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Mr. Christopher Collins, Project Study Manger
Virginia Department of Transportation
1401 East Broad Street
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Dear Chris:

Attached with this letter are RAIL Solution's official comments on the I-81 Draft Environmental Impact Statement. Part One consists of 16 pages, and Part Two has four pages.

A fatal shortcoming of the DEIS was its failure to include an evaluation of Rail Option 4, suggested by RAIL Solution in the Scoping Process. VDOT doomed this only viable rail option by failure to look beyond the 325 miles of I-81 in Virginia. We believe this is very much contrary to NEPA guidelines that require all reasonable alternatives to be evaluated with equal rigor. Judging from the public comments at the hearings, a high percentage of the public seems to agree with us. Accordingly, we request that a Supplemental DEIS be prepared to give full weight to this rail alternative and to remedy this pivotal deficiency of the initial study.

HB-1581, passed unanimously by both houses of the General Assembly, calls for a determination of what would be required to divert 60% of through trucks from I-81 to rail, then a side-by-side comparison of the environmental and economic costs of providing that capacity on the railroad versus on the highway. The results of this study should be incorporated in the Supplemental DEIS, and the public should be given another opportunity to comment on whether the initial DEIS' inadequacies have been appropriately addressed.

RAIL Solution is a grassroots rail advocacy group with a member list of over 1,300 citizens concentrated in the I-81 corridor of Virginia and northeast Tennessee. We are appalled at the failure of the DEIS to evaluate Rail Option 4 alongside the many highway iterations studied, appalled at the poor quality of the study overall, and appalled that VDOT has spent close to \$10 million of taxpayers' money on such a meager and unbalanced result. With our quality of life for generations to come at stake, the citizens of western Virginia deserve far better. VDOT needs to do a Supplemental DEIS and do it properly this time.

Sincerely,

PART ONE

Introduction.

These comments review the rail transportation elements of the Draft EIS, known as the *I-81 Corridor Improvement Study*, released at the end of November, 2005. Seven sections comprise Part One.

The first five sections discuss five reasons for rail's poor showing in the study. Rail is not seriously considered: 1) because it is of limited effectiveness on a Virginia-only, intrastate basis; 2) because improvements needed are discretionary on the part of Norfolk Southern; 3) because no highway funding is available for rail; 4) because rail would only partially meet project needs; and 5) because to do a serious rail study would be too costly and impractical.

The sixth section of this analysis demonstrates in some detail that the technical appendices, upon which the study's conclusions rely, are riddled with inaccuracies and inadequacies. While some are no doubt immaterial given the large philosophical pitfalls outlined in Sections I – V, they merit discussion for two reasons: 1) These lengthy documents with their many pages of tables and graphs create the impression of rigorous original research; in fact, much of the information is flimsy, unfounded, and even wrong. 2) Failure of the study's authors to get even basic, factual, readily verifiable information correct calls into question their work in critical but less visible and auditable areas such as computer modeling.

The seventh section covers briefly some issues from the DEIS where RAIL Solution sees significant shortcomings, but which are tangential to the main railroad focus of these comments. These include simplistic methods used to forecast the all-important trucking growth numbers, failure to include the economic impact of tolling on the business climate of Western Virginia, and failure adequately to consider the environmental impact of traffic diversion from I-81 onto the parallel U.S. Route 11.

At the end a Conclusions section summarizes and explores the impact of the DEIS' weaknesses in its rail evaluation. Selection of suboptimal Rail Option 3 has led to VDOT's conclusions that rail alternatives can have little impact on the need for, or scope of, I-81 highway expansion plans. Furthermore, Rail Option 3 is selected as the benchmark throughout the DEIS for evaluation in combination with the various highway options, undermining the objectivity and conclusions of the entire DEIS report.

I. Rail was not seriously considered because it is of limited effectiveness on a Virginia-only, intrastate basis.

Here the pivotal issue is divertibility of highway freight to intermodal rail in corridors less than 500 miles. Three earlier Virginia studies have found that the likelihood of such diversion is minimal in corridors of less than 500 to 700 miles. [Desirability and Feasibility of Establishing Additional "Intermodal Transfer Facilities", Parsons Brinkerhoff, June, 2000, aka the "HR-704 Study"; The Potential for Shifting Virginia's Highway Traffic to Railroads, Wilbur

Smith Associates, December, 2000, aka the "SJR-55 Report"; The Northeast--Southeast--Midwest Corridor Paralleling I-81 & I-95 Marketing Study, Reebie Associates, March 31, 2003, aka "Reebie Draft Report"; The Northeast--Southeast--Midwest Corridor Marketing Study, Examining the Potential to Divert Highway Traffic from Interstate 81 to Rail Intermodal Movement, Reebie Associates, December 15, 2003, aka "Reebie Final Report"]

The Draft EIS relies extensively on two technical appendices to make judgments and reach conclusions on matters of traffic flows, growth forecasts, tolling diversion, and potential diversion of freight from highway to rail. These are the Freight Diversion and Forecast Technical Report (FDFTR) and the Transportation Technical Report (TTR). The DEIS and these technical appendices embrace and confirm many of the findings of the earlier studies cited above:

"Reebie indicated in the study [March 31, 2003 Draft Report] that movements of less than 500 miles have not traditionally been considered modally competitive... They also stated that intermodal traffic makes up less than 3% of the traffic moves less than 500 miles." (DEIS, p. 3-29)

"Like the HJR-704 study, the analysis [SJR-55] recommended excluding movements less than 500 miles for a diversion analysis." (DEIS, p. 3-30)

"It is also important to note that only movements greater than 500 miles were assumed to be divertible to rail." (DEIS, p. 3-26)

