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Acronyms and Glossary

Acronyms List

AADT - Annual Average Daily Traffic
AASHTO - American Association of State Highway and Transportation Officials
ACHP - Advisory Council on Historic Preservation
ATC - Appalachian Trail Conference
ASTM - American Society of Testing and Materials
ATR - Automatic Traffic Recorder
BCMPO -Blacksburg/Christiansburg Metropolitan Planning Organization
BMPs - Best Management Practices
BMPO - Bristol Metropolitan Planning Organization
CAAA - Clean Air Act Amendments
CAD - Computer-Aided Drafting
CARV - Central Appalachian Ridges and Valleys
CE - Categorical Exclusion
CEQ - Council on Environmental Quality
CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CFR - Code of Federal Regulations
CO - Carbon Monoxide
CSPDC - Central Shenandoah Planning District Commission
CTB - Commonwealth Transportation Board
CWSAC - Civil War Sites Advisory Commission
dBA - Decibels (on an A-weighted scale)
DCR - Virginia Department of Conservation and Recreation
DEIS - Draft Environmental Impact Statement
DEQ - Virginia Department of Environmental Quality
DGIF - Virginia Department of Game and Inland Fisheries
DMME - Virginia Department of Mines, Minerals, and Energy
DNH - Virginia Department of Conservation and Recreation, Division of Natural Heritage
DO - Dissolved Oxygen
DOI - Department of the Interior



DOT - Department of Transportation
DRPT - Virginia Department of Rail and Public Transportation
DSS - Data Sharing System
DSWC - Virginia Department of Conservation and Recreation, Division of Soil and Water Conservation
EA - Environmental Assessment
EAC - Early Action Compact
EAP - Early Action Plan
EDB - Exporter Data Base
EIS - Environmental Impact Statement
EPA - United States Environmental Protection Agency
EPT - Ephemeroptera, Plecoptera, and Trichoptera
ESC - Erosion and Sediment Control
ESRI - Environmental Systems Research Institute
FAHP - Federal-aid Highway Program
FAF - Freight Analysis Framework
FEIS - Final Environmental Impact Statement
FEMA - Federal Emergency Management Agency
FGDC - Federal Geographic Data Committee
FHWA - Federal Highway Administration
FIPS - Federal Information Processing Standard
FIRMs - Flood Insurance Rate Maps
FONSI - Finding of No Significant Impact
FL - Federally Listed Resource
FRA - Federal Railroad Administration
FTA - Federal Transit Administration
FWS - United States Fish and Wildlife Service
GIS - Geographic Information Systems
GPM - Gallons per Minute
GPS - Global Positioning System
GRP - Gross Regional Product
HAMPO - Harrisonburg Area Metropolitan Planning Organization
HCM - Highway Capacity Manual
HCS - Highway Capacity Software
HHS - United States Department of Health and Human Services
HJR - House Joint Resolution
HOV - High Occupancy Vehicle
I-81 - Interstate 81
ITIC - Intermodal Transportation and Inventory Costs model
Ldn - Day-Night Average Sound Levels
Leq - Equivalent Sound Level
LOS - Level of Service
LWCFA - Land and Water Conservation Fund Act
MISER - Massachusetts Institute for Social and Economic Research



MP – Milepost
mph – miles per hour
MPO – Metropolitan Planning Organization
MRPDC – Mount Rogers Planning District Commission
MSAT – Mobile Source Air Toxic
MSL – Mean Sea Level
NAD – North American Datum
NAAQS – National Ambient Air Quality Standards
NAFTA – North American Free Trade Agreement
NEPA – National Environmental Policy Act of 1969
NHL – National Historic Landmark
NHPN – National Highway Planning Network
NRHP – National Register of Historic Places
NMFS – National Marine Fisheries Service
NOAA – National Oceanic and Atmospheric Administration
NO_x – Nitrogen Oxide
NPDES – National Pollutant Discharge Elimination System
NPL – National Priorities List
NPS – National Park Service
NRCS – Natural Resources Conservation Service
NRHP – National Register of Historic Places
NRI – Nationwide Rivers Inventory
NRVPDC – New River Valley Planning District Commission
NS – Norfolk Southern
NSDI – National Spatial Data Infrastructure
NSVRC – Northern Shenandoah Valley Regional Commission
NVRC – Northern Virginia Regional Commission
NWI – National Wetlands Inventory
O/D – Origin/Destination
PC – Prior-converted
PCEs – Passenger Car Equivalents
PDC – Planning District Commission
PEM – Palustrine Emergent Wetlands
PFO – Palustrine Forested Wetlands
PM 2.5 – Particulate Matter (2.5 micrometers or smaller)
PPTA – Public-Private Transportation Act
PSS – Palustrine Scrub-Shrub Wetlands
PUB – Palustrine Wetlands with Unconsolidated Bottoms
QA/QC – Quality Assurance/Quality Control
RCRA – Resource Conservation and Recovery Act of 1976
RCRIS – Resource Conservation and Recovery Information System
REMI – Regional Economic Model, Inc.
ROD – Record of Decision
ROW – Right-of-Way



