To: Chairman Milde and the VRE Operations Board

From: Doug Allen

Date: January 17, 2014

Re: Authorization to Issue an Invitation for Bids (IFB) for Rehabilitation of Wheel Sets

Recommendation:

The VRE Operations Board is being asked to authorize the Chief Executive Officer to issue an Invitation for Bids (IFB) for maintenance and/or replacement of wheel sets to support VRE passenger railcars and locomotives.

Background:

VRE currently has a contract with UTC/RAS for locomotive and gallery car wheel set maintenance. The current contract, including option years, expires June 30, 2014. It is, therefore, necessary to initiate a solicitation to establish a new contract for wheel set replacement, repairs, and overhaul services for both the passenger railcar and locomotives fleet in order to avoid an interruption in services.

The scope of services for this contract is to repair and return or replace wheel sets as needed as a result of failure, damage or normal wear and tear.

The contract terms for this solicitation is three years, a base year plus two one year options, with the CEO exercising the option years at his discretion. VRE Staff will return to the Operations Board with a recommendation to award a contract.
**Fiscal Impact:**

Funding is provided for in the current FY 2014 budget for locomotive and railcar maintenance. Funding for future fiscal years will be included in subsequent annual budgets.
Virginia Railway Express  
Operations Board  

Resolution  
9A-01-2014  

Authorization to Issue an Invitation for Bids (IFB)  
for Rehabilitation of Wheel Sets  

WHEREAS, VRE passenger railcars and locomotives require wheel set replacement, repairs, and overhaul services to be provided by a qualified Contractor; and,  

WHEREAS, the current contract to provide passenger railcar and locomotive wheel set replacement, repairs, and overhaul services will expire in June 2014; and,  

WHEREAS, it is, therefore, necessary to initiate a solicitation for a new contract.  

NOW, THEREFORE, BE IT RESOLVED THAT, The VRE Operations Board is being asked to authorize the Chief Executive Officer to issue an Invitation for Bids (IFB) for maintenance and/or replacement of wheel sets to support VRE passenger railcars and locomotives.  

Approved this 17th day of January 2014  

_________________________________________  
Paul Milde  
Chairman  

_________________________________________  
Gary Skinner  
Secretary
To: Chairman Milde and the VRE Operations Board

From: Doug Allen

Date: January 17, 2014

Re: Authorization to Issue Invitation for Bids for the Replacement of the Stairs at the Rippon Station

Recommendation:

The VRE Operations Board is being asked to authorize the Chief Executive Officer to issue an Invitation for Bids (IFB) for replacement of the existing stairs at the Rippon Station.

Background:

Due to years of exposure to the elements, the stairs connecting the overhead pedestrian bridge to the platform are in need of replacement. The scope of work for the IFB includes installing temporary stairs, removing the existing stairs and support system, replacing the supports and stringers and installing new precast stairs.

Upon receipt of the bids, VRE will return to the Board with authorization to award the contract.

Fiscal Impact:

Funding is provided for in the FY 2014 CIP budget for Facilities Infrastructure Renewal.
Virginia Railway Express
Operations Board

Resolution
9B-01-2014

Authorization to Issue Invitation for Bids for the Replacement of the Stairs at the Rippon Station

WHEREAS, due to years of exposure to the elements, the stairs at the Rippon Station are in need of replacement; and,

WHEREAS, the scope of work will include installing temporary stairs to reduce the impact to passengers; and,

WHEREAS, VRE staff will return to the Operations Board to recommend award of the Contract.

NOW, THEREFORE, BE IT RESOLVED THAT, The VRE Operations Board is being asked to authorize the Chief Executive Officer to issue an Invitation for Bids (IFB) for replacement of the existing stairs at the Rippon Station.

Approved this 17th day of January 2014

________________________________________
Paul Milde
Chairman

________________________________________
Gary Skinner
Secretary
To: Chairman Milde and the VRE Operations Board

From: Doug Allen

Date: January 17, 2014

Re: Authorization to Issue a Request for Proposal (RFP) for Repair and Overhaul Services for Locomotive Rotating Electrical Equipment

Recommendation:

The VRE Operations Board is being asked to authorize the Chief Executive Officer to issue a Request for Proposals (RFP) for repair and overhaul services for locomotive rotating electrical equipment.

Background:

In 2011, VRE received twenty new MP36PH-3C diesel-electric locomotives equipped with rotating electrical equipment such as main generators, companion alternators, auxiliary generators, traction motors, main engine cooling and dynamic brake grid fans and head end power (HEP) alternators. During the first two years this equipment was covered under the locomotive warranty provided for by the locomotive supplier. As such, all locomotive warranties expired at the end of 2013.

The scope of services for this contract will be to repair all rotating electrical components due to individual component failure and perform overhaul services as established by the life cycle maintenance program for this equipment.
The contract terms for this solicitation are for a base year plus two one year options, with the CEO exercising the option years at his discretion. VRE Staff will return to the Operations Board with a recommendation to award a contract.