"It is a distinct possibility that future diversions of truck freight on I-81 to rail mode could be restricted unless additional public investments are made to the rail infrastructure both inside and outside the Commonwealth of Virginia." (DEIS, p. ES-4 & p. 6-3)

"It is logical to conclude that rail improvements could be made by the railroad owners or public entities outside of Virginia that would accrue additional benefits beyond those identified in this analysis by removing operational chokepoints, and increasing speeds and service reliability." (DEIS, p. 6-1)

"The Norfolk Southern system thereafter has reached capacity. More traffic cannot be absorbed without improvements in other states. Consequently, while freight traffic on the highway will continue to grow along with the economy, rail traffic cannot grow..." (DEIS, p. ES-3 (quoting Reebie Final Report, p. 47) & p. 6-2)

Nevertheless, the DEIS, like its predecessor studies, refuses to look beyond the 325 miles of Interstate 81 in Virginia:

"The rail improvements considered in the study examined rail improvements only within the borders of Virginia." (DEIS, p. ES-2)

“Given the current study parameters to evaluate in-state rail improvement, the assumptions made by these previous studies regarding public capital spending outside the state, and the regional multi-state results were not considered applicable.” (DEIS, pp, ES-2 - 3)

“As a result, the Virginia-based investment scenario and levels of diversion are relevant to the *I-81 Corridor Improvement Study*.” (DEIS, p. ES-3)

“The rail improvement concepts considered in this study examined rail improvements only within the borders of Virginia.” (DEIS, p. 6-1).

“While rail improvements outside of Virginia are beyond the scope of this study, such improvements, if made, could accrue additional benefits beyond those identified in this analysis by removing operational chokepoints, and increasing speeds and service reliability.” (DEIS, p. 6-3)

This limited focus effectively predetermines that rail will be shown as an unworkable, ineffective alternative, and compromises the requirement for an objective environmental comparison between highway and rail.

The finding that rail improvements outside of the borders of Virginia would accrue “additional benefits” is antithetical to the refusal to study a multi-state rail approach. As will be discussed below, the proffered rationales for refusing to consider a multi-state rail option are unpersuasive, inaccurate, and cannot be squared with the applicable guiding principles governing NEPA equal review of alternatives. As noted in PART TWO of RAIL Solution’s comments, FHWA’s own guidelines are careful to differentiate between the corridor where construction is proposed and the corridor required for adequate environmental assessment, and recognize that the scope of the second may well be broader than the former.

II. Rail was not seriously considered based on the improper assumption that improvements needed are discretionary on the part of NS.

This section reviews the issue raised in the DEIS of if or when Norfolk Southern will decide to make needed investments within and beyond the borders of Virginia to make rail transportation of truck-hauled freight a viable alternative. No comparable tests of practicality or timeliness of construction are imposed on the highway options evaluated in the DEIS, nor as to how or whether they can be financed. Such issues are completely improper screens for limiting consideration in a comprehensive environmental assessment of alternatives.

“The construction sequence and sections for rail improvement would occur at the discretion of Norfolk Southern.” (DEIS, p. ES-xvi)

“The study of rail concepts provides extensive information on freight diversion should Norfolk Southern wish to make rail improvements in Virginia.” (DEIS, p. 1-4)

“Any improvements to such railroads would, in fact, be at the discretion of Norfolk Southern Railroad.” (DEIS, p. 3-9)

“Any improvements to such railroads as well as the construction sequence for those improvements are at the discretion of Norfolk Southern.” (DEIS, pp. 6-5 & 6-6)

“It was also assumed that the railroads would make the necessary improvements in the future to maintain capacity for expansion of their existing rail service both within and outside the borders of Virginia.” (DEIS, p. ES-2)

“The study assumed that the railroads would make the necessary improvements in the future to maintain capacity for expansion of their existing rail service both within and outside the borders of Virginia.” (DEIS, p. 6-1)

III. Rail was not seriously considered based on the failure to consider non-highway sources of funding for needed improvements.

The basis for the refusal to consider rail options outside of Virginia, despite the fact that all the available literature, including the VDOT’s own technical studies, confirms that only an interstate rail option would be effective in diverting significant freight traffic, is set forth in a two-page memorandum prepared by John Simpkins, FHWA’s environmental project manager for the I-81 corridor study, in May 2004. (See DEIS, Appendix B). However, the rationales asserted in this memorandum for refusing to consider any multi-state rail options are fundamentally flawed.

First, the Memorandum asserts that improvements to privately owned railroads would be “outside of FHWA’s jurisdiction” and that “we are not aware of any currently available federal highway funding categories that could be used to implement privately owned rail improvements as a result of this study.” (See also DEIS, p. 3-9: “There are currently no federal highway funding categories that VDOT can use to implement improvements to privately owned rail lines as part of this study” and TTR, p. 3-39: “Rail improvements are costly and the railroads do not have easy access to investment capital at a competitive price.”).

As the FHWA Memorandum acknowledges, the guidelines of the Council on Environmental Quality require agencies to consider all reasonable alternatives even if they are outside of the agency’s jurisdiction to implement (40 C.F.R. § 1502.14(c)). And yet, when no *highway* funding for rail was found, the issue was dropped and the unwarranted assumption was made that rail improvements could not be funded. No evidence appears in the DEIS study that alternative sources of funding for rail improvements were explored.

For example, federal funding for intermodal terminals and access to them was included in the recently passed federal transportation bill, which funded the Railroad Rehabilitation and Improvement Financing (RRIF) program. Specifically, Congress has set aside \$35 billion to loan to railroads and their public sector joint venture partners to finance construction of new

railroad infrastructure, rehabilitate existing rail properties, and develop intermodal facilities. This program, administered by the Federal Railroad Administration (FRA), is referred to as "Railroad Rehabilitation and Improvement Financing (RRIF)".