RRRC – Rappahannock-Rapidan Regional Commission
RVAMPO – Roanoke Valley Area Metropolitan Planning Organization
RVARC – Roanoke Valley-Alleghany Regional Commission
SAFETEA-LU – Safe, Accountable, Flexible, Efficient Transportation Equity Act:
 A Legacy for Users
SEL – Sound Exposure Level
SHA – State Highway Administration
SHPO – State Historic Preservation Office
SIP – State Implementation Plan
SIU – Section of Independent Utility
SJR – Senate Joint Resolution
SL – State Listed Resource
SOC – Species of Concern
SQL – Structured Query Language
SSURGO – Soil Survey Geographic
SVBNHD – Shenandoah Valley Battlefield National Historic District
SWAP – Source Water Assessment Program
TAZ – Traffic Analysis Zone
TEA-21 – Transportation Equity Act for the 21st Century
TDM – Transportation Demand Management
TMDL – Total Daily Maximum Load
TNM – Traffic Noise Model
TRI – Toxic Release Inventory
TSM – Transportation System Management
TTA – Truck Trip Analyzer
TVA – Tennessee Valley Authority
USACE – United States Army Corps of Engineers
USC – United States Code
USCG – United States Coast Guard
USDA – United States Department of Agriculture
USDOT – United States Department of Transportation
USGS – United States Geological Survey
v/c – volume to capacity
VDACS – Virginia Department of Agriculture and Consumer Services
VDF – Virginia Department of Forestry
VDH – Virginia Department of Health
VDHR – Virginia Department of Historic Resources
VDOT – Virginia Department of Transportation
VGIN – Virginia Geographic Information Network
VLR – Virginia Landmarks Register
VMRC – Virginia Marine Resources Commission
VMT – Vehicle Miles Traveled
VOF – Virginia Outdoor Foundation
VOP – Virginia Outdoor Plan



VPD – Vehicles per Day
VPDES – Virginia Pollutant Discharge Elimination System
VRE – Virginia Railway Express
VTC – Virginia Tourism Corporation
VWPP – Virginia Water Protection Permit Program
WFCMPO – Winchester-Frederick County Metropolitan Planning Organization
WOUS – Waters of the United States
WPPDC – West Piedmont Planning District Commission

Glossary of Commonly Used Terms

8-Hour Ozone NAAQS – The 8-hour ozone national ambient air quality standard codified at 40 CFR 50.10.

23 CFR 771 – Environmental Impact and Related Procedures

23 CFR 772 – Procedures for Abatement of Highway Traffic Noise and Construction Noise

23 CFR 777 – Mitigation of Impacts to Wetlands and Natural Habitat

42 USC 61 – The Uniform Relocation Assistance and Real Property Acquisition Policies for Federal and Federally Assisted Programs.

Air Quality Conformity – The link between air quality planning and transportation planning.

American Association of State Highway and Transportation Officials (AASHTO) – A nonprofit, nonpartisan association representing highway and transportation departments in the 50 states, the District of Columbia and Puerto Rico. It represents all five transportation modes: air, highways, public transportation, rail and water. Its primary goal is to foster the development, operation and maintenance of an integrated national transportation system.

Arterial Highway – A major highway used primarily for through traffic.