**Fiscal Impact:**

Funding is provided for in the current FY 2014 budget for locomotive maintenance. Funding for future fiscal years will be included in the proposed annual budget.
Virginia Railway Express
Operations Board

Resolution
9C-01-2014

Authorization to Issue a Request for Proposal (RFP) for Repair and Overhaul Services for Locomotive Rotating Electrical Equipment

WHEREAS, VRE received twenty new locomotives in 2011, and the new locomotives were delivered with a two year warranty; and,

WHEREAS, all locomotive warranties expired at the end of 2013; and,

WHEREAS, the new locomotives are equipped with various rotating electrical equipment; and,

WHEREAS, VRE must send rotating electrical equipment off-site for repair as a result of individual component failure or scheduled life cycle maintenance; and,

WHEREAS, the repair and overhaul services will be provided by a qualified supplier.

NOW, THEREFORE, BE IT RESOLVED THAT, The VRE Operations Board is being asked to authorize the Chief Executive Officer to issue a Request for Proposals (RFP) for repair and overhaul services for locomotive rotating electrical equipment.

Approved this 17th day of January 2014

____________________________
Paul Milde
Chairman

____________________________
Gary Skinner
Secretary
Agenda Item 10-A
Action Item

To: Chairman Milde and the VRE Operations Board

From: Doug Allen

Date: January 17, 2014

Re: Authorization to Award an MEC V Task Order for Engineering Oversight for New VRE Passenger Railcars

Recommendation:

The VRE Operations Board is being asked to authorize the Chief Executive Officer to execute a task order contract with STV, Incorporated for engineering oversight for the purchase of seven new passenger railcars in the amount not to exceed $850,000, plus a 5% contingency of $42,500, for a total amount not to exceed $892,500.

Background:

In May 2011, VRE entered into a Mechanical Engineering Consulting Contract (MEC V) with STV, Incorporated. Through this Contract, STV provides mechanical engineering consulting services to VRE for various projects including oversight for new rolling stock procurements.

On November 15, 2013, the VRE Operations Board approved a Contract Amendment with Sumitomo Corporation of America (SCOA) to place an option order for seven additional railcars. Funding for the Contract includes a mix of federal, state and local money which requires VRE to have oversight functions including:

1) Buy America Pre-Award and Post Award audits
2) Technical Specification Compliance
3) First Article Inspections
4) System Safety Documentation (FMECA, FMEA, Safety Certifications, etc.)
5) Design Reviews
6) Material Test Reports (smoke, flame, toxicity, etc.)
7) On-site review of sub-system assembly
8) On-site review of final assembly
9) VRE acceptance testing
10) Project status meetings
11) Warranty Administration

As with previous railcar purchases, VRE needs support from engineering consultants for this work. This task order will include design reviews, first article inspections, in-plant inspections, warranty administration and acceptance testing of each car prior to placing into VRE service. The manufacturing and subsequent oversight work for this project will take place at Nippon Sharyo's manufacturing facility in Rochelle, IL. The cost of this task order is based on a forty-eight (48) month Contract period, which includes the manufacturing process and warranty period.

**Fiscal Impact:**

Funding for this task order is included in the total project cost and funded through various sources for the purchase of seven new passenger cars.

**Project Costs**

<table>
<thead>
<tr>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost for 7 Option Cars</td>
<td>$14,805,714</td>
</tr>
<tr>
<td>Contingency – Sumitomo</td>
<td>$301,786</td>
</tr>
<tr>
<td>Engineering Oversight</td>
<td><strong>$850,000</strong></td>
</tr>
<tr>
<td>Contingency - Oversight</td>
<td>$42,500</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td><strong>$16,000,000</strong></td>
</tr>
</tbody>
</table>
## Funding Sources

<table>
<thead>
<tr>
<th>Source</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Federal (FY 13 and FY 14 formula funds)</td>
<td>10,030,712</td>
</tr>
<tr>
<td>State (FY 12 and FY 13 bond funds)</td>
<td>4,245,811</td>
</tr>
<tr>
<td>VRE (local match to formula funds and capital reserve)</td>
<td>1,723,477</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td><strong>16,000,000</strong></td>
</tr>
</tbody>
</table>
Virginia Railway Express
Operations Board

Resolution
10A-01-2014

Authorization to Award an MEC V Task Order for Engineering Oversight for New VRE Passenger Railcars

WHEREAS, VRE has a contract with STV, Incorporated for mechanical and engineering consulting services (MEC V); and,

WHEREAS, VRE has amended the contract with Sumitomo Corporation of America for the purchase of seven new railcars; and,

WHEREAS, funding for the purchase of the new railcars includes a mix of federal, state and local funds which requires VRE to provide various oversight functions; and,

WHEREAS, STV, Incorporated will provide these oversight functions as required to ensure total project and funding compliance.

NOW, THEREFORE, BE IT RESOLVED THAT, The VRE Operations Board is being asked to authorize the Chief Executive Officer to execute a task order contract with STV, Incorporated for engineering oversight for the purchase of seven new passenger railcars in the amount not to exceed $850,000, plus a 5% contingency of $42,500, for a total amount not to exceed $892,500.

Approved this 17th day of January 2014

______________________________
Paul Milde
Chairman

______________________________
Gary Skinner
Secretary
To: Chairman Milde and the VRE Operations Board

From: Doug Allen

Date: January 17, 2014

Re: Purchase of Expansion Rail Cars

Recommendation:

The VRE Operations Board is being asked to approve a revised funding plan for the purchase of 14 expansion rail cars and to refer the plan to the Commissions for their consideration and subsequent referral to the jurisdictions to include as part of their adoption of the VRE Operating and Capital Budget.