Highlights of the RRIF program include:

- ❖ Loan amount -- No dollar limitation on loans/guarantees
- ❖ Repayment -- Up to 25 years, mortgage style repayment
- ❖ Interest rate -- equivalent to yields on U.S. treasuries of same description (about 4.75% on 25-year paper as of December, 2005)
- ❖ Collateral -- Not required, but FRA charges a credit risk premium if there is no collateral
- ❖ Eligibility -- One of the parties to the loan must be a railroad

Accordingly, a multi-state rail option is neither remote nor speculative, and the purported lack of a source of FHWA funding cannot lawfully be the basis for refusing to consider an otherwise reasonable alternative.

IV. Rail was not seriously considered based on the unsubstantiated assumption this alternative would only partially address the need for the project, despite the fact that the highway alternatives are also only partial solutions.

The FHWA's attempt to suggest in its memorandum that corridor-wide rail options are not reasonable is wholly lacking in substantiation. For example, the Memorandum asserts that a multi-state rail option would "only" divert 12% of the total traffic (DEIS, Appendix B, p. 3). Even assuming that this diversion rate is correct, such a diversion may well be substantial, and may well obviate the need for some, though not all, of the additional highway capacity under consideration for I-81. There is no suggestion that this alternative would not, at least in part, satisfy the purpose and need for the project just as well, if not better, than the alternatives carried forward in the DEIS for detailed consideration. The failure to consider this option on the assertion that it would only partially address the need for the project is particularly difficult to defend since the DEIS acknowledges that none of the other concepts completely address the project needs (DEIS, p. 3-3) and that a combination approach is preferable. Moreover, NEPA requires agencies to consider reasonable alternatives even if they achieve, only partially, the objectives of a proposed action.

V. Rail was not seriously considered based on the subjective and unsubstantiated assertion that a serious study would be too costly or otherwise impracticable.

The assumption that a multi-state rail option would not be “practicable” appears to be premised on the notion that such a “corridor-wide” strategy for the rail option “would involve improving rail infrastructure in 12 states from New York to New Orleans,” and that the costs of studying the out-of-state rail improvement concept is too high to justify “spending public dollars” on the NEPA studies necessary to consider this otherwise reasonable alternative (DEIS, Appendix B, p. 2). This assumption is flawed on many levels.

First, the FHWA’s assumption that an out-of-state rail improvement concept must necessarily involve a study of rail in 12 states is incorrect. Rather, a corridor strategy that includes only a few states would still be far more effective than limiting the rail option to Virginia only. For example, RAIL Solution, in its comments in the EIS Scoping Process, urged consideration of a rail option that examines the 600-mile I-81 Corridor from Knoxville, TN to Harrisburg, PA, long enough to remove many through trucks from I-81 in Virginia (DEIS, p. 3-13, denoting this as “Rail Concept 4”). This five-state rail option would be a far more manageable study. However, as the DEIS elsewhere makes clear, the FHWA arbitrarily limited the study of rail options to Virginia-only rail options, and did not even consider the costs or feasibility of a five-state rail option study, such as that proposed by RAIL Solution. Thus, there is no evidence whatsoever that such a five-state approach would not be “in the overall public interest” (DEIS, Appendix B, p. 2).

Even more fundamentally, it is not appropriate for the FHWA to refuse to consider any out-of-state rail improvement concepts simply because the FHWA believes that “spending public dollars” on the NEPA studies of such concepts is “not in the best overall public interest,” based on the subjective determination made by a single FHWA staff member (DEIS, Appendix B, p. 3). Nowhere does the FHWA state what the costs of undertaking such a study would be, or compare them to the overall study costs, or otherwise provide any objective measure for assessing the reasonableness of study costs. We find no support in the CEQ regulations or NEPA case law for refusing to study an otherwise reasonable alternative based on considerations of the cost of the study itself, much less based on such a vague, subjective, and unsubstantiated conclusion that “spending public dollars” on such a study is “not in the best overall public interest.” Instead, the CEQ regulations and the case law make clear that agencies must evaluate all reasonable alternatives, and that the standard of reasonableness is whether the alternatives address, in whole or in part, the need for the project.

VI. Technical appendices – inadequacies and inaccuracies.

Throughout the body of the DEIS, readers are referred to the Freight Diversion and Forecast Technical Report (FDFTR) and the Transportation Technical Report (TTR), attached as technical appendices, for supporting or corroborating research when pivotal procedures are developed, decisions made, and conclusions reached. Clearly the intent is to create an impression that such matters are well grounded and supported by the research findings in the technical appendices. In fact these documents suffer from numerous inadequacies and inaccuracies:

- The origin and destination surveys which were the basis of the FDFTR's assessment of the diversion potential from truck to rail are totally lacking in statistical rigor and completely inadequate as a basis for decision-making. The sample populations are poorly defined, the samples are not scientifically selected, and the sample sizes are too small to be representative or predictive.
- Many conclusions are simply adopted where convenient from earlier studies or other informed sources without attempts at independent validation, confirmation, or relevance to the environmental assessment.
- Railroad costing is based on the Uniform Rail Costing System (URCS), a regulatory dinosaur unleashed on the rail industry in the dying days of the Interstate Commerce Commission in the 1970s. Because of its heavy use of system averages, it was, and is, imprecise, inappropriate, and inadequate for making judgments on specific pieces of railroad business or evaluation of individual traffic corridors.
- In the TTR model used to assess divertibility of highway freight to rail, the railroad costs are further biased and burdened by imposition of large, irrelevant, and improper charges amounting to \$340 per unit, for such things as trailer rental and drayage, that are completely inconsistent with the definitions of rail service set forth in Rail Options 2, 3, & 4.
- Characterizations of Norfolk Southern's Shenandoah Line and Piedmont Line are riddled with errors, making objective judgments impossible.

