

6.0 TESTING OF THE IMPROVEMENTS

Previously, in the initial study of the South Hampton Roads corridor, the proposed schedules were incorporated into a simulation of the operations utilizing Parsons' Logsim™ simulation program. The simulation included the preliminary set of improvements defined by Parsons' operations and facility analysts. Other than those freight operations through the proposed passenger terminal location, freight terminal operations in South Hampton Roads were not simulated.

For this study, Parsons has used its **Corridor Operations Methodology** to evaluate the physical characteristics and capacity of the rail facilities to determine the transit time that Hampton Roads to Richmond trains could realistically achieve under various service scenarios²³. The major elements that were evaluated are speed and service reliability.

Our staff has evaluated train operations between the various NS and CSXT facilities in the south of Hampton Roads area, and utilized our understanding of them to evaluate the impact of the commingling of passenger and freight operations. The alignment alternative selected between Suffolk and South Norfolk has eliminated the need for this study to simulate NS operations near Portlock Yard, while the Norfolk passenger terminal location selected has eliminated the need for this study to model NS intermodal and coal terminal operations.

6.1 Train Operations Reliability Analyses

The rail simulation previously performed by Parsons enabled us to assess the number of additional trains that could transit the Richmond to South Hampton Roads corridor in a timely fashion and the range of delay that might be incurred. A combination of "string line" and simulation tools were utilized to determine the degree to which the upgraded rail lines would reach the performance levels required to support the proposed High-Speed Rail service.

Parsons modified its Logsim™ model of the SEHSR Corridor to perform an operations simulation of the Richmond to South Hampton Roads corridor. The simulation ensured that the commingling of the new train service with the Richmond - Charlotte SEHSR Corridor was properly analyzed.

²³ The Corridor Operations Methodology is an integrated set of computer models, including a TPC and dispatching simulation, track geometry, construction cost estimating spreadsheets, and a tested analysis technique to evaluate corridor improvements. It has been used intensively to evaluate high speed, high-density corridor operations for Amtrak and FRA.

The Parsons staff evaluated train operations between the various CSXT facilities in the Richmond to North Hampton Roads corridor; they utilized their understanding of them to evaluate the impact of the commingling of passenger and freight operations.