Background:

In December 2013, the Operations Board adopted the revised FY 2014 VRE Operating and Capital Budget and the recommended FY 2015 VRE Operating and Capital Budget, and referred them to the Commissions for their consideration and subsequent referral to the jurisdictions for their formal review and adoption. The FY 2014 and FY 2015 budgets, as forwarded, included funding for the purchase of 14 railcars, as summarized and described below.

<table>
<thead>
<tr>
<th>Budget year</th>
<th>Per car</th>
<th># Cars</th>
<th>TOTAL</th>
<th>NVTA</th>
<th>Outside NVTA</th>
<th>System Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amended FY14</td>
<td>$2.4M</td>
<td>9</td>
<td>$21.7M</td>
<td>$19.8M</td>
<td>-</td>
<td>$1.94M</td>
</tr>
<tr>
<td>Proposed FY15</td>
<td>$2.6M</td>
<td>5</td>
<td>$13.1M</td>
<td>-</td>
<td>$10.96M</td>
<td>$2.16M</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>14</td>
<td>$34.86</td>
<td>$19.8M</td>
<td>$10.96M</td>
<td>$4.10M</td>
</tr>
<tr>
<td>State capital funding</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$7.45M</td>
</tr>
<tr>
<td>Match required</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$3.51M</td>
</tr>
</tbody>
</table>
The original funding plan assumed the purchase would take place in two stages:

- In FY 2014, nine rail cars would be purchased primarily with funding from NVTA supplemented with federal formula funds and an associated VRE match. (Because the federal funds became available after the beginning of the fiscal year, no state match was requested for the FY 2014 purchase.) The intention was for this order to be placed once the NVTA issued their bonds, anticipated sometime in the spring.
- In FY 2015, the remaining five cars would be purchased using a state capital grant with the match provided by the VRE jurisdictions outside of NVTA. Supplemental system funds would also be used, in this instance FY 2015 federal formula funds, with associated state and VRE match.

This funding plan was based on a number of assumptions that had been raised on a preliminary basis prior to the adoption of the budget but which had not been finalized. First, that NVTA and the NVTA jurisdictions agreed that if the non-NVTA jurisdictions funded their proportionate share of the capacity created by the railcars, then the 14 rail cars could be deployed throughout the VRE system over the useful life of the cars. Second, that the jurisdictions outside of NVTA would be able to identify the necessary local funds to match a state capital grant. Third, that the use of a state capital grant as part of the proportional share for the non-NVTA funds would be acceptable to the VRE jurisdictions who were also members of NVTA.

Recently, staff determined that it is not certain that all of the above assumptions are true. While the proportional share approach described above may be acceptable to NVTA and the NVTA jurisdictions, more work with NVTA will be required before a definitive answer can be obtained, which would significantly delay this purchase. In the absence of an agreement on the proportional share approach, the resulting restriction on the use of the rail cars within the NVTA jurisdictions would be detrimental to the operation of the VRE system as a whole, since operational flexibility and the most efficient use of our limited resources is necessary to ensure that VRE can continue to adapt to the exigencies of a commuter rail system. Further, while significant progress has been made on the achievement of the second assumption, it is not certain that the third assumption regarding the use of a state capital grant is acceptable to all VRE jurisdictions.

As a result, staff has developed an alternate funding plan for the purchase of the 14 needed rail cars, as described below. Attachment 1 summarizes the sources of funding for Funding Plan B, compared to the original funding plan included in the budget approved by the Operations Board in December. Staff considered other options, including using NVTA funding for a lesser number of rail cars, but ultimately decided that the restricted usage for even a small number of cars was problematic.
Funding Plan B is based on the purchase of five rail cars in FY 2015 and nine in FY 2016, all with a combination of state capital, federal formula and VRE funds.

- The FY 2015 subsidy amount would not change and no additional contribution would be needed from any jurisdictions. All 14 rail cars could be deployed as needed throughout the system.
- The purchase of the five cars in FY 2015 and the nine cars in FY 2016 would rely on 68% state funding, with the remaining 32% from a combination of federal formula funds and VRE funds.
- The only substantive alteration to the FY 2015 budget is a reduction to the allocation for project development by $452k, from $2M to $1.548M, and the reallocation of these capital reserve funds to the railcar purchase.
- This funding plan assumes that the state funding percentage for rolling stock will be 68% in future years and that sufficient federal or other funds can be identified in FY 2016. The current CIP has approximately $28M in project costs for accommodating VRE’s mid-day and overnight storage requirements over the three year period from FY 2016 to FY 2018, with additional funding beyond that period. This is a long-term project and staff believes that a reallocation of funding in the early years would be manageable. In addition, other federal funding alternatives will be considered as additional project information becomes available.
- Other options for the purchase of the remaining nine cars in FY 2016 would be explored during the next budget cycle, including the following:
  - The issuance of long term debt, in combination with the financing of other capital needs.
  - A future application to NVTA if an appropriate methodology for the use of the funds can be identified that is acceptable to all parties.

