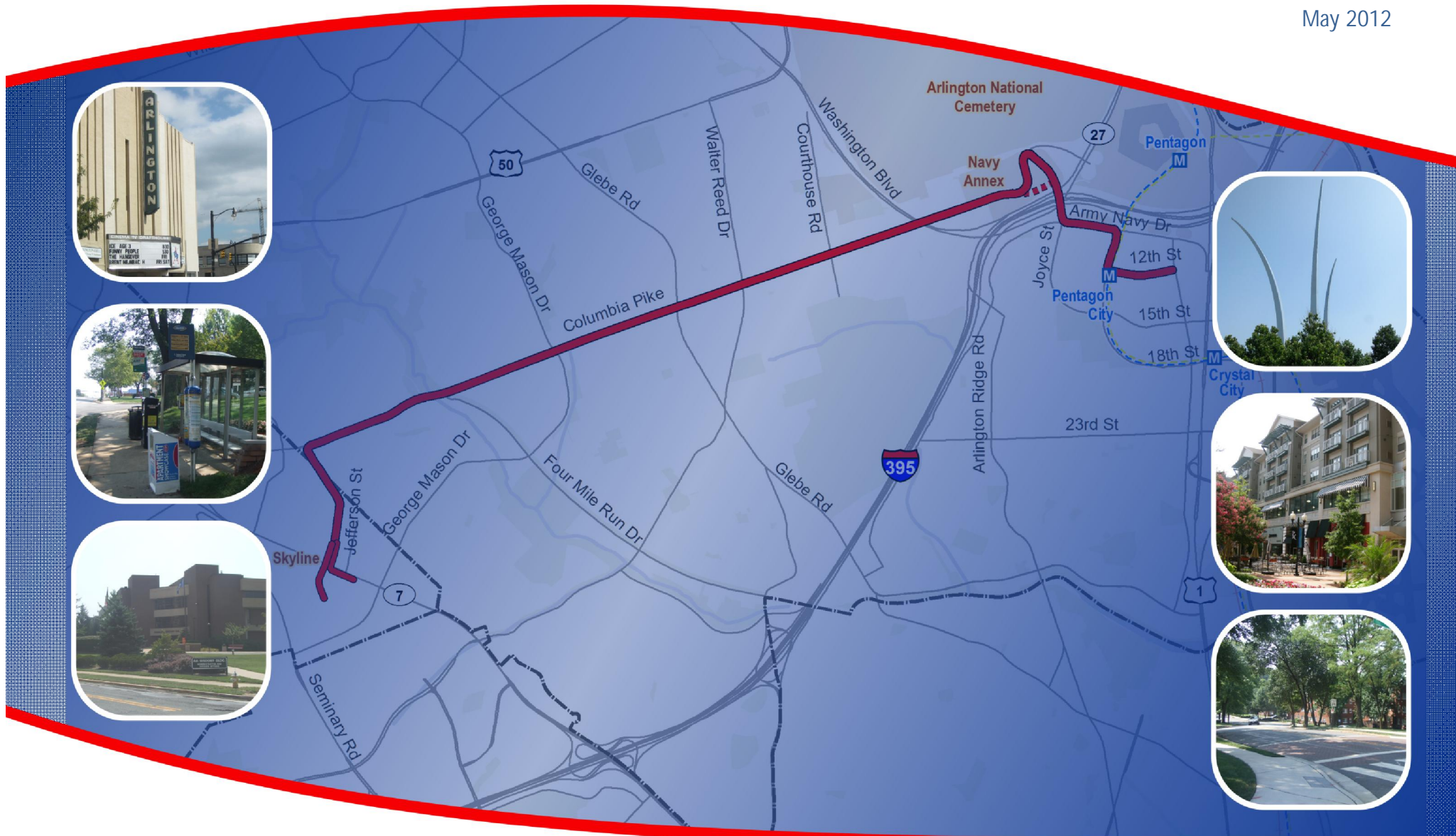


COLUMBIA PIKE TRANSIT INITIATIVE Alternatives Analysis/Environmental Assessment

Volume I
May 2012



Abstract

Arlington County and Fairfax County, Virginia, in cooperation with the Federal Transit Administration (FTA), are proposing to implement high-quality, high-capacity transit service along a 5-mile corridor, running mainly along Columbia Pike, between the Pentagon/Pentagon City area in Arlington County and the Skyline complex located in the Baileys Crossroads Community Business Center (CBC) in Fairfax County. The proposed project, known as the Columbia Pike Transit Initiative, supports the transportation goals of the counties and fosters their vision for a multimodal corridor, linking its walkable, mixed-use, mixed-income neighborhoods and connecting these to the Washington, DC area transit network, and thus, the region's major activity centers.

