

Balancing Freight and Passenger Rail

Unique Traits of Virginia's Railways



Passenger service is oriented to NEC Connections

- DC, NYC, Philly, Boston
- Not cross state, or southward oriented



VRE and Amtrak are 2/3 of the rail traffic in NOVA

- Freight is often viewed as a "nuisance."

Port of Virginia ships 35-40% by rail.

- Major economic driver, not just a "pass-thru" state.



Freight and Passenger share the tracks

- Affects track geometry, congestion, and speeds
- Heartland, Crescent, and National Gateways share with passenger routes.



Unique Traits of Virginia's Railways

What are your observations?

Benefits of Rail to Virginia

GROW THE ECONOMY

RAIL SERVICES DRIVE 6% OF VIRGINIA'S TOTAL ECONOMY.
MORE THAN 6,000 JOBS CREATED DIRECTLY BY RAIL NETWORK



FREIGHT RAIL

\$2.2 BILLION
in annual benefits



about 9 cents per
ton-mile of rail use



PASSENGER RAIL

\$190 MILLION
in annual benefits



about 46 cents per
passenger-mile of rail use

Benefits are largely derived from savings from diverting freight and passengers from highways to rail and includes congestion savings and crash reduction benefits.

BREATHE EASIER

3M TONS OF CO₂ EMISSIONS AVOIDED
(6.4% OF TOTAL IN VIRGINIA PER YEAR)



On average, railroads
are **four times** more fuel
efficient than trucks



Moving freight by rail instead
of truck generates **75% less**
greenhouse gas emissions



The total estimated level
of rail service in Virginia in
2015 was about **25 billion**
ton-miles

TRAVEL SAFE

18 LIVES SAVED AND 3,000 CRASHES AVOIDED EACH YEAR



Shipping by rail avoids
about **1.7 billion miles**
of truck travel in Virginia



Passenger travel by rail avoids about
271 million miles of personal
driving in Virginia

SAVE MONEY

\$123M PAVEMENT MAINTENANCE SAVINGS
(6% OF ANNUAL VDOT MAINTENANCE BUDGET)



8 = 240
PASSENGER
RAILCARS PASSENGER
VEHICLES



100 = 340
FREIGHT
RAILCARS SEMI-TRAILER
TRUCKS



Why do we Invest?

Expand Freight Capacity

- 2002: “Market-driven” evolution of the freight rail system would relieve little projected congestion, whereas a public policy driven expansion could produce cost-effective rail solutions.
- 2018: Different shippers benefit from different types of rail infrastructure projects.

Expand Passenger Capacity

- The public sector will have to invest in the privately owned freight network to grow the passenger rail network.

Preserve Freight Capacity, expanding for Passenger Capacity

- Higher speed passenger trains and longer slower freight trains need to keep moving.

Partnerships and Funding Tools

Rail Industrial Access

- "Driveways"
- Economic Development

Rail Preservation Fund

- "Collector Roads"
- Preserve SOGR & Shortline service

Rail Enhancement Fund

- "Interstates"
- Capacity for freight, passenger (VRE), and Port

Intercity Passenger Rail Operating & Capital Fund

- "Interstates"
- Operate/Expand intercity passenger rail service



What Projects are Funded?

Rail Industrial Access

- Siding/Spur Tracks

Rail Preservation Fund

- Programmatic Projects – Maintain Class 2 TSS
- Bridges that support 286K load capacity

Rail Enhancement Fund

- Switches, Sidings, Mainline Track, Signals

Intercity Passenger Rail Operating and Capital Fund

- Switches, Sidings, Mainline Track, Signals...

