

**SECTION 2.0 BICYCLE ACCOMMODATIONS –
GUIDANCE AND RESOURCES**

The *Bikeway Plan* provides general guidance, recommendations, and resources to facilitate development of a regional bicycling network and should be used in concert with local, regional, state, and federal efforts (plans, policies, programs, funding, etc.). This section provides an overview of federal, state, regional, local, and other resources and guidance available to facilitate development of the regional cycling network.

2.1 Federal Guidance and Resources

2.1.1 Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU)

[SAFETEA-LU](#) is a funding and authorization bill signed into law in August 2005 that governs federal surface transportation spending. SAFETEA-LU is the most recent transportation bill and carries forward the intent of previous transportation bills the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) and the Transportation Equity Act for the 21st Century (TEA-21). SAFETEA-LU expired on September 30, 2009 and has since continued via a series of continuing resolutions.

2.1.2 Policy Statement on Bicycle and Pedestrian Accommodation Regulations and Recommendations (USDOT)

The United States Department of Transportation (DOT) signed the Policy Statement on Bicycle and Pedestrian Accommodation Regulations and

Recommendations in March 2010. The purpose of the policy statement is to reflect the Department’s support for the development of fully integrated active transportation networks.

“The DOT policy is to incorporate safe and convenient walking and bicycling facilities into transportation projects. Every transportation agency, including DOT, has the responsibility to improve conditions and opportunities for walking and bicycling and to integrate walking and bicycling into their transportation systems. Because of the numerous individual and community benefits that walking and bicycling provide — including health, safety, environmental, transportation, and quality of life — transportation agencies are encouraged to go beyond minimum standards to provide safe and (USDOT).”

A full description of Federal policies related to bicycling is available at www.fhwa.dot.gov/environment/bikeped/policy_accom.htm

2.2 State and VDOT Guidance and Resources

2.2.1 Vtrans Statewide Multi-modal Long-Range Transportation Plan

[VTrans](#), the Commonwealth of Virginia's statewide long-range multi-modal transportation plan, was developed by the Secretary of Transportation through the four state transportation modal agencies - Department of Aviation (DOAV), Department of Rail and Public Transportation (VDRPT), Port Authority (VPA), and



the Department of Transportation (VDOT). The Federal Highway Administration (FHWA) and regional planning bodies across the state are also participating in its development (VDOT). The initial document, VTrans2025, was first developed in 2004 with VTrans2035 being adopted in 2008. The [Trans2035 Update](#) is the current version of the plan.



2.2.2 VDOT Policy for Integrating Bicycle and Pedestrian Accommodations

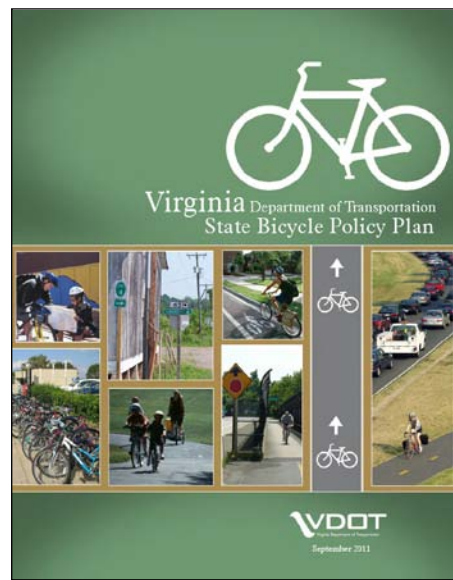
VDOT's [Policy for Integrating Bicycle and Pedestrian Accommodations](#) provides the framework through which the Virginia Department of Transportation will accommodate bicyclists and pedestrians, including pedestrians with disabilities, along with motorized transportation modes in the planning, funding, design, construction, operation, and maintenance of Virginia's transportation network to achieve a safe, effective, and balanced multimodal transportation system (VDOT). The Policy is provided in Appendix B.