The project is seeking federal funding for a portion of the proposed improvements through the FTA Capital Investment Grant Program (49 U.S.C. 5309) New Starts/Small Starts program. In order to meet the requirements of the program and maintain eligibility for federal funding, FTA, as the lead federal agency, in coordination with Arlington County and Fairfax County, is preparing this combined Alternatives Analysis/Environmental Assessment (AA/EA). The Washington Metropolitan Area Transit Authority (WMATA) is providing technical oversight of the AA/EA.

This AA/EA compares the ability of four alternatives to satisfy the project purpose and need and analyzes the potential effects of the alternatives on the built and natural environment. The AA/EA will be available for review and comment for 30 days, beginning on May 22, 2012. The 30-day public review period will close on June 21, 2012.

Public Meetings

Arlington County and Fairfax County will hold two public meetings on the AA/EA. Comment forms will be available for attendees to submit comments for the public record. The first meeting will be held on Wednesday, June 6, 2012, at Patrick Henry Elementary School, Cafeteria/Gymnasium, 701 South Highland Street, Arlington, VA 22204. The second meeting will be held on Thursday, June 7, 2012, at Goodwin House Bailey's Crossroads, Auditorium, 3440 South Jefferson Street, Falls Church, VA 22041. Both meetings will be held from 7:00 PM to 9:00 PM.

Comment Submission

Your comments are important. If you cannot attend one of the public meetings, you can submit your comments on the AA/EA between May 22, 2012, and June 21, 2012, to the following address: Columbia Pike Transit Initiative, P.O. Box 3915, Oakton, VA 22124, or by email to info@piketransit.com. The project website, www.piketransit.com, also provides an on-line comment form to submit comments. To ensure that comments will be considered, the Columbia Pike Transit Initiative must receive written comments by June 21, 2012.

Next Steps

After the public meetings and the close of the comment period, the Arlington County Board and Fairfax County Board of Supervisors will select a Locally Preferred Alternative (LPA). Thereafter, FTA will review the findings of the AA/EA and responses to comments. FTA will make its formal NEPA determination and the comments will be formally addressed in the NEPA finding.

If the Streetcar Build Alternative is selected as the LPA, Arlington County and Fairfax County would apply to enter the next phase, "preliminary engineering" or "project development," of FTA's New Starts/Small Starts program.

Additional Information is available by contacting:

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Lists of Acronyms and Terms

Acronym Definition

AA	Alternatives Analysis	CO	carbon monoxide
AA/EA	Alternatives Analysis/Environmental Assessment	CP-FBC	Columbia Pike Form-Based Code
AAI	All-Appropriate Inquiry	CPRO	Columbia Pike Revitalization Organization
ACM	asbestos containing material	CRMP	Coastal Resources Management Program
ADA	Americans with Disabilities Act of 1990, as amended	CZMA	Coastal Zone Management Act of 1972
AECOM	AECOM Corporation	dB	decibel
AGT	automated guideway transit	dba	A-weighted decibel
APC	Automated Passenger Count	DISA	Defense Information Systems Agency
APE	Area of Potential Effect	DMU	diesel multiple unit
ART	Arlington Transit	DoD	Department of Defense
AST	aboveground storage tank	DOE	Department of Energy
ASTM	American Society for Testing and Materials	DMV	Department of Motor Vehicles
BACT	Best Available Control Technologies	DRPT	Virginia Department of Rail and Public Transportation
BEA	Bureau of Economic Analysis	EA	Environmental Assessment
BMP	Best Management Practice	EIS	Environmental Impact Statement
BRT	bus rapid transit	EJ	Environmental Justice
BTU	British thermal unit	EO	Executive Order
CAAA	Clean Air Act Amendments	EPA	United States Environmental Protection Agency
CAFE	Corporate Average Fuel Economy	ESA	Environmental Site Assessment
CCC	Community Coordination Committee	FAA	Federal Aviation Administration
CEQ	Council on Environmental Quality	FEIS	Final Environmental Impact Statement
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act	FEMA	Federal Emergency Management Agency
CERCLIS	Comprehensive Emergency Response Compensation and Liabilities Information System	FERC	Federal Energy Regulatory Commission
CFR	Code of Federal Regulations	FFGA	Full Funding Grant Agreement
CIP	Capital Improvement Program	FHWA	Federal Highway Administration
CLRP	Constrained Long-Range Transportation Plan	FIRM	Flood Insurance Rate Map
CNG	compressed natural gas	FMVECP	Federal Motors Vehicles Emission Control Program
		FOIA	Freedom of Information Act
		FONSI	Finding of No Significant Impact
		FTA	Federal Transit Administration
		FY	fiscal year