**Fiscal Impact:**

The revised funding plan relies more heavily on state capital funding, VRE federal formula funds and VRE system revenue, as summarized in Attachment 1.
## Purchase of Expansion Rail Cars

<table>
<thead>
<tr>
<th>Funding Source</th>
<th>Budget FY 14 - FY15</th>
<th>Plan B FY 14 - FY 16</th>
<th>Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Federal formula funds -5307</td>
<td>3,278,400</td>
<td>9,895,000</td>
<td>6,616,600</td>
</tr>
<tr>
<td>State Mass Transit funds</td>
<td>7,808,200</td>
<td>24,990,000</td>
<td>17,181,800</td>
</tr>
<tr>
<td>NVTA regional funds</td>
<td>19,800,000</td>
<td>-</td>
<td>(19,800,000)</td>
</tr>
<tr>
<td>Jurisdictional funds</td>
<td>3,508,800</td>
<td>-</td>
<td>(3,508,800)</td>
</tr>
<tr>
<td>VRE - subsidy match/cap res</td>
<td>467,600</td>
<td>1,865,000</td>
<td>1,397,400</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>34,863,000</td>
<td>36,750,000</td>
<td>1,887,000</td>
</tr>
</tbody>
</table>

**NOTES:**

- Total costs are expected to increase by $1.9M because of the later purchase of the cars.
- VRE funds are a combination of the routine match to federal funds and a contribution from the capital reserve of $452K and $614K in FY 14 and FY 15, respectively.
Virginia Railway Express
Operations Board

Resolution
10B-01-2014

Purchase of Expansion Rail Cars

WHEREAS, in December 2013, the Operations Board adopted the revised FY 2014 VRE Operating and Capital Budget and the recommended FY 2015 VRE Operating and Capital Budget, and referred them to the Commissions for their consideration and subsequent referral to the jurisdictions for their formal review and adoption; and,

WHEREAS, the FY 2014 and FY 2015 budgets, as forwarded, included a funding plan for the purchase of 14 railcars; and,

WHEREAS, VRE recently learned that the use of NVTA funds and the use of state capital grant funds as components of that purchase presents issues the resolution of which could significantly delay procurement or efficient use of the rail cars; and,

WHEREAS, staff has presented a revised funding plan that would allow for the most expeditious purchase and deployment of all rail cars.

NOW, THEREFORE, BE IT RESOLVED THAT, the VRE Operations Board approves a revised funding plan for the purchase of 14 expansion rail cars as described in the agenda item presented to the Operations Board on January 17th, 2014; and,

BE IT FURTHER RESOLVED THAT, the VRE Operations Board does hereby recommend that the Commissions approve the revised funding plan and forward the plan to the local jurisdictions for inclusion in their budgets and appropriations in accordance with procedures contained in the VRE Master Agreement; and,

BE IT FURTHER RESOLVED THAT, the VRE Operations Board recommends that the Commissions authorize the Executive Director of NVTC to submit to the Commonwealth the revised rail car funding plan as part of the FY 2015 state aid grant applications.

Approved this 17th day of January 2014

___________________________________
Paul Milde
Chairman

___________________________________
Gary Skinner
Secretary
To: Chairman Milde and the VRE Operations Board  
From: Doug Allen  
Date: January 17, 2014  
Re: Adoption of the VRE System Plan  

Recommendation:

The VRE Operations Board is being asked to adopt the VRE System Plan and refer the plan to the Commissions for their review and approval.

Background:

The 2004 VRE Strategic Plan, adopted by the VRE Operations Board in May 2004, provided a framework for system growth and decision-making and identified a range of capital investment options and operating scenarios for implementation by the 2025 timeframe.

Since it was adopted in 2004, many of the Strategic Plan initiatives and the system expansion opportunities outlined in it have been realized and system ridership has increased by 130%. However, current capacity limitations with VRE equipment, mid-day storage, station facilities and rail infrastructure constrain the ability to accommodate additional ridership growth. Changes in regional employment patterns, rising demand for transit services, and the addition of new regional projects such as the I-495 and I-95 Express Lanes have also occurred in the intervening years and are not addressed in the Strategic Plan.
In April 2013 the Operations Board authorized the development of the VRE System Plan to identify critical VRE system needs within its current operating environment in a comprehensive manner and prioritize the strategies to advance VRE’s long-term strategic vision over the next 20+ years of VRE service. A System Plan workshop with the Operations Board was held in July 2013. The Board was in broad agreement that the near-term vision for the System Plan should address increases in capacity and train frequency within the envelope of the existing railroad operating agreements. Board members voiced qualified support for longer-term growth and expansion concepts, requesting greater detail on the benefits and costs of specific initiatives, while also advocating that service expansions should not be advanced to the exclusion or detriment of growth in VRE’s core system capacity.

**VRE System Plan Recommendations:**

The VRE System Plan provides a framework for future decision making by identifying service initiatives and capital investments that support long-range VRE growth, grouped into three phases between 2015 and 2040. The attached *System Plan Summary Report* provides additional details about the plan recommendations, costs, and benefits.

Phase 1 (2015-2020) includes relatively low-cost projects to maximize VRE service and passenger-carrying capacity within the level of daily train service allowed under VRE’s existing railroad operating agreements with CSX and Norfolk-Southern. It will enable VRE to carry approximately 6,000 additional daily trips and provide sufficient capacity to meet the expected commuter demand in the VRE service area through the mid-2020’s. VRE’s FY 2015 Capital and Operating Budgets and FY 2015-2020 outline the planned service expansions and capital investments to implement Phase 1.

Phases 2 and 3 (2021-2040) include significant service increases and system investments that maximize VRE’s contribution to regional mobility. The recommended capacity expansion results in a potential doubling of VRE riders, who would otherwise mostly be travelling on the region’s roadways, for a potential ridership of 40,000 to 45,000 trips per day by 2040.

