hold at least four cars. A roof over the tracks and partially enclosed sides would be desirable to provide weather protection. This four car Inspection Shed would be approximately 400' long x 30' wide. An alternative is a two track facility (each track two cars long) approximately 200' long and 60' wide.

### Monthly and 45 Day Inspections

These inspections are additive to the Daily and Weekly Inspections and add engine oil and all filter changing. Transmission and final drive systems are also checked.

These inspections could ideally be performed at the Diesel Servicing area in the Diesel Shop. All appropriate facilities exist at that location. Depending on the size of the inspection gang, each Monthly or 45 Day Inspection would take one to two hours and one or two cars could easily be cycled through the Diesel Shop during a normal shift for these inspections.

### 92/182/365 Day Inspections

As for the Monthly or 45 Day Inspections, these more involved inspections could be performed at the Diesel Servicing area in the Diesel Shop.

While each inspection is estimated to take a complete shift, only one car every three days would be scheduled for a 92/182/365 Day Inspection. On the other days, Monthly and 45 Day inspections could be scheduled as proposed above.

### Two Year Inspections

Basically the same as an annual inspections but cars are lifted and trucks rolled out for inspection, maintenance, and change-out of worn components. A flat floor either side of