GIS	geographic information systems	NMFS	National Marine Fisheries Service
GPS	Global Positioning System	NO	nitric oxide
HC	hydrocarbons	NOx	nitrogen oxides
HOV	high-occupancy vehicle	NO2	nitrogen dioxide
I-395	Interstate 95	NOAA	National Oceanic and Atmospheric Administration
ICC	Interstate Commerce Commission	NOI	Notice of Intent
ISTEA	Intermodal Surface Transportation Efficiency Act of 1991	NOVA	Northern Virginia Community College
ITS	Intelligent Transportation Systems	NPDES	National Pollutant Discharge Elimination System
IWOMEV	Isolated Wetland of Minimal Ecological Value	NPL	National Priority List
JD	Jurisdictional Determination	NPS	National Park Service
JPA	Joint Permit Application	NRCS	Natural Resources Conservation Service
KGP	KGP Design Studios	NRHP	National Register of Historic Places
L _{dn}	24-hour day-night noise level	NTD	National Transit Database
L _{eq} (h)	hourly equivalent noise level	NVTA	Northern Virginia Transportation Authority
L _{max}	maximum noise level during an event	NVTC	Northern Virginia Transportation Commission
LBP	lead-based paint	NWI	National Wetlands Inventory
LOS	level of service	O&M	operations and maintenance
LPA	Locally Preferred Alternative	O3	ozone
LRT	light rail transit	OCS	overhead catenary system
LRTP	Long Range Transportation Plan	OMB	Office of Management and Budget
LUST	leaking underground storage tank	Pb	lead
L&WCF	Land and Water Conservation Fund	PC	Policy Committee
mg/m ³	milligrams per cubic meter	PCB	polychlorinated biphenyl
Mpg	miles per gallon	PM	particulate matter
mph	miles per hour	PM	Preventative Maintenance
MPO	Metropolitan Planning Organization	PMT	Project Management Team
MSA	metropolitan statistical area	PM2.5	particulate matter of 2.5 microns in diameter or less
MWCOG	Metropolitan Washington Council of Governments	PM10	particulate matter of 10 microns in diameter or less
NAAQS	National Ambient Air Quality Standards	ppm	parts per million
NEPA	National Environmental Policy Act	PRTC	Potomac and Rappahannock Transportation Commission
NFIP	National Flood Insurance Program	PSI	Preliminary Site Investigation

