



# Virginia Rail Plan



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## Preface

What could be more fundamental to good, comprehensive, transportation planning in Virginia than to have a State Rail Plan?

That no adequate rail plan presently exists, although regrettable, should not be surprising. Only recently has the Commonwealth of Virginia begun to take seriously the potential for public-sector stimulation of development of the rail mode of transportation, for the movement and transport of both people and cargo. Heretofore, such matters have been left largely to chance; chance that the private sector rail industry, and Amtrak, would do the right thing for and on behalf of Virginia.

While the 1992 creation of the Virginia Department of Rail and Public Transportation ("VDRPT") was envisioned by some as the beginning of a more enlightened and pro-active State policy toward rail, the reality has often proven to be otherwise. The fact is that Virginia's surface transportation policies and practices have almost exclusively been focussed on highway construction, dating back 70 years to the days of Governor Harry F. Byrd. This road-oriented momentum continues to sweep aside all but the most hard-fought, and politically-pregnant initiatives for anything other than highways.

Although change is beginning to manifest itself in the Legislature, in the Governor's Office, and in regional partnerships between public and private leaders, progress is slow.

The needs and opportunities for a more fully-developed, comprehensive State policy regarding rail, and rail transit—particularly the integration of the two—have never been greater.

### What Is The Role of The Committee?

Being unaware of the existence of anything comparable to this PLAN, the Virginia High Speed Rail Development Committee ("VHSRDC"), also referred to as "VA HSR," a not-for-profit, business oriented organization committed to the diffusion of educational information about, and the encouragement of advocacy for, rail and rail transit, recently made the decision to produce and distribute a Virginia Rail Plan.

VA HSR desires to place this document in the

hands of as many Virginia leaders as possible, be they private or public, but certainly the soon-to-be elected governor, and members of the General Assembly.

VA HSR is under no illusions concerning the limitations and inadequacies of this Plan. To create the ideal rail plan, with every bit of relevant information assembled, with every interested party consulted, with every possible issue considered, and with all implementation steps meticulously detailed, would take much more time, and would require many more resources, than VA HSR currently has at its disposal.

### What Is The Timeline For Implementation?

Time is of the essence. Notwithstanding commendable progress made during the term of the current Governor, James S. Gilmore, especially in the 2000 Session of the General Assembly, Virginia is at risk of falling further behind neighboring states, and regions elsewhere in the Nation, with respect to rail and rail transit planning and development.

VA HSR believes that it is more important to place upon the table of public consideration, at this moment, a plan, with acknowledged limitations, than to further delay the debate while awaiting a more adequate study by VDRPT, or others, which study would necessarily include active participation by a large number of parties, including the two freight railroads based in Virginia.

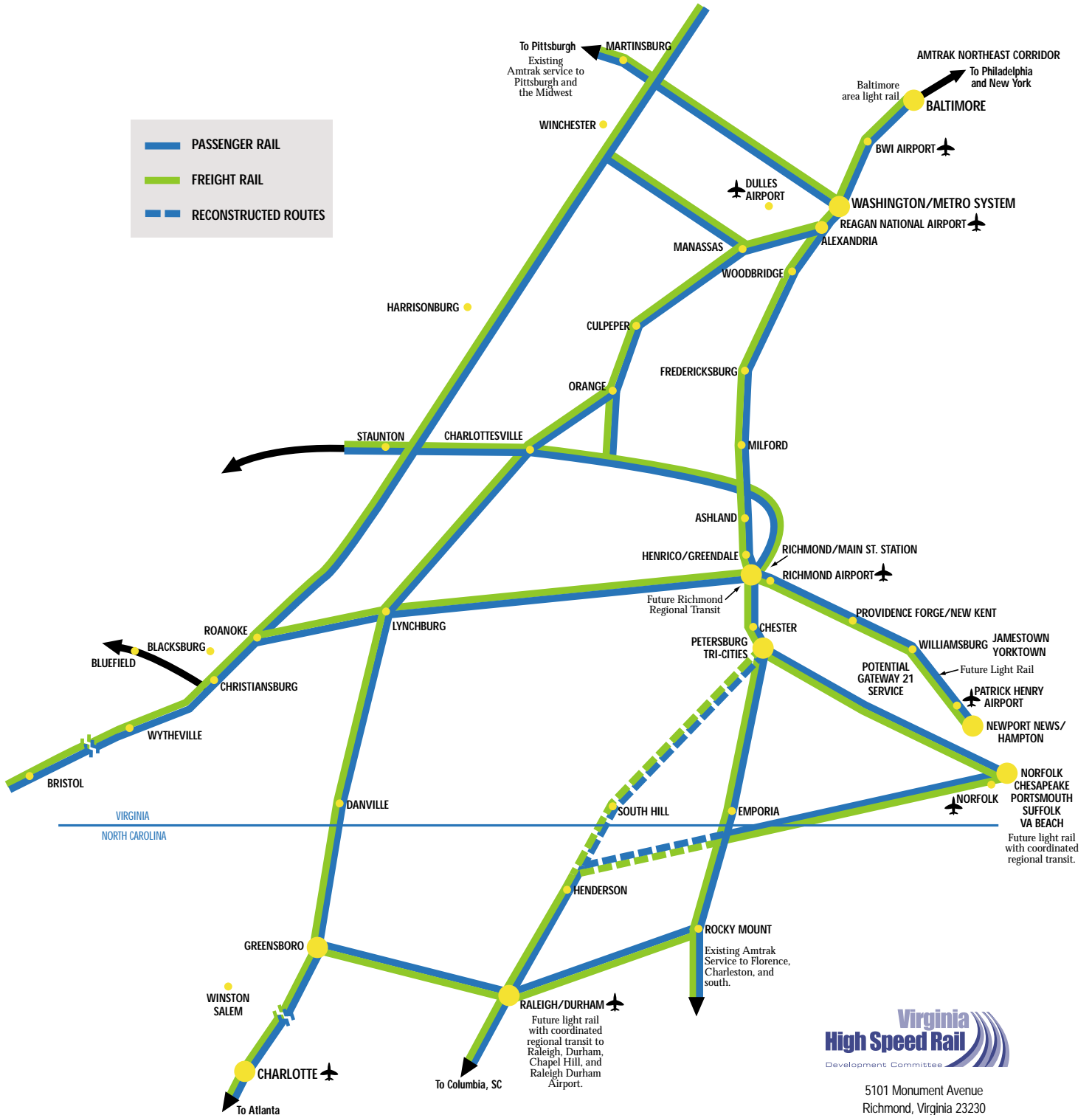
A plan, by its very nature is, and should be, forward looking, innovative, achievable, and designed to encourage action. We hope that the readers of this material will agree, after reviewing the full report of VA HSR, that the Virginia Rail Plan is a timely, realistic and compelling call to action.



What could be more fundamental to good, comprehensive, transportation planning in Virginia than to have a Virginia Rail Plan?

# Virginia's Future High-Performance Rail

## Corridors



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Produced by VHSRDC, which is solely responsible for the contents.

09-24-01

## Rail Renaissance—Why Rail Is Suddenly A Hot “New” Topic?

Had there been a national opinion poll conducted in 1965 on the future of rail transportation (perhaps there was such a poll; we are unaware of one), it is doubtful that many respondents would have foreseen



Public frustration and dissatisfaction associated with use of highways and commercial aviation are pervasive and notorious.

much, if any, future for the rail mode of transportation in America. Certainly the shapers and molders of national transportation policy, at that time, saw little, if any, application for rail technology and service,

with the possible exception of the joint U.S. Department of Transportation-Penn Central cooperative effort which resulted in the so-called Metroliner

service, launched between New York and Washington in the late 1960s.

Highway and aviation development was, and had been since the mid-1950s, the designated national modes for movement of people and goods. Based upon specific policy decisions, backed up by generous funding, these two modes were the national priorities at the Federal level, as well as in the 50 states.

### Rail Is Becoming A Viable Option To Auto And Air Travel.

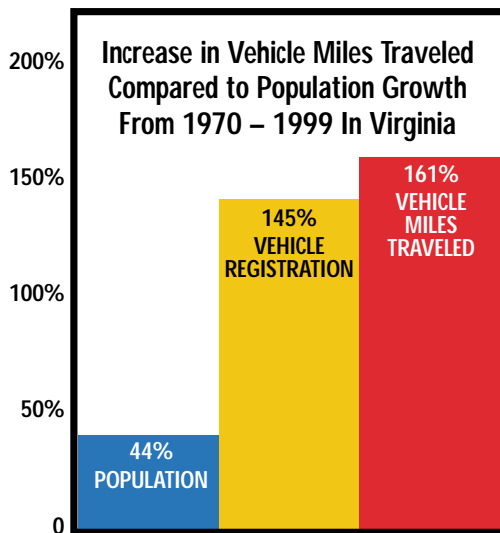
Now, more than 30 years later, people all across the land, urban as well as suburban — rural regions as well — appear to have independently discovered rail. High Speed Rail Passenger trains, rail transit, and rail intermodal freight have emerged in the public mind as a partial solution to increasing congestion on the interstate highways.

Public frustration and dissatisfaction associated with use of highways and commercial aviation need not be detailed here. They are so pervasive and notorious as to permit the authors of this Plan to move on without belaboring the point.



Perhaps more than anything else, the ease of access to international destinations, via trans-Atlantic and Pacific flights, has made the average U.S. citizen a “world traveler.” In the course of such travel, Americans have been introduced to good rail, inter-city passenger rail and transit services, particularly in Europe, including the easy connections between High Speed trains, international airports and urban centers. Invariably, these Americans return and ask: “Why can’t we have that here?”

The proper response is, or should be: “We should we can and we shall!”



Source VDOT

## Our VA HSR Vision: Rail Development in the Commonwealth — A Summary Glimpse Looking Out Over 30 Years

*Please refer to the series of accompanied maps showing existing and proposed rail corridors, services, etc.*

### **By 2007, Virginia Should Have:**

- Created, funded and properly staffed a Virginia Rail Authority, as the principal owner, developer, facilitator and administrator of publicly-funded rail infrastructure and as the State's contracting agent for services to be provided.
- Completed the VDRPT "high-speed rail" project in the DC–Richmond Corridor, plus the extension of such service via Main Street Station in Richmond to Williamsburg and points east. New European-design trains should offer hourly departures during peak travel windows, with attractive time and price-competitive service, from north of DC to Williamsburg, and Peninsula points east, including major intermediate points, all in conjunction with CSX and Amtrak. To do less for Jamestown 2007 would be an international embarrassment!
- Restructured Virginia Railway Express ("VRE"), to permit VRE to function as a regional rail passenger service provider, in various inter-urban areas, in addition to providing expanded Northern Virginia commuter rail service.
- Completed Metro (WMATA) rail to Dulles, linked to the DC–Richmond inter-city rail route in a more user-friendly manner than requiring transfers in DC Union Station.
- Facilitated construction of the Norfolk Light Rail project.
- Brokered the development of a regional rail inter-modal terminal facility, complete with both east-west and north-south service via NS and CSX, at a suitable location in the Petersburg area, to serve Central Virginia.
- Improved rail freight, as well as intermodal, service to the Ports at Hampton Roads, including Newport News, and facilitated inauguration of double-stack intermodal

service, on an as-need basis, to the Port of Richmond.

- Completed infrastructure improvements between Centralia and Main Street Station in Richmond, permitting trains currently operating to and from the south to serve Main Street Station.
- Completed rail infrastructure improvements between Centralia and Petersburg, and eastward to Hampton Roads via the Route 460 Corridor, thereby permitting Amtrak Acela-quality service directly from, to, and between, Norfolk, Virginia Beach, Chesapeake, and Suffolk, on the one hand, and Petersburg, Richmond, Washington and the Northeast, on the other.
- Launched the so-called TransDominion Express rail passenger service to and from Charlottesville, Lynchburg, Roanoke and Bristol.

### **By 2011, Virginia Should Have:**

- Made substantial progress on doubling the rail capacity in the I-81 Corridor intermodal route for the purpose of diverting a significant number of trucks from highway to rail.
- Exercised the leadership prerogatives of the Commonwealth, to induce the Richmond Region to begin serious planning for development of Light Rail in the Capital Region, including linking Chesterfield and Henrico (and potentially Hanover and Goochland) points with Downtown, and through the City to Richmond International Airport.
- Substantially completed construction of the Southeast High Speed Rail Corridor along I-85 between Petersburg and the North Carolina State line, thereby physically connecting the Virginia and North Carolina segments of the through route.
- Co-ventured with Fairfax County to make the Springfield Transportation Center one of the primary inter-connecting points for rail/transit in the I-95 Corridor with Northern Virginia origins and destinations south and west of Alexandria and Arlington.
- Coordinated the services of VRE and MARC (Maryland Rail Commuter), to implement run-through

(no-change of trains in DC), service between VA and Maryland points, e.g. Fredericksburg direct to BWI.

**By 2016, Virginia Should Have:**

- Completed infrastructure development and restoration, and placed in full service, the Southeast Corridor line along I-85, providing Acela-quality High Speed Rail service to Raleigh-Durham, Charlotte and other points.
- Completed the I-81 Rail Corridor project, and arranged for Shenandoah Valley regional rail passenger service between Winchester and Roanoke, via best available combination of routes (potentially a VRE operation).
- Inaugurated regional rail passenger connecting service between Staunton and Waynesboro to Charlottesville, and ultimately beyond to Richmond, making connection with Valley regional service (potentially another VRE operation).
- Begun upgrading I-95 and Route 29 rail corridors (CSX and NS respectively) to induce the provision of additional rail freight intermodal service, including appropriate intermodal terminals and service in Northern VA and Lynchburg, for example. As part of this project, upgrade, expand capacity, and link the I-95 and I-81 rail corridors via the Manassas-Front Royal (Riverton) connection.
- Extended TransDominion Express (VRE regional) rail passenger service to Danville and beyond to Greensboro,

N.C.

- Commenced construction on Peninsula Light Rail system in Hampton, Newport News and Williamsburg.
- Begun construction of Hampton Roads' Third-Crossing Light Rail to tie together Peninsula and South Hampton Roads systems, if economically feasible.
- Begun construction of a second, "backdoor" (Route 28 Corridor) rail transit link to Dulles, linking TransDominion Express, VRE Commuter and Regional rail and Amtrak service to the Airport via convenient connections at Manassas.

**By 2021, Virginia Should Have:**

- As a serious transportation planning goal the ability to serve at least 90% of the population of the State with good "world-class" (note 1) rail passenger and/or rail transit services. This goal might be further defined as providing the population "reasonable access" (note 2) to such services.
- Made substantial progress in the area of promoting the development of Light Rail, Regional/Commuter Rail, and/or other appropriate fixed guideway transportation technology in urban regions of the Commonwealth with populations of 250,000 or more (note 3), providing connecting linkage between and among:

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*note 1: For VA HSR purposes, "world class" reflects origin-to-destination ("O-D") trip times equal to, or less than, highway and aviation in range of 250 miles or less, at competitive costs — considering airport parking, hotels, etc.*

*note 2: Reasonable access is defined, for purposes of this paper, as being able to reach rail transit, or inter-city rail terminal, in 30 minutes, or less.*

*note 3: For VA HSR purposes, an "urban region of 250,000 or more" seems best to illustrate and characterize an emerging candidate suitable for rail transit technology; however, the concentration and distribution (proximity) of population to origin/destination nodes is more likely to ultimately determine feasibility.*

- Major Residential Concentrations
- Employment Centers
- Airports
- Inter-City Rail (including High Speed Rail)
- Terminals.
  - Shopping and Entertainment Centers
  - Universities
  - Sporting Event Complexes
  - The traditional Urban as well as Suburban cores
- Promoted and facilitated competitive (note 4) highway/rail intermodal freight service in all major highway truck corridors within, and through, the Commonwealth

(note 5), with shipper/user access available in all major rail-served truck Origin/Destination ("O-D") markets throughout the Commonwealth of Virginia (note 6).

**By 2031, Or Earlier:**

Virginia should be prepared to begin construction of the ultimate 21st Century ground transportation technology system, whether that be High Speed Rail, Mag-Lev or other, in a spine configuration running north and south, probably through the Piedmont Region (refer to map titled "Ultra High Speed" which accompanies this Plan), with full integration and linkage to all previously-served urban areas and regions to include Northern

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*note 4: Highway "competitive" rail intermodal service means, to VA HSR, comparable movement time, a/k/a "transit time," at comparable cost ("cost" being inclusive of rail freight charges, drayage, and extraordinary expense associated with service quality problems, if any), with regularly-scheduled, reliable service offered to and from origins/destinations within a range of 300 to 700 miles, more or less.*

*note 5: Major highway truck corridors would include, but necessarily limited to: I-95, I-85, I-81, I-64, I-75, I-66, Route 29, Route 58, Route 360, and Route 460.*

*note 6: Shipper/user "access" means having the ability to get into and out of the rail intermodal system from and to O/D' north, south and west of the Commonwealth of VA, at/in the major truck O/D regions of Virginia, including by way of example Richmond-Petersburg (including the Port of Richmond), Hampton Roads (both sides and including non-port related traffic as well), Northern VA, the Shenandoah Valley (terminal location to be determined), Lynchburg, Roanoke, Bristol, et. al.*



## Constitutional Prohibition Against Rail Investments By State of Virginia

Often cited by those who would prefer not to share the Commonwealth's transportation resources "pie" with the rail mode, there is indeed a provision in the State Constitution which forbids direct investment of public funds in private railroad companies.

The folklore has it that the subject restriction dates back to the Commonwealth's 19th century experience—often unsatisfactory—with equity investments in the developmental phase of turnpikes, canals and railroads.

VA HSR does not advocate any public involvement in the capitalization, ownership, nor management of any private transportation companies, regardless of mode.

We believe that the public role in transportation—with the exception of transit—should be limited to investment in the development of basic, common infrastructure, promotional activities, and the facilitation of utilization of the network. This is precisely what the Commonwealth does at present with respect to aviation, highway and waterway transportation in Virginia.



North Carolina owns the N.C. Railroad from Raleigh to Charlotte and contracts with Amtrak and Norfolk Southern for operation.

## What a Difference 40 Years Make! A Brief Review of the Recent History of the Rail Mode of Transportation in the United States

The year 1976 marked the 200th anniversary of the United States of America. By coincidence, it may have also marked the low point in the modern history of the rail mode of transportation in the U.S.

Primarily, although not exclusively, as result of U.S. transportation policies and practices, which for the most part were consistently replicated and implemented by state governments, the U.S. rail industry was in general decline in the 1960s. Such policies included harsh penalties negatively impacting the fortunes of the private rail owner/operators; they also favored and generously subsidized highway, waterway and aviation development. By the end of the 1960s, a very large number of private railroads, mostly in the Northeast, but some elsewhere as well, were on some form of "life support."

### The Start Of Amtrak

In 1971 Amtrak was created to relieve the struggling private railroads of the financial burden of providing passenger service to a nation star struck with the availability of interstate highways and commercial jet airline service. Not helpful either was the Post Office's diversion of mail to truck and plane. Once upon a time, there was even a premium postage stamp for air mail; now the regular first class stamp suffices. Worse yet, neither the Interstate Commerce Commission, nor state regulatory commissions would permit the discontinuance of money-losing trains. Many, including the Nixon White House, it is alleged, viewed Amtrak as simply a mechanism designed to close down the intercity rail passenger network, and Amtrak vigorously proceeded to begin to do so, discontinuing overnight more than half the trains which the governments had theretofore not permitted the private rails to shed. No U.S. President since Nixon, represented by their respective Office(s) of Management and Budget, has been willing to give Amtrak adequate political support, but we shall deal with that later.

### The State Of The Railroad Industry After 1970

Shed of their passenger problem, the railroads re-cast themselves as "Freight Railroads." Unfortunately for their shareholders, and for the public at large, it was soon painfully obvious that it was not just the financial losses from passenger operations that afflicted the pri-

vate railroads.

In the Northeast, the notorious Penn Central bankruptcy, and physical plant deterioration, symbolized a more fundamental problem. The so-called freight rail industry, or much of it, was in a state of physical and financial deterioration such that it was increasingly non-competitive with highway and waterway transportation. The railroads, in many cases, simply could not sustain themselves the way things were going. The merger, consolidation and plant rationalization movement gained speed.

Conrail, created out of the ashes of Penn Central, commenced operations April 1, 1976, with the investment of \$7.7

billion of stabilization, acquisition and rehabilitation funding by the U.S. taxpayers.

After a rough startup, Conrail later settled down to resemble something of a financial success, thanks in part to the forgiveness of some \$3 billion in federal loans.

That Conrail was going to be a profit-making enterprise was the prevailing view when, in 1987, the federal government sold its shares of Conrail in a public offering that raised \$1.65 billion before underwriting fees. Conrail also paid an additional \$300 million to the federal government in cash. (See *Railroad Mergers* by Frank N. Wilner.) Thus the cost of flawed public policy, and the absence of long-term, comprehensive transportation planning at the federal level, may be said to have cost the taxpayers more than \$8 billion, net, for the northeastern railroad experience. (Conrail was subsequently acquired by CSX and Norfolk Southern in 1997 for approximately \$10 billion.)

Eventually, it became apparent to the management of Conrail, and to those in the know in the rail freight industry — including the Conrail successors at CSX and NS — that Conrail was no different than any other private railroad.

In simplest terms, there was no way then — and even less today — that a private, for-profit, tax-paying transportation system owner/operator, responsible for

**A for-profit transportation system that pays for the building and maintenance of its infrastructure (the rail industry) cannot compete against a transportation system whose infrastructure is publicly provided (highways, aviation, and water-**

constructing, maintaining, and operating its own physical plant a/k/a "infrastructure," can be an effective and financially-successful competitor with other modes of transportation which enjoy the great advantage of relief from such burdens. Thanks to publicly-provided infrastructure tailored to serve their private commercial requirements, aviation, highway, and waterway users best illustrate the stark contrast.