Phase 2 (2021-2030) recommends major investment in the Long Bridge corridor between the Alexandria and L’Enfant stations, including expanding railroad capacity across the Potomac River, to relieve the key capacity bottleneck on the VRE system. The implementation of other VRE improvements such as the Gainesville-Haymarket extension is also envisioned in the 2021-2030 timeframe. However, without the major capacity investment represented by the Long Bridge corridor program, the full ridership potential of the Gainesville-Haymarket extension and increased Fredericksburg Line and main Manassas Line peak service levels will not be possible.
It should be noted that intercity passenger rail, high-speed rail and freight service would all derive significant benefits from the investments in Long Bridge capacity expansion as well as the CSX third track south of Alexandria. Consequently, the System Plan assumes that VRE would not bear the entire costs, but rather would pay a share of them proportional to the total benefits derived.

Once the Long Bridge corridor investments are in place, the introduction of additional reverse peak and off-peak VRE service can be supported, to tap into new market segments as well as reduce the need for costly mid-day storage expansion at Washington Union Terminal and improve VRE’s cycling of trains and crews to minimize fleet requirements and operating costs.

Phase 3 (2031 through 2040) returns to a level of investment comparable to Phase 1 to enable continued growth in VRE service levels, including completing the triple tracking of the CSX main line between Alexandria and Spotsylvania and core system expansion of equipment, station and storage facilities, to keep pace with growth in ridership.

**Fiscal Impact:**

Adoption of the System Plan will not result in any fiscal impact. Implementation of capital projects or service plans recommended in the System Plan will be reflected in future budgetary decisions and actions by the Operations Board and Commissions.
Virginia Railway Express
Operations Board

Resolution
10C-01-2014

Adoption of the VRE System Plan

WHEREAS, population within VRE member jurisdictions is projected to grow by an average of nearly 40% by 2040 and employment is projected to grow by 50%; and,

WHEREAS, the Commonwealth of Virginia, Northern Virginia Transportation Authority and other regional bodies have identified congestion relief as a pressing concern affecting long-term regional economic growth, competitiveness and quality of life; and,

WHEREAS, VRE is an essential regional asset that provides a safe, reliable, high-quality mobility option for commuter travel; and,

WHEREAS, in April 2013 the Operations Board authorized the development of the VRE System Plan to identify critical VRE system needs in a comprehensive manner and prioritize the initiatives to advance VRE’s long-term strategic vision over the next 20+ years of VRE service.; and,

WHEREAS, the plan provides a framework for future decision making by identifying service initiatives and capital investments which support a ridership goal of 40,000-45,000 daily trips within the 2040 timeframe.

NOW, THEREFORE, BE IT RESOLVED THAT, the VRE Operations Board does hereby recommend that the Commissions adopt the VRE System Plan as the long-term vision and guide for VRE system growth and expansion.

Approved this 17th day of January 2014

___________________________________
Paul Milde
Chairman

___________________________________
Gary Skinner
Secretary
VRE System Plan
Summary

January 2014
VRE SYSTEM PLAN SUMMARY

VRE – A Cost-Effective Contributor to Regional Mobility

During the last decade, VRE has demonstrated its ability to accommodate a rapid and substantial increase in ridership in two of the most heavily travelled commuter corridors in the region. VRE has done so with cost-effective investments, while continuing to be one of the most efficient operations in the region. As a result VRE today provides critical capacity – the equivalent of 150 lane miles of highway – in the I-95/395 and I-66 corridors, with less pollution, energy consumption, and accident cost from highway operation.

The Washington region’s population is forecast to grow by another 2 million persons from 2010 to 2040, with Virginia accounting for over half of the increase. In the same period, the economy is expected to add 1.6 million new jobs, about a third of them in the inner jurisdictions that are the prime employment centers today. Increasing congestion pressure on the region’s highway and transit systems is inevitable without additional investment.

The rail lines owned by CSX and Norfolk-Southern (NS), and used by VRE, provide an excellent option for significant expansion of transportation capacity in the corridors parallel to I-95 and I-66, while preserving the host railroads’ ability to meet their freight movement goals. Significant capacity increases can take place almost entirely within the existing right of way, at a cost and in a time frame competitive with highway and heavy rail construction projects in the region. Investment in these lines also contributes to capacity for the freight railroad owners, as well as for intercity rail passenger services that Virginia, North Carolina, Amtrak, and Federal transportation agencies are pursuing.

VRE is also one of the most cost-effective operators in the Washington D.C. region, with lower subsidy per passenger mile than any, and the highest percentage of costs covered by passenger fares after Metrorail. Among VRE’s peer commuter railroads, only Metro North in New York and Caltrain in the San Francisco Bay Area cover a greater proportion of their operating costs from fares paid by passengers.

The investments in the System Plan are grouped into three phases between now and 2040. In the first phase through 2020, relatively low-cost projects are recommended to maximize the capacity and service currently allowed VRE in its agreements with Metrorail. Among VRE’s peer commuter railroads, only Metro North in New York and Caltrain in the San Francisco Bay Area cover a greater proportion of their operating costs from fares paid by passengers.

VRE – Cost-Effective Capacity

The VRE System Plan investments provide more peak capacity than an equivalent amount invested in highways or heavy rail.