RCRA	Resource Conservation and Recovery Act	USDA	United States Department of Agriculture
REC	Recognized Environmental Condition	USDOT	United States Department of Transportation
RIMSII	Regional Input-Output Modeling System	USFWS	United States Fish and Wildlife Service
RMA	Resource Management Area	USGS	United States Geological Survey
RMS	root mean square	USPS	United States Postal Service
ROD	Record of Decision	UST	underground storage tank
ROW	right-of-way	V/C	Volume-to-Capacity Ratio
RPA	Resource Protection Area	VAC	Virginia Administrative Code
Rt 7	Virginia State Route 7 (Leesburg Pike)	VAFWIS	Virginia Fish and Wildlife Information Service
RTP	Regional Transportation Plan	VCP	Virginia Coastal Zone Management Program
SAFETEA-LU	Safe, Accountable, Flexible Efficient Transportation Equity Act: A Legacy for Users	VdB	vibration decibel
SFHA	Special Flood Hazard Area	VDACS	Virginia Department of Agriculture and Consumer Services
SHPO	State Historic Preservation Office	VDCR	Virginia Department of Conservation and Recreation
SIP	State Implementation Plan	VDEQ	Virginia Department of Environmental Quality
SO _x	sulfur oxide	VDGIF	Virginia Department of Game and Inland Fisheries
SO ₂	sulfur dioxide	VDHR	Virginia Department of Historic Resources
SO ₃	sulfur trioxide	VDOT	Virginia Department of Transportation
SSURGO	Soil Survey Geographic Database	VLR	Virginia Landmarks Register
TAC	Technical Advisory Committee	VMRC	Virginia Marine Resources Commission
TAZ	Traffic Analysis Zone	VMT	Vehicle Miles Traveled
TEA-21	Transportation Equity Act for the 21st Century	VOC	Volatile Organic Compound
TIP	Transportation Improvement Program	VPDES	Virginia Pollutant Discharge Elimination System
TMDL	Total Maximum Daily Load	VRE	Virginia Railway Express
TPSS	traction power substation	VRP	Voluntary Remediation Program
TSM	Transportation Systems Management	VWP	Virginia Water Protection Permit
TSS	total suspended solids	W&OD	Washington and Old Dominion Railroad
ULSD	ultra-low sulfur diesel	WMATA	Washington Metropolitan Area Transit Authority
UMTA	Urban Mass Transit Administration	YOE	year-of-expenditure
USACE	United States Army Corps of Engineers	µg/m ³	micrograms per cubic meter
USC	United States Code		

Glossary of Terms

100-year floodplain - The areas along or adjacent to a stream or body of water that are capable of storing or conveying floodwaters during a 100-year frequency storm event.

accessibility - A measure of how reachable locations or activities are from a given site; it is influenced by changes in travel time, safety, vehicle operating costs, and transportation choice.

adverse effect - Defined in Section 106 of the National Historic Preservation Act (NHPA) (36 CFR 800.5(a) (1)). An adverse effect to a historic property occurs when the project under consideration alters any characteristic that qualifies the property for inclusion in the National Register of Historic Places in a manner that would diminish the integrity of the property.

affected environment - Ambient conditions at the time an Environmental Impact Statement is prepared.

alignment - The ground plan of a roadway, railway or other fixed route.

Alternatives Analysis - A study designed to examine all viable transit options to address a local preferred alternative.

ambient air - A physical and chemical measure of the existing concentration of various chemicals in the outside air, usually determined over a specific time period (e.g., one hour, eight hours).

ambient background noise - The existing cumulative noise that is characteristic of an area based on current activity levels.

Area of Potential Effect (APE) - For purposes of complying with Section 106 of the NHPA, a geographic area or areas where an undertaking (e.g., the Richmond/Hampton Roads High Speed Rail Project) may directly or indirectly cause alterations in the character or use of historic properties, if any such properties are located in the area of the project.

at-grade - level with the ground surface.

Best Management Practices (BMPs) - Specific standards utilized during construction and design to minimize the impact on surrounding resources.

build alternative - The alternative being evaluated as the proposed action during the EIS process.

bus bunching - buses arriving at stops within 30 seconds of each other

capital costs - The cost to construct a transportation system such as passenger rail. Costs include design fees, vehicle procurement, environmental mitigation, property acquisition, construction materials, and labor for the construction of a project.

census tract - A small statistical subdivision of a county defined by a local committee of census data users for the purpose of presenting census

information every ten years. The census tract boundaries, which are nested within counties, generally follow visible features and often follow governmental unit boundaries or invisible features.

Clean Air Act of 1970 (CAA) - Legislation mandating the U.S. Environmental Protection Agency (EPA) to set national air quality standards to protect the public against common pollutants. State governments are required to devise clean-up plans to meet these EPA standards.

Clean Air Act Amendment of 1990 (CAAA) - A strategy for the U.S. to address the problem of urban smog. It requires states and the Federal government to reduce emissions from automobiles, trucks, buses, ships, barges, and consumer products, and to meet air quality standards. It particularly addresses the urban problem of ozone, carbon monoxide (CO), and particulate matter. It defines how areas are designated "attainment" and allows the EPA to classify "non-attainment" areas as those that do not meet the federal air quality standards.

coastal plain - An area of flat, low-lying land adjacent to a seacoast and separated from the interior by other features

Commonwealth Transportation Board (CTB) - A seventeen-member board appointed by the Governor of Virginia that is primarily responsible for locating routes, approving construction contracts, creating traffic regulations, naming highways, and administering and allocating transportation funds in Virginia.