**The Deregulation Of The Freight Rail Industry**

The Congress, shocked by the Penn Central disaster and sensing that more rail industry trouble was yet to come, effectively washed its hands of the problem. In 1980 they passed the so-called Staggers Rail Deregulation Act.

Widely sought by the freight rail industry, deregulation was much more than a grant of freedom to com-

pete on pricing, one of the most egregious aspects of the old Interstate Commerce Commissions' means of repression practiced against the rail industry, but imposed to much less degree relative to the highway operators. The Staggers Act also gave the rail industry unprecedented freedom to exit markets, to eliminate routes, and to rapidly liquidate physical capacity, much of which had been associated with the formerly extensive passenger train operation.

**The end result has been one of the largest and most devastating losses of transportation infrastructure ever experienced in the U.S.**

**The Result Of Deregulation**

"Downsizing, right sizing, and plant rationalization"

CLASSIFICATION	NUMBER	1999 MILES OPERATED <sup>9</sup>	CLASS I ROUTE MILES OWNED <sup>9</sup>			CLASS I TRACK MILES OWNED <sup>9,10</sup>		
			1960	1980	1999	1960	1980	1999
Class I	9	120,986	207,334	164,822	99,430	340,779	270,623	168,979
Regional <sup>8</sup>	36	21,250						
Local <sup>8</sup>	510	28,422						
<b>Total</b>	<b>555</b>	<b>170,658 <sup>8</sup></b>						
Change in Rail Miles				-42,512	-65,392		-70,156	-101,644
Change %				-21%	-40%		-21%	-30%
			1999 vs. 1960		-107,904			-171,800
					-52%			-50%

Association of American Railroads Statistics <sup>7</sup>

note 7: Source is AAR Railroad Facts Book, 1999 numbers being the most recent available.

note 8: Some previously classified as Class I. In 1955, when AAR Class I threshold was only \$1 million gross revenue, and would have included all "regionals" and many "local" roads, there were 113 such Class I railroads, which owned 224,838 miles of road, comprising 96% of total U.S. rail mileage. Reference is made to Handbook of American Railroads by Robert G. Lewis, published in 1956. Presumably, this means that total rail mileage in 1955 must have been approximately 234,206 which when compared with the 170,658 total 1999 miles operated (above) (not an "apples and apples" comparison) suggests that the 46-year

decline in rail mileage is in excess of 63,545 miles. This is a number of route miles considerably larger than the total route mileage of the 44,000-mile-long U.S. Interstate Highway system, construction of which commenced in the years immediately following the 1956 passage of the "National Defense Highway Act."

note 9: The principal difference between "owned" and "operated" is explained by the fact that some railroads operate over tracks owned by another, pursuant to so-called trackage rights agreements, thus multiple roads "operate" the same mileage.

note 10: Track-miles include second and third track on rail main line routes, as well as yard and terminal trackage used

became high-priority activities within the rail freight industry during the 1980s; some of which continues yet.

Not only did this raise badly needed cash, it eliminated on-going maintenance expense, and also mitigated the pesky problem of track maintenance defect citations which federal and state inspectors increasingly issued, including monetary fines in some cases. In effect, this was but another self-help survival strategy.

Having obtained their long-sought freedom to compete, the freight rail owners/operators found that they really could not successfully compete on service. Thus they were severely limited relative to transportation market share measured in dollars. With rail freight revenue ton-miles (one ton of revenue-generating freight moved one mile) representing upwards of 40% of the total domestic surface transportation market, the rails could only bring in something less than 10% of the transportation market dollars available. They were increasingly marginalized, often becoming "carriers of last resort"!

To make matters worse, the more they downsized, the more the freight rails found that they were not in a position to offer truck-competitive service, which further deprived the rails of the opportunity to grow the top line and ultimately the all-important bottom line as well. The U.S. freight rail industry has an unenviable record of not being able to consistently earn its cost of capital; thereby, limiting its private financing options.

The end result of all of the foregoing has undoubtedly been one of the largest and most devastating

losses of national transportation infrastructure ever experienced in the U.S.

Certainly, some of what was lost was truly redundant, at least for that moment in time. Plants close, mines are worked out, industry changes, towns decline; all of which happens. Moreover, it is most assuredly not the purpose of this Plan to allege any impropriety by the executives of the freight railroads (although there were surely some serious business mistakes made in the process).

The tragedy is that nowhere in the public policy realm was there any evidence of broad public-interest and concern about future needs, which we shall see are now confronting us.

What might be the approximate replacement cost of rail infrastructure lost due to abandonments since 1960?

- If — and this uses the Class I comparisons on the preceding page — 107,904 owned-miles of rail routes were lost between 1960 and 1999 (which would include those routes downgraded from Class I to Regional and Local status), and if the replacement cost of such infrastructure averaged \$1.5 million per mile (note 11), the imputed replacement cost would be approximately \$161.9 billion.

To this must be added "track" ownership losses, net after deducting the primary, first main tracks (notes 11 and 12), which yields another 63,896 miles at an average of \$0.75 million per track mile—another \$47.9 billion.

- Combining the two estimates above, but excluding

**Nowhere in the public transportation policy was there any evidence of broad interest about**

*note 11: Current planned, or completed, publicly-funded rail infrastructure projects in Virginia appear to have costs associated with them ranging from \$1 million to \$4 million per mile of rail route. Thus, it would seem conservative enough to use a low average of say \$1.5 million per mile. Second track, yard and terminal trackage, can be expected to run \$0.75 million per track mile, often more.*

*note 12: It has been assumed here, that the AAR "owned-mileage" includes one main track, and that the "track-miles owned" total include such first main track. Therefore, the 1960 vs. 1999 totals were adjusted to net out (and hopefully not double count) the loss of such trackage. The net difference, in our calculations, turned out to be 63,896 miles, to which the estimated replacement value, of \$0.75 million per mile, was applied, yielding \$47.9 billion.*

*note 13: Due to wide variations in value of real estate, which is all location-specific, and because so much of that which conceivably might need to be re-acquired is in urban areas, where subsequent re-development might well make re-acquisition virtually impractical, no attempt has been made in this survey to estimate the "re-assembly" cost of lost rail right of way. Unfortunately, freight railroads often sold off parcels from within a linear rail corridor at a nominal value, whereas the re-assembly cost, even assuming it is possible to put the corridor back together again, will likely be much greater than the value received by the prior railroad owners. In light of the foregoing, it would not seem to be overly aggressive to speculate that the cost of re-assembling right of way, in many situations, will equal, and perhaps sometimes exceed, the cost to re-deploy operating infrastructure on such right of way.*

## What Was Going On in The Commonwealth, 1960–1999?

Notwithstanding a series of railroad mergers dating back to the N&W acquisition of the former Virginian Railway in 1959–1960, Virginia has perhaps fared slightly better than some other states, particularly those in the Northeast and Midwest. We cannot say, however, that the Commonwealth has escaped the phenomenon of rail downsizing or plant rationalization.

Those included: the Atlantic Coast Line/Seaboard Air Line Railroad merger into Seaboard Coast Line (“SCL”) of 1967, the Chessie-Seaboard merger (CSX) in 1981, the Southern-N&W (NS) combination that followed shortly thereafter, and numerous other outright abandonments, some of peculiar and

**At least \$1.6 billion of rail infrastructure has vanished from Virginia over the past 40 years.**

potentially questionable public interest (as opposed to the legitimate private-sector interests of the freight railroad owners). The Commonwealth’s interests were neglected in the abandonment of the Washington and Old Dominion; the SCL (CSX) “S” Line from Centralia in Chesterfield County to the N.C. State line, parallel to I-85; and the former ACL/SAL/CSX Dunlop-Pocahontas (Petersburg Appomattox Station) link, critical to Richmond-Norfolk “Cannonball” route passenger service.

*Please see map “Downsizing Of Virginia’s Rail System” on the next page.*

### What Was The Cost Of Downsizing In Virginia?

VDRPT records of Virginia route-mile abandonments from 1970 to 1999 indicate a total of 732 miles of railroad disappeared from the map of the Commonwealth. Adding an arbitrary 100 miles for 1960–1969, which we believe to be conservative, (most of which would have been associated with the N&W-Virginian and W&OD transactions), would bring the total up to around 832 route-miles at \$1.5 million per mile (refer to note 11) which suggests that the replacement cost of this infrastructure might be in the

area of \$1.248 billion.

To this must be added the loss of second and third track, including but not limited to:

Track	Estimated Distance
C&O (CSX) Richmond to Newport News	50 miles
N&W (NS) Petersburg to Bluefield	150 miles
Southern (NS) Manassas to Danville	200 miles
SCL (CSX) South Collier to N.C. line	40 miles
RF&P (CSX), Franconia to Potomac River	15 miles
Other, not specifically located	45 miles
Estimated 2nd, and 3rd track removal	500 miles

Total Estimated Cost \$375 million

*The cost is estimated at \$0.75 million per mile (refer to note 11 on page 12)*

It would appear quite reasonable to speculate that at least \$1.6 billion of rail infrastructure has vanished from Virginia over the past 40 years.

To put the “Derailing” and “Re-Railing” of Virginia in context, consider the following comparison of some specific projects currently under consideration:

Projects	Estimated Cost
• Restoration of Dunlop/Pocahontas/Appomattox connection, and other restorative/enhancements between Centralia and Petersburg	\$100 million
• Restoration of the CSX “S” line, South Collier to N.C. line, a/k/a the Southeast HSR Corridor along I-85	\$225 million
• High Speed Rail down the Peninsula/I-64 Corridor	\$200 million
Total of incomplete list of projects	\$525 million

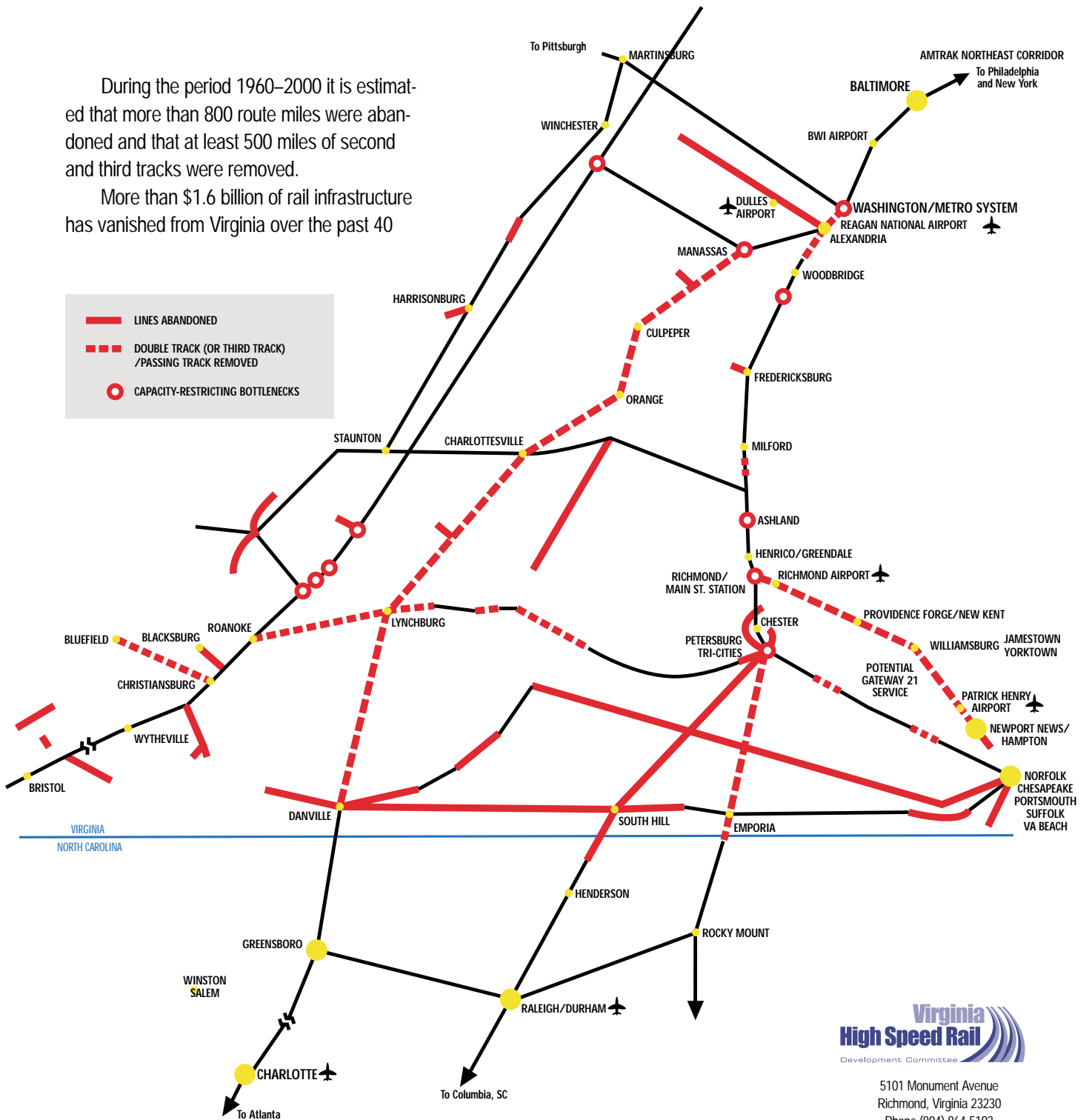
The foregoing, partial, list of projects, totaling \$525 million, would appear to:

- validate the “cost” of Virginia rail infrastructure losses to date, and
- make a powerful statement about the high cost of inadequate transportation planning in Virginia!

# The Downsizing Of Virginia's Rail System

During the period 1960–2000 it is estimated that more than 800 route miles were abandoned and that at least 500 miles of second and third tracks were removed.

More than \$1.6 billion of rail infrastructure has vanished from Virginia over the past 40



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## Why Worry About Spilled Milk; Don't We Simply Need To Go Forward?

"Yes, indeed," we need to move forward.

However, very little — if any — of that which VA HSR envisions as being necessary and desirable to accomplish in Virginia or elsewhere can be converted from vision to reality without the full cooperation and support of the two major freight railroads in Virginia, CSX and Norfolk Southern.

To successfully enlist the cooperation of CSX and NS, one must understand where they have been in history, including their well-founded, deep-seated, lack of trust and confidence in the public sector here in the Commonwealth and elsewhere.

Current rail renaissance efforts quickly confront the reality that the U.S. rail network has been trans-

formed. Rail used to have common carrier status — serving all comers, doing all things and being all things to all people. For the most part, U.S. rail is now a vastly scaled back, specialized mover of heavy, low-value cargo.

CSX and NS present a good public face regarding their ability to remove trucks from the highway, but the fact of the matter is that their rail routes often lack the attributes necessary to adequately handle truly high-performance

service of the type necessary to accommodate and grow either intermodal or inter-city passenger rail services, especially High Speed Rail.

### Moving Forward! How Do We Get Started?

The challenge is for CSX and NS to acknowledge their infrastructure limitations in the face of their business development aspirations. At the same time the Commonwealth of Virginia must make up its mind (as a matter of public policy)

to avail itself of the opportunities presented by rail. We need to get busy and forge the type of joint public-private partnership which is

consistently championed in virtually all other transportation and commercial sectors of the State's vast economy. The current and former governors have supported this type of public-private partnership.

As we move through this Plan, we shall endeavor to deal with many specific issues standing in the way of, or at least inhibiting, the type of public-private partnership alluded to in the preceding paragraph.

*Before resuming the point-by-point discussion of issues, it may be helpful to delve further into rail modal components:*

**Little of which VA HSR envisions can become reality without the full cooperation of the two major freight railroads in Virginia.**

**CSX and NS promote their ability to remove trucks from the highway, but their rail routes often cannot handle high-performance service for intermodal or inter-city passenger services, especially High Speed Rail.**

## Elements of the Rail Mode of Transportation AMTRAK

The National Railroad Passenger Corporation ("Amtrak") (provider of inter-city passenger rail service): Created by act of Congress and launched in 1971, Amtrak is perhaps the most misunderstood and most maligned "carrier" in the surface transportation arena. In the early years, there was never a long-term business plan for Amtrak. It inherited a huge problem from what we now know as the freight railroads.

Although participation was voluntary, all but a handful of the railroads signed on to rid themselves of losses associated with operating passenger trains. Ultimately, all of them joined. In consideration of being relieved of the passenger train problem, the railroads made substantial cash payments, sold equipment to Amtrak, and entered into a long-term operating agreement.

Amtrak immediately reduced the number of passenger trains operated in the U.S. by about one half. Early staffing of Amtrak, both at the executive and management levels, was primarily done with non-railroad personnel, presumably on the theory that the railroads did not know what they were doing in the first place. Results were not good, either in service quality or financial terms.

Many billions of dollars of Federal funding have subsequently gone into Amtrak; however, none of it was supported by a long-term, public policy nor plan for creating a business, to be operated on the same basis, and with the same level of public commitment, as exists with regard to Amtrak's primary competitors: highways and commercial aviation.

U.S. Senator Richard Shelby (R. AL) was recently quoted as saying that Amtrak was a bad idea in 1971, and that it is a bad idea still! Some observers have expressed the view that those in the Nixon Office of Management and Budget, in the Federal DOT, as well as in the Congress, expected Amtrak to fail; indeed, hoped for its demise. Unfortunately for the naysayers, Amtrak has enjoyed substantial political support, and if anything is gaining in that regard.

On the face of it, Amtrak's current operational dimensions are impressive:

- A 23,000-mile route system, serving more than 500 stations, handling approximately 22 million inter-city passengers annually, and generating about \$2 billion in operating revenues, including those from mail and express, etc. Amtrak is indeed a big business.

- Amtrak is even larger than it seems, because Amtrak's 25,000 employees handle, in addition to the inter-city transportation cited above, an even larger number of commuter trips, approximating 58 million annually, under contract operations provided for commuter authorities, such as Virginia Railway Express.

- Amtrak does lose money, by any of the numerous methods of quantifying, or "spinning," the financial results, but then so do many airlines from time to time, and especially at the present time. (Currently many of the major commercial air carriers in the U.S. are sustaining large operating losses, yet federal funds continue to flow uninterrupted into the aviation infrastructure development program,



with no profitability mandate imposed. At this writing, Midway, based in Raleigh, has just announced its filing for Chapter 11 bankruptcy protection.)

Billions of dollars have gone into Amtrak without a long-term plan for creating a business which is operated in the same basis as its competitors.

Impressive numbers notwithstanding, the stark reality is that Amtrak is just barely a national passenger rail system! The long distance routes operated by Amtrak are most often nothing more than minimal services, connection the primary regions in which Amtrak maintains a credible presence. Some long distance train routes have less-than-daily train frequencies. The average Amtrak passenger trip is about 250 miles, which means that relatively few passengers are crossing the country. Even the long-haul Amtrak trains are "short haul," "on-and-off" propositions. This is not necessarily bad. In fact, these long haul routes serve many stations not otherwise served by other carriers. They also have the added advantage of touching many political jurisdictions along the way, including states, counties, towns and cities, which when combined politically have an enormous amount of political clout.

Amtrak is, by our estimation, competitively-present in about four substantial inter-city rail passenger markets in a credible way, with everything else being those long, thin strings of service, which bring it all



together. The four major concentrations of service presence by Amtrak are: (i) Northeast Corridor (about 53 % of Amtrak's passenger miles ), (ii) California, (iii) the Pacific Northwest, and (iv) the emerging Chicago hub of regional service spokes.

Unfortunately for Amtrak, it owns only about 750 miles of its 22,741 route-mile system, the majority of such owned routes being the Northeast Corridor. We say "unfortunately" because, in the operating world of railroading, what one owns is often all that one can effectively control, for purposes of service quality. Amtrak's differences with the freight railroads, which own virtually everything else, are legend!

The other side of the ownership issue is obviously the burden of maintaining and operating rail infrastructure, which many would characterize as the "Achilles Heel" of rail competitiveness vis-a-vis other, non-rail, modes of transportation. One of the interesting political maneuvers dramatically impacting Amtrak's financial fortunes was the assignment by U.S. D.O.T. of the Northeast Corridor ("NEC") to Amtrak, on April 1, 1976, in connection with the creation of Conrail. Many informed observers believe this was a deliberate act to spare the then- fledgling Conrail the financial burden of rehabilitating the massive, but antiquated, Corridor.

In any event, the Northeast Corridor, we now know, is something of a black hole itself, with current estimates of capital expenditures necessary to cure deferred maintenance, and to replace aging infrastructure, estimated to be as much as \$20 billion over 25 years. Ironically, Amtrak the owner, operator, and party responsible for maintaining the NEC, is a minority user of NEC infrastructure. Regional rail commuter services are the dominant users, followed by Amtrak inter-city trains, plus some freight rail operations via trackage rights access.

(Of the 1200 trains operated daily on and over the NEC, only about 100 are Amtrak inter-city trains!)

While it has, in recent years, been gaining riders, increasing revenues and reducing operating losses, Amtrak is marching rapidly toward a new crisis; namely, the Congressionally-mandated requirement to achieve operating self-sufficiency by or before the end of the year, 2002. This requirement arose out of a 1997 grant of \$2.2 billion of capital funding. As part and parcel of that bargain, Congress — again feeling fairly certain that Amtrak could not become operationally prof-

itable — simultaneously established the so-called Amtrak Reform Council to monitor Amtrak's performance and prescribe an appropriate solution to the problem in the event the Reform Council concludes that Amtrak will not achieve the imposed goal.