Double-Track Segments/Bypasses



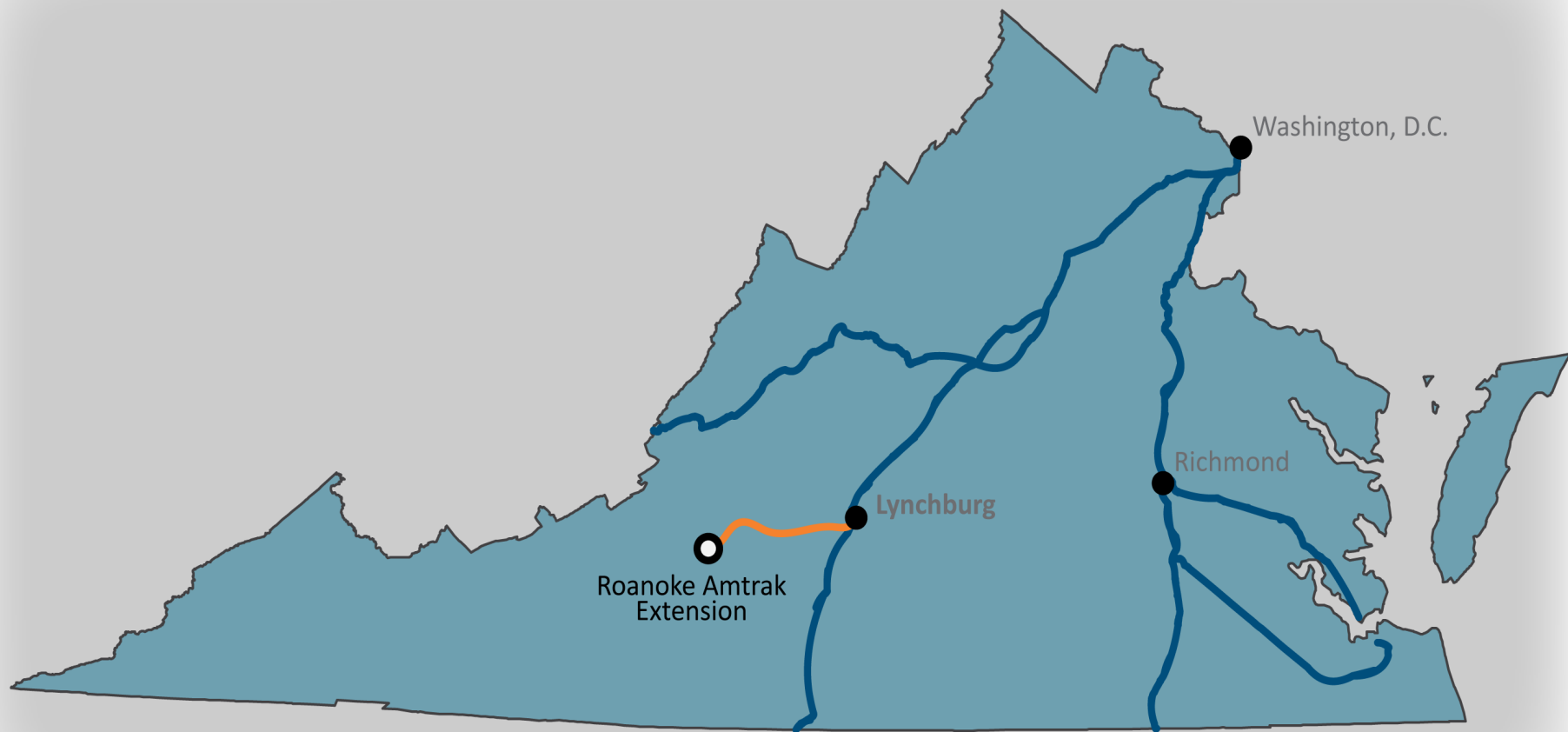
Signals



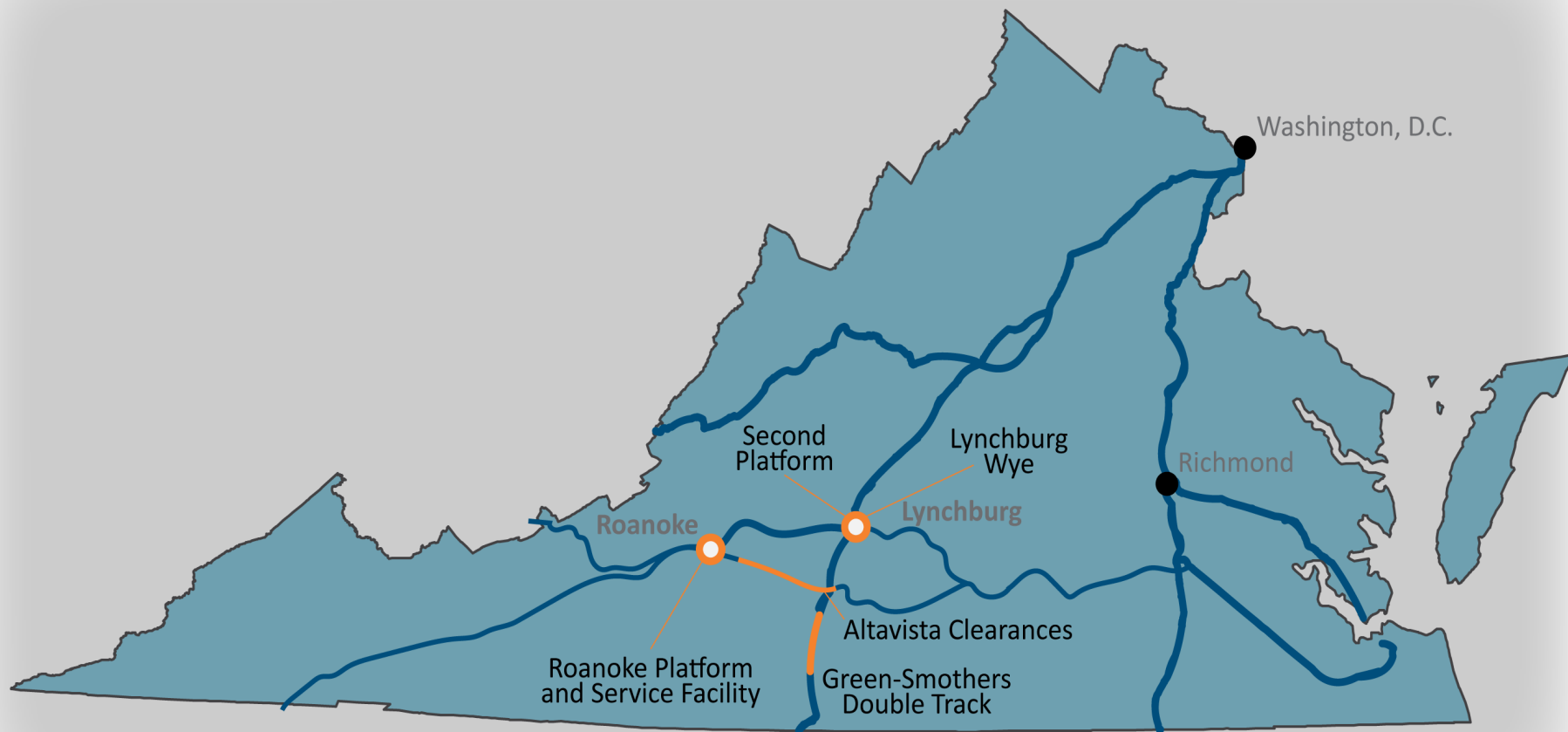
Double-Stack Clearances



Roanoke Extension Projects



Map Shows All Projects

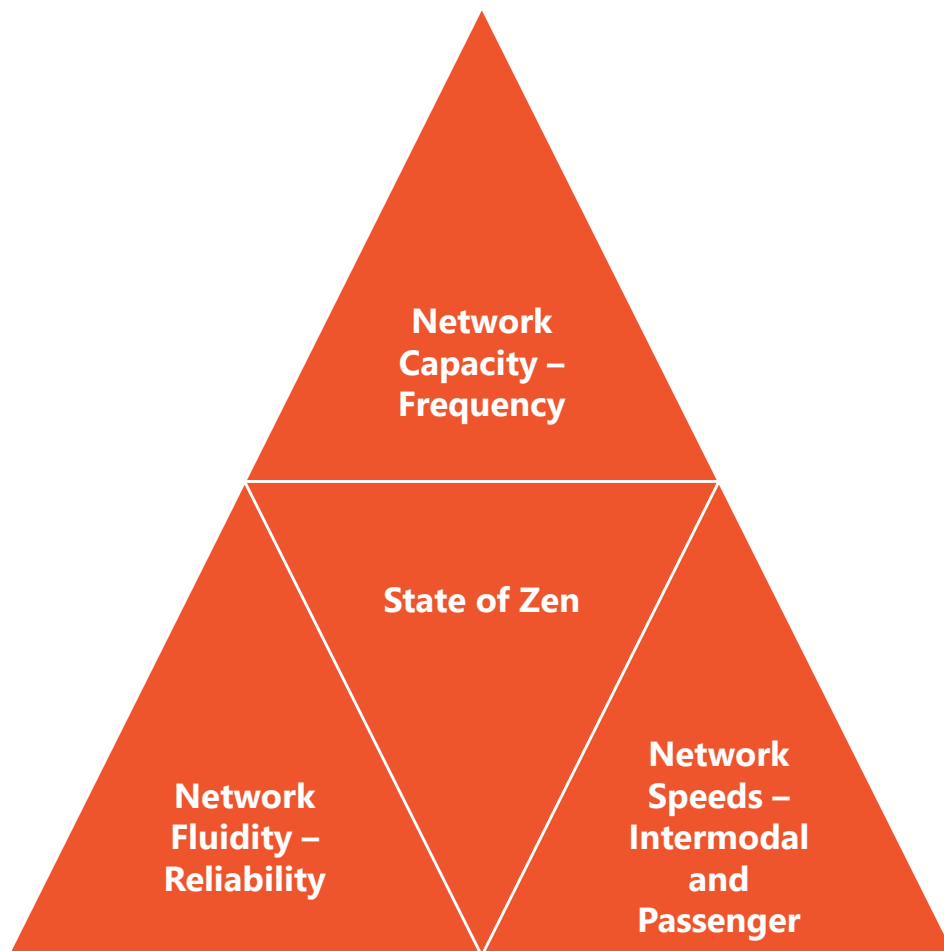


Intercity Passenger and Freight Rail Program

| Districts | Project Description | Applicant | Funding Source | Previous Allocations | FY20 | FY21 | FY22 | FY23 | FY24 | FY25 | Total Programmed |
|--|--|------------------------------|--------------------|----------------------|-------------|------------|------------|------------|------------|------------|------------------|
| Operating Costs for Intercity Passenger Rail Service | | | | | | | | | | | |
| Nova, Culpeper, Lynchburg | Route 29 to I-81 Corridor Future Operations | Amtrak | IPROC | - | - | - | - | - | 2,363,568 | 2,434,474 | 4,798,042 |
| | | | VDOT - TTF | - | - | 432,600 | 445,578 | 458,945 | - | - | 1,337,123 |
| | | | Federal | - | - | 1,730,400 | 1,782,312 | 1,835,782 | - | - | 5,348,494 |
| | | | Subtotal | - | - | 2,163,000 | 2,227,890 | 2,294,727 | 2,363,568 | 2,434,474 | 11,483,659 |
| Nova, Culpeper, Lynchburg, Salem | Roanoke Route 46 Service 1 daily round trip | Amtrak | IPROC | 553,166 | 206,000 | 210,635 | 215,374 | 220,220 | 225,175 | 230,242 | 1,860,812 |