These issues are examined in more detail below.

A. The science of conducting surveys is well established, having evolved now over many decades since the advent of large mainframe computers in the 1960s began to make correlation and cross-tabulation of large data collections feasible. Rules exist for defining the objectives of a survey, the target population from which a sample is to be drawn, and development of a random-sampling algorithm of adequate size to be representative of the population as a whole.

Properly collected survey data on truck movements in the I-81 Corridor of Virginia could be wonderfully useful. *No data are more fundamental to reaching sound conclusions on truck freight volumes and diversion in the Corridor, and are indispensable in determining what additional transportation capacity, highway or rail, will be needed.*

The FDFTR acknowledges this importance, and says that “theoretically” a survey could be taken along “the length of I-81 in Virginia and record trucking company names and vehicle identification numbers from tractors and trailers and later contact trucking companies to inquire about the cargo characteristics of the particular truck at that time.” (FDFTR, p.3-5) But the writers go right on to reject the possibility by making the dismissive and unsubstantiated assertion that “[s]uch a process would not produce timely and accurate results.” (FDFTR, p. 3-5). In fact, a study funded by the FHWA itself details advantages and disadvantages of various approaches for collection of truck movement data and establishes best practice recommendations (Jessup, Eric, and Kassavant, Kenneth, “Truck Trip Data Collections Methods: Final Report, SPR 343, Oregon DOT and FHWA, Feb. 2004). But no such rigor guided the I-81 DEIS study.

Here the FDFTR resorts to using two poorly-conceived and conducted surveys, no doubt quicker and cheaper, which produce nearly worthless results: 1) the I-81 Freight Shipper/Carrier Survey (FSCS); and 2) the I-81 Truck Intercept Survey (TIS). FSCS “was designed for truck traffic that originates or terminates in cities and counties within the I-81 study area.” The TIS “was designed to capture through traffic – trucks that utilize I-81 for interstate trips with neither origin nor destination in the study area.”

The implication, of course, is that together the two surveys constitute a comprehensive examination of trucking in the I-81 Corridor of Virginia. They do not. Nevertheless, they comprise the entire basis for the over 30 pages of graphs, tables, and other supposedly analytical results masquerading as research in Chapter 4 of the FDFTR. Some specific shortcomings are detailed below:

FSCS

1. Target population undefined. The survey was distributed to three diverse groups: major employers in the I-81 study area, truckers in Virginia using I-81, and freight transportation “stakeholders” in the Roanoke area. It was also available to anyone else on the consultant’s website.
2. Response rate. Only 107 completed questionnaires were received. There is no way to know how many were distributed. The 107 responses can in no way be said to be a random sample of any population.
3. Statistical inadequacy. Included in the 107 responses are 3 from persons who are neither shippers, receivers, nor carriers in the I-81 Corridor. Only 57 “shipper/receivers” responded, 8 of whom were outside the Virginia study area and had to be dropped, leaving only 49 such responses on which to gauge results, plus 39 trucker replies.
4. Definitional imprecision. Analysis further suffers from lack of definitional consistency. Aside from criteria used elsewhere in the

DEIS, any trucking over 50 miles was considered “Long Distance”. Also, North Carolina was considered as a state in the I-81 Corridor: “The most common response to the survey [origin of freight] was North Carolina, followed by Pennsylvania, Maryland, New York, and Tennessee. Interstate 81 traverses these five states.” (FDFTR, p. 4-12) “The most common state of destination for their cargo was Pennsylvania, followed by North Carolina, New York, Maryland, and Tennessee. I-81 runs through all five of these states.” (FDFTR, p. 4-14)

TIS

1. Poorly designed sampling. 220 truck drivers were sampled at truck stops in Virginia on I-81 on two days. As discussed in “Administering the Survey” on p. 3-5 of the FDFTR, drivers interviewed were selected on the basis of being accessible and readily available to talk. There is no basis to claim a representative random sample of through truckers on I-81.
2. Definitional imprecision. In fact, as shown in Tables 4-39 and 4-40, 57 of the truckers surveyed (25.9%) *originated in Virginia*, and 50 of them (22.7%) said their *destination was in Virginia*. Because the announced purpose of this survey work was to collect data from truckers moving *through Virginia* (*i.e.*, neither origin nor destination within VA), these 107 responses should have been dropped and the remaining sample of 113 used. Nevertheless, the originating and terminating truckers’ data was combined with the truly through trucks and a hodge-podge of all 220 responses was used for all the data presented and conclusions drawn on pp. 4-25 through 4-32.

B. Three well-known prior transportation studies, all cited in the DEIS, have been conducted by VDOT and VDRPT to examine possible diversion of highway freight to rail, four if the Reebie Draft and Final reports are considered separately. These studies were all commissioned for valid reasons at the time, yet none was intended to be the assessment of alternatives required by NEPA. Instead, they focused on economic and feasibility issues. The DEIS in many places relies heavily on these past efforts, embracing and adopting their findings with no standard of environmental relevance. This may serve to short-circuit the environmental review by applying inappropriate economic feasibility tests where in fact the standard for consideration of alternatives in the DEIS is whether or not these alternatives would satisfy, either in whole or in part, the purpose and need for the project.

Similarly, input from other sources such as RAIL Solution is accepted and presented with no attempts at independent corroboration. Opinions of David Foster or

Michael Testerman, though possibly sound, should be subject to expert review and ratification.