Attainment area – An area considered to have air quality as good as or better than the national standards defined in the Clean Air Act Amendments of 1990.

Aquifer – A water-bearing unit of permeable rock, sand or gravel which yields considerable quantities of water to springs and wells.

Average Annual Daily Traffic (AADT) – The total volume of traffic on a highway segment for one year, divided by the number of days in the year.

Benthic – Located on the bottom of a body of water or in the bottom sediments, or pertaining to bottom-dwelling organisms.

Biodiversity – The variety and abundance of species, their genetic composition, and the communities, ecosystems, and landscapes in which they occur.

Bulk transfer – The transfer of bulk products, such as plastic pellets or liquid sweeteners, from one mode of transportation to another. Bulk transfers permit off-rail shippers and receivers of various commodities to combine rail's long-haul efficiencies with truck's convenient door-to-door delivery.

Carbon Monoxide (CO) – A colorless, odorless, highly toxic gas that is a normal by-product of incomplete fossil fuel combustion. Carbon monoxide, one of the major air pollutants, can be harmful in small amounts if breathed over a certain period of time.

Carload – A shipment of no less than five tons of one commodity.

Class I railroad – A railroad having operating revenues of more than \$256 million annually.

Clean Air Act Amendments (CAAA) – The original Clean Air Act was passed in 1963, but the national air pollution control program is actually based on the 1970 version of the law. The 1990 Clean Air Act Amendments are the most far-reaching revisions of the 1970 law. The 1990 Clean Air Act is the most recent version of the 1970 version of the law. The 1990 amendments made major changes in the Clean Air Act.

Code of Federal Regulations (CFR) – A compilation of the general and permanent rules of the executive departments and agencies of the federal government as published in the Federal Register. The code is divided into 50 titles that represent broad areas subject to federal regulation.

Collector Distributor (CD) Road – Roadways that parallel the interstate and provide access/egress at multiple cross roads, while eliminating off-ramp and on-ramp movements along the mainline of the interstate, thereby improving traffic flow.

Container – A large, weatherproof box designed for shipping freight in bulk by rail, truck, or ship.

Corridor – A broad geographical band that follows a general directional flow connecting major sources of trips that may contain a number of streets, highways and transit route alignments.

Crash (Highway) – An event that produces injury and/or property damage, involves a motor vehicle in transport, and occurs on a trafficway or while the vehicle is still in motion after running off the trafficway.

Department of Transportation (DOT) – Establishes the nation's overall transportation policy. Under its umbrella there are ten administrations whose jurisdictions include highway planning, development and construction; urban mass transit; railroads; aviation; and the safety of waterways, ports, highways, and oil and gas pipelines. The Department of Transportation (DOT) was established by act of October 15, 1966, as amended (49 U.S.C. 102 and 102 note), “to assure the coordinated, effective administration of the transportation programs of the Federal Government” and to develop “national transportation policies and programs conducive to the provision of fast, safe, efficient, and convenient transportation at the lowest cost consistent therewith.”

Distribution center – A centrally located warehouse where goods shipped long distances by rail are loaded onto trucks for short-haul delivery to receivers, or vice versa. Also called a reload center, it combines the economies of rail with the flexibility of truck pickup and delivery.

Double-stack containers – Containers that can be stacked one atop another on a flatcar.

Double-tracking – The presence of two main, parallel tracks within a right-of-way. A section of railroad is double tracked when the number of trains is high enough to make it cost-effective to do so. When a second main line is not cost effective, passing sidings are usually added at strategic locations.

Emissions Budget – The part of the State Implementation Plan (SIP) that identifies the allowable emissions levels, mandated by the National Ambient Air Quality Standards (NAAQS), for certain pollutants emitted from mobile, stationary, and area sources. The emissions levels are used for meeting emission reduction milestones, attainment, or maintenance demonstrations.

Emissions Inventory – A complete list of sources and amounts of pollutant emissions within a specific area and time interval.

Environmental Impact Statement (EIS) – Report developed as part of the National Environmental Policy Act requirements, which details any significant adverse economic, social, and environmental effects of a proposed transportation project for which federal funding is being sought. Adverse effects could include air, water, or noise pollution; destruction or disruption of natural resources; adverse employment effects; injurious displacement of people or businesses; or disruption of desirable community or regional growth.