| Nova, Fredericksburg, Richmond, Hampton Roads | Newport News Route 47 Service 2 daily round trips | Amtrak | IPROC | 1,432,443 | 2,950,658 | 3,017,048 | 3,084,932 | 3,154,343 | 3,225,315 | 3,297,885 | 20,162,624 |
| Richmond, Hampton Roads | Norfolk Route 50 Service 2 daily round trips | Amtrak | IPROC | 2,011,335 | 2,200,000 | 2,249,500 | 2,300,114 | 2,351,866 | 2,404,783 | 2,458,891 | 15,976,489 |
| Nova, Fredericksburg, Richmond, Hampton Roads | Norfolk Train 3 | Amtrak | IPROC | - | - | - | 2,185,454 | 2,234,627 | 2,284,906 | 2,336,316 | 9,041,303 |
| Nova, Fredericksburg, Richmond | Richmond Route 51 Service 1 daily round trip | Amtrak | IPROC | 2,053,218 | 2,114,768 | 2,162,350 | 2,211,003 | 2,260,750 | 2,311,617 | 2,363,628 | 15,477,334 |
| | Amtrak Marketing Costs | Various | IPROC | 1,752,853 | 900,000 | 900,000 | 900,000 | 900,000 | 900,000 | 900,000 | 7,152,853 |
| Total Intercity Passenger Rail Operating Costs | | | | 7,803,015 | 8,371,426 | 10,702,533 | 13,124,766 | 13,416,533 | 13,715,365 | 14,021,436 | 81,155,074 |
| Capital Equipment Contribution for Intercity Passenger Rail Service | | | | | | | | | | | |
| Nova, Culpeper, Lynchburg | Route 46 Roanoke Service | Amtrak | IPROC | - | - | - | - | - | - | - | - |