<table>
<thead>
<tr>
<th>Major Washington Area Capital Initiatives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project</td>
</tr>
<tr>
<td>------------------------------------------</td>
</tr>
<tr>
<td>Express Lanes, I-495</td>
</tr>
<tr>
<td>Intercounty Connector, MD</td>
</tr>
<tr>
<td>Woodrow Wilson Bridge Replacement</td>
</tr>
<tr>
<td>Dulles Metrorail – Phase 1</td>
</tr>
<tr>
<td>VRE Railroad Capacity (System Plan Phase 2)</td>
</tr>
</tbody>
</table>

*Capacity in passengers/hr in peak direction, at location of peak demand, over and above existing capacity. Highway capacities assume a portion of peak hour traffic allocated to buses. Metrorail capacity per WMATA standards, at 3 min. peak headways.
**$M/route-mi. per 1,000 p/hr of incremental capacity provided.
***Assuming peak hour is 15% of daily traffic, annual=daily * 325, avg. trip lengths of 18 mi. for highway, 12 mi. for Metrorail and 25 mi. for rail, and system operates at capacity during peak hour.
the CSX and NS railroads. These projects have already been incorporated into VRE’s FY2015-2020 Capital Improvement Program (CIP).

The second phase from 2021-2030 includes major investment in relieving the key capacity bottlenecks on the VRE system, including the Long Bridge crossing of the Potomac River. Without these significant capacity investments, the VRE growth potential from other improvements such as the Gainesville-Haymarket extension and the number of additional peak hour trains would be limited and long-term system capacity still constrained. However, with increased Long Bridge corridor capacity, the full ridership potential of those improvements can be fully realized at relatively low incremental cost.

The final phase of the System Plan, from 2031 through 2040, returns to a level of investment comparable to Phase 1 and contains capital projects to enable continued growth in traffic, including completing the triple tracking of the CSX main line between Alexandria and Spotsylvania, which will position VRE to achieve its full potential.

Phase 1 (2015-2020) – Maximizing VRE Service within Existing Railroad Agreements

Carrying roughly 19,000 trips a day, VRE is currently at or near capacity with numerous full peak trains, limited available parking at several stations, and train storage yards full. VRE can cost-effectively meet the forecast growth in commuters from the outer jurisdictions to the region’s center while remaining within the existing CSX, NS and Amtrak railroad agreements. With the recommended Phase 1 investments, VRE will be able to:

- Lengthen existing peak trains to add seats
- Add an additional round trip on each of the Manassas and Fredericksburg lines
- Increase station parking
- Improve station facilities to accommodate longer trains.

This near-term program, summarized in Table 1, will enable VRE to carry approximately 6,000 more trips a day, providing sufficient capacity to meet the expected growth in demand until the mid-2020s.

<table>
<thead>
<tr>
<th>Items</th>
<th>Phase 1 2015-2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>14 additional bi-level coaches</td>
<td>$ 35</td>
</tr>
<tr>
<td>Lengthen /add platforms, existing stations</td>
<td>$ 46</td>
</tr>
<tr>
<td>Core station investments</td>
<td>$ 22</td>
</tr>
<tr>
<td>4,150 parking spaces, existing stations</td>
<td>$ 91</td>
</tr>
<tr>
<td>CSX RF&amp;P Line – additional 3rd track</td>
<td>$ 50</td>
</tr>
<tr>
<td>Train yard storage, DC &amp; VA</td>
<td>$ 41</td>
</tr>
<tr>
<td>Total 2015 - 2020</td>
<td>$ 285</td>
</tr>
</tbody>
</table>

Source: VRE 2015-2020 Capital Improvement Plan

The passenger revenue from the increased ridership that can be handled by the increased capacity is expected to be more than the incremental operating cost, slightly increasing the proportion of operating cost covered by passenger revenues, which VRE is required to maintain above 50%, and which currently stands around 52%.
Phases 2 and 3 (2021 to 2040) – Maximizing VRE Contribution to Regional Mobility

VRE can cost-effectively provide much more regional mobility by increasing the number of daily trains beyond the levels allowed in existing agreements, expanding the system to Gainesville-Haymarket and providing additional types of service such as reverse peak and off-peak services. With the recommended investments and additional service, VRE could carry 18,000 new weekday trips by 2040, in addition to the 25,000 made possible by the investments through 2020. In addition, the capacity investments recommended may be sufficient for the host railroads to agree to the introduction of weekend VRE service. If so, an estimated average of 6,000 trips a day could be made on VRE on a typical weekend day.

Close coordination, and cost-sharing, will be needed with the other public agencies that would benefit from the investments to increase passenger capacity. New agreements will be needed with the CSX and NS freight railroads, and attention will have to be paid to provide sufficient freight operational capacity and flexibility to meet future goals.

In going beyond the Phase 1 (2015-2020) investments, VRE can add to the core peak direction markets, and tap into four new market segments, each representing a potential significant addition to ridership. Figure 1 shows the size of these markets, which are:

- Growth in peak commuter demand from population increases & economic growth as well as from peak service improvements – up to four trains per hour and express service
- Gainesville-Haymarket extension – up to two trains per hour
- Reverse peak service from Washington DC to activity centers such as Quantico, Fort Belvoir, Fairfax/George Mason University, Innovation/George Mason University – up to two trains per hour
- Off-peak service hourly in midday and evening hours
- Weekend service at hourly or two-hourly intervals

A by-product of the increased peak frequencies and bi-directional service is the ability to attract additional riders for short cross-Potomac trips in each direction that could supplement Metrorail core capacity across the river or other modes in the Washington to Alexandria travel market.