In its initial, preliminary report, issued earlier this year, the Amtrak Reform Council concluded that Amtrak would not likely achieve the profitability mandate, and issued some possible alternative restructuring concepts for further debate. The most radical, yet perhaps fundamentally sound, proposition is to separate Amtrak from the rail route infrastructure ownership burden, e.g. NEC, and simply let it operate as a user of someone else's infrastructure. Great theory, this is; however, yet to be answered is who would own and operate the NEC, for example, and where would the funding come from to bring it up to appropriate standards of design, renewal and on-going maintenance?

Also yet to be explained by the Amtrak Reform Council is how Amtrak would fare any better than they have to date — which is poorly indeed — as users of the freight rail infrastructure over

which Amtrak operates

most of its service. The problem being, as we have seen earlier and will discuss further in subsequent sections of this background paper, is that much of the so-called freight rail network is in need of capital investment not dissimilar to the NEC.

Another piece of the Amtrak inter-city passenger rail, High Speed Rail, infrastructure discussion is the current High Speed Rail Investment Act (S250, HR2329) legislation pending before the U.S. Congress. We will deal with that critical matter in a subsequent section.

All of this brings to the forefront the question, for Virginia and for the Nation: Should Amtrak be saved? Can it be?

Even Amtrak senior management would concede that the corporate structure, mission, service demands, funding mechanism and congressionally-mandated profitability goals are inconsistent, unsound and unrealistic. But in a similar vein, no one seriously contends that Amtrak is meeting the needs and expectations of the American traveling public, nor the taxpayers. Something must change, and soon! On the other hand,

**Amtrak's strategic resources must not be lost in any forthcoming restructuring.**

## Amtrak in Virginia

The Commonwealth of Virginia — which has done very little, if anything, to assist Amtrak — is nonetheless a major beneficiary of relatively good (by comparison with some other states) Amtrak service. Currently, Amtrak operates more than 20 daily trains in Virginia, serving 19 stations, and boarding/detraining almost 1 million passengers annually. (See list of stations and passenger activity on map "Rail Passenger Service In Virginia" which accompanies this Plan). Not included are another 2.4 million VRE passengers.

Unlike some other states, such as North Carolina, the State of Virginia has no operating contracts with Amtrak providing financial incentives for the provision of service. In fact, Virginia directly benefits by the operation through the Commonwealth of several trains which are partially supported by the State of North Carolina. Were Amtrak to go out of business, which it is unlikely, Virginia would be a big loser!

It should also be noted that 7 pairs of the trains Amtrak operates through Virginia are of the long-haul variety, which Amtrak critics such as Senators McCain

(R. AZ), Gramm (R. TX) and Shelby (R. AL) criticize repeatedly.

Finally, and as noted above, Amtrak has one very important bargaining chip for use with the freight railroads; namely, the 1971 operating agreement which gives Amtrak access, under certain terms and conditions, to the routes owned and operated by the likes of CSX and NS. It would be most unfortunate if this were lost in any restructuring of Amtrak. In fact, and in consideration of more generous and appropriate public investment in rail infrastructure on freight-owned rights of way for freight and passenger purposes, there may be an opportunity to negotiate an even more mutually-satisfactory document.



New York State Turboliner (left) sits aside an Amtrak locomotive at the HSR Expo.

# Rail Passenger Service In Virginia - FY 2000

## Amtrak Annual Ridership by Station in Virginia

STATION	RIDERS ON AND OFF			COMMENTS
	FY 91	FY 99	FY 00	
Alexandria	95,909	77,568	79,650	VRE impact?
Ashland	3,326	10,342	10,150	Pay to park at Staples Mill?
Charlottesville	44,361	34,698	35,857	Amtrak reservations problem?
Clifton Forge	2,755	3,821	3,303	Three trains per week, each direction!
Culpeper	4,168	2,207	2,332	One daily train, each way + irregular
Danville	4,133	3,776	3,731	One train each way: Midnight and 4 A.M.
Fredericksburg	36,411	29,627	29,032	VRE impact?
Lee Hall	2,968	-	-	Stop discontinued
Lorton	222,966	236,627	259,540	Auto Train
Lynchburg	12,466	11,957	11,651	One train each way: 11 P.M. and 6 A.M.
Manassas	6,443	4,879	5,181	VRE impact?
Newport News	65,352	156,949	157,186	Two daily round trips + irregular additional
Norfolk	21,567	15,848	14,693	Bus connection from Newport News
Petersburg	31,282	19,677	19,763	Late, undependable trains south of RIC
Quantico	14,883	10,175	10,058	VRE impact ?
Richmond	252,793	251,384	253,426	
Roanoke	2,724	-	-	Bus connection to Clifton Forge discontinued
Staunton	4,495	4,196	3,810	Three trains per week, ea. Direction!
Virginia Beach	12,586	11,079	10,624	Bus connection from Newport News
Williamsburg	34,033	49,139	47,726	Additional train service. See Newport News
Woodbridge	-	5,940	5,166	New VRE Station served by Amtrak
State totals	875,621	939,889	932,879	

Notes: FY 91 from VDRPT. FY 99 and 00 from Amtrak. Compiled by RLB of VA HSR. Comments by RLB.

### VRE Passengers Handled — FY 2000

Manassas Line	1,157,637
Fredericksburg Line	1,241,751
<b>Total VRE Passengers</b>	<b>2,399,388</b>

## Top Amtrak Boarding/Detraining Points in Virginia

RANK	STATION	RANK	STATION	RANK	STATION
1	Richmond	7	Fredericksburg	14	Manassas
2	Lorton (Auto Train)	8	Petersburg	15	Woodbridge
3	Newport News	9	Norfolk	16	Staunton
4	Alexandria	10	Lynchburg	17	Danville
5	Williamsburg	11	Virginia Beach	18	Clifton Forge
6	Charlottesville	12	Ashland	19	Culpeper
		13	Quantico		



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## Elements of the Rail Mode of Transportation The Freight Railroads

How the mighty have withered and, in some cases, fallen! The surviving Class I freight rail operators (operating revenue in excess of \$258 million annually) in the U. S. are dominated by the current big four, namely, Burlington Northern Santa Fe ("BNSF"), CSX, Norfolk Southern ("NS") and Union Pacific ("UP"). The Class I's, as a group, dominated by the so-called "big four," currently have less than 10 % of the truck-rail domestic freight market, measured in dollars of revenue. The market, by various estimates, is thought to be in the range of \$500 billion, or more, whereas all of the Class I's combined can only account for about \$33 to \$35 billion of freight revenue, of all types!

Executives from the freight rails like to boast that they handle about 40% of the nation's freight cargo,

measured in revenue ton-miles. At the end of World War II, the comparable figure was approximately 69%, which still understates the severity of the rails' problem, because in 1944-45 the railroads handled much, if not most, of the high-value cargo moved in the U.S. and, presumably, might have been expected to be participants in "premium" services due to their then-strong competitive position,

rather than serving as carriers of "last resort" as is now regrettably often the case.

As noted elsewhere, this unhealthy situation has resulted in a general failure on the part of the freight railroads to be able to consistently earn their cost of capital, a well-documented fact. This was publicly acknowledged, and lamented, by Richard Davidson, Chairman and CEO, of Union Pacific, in the April 27, 2001 edition of the Wall Street Journal: "We're still not earning our cost of capital both as a company and an industry."

The understandable reaction of rail freight CEOs, is to seek to cut costs in the face of market penetration disappointments. Labor is an obvious target. In 1955, the U.S. rail industry had 1,239,000 employees, compared with only 255,000 in 1999, the Class-I's only 178,000!

Next comes infrastructure and, as we have already seen, the physical route and plant structure has been vastly down-sized.

Arguably, the only thing that has saved the rail

freight industry thus far, if one can consider that it has been "saved," is COAL. According to the Association of American Railroads ("AAR"), coal represented almost 44% of tons originated by the Class-I's in 1999. Even this understates the significance of coal because most of the growth of coal haulage has been from origins in western states, which usually necessitates very long trips from mine to power plant, some now reaching up to 2000 miles. This compares with much shorter, typically 250 to 500-mile, hauls prior to



A typical intermodal facility which links rail service to highway trucks and/or to shipping ports.

the advent of low-sulphur coal shipments to the east and south. Were we able to segregate revenue ton miles associated with movement of "captive-customer" (the freight rails hate this term!) western coal, and subtract that mileage from total revenue ton-miles reported by the industry, we feel certain that the decline in rail freight participation in more competitive markets would be shockingly low, when compared with decades past.

Intermodal traffic on the freight rails has grown dramatically since the 1960s, when it was launched in earnest by the Class-I's. The reported count of trailers and containers handled has almost tripled in the years since 1980. Once again, all is not as it meets the eye. In order to overcome service quality deficiencies, the freight rails generally have to so deeply discount their so-called intermodal business as to make much of it marginal at best. Rail industry insiders will often concede that there is insufficient revenue involved with intermodal, as it is operated today, to justify much, if any, new investment. Nevertheless, investment in intermodal facilities continues to be made.

Two current news items bracket this point.

Perhaps the foremost operator of premium intermodal service among the "big four" is BNSF, which within the past year has sharply curtailed its investment in expanded infrastructure to accommodate intermodal growth. More recently, the July 25, 2001 edition of the Wall Street Journal quoted BNSF President and CEO Matt Rose as saying his company needs to boost prices to help justify continued investment in the company's rail network.

**"We're still not earning our cost of capital both as a company and an industry."**

Richard Davidson, Chairman and CEO, Union Pacific

Wall Street Journal  
April 27, 2001

Rose went on to say that “the company is examining the productivity of its 33,500 miles of rail-road routes... if we conclude we need to downsize our system, we will not hesitate to do that.”

The following day’s *Journal* (July 26) quotes Norfolk Southern CEO David Goode. Announcing the opening of a major freight terminal outside of Atlanta, Goode stated that the new Atlanta terminal represents the final piece of a \$400 million network of new terminals, tracks and clearance improvements to handle so-called intermodal freight, which represents “the railroad’s best hope of competing with trucks.” The *WSJ* article further stated that NS plans to start running additional intermodal trains connecting the Southeast and Northeast in August (2001).

“This is what’s necessary for us to achieve our goal of increasing the amount of business we move from highway to rail,” Mr. Goode stated. Analysts (NY/Wall St.) said, in the same *WSJ* article, that completion of the network, which also includes new intermodal terminals near Cleveland and Harrisburg, PA, will provide an important test of Norfolk Southern’s strategy. “Intermodal is a major growth engine for them, and it’s time to put the plan in action,” said Jill

Evans at J. P. Morgan Securities, Inc. in New York.

Both Norfolk Southern and CSX, in their multi-volume 1997 filings with the Surface Transportation Board relative to their joint application to acquire Conrail, made aggressive claims relative to the resulting ability of the two acquiring companies to take trucks off the highway. The two railroads combined estimated that almost 800,000 truckloads could be diverted to rail intermodal annually. Whether or not all, or even any portion, of this anticipated diversion has ever been accomplished is a question worthy of asking. Neither road has, to our knowledge, specifically quantified their success, or lack thereof, to date. In any event, with annualized north-south truck flows through Virginia estimated to be five million or more, it is fairly obvious that the \$400 million NS program, described in the July 26, 2001 *WSJ* article is but a modest step. Can NS (and

CSX) capture more highway traffic than they have targeted? It is doubtful without public participation in the funding of rail infrastructure.

Yet another dimension of the rail intermodal market picture is length of haul and ability to capture market share. Conventional thinking in most rail circles is that rail intermodal can only be successful, as an effective competitor with highway, on hauls of 750 miles or more. Rail spokespersons have cited the relative success of BNSF in capturing a very large share of the highway-competitive market between the West Coast and Chicago (claims made to have captured as much as 75% of the “defined” market), with less success by Conrail (prior to CSX/NS acquisition of same) between Chicago and New York (25 to 30% estimates) and extremely low levels of rail intermodal market penetration (less than 10% range is probably an aggressive guess!) in the north-south traffic lanes represented by I-95 and I-81 through Virginia.

Given that the largest proportion of highway/truck hauls is in the range of 100 to 500 miles, there simply has to be some fundamental change in the competitive arrangement – both financial and operational – if rail intermodal is to offer much, if any, relief in east coast urban corridors, of the type represented by the Virginia Interstate routes.

One obvious way to begin to shift the fulcrum is to level the public participation playing field such that rails receive something akin to highway-user financial support for the construction, maintenance and operation of basic infrastructure.

Another approach — best attempted in conjunction with the above-described public-private partnership approach — is with innovative rail intermodal technology, of which several types are in development and service, including the NS Triple Crown™ “road-railer,” a modified CP-type shuttle, a reincarnated “*Iron-Highway*” system, or other.

Increasingly obvious to the outsider is the apparent similarity of the declining fortunes of both freight and passenger rail operators. This appears to be true financially, as well as physically. Capacity limitations constraining growth are often one in the same on many

### **Increasingly obvious is the apparent similarity of the declining fortunes of both freight and passenger rail operators.**

### **Capacity limitations constrain growth and impede the development of both freight intermodal business and passenger service.**

routes, impeding the development of both rail freight intermodal business as well as inter-city passenger rail services.

While Amtrak has never been particularly easy to live with, operationally speaking, the freight rails have, in all too many situations, gone out of their way to antagonize Amtrak and to unnecessarily limit its potential for success.

One of the arguments made by the freight rails generally is that of passenger train interference with freight. It can happen, it does happen, but this needs to be put in proper perspective. Combining Class I freight

train miles operated with Amtrak train miles operated, one can readily determine that Amtrak trains, across the county, represent but about 6.5% of the total. Amtrak operates 34,079,619 train miles versus the freights' 490,442,000 (per AAR Facts Book, 1999 statistics). Surely, it takes more that this small fraction of passenger train operations to bring about the type of disruption which

**The cure: publicly-funded capacity enhancement, higher levels of operating discipline, and a willingness to partner for the common good.**



The CSX "S" Line approaching Richmond's Main Street Station. Note the previous track removal.

## Elements of the Rail Mode of Transportation

### Commuter Rail

As the term would suggest, Commuter Rail tends to be a one-way in (usually to work), and one-way out, morning/evening, people-mover system which utilizes conventional rail infrastructure and equipment. Expensive to implement, but not nearly so as light rail, nor heavy rail, commuter rail has been around for a century, or more. Originally provided without public subsidy by the private rail operators in many major metropolitan areas (even in Virginia, RF&P, C&O, N&W, Southern, the old Norfolk Southern, and others, including the late Washington & Old Dominion, provid-



ed some level of commutation service!), commuter rail became an intolerable financial burden to the private rails, with the decline beginning in the late 1920s and continuing up into the 1950s and 1960s with the highway-induced trend

away from public transportation to single-occupant auto commutation.

Most commuter rail service was gradually dropped by the railroads, except in the larger cities of the east (Boston, New York, Philadelphia) and Chicago as well as San Francisco, all of which established public authorities to acquire rail routes via purchase or operating agreements and continue the operations, many of which have been dramatically improved and expanded over the last several decades, notably the Chicago Metra system, the Long Island, Metro North, N.J. Transit, Southeast Pennsylvania (Septa), etc.

In recent years there has been a strong revival of commuter rail, with new starts in places as unlikely as Miami, Dallas, Los Angeles, Seattle, etc. Closer to Virginia, the Maryland Commuter Rail operation ("MARC") evolved as a public-sector successor to rail commuter services previously operated out of Washington, D.C. via the old Pennsylvania Railroad to Baltimore and beyond, and by the old B&O to Baltimore and points west of DC.

The Commonwealth of Virginia's new entry into commuter rail, Virginia Railway Express ("VRE"), was launched in 1992 with service between Fredericksburg

on one route, and Manassas on the other, to Alexandria, Crystal City, L'Enfant Plaza and Washington, D. C. Union Station, pursuant to operating agreements with Norfolk Southern and CSX (originally Southern and RF&P), but utilizing its own VRE locomotives and cars. Amtrak is the "operator" from the standpoint of operating crews, maintenance, service of equipment, etc. However, VRE has developed its own very competent operating management, marketing and customer service functions.

Accordingly, it is fair to say that VRE is, in fact, the "operator." Currently handling up to 12,000 passenger trips per day, VRE is one of the fastest growing commuter rail operations in the nation, and is generally regarded as a model for others to emulate.

Commuter rail track/system infrastructure is either publicly-owned, as in Boston, New York, Philadelphia, Miami, Los Angeles and Chicago, or accessed by means of agreement with the freight rail owners, which as noted above is the case with VRE.

Tensions between commuter rail operators (and patrons) and freight rail "hosts" can often run very high over the allocation of limited capacity, and the priorities of trains (dispatching). In

this regard, barring some current incident, we can proudly note that the once stormy relationship between VRE and CSX appears to have settled down to one of mutual respect and cooperation; again perhaps a model for others elsewhere.

Where possible to utilize existing rail freight rights of way, but usually requiring substantial public investment in capacity augmentation, this model has potential.

Currently, commuter rail studies and planning are on-going in many regions, including Atlanta, Nashville, Charlotte, and others.

More will be said elsewhere about the potential afforded by VRE. With proper planning, restructuring of sponsorship, cost-sharing responsibility, etc., VRE has

**The once stormy relationship between VRE and CSX appears to have settled down to one of mutual respect and cooperation.**

**VRE has the potential to serve the regional passenger rail needs of other urban areas in**

## Elements of the Rail Mode of Transportation

### Heavy Rail Transit

Heavy Rail Transit is the term generally associated with dedicated, electrified, urban, high-tech, rapid rail people-mover systems, usually involving extensive tunneling under the built environment in and around major cities, thus also referred to in some instances as subways. The ultimate in urban rail transit, heavy rail has limited application due in part to the extraordinary cost of inserting such new systems into the urban fabric. Of equal, or greater, consideration is the question of funding. No such modern systems appear to get built without an unusually high Federal grant of funds. In short, heavy rail transit is out of the reach of most



Heavy rail systems, like the MetroRail in Washington, D.C., have the enormous advantage of being able to efficiently handle huge volumes of people. But heavy rail is the most expensive urban rail system to construct.

urban areas, unless it already exists.

Fortunately for Virginia, and thanks in part to a substantial and on-going commitment of the Commonwealth's financial resources, we have one of the very best

heavy rail transit systems in the nation; namely, the Washington Metropolitan Area Transit Authority ("WMATA") MetroRail System ("Metro" as it has come to be known).

Metro serves much of Northern Virginia, but not enough. Currently, plans are in development to extend Metro to Dulles Airport. However, the failure of planning to date to anticipate and provide for appropriate access to the future Dulles Metro line from and to Reagan National Airport, Crystal City, Alexandria, and points south along the I-95 corridor (including Fredericksburg, Richmond and Central Virginia), raises serious concerns which need to be addressed.

By far the most expensive of urban rail transit systems to construct — considerably more so than light rail — heavy rail systems have the enormous advantage of being able to efficiently handle huge volumes of people. While critics have railed (no pun intended)

against the cost of such systems, they represent the type of urban infrastructure investment which only a very forward-looking, and very populous, metropolitan area can justify. Heavy rail is a defining commitment by the sponsoring cities/regions to urban mobility as well as economic and social vitality.

Heavy rail systems are not just for commuters. Consider the Washington Metro in downtown D.C. or at Pentagon City at noon time. It is full of people going to luncheons, doing some shopping, attending their next business appointment, or enroute to National Airport to catch a flight — moving from point to point for every other conceivable purpose. Once established, a system such as the DC Metro becomes an integral part of the life of the region. For those who travel to, or reside in, or have business "inside the Beltway," consider where the region would be today (including negative impact upon those individuals who do not use Metro!) were it not for that 1960s era commitment to develop Metro?

Metro has a development future as well as a past. One of the criticisms often heard from the Fairfax/Prince William land-development interests is that for all the billions of dollars already invested, a relatively small percentage of total regional trips in a given day are made by Metro, most others being via single-occupant auto. In response to this, one must consider that Metro was initially designed and built to serve the traditional hub/spoke pattern of urban commutation, with the District of Columbia being the urban core. Forty years later, most of the region's trips are among and between urban nodes which have developed "outside the beltway," and not usually directly served by Metro. Accordingly, the next round of Metro development will, in all probability, need to be circumferential in nature. This next phase also presents the possibility for further integration of both inter-city as well as regional and commuter rail with Metro at transfer points such as the impressive Fairfax County transportation center at Springfield.

Outside of Washington, the only totally new heavy rail transit systems built in the U.S. in the last half



## Elements of the Rail Mode of Transportation Light Rail

Light Rail is on the tongues of many these days who have never seen it or ridden it; however, it is of great, and increasing public interest. Not to be confused with "rapid rail," high speed rail, nor commuter rail, and certainly not in the league with heavy rail transit, light rail represents a revival, of sorts, of the urban and suburban "streetcar" systems which disappeared in the late 1940s and 1950s from most U.S. cities (Richmond lost its last streetcar in 1949, for example).

While the current models for new light rail systems utilize very high-tech equipment and systems, and cost very large sums of money, there are also a sub-set of light rail restoration projects which utilize a much lower-tech, lower-cost, version of the old fashioned street car. In some cases these "vintage" trolley cars are brand new, but sometimes constructed to esthetically replicate the old.

In either case, the new, or restored, "light rail" systems are relatively expensive because they have to be "surgically" inserted into the built urban environment which, in most cases, has evolved over 50 years, or longer, with no thought, nor plan, of a fixed guideway people-mover system. Without exceptionally good advance transportation and urban development planning, to anticipate light rail, it is probable that the cost of a new system is less for the rail, cars and power supply systems, than for the urban infrastructure retrofit. Good long-term transportation planning is everything!

Light rail is widely acclaimed for both the enhanced mobility which it provides, as well for the urban renewal it stimulates. Where it is available, people are flocking to new light rail systems. They like it, and they use it! Happily, users appear to be fully representative of the entire community, not just those with

no other mobility option. St. Louis, a severely depopulated center city, is a prime example. Other modern light rail systems may be found in Baltimore, San Diego, Dallas, Denver, Salt Lake City, San Jose, and Portland, OR. Light rail project design is under way in Raleigh/Durham, Charlotte, Orlando and elsewhere. The "old-fashioned" street car operations, referenced above, may be found, among other places, in Memphis, Little Rock, Charlotte, New Orleans, Dallas, Tampa, San Francisco, and Portland, OR.

Associated with "smart growth," light rail systems, if developed ahead of, or even in tandem with, urban growth patterns appear to be somewhat effective in shaping growth corridors in such a way as to simultaneously promote economic development and reduce the dependency of the population on the single-occupant auto. For whatever reason — most probably because of the perceived "permanence" of light rail infrastructure, in contrast with bus routes — developers and others feel comfortable gravitating to such corridors.

No light rail exists in Virginia. Norfolk and other jurisdictions in Hampton Roads have light rail plans in various stages of development. Richmond is the only major city on the proposed Southeast High Speed Rail Corridor which does not, as yet, even have an adopted "vision" of its light rail future. Richmond has had, for years, a concept of a

### No light rail exists in Virginia.

### Richmond is the only major city on the proposed Southeast High Speed Rail Corridor which does not have an adopted "vision" of its light rail future.



This is an example of modern light rail in the U.S.

## Elements of the Rail Mode of Transportation High Speed Rail

High Speed Rail ("HSR"), as perfected in Europe and Japan, does not yet exist in the U.S.

The closest thing in America to European-style High Speed Rail may be found in the Amtrak Northeast Corridor ("NEC"), where the new Acela Express trains are currently being phased into service.

Acela Express trains look and feel like their European cousins, technologically speaking; however, the Amtrak HSR trains are restricted to 150 m.p.h., maximum speed, not because of the trains themselves, but because of the antiquated nature of the NEC infrastructure. A



High speed rail as it exists in Europe and Japan is not available in this country. Major physical improvements are needed to the rail infrastructure here.

few short sections which have recently been modernized and upgraded, primarily north (east) of New Haven on the Boston line, permit 150 m.p.h. operation. However, much of the NEC

between Washington, D.C. and New York, and on to Boston, is restricted to 130 m.p.h. and slower.

While the popular reaction is to assume that U.S. (Amtrak and freight rail) "tracks" are bad, that is generally not the case. U.S. railroads are safe, for the speeds permitted. Track maintenance on major Class I routes, and certainly on the NEC, is as good or better than ever.

The problem is with bridges, tunnels, curves ("civil," as in civil engineering), and electrification/power supply (also known as the "catenary" system).

In the case of the civil problems, many of these

basic infrastructure elements are, or are approaching, 100 years old. Other than routine preventative maintenance, and in some cases on-going "band aid" maintenance, virtually nothing of consequence has been done; that is, no new civil investment, in the New York to Washington, or "south end," of the NEC for many, many years, because nobody had any money to do it, then or now!

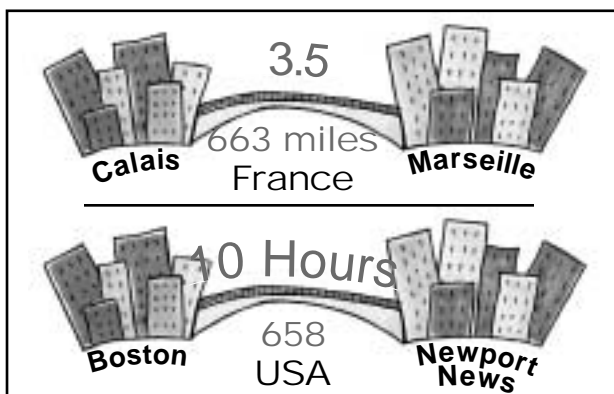
Of the south end catenary system, that which is south of Wilmington, DE, is perhaps the "newest," having been installed by the former Pennsylvania Railroad in the early to mid-1930s as a depression-era, Reconstruction Finance Corp. project.

Amtrak Acela trains will be a success, in terms of attracting additional business, but they will not succeed in demonstrating to Americans the potential for European-type HSR service until major physical improvements are made to the NEC.

Again, as noted elsewhere, it has been estimated by Amtrak, and the Federal Railroad Administration ("FRA") that as much as \$20 billion may be required over the next twenty-five years to bring the NEC up to the standards which would be appropriate for operation and marketing of true High Speed Rail service. Here again, it is important to recognize that far less than half of that large number is attributable to the needs of Amtrak inter-city passenger trains, both HSR and conventional



The Acela train is America's version of high speed rail. It is currently being phased into service in Amtrak's Northeast Corridor.



The French ran a train from Calais to Marseille, a distance of 663 miles in approximately 3-1/2 hours, averaging 190.76 m.p.h. For Amtrak to run the same distance (about the distance from Boston to Newport News) it would take 10 hours, with an average speed of around 64 m.p.h.

Amtrak. Most of the money is necessary to accommodate ever-expanding regional commuter services, and some relatively small proportion for freight.

To put U. S. "high speed" in perspective, relative to Europe, consider that on May 26, 2001, the French ran a test train, one of their world-acclaimed TGVs, from Calis to Marseille, a distance of 663 miles (approximately the same as Boston to Newport News) in three and one-half hours, averaging 190.76 m.p.h. Were we (Amtrak) to seek to emulate that feat, which we probably couldn't if we tried, it would most likely take about ten hours, more or less, which would be approximately 64 m.p.h. average. More later, and elsewhere, within this background paper on U.S. rail vs. Europe.

Nevertheless, and for good reasons, HSR planning and development is advancing in many regions around the continental U.S.

#### **Current High Speed Rail Projects In The U.S.**

- **EMPIRE CORRIDOR** Outside the Northeast Corridor, New York state, in conjunction with Amtrak and CSX, is investing in trains and infrastructure in the so-called Empire Corridor, which joins New York City to Albany, thence across the state via Syracuse and Rochester to Buffalo.

- **MIDWEST REGIONAL RAIL SYSTEM** Perhaps the Nation's most ambitious rail initiative outside of the NEC — at least in mileage, is an initiative of the states of Illinois, Michigan, Ohio, Indiana, Wisconsin, Minnesota, Iowa and Missouri, in conjunction with Amtrak and, of necessity, the freight railroads in the region. A proposed 3,000 route-mile network of higher-speed — and ultimately high speed — rail passenger service would radiate, as spokes from a hub, from Chicago. This four to five billion dollar project, which has significant momentum and political support, is well advanced in planning. In fact, some improvements are already underway in certain corridors.

- **KEYSTONE CORRIDOR** Pennsylvania has its Keystone Corridor project, in conjunction with Amtrak, which owns part of the route. Initially, the rehabilitation and upgrading of the Philadelphia to Harrisburg (Amtrak) route segment is planned, to include faster and more frequent rail passenger connections between that

state's capital city and the core of the NEC at Philadelphia. Ultimately, improvements to the route and service enhancements would extend all the way to Pittsburgh, in cooperation with NS and Amtrak.

- **MAINE** Not high speed, but very significant, the state of Maine has pushed for, partially financed, and otherwise facilitated a project to restore rail passenger service between Boston and Portland, in conjunction with Amtrak, but over and in spite of the unprecedented opposition, indeed legal harassment, of the owner of the rail line in question, Guilford Transportation Industries. Despite Guilford, which will also benefit from the upgrade of its route, service is expected to commence sometime in 2001. Maine has even more ambitious plans for further extension of rail passenger service to other points within the state.

- **CALIFORNIA** Perhaps nowhere in the country is there a larger and more advanced state rail passenger program than in California, the land of the "freeway". Space limitations preclude a full description of what has been done to date, including the new Surf-Liner service between San Diego, Los Angeles and Santa Barbara, etc., as well as vastly expanded rail service between Sacramento and the San Francisco Bay area, plus the Central Valley. All of the foregoing exists; it is operational, attracting large increases in riders and, of special significance, is fully coordinated with rail and bus feeder/connector services throughout the state. In March of 2001, California announced a new, 20-year, \$10.1 billion passenger rail improvement plan, which has been formulated in cooperation with Amtrak, BNSF, and others.

- **SOUTHEAST** In the Southeast (excluding Florida, for a moment), the states of Virginia, North Carolina, South Carolina and Georgia took the lead in formulating a plan for a Southeast High Speed Rail Corridor ("SEHSRC"), which has since received a major boost from the business communities of the region, under the auspicious the chambers of commerce from Atlanta to Richmond, plus Hampton Roads and numerous others

**Amtrak Acela trains will be a business success, but they will not succeed in demonstrating the potential for true high speed rail until major physical improvements are made to the NEC.**

representative of the region. The Atlanta Chamber-led Southeast Economic Alliance announced late in 2000 that the SEHSR Corridor would be their first top-priority advocacy project. Although the precise scope of the SEHSRC continues to evolve, it will certainly include a spine of HSR service extending from Washington, D.C. to Atlanta, with stops in all on-line major metropolitan areas. The 700 mile +/- spine of the SEHSRC might cost \$3.0 billion to \$5 billion, or more, (detail design has not yet been done for many segments of this route) whereas "guesstimates" of a more comprehensive, say 1200-mile, Southeast rail network, resembling

**High Speed Rail will be defined by competitiveness with auto and aviation travel, not by top speeds. It's not how fast you go, it's how long it takes to get**

the Midwest Initiative, could escalate the total cost to \$7.5 billion or more. Note, the SEHSRC "spine" through Virginia would include DC-Richmond/Hampton

Roads, thence south to the NC line. Estimates cited above are more or less inclusive of Virginia projects, which will be dealt with in more detail elsewhere.

• **FLORIDA** This state is in its own orbit, or so it seems. After spending the better part of a decade planning a true, European-style, high speed rail project, to link Tampa, Orlando and South Florida, Governor Jeb Bush killed the program upon taking office several years ago, claiming it was too costly. Then to the amazement and consternation of the "in power" state political establishment, voters in the infamous November 2000 state election, reacted positively to a referendum on the question, approving it with 57% of the popular vote. As a result, the Governor has since signed a bill, which came out of the state legislature, creating a high-speed rail authority charged with designing a statewide HSR system. Most likely, the first

component of such a system will be an Orlando-Tampa link along the median of Interstate 4. In addition, Amtrak and the State DOT are said to be continuing to formulate plans for expansion and improvement of more traditional rail passenger service. Recent agreement with the Florida East Coast Railway will permit Amtrak to restore rail passenger service down the East Coast, which has not seen such service since the early 1960s.

• **CASCADES RAIL CORRIDOR** In the Pacific Northwest, the *Cascades Rail Corridor* project, although not as ambitious in some respects as some of the others, is of particular interest and relevance to Virginia and the Southeast. Quoting liberally from a recent Amtrak publication: To address growing congestion at regional airports and along the I-5 economic and population corridor, work has been underway for over seven years on the 466-mile Eugene-Portland-Seattle-Vancouver (BC) line to reduce trip time and add new passenger service, which now features the widely-acclaimed Talgo "tilting" trains, thus permitting comfortable transit over a curving route at higher speeds (passengers using the new service have nearly doubled since it was initiated). The two states, Washington and Oregon, together with Amtrak and two freight railroads, Union Pacific and BNSF, as well as local communities and businesses, are reported to have, in the aggregate, committed over \$550 million to the joint project. The total program, which not only provides inter-city rail passenger service, but also enhanced rail freight service to the ports, and commuter rail operations linking airports, is projected to cost \$2.1 billion over the next 20 years. Of special interest to Virginia is the cooperative, "win-win" relationship which the *Cascades* planning team seems to have struck with all users, and parties having an interest. This continues to assume the aspects of a model for further investigation by the Commonwealth



## Will High Speed Rail Stop Here?

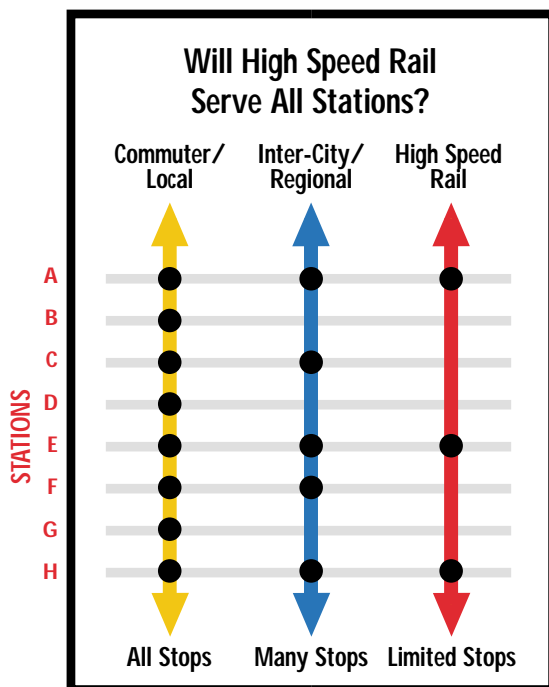
Upon learning about the promise and potential of High Speed Rail, citizens understandably want to know if their community will be served by the new fast trains?

Clearly, not all fast trains can stop at all stations on every run without severe degradation of schedule performance.

Presumably, high speed rail service will be available at all major urban core terminals (hopefully multi-modal), as well as at many "edge cities" and commercial airports.

As envisioned by VA HSR, Virginia's future network of high-performance rail corridors will ultimately permit multiple layers of rail passenger service, as illustrated below.

The desired result would be such that the number of points served by regional, local and commuter rail trains can be increased significantly, thus providing convenient access to the next closest station served directly by High Speed Rail trains.



Although high speed trains will make only a limited number of stops (otherwise they would not be very fast) the several tiers of service, including inter-city/regional and local/commuter (where available) should afford connections to high speed train service for most patrons on a given route.

## What About Maglev?

### Referring To Magnetic Levitation Of A Passenger-Carrying Vehicle On A Fixed Guideway

Maglev technology promoters reappear periodically (as they have since about 1960) to assert that they have the answer to our national requirements for high speed ground transportation for the 21st century. Someday —perhaps soon — they may prove to be correct, but their mission in life has repeatedly been thwarted, time and time again, by inordinately high development costs, and by recurring technical challenges.

To the best of our knowledge, there is not yet—after decades of research and development, and promotional effort—a functioning inter-city maglev operation in commercial service anywhere in the world.

The promise and potential of maglev should not be minimized. The theoretical appeal of maglev is seductive, but the reality has thus far proven to be much less than hoped for by maglev proponents.

American Maglev Technology, Inc., together with a private/public partnership, which includes \$7 million of public funding by the Commonwealth of Virginia, and reportedly a like amount from Dominion Virginia Power, Lockheed Martin, et. al., is currently attempting to prove their point(s) in Virginia. Old Dominion University (“ODU”), in Norfolk, is host to a pilot project consisting of a mile-long elevated guideway. There, it is claimed, American Maglev will demonstrate that their system can be constructed and operated, satisfactorily, at an “affordable” cost.

Even if the ODU demonstration project proves to be successful, the spokesman for American Maglev is reported to have stated that such a system would cost about \$15 million per mile—more than three times the cost of the type of High Speed Rail system envisioned for Virginia in the next two decades.

Many questions remain to be addressed—going beyond technology issues and construction costs. For example: How would maglev be fully integrated with other modes of transportation? How would the public react to the elevated guideway—potentially an intrusive

element on the landscape, especially in urban areas. Would enough people use maglev (obviously the super-high-speed would be a tremendous draw) to pay the high initial cost to develop?

Nevertheless, it is the position of VA HSR that maglev research and development efforts should be supported and continued. Maglev may, indeed, turn out to be the high

speed ground transportation technology deemed most appropriate for the second and third decades of the new century. However, it is highly unlikely that maglev will be commercially feasible except in

a limited number of high-volume corridors. More traditional High Speed Rail, inter-city passenger rail, regional and commuter rail—all connected with urban transit systems—will certainly be essential elements of any comprehensive system of modern ground transportation.

For these reasons, it is desirable that transportation planning and project development in the Commonwealth of Virginia pursue all technological options which appear to be practical, economically feasible, and commercially viable, without setting aside or foreclosing any of these possibilities in the future.

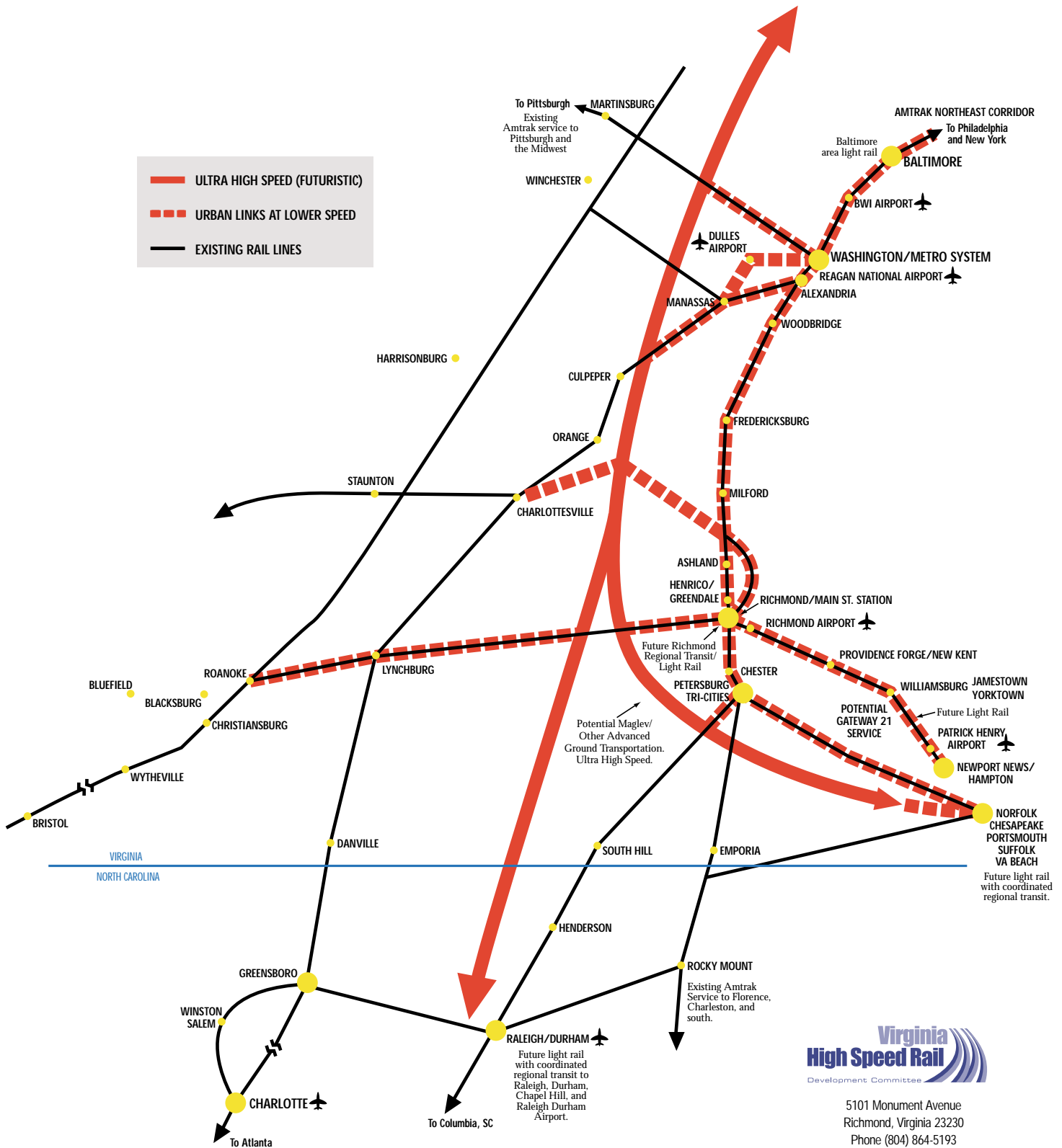
But, we should not hold traditional High Speed Rail hostage while awaiting the fulfillment of the promise of maglev—it may never arrive, and more importantly, we will need all types of transportation resources to meet our future needs.

Refer to the accompanying schematic, prepared by VHSRDC, which illustrates how maglev, or TGV-type, very-high-speed ground transportation technology might be employed in Virginia.



The potential of maglev should not be minimized. However after decades of effort, there is not yet a commercial inter-city maglev system in service anywhere.

# Virginia's Future High-Performance Rail Corridors



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## Freight Rail Mergers

Nothing in domestic commercial surface transportation has been quite so disruptive and traumatic over the last three decades as rail mergers.

Railroads have been merging and consolidating almost from the beginning. Originally, the motives were fairly straight forward; namely, to gain a "franchise," to increase market share, to achieve economies of scale, to eliminate duplicative routes and services — all with the hope and expectation of increasing profitability.

The shipping carton, consisting of approximately eight volumes, which Norfolk Southern and CSX jointly submitted to the Surface Transportation Board in 1997, Finance Docket No. 33388, undoubtedly contained

### Virginia can expect to see further merger action involving its two home-based railroads, CSX and Norfolk Southern.

some of the best, most detailed information ever seen, but the results of projections made by the management of these two companies turned out to be overly aggressive. This

most recent experience does not inspire confidence on the part of the public, relative to the next, and final, round of freight rail mergers.

Rail mergers over the past three decades, to be considered "successful," must be evaluated in the context of defensive actions taken by their owners in what has become a war of attrition. To dodge the bullet, and to continue the strategic withdrawal a few more years has, all too often, been the mark of success.

Otherwise, can any rational observer point to any quantifiable benefits seen to date in Virginia as result of the CSX-NS acquisition of Conrail? Any increase in jobs, taxes paid, rail service — either frequency or quality?

We hasten to point out, that our purpose is not to condemn the freight railroads for merging, or desiring to do so; our lament is with the circumstances, public in nature, which require, or inspire, rail freight CEOs to take such action, except in cases where it does, in fact, make good business sense, as most business people would define that.

As noted earlier in this paper, the U. S. rail freight industry is now down to the final "big four": BNSF, CSX,

Norfolk Southern and Union Pacific.

Two rules of thumb come to mind in attempting to anticipate rail mergers. First, the financially weak tend to be acquired (but not always), sometimes two or more weak "brothers" band together in the hope of putting up a better appearance. Also, any property with a CEO nearing retirement is a candidate for a merger transaction.



Virginia can expect to see further merger action involving its two home-based railroads, CSX and Norfolk Southern. The Commonwealth needs to anticipate and otherwise prepare for this eventuality which, most likely, will not bode well for the State.

All too often in the past, the Commonwealth has been surprised by rail merger proposals, then promptly "co-opted" by a seductive high-level executive blitz, the result being that the Commonwealth's legitimate, long-term transportation interests were quickly subordinated to CEO (both State and Private) "chemistry."

Virginia needs to know, in advance, what it wants from any future rail mergers. The State needs to start now, developing a draft compact to be entered into as a condition of supporting any future merger, backed up with some callable "collateral."

For starters:

- Rail service to Virginia's ports must be given a degree of priority largely taken for granted in the past.
- Industry in Virginia must never again be subjected to the commercial indignities, not to mention expense, of having to endure poor, merger-related rail freight service.
- And passenger services must be assured a status equal to that which the Commonwealth and its citizens have a right to expect.

The public interest is simply too great, and too much of the State's economy is at risk, to have the chief executive of the Commonwealth, or his secretary

## ISTEA, TEA 21, and "Next TEA" National Transportation Policy Largely Omits RAIL

As we understand it, the Intermodal Surface Transportation Efficiency Act of 1991 ("ISTEA") was intended to be inclusive of all forms of surface transportation, but things did not work out that way. Rail was effectively excluded.

So far as we can determine, no clear-cut, affirmative support was directly assigned to the inter-city rail mode of transportation, neither freight nor passenger.

One thing that ISTEA did was to require the performance of Major Investment Studies ("MIS") in those situations where several modes are involved, ostensibly to insure that Federal transportation dollars were being well spent. In other words, the MIS process was supposed to look at the broader picture in a given corridor, for example, and to consider modal options beyond highway, or if rail transit were being considered, to consider highway. (The MIS requirement was subsequently eliminated in TEA 21.)

Where the MIS process was actually used (in practice, it appears to have been overlooked by state DOT's as often as it was observed), very interesting findings often came out of these studies. A case in point is the I-64 MIS here in Virginia.

ISTEA, and its successor, TEA 21, did provide a modest funding mechanism for various and sundry non-highway projects, including bike paths, and historic restoration projects which, by a stretch, could arguably

be construed as transportation related. For example, the Science Museum of Virginia was able to get hundreds of thousands of dollars in grants to restore, for museum

purposes, railroad tracks which had been abandoned and removed a quarter-century ago. But the same logic did not extend to Amtrak operating facilities, where the public could actually board a train! Note: these tracks at the Science Museum of VA served beautifully, in the fall of 2000, as an operating display for rail equipment brought in for the Southeast High Speed Rail Conference & EXPO.

TEA 21 followed in 1998, as the "reauthorization" successor to ISTEA. For Virginia, the big gain was a larger "return" of the percentage of "gas tax" dollars

back to the State, which heretofore had felt itself, and indeed was, in the class of a "donor" state (it still is!). Nothing of consequence changed with respect to rail. The table below, based on information published by the National Association of Railroad Passengers ("NARP"), reflects Federal priorities, as manifested in funding, among the various modes of transportation:

### 2002 Transportation Funding Compared with Previous Years Appropriations (\$ billions)

Administration	1999	2000	(Bush Request)	
			2001	2002
Federal Highway	\$27.08	\$28.80	\$31.42	\$32.30
Federal Aviation	9.81	10.00	12.01	13.30
Federal Transit	5.39	5.80	6.27	6.70
Federal Railroad	0.79	0.74	0.73	- <sup>15</sup>
Amtrak <sup>14</sup>	0.61	0.57	0.52	0.52
<b>Total</b>	<b>\$43.07</b>	<b>\$45.34</b>	<b>\$50.43</b>	<b>\$ -<sup>15</sup></b>

*note 14: Amtrak is included in Federal Railroad Administration, as is any and all freight railroad funding, which is minimal.*

*note 15: At the time NARP worked up the foregoing, total Federal Railroad Administration funding could not be ascertained, but the Amtrak component was known, thus no total was possible.*

### Below is shown the entire "railroad" (excluding rail transit) allocation, as a percent of total:

	1999	2000	2001	2002
Rail percentage of Federal Transportation Budget:	1.83%	1.63%	1.45%	?%

(excluding rail transit, which is included in Federal Transit)

To the public's question: Why can't we have European-style High Speed Rail, and why can't we get the trucks off the highway? The above presentation should suffice. We get what we fund!

Fortunately, these "TEA" bills come up for re-authorization every six (?) years, and 2003 may be the year for the next round, which provides another opportunity for those who desire to intervene to have their say. Obviously, those who believe that rail should play an expanded role in moving cargo and people need to be heard, and this includes the Commonwealth of Virginia.

But before leaving Federal transportation funding, and especially the "sanctity" of transportation "trust" funds, several additional bits of information may be help-

**Why can't we have European-style high speed rail? Why can't we get the trucks off the highway?**

**We get what we fund!**

ful.

The so-called highway trust fund did not exist at the Federal level until 1956. In the 50 years prior to that, there certainly were "gas" taxes collected at both state and Federal levels of government; however, it is generally accepted that all levels of government poured financial resources into the politically popular development of the highway system, in excess of fuel tax collections. There was nothing wrong with that; indeed, it was appropriate. It was likewise appropriate when in 1973, Congress tapped the highway trust fund to permit states to use up to a quarter of their "highway money" for mass transit, even the right to substitute a mass transit line for a proposed new "freeway" if the Federal authorities approved. (Washington, D.C. did exactly that with Metro being the result). It would logically follow that the time is at hand when inter-city rail projects — both freight and passenger — ought to have the right to access these same funds. This is where the MIS process could, and should have been strengthened (rather than eliminated) and used to quantify costs and benefits, both financial and otherwise, of making various modal infrastructure investments in a given transportation corridor. A prime agenda item for "NEXTEA," it would seem.

Aviation interests, as well as those who cover their issues (the Wall Street Journal, for example), almost always fail to disclose that several billion dollars, or more, of the Federal Aviation annual budget come from the general fund, not from aviation-related taxes. We have heard this explained as the Federal Government's recognition of the fact that the military is

a significant user of the air traffic control system, etc., however, we have never heard of these funds coming from the Department of Defense ("DOD") budget. All of this is extremely difficult to unravel. We do know, when we think about it, that commercial aviation is a major beneficiary of numerous "non-transportation" spending programs, including NASA, DOD (consider the yet-to-be successful Marine Corps "Osprey" vertical take-off and landing airplane, at one billion dollars per copy, for the ten built to date [three have crashed!], et. al). Once again, it is not our primary role here to be critics of public policy, as long as it is uniformly applied. But if it is in the interest of the U.S.A., from a safety, welfare, defense and emergency-preparedness perspective (hurricane evacuation, etc.), shouldn't it follow that public policy support, including funding, of the rail mode is no less justified?

Why, in the context of a background paper on a proposed Virginia Rail Plan, should one dig in so on Federal matters? The answer should be clear enough, simply by reason of the nature of transportation and its interstate compatibility characteristics. There is another, less obvious, explanation. The Federal Government is increasingly the dominate funding source, as well as the corresponding controller of plans and specifications, terms and conditions, of new construction. Note that in 1996, Federal funds supported 35% of Virginia highway construction, whereas four years later, in 2000, the Feds underwrote 60% of the cost. Refer to James W. Atwell's recent analysis, prepared for the Commonwealth Transportation Alliance.

Whatever is done in the General Assembly of the

## The Commonwealth's State Rail Policy, Can anyone find it?

If there is a positive, comprehensive, statement of intent by, and on behalf of, the Commonwealth of Virginia, relative to development of the rail mode of transportation, it has eluded us.

Perhaps the closest thing was a statement of policy, adopted by the Commonwealth Transportation Board, on July 19, 1990, in the context of the creation of a rail "preservation" program, to purchase, rehabilitate and preserve rail corridors otherwise subject to abandonment. The adopted resolution states that the Board considers railways and rail corridors to be important elements of the statewide transportation system. Going on, the Board resolution affirms that the Board considers the acquisition, lease, and improvement of railway lines and facilities, or provision of assistance to appropriate entities, to be for the common good of the Commonwealth.

Sources at DRPT tell us that the above-described rail "preservation" program currently has a \$3 million annual budget. However, virtually all of this is spent on marginal short line maintenance and operations rather than on critical trunk line capacity enhancements.

In addition, there is the State "Rail Access" program, patterned after the long-standing highway industrial access program, which annually administers a modest program to fund, or assist with funding, new rail access to new or expanding industry in Virginia where new investment and new jobs are being created.

Otherwise, to the extent that we can ascertain, there are essentially no regularly-funded rail programs of the Commonwealth, except for the administration of

Federal funding for grade crossing safety, and for distribution of Transportation Trust Fund (VA) grants for rail transit, which we believe to be limited to Metro and VRE, both in Northern Virginia.

Of significance and encouragement are the unprecedented appropriations for rail projects which were part of the Virginia Transportation Act of 2000:

Approximately \$65.7 million for rail infrastructure in the DC-RIC Corridor, \$9.3 million for the so-called TransDominion Express, and \$10.0 million for VRE express service/expansion.

But all of the foregoing VTA2000 appropriations were one-time grants from the general fund and elsewhere and not from any transportation trust fund sources.

According to Jim Atwell, in his November, 2000 Analysis of Virginia's Transportation Needs, prepared for the Commonwealth Transportation Alliance, the State's record of investment (of State dollars) in new transportation construction projects since 1990 is as follows (about \$1 billion per year):

### State Construction Spending Since 1990

Highways	\$9,000,000,000	88.1%
Ports	\$283,400,000	2.8%
Airports	\$145,500,000	1.4%
Transit, including Metro & VRE	\$791,400,000	7.7%
Inter-City Rail, Passenger & Freight	\$ 0	0.0%
<b>Total</b>	<b>\$10,220,300,000</b>	<b>100.0%</b>

We need to persuade the next Governor and the

## Where Transportation Dollars Come from, and How They are Disbursed, here in the Commonwealth of Virginia

State transportation tax revenues come primarily from the following sources: Motor Fuels Taxes, Vehicle Registration Fees, Vehicle Sales and Use Tax, and the General Sales Tax (see chart below). These funds are subjected to a fairly complex allocation process, as between maintenance and new construction, but the basic modal distribution is as follows:

Highways	78.7%
Inter-City Rail (passenger and freight)	0.0%
Transit	14.7%
Aviation	2.4%
Ports	4.2%
Total	100.0%

There has been no adjustment to the tax rates on transportation revenue sources since January 1, 1987; however, the general sales tax portion benefits from the inflationary trends in the overall economy. While the 1/2% factor remains constant, the cost of goods and services continues to rise; thus, revenue from the general sales tax constitutes an ever-increasing share of

the Commonwealth's transportation revenue support program.

This trend toward greater dependency upon non-transportation sources of revenue for transportation purposes accelerated with the Virginia Transportation Act of 2000, which is generally viewed as poor fiscal policy, relative to transportation; however, in times of good general revenue collections it is an appealing option.

**The general sales tax constitutes an ever-increasing share of Virginia's transportation revenue support program.**

To illustrate, in 1986 almost all of Virginia's transportation budget came from transportation-related tax sources, as compared with approximately 23% in the current year.

From the revenue-starved rail sector, perhaps this could be viewed as good news; it gives the fuel tax protectors less argument to deride allocations of State revenue to rail. However, almost everyone seems to be in agreement that every mode should, over the long

<b>Sources of State Transportation Tax Revenues</b>		
SOURCE	TAXES/FEEES	APPROXIMATE MILLIONS PER YEAR
Motor Fuels Taxes	17.5 cents/gallon (autos) 19.5 cents/gallon (trucks)	\$800
Vehicle Registration Fees	\$26.50	\$200
Vehicle Sales and Use Tax	3%	\$500
General Sales Tax (no transactional relationship to transportation!)	1/2% (the half cent on the basic 4.5%)	\$400
These sources produce an aggregate amount approximating		\$1,900

## Cost Responsibility Allocation, The Issue Virginia Can't Bring Itself to Confront

Fuel taxes are not "user fees," as the system is presently structured. Although the term *user fee* is loosely applied to highway fuel taxes, for example, it is an inaccurate application of the term. Almost no class of vehicles pays fuel taxes in direct proportion to the costs associated with that particular type of vehicle's proper allocation of the cost to construct, operate and maintain ("user cost") the highway system. These are taxes, pure and simple.

Although there is wide disagreement regarding the correct cost responsibility allocations, virtually every study and every report issued to date has concluded that automobiles subsidize trucks and buses.

How onerous this cross subsidy is on the general public, as noted above, is a legitimate point of debate, but common sense leads one to conclude that the truck and bus subsidy, borne by the general public, is quite large.

Quoting from a July 16, 1979 report to Congress, produced by the U.S. Comptroller General:

"Although a five-axle tractor-trailer loaded to the (then-) current 80,000-pound Federal weight limit weighs about the same as 20 automobiles, the impact of the tractor-trailer is dramatically higher. Based on Association (referring to The American Association of State Highway and Transportation Officials ["ASHTO"]) , and confirmed by its officials, such a tractor-trailer has the same impact on an interstate highway as at least 9600 automobiles."

The 1991 VDOT report on vehicle cost responsibility (SJR 121), Senate Document No. 26, concluded that (in part):

"The revenue-to-cost ratio for personal vehicles was 1.06. In a \$1.5 billion program level, automobile owners would pay \$66 million more than they occasioned, and approximately that same amount would not be collected from vehicle classes that generate the cost. This example assumes that all revenues and costs are user-based and general sales tax revenues are not included" Note: The current "program level" in 2001 is reported to be approximately \$3.273 billion, thus the auto subsidy of trucks and busses, would presumably have increased by a factor of more than two.

Since the 1970s, 1980s and 1990s, trucks have gotten more numerous, truck speeds have increased (speed is a major contributor to bridge damage, for

example), and weight limit exceptions, by permit and otherwise, have grown in proportion to the total truck movements.

In a report just issued this year, by the Secretary of Transportation, the "SJR-55 Study," relative to "The Potential for Shifting Virginia's Highway Traffic to Railroads," Senate Document No. 30, it was reported that, in connection with the on-going I-81 projects, and potential rail diversion studies related thereto, as regard to pavement:

"The deterioration of pavements is primarily a function of truck axle loads and environmental forces."

"Based on the heavy truck factors shown in Exhibit 6, the weighted-average marginal pavement cost is approximately 19 cents per truck mile."

"A preliminary estimate suggests that all federal and state user fees — including motor fuel taxes, heavy truck user fees, and vehicle and tire excise taxes — are just less than 14 cents per truck-mile."

Thus this report's conclusion appears to be that, considering pavement costs alone, nothing being attributed to initial construction cost responsibility, the truck subsidy is approximately 5 cents per truck-mile.

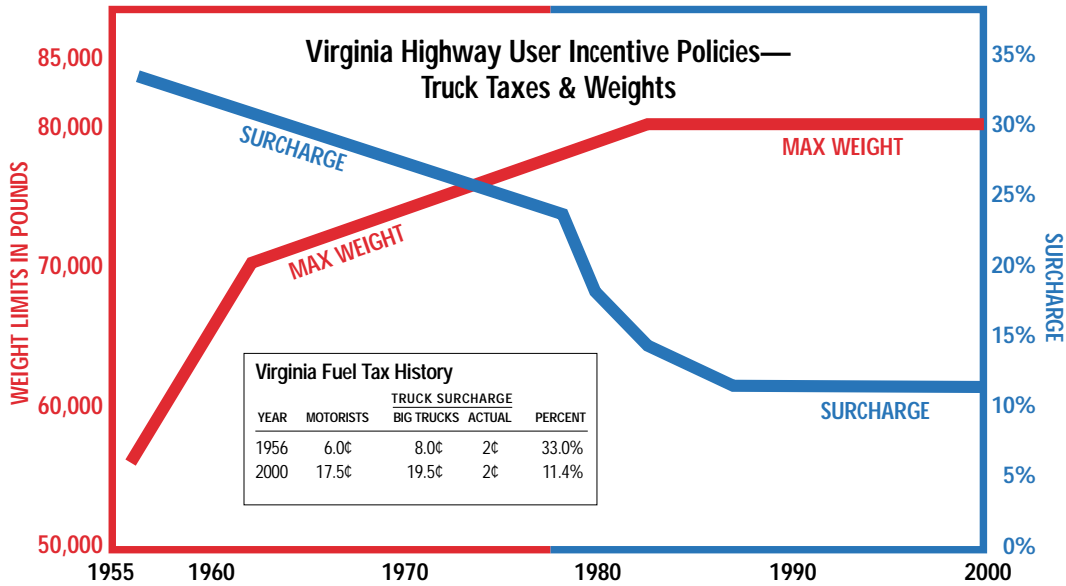
If — and this is an assumed number — Virginia has 10 million truck moves annually (currently there are up to 3 million such truck moves per annum on some sections of I-81 alone) which average 200 miles in haul, this would produce 20 billion aggregate truck-miles, at 5 cents per mile; thus an imputed subsidy of about \$100 million annually, before cost of new construction.

Due largely to the political pressure of the highway interests, the General Assembly of Virginia has, thus far, found itself without the necessary resolve to confront the truck subsidy issue. For example:

In 1956, when the basic State fuel tax was only 6 cents per gallon, the big trucks paid a 2-cent surcharge, roughly 33-1/3%. At that time, maximum truck weights were 56,800 pounds.

Today, forty-five years later, with the basic State fuel tax rate at 17.5 cents per gallon, the same 2-cent surcharge is still in effect on the trucks, having not

**Virtually every study and every report issued to date has concluded that automobiles subsidize trucks and buses.**



been increased at all, thus representing only a 11.4% premium. However, during this same period of time, maximum gross weight limits have been increased to 80,000 pounds, a “free” boost in productivity of over 40%. Please refer to graph “Virginia Highway User Incentive Policies–Truck Taxes & Weights.”

There is also a significant State subsidy program, relative to aviation, and particularly general aviation.

**We must encourage public-policy makers to support inter-city rail in the same manner they have supported other modes of transportation.**

Many general aviation airports exist around the Commonwealth that are underutilized. Millions of dollars of State funding has gone

into these facilities, whereas tax collections from aviation are very small; most of the State investment having come from the general public — not the users.

None of the foregoing is intended to serve as a call for action against the highway interests, nor general aviation, or others. The purpose is to simply begin to quantify the magnitude of “unfunded-by-users” support provided by the Commonwealth for the benefit of modes other than rail. Although we may differ with it from our own, special interest perspective, our motivation here is simply to attempt to inform and otherwise encourage public policy makers and other leaders in the Commonwealth to be supportive of inter-city rail to the same extent, and in the same manner, as by past

## Why Haven't The Rails Done More to Help Themselves?

It is often said that public policy makers, i.e. "politicians" have such a short time horizon in mind as they seek to do the work of their constituents; namely, the time remaining until the next election. The situation is even worse for chief executives of public corporations. They live from quarter to quarter; certainly from one annual meeting to the next. And the rules applying to the game they play are established by Wall Street. It is very difficult to formulate and execute long-term plans, especially those which impose short-term "pain" in consideration of long-term "gain," when the stock analysts are beating on one's back! True, commercial aviation CEOs, and trucking CEOs likewise face the potential wrath of the "street," but only railroads have their own infrastructure to finance, construct, maintain and operate.

When things go bad, economically speaking, in the airline industry, this is not translated into an immediate curtailment of important infrastructure projects requiring capital investment (orders for new aircraft perhaps excepted). Similarly, when an economic downturn saps the earnings of truckers, the national highway program is not curtailed; it is being expanded as we

**The public sector must embrace rail transportation as a National asset, and make public policy and investments accordingly.**

write this.

Earlier, in another section of this Plan, mention was made of the progressive leadership of BNSF, chaired by Rob Krebbs.

Last year Krebbs was

publicly chastised by Wall Street for investing too much capital in his railroad, to expand capacity and to grow the intermodal freight business. The "street" wants results, and they want it now!

Therefore, we cannot expect to look for much bold leadership from the big four of the rail freight

industry. We can hope for it, but cannot count upon it.

The revival, expansion and full development of the rail mode of transportation will, inevitably, have to come as an initiative of the public sector. If it is deemed to be in the public interest, and if public leaders take the initiative, it will get done. If not, we will witness a slow, painful continuation of the disinvestment and liquidation of the rail mode of transportation — a path we should not allow ourselves to follow.

The problem is that the longer-term public interest of the nation, and that of the Commonwealth, versus the nearer-term financial objectives of the freight CEOs — both corporate and personal — are often not aligned. Somehow, some way (and we do not pretend to have the precise answer) those interests must be brought closer into alignment.

VA HSR does not, under any circumstances, advocate any punitive, nor prescriptive, action by the public sector vs. the privately owned rail freight industry. However, the latter group — with some justification — apparently considers that their interests are now, subsequent to the Staggers Rail Deregulation Act of 1980, superior to any public interest.

Clearly, compromise is going to be necessary. The public sector must embrace the rail mode of transportation as a National asset, and make policy, and conduct public investment programs accordingly. The privately-owned freight railroads, with appropriate encouragement, will then hopefully come to see that even they stand to benefit, in which case the public,

**The long-term public interest of the nation, and that of the Commonwealth, versus the nearer-term financial objectives of the freight CEOs are often not aligned.**



## Needed: A Virginia Rail Authority

To this point, it appears that the freight railroads in Virginia are not yet convinced — and perhaps with some justification — that the Commonwealth is serious about an expanded role for the rail mode in Virginia's comprehensive, multi-modal, transportation network.

What then will it take to bring CSX and NS to the table?

1. A clear, well-articulated, statement of policy relative to rail.
2. Elevated, and clearly recognizable, status for rail in the State political and administrative hierarchy.
3. Executive rail leadership at the State level, which is equal to, or better than, that typically fielded by the railroads.
4. State rail decision-making authority at the negotiating table.
5. Knowledge, and expertise, equal to, or better than, what is typically found across the table on the rail side.
6. Funding sources which are predictable, on-going and meaningful; including the ability to raise capital by means of revenue bonds, etc.
7. The authority to enter into long-term contracts for capital projects, and operating and maintenance agreements, etc.
8. The authority to acquire, lease, construct, own and operate, or cause to be operated, rail route and infrastructure, and services to be provided thereon.
9. Assurance that the Commonwealth, through its agent, will not attempt to acquire by condemnation any operating rights of way or facilities currently utilized by freight railroads.
10. A mutually-acceptable arrangement relative to liability risk management and disposition of third-party claims
11. A mutually-satisfactory dispute resolution mechanism.

A cautionary note: None of the foregoing is intended to suggest, nor imply, that the freight railroads do not have first-class talent. They do. However, the current reality is that, the freight rails do not appear to take seriously the Commonwealth's rail initiatives.

It is generally accepted that successful negotiation requires the moving party (in this case the Common-

wealth) to know and understand, and to possess the means to satisfy, the primary needs and objectives of the other party. With freight rails, it is most often MONEY that will make the difference. However, the Commonwealth must also get good value for its investment, and must negotiate appropriate assurances that the public investment will be protected. As VDOT representatives can undoubtedly attest, the freight rails have a history of looking to publicly-funded highway projects as the opportunity to correct, cure or otherwise improve upon their own, often long-neglected, infrastructure conditions in the vicinity of the highway project.

### It will take money to bring freight rails to

A Virginia Rail Authority ("VRA") is going to be an essential structural and operational element in any successful, comprehensive, state rail development program. A properly structured, staffed and funded VRA could conceivably get the job done in less time, and with better results, than would any other approach that might be taken.

Nowhere in the transportation-related experience of the Commonwealth does a better model emerge for VRA than is presented by the Virginia Port Authority ("VPA").

The parallels are strikingly similar. As we understand it, 40 or more years ago, the ports of Virginia were not competitive, were handicapped by fragmented ownership and control of critical facilities, which were in poor — and declining — condition, were inefficient, and were generally not in position to respond to revolutionary changes then in the making relative to the handling of international commerce (the shift from break bulk to container shipping), and were not contributing to the overall economic growth of the Commonwealth to the extent they might have.

VPA has, by all accounts, been a tremendous success. While it is true that the State of Virginia has invested millions of dollars in its port system, through VPA, this cumulative capital investment has now resulted in a world-class port system, which is much less dependent upon public financial support than earlier, due to the success of the commitment and continuity of the Commonwealth's policy of encouraging, and facilitating, the development of maritime commerce through VPA. This is exactly what Virginia needs to do for the rail mode, if rail is truly to become the powerful eco-

**The Commonwealth must also get good value for its investment.**

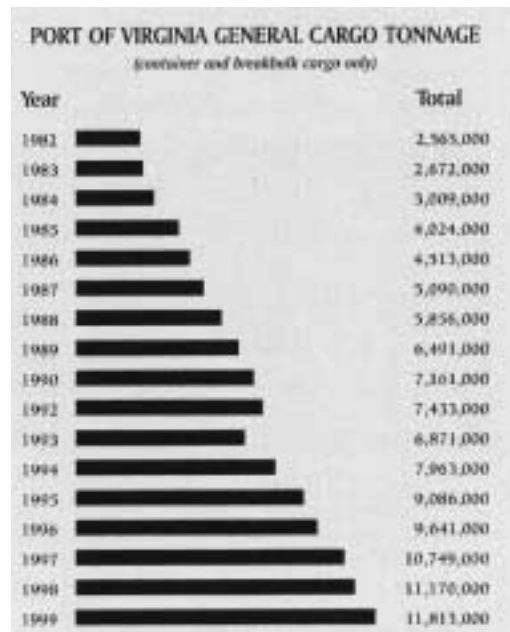
conomic multiplier that it has the potential to become.

As we understand it, VPA currently receives approximately \$30 million annually from the Commonwealth Port Fund ("CPF") to finance capital maintenance and improvements at its terminals. Because VPA has, commendably, developed positive operating revenue streams, it is now possible to use CPF grants (which originate, we believe, with the one-half cent State Sales Tax increment allocated to ports through the Transportation Trust Fund) to support the issuance of revenue bonds, with a multiplier effect of

about 15. Thus, in a current example, VPA is proposing to issue approximately \$131 million of revenue bonds for capital improvements by dedicating \$8.5 million annually out of its CPF allocation to debt service for such bonded indebtedness. (See VPA Executive Director J. Robert Bray's June 15, 2001 letter to the Co-Chairs of the House Appropriations Committee). While a newly-formed VRA might not initially be able to do this type of thing, the foregoing example does point up the benefits of having an assured stream of public funding with which to work.



Port of Virginia.



## Rail and/or Transit

### A Single State Authority or Department, or Different?

What do rail and transit have in common? Is there more to draw them together than to push them apart?

VA HSR believes that these questions deserve further study, as well as the related requirement for consideration of the future of the present-day Virginia Department of Rail and Public Transportation (“VDRPT”). The VDRPT matter will be addressed separately in the following section of this paper.

Fundamentally, rail and transit are different — although often complimentary services — in that inter-city rail, be it cargo or passenger service, can be, and should be, approached with the expectation that oper-

ational self-sufficiency is both possible and ultimately achievable. (This should not be confused with the requirement for public-sector capital investment in basic infrastructure, which all modes of transportation require in order to prosper).

Transit, on the other hand, is almost never operationally self-sustaining. Unfortunately, transit tends to be viewed by some — inappropriately, we would argue — as another variety of social services program. Nevertheless, transit does require its own special skill sets in the areas of management and administration. Presumably, this may also hold true for public-sector administration and oversight of transit programs at the

## Virginia Department Of Rail And Public Transportation (“VDRPT”)

In the event a State Rail Authority is created by the Commonwealth, as previously recommended in this paper, what then is to become of VDRPT?

As noted in the preceding section of this background paper, the aggregation, or disaggregation, of rail and transit oversight in the Commonwealth is, we believe, an issue requiring further study and consideration.

At present, rail and transit are organizationally separated within VDRPT, which may suggest an internal recognition of the merits of a future division of the two functions.

Of the 32 positions currently represented on the VDRPT organizational chart, only eight are dedicated, full time, to rail matters.

Ninety-six percent of the current budget of VDRPT is committed to transit; however, this would include funding support for WMATA and VRE rail transit operations in Northern VA. (There are, in addition, some rail funds administered by VDRPT which are “off-budget,” meaning that such funds flow through VDOT or otherwise).

Certainly, there is sufficient executive and management talent within VDRPT to begin to staff a Virginia Rail Authority, either as a separate entity within the Commonwealth's transportation hierarchy, or as an adjunct to VDRPT.

Transit—now and in the foreseeable future—will continue to require higher levels of infrastructure investment and operational funding, as well as commensurate levels of oversight and public administration at the State level than will inter-city rail.

On balance, VA HSR would be concerned that inter-city rail development might not be as likely to attain the required status, funding and public advocacy were it to continue to be a minority component of a predominately transit organization. We believe that inter-city rail development is much more likely to prosper—and attain its full potential—under the auspices of a separate Rail Authority of the Commonwealth.

**Inter-city rail development will prosper and attain its full potential under the auspices of a separate Rail Authority of the Commonwealth.**

## Rail Safety; Grade Crossings, etc.

Due to the fact that the rail freight industry has made itself virtually invisible to the general public — and regrettably often deemed by the public to be largely irrelevant as well — about the only thing that the average person hears, or knows, about the railroad industry is a media item about Amtrak — usually a negative — or a freight train derailment — often erroneously characterized as a “disaster.” (Consider the recent Baltimore tunnel matter, with all the attendant

**Rail safety is good, and generally getting progressively better all the time.**

media coverage, notwithstanding the fact that there were no deaths, no serious injuries and apparently little property damage other than that of the railroad).

Rail safety is good, and generally getting progressively better all the time. When mishaps occur, as with the recent Baltimore incident, the public is usually well insulated from the worst of it. Compare, for example, the exposure to the public to the so-called hazardous commodities on the train within the Baltimore tunnel with the much greater exposure of the motoring public within the highway tunnels through Baltimore.

There the average citizen is a mere arm's length away from a fast-moving, 80,000 pound tractor trailer hauling the same, or even worse, commodities. Where is the public exposure to harm greater?

Nevertheless, there is a very serious “rail safety” problem; namely, highway at-grade crossing of rail lines.

**There is nothing in the railroad industry today as dangerous as highway grade crossings.**

There is nothing else in the railroad industry today, including Amtrak, which is as dangerous as highway grade crossings. Interestingly, the classic media account of a train “hitting an automobile” almost never presents the factual account of the auto,

having disregarded warning devices, being driven into the path of an on-coming train. Worst still, is the increasingly common case of heavy trucks failing to observe warning signals, and driving into the path of, or into the train itself, with truly disastrous consequences.

There are approximately 3,200 miles of railroad in Virginia, and the State has approximately 5,100 at-grade crossings — an average of 1.5 per mile. Of these crossings, about 3,000 are private, farm-type crossings. Of the public crossings about 70% are pro-

tected with flashing lights and/or gates. Unquestionably, this is a serious public safety issue, and one in which VDRPT and the railroad have made some progress over the years, primarily with Federal funds.

The ultimate answer to the crossing problem, as anyone can see, is to eliminate such crossings by means of a separation, either running the highway over or under the railroad. Many other crossings can be, and should be, closed; however, that initiative is often highly politicized on a local level. Until a crossing can be eliminated, the answer is enhanced electronic, and mechanical, crossing protection, which is being installed as rapidly as funds come available.

**The ultimate answer to the crossing problem is to eliminate crossings by means of a separation.**

Within the Commonwealth, there is a logical source of funding which, for obvious political reasons, has never been tapped.

Railroads owning land, track and related operating improvements in the State of Virginia are subject to local taxation, as would any other property owner (but often not rail competitors). Our preliminary review of the current assessed valuation of private rail land, primarily right of way, and operating improvements, suggests that the total valuation, for tax purposes, may be in the area of \$1.2 billion, more or less. Tax rates vary from jurisdiction to jurisdiction. Without extensive analysis, we can only speculate that it is probable that Virginia railroads pay somewhere between \$7 million and \$10 million annually to localities — Virginia counties, cities and towns, all of which goes into their respective general funds and is used for local purposes.

If the car tax was onerous to private citizens, then the local taxes paid by the railroads are every bit as much so to these railroads.

Why not formulate a program, along the lines of the Car Tax formula — sensitive stuff, we are aware! — such that the private rails receive a tax credit, against local tax obligations, on a dollar-for-dollar basis, for that respective rail's portion of highway grade crossing improvements, including the closure and elimination of such crossings? Grade crossing safety is a local problem, it would seem?

In any event, the grade crossing safety issue is one which must receive a higher priority of attention in

## An Expanded Role for Virginia Railway Express

Created by Northern Virginians for Northern Virginians — “owned” and controlled by Northern Virginians — Virginia Railway Express (“VRE”) is nonetheless an appropriate model for potential application elsewhere in and around the Commonwealth. VRE commuter rail service was inaugurated in 1992.

Rapidly maturing into one of the premier commuter rail operations in the Nation, VRE also has the potential for being the provider of regional passenger rail service in other urban regions, and between such regions.

Along the way toward its present state of success, the early pioneer advocates of VRE (1981–1991) had to face virtually all of the challenges associated with the start up and on-going operation of any new rail passenger service, including but not limited to:

- Access to freight-owned rail lines, which was accomplished by negotiation of comprehensive operating agreement(s).
- Funding, which is comprised of a multi-layer of Federal transit funds, Virginia State transit funds, special appropriations for capital, and an “over-and-above incremental sales tax component within the several sponsoring regional transportation districts.
- The potentially overwhelming risk-management challenge due to the involvement of the privately-owned freight railroads, which are much more vulnerable — through no fault of their own — to liability exposure than would be the case with a 100% public operation. This was resolved by an innovative insurance program utilizing the Commonwealth’s basic risk management resources.
- Equipment acquisition, ownership, and maintenance, which VRE procured via purchase, or lease, with operating maintenance and service being contracted out to Amtrak
- The actual provision of service, which is also contracted out to Amtrak.
- Administration, marketing and management coordination, which is provided by a very small executive staff, based in Alexandria.

Currently VRE handles as many as 12,000 commuter trips per day on the two routes to downtown

Washington (although most passengers alight short of DC Union Station), one route originating in Manassas and the other in Fredericksburg. Over 2.4 million passengers were handled in the most recent VRE fiscal year.

Great success that it is, VRE is inherently a costly operation due to the limited utilization which can be obtained from its equipment on the basis of one trip into DC in the morning and one trip out in the evening. Years ago, a very progressive rail transportation consultant engaged by the Northern Virginia Transportation Commission, circa 1967, Carl R. Englund, proposed a cross-region rail service, which would essentially integrate today’s VRE services with those of its Maryland counterpart, MARC. As proposed, a train originating in Fredericksburg, for example, to continue through to Baltimore, for example, and repeat cross-region trips throughout the full day, with appropriate service level adjustments during non-peak times.

VRE could become the model for regional rail passenger service in Virginia.

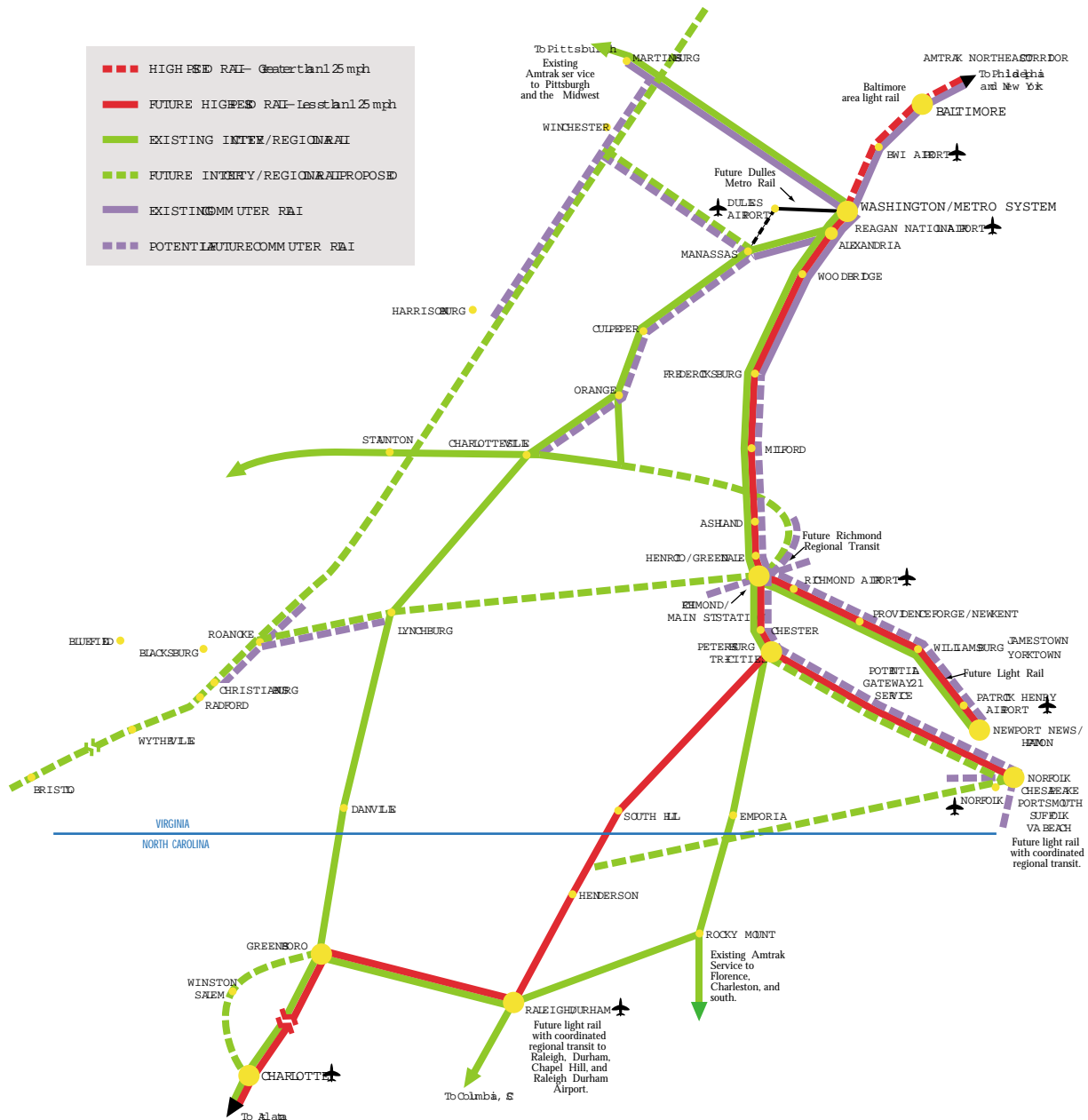
Although not within its present “charter,” VRE could similarly achieve economies by extending service, with appropriate seating configuration adjustments for passenger comfort, to both Charlottesville and Richmond, again with potential run-through operation to Baltimore, Frederick, Brunswick, Martinsburg (WV), etc. This becomes more the model of “regional” rail passenger service” than strictly commuter; however, it does not obviate the need for High Speed, or at least higher-speed, inter-city passenger rail service of the type better offered by Amtrak, or some future user of high-performance rail corridors.

Other potential applications for VRE regional rail passenger services in the Commonwealth could include:

- **RICHMOND, WILLIAMSBURG, NEWPORT NEWS-HAMPTON**  
A combination tourist/commuter/airport(s) shuttle service linking Main Street Station in Richmond with Williamsburg and Newport News-Hampton. Other stops could include Providence Forge, Norge/Lightfoot, Bush Gardens, Lee Hall, Oyster, etc., plus the two airports: Richmond International and Patrick Henry. Consideration of this should be a high priority in anticipation of the major tourism events currently being planned for the Peninsula in 2003 and 2007.

### Risk-management challenge resolved!

# Virginia's Future High-Performance Rail Corridors - Passenger



- **PETERSBURG (TRI-CITIES)-RICHMOND** This route would link Main Street Station and points north, as well as Peninsula destinations (above).
- **SUFFOLK-CHESAPEAKE-NORFOLK** Corridor service perhaps further modified and expanded to reach into Virginia Beach and Portsmouth.
- **CHRISTIANSBURG (BLACKSBURG)-ROANOKE-LYNCHBURG** regional rail corridor development possibilities.
- **SHENANDOAH VALLEY** A connector service to link population centers to primary rail routes north of Winchester

(Martinsburg, WV thence east to D.C.) as well as to Charlottesville, thence northeast to Northern Virginia and southeast to Richmond, Hampton Roads, etc.

- **LYNCHBURG-DANVILLE** Improved rail linkage between Lynchburg (and the future rail services extending northeast along the Route 29 corridor to Charlottesville and beyond, as well as those potentially reaching westward to Roanoke and beyond via the Route 460 corridor) and Danville, Greensboro and the NC Triad Region.

The possibilities are numerous, the challenges are

## The TransDominion Express

First envisioned and promoted by a indefatigable group of rail service advocates working out of a Lynchburg headquarters, the Committee to Advance the proposed TransDominion Express rail passenger service, also known as the "Bristol" service, has gained substantial momentum and support. As depicted elsewhere on graphic renditions of existing and proposed services, the so-called TransDominion service would essentially link Roanoke, Lynchburg and Charlottesville with Bristol in the far southwest part of the Commonwealth and, more importantly from the standpoint of potential patronage, with Northern Virginia/DC and Richmond, and connecting service beyond.

Refer to one or more of our attached maps which show the TransDominion Express routes, etc.

Lacking the deep reserves of potential riders found in the eastern urban rail corridors of Virginia, and confronting a very long-haul route all the way out to Bristol, which is further compounded by substantial capital investment, perhaps in the range of \$100 million to minimize freight train delays on the Norfolk Southern route, the TransDominion Express is nonetheless an integral part of the Commonwealth's future rail network of services and ought to be pursued on a prudent schedule, consistent with all other rail projects elsewhere in the Commonwealth.

The references above to "prudent and consistent" project development scheduling has nothing to do with the worthiness of the TransDominion Express; it's all about relative benefits derived from capital available for investment in rail, and perhaps even more importantly, it responds to the need to manage the cash flow aspects associated with achieving stabilized, or "break-even" operating cash flow. Any of the proposed new rail services will certainly have negative cash flow associated with operations for a certain period of time, regardless of who operates such service and who bears the deficit, until equilibrium is achieved between revenues and costs.

VA HSR, in a Board Resolution adopted March 21, 2001, weighed the probable business success aspects of various urban rail corridor projects, as well as the logical sequencing of construction, and concluded that the TransDominion Express is a positive feeder to the urban rail corridors and vice versa but that some, yet-to-be established, timetable for the integration of the two services would be appropriate for further consideration. Needless to say, we hope for speedy implementation of the TransDominion Express service.

## Intermodal Freight Service Needs of Virginia

Except for the VPA-related international container terminals in Norfolk and Portsmouth, and the so-called VPA Inland Port at Front Royal, Virginia is not, as we understand it, directly served by CSX and NS relative to their respective intermodal freight systems. NS does have a domestic facility in Alexandria. Otherwise — incredible as it sounds — these two Virginia-based freight railroads provide limited options for Virginia shippers to enter or leave the network, save for over-the-highway haulage to Baltimore, or Greensboro, or Harrisburg, PA.

*Please refer to intermodal freight service map on the next page.*

Competitive challenges confronting the freight railroads have been discussed elsewhere, including some

**It is fine to put trucks on trains across Nebraska and Wyoming, but the public wants to see more trucks on trains in the Northeast!**

discussion of the length-of-haul hurdles associated with intermodal traffic. It will be apparent that most of what Virginians see on intermodal trains in

Virginia is simply cargo passing through the State.

Even there, market share of rail intermodal versus highway is pathetic.

The point of this writing is not to scold the freight rails, but rather to encourage them, with appropriate public financial assistance, in the development of high-performance rail corridors, to improve service to the Commonwealth. Such service should be accessible to manufacturers, distributors, and logistics service providers located in Virginia.

Hopefully, increased public investment in high-performance rail corridors, will begin to “lower the cen-

ter of gravity” of costs such that NS and CSX, and their successors, will be more competitive with highway, thus providing more terminal locations, routes and train services in the shorter-haul urban corridors, where relief from truck congestion is most needed.

It is fine to put trucks on trains across Nebraska and Wyoming, but the public wants to see more trucks on trains in the Northeast! As things now stand, there is no intermodal service, of any consequence, that we are aware of, to, from and between Virginia and the Northeast. That’s both a challenge and an opportunity.

The intermodal map (*on the next page*) reflects a vision of enhanced rail intermodal freight services for Virginia, including some innovative routing and terminal location suggestions. Among other things, it would appear that there may be some significant opportunities for coordination and cooperation between CSX and NS, and their successors, if traditional rail industry “turf” issues can be overcome. Our concluding point in this regard is to remind the reader that the Commonwealth has a significant stake in the matter, with or without State funding of high-performance rail corridor infrastructure. It is time, we believe, for the Commonwealth to assert its interest.

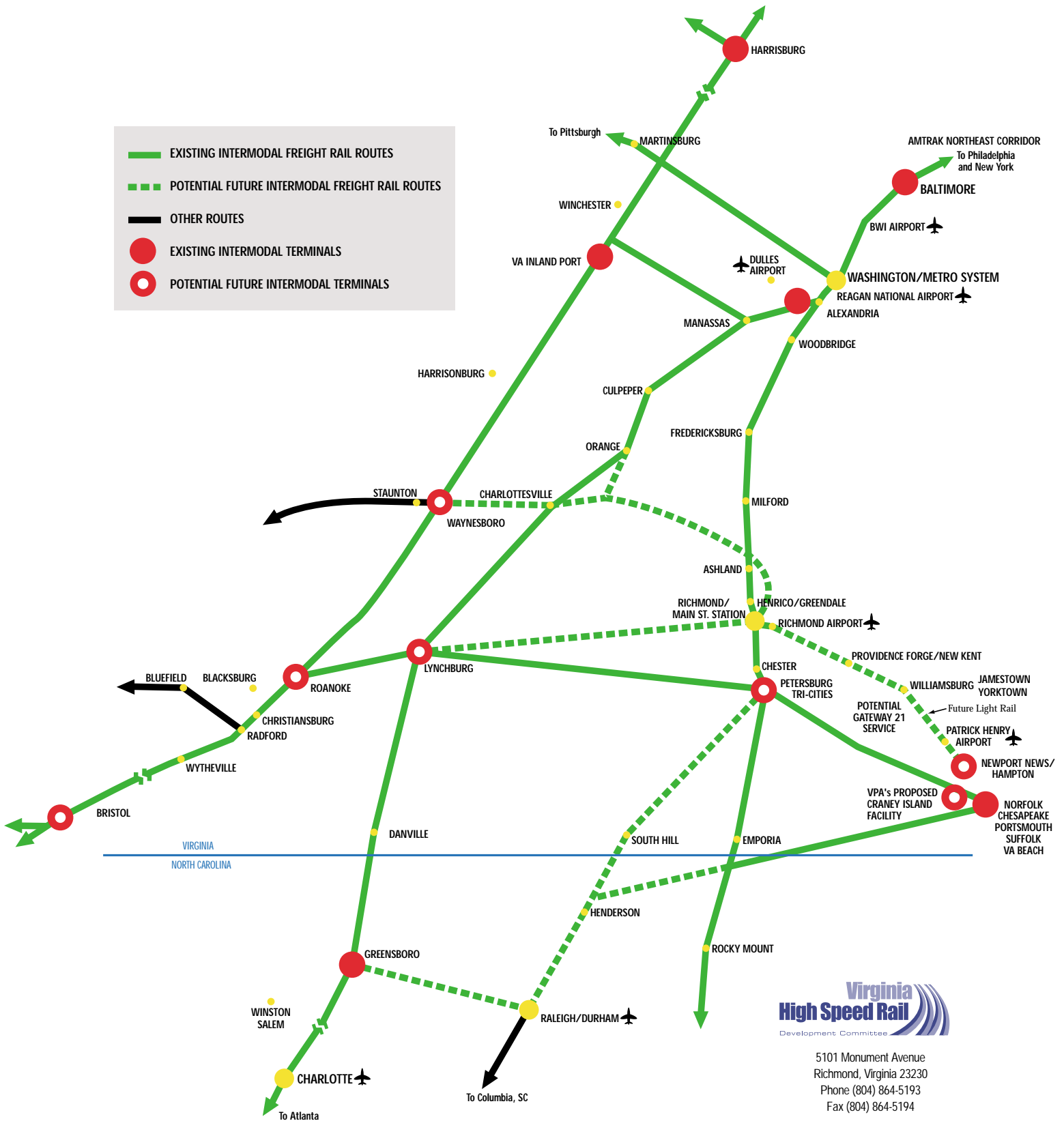


Intermodal freight facilities allow for easy on/off exchanges between truck cargo and freight train cargo. These facilities reduce truck traffic on our highways.

**There is no intermodal service of any consequence between Virginia and**



# Virginia's Future High-Performance Rail Corridors - Intermodal Freight



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Produced by VHSRDC, which is solely responsible for the contents.

September 2001

## Rail Passenger Terminal Development, and Related Issues

Passenger rail advocates have long been accustomed to curt dismissal by some skeptics as mere “nostalgia buffs”. While the charge may have been true, in some few instances, increasingly those who now champion modern, inter-city rail passenger service are, for the most part, motivated strictly by practical economic competitiveness and quality-of-life objectives.

If nostalgia plays a role today, it tends to be in conjunction with the restoration of old rail stations, particularly if seen as the impetus for urban renewal.

There is no better place to join the revival of inter-city rail passenger transportation and downtown renewal and redevelopment than at the point of intermodal interchange at the urban core. However, that may, or may not, coincide with the location of the community’s favorite old train station. Moreover, many of these old stations were inadequate when they were in their heyday. Main Street Station in Richmond is a prime example. Long before the end, the old Chesapeake & Ohio Railway was doing preliminary planning — never consummated — for a new, modern station just north of the old clock tower edifice.

If we truly believe that our future transportation requirements include a comprehensive network of inter-city rail, urban light rail, etc., then we would do well to boldly plan for the future, not simply attempt to reconstruct the past.

The same sort of study exercise is presently underway with regard to restoring train service to downtown Petersburg. Laudable as that may be, it just may not be reconcilable with an efficient Southeast High Speed Rail Corridor. Winding through Petersburg, at slow speed, is something rail predecessors gave up eighty, or more, years ago, in favor of a straight shot around the city, with a “suburban” stop.

To be against downtown renewal is about as risky as one can get. We would much prefer in-town train stations. Where that can be done efficiently, it should be done. But the tail should not, in our judgement, wag the dog.



Richmond's Main Street Station

## Intermodality And Connectivity

Used interchangeably (no pun intended), the terms “intermodality” and “connectivity” are increasingly the defining measures of the appropriateness of modern transportation planning.

Intermodality, as we understand it, refers to the movement of cargo and people from, to, and between other, different— but complementing— modes of transportation which, taken together, form a continuous chain of linkage.

Connectivity, is simply a term for the design and functional efficiency of a transportation system that facilitates the movement of people and the transport of cargo.

The finer points of distinction are probably not worth the puzzle; however, VA HSR enthusiastically champions intermodal connectivity, wherever feasible, throughout the Commonwealth.

Inter-city passenger rail—whether High Speed or Regional—should, wherever possible, link urban centers (and their respective urban transit systems) with airports and other multi-modal interface points, such that a person may find it convenient and attractive to use non-traditional transportation in lieu of driving a sin-

gle-occupant highway vehicle from as close to home or office to final destination as possible, with a minimum of hassle and inconvenience.

Rail “intermodal” cargo transportation should, ideally, link major manufacturing and distribution centers with counterparts, and with consuming regions, across the nation. Rail “intermodal” should also link with

marine ports, and in some instances with airports as well. For all the rail freight industry promotion of its inter-modal capabilities, the system that exists today is predominantly highway-based. Rail is

limited, in most instances, to long-haul transportation of highway trailers and marine containers in a limited number of corridors, and between a precious few origins and destinations (“O-D” pairs). Overcoming this deficiency—a formidable challenge, to be sure—represents one of the great unrealized opportunities in the field of transportation and logistics in America.

**Rail is limited to long-haul transportation of highway trailers and marine containers in only a few corridors, to only a few destinations. Overcoming these deficiencies is a great opportunity.**

## Europe vs. the U.S.A. — Differences and Similarities

One of the first myths to be confronted is that we, in the U.S., do not have the population densities necessary to support High Speed Rail, and related regional inter-city rail, plus fully integrated urban transit services, whatever the technology. Granted, this may be a fair observation if all of the continental U.S., lower-forty-eight, territory is considered, but that is not where High Speed Rail, etc. is being proposed. Much of that vast expanse is, in the words of some, "fly-over territory," an apt description of Nebraska, Wyoming, and some other western states.

Relative to population density, it surprises many people to learn that France and the State of Virginia compare as follows:

Place	Population	Area Sq. Miles	Density per Sq. Mile
France	58,804,944	289,871	203 persons
Virginia	7,078,515	40,767	174 persons

France does, indeed, have the higher population density, but who would have thought that Virginia would have population density that is 86% of the Nation noted for its TGV High Speed Rail trains.

Alex Marshall, in his book, *How Cities Work*, makes the point that transportation, to which he attributes more urban growth pattern influence than even zoning and land use, is a function of politics — not technology.

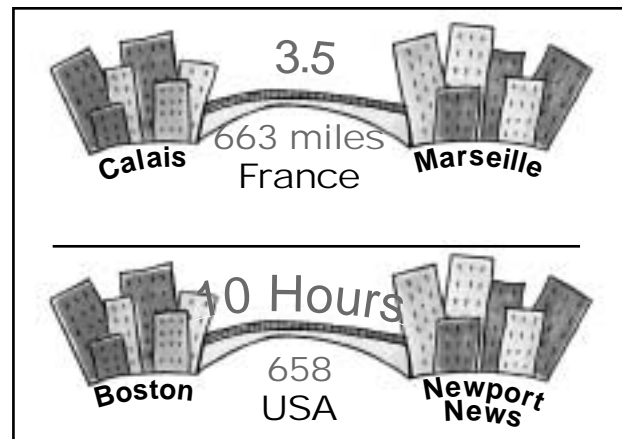
The rail mode of transportation in the U.S. declined over the past 50 years largely because powerful forces, which wanted it to decline, facilitated such decline through political intervention. Refer to Stephen B. Goddard's excellent book *Getting There, The Epic Struggle between Road and Rail in the American Century*.

Perhaps the core explanation is that the U.S., since the days of the founders, has a history of distrust, dislike, and rejection of central planning, of the type much more prevalent in Europe — and the type of national planning which makes it much easier to execute national projects, such as High Speed Rail. On the other hand, our courthouse network of fellow "state's righters," somehow figured out how to look out for their local interests and get the Interstate Highway system constructed at the same time.

It seems to us that another part of the explanation involves the tremendous reconstruction of European infrastructure which followed the devastation of World War II. Some of this effort was funded by the U.S.

Marshall Plan. Rail redevelopment and modernization figured prominently in the post-war rebuilding of Europe, and not at all in the U.S.A. Exhausted by their contribution to the war effort, U.S. railroads were taxed aggressively — often punitively — rather than given incentives to modernize.

Currently a political anathema in the U.S., large-scale Federal initiatives, which require substantial tax



revenues for their support, have traditionally been more readily tolerated on the Continent.

High speed rail in France makes travel times far less than in the U.S.

This paper makes no pretense at being able to discern all of the reasons "why." We do believe that we understand how the U.S. and Europe compare today.

First, in cargo, the U.S. freight railroads like to boast about market share comparisons, measured in ton-miles; however, when in Europe, one sees abundant evidence of the movement of high-value freight, perhaps more so than in the U.S. France, for example, being an early and aggressive convert to Nuclear power, needs not the equivalent of 1500 to 2000-mile haulage of western coal by rail, which so inflates U.S. freight rail statistics. Perhaps a domestic surface transportation financial market-share comparison between U. S. and European rail freight would be more informative. Again, while U.S. rail freight interests seek to downplay the role of rail freight on the Continent, anecdotal evidence suggests that Germany, Switzerland and Italy, for example, all heavily committed to inter-city and High Speed Rail, are also making major investments in rail infrastructure improvements to facilitate more highway-to-rail conversion of cargo.

By far the starkest contrast in Continental vs. U.S. passenger rail progress is, as referenced elsewhere earlier in this paper, represented by the May 26, 2001 test run of a French TGV train from Calais to Marseille, a distance of 663 miles (about the same as Boston to Newport News) in 3 hours 30 minutes!!! By contrast, were we to attempt to duplicate such a test run from Boston to Newport News, it would probably take 10 hours, or more, even if we could accomplish a non-stop run over the U.S. route.

Most would agree that the U.S. can ultimately,

over a period of decades, have pretty much whatever it wants in the way of high speed ground transportation technology, and performance. It's a matter of public will, and political courage — not technology, not anything uniquely restricted to Europe, just the manifestation of energy, political support and resources.

**The U.S. can ultimately  
have whatever it wants in  
high speed ground transportation  
technology and performance.**

## VA Rail Projects Currently in Planning, Development & Discussion

Kindly refer to the table entitled "VHSRDC Rail & Rail Transit Projects Summary" on page 57. Also shown on the same page are Proposed Rail Transit Projects of which we are aware, although not necessarily well informed.

Comments, observations and suggestions follow with respect to some of the above-mentioned major initiatives:

• **WASHINGTON, D.C. TO RICHMOND (MAIN STREET STATION):**

By acclamation, this is the Commonwealth's No. 1 priority high-performance inter-city rail corridor improvement project, at an estimated cost of approximately \$370 million. \$65.675 million appropriated by the General Assembly in the 2000 session to begin infrastructure development to facilitate "high speed rail" service. Several other, VRE-induced, projects already under way, including "AF" Interlocking (interchange), engineering and design for new Quantico Creek Bridge, etc. Initially, most of the project activity will be Fredericksburg and north to relieve VRE-related capacity challenges. CSX freight service, which has grown significantly since the inauguration of VRE service in 1992, will also benefit. Ultimately, the initial version of Virginia High Speed Rail will be launched by Amtrak, as an extension of its NEC Acela brand of services. Timing is directly related to availability of funding, and agreement(s) with CSX, all of which is under the direction of VDRPT. This 118-mile link, paralleling I-95, is the foundation upon which the future Virginia high-performance rail corridor network is to be developed. It is also the only inter-city rail corridor where publicly-funded enhancements (other than grade crossing improvements) are yet under way.

• **RICHMOND (MAIN STREET STATION) TO HAMPTON ROADS (NEWPORT NEWS):** No. 2 priority, as seen by VA HSR, is this important 70 +/- mile corridor which parallels I-64 on the so-called Virginia Peninsula. Already served by Amtrak, with minimal levels of train service, the Williamsburg area tourism and convention community are important constituents. Thoroughly vetted in the context of the 1998 VDOT Major Investment Study ("MIS"), and found to be consistently supported by the public, by local jurisdictions, and by the two MPO's having jurisdiction, no further VDRPT work has, to our knowledge, been done to refine and otherwise advance the favorable passenger rail improvement

project recommendations which came out of the 1998 process. Major events, of national and international significance (Aviation in 2003 and Jamestown in 2007) warrant high-priority attention, in definitive planning and funding, to advance this, the first, and most easily-achieved link to the north shore of Hampton Roads. Preliminary cost estimates suggest a \$200 million price tag; however, incremental improvements, translating into near-term train service enhancements, could undoubtedly be achieved for considerably less. Currently no funds available.

• **RICHMOND (MAIN STREET STATION) TO PETERSBURG:**

This pivotal I-95 (CSX) rail corridor link, ranked No. 3 priority by VA HSR, is essential because it: (i) will enable existing north-south Amtrak trains to be routed through Main Street Station, (ii) furthers the development within Virginia of the Southeast High Speed Rail Corridor, and (iii) sets up the potential to directly serve Norfolk and South Hampton Roads via the Rt. 460 (Norfolk Southern) rail corridor. Numerous options for restoration of previously-removed rail capacity remain under study. VA HSR speculates that it may take \$100 million to achieve all that will eventually be needed in this 30-mile high-performance rail corridor. Currently no funds available.

• **PETERSBURG TO HAMPTON ROADS (NORFOLK):** One of the best pieces of railroad in Virginia, the top-notch quality, 51-mile, straight — not one single curve — double track Norfolk Southern route between Poe, just southeast of Petersburg, and its intersection with CSX at Kilby (Suffolk area), roughly paralleling Rt. 460, virtually leaps off the map, catching the attention of anyone considering improved rail access to South Hampton Roads. Currently under study by VDRPT, preliminary indications suggest that, subject to mutually-satisfactory agreement with NS and CSX (for a short distance in the Suffolk/Chesapeake region), the former Norfolk-Petersburg-Richmond rail passenger route, also known as the "Cannonball" route, could be restored to permit high-quality rail passenger service. None has existed for approximately 30 years. While reliable cost estimates are not yet available, VA HSR speculates that first-rate passenger rail linkage between downtown Norfolk and Petersburg, approximately 80 miles, (thence to Richmond and the Northeast) could be

developed for \$200 million — possibly somewhat less. This project rates VA HSR Priority No. 4. Currently no funds available.

• **PETERSBURG TO NORTH CAROLINA STATE LINE (VICINITY NORLINA):** This vital I-85 corridor route, being a portion of the former Seaboard Air Line Railroad, more recently known as the “S” line of CSX, lies dormant as abandoned rail right of way, the tracks having been removed in 1987. Fortunately, however, most of the original 70-mile-long right of way is still owned by CSX, and the major bridges are still in place, and generally in good condition. Although ranked No. 5, in priority order by VA HSR, this segment could, under the right conditions, be elevated in priority due to its importance as the “missing link” between Virginia and North Carolina in the proposed Southeast High Speed Rail Corridor, which VA HSR enthusiastically supports. Currently the subject of an extensive Environmental Impact Assessment process, restoration of this link may cost upwards of \$250 million, more or less. We understand that CSX has expressed some interest in operating intermodal freight trains via this route if and when it is restored. Currently no funds available.

• **THE TRANSDOMINION EXPRESS:** Linking Northern Virginia (DC) to Bristol, and Bristol to Richmond, via Roanoke, Lynchburg, Charlottesville: This service would parallel the Rt. 29, 460, 360 and I-81 corridors, in part. While VA HSR is and advocate and is therefore supportive of the proposal, which may require as much as \$100 million in capital improvement enhancements to rail infrastructure, including a new connection to Main Street Station in Richmond, the more challenging aspect yet to be resolved in the initial operating deficit, which may take as many as ten years to turn positive. \$9.339 million in capital funds available, as result of General Assembly action in 2000 Session. VA HSR has not attempted to prioritize.

• **VRE SERVICE EXTENSIONS:** As noted elsewhere in this paper, VA HSR is an advocate of an expanded role for VRE, including service to Gainesville, Bealton and eventually to Charlottesville, in and along the Rt. 29 corridor, as well as service to areas south of Fredericksburg — ultimately to Richmond — in the I-95 corridor. However, no attempt has been made by VA

HSR to place a priority on these service-extension options. At the moment, the Bealton proposal appears to have some momentum. Total cost of all of the above-reference options is unknown at this time. It should be noted that the possibility may exist for some Federal and State Transit funding of some portion, if not all, of these potential extensions. This is currently not an option for any of the foregoing inter-city passenger rail projects. As much as \$10 million may be available, as result of General Assembly action in 2000 Session. VHSRDC has not attempted to prioritize.