| Nova, Fredericksburg, Richmond, Hampton Roads | Newport News Route 47 Service | Amtrak | IPROC | 1,860,548 | 1,329,351 | 1,359,262 | 1,389,845 | 1,421,117 | 1,453,092 | 1,485,786 | 10,299,001 |
| Nova, Fredericksburg, Richmond | Richmond Route 51 Service | Amtrak | IPROC | 1,105,171 | 1,130,037 | 1,155,463 | 1,181,461 | 1,208,044 | 1,235,225 | 1,263,018 | 8,278,419 |
| Nova, Fredericksburg, Richmond, Hampton Roads | Norfolk Train 3 | Amtrak | IPROC | - | - | - | 500,000 | 511,250 | 522,753 | 534,515 | 2,068,518 |
| Nova, Fredericksburg, Richmond, Hampton Roads | Norfolk Route 50 Service | Amtrak | IPROC | 1,153,781 | 2,282,826 | 2,334,190 | 2,386,709 | 2,440,410 | 2,495,319 | 2,551,464 | 15,644,698 |
| Total Capital Equipment Contribution | | | | 4,119,500 | 4,742,215 | 4,848,914 | 5,458,015 | 5,580,820 | 5,706,389 | 5,834,783 | 36,290,636 |
| Nova, Fredericksburg, Richmond, Hampton Roads | Amtrak Station State-of-Good-Repair | Amtrak | IPROC | - | - | 1,341,060 | 1,381,282 | 1,422,731 | 1,465,412 | 1,509,375 | 7,119,870 |
| Total Station Improvements | | | | - | - | 1,341,060 | 1,381,282 | 1,422,731 | 1,465,412 | 1,509,375 | 7,119,870 |
| Capacity and Speed Improvements | | | | | | | | | | | |
| CSX National Gateway / I-85 Corridor | | | | | | | | | | | |
| Nova, Fredericksburg, Richmond | I-85 Corridor Improvements | CSX | IPROC | 44,467,039 | 32,125,348 | 30,312,328 | 30,935,286 | 31,486,197 | - | - | 169,326,198 |