C. The Uniform Railroad Costing System (URCS) was mandated in the waning days of Interstate Commerce Commission (ICC) regulatory jurisdiction over the U. S. railroad industry. It made heavy use of a carrier's system averages. Mainly it was designed by the ICC to grapple with such issues as a carrier's revenue adequacy and hence its need for rate increases, which, at that time, the ICC had to approve. The ICC needed a common framework for making such evaluations across all carriers in the rail industry.

URCS never was intended, or used by, the rail industry to make internal pricing and profitability judgments on specific traffic segments or shipping lanes, because they quickly realized that if the traffic under examination departed by its nature in any significant way from system averages, the costs and any decisions based on them would be wrong. Nevertheless, almost 30 years later, the FDFTR trots out the standard of 135% of Norfolk Southern URCS variable cost as some kind of economic hurdle that truck traffic must meet to be deemed divertible to rail in the I-81 Corridor.

Such an over-simplifying rule of thumb does not accurately depict costs on the rail lines at issue here. Even if operations on the NS Shenandoah and Piedmont lines exactly mirrored system-wide performance, which is completely speculative, use of this current cost threshold would be clearly inappropriate on a future, substantially upgraded and double-tracked Shenandoah Line after a \$3.7 billion capital infusion as envisaged in Rail Concept 4.

D. Inconsistent rail service descriptions and costs included in the model further plague the diversion analysis presented in the FDFTR. Section 6.3.1 provides detailed descriptions of the four Rail Options (pp. 6-4 to 6-6). Rail Option 2, and by inference Option 3 (an enhanced version of Concept 2), are based on use of "the Canadian Pacific (CP) Expressway technology which... provides 'drive-on, drive-off' capability, [and] allows truck shipper to use existing trailer equipment..." Similarly Rail Option 4 is based on an unspecified 'open intermodal technology' capable of handling all highway trailers with rapid loading and unloading.

Nevertheless the diversion cost summary, variously appearing as Tables ES-4, 5-4, and 6-3 of the FDFTR, includes \$340 or more against each unit for such services as trailer lease rental and 80 miles of drayage at each end of the trip @ \$2.00/mile. These are not at all applicable or appropriate costs of such an intermodal operation. This flaw well illustrates the peril of VDOT's consultant using the URCS Plan 1 Trailer-on-Flatcar (TOFC) costs. In these modern intermodal scenarios, the trailers are owned by shippers. The railroad is not renting them. Further, the shippers are, by definition, delivering their trailers directly to the railhead and picking them up. Clearly no drayage of any kind is involved.

E. Multiple simple errors of fact undermine the integrity of the rail analysis in the TTR. While individually these may lack significance, especially given the large and material deficiencies of the technical appendices already set forth, they are relevant when viewed together. They greatly erode confidence in the technical work and undermine credibility of the far more complex computer modeling work that cannot be readily reviewed or audited. Also, the mistakes are so basic that they defy explanation. Together they result in an inaccurate representation of the viability of the rail options, particularly for the the Shenandoah Line. A few examples from Section 3.5 of the TTR illustrate this concern clearly:

→ "A connecting line runs west from Lynchburg to Roanoke, allowing connection to the Shenandoah line. This section of the railroad is the former Southern Railway 'main line' to Atlanta, Georgia."

FACT: The line described never has been part of Southern Railway and has always been part of the Norfolk & Western Railway mainline between Roanoke and Norfolk.

→ "North from Danville to Manassas, it [the Piedmont Line] uses both double-track and single-track with extensive sidings,...is on level grade, and has many long straight (tangent) sections which favors rail operations."

FACT: The line segment, over 200 miles, is by no means on level grade. It is doubtful such a situation would obtain anywhere in the U.S. Anyone who has driven the parallel U.S. 29 between Lynchburg and Charlottesville can attest to the rolling hill topography of the area. There is a significant grade on the line south of Charlottesville that is known on the railroad as Red Hill.

→ Length of the Shenandoah Line in Virginia is summarized in the table on p. 3-33 as the sum of the portions between Bristol and Roanoke, and Roanoke to Front Royal.

FACT: The portion north of Front Royal to the West Virginia line is also in Virginia and has been omitted altogether.

→ The NS Shenandoah Line from Knoxville, TN to Harrisburg, PA is given as 832 miles long.

FACT: It is only 587 miles between these points on NS.

→ "Almost one-third of the route does not have signals."

FACT: *It is all signaled.* And except for the possible exception of the terminal at Bristol, it is all traffic controlled.

→ “The NS Shenandoah Line north of Bristol, Tennessee consists of former Conrail-owned lines purchased during the NS and CSXT purchase of Conrail in the mid-1990s.”

FACT: Except for the section north of Hagerstown, MD, this entire line has always been part of Norfolk & Western. Only the portion between Hagerstown and Harrisburg involved any prior Conrail ownership.

→ Under characteristics of the Shenandoah Line, the TTS lists:
 “Numerous grades approaching 4 percent”
 “Numerous speed restrictions (<25 mph) south of Hagerstown, MD”

FACTS: Few mainline railroad grades anywhere in the U.S. approach 4%, and certainly there is none on this line. The ruling grades on this line are: Bristol to Roanoke - 1.32%; Roanoke to Bristol - 1.58%; Roanoke to Hagerstown - 1.6%; and Hagerstown to Roanoke - 1.85%. There are only a few spots where speed is restricted to less than 25 mph south of Hagerstown: Bristol 1.4 miles through the terminal - 20 MPH; Roanoke behind passenger station about 0.2 miles - 15 MPH; Riverton 0.3 miles - 15 MPH. Altogether these three total only 1.9 miles and are hardly numerous.

VII. Weaknesses in other areas.

Forecasts of freight traffic growth are based on economic growth projections in a static world with no shifts between rail and truck modes due to driver shortages, commodity shifts, relative efficiency, rapidly rising fuel prices, or environmental impact.