2.2.3 VDOT State Bicycle Policy Plan

The VDOT [State Bicycle Policy Plan](#) (2011) establishes a vision for the future of bicycling in

the Commonwealth and to advance the bicycle element of the Policy consistently, appropriately, and cost-effectively. The VDOT State Bicycle Policy Plan was created to achieve two goals:

- Increase the use of bicycling in Virginia to include a full and diverse range of the population for all trip purposes; and
- Improve safety and comfort of bicyclists throughout Virginia, reduce bicycle crashes



Recommendations from the State Policy Plan will advance the VDOT *Policy for Integrating Bicycle and Pedestrian Accommodations* more effectively and will involve a wide variety of partners within various divisions of VDOT, as well as stakeholders throughout the Commonwealth. The State Policy Plan focuses on policies, procedures, and programs within VDOT's authority. Chapter 5 of the State Plan provides program and policy recommendations organized under 4 core elements:



- Clarify policies with regard to bicycle accommodations;
- Provide staff with resources to integrate the accommodations of bicyclists in projects and programs;
- Improve bicycle outreach and coordination; and
- Measure and evaluate progress

The State Bicycle Plan Recommendations Summary Table is provided in Appendix C.

2.2.4 VDOT State Bicycle and Pedestrian Program

Virginia Department of Transportation's [State Bicycle and Pedestrian Program](#) promotes bicycling and walking within the state through planning assistance to state and local transportation planners; activity coordination for various bicycle committees; and bicycle and pedestrian education and safety promotions. State Bicycle and Pedestrian Program also involves other VDOT staff, initiatives and resources including:

- State Bicycle and Pedestrian Coordinator
- District Bicycle and Pedestrian Coordinators
- Internal Bicycle and Pedestrian Task Force
- Bicycle Accommodations Review Team
- Bicycle Advisory Committee

The State Bicycle and Pedestrian Program webpage also provide a range of bicycle and pedestrian information, maps, VDOT policies and plans, and related resources.

2.2.5 Virginia Bicycle Facility Resource Guide

The [Virginia Bicycle Facility Resource Guide](#) provides planning, design, education, encouragement and funding ideas for bicycle facilities. Bicycle accommodations design guidance provided in the Virginia Bicycle Facility Resource Guide generally follows AASHTO guidance.

2.2.6 Safe Routes to School Program

The Virginia Department of Transportation's (VDOT) Safe Routes to School Program (SRTS) assists interested localities and schools in the development of plans, activities, and infrastructure improvements to make bicycling and walking to school a safe and appealing transportation option for students in kindergarten through eighth grade. The Safe Routes to School Program is a federally-funded program created under [Section 1404](#) of the 2005 Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU). As written in SAFETEA-LU, the purpose of the SRTS program is to:

- Enable and encourage children, including those with disabilities, to walk and bicycle to school
- Make bicycling and walking to school a safer and more appealing transportation alternative, thereby encouraging a healthy and active lifestyle from an early age
- Facilitate the planning, development, and implementation of projects and activities that will improve safety and reduce traffic, fuel consumption, and air pollution in the vicinity of schools (VDOT)



An overview of Safe Routes to School funding and programs in the region is provided in Section 3. Additionally information on Virginia's SRTS program is available at <http://virginiadot.org/programs/bk-proginfo.asp>.

2.2.7 VDOT Six-Year Improvement Program (SYIP)

The VDOT [Six-Year Improvement Program \(SYIP\)](#) is the Commonwealth Transportation Board's (CTB) program for allocating funding for rail, public transportation, commuter assistance, bicycle, pedestrian, interstate and primary highway transportation projects in future years. In developing the SYIP, local governments work with citizens, transportation agencies, and other stakeholders to form a vision by developing a transportation plan that anticipates land use changes and travel patterns more than two decades into the future. VDOT cites the following considerations in selecting projects for inclusion in the SYIP:

- Statewide and regional plans that identify transportation needs and projects required to serve future travel demands over a 20- to 25-year period
- An analysis of projected traffic volumes and population, business and residential growth
- An evaluation of the priorities for implementation of the transportation plan
- Citizen and community participation meetings to receive input on the transportation priorities (VDOT)

2.2.8 Other VDOT Policies and Guidance

In addition to the guidance and standards provided in the Green Book and MUTCD, VDOT has developed a range of policies, practices, procedures, and resources to direct construction and maintenance of VDOT maintained roads and the planning and provision of bicycle accommodations. VDOT guidance includes:

- VDOT Road Design Manual (Updated 2009)
- Bicycle and Pedestrian Accommodation Decision
- Process for Construction Projects (2008)
- Traffic Calming Guide for Local Residential Streets (Revised 2008