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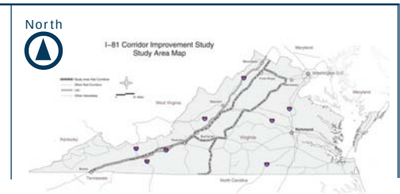

Rail Concept 1

Figure
3.2-1

I-81 CORRIDOR IMPROVEMENT STUDY

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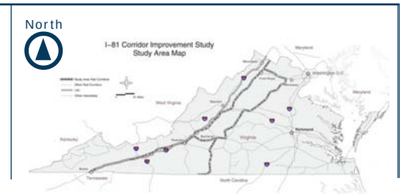

Rail Concept 2

Figure
3.2-2

I-81 CORRIDOR IMPROVEMENT STUDY

Lynchburg. The Piedmont Line south of Lynchburg would handle eight new trains per day and west of Lynchburg, four per day. The *I-81 Corridor Improvement Study Transportation Technical Report* outlines the details of the types of improvements included in this concept. Figure 3.2-3 illustrates the location of Rail Concept 3 improvements.

Rail Concept 4

This improvement concept includes full-level improvements to the Norfolk Southern Shenandoah Line and new rail freight hauling technology that interfaces with intermodal centers at strategic locations along the I-81 corridor. This concept was proposed during the Scoping Process by Rail Solution, a rail advocacy group. This rail concept was described as a modern, dual-track, high speed rail line, grade separated from all road crossings, capable of carrying intermodal freight and passenger trains at speeds of up to 80 miles per hour along Norfolk Southern's line between Harrisburg, Pennsylvania, and Knoxville, Tennessee, and possibly beyond to Memphis and New Orleans.[2] Figure 3.2-4 illustrates the location of the Rail Concept 4 improvements.

These rail concepts have different effects on the diversion of freight from roadway to rail. The freight diversion methodology and results are documented in the *I-81 Corridor Improvement Study Transportation Technical Report*. Table 2.2-2 illustrates the percent of trucks that are projected to divert and the cost of each rail concept.

Table 2.2-2 Rail Truck Diversion Percentages and Costs

Rail Concept #	% Truck Diversion	2005 Cost (in millions)
Rail Concept 1	0.7	$111
Rail Concept 2	2.9	$496
Rail Concept 3	3.5	$509
Rail Concept 4	5.8	$3,700

Rail Concept 4 ("Steel Interstate") provided the most freight diversion from the roadway (approximately 6 percent of truck trips). However, its construction cost was seven times greater than Rail Concept 3 (Norfolk Southern's Pilot Intermodal Program), which provided the next highest freight diversion (3.5 percent of total truck trips). Based on a cost per percent of diverted truck trips comparison, Rail Concept 4 was the most expensive. In addition, Norfolk Southern Railroad has not expressed support for the construction of Rail Concept 4.

Based on this exercise, it was determined that Rail Concept 3 was the most appropriate rail improvement concept to be evaluated in conjunction with roadway improvement concepts in order to test the effectiveness of a combination of highway and rail improvements.

[2] Source: Rail Solution web page http://www.railsolution.org/