In addition to market growth, the track capacity investment would make possible additional future service improvements beyond those that are included explicitly in the VRE System Plan:

- Future coordination and run-through of MARC and VRE trains,
- Additional state-supported regional intercity trains, and
- Higher-speed trains extending the Northeast Corridor through Washington, DC into Virginia.

These services and their sponsoring entities would derive significant benefits from the investments in Long Bridge capacity expansion, and the
CSX third track south of Alexandria. Consequently, the System Plan assumes that VRE will not bear the entire costs itself, but will pay a share of them proportional to the total benefits derived.

The regional benefits from the VRE capacity expansion would be significant, with a potential doubling of train riders who otherwise mostly would be traveling on area highways. In an expansion of its current benefits, VRE alone would provide the equivalent of another 100 lane miles at the peak rush hour on both I-95/395 and I-66, as well as day-long and week-long service that increases the viability of transit-oriented communities.

The fare revenue from new trips on VRE is projected to rise roughly proportionally with the increases in operating costs associated with expanded service, maintaining VRE’s coverage of at least 50% of its operating costs from fare revenue. Operationally, the introduction of reverse peak and off-peak service will be especially helpful, since this will reduce VRE’s need for costly additional train storage at Washington Union Terminal and improve VRE’s cycling of trains and crews.

**Capital Improvements Required and Timing 2021-2040**

The level of capital investment in railroad infrastructure will need to increase substantially in the 2020s to relieve the significant capacity bottlenecks that constrain VRE and passenger rail growth. Two major capital initiatives are needed to provide sufficient capacity to enable VRE service expansion above 2020 levels:

- Long Bridge Corridor Program, expanding the existing 2-track Long Bridge across the Potomac River and expanding the rail corridor to 4 tracks between Alexandria and Washington, DC,
- CSX triple tracking Program, completing the plan to provide a 3-track railroad from Alexandria to Spotsylvania County.

Both the Long Bridge Corridor and CSX triple tracking programs will benefit and provide capacity for freight, VRE, regional intercity and Southeast high-speed trains. These programs also open up possibilities for extending MARC commuter service and selected Amtrak Northeast Corridor services through Washington, DC into northern Virginia. The distribution of the benefits and costs for each increment of investment will only be fixed after more detailed studies and as circumstances and negotiations evolve among all beneficiaries. Until then, the System Plan assumes that the VRE capital program would cover only a 30% share of the total capital costs of these major programs, with other non-VRE entities responsible for the rest.

The ongoing increases in seats (rolling stock), stations (platforms and parking) and storage (yards) – will also need to continue beyond 2020 and can be staged incrementally as demand grows. Their costs average about $25 million a year for twenty years, well within the range of currently planned capital funding. Additionally, the VRE Gainesville-Haymarket Extension, which extends VRE service for 11 miles along an existing NS branch line from Manassas to Haymarket, would add VRE service to a relatively untapped commuter transit market and expand track capacity for both VRE and NS.

Over $1.7 billion (in 2013 dollars) will be needed during Phase 2 (2021-0230) in all facets of the railroad and passenger support infrastructure, including the Long Bridge and Gainesville-Haymarket projects. In Phase 3 (2031-2040) capital needs total $690 million with an emphasis on the completion of the CSX triple tracking south of Alexandria to Fredericksburg and Spotsylvania County. The investments by category are summarized in *Table 2*. 
Table 2 - 2021-2040 Recommended Capacity Investments
(millions of 2013 dollars)

<table>
<thead>
<tr>
<th>Items</th>
<th>Phase 2 2021-2030</th>
<th>Phase 3 2031-2040</th>
<th>Total Phases 2 &amp; 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gainesville – Haymarket Extension</td>
<td>$295</td>
<td>--</td>
<td>$295</td>
</tr>
<tr>
<td>Added third track, CSX</td>
<td>$100</td>
<td>$440</td>
<td>$540</td>
</tr>
<tr>
<td>Long Bridge and related projects</td>
<td>$1,100</td>
<td>--</td>
<td>$1,100</td>
</tr>
<tr>
<td>Additional cars and locomotives</td>
<td>$125</td>
<td>$125</td>
<td>$250</td>
</tr>
<tr>
<td>Lengthen/add platforms, existing stations</td>
<td>$80</td>
<td>$35</td>
<td>$115</td>
</tr>
<tr>
<td>Train yard storage, DC &amp; VA</td>
<td>$10</td>
<td>$60</td>
<td>$70</td>
</tr>
<tr>
<td>2,400 parking spaces, existing stations</td>
<td>$20</td>
<td>$30</td>
<td>$50</td>
</tr>
<tr>
<td>Core station improvements</td>
<td>$20</td>
<td>--</td>
<td>$20</td>
</tr>
<tr>
<td><strong>Total Cost</strong></td>
<td><strong>$1,750</strong></td>
<td><strong>$690</strong></td>
<td><strong>$2,440</strong></td>
</tr>
</tbody>
</table>

The System Plan envisages that VRE funding from its traditional federal formula and regional sources and its sponsoring jurisdictions will be amply matched in the Phases 2 & 3 investments by the other entities (e.g., federal, state, Amtrak, freight railroads) which have a stake in the investments. Table 3 provides a range of possible participation, based on VRE’s historical funding sources, and the resulting funding that might be required from VRE sources.