Environmental Justice (EJ) – Environmental justice assures that services and benefits allow for meaningful participation and are fairly distributed to avoid discrimination.

Environmental Protection Agency (EPA) – The mission of the Environmental Protection Agency is to protect human health and the environment. EPA works to develop and enforce regulations that implement environmental laws enacted by Congress. EPA is responsible for researching and setting national standards for a variety of environmental programs, and delegates to states and tribes the responsibility for issuing permits and for monitoring and enforcing compliance.

Fatality – For purposes of statistical reporting on transportation safety, a fatality is considered a death due to injuries in a transportation crash, accident, or incident that occurs within 30 days of that occurrence.

Federal Highway Administration (FHWA) – A branch of the U.S. Department of Transportation that administers the federal-aid Highway Program, providing financial assistance to states to construct and improve highways, urban and rural roads, and bridges. The FHWA also administers the Federal Lands Highway Program, including survey, design, and construction of forest highway system roads, parkways and park roads, Indian reservation roads, defense access roads, and other federal lands roads. The federal agency within the U.S. Department of Transportation responsible for administering the Federal-Aid Highway Program. Became a component of the Department of Transportation in 1967 pursuant to the Department of Transportation Act (49 U.S.C. app. 1651 note). It administers the highway transportation programs of the Department of Transportation under pertinent legislation.

Federal Railroad Administration (FRA) – The purpose of the Federal Railroad Administration is to promulgate and enforce rail safety regulations, administer railroad financial assistance programs, conduct research and development in support of improved railroad safety and national rail transportation policy, provide for the rehabilitation of Northeast corridor rail passenger service, and consolidate government support of rail transportation activities. The FRA was created pursuant to Section 3(e)(1) of the Department of Transportation Act of 1966 (49 U.S.C. app. 1652).

Federal Transit Administration (FTA) – A branch of the U.S. Department of Transportation that is the principal source of federal financial assistance to America's communities for planning, development, and improvement of public or mass transportation systems. FTA provides leadership, technical assistance, and financial resources for safe, technologically advanced public transportation to enhance mobility and accessibility, to improve the Nation's communities and natural environment, and to strengthen the national economy. (Formerly the Urban Mass Transportation Administration) operates under the authority of the Federal Transit Act, as amended (49 U.S.C. app. 1601 et seq.). The Federal Transit Act was repealed on July 5, 1994, and the federal transit laws were codified and re-enacted as chapter 53 of Title 49, United States Code. The FTA was established as a component of the Department of Transportation by Section 3 of Reorganization Plan No. 2 of 1968 (5 U.S.C. app.), effective July 1, 1968. The missions of the Administration are 1) to assist in the development of improved mass transportation facilities, equipment, techniques, and

methods, with the cooperation of mass transportation companies both public and private; 2) to encourage the planning and establishment of area-wide urban mass transportation systems needed for economical and desirable urban development, with the cooperation of mass transportation companies both public and private; 3) to provide assistance to state and local governments and their instrumentalities in financing such systems, to be operated by public or private mass transportation companies as determined by local needs; and 4) to provide financial assistance to state and local governments to help implement national goals relating to mobility for elderly persons, persons with disabilities, and economically disadvantaged persons.

Fiscal Year (FY) – The yearly accounting period beginning October 1 and ending September 30 of the subsequent calendar year. Fiscal years are denoted by the calendar year in which they end (*e.g.*, FY 1991 began October 1, 1990, and ended September 30, 1991).

Flatcar – An open car without sides or roof.

Geographic Information System (GIS) – 1) Computerized data management system designed to capture, store, retrieve, analyze, and display geographically referenced information. 2) A system of hardware, software, and data for collecting, storing, analyzing, and disseminating information about areas of the Earth. For Highway Performance Monitoring System (HPMS) purposes, GIS is defined as a highway network (spatial data which graphically represents the geometry of the highways, an electronic map) and its geographically referenced component attributes (HPMS section data, bridge data, and other data including socioeconomic data) that are integrated through GIS technology to perform analyses. From this, GIS can display attributes and analyze results electronically in map form.