The technical appendices rely on a direct regression relationship calculated to a .99 level of significance between economic growth and growth of truck traffic. Hence, by using growth forecasts from macroeconomic econometric models, trucking growth in the I-81 Corridor is projected directly. *Future trucking volumes are crucial to all decisions about capacity addition.*

Therefore, it is a pivotal omission that no attempts have been made to fine tune these static projections for such factors as modal shift, commodity composition, rapidly rising fuel prices, chronic truck driver shortages, increased transport efficiency of rail, or environmental impacts such as diesel exhaust emission regulations, all of which have the potential to disrupt the neat one-to-one relationship assumed in the projections to continue through 2035.

Extrapolations of current growth are projected primarily on data from 2003 and 2004, and projected growth rates have been calculated on the experience from 1997 to

2003. Thus all these data and subsequent projections spring from a time when fuel cost ranged between \$1.00 and \$1.60 per gallon, and have not been adjusted to recognize that fuel has recently cost twice that much and is highly likely to face similar upward pressure in the coming years. (See: www.truckline.com/fuelpricecrisis).

Also absent from the projections is the acute driver shortage being experienced in the trucking industry that shows no prospect of diminishing. (See, for example, American Trucking Association, "The U.S. Truck Driver Shortage: Analysis and Forecasts", May 2005). In fact, given the current increasing difficulty of finding drivers, we deem it virtually impossible that truck traffic could continue to grow at 2.8% annually as projected.

No economic impact of tolls on the business climate of Western Virginia has been considered. The DEIS contains lots of discussion of the effects of tolling, but limits it to diversion of traffic from I-81 in avoidance of the tolls. A possibly even more nefarious effect, not examined at all, is the impact that tolls on only this one north/south interstate highway would have on business and industry in the I-81 Corridor of Virginia and adjacent states. Perhaps this could be discounted if all parallel north/south routes were subject to similar economic penalties, but to burden I-81 differentially can be expected to have a huge effect on jobs, long-term growth, and the general level of economic activity in the already depressed areas of Western and Southwestern Virginia. Costs of delivery of raw materials, shipment of finished goods and agricultural products to market, and even just commuting to work every day would rise. There is no basis to assume farmers and manufacturers in this area could raise prices higher than producers elsewhere to recoup the added burden of tolls, so they would represent a direct increase in expenses and deduction from income.

Potentially dire effects of traffic diversion to other routes is rather cavalierly pushed aside, especially the impact on parallel U. S. Route 11:

"...implementation of higher tolls on an improved I-81 would result in slight increases in local traffic throughout much of the study area as compared to the No-Build condition. Even though about half of the traffic would divert to U.S. Route 11, the resulting increase is slight for this type of roadway...and the overall impact is low." (DEIS, pp. ES-ix and 3-5)

"Approximately 50 percent of traffic diverted off I-81 as a result of tolls would use U. S. Route 11. Based on a qualitative evaluation of the potential effects on the environment from traffic diverting to U. S. Route 11 and other local roads, the impacts are not anticipated to be substantial because the number of vehicles traveling of U. S. Route 11 would not be substantially changed from future conditions." (DEIS, p. ES-xii)

The fallacy of this assumption is immediately obvious. Route 11 will be okay because the traffic volume there will be no more, or only a little more, than what would

be there anyway if no improvements at all ("the No-Build condition") were made to I-81. Thus, the DEIS fails to take into account the effect of this diversion of *projected future traffic volumes* on Route 11. The DEIS's assumption that the traffic diverted from I-81 onto Route 11 would not substantially change Route 11 and would have a low impact is highly suspect. It completely ignores the environmental impact based on projected future traffic volumes on Route 11

Diverted traffic volume could significantly affect life along Route 11. VDOT's own data in the DEIS show that high tolls on I-81, such as would be necessary to fund a border-to-border \$10 billion rebuilding project, would divert 9% of all vehicles and 25% of all trucks. *Table 5-3 of the TTR shows a 377% increase in trucks on U.S. 11 at the Rockingham/Shenandoah county line under a high-toll scenario on I-81.* Now imagine the widening of Route 11 that would be likely, kids waiting for the school bus with I-81 trucks going by, the noise night and day, the diesel smell and dirty air, and the effect on residential property values. Yet such effects are completely overlooked by VDOT in the DEIS.

VIII. Conclusion.

As the quotations in Section I above clearly show, rail diversion of truck freight in corridors of under 500 miles is unlikely. As the quotes also show, the DEIS, like other predecessor studies in Virginia, refuses to look beyond the borders of Virginia, limiting the scope to 325 miles of the I-81 Corridor.

These two antithetical criteria have severely limited the usefulness of previous studies and they again prevent potential diversion of highway freight to rail from being adequately recognized and considered.

Serious diversion takes serious dollars, but the study placed all the investment for the entire line within Virginia, where little intrastate diversion would occur. Instead of undertaking a study of Rail Option 4, a five-state rail option from Knoxville, TN to Harrisburg, PA, the DEIS simply defaulted to Rail Concept 3. The DEIS's assertion that Rail Concept 3 "provides the most diversion of freight from truck to rail per dollar of investment" (DEIS, p. ES-ii, xi; TTR, p. 5-9) is only correct in the context of the limited universe of Virginia-only rail options considered in the DEIS. As the TTR concedes, Rail Concept 3 performs best only because the FHWA refused to look at any multi-state rail option:

"The rail 3 option was identified as being the best cost-benefit reduction *along I-81*. Therefore, this option was further tested as a component of all concepts looked at." (TTR, p. 5-9) (emphasis added)

"...the Rail 3 option was identified as being the best cost-benefit reduction *along I-81*, therefore Rail 1, 2, and 4 improvements were not analyzed in combination with other alternatives." (TTR, p. 5-12) (emphasis added)

What is this Rail Option 3 that is chosen as the best? It involves improvements on 13 short segments of railroad within Virginia, ranging in length from one-half mile to 10 miles, averaging only a mile or two in length. With these few contemplated improvements, six additional trains per day in each direction could be handled, with an average train speed of 33 mph. Projections of truck diversions are virtually useless and self-defeating if based on such meager rail enhancement. To divert meaningful volumes of through trucks from I-81 in Virginia, the upgraded rail line would need to be handle six new trains *per hour*, not per day!

