

# ALTERNATIVES

This section discusses the Build and the No-Build Alternatives for the project. As indicated above, a rail corridor located in the roadway medians of I-664 and Route 164 was part of VDOT's original planning of these freeway and interstate highway systems in the early 1980's. Both roads were built to accommodate double-stack container trains and a dual set of rail tracks in their median. All rail rights-of-way were acquired and all roadway bridges were designed as overpasses for the proposed rail corridor. Alternatives analyses were conducted as part of the environmental studies associated with the original construction of these roadways. Relocating the alignment planned in 1983 proved to be impracticable. The proposed project corridor is the only practicable location that would not impact residential neighborhoods and would not require at grade crossings. Practicable alternatives are limited by the location of the terminus of the proposed project at the marine terminals in Portsmouth, the locations of the pre-existing highway overpasses allowing for the transition from Route 164 and I-664 in Suffolk, and the tie-in to the existing railroad at the southern end of the project in Chesapeake. A shift in the railroad corridor located at the APM Marine Terminal is not feasible due to design requirements. The proposed alignment is the only location that provides sufficient tangent length for safe railroad operations.

## 2.1 ALTERNATIVES CARRIED FORWARD

### 2.1.1 BUILD ALTERNATIVE

#### Description

The Build Alternative consists of constructing approximately 5.5 miles of railroad in the medians of the existing Western Freeway (Route 164) and I-664. The Build Alternative also includes a new highway grade separation overpass to be constructed on Route 17 where the at-grade rail corridor transitions from the median of Route 164 to the median of I-664. As part of the Build Alternative, approximately 4.3 miles of the existing railroad within the cities of Chesapeake and Portsmouth would be abandoned. Future use of the land after abandonment of the existing railroad has not been determined.

The basic requirement for railroad geometric design is to provide a track structure that is consistent with economical and efficient train operation. The railroad design shall meet all applicable parts of the Commonwealth of Virginia general laws, Federal Railroad Administration (FRA) safety requirements, and the specific requirements of the Basis of Design, written by Moffatt and Nichol (Moffatt & Nichol 2006). Track materials and special track work shall conform to recommendations set forth in the most current American Railway Engineering and Maintenance of Way Association (AREMA) Manuals, Commonwealth Railway Standards, and specific railroad standards.

The proposed grade separation bridge on Route 17 shall be designed in accordance with VDOT Structure and Bridge Division requirements, including the current Standard Specifications for Highway Bridges and Standard Specifications for Seismic Design of Highway Bridges of the American Association of State Highway and Transportation Officials (AASHTO) and all other pertinent memoranda for structures, which have been approved by VDOT and by the Federal Highway Administration (FHWA). The bridge shall conform to all standards, practices, and special provisions which have been adopted by VDOT. In

addition, where applicable, A Policy on Geometric Design of Highways and Streets (2001) of the American Association of State Highway and Transportation Officials may be used as a guide.

Details regarding project design and construction are provided in the Draft Version 2 Basis of Design, Commonwealth Railway Mainline Safety Relocation Project, Portsmouth, Chesapeake and Suffolk, VA, August 17, 2006 prepared by Moffatt and Nichol (Moffatt & Nichol 2006).

### **Cost**

The total estimated cost of the proposed project is \$59.55 Million. The funding sources are as follows:

- Federal SAFETEA-LU Funds = \$15.0M
- Commonwealth Match of Federal Funds = \$3.75M
- Governor's Transportation Funds = \$15.0M
- DRPT Rail Enhancement Funds (FY 08 & 09) = \$21.0M
- DRPT Rail Enhancement Funds (FY 07) = \$4.8M
- TOTAL PROJECT FUNDING = \$59.55M

### **Ability to Meet Needs**

Completion of the CRMSRP Build Alternative would meet the purpose and need of the project by providing a connection between marine terminals and other industries near the Portsmouth waterfront that are serviced by the CWRY with the Norfolk Southern and CSX Railways, thereby eliminating 14-at grade crossings and providing traffic safety improvements which would minimize impacts to neighborhoods and facilitate economic growth.

#### **2.1.2 NO-BUILD ALTERNATIVE**

The No-Build Alternative would continue to use the existing Commonwealth Railroad for future train cargo transportation needs. The existing railroad would continue to impact local traffic congestion at-grade crossings and pose safety hazards. Rail lines in Portsmouth and Chesapeake are likely to see large increases in rail activity, from 12 train pass-bys per week currently to over 52 train pass-bys per week by 2017 (Moffatt & Nichol 2005). The anticipated increase in cargo transportation associated with the planned development of VPA Craney Island Marine Terminal will be supported by the existing railroad, thereby increasing train traffic through residential corridors. The commercial trains will continue to move at restricted speeds through the residential corridor. The No-Build Alternative would not provide the safety improvements, noise reduction, or emission reductions to the neighborhoods in the vicinity of the current railroad.