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) - Commonly known as Superfund, this law was passed in 1980 to create a tax on the chemical and petroleum industries and provide broad federal authority to respond directly to releases or hazardous substances that may endanger public health or the environment.

Comprehensive Plan - A plan required by state law to be used by local municipalities as a guide to decision-making about the natural and built environment.

Conformity - A designation given to transportation plans, programs, and projects that conform to federally mandated state air-quality plans.

Congestion Mitigation and Air Quality (CMAQ) - Authorized under the Intermodal Surface Transportation Equity Act (ISTEA), this law provided \$6 billion in funding for surface transportation and other related projects that contribute to improvements in air-quality and reduce congestion.

Council on Environmental Quality (CEQ) - Established in the Executive Office as part of the National Environmental Policy Act of 1969 (NEPA), the council coordinates federal environmental efforts, policies, and initiatives, and ensures that federal agencies meet NEPA requirements.

cumulative impact - The impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions.

decibel - A unit of measure of sound pressure used to describe the loudness of sound on the A-weighted scale.

determination of eligibility - The decision made by the State Historic Preservation Office (SHPO) regarding whether historic buildings or district are eligible for or listed in the National Register of Historic Places (NRHP).

direct effects - Effects that occur as a direct result of the project.

dwell time - the time a bus takes to load and unload passengers

effects - Synonymous with impact, includes the result from actions that may have a beneficial or detrimental outcome.

endangered species - A species whose prospects for survival are in immediate danger based on a loss of habitat, over-exploitation, predation, competition, or disease. An endangered species requires immediate attention or extinction will likely follow.

Environmental Assessment - A prepared document used find the significant impacts of a transportation project. If significant impacts are found, then an environmental impact statement should commence.

Environmental Impact Statement (EIS) - A comprehensive study of potential environmental impacts related to federally assisted projects. Projects for which an EIS is required are defined in the National environmental Policy Act of 1969, as amended.

Environmental Justice (EJ) - Provides for equal protection from environmental hazards and fair treatment for all people regardless of race, ethnicity, or economic status, with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Fair treatment implies that no population of people bear an unequal share of negative environmental impacts of pollution or environmental hazard resulting from industrial, municipal, and commercial operations or the execution of federal, state, or local policies.

Federal Highway Administration (FHWA) - As part of the United States Department of Transportation (USDOT), the FHWA is charged with the broad responsibility of ensuring that America's roads and highways continue to be safe and technologically up-to-date.

Federal Transit Administration (FTA) - The agency of the USDOT responsible for regulation and funding of public transportation.

Geographic Information Systems (GIS) - A system of computer software and hardware, data, and personnel to manipulate, analyze and present geographically referenced information or data that is identified according to their locations.

grade crossing - An intersection where a roadway crosses a railway at the same elevation.

grade-separated - Used to describe an alignment that is elevated or below ground, or crossings that use an overpass or an underpass. Grade separation allows traffic or transit vehicles to pass through intersections without stopping for opposing traffic.

ground-borne vibration and noise - The vibration-induced levels that propagate over ground between the source and a receptor such as a building; typically assessed indoors.

habitat - The area or environment where an organism or ecological community normally lives or occurs.

headways - a measurement of the time between vehicle frequency on a transit route

hydric soils - A soil that formed under conditions of saturation, flooding or ponding long enough during the growing season to develop anaerobic conditions in the upper part.

hydrology indicators - The presence of water at or near the surface for a designated amount of time.

hydrophytic vegetation - Plant-life that thrives in wet conditions.