| | | | PTF | 41,982,622 | 32,700,000 | 32,700,000 | 32,700,000 | 32,700,000 | 32,620,919 | - | 205,413,541 |
| | | | Federal - FastLane | 13,912,000 | 31,088,000 | - | - | - | - | - | 45,000,000 |
| | | | Federal - Other | 21,808,093 | 11,323,943 | 12,528,525 | 9,754,641 | 2,985,618 | - | - | 58,400,820 |
| | | | VDOT - TTF | 2,329,064 | 2,830,986 | 3,132,131 | 2,438,661 | 746,405 | - | - | 11,477,247 |
| | | | Local / Private | 37,500,000 | 7,500,000 | - | - | - | - | - | 45,000,000 |
| | | | Subtotal | 162,008,818 | 117,568,277 | 78,672,984 | 75,828,588 | 67,918,220 | 32,620,919 | - | 534,617,806 |
| Nova | Long Bridge and Related Statewide Improvements | CSX/Norfolk Southern Railway | REF | - | 777,473 | 5,441,453 | 14,750,000 | 21,000,000 | 15,000,000 | 25,000,000 | 81,968,926 |
| | | | Local / Private | - | 333,203 | 2,561,551 | 6,321,429 | 9,000,000 | 6,428,571 | 10,714,286 | 35,359,040 |
| | | | IPROC | - | 12,956,082 | 11,180,813 | 13,542,439 | 13,361,626 | 39,310,664 | 41,456,576 | 131,808,200 |
| | | | Subtotal | - | 14,066,758 | 19,183,817 | 34,613,868 | 43,361,626 | 60,739,235 | 77,170,862 | 249,136,166 |



Mode Shift: Complimenting Car/Trucks





Balancing Freight and Passenger Rail

THANK YOU!