Gross Domestic Product (GDP) – 1) The total value of goods and services produced by labor and property located in the United States. As long as the labor and property are located in the United States, the supplier (that is, the workers and, for property, the owners) may be either U.S. residents or residents of foreign countries. (DOE3) 2) The total output of goods and services produced by labor and property located in the United States, valued at market prices. As long as the labor and property are located in the United States, the suppliers (workers and owners) may be either U.S. residents or residents of foreign countries.

Groundwater – Naturally-occurring water that moves through the ground and underlying rock, at a depth of several feet to several hundred feet.

Hazardous Material – Any toxic substance or explosive, corrosive, combustible, poisonous, or radioactive material that poses a risk to the public's health, safety, or property, particularly when transported in commerce.

Highway – Any road, street, parkway, or freeway/expressway that includes rights-of-way, bridges, railroad-highway crossings, tunnels, drainage structures, signs, guardrail, and protective structures in connection with highways. The highway further includes that portion



of any interstate or international bridge or tunnel and the approaches thereto (23 U.S.C. 101a).

Improvement Concept – General term that refers to conceptual-level solutions to address the transportation deficiencies identified in the purpose and need statement.

Intelligent Transportation Systems (ITS) – The application of advanced technologies to improve the efficiency and safety of transportation systems.

Intermodal service – Freight moving via at least two different modes of transport. Intermodal service generally involves the shipment of containers and trailers by rail, truck, barge, or ship.

Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) – Legislative initiative by the U.S. Congress that restructured funding for transportation programs. ISTEA authorized increased levels of highway and transportation funding from FY92-97 and increased the role of regional planning commissions/MPOs in funding decisions. The Act also required comprehensive regional and statewide long-term transportation plans and places an increased emphasis on public participation and transportation alternatives.

Intersection – 1) A point defined by any combination of courses, radials, or bearings of two or more navigational aids. 2). Used to describe the point where two runways, a runway and a taxiway, or two taxiways cross or meet.

Interstate Highway – Limited access, divided highway of at least four lanes designated by the Federal Highway Administration as part of the Interstate System.

Interstate Highway System – The system of highways that connects the principal metropolitan areas, cities, and industrial centers of the United States. Also connects the United States to internationally significant routes in Canada and Mexico.

Land Use – Refers to the manner in which portions of land or the structures on them are used, i.e., commercial, residential, retail, industrial, etc.

Land Use Plan – A plan which establishes strategies for the use of land to meet identified community needs.

Level of Service – The concept of levels of service uses qualitative measures that characterize operational conditions within a traffic stream and their perception by motorists and passengers. The descriptions of individual levels of service characterize these conditions in terms of such factors as speed and travel time, freedom to maneuver, traffic interruptions, and comfort and convenience. Six levels of service are defined, designated A through F, with A representing the best conditions and F the worst.

Line capacity – The maximum number of trains that can operate safely and reliably over a given segment of track during a given period of time.

Locomotive – Railroad vehicle equipped with flanged wheels for use on railroad tracks, powered directly by electricity, steam, or fossil fuel, and used to move other railroad rolling equipment.

Long Range Transportation Plan (LRTP) – A document resulting from regional or statewide collaboration and consensus on a region or state's transportation system, and serving as the defining vision for the region's or state's transportation systems and services. In metropolitan areas, the plan indicates all of the transportation improvements scheduled for funding over the next 20 years.

Main line – Primarily rail line over which trains operate between terminals. It excludes sidings, and yard and industry tracks.

Metropolitan Planning Organization (MPO) – 1) Regional policy body, required in urbanized areas with populations over 50,000, and designated by local officials and the governor of the state. Responsible in cooperation with the state and other transportation providers for carrying out the metropolitan transportation planning requirements of federal highway and transit legislation. 2) Formed in cooperation with the state, develops transportation plans and programs for the metropolitan area. For each urbanized area, a Metropolitan Planning Organization (MPO) must be designated by agreement between the Governor and local units of government representing 75% of the affected population (in the metropolitan area), including the central cities or cities as defined by the Bureau of the Census, or in accordance with procedures established by applicable state or local law (23 U.S.C. 134(b)(1)/Federal Transit Act of 1991 Sec. 8(b)(1)).

Mile – A statute mile (5,280 feet). All mileage computations are based on statute miles.