Intelligent Transportation Systems - information and communications technology that allows real time reporting, location tracking, and signal timing to improve the transportation network

Jurisdictional determination (JD) - Regulatory review of previously identified wetlands and waters of the United States Army Corp of Engineers (USACE) in compliance with Section 404 of the Clean Water Act.

land use - Classification providing information on land cover and the types of human activity occurring on a parcel of land, such as "commercial," "industrial," "residential," or "open space."

level of service (LOS) - A letter grade designation used to describe given roadway conditions with "A" being at or close to free-flow conditions and "F" being at or close to over-saturation of the roadway; usually based on the progression of vehicles through the green phase of a signal, driver discomfort/frustration, lost travel time, and fuel consumption.

low-income - Any household with income at or below the U.S. Bureau of the Census poverty thresholds.

Major Investment Study (MIS) - Also called Alternatives Analysis, a study that seeks to find the best capital improvement within a given corridor to solve the need for additional transportation investment.

mass transportation - Transportation that provides regular and continuing general or special transportation to the public; does not include school buses, charters, or sightseeing transportation.

master plan - An exhaustive plan for a community's future development activities.

Metropolitan Planning Organization (MPO) - The forum for cooperative transportation decision-making for a metropolitan area. Title 23 USC Section 134 requires that (1) a MPO be designated for each Urbanized Area (UZA) containing 50,000 or more persons based on the latest US Census, and (2) the metropolitan area has a continuing, cooperative and comprehensive transportation planning process.

micron - A unit of length equal to one millionth (10⁻⁶) of a meter.

minority - A member of the following races: (1) Black or African American, (2) American Indian or Alaska Native, (3) Asian, (4) Native Hawaiian or other Pacific Islander, (5) Hispanic or Latino Origin.

mitigation - The actions necessary to reduce or eliminate an impact and thereby restoring the affected environment.

mixed-use - Combination of land uses, such as residential uses combined with office, retail, public, entertainment, or even manufacturing uses.

National Environmental Policy Act of 1969 (NEPA) - Requires federal agencies to consider the environmental impacts of major federal projects or decisions, to share information with the public; to identify and assess reasonable alternatives; and to coordinate efforts with other planning and environmental reviews taking place.

National Register of Historic Places (NRHP) - A federal list of buildings, sites, district or other properties that have a historic significance. The National Register of Historic Places is maintained by the Keeper of the National Register.

No Build Alternative - a do nothing alternative to compare as a benchmark to other alternatives

off-peak period - Used to describe times where travel is not at its peak, or highest level, during the day. Off-peak travel usually occurs in the midday and evenings in most cities.

operating costs - The periodic and usual expenses a company incurs to generate revenues.

park-and-ride facility - A parking facility that is part of a transportation facility; an access mode for patrons to drive private vehicles to a transportation facility.

PikeRide: The name given to Metrobus 16 Line service and ART-Arlington Transit routes serving the Columbia Pike corridor and the surrounding Arlington neighborhoods.

Record of Decision (ROD) - A formal decision made by a lead federal agency based on its interpretation of a Final Environmental Impact Statement.

ridership - The number of people using a public transportation system during a given time period.

right-of-way (ROW) - Land available for operation of transportation facilities (roadways or rail lines). The land is typically government-owned (local, state, or federal). A transportation facility may occupy all or a portion of the right-of-way. ROWs can be grade-separated or at-grade.

scoping - The effort taken at the beginning of a study to consider all issues that should be addressed in the study. It is the first phase of activity to prepare an Environmental Impact Statement.

secondary impact - The effect of an action that takes place some time after a primary event has occurred.

State Historic Preservation Office (SHPO) - A state administrative agency responsible for carrying out consultation in accordance with the National Historic Preservation Act of 1966, as amended and other state historic preservation regulations.

study area - The special limits within which alternatives are considered.

threatened species - A species that may become endangered if surrounding conditions begin or continue to deteriorate.

topography - The surface features of a place or region.

Traffic Analysis Zone (TAZ) - a geographic area delineated by state and/or local transportation officials for tabulating traffic-related data.

Transportation Systems Management (TSM) - Different actions and activities designed to make an existing transportation system more efficient.

vehicle miles traveled (VMT) - The number of miles traveled by an automobile per individual within a given area.

wetlands - Tidal areas or swamps with water saturated soil characteristics and associated vegetation that meet certain criteria on which filling and development are federally- and/or state-regulated.

zoning ordinance - A local land use ordinance that identifies and regulates the use of property within a given municipality. Zoning ordinances prescribe land use type, relationships to nearby uses, densities, height and setback requirements, parking requirements and related elements.

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