Table 3 – Estimated VRE, Local and Regional Share of 2021-2040 Capacity Investments
(millions of 2013 dollars)

<table>
<thead>
<tr>
<th>Items</th>
<th>VRE/Local/Regional Share*</th>
<th>Phases 2+3 Low Range</th>
<th>Phases 2+3 High Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gainesville – Haymarket Extension</td>
<td>15% - 50%</td>
<td>$44</td>
<td>$146</td>
</tr>
<tr>
<td>Added third track, CSX RF&amp;P</td>
<td>15% - 50%</td>
<td>$41</td>
<td>$136</td>
</tr>
<tr>
<td>Long Bridge and related projects</td>
<td>15% - 50%</td>
<td>$33</td>
<td>$111</td>
</tr>
<tr>
<td>Additional cars and locomotives</td>
<td>32% - 100%</td>
<td>$81</td>
<td>$252</td>
</tr>
<tr>
<td>Lengthen/add platforms, existing stations</td>
<td>30% - 100%</td>
<td>$34</td>
<td>$114</td>
</tr>
<tr>
<td>Train yard storage DC &amp; VA</td>
<td>66% - 100%</td>
<td>$48</td>
<td>$72</td>
</tr>
<tr>
<td>2,400 parking spaces, existing stations</td>
<td>66% - 100%</td>
<td>$31</td>
<td>$48</td>
</tr>
<tr>
<td>Core station improvements</td>
<td>30% - 100%</td>
<td>$6</td>
<td>$20</td>
</tr>
<tr>
<td><strong>Total VRE/Local/Regional Cost</strong></td>
<td><strong>25% - 70%</strong></td>
<td><strong>$318</strong></td>
<td><strong>$900</strong></td>
</tr>
<tr>
<td><strong>Average Annual VRE/Local/Regional Cost</strong></td>
<td></td>
<td><strong>$16</strong></td>
<td><strong>$45</strong></td>
</tr>
</tbody>
</table>

*Includes Federal formula funds as “VRE” funds and CMAQ and NVTA/HB2313 sources as “regional” funds.

System Plan Capital Implications

Figure 2 shows the average annual capital expenditure by year. The Phase 1 (2015 – 2020) capital program spends an average of just over $40 million annually, with the emphasis on expanding existing station, fleet, and yard capacity. In Phase 2 (2021-2030), the focus moves to implementing the Long Bridge project, the essential precondition of fully serving any of the new markets, and the Gainesville - Haymarket extension. Expenditure continues on basic capacity, at a somewhat reduced level, and the total annual expenditure grows to $90 million a year for the ten year period. For the final decade of this System Plan, 2031 – 2040, overall spending returns to the $40 million a year, level, with the emphasis on
building the CSX third track, with continued investment in capacity to handle passenger growth, primarily in equipment and storage.

**Figure 2 - Annual VRE Capital Improvement by year**

<table>
<thead>
<tr>
<th>($) in millions</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
</tr>
<tr>
<td>Stations</td>
</tr>
</tbody>
</table>

**Recommended System Plan Actions**

- Implement the Phase I System Plan Program
- Continue the planning, environmental clearance and design process for the Gainesville-Haymarket Extension to enable a construction start in the 2021-2025 time frame
- Continue to participate in the development of an implementation plan for Long Bridge Corridor program, aiming for implementation by the mid-2020s, and broad funding participation by federal, state and other non-VRE stakeholders
- Work in partnership with DRPT and CSX to develop a strategy, to be codified in future access and capital agreements, for the capacity expansion in the Washington-Richmond corridor, including development of a phasing and funding plan for triple-tracking to support long-term expansion of VRE service
- Develop strategy, in partnership with DRPT and NS, for determining appropriate future investment in NS railroad capacity to support future increases in train service, to be codified in future access and capital agreements
- Participate in regional transportation studies to identify and evaluate long-range concepts for regional and intercity passenger rail service, including options for Virginia to Maryland “run-through” service
To: Chairman Milde and the VRE Operations Board

From: Doug Allen

Date: January 17, 2014

Re: Discussion of 2014 VRE Legislative Agenda

General discussion of Legislative items.
Agenda Item 12
Closed Session

To: Chairman Milde and the VRE Operations Board

From: Doug Allen

Date: January 17, 2014

Re: Closed Session

Pursuant to the Virginia Freedom of Information Act (Sections 2.2-3711.A.(1), (3), and (7) of the Code of Virginia), I move that the VRE Operations Board convene a closed meeting for the purpose of discussing personnel matters; one matter involving the acquisition of real property for public purposes where discussion in public could adversely impact the VRE’s negotiating position; and three matters requiring consultation with counsel and appropriate staff concerning (1) recent amendments to sections 15.2-4507.C and 15.2-4512 of the Code of Virginia; (2) the legal requirements applicable to use of NVTA funds to purchase VRE rail cars; and (3) the contractual provisions applicable to VRE’s construction of a station in Spotsylvania County.

Moved

Seconded

Vote __ Unanimous

CERTIFICATION

The VRE Operations Board certifies that, to the best of each member’s knowledge and with no individual member dissenting, at the just concluded Closed Session:

1. Only public business matters lawfully exempted from open meeting requirements under the Freedom of Information Act were discussed; and,

2. Only such public business matters as were identified in the motion by which the Closed Session was convened were heard, discussed or considered.

Moved

Seconded

Vote __ Unanimous