Miles per Gallon (MPG) – A measure of vehicle fuel efficiency. Miles per Gallon represents "Fleet Miles per Gallon". For each subgroup or "table cell", MPG is computed as the ratio of the total number of miles traveled by all vehicles in the subgroup to the total number of gallons consumed. MPGs are assigned to each vehicle using the Environmental Protection Agency certification files and adjusted for on-road driving.

Mobile Source – 1) The mobile source-related pollutants are carbon monoxide (CO), hydrocarbons (HC), nitrogen oxides (NO_x), and particulate matter (PM₁₀ and PM_{2.5}). 2) Mobile sources include motor vehicles, aircraft, seagoing vessels, and other transportation modes. The mobile source related pollutants are carbon monoxide (CO), hydrocarbons (HC) or volatile organic compounds (VOCs), nitrogen oxides (NO_x), and small particulate matter (PM₁₀).

National Ambient Air Quality Standards (NAAQS) – Federal standards that set allowable concentrations and exposure limits for various pollutants. The EPA developed the standards in response to a requirement of the CAA. Air quality standards have been established for the following six criteria pollutants: ozone (or smog), carbon monoxide, particulate matter, nitrogen dioxide, lead, and sulfur dioxide.

National Environmental Policy Act of 1969 (NEPA) – Established a national environmental policy requiring that any project using federal funding or requiring federal approval, including transportation projects, examine the effects of proposed and alternative choices on the environment before a federal decision is made.

Nitrogen Oxide (NO_x) – Colorless, sweet-tasting gas emitted directly by automobiles and trucks.

Nitrogen Oxide Emissions – Nitrogen oxides (NO_x), the term used to describe the sum of nitric oxide (NO), nitrogen dioxide (NO₂) and other oxides of nitrogen, play a major role in the formation of ozone. The major sources of man-made NO_x emissions are high-temperature combustion processes, such as those occurring in automobiles and power plants.

Nonattainment Area – Any geographic area that has not met the requirements for clean air as set out in the Clean Air Act of 1990.

Ozone – Unstable blue gas with a pungent odor formed principally in secondary reactions involving volatile organic compounds, nitrogen oxides, and sunlight.

Particulate Matter (PM₁₀ and PM_{2.5}) – Particulate matter consists of airborne solid particles and liquid droplets. Particulate matter may be in the form of fly ash, soot, dust, fog, fumes, etc. These particles are classified as "coarse" if they are smaller than 10 microns, or "fine" if they are smaller than 2.5 microns. Coarse airborne particles are produced during grinding operations, or from the physical disturbance of dust by natural air turbulence processes, such as wind. Fine particles can be a by-product of fossil fuel combustion, such as diesel and bus engines. Fine particles can easily reach remote lung areas, and their presence in the lungs is linked to serious respiratory ailments such as asthma, chronic bronchitis and aggravated coughing. Exposure to these particles may aggravate other medical conditions such as heart disease and emphysema and may cause premature death. In the environment, particulate matter contributes to diminished visibility and particle deposition (soiling).

Particulate Matter Emissions – Particulate matter (PM) is the general term used for a mixture of solid particles and liquid droplets found in the air. They originate from many different stationary and mobile sources as well as from natural sources, including fuel combustion from motor vehicles, power generation, and industrial facilities, as well as from residential fireplaces and wood stoves. Fine particles are most closely associated with such health effects as increased hospital admissions and emergency room visits for heart and lung disease,

increased respiratory symptoms and disease, decreased lung function, and even premature death.

Parts per Million (ppm) – A measure of air pollutant concentrations.

Passenger Car – A motor vehicle designed primarily for carrying passengers on ordinary roads, includes convertibles, sedans, and station wagons.

Public Meeting or Hearing – A public gathering for the express purpose of informing and soliciting input from interested individuals regarding transportation issues.

Public Participation – The active and meaningful involvement of the public in the development of transportation plans and programs.

Public Road – Any road under the jurisdiction of and maintained by a public authority (federal, state, county, town or township, local government, or instrumentality thereof) and open to public travel.

Rail – A rolled steel shape laid in two parallel lines to form a track for carrying vehicles with flanged steel wheels.