Having embraced the grossly suboptimal Option 3, all because of lower cost and location entirely in Virginia, it was an easy next step for the study to reject rail altogether:

“The results indicate that the construction of rail improvements alone would only slightly reduce the number of lane miles needed on I-81 in Virginia.” (FDFTR, p. ES-v)

“Rail improvements do not eliminate the need for road improvements since they make only a slight change to the number of lanes needed on I-81 in Virginia” (FDFTR, p. ES-vi)

“With the implementation of Rail Concept 3, the number of miles on I-81 that need two or more lanes would be reduced by 30 miles (out of a total of 650 miles).” (FDFTR, p. 3-30)

In the days following release of the DEIS in late November, VDOT’s Fred Altizer appeared on television making similar negative statements, and the press ran stories of the DEIS’ findings casting the rail potential in an unfavorable light.

Here’s how to fix these shortcomings and zero in instead on the environmental ramifications, which is really what an environmental impact statement is supposed to be about:

1. Determine the investment needed to upgrade the rail line all the way from Knoxville to Harrisburg as RAIL Solution recommended in the scoping comments we filed on February 26, 2004.
2. Treat the investment as bond financing, to be paid back on a 25-year project basis at 4.75%, that RRIF uses, or whatever terms are deemed reasonable. In this more realistic approach, additional rail freight diverted from I-81 repays the financing and Rail Concept 4 can no longer be dismissed for financial reasons. Conceptually it is akin to the toll revenues being viewed as a funding source for the highway options.
3. Determine, using cost- and time-competitive rail service parameters what truck diversion would likely occur.
4. Determine whether freight transportation capacity for that many trucks would be better provided economically and environmentally on rail or on highway.

There is a reason the U.S. Constitution makes interstate commerce a federal matter. There is a reason that a federal agency heads the environmental review process. In both cases it is to ensure that one state does not make decisions that adversely impact adjacent states or the nation.

We need to put an end to the jarringly juxtaposed standards of rail intermodal competitiveness being in moves over 500 miles yet confining the review to only 325 miles of Virginia.

PART TWO

These comments consider in more detail the regulatory and legal issues related to adequacy of the DEIS, and supplement the earlier analysis focused on content. Three topics are discussed: 1) Corridor definition and logical endpoints; 2) Failure to include the Federal Railroad Administration; and 3) Unequal treatment of alternatives.

I. Corridor definition. "The Federal Highway Administration (FHWA) regulations outline... general principles at 23 CFR 771.111(f) that are to be used to frame a highway project. In order to ensure meaningful evaluation of alternatives and to avoid commitments to transportation improvements before they are fully evaluated, the action evaluated in each environmental impact statement (EIS)...shall... connect logical termini and be of sufficient length to address environmental matters on a broad scope; and not restrict consideration of alternatives for other reasonably foreseeable transportation improvements." [1. Transportation Decisionmaking - The Development of Logical Project Termini, November 5, 1993, FHWA, at <http://environment.fhwa.dot.gov>]

FHWA's own regulations and user guidance are specific in distinguishing between endpoints for the project and endpoints for the environmental evaluation. They are also clear that the two are often different and this is to be expected in many cases: "Logical termini for project development are defined as (1) rational end points for a transportation improvement, and (2) rational end points for a review of the environmental impacts. The environmental impact review frequently covers a broader geographic area than the strict limits of the transportation improvements." [2. ibid.]

"Choosing a corridor of sufficient length to look at all impacts need not preclude staged construction. Therefore, related improvements within a transportation facility should be evaluated as one project, rather than selecting termini based on what is programmed as short range improvements." [3. ibid.]

One of the pivotal failings in the Draft Environmental Impact Statement (DEIS) for the I-81 Corridor [FHWA-VA-EIS-05-04-T1D] is its limitation placed on the rail alternative labeled Rail Concept 4. Even though this rail alternative was suggested during the Scoping Process and described as a rail line running parallel to I-81 between Harrisburg, PA and Knoxville, TN, the DEIS looked at only the 325 miles of the I-81 Corridor lying within the borders of Virginia.

Three earlier freight studies of the Corridor financed by the Commonwealth of Virginia had all agreed in their finding that intermodal rail was ineffective in corridors of under 500 miles. [4. Desirability and Feasibility of Establishing Additional "Intermodal Transfer Facilities", Parsons Brinkerhoff, June, 2000, aka the "HR-704 Study"; The Potential for Shifting Virginia's Highway

Traffic to Railroads, Wilbur Smith Associates, December, 2000, aka the "SJR-55 Report"; The Northeast--Southeast--Midwest Corridor Paralleling I-81 & I-95 Marketing Study, Reebie Associates, March 31, 2003, aka the Reebie Draft Report]

By failing to define the environmental assessment endpoints as Knoxville and Harrisburg, a highway distance of approximately 550 miles, the DEIS doomed Rail Concept 4 to ineffectiveness. A corridor of 325 miles was of insufficient length to look at all impacts. Failing to consider and evaluate related improvements (*i.e.*, rail and highway) within the Corridor as one project deprived the analysis of a viable rail alternative, resulting in selection of a larger than otherwise needed highway project. It also restricted consideration of foreseeable rail transportation improvements in the future by putting total reliance on new highway capacity.