• **I-81 CORRIDOR HIGH-PERFORMANCE RAIL CAPACITY ENHANCEMENT PROJECT:** Not really a “project” yet, therefore not rated as a priority by VA HSR. Nevertheless, preliminary study of the potential strongly suggests that it is both feasible, cost-effective, and desirable for the Commonwealth to consider funding some level of Norfolk Southern intermodal rail route capacity improvements in lieu of placing 100% of the State’s emphasis on expanding I-81 to accommodate ever-increasing truck traffic. Refer to Senate Document No. 30, of the year 2000. NS estimates were that it would take as much as \$1.225 billion in rail corridor capacity improvements, throughout the 356-mile NS rail route, running roughly parallel to I-81, to divert up to 20% of the anticipated truck traffic to rail. As the initial study report indicates, further study is desirable to refine the proposal, including an analysis of reallocating the package of rail improvements among other routes, such as the Riverton to Manassas link to, and along, the already high-quality, but downsized and underutilized, NS (former Southern) main line parallel to Rt. 29, etc. VA HSR strongly endorses this inquiry and recommends that any decision on public funding, if provided, should be preceded by a more comprehensive look at whether any such investment might, at the same time, serve the needs of other rail freight intermodal service providers (e.g. CSX), Amtrak, VRE, et. al.

• **DULLES CORRIDOR RAIL:** Strictly “rail transit,” rather than inter-city rail, the proposed extension of the Washington Area Metro out to Dulles Airport cannot help but be warmly embraced by VA HSR, albeit with an important reservation. As we currently understand it, through Metro train service to Dulles will originate within the District — possibly even beyond the District in

Maryland — and will not be available to potential users originating at Reagan National Airport, Crystal City, Pentagon City, nor Alexandria and points south. If the Commonwealth of Virginia is to be a major participant in the funding of this \$2.5+ billion project, it is imperative that the interests of the citizens of Virginia south and east of Roslyn be served by a through service. This is also of interest to VRE and Amtrak passengers from Fredericksburg, Richmond and elsewhere. The research shows that people may change transportation vehicles once, but twice (with bags, etc.) — as in the case of an Fredericksburg passenger heading for an international flight — is a major deterrent to acceptance. We understand that about \$175 million of planning and design funding has already been made available; also, that some consideration is being given to a public-private “partnership” proposal. Time may be of the essence.

• **HAMPTON ROADS LIGHT RAIL PROPOSALS:** Amazing to those who have witnessed success elsewhere, Light Rail proposals in the Hampton Roads area appear to take on the emotional characteristics of a school redistricting! VA HSR believes that the success of high speed rail, indeed almost any inter-city rail linkage between highly-populated and sprawling, urban areas, will depend to a significant extent upon having in place an efficient collector/distribution system. Light Rail may not be the only answer, but it is one — one that has proven to be popular, successful, and expandable elsewhere in the U.S. As with the Dulles “rail” project, Light Rail has a potential source of funding, although not sufficient, through Federal and State Transit funding channels. VA HSR takes no position on which proposal is best for any region but strongly urges serious consideration of some, suitable and acceptable, plan for rail



# VHSRDC Rail & Rail Transit Projects Summary

Proposed High-Performance Rail Corridor Improvement Projects In The Commonwealth of Virginia, Facilitating Development of:  
**High Speed, Regional Passenger & Commuter Rail, Plus Intermodal Freight**

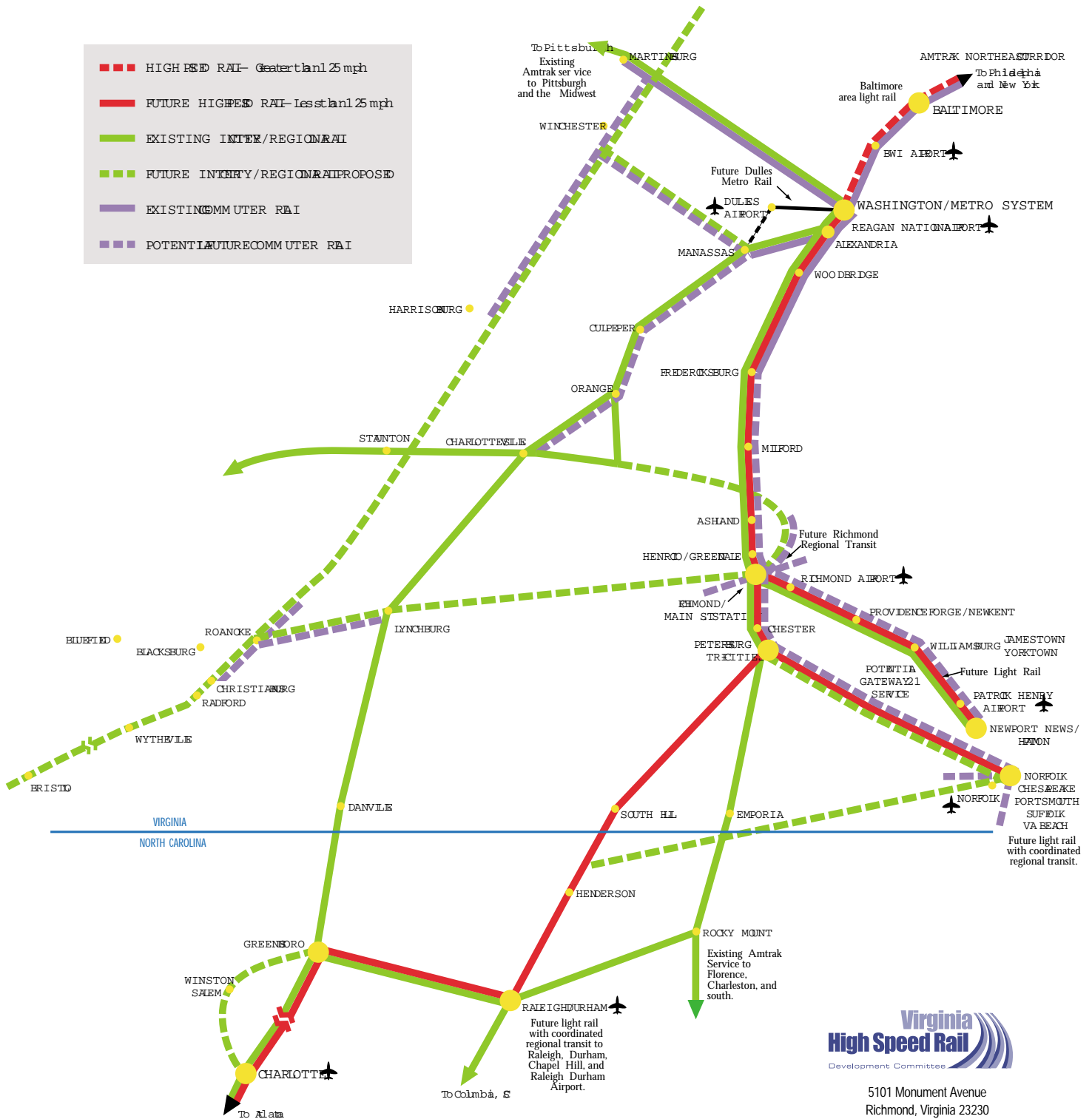
VHSRDC Priority <sup>1</sup>	Corridor Description	Interstate Reference	Freight Rail Route	Mileage <sup>2</sup> Virginia	(in millions) Estimated Cost <sup>3</sup>	Available Funding <sup>4</sup>
No. 1	DC-RIC (Main St.Sta.)	I-95	CSX	118	\$ 370+	\$67+
No. 2	RIC-HR (NNews)	I-64	CSX	70	200+	0
No. 3	RIC-PBG	I-95	CSX	30	100+	0
No. 4	PBG-HR (Norfolk)	Rt 460	NS	84	200+	0
No. 5	PBG-NC (Norlina)	I-85	CSX	70	225+	0
Not Rated	AX/RIC-Lyn/Roa/Brstl TransDominion Exp.	Rt 29/I-81 Rt 460/Rt 360	NS	480	100+	9
Not Rated	VA Rwy. Express & Regional Rail	Rt 29/I-95 I-64, and other	NS CSX	250+	100+	10
Not Rated	I-81 Rail Corridor	I-81, I-66, Rt 29, Rt 460, et.al.	NS	356	1,200+/-	0
	State Rail Authority	Start-up/Admin.		-	- <sup>5</sup>	-
<b>TOTAL (excluding Rail Transit Projects, below)</b>				<b>1,458<sup>6</sup></b>	<b>\$2,500+/-<sup>6</sup></b>	<b>\$86+</b>

## Proposed Rail Transit Projects in Virginia

VHSRDC Priority	Project Description	Interstate Reference	Rail Technology	Approx. Mileage	(in millions) Approx. Cost		(in millions) Avail. Funding	
					Total	Rail	Total	Rail
Not Rated	Metro Extensions <i>excluding Dulles Line</i>	I-95, I-495, etc.	Heavy Rail	?	?	?	?	?
Not Rated	Dulles Corridor	I-66/ 7, Dulles Greenway, etc.	Initially Bus, evolving to Metro Rail (heavy)	10-12	\$2,500	\$2,500	\$175	?
Not Rated	Peninsula Wmsbg/NN/Hampton (CSX Route)	I-64	Light Rail	35	1,000	1,000	?	0
No. 6	H.R. 3rd Crossing	I-64	Light Rail?	6	4,000	600	?	0
Not Rated	Norfolk Area "Starter" Project. First Phase of Regional		Light Rail	8	350	350	?	0
<b>RAIL TRANSIT TOTALS</b>					<b>\$7,850</b>	<b>\$4,450</b>		

- Notes:
- VHSRDC Priority Refers to VHSRDC March 21, 2001 Board Resolution.
  - Mileage is estimated by RLB of VHSRDC, but is approximately correct.
  - Estimated Costs (millions) are for Infrastructure Only, excluding equipment, stations and operating deficit, if any. [RLB Ests.]
  - Available Funds = Year 2000 VA G.A. Appropriations. Some additional funds are also available, e.g. Quantico Creek Bridge.
  - Rail Transit projects may, and probably do, include stations, rolling stock, etc.
  - Some double counting of both mileage and cost to develop due to overlapping projects.

# Virginia's Future High-Performance Rail Corridors - Passenger



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September 2001

## Subsidy And Cross Subsidy — The Coin Of The Transportation Realm!

"My word," exclaimed an imaginary elected official, "You say this rail project requires public subsidy?"

An astute observer with a background in State transportation finance and administration, upon first being acquainted with the VA HSR Rail Plan, won-

dered aloud about the same type of reaction, concluding that: "**Subsidy** is going to be a major policy issue!"

Come, now, what's new? All transportation modes receive public subsidies of some kind. **Why should rail be held to a different standard?**

Transportation Mode	Subsidy Class	"Use" Tax Donor/Beneficiary	Subsidy Method		Comments
			DIRECT	INDIRECT	
HIGHWAY:	Auto	Donor	Yes	Yes	Autos subsidize Autos subsidize
	Trucks	Beneficiary	Yes	Yes	
	Buses	Beneficiary	Yes	Yes	
AVIATION:	Commercial	Donor +/-	Yes	Yes	General Fund support benefits all aviation via FAA, NASA, DOD, etc.
	General	Beneficiary	Yes	Yes	
	Airports	No tax paid	Yes	Yes	
WATER:	Rivers & Harbors	Tax?	Yes	Yes	U.S. Army Corps of Engineers, Coast Guard, etc.
	Port Development	Tax?	Yes	Yes	
	Recreational	No tax paid	Yes	Yes	
RAIL (INTER-CITY):	Amtrak	Donor	Yes	Yes	Amtrak and Freight Rail pay diesel fuel taxes to general fund.
	Freight Rail	Donor	No	Yes	
TRANSIT:	Bus & Rail	No tax paid (?)	Yes	Yes	Most heavily subsidized of all.

Minimization of operating subsidies — as distinguished from capital investment by the public sector in infrastructure — is much to be desired in all modes of transportation, but this may not always be possible. In some cases, such as public transit, it may never be possible to operate without subsidy.

It seems to us that the test should be something like this:

*"Is the overall transportation modal mix — considering the utility of services, the economic, environmental and social benefits to the general public, etc. — better served with a judicious mix of operating subsidies, or not?"*

Two exceptionally large projects on the planning horizon here in the Commonwealth of Virginia will bring the "subsidy/cross subsidy" issue into sharp focus:

1. The \$2 billion +/- Dulles Rail Transit project, where toll-paying motorists on the parallel Dulles access

highway will, as envisioned by some, help subsidize the new rail transit line.

2. The proposed \$4 billion +/- Third Crossing of Hampton Roads, where the tolling (and re-tolling) of other Hampton Roads bridge/tunnel routes will undoubtedly be necessary in order to facilitate enhanced truck access to VPA's proposed Craney Island Marine Terminal.

VA HSR's position is that Virginia rail projects should not be held to a higher standard of critical scrutiny than is applied to those of other modes. The ultimate means of defeating most any transportation project — regardless of the mode — would be to put such ventures to the self-sufficiency test, e.g. to ask whether the proposed project can pay its own way, in every respect, from beginning to end? Not very many could. Perhaps, for the general welfare and public benefit, not many should be required to do so.

## What Benefits Could Virginia Expect from a Pro-Rail Policy

Relief from highway and aviation traffic congestion immediately comes to mind when one considers how Virginians might benefit from a pro-rail transportation policy.

However, the list is much longer. Consider the following, incomplete, tabulation of benefits to be derived from a public commitment to the development of the rail mode of transportation — both passenger and freight — as well as rail transit:

- Overall net reduction in public investment in transportation infrastructure; rail being more efficient, more cost-effective.
- Enhanced State economic competitiveness; world economy decision-makers expect rail as an option, particularly High Speed Rail.

- Improved safety for citizens; rail being demonstrably safer — relative to public exposure — than auto and truck highway conditions.

- Energy savings; rail being more energy-efficient than highway and aviation.

- Environmental quality enhancement; rail corridor development, and usage, is less intrusive, less disruptive, more environmentally friendly than either highway or airport expansion. Air and water quality both gain.

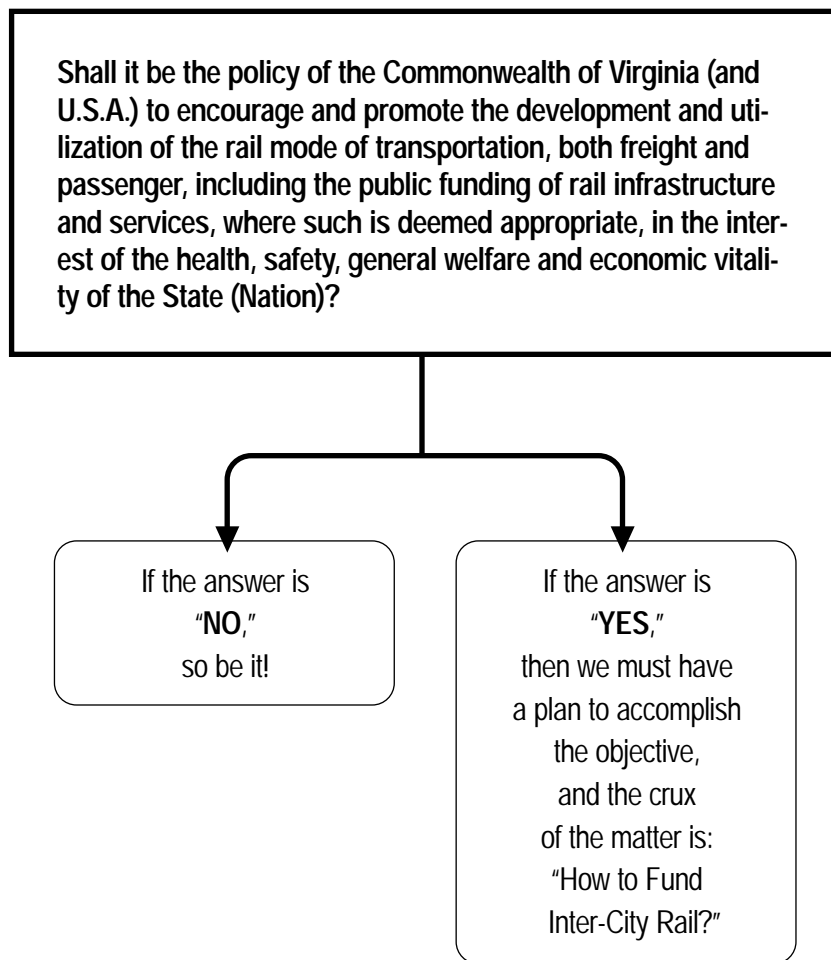
*Note: The foregoing is not intended to suggest, nor imply, that the Commonwealth should not build more roads and airports. The intended point is simply that rail can improve our comprehensive public net "score" on all of these increasingly acute issues.*



Urban commuter rail and High Speed Rail compliment each other. Either one beats driving congested "freeways" which are *not* free!

# The Question:

In the context of all that has gone before in this discussion paper, the ultimate question to be decided by public policy makers, at both the Federal and State levels, is simply this:



## How Should the Public Sector Fund Rail?

Public funding of rail infrastructure should be consistent with public funding of highway, aviation and port projects.

There is a dominant federal role, which clearly must be established.

In no other area of transportation infrastructure do the several states go it alone, and it is unreasonable to expect that to be the case with respect to rail.

Yet, in most instances, there is a requirement for a state “match” of Federal funding, sometimes as little as 20%, often more. Thus, the State of Virginia, must anticipate having to appropriate substantial amounts of funding in order to become an inter-state “player,” as would be the case with the proposed Southeast High Speed Rail Corridor.

Pure “user fees” almost never exist in public revenue collection associated with the private use of public transportation infrastructure. Toll roads may be the

only exception; even there the user often pulls along another user or gets a ride on someone else’s nickel. Transportation-related taxes, as discussed earlier in this paper,

rarely apply in direct proportion to the value of the use made of public facilities — sometimes higher, as in the case of automobile gas taxes, sometimes lower, as with truck diesel fuel taxes.

Increasingly, general fund money is “appropriated” to support and sustain transportation infrastructure development, in aviation, river and harbor development and maintenance, and certainly highway, e.g. the one-half cent increment on the Virginia State Sales tax.

Without claiming to have made a serious study of the subject, which is beyond the capability of VA HSR, at this time, it appears reasonably safe to speculate that non-rail commercial modes of transportation in Virginia annually receive more than \$100 million of public State funding support over and above any so-called “user” contributions made by those modes. For the sake of this

Annual Receipts From VA 1/2-Cent General Sales Tax	
Allocated to Transportation	\$400 million
25% <sup>16</sup> of the 78.7% allocation to “highway” attributed to trucks and buses	\$78.7 million
2.4% allocated to aviation	\$9.6 million
4.2% allocated to ports	\$16.8 million
<hr/>	
General Sales Tax support of non-rail commercial modes in Virginia	\$105.1 million
<hr/>	
14.7% allocated to transit, inclusive of “rail transit”	\$58.8 million
Estimate of general public’s residual auto driving benefit	\$236.1 million

simplistic analysis, assume the following:

*note 16: If trucks, which by any reasonable analysis — call for more expensive design and construction, and cause more damage to bridges and pavement than do autos, yet represent from 15% to 40% of vehicle miles traveled on Interstate and arterial Virginia roads, it would appear quite conservative to allocate 25% of the available “highway” dollars to truck cost responsibility.*

If it ultimately becomes the policy of the Commonwealth to encourage and promote the development of the rail mode of transportation, then the State’s non-transit, inter-city passenger and freight rail corridor development projects must, necessarily, have an assured, annual, stream of financial support, from some source, somewhere. It is as simple as that.

Given the condition of the Commonwealth’s inter-city rail corridor assets — arguably the result of a defacto federal policy of subordination of rail to the advancement of other modes — and in light of the previously-identified, inter-city rail needs aggregating \$2.5 billion, or more (referring to the foregoing VA HSR listing of VA inter-city rail corridor development projects), it would seem both appropriate and necessary to:

**Provide for an annual inflation-adjusted allocation of State-generated capital funding to the proposed Virginia Rail Authority in the amount of at least \$50**

**To truly develop rail transportation, we must have financial support for the State’s non-transit, inter-city passenger and freight rail projects.**

**million for at least 15 years.**

Of paramount importance, however, is the need to place the full and complete support of the Commonwealth behind an initiative to achieve the following, at the federal level:

- Immediate steps should be taken by, and on behalf of, the Commonwealth to insure passage of the High Speed Rail Investment Act, S.250/H.R. 2329, or an equivalent or better national rail corridors development

and financing vehicle which may emerge from the currently-anticipated accelerated reauthorization of Amtrak, the details of which are likely to be formulated in the final months of 2001 by the Bush Administration, and others, and actively debated by the Congress in early 2002.

- The goals, objectives and resources of the Commonwealth, relative to reauthorization of TEA 21 at the federal level, should include appropriate advocacy for provision, in the successor national transporta-

# The Time Has Arrived For Virginia To Answer The Question!

This material has been prepared, and is being distributed, under the auspices of the Virginia High Speed Rail Development Committee in an effort to stimulate constructive debate, and hopefully to encourage the making of transportation policy that is "pro-rail development" — both as to passenger and to freight — here in the Commonwealth of Virginia.

The Virginia Rail Plan recommendations, set forth above and in abbreviated form in the Executive Summary of this Virginia Rail Plan, were unanimously approved by the Board of Directors of the Virginia High Speed Rail Development Committee at a meeting in Petersburg, Virginia on September 19, 2001.

Barry C. Bishop  
Secretary, VA HSR

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\*\* Elected as Board Members at 09/19/01 Board Meeting but not present.