Right-of-Way – The land (usually a strip) acquired for or devoted to highway transportation purposes.

Riparian – Pertaining to anything connected with or immediately adjacent to the banks of a stream or river.

Road – An open way for the passage of vehicles, persons, or animals on land.

Roadbed stabilization – The need to improve the ability of the track foundation (ballast and sub-ballast) to maintain the alignment (horizontal and vertical) of the rails and ties. This is necessary to safely allow higher train speeds.

Short line railroad – A railroad that originates or terminates freight traffic on its tracks, participates in division of revenues and is usually less than 100 miles in length.

Siding – A length of track parallel to the main track that has a switch at both ends to allow trains to enter at one end and exit at the other. Sidings are added or lengthened to make it easier for trains to pass each other (going in the same or opposite directions) where there are not two through tracks. A siding has a purpose similar to that of a highway passing lane or truck climbing lane.

Singletrack – A main track over which trains are operated in both directions.

State Implementation Plan (SIP) – Produced by the state environmental agency, not the MPO. A plan mandated by the CAA that contains procedures to monitor, control, maintain, and enforce compliance with the NAAQS. Must be taken into account in the transportation planning process.

Stream Conservation Units – Stream reaches that contain aquatic natural heritage resources including upstream and downstream buffers and tributaries associated with a particular reach.

Study Team – The team of consulting engineers, scientists, and planners, led by Vanasse Hangen Brustlin, Inc. (VHB), who assisted FHWA and VDOT in the preparation of this Tier 1 EIS. The Study Team includes ten other firms included in the List of Preparers.

Superelevation – The need to “bank” a curve to reduce the forces that would tend to tip the train over when traversing the curve. Usually curves are superelevated to allow a train to go through a curve at a given speed. This is the same process used to design highway curves for cars and trucks.

Switching – Movement of freight cars between two nearby locations or trains.

Terminal – A railroad facility used for handling freight and receiving, classifying, assembling and dispatching of trains.

Through freight train – An express freight train between major terminals.

Traffic control – The train signals located along the tracks and that tell the train engineer the speed limit (or confirm the speed limit listed in the timetable) at that time on the next section of track.

Trailer – A cargo-carrying highway vehicle without automotive power.

Train warrants – Used where there are no signals (traffic control). Train dispatchers located along the railroad talk with the train engineer and provide clearances for a portion of the track. This system of train control is quite time consuming and is typically only used on sections of track where there are usually not many trains.

Transportation Demand Management (TDM) – Programs designed to reduce demand for transportation through various means, such as the use of transit and of alternative work hours.

Transportation Equity Act for the 21st Century (TEA-21) – Authorized in 1998, TEA-21 authorized federal funding for transportation investment for fiscal years 1998-2003. Approximately \$217 billion in funding was authorized, which was used for highway, transit, and other surface transportation programs.

Transportation Improvement Program (TIP) – A document prepared by a metropolitan planning organization that lists projects to be funded with FHWA/FTA funds for the next one- to three-year period.

Turnout – A combination of a switch and connecting track to allow a train to go from one track to another. This is typically done to go from a main track to a siding or from one main track to another.

Unit train – A freight train that moves carloads of a single product between two points. By unloading on arrival and returning promptly for another load, such trains cut costs because they eliminate intermediate stops in yards and reduce cycle times.

United States Code – Contains a consolidation and codification of all general and permanent laws of the U.S.

Urbanized Area – Area that contains a city of 50,000 or more population plus incorporated surrounding areas meeting size or density criteria as defined by the U.S. Census.

Vehicle Miles of Travel (VMT) – The number of miles traveled nationally by vehicles for a period of one year. VMT is either calculated using 2 odometer readings or, for vehicles with less than two odometer readings, imputed using a regression estimate.

Volatile Organic Compounds (VOCs) – VOCs come from vehicle exhaust, paint thinners, solvents, and other petroleum-based products. A number of exhaust VOCs are also toxic, with the potential to cause cancer.

Watershed – A specific geographic area drained by a major stream or river.

Waybill – The document that specifies such freight-shipping details as final destination, routes, and shipping companies.

Yard – A system of tracks branching from a common track. Yards are used for switching, making up trains and storing cars.