"In developing a project concept which can be advanced through the stages of planning, environment, design, and construction, the project sponsor needs to consider a 'whole' or integrated project... Without framing a project in this way, proposed improvements may miss the mark by only peripherally satisfying the need or by causing unexpected side effects which require additional corrective action. A problem of 'segmentation' may also occur where a transportation need extends throughout an entire corridor but environmental issues and transportation need are inappropriately discussed only for a segment of the corridor." [5. Transportation Decisionmaking, *op.cit.*]

II. Federal Railroad Administration (FRA). The I-81 DEIS does not include the FRA among its list of Cooperating Agencies. RAIL Solution finds this highly inappropriate inasmuch as a number of railroad-related issues were under consideration alongside highway alternatives.

The Council on Environmental Quality's National Environmental Policy Act (NEPA) regulations require the Federal agency having primary responsibility for preparing an environmental impact statement (EIS) under NEPA (the lead agency) to determine whether any other Federal agencies have jurisdiction by law or special expertise with respect to any environmental effects involved in a proposal. [6. 40 CFR 1501.5(a)] The Federal lead agency must, early in the NEPA process, request the participation of Federal cooperating agencies with jurisdiction by law or special expertise concerning the proposal. [7. 40 CFR 1501.6(a) & 1501.7(a)]

FHWA's own regulations embrace this intent. "As lead Federal agency in the NEPA process, FHWA is responsible for scoping, inviting cooperating agencies, developing consensus among a wide range of stakeholders with diverse interests, resolving conflict, and ensuring that quality transportation decisions are fully explained in the environmental document. These

responsibilities force the FHWA to balance transportation needs, costs, environmental resources, safety, and public input in order to arrive at objective and responsible transportation decisions." [8. Transportation Decisionmaking, Interagency Coordination, FHWA, at <http://environment.fhwa.dot.gov>]

Further, "it is FHWA policy to pursue communication and collaboration with Federal, state, and local partners in the transportation and environmental communities, *including other modal administrations within the U.S. DOT.*" [9. Ibid., emphasis added] There is no evidence that FHWA did this. "Effective interagency coordination is the key to achieving environmentally responsible transportation decisions." [10. Ibid.]

III. Equal evaluation of alternatives. Both the Council for Environmental Quality (CEQ) and FHWA have statutory guidelines affirming the critical importance to the EIS of the selection and evaluation of alternatives. CEQ refers to the alternatives analysis section as the "heart of the EIS".

"It should present the environmental impacts of the proposal and the alternatives in comparative form, thus sharply defining the issues and providing a clear basis for choice among options by the decisionmaker and the public. In this section agencies shall:

(a) Rigorously explore and objectively evaluate all reasonable alternatives...

(b) Devote substantial treatment to each alternative considered in detail...so that reviewers may evaluate their comparative merits.

(c) Include reasonable alternatives not within the jurisdiction of the lead agency." [11. 40 CFR 1502.14]

The CEQ's language is adopted and reiterated verbatim by FHWA in its own publications. Further, FHWA says, "The identification, consideration, and analysis of alternatives are key to the NEPA process and goal of objective decisionmaking. Consideration of alternatives leads to a solution that satisfies the transportation need and protects environmental and community resources." [12. Transportation Decisionmaking, Development and Evaluation of Alternatives, FHWA, at <http://environment.fhwa.dot.gov>]

Further, "The Alternatives Section describes the process that was used to develop, evaluate, and eliminate potential alternatives based on the purpose and need of the project... *In the draft EIS, all reasonable alternatives should be discussed at a comparable level of detail.*" [13. Documentation - Environmental Impact Statement (EIS), FHWA, at <http://environment.fhwa.dot.gov>; emphasis added]

This did not happen. As noted above and in PART ONE of RAIL Solution's DEIS analysis, rejection of Rail Concept 4, for a number of improper reasons including inappropriate corridor segmentation, prevented any side-by-side comparison of the environmental merits of moving freight in the I-81 Corridor by rail versus by highway.

IV. Conclusion. "The primary purpose of an environmental impact statement is to serve as an action-forcing device to insure that the policies and goals defined in the Act are infused into the ongoing programs and actions of the Federal Government. It shall provide full and fair discussion of significant environmental impacts and shall inform decisionmakers and the public of the reasonable alternatives which would avoid or minimize adverse impacts or enhance the quality of the human environment." [14. 40 CFR 1502.1]

A full and fair discussion did not take place in this case. The most viable rail alternative, and the only one on a scale to be evaluated as a true alternative to massive highway widening, was rejected. No benefits were weighed from rail's 3-to-1 better energy efficiency or 5-to-1 lower emissions per ton mile of freight hauled. Public benefits from far lower disruption of adjacent businesses, farms, and historic battlefields, and need for far less land never entered the picture.

"The draft statement must fulfill and satisfy to the fullest extent possible the requirements established for final statements in section 102(2)(C) of the Act. If a draft statement is so inadequate as to preclude meaningful analysis, the agency shall prepare and circulate a revised draft of the appropriate portion." [15. 40 CFR 1502.9(a)]

RAIL Solution contends that the incident DEIS is woefully inadequate in its treatment of rail alternatives for transportation capacity addition in the I-81 Corridor. The public has been deprived of the better performance, both environmentally and economically, of rail, and has been offered instead an unnecessarily vast highway expansion project. FHWA should direct that VDOT issue a Supplemental DEIS, this time taking full account of rail and evaluating the rail alternative with the same level of detail as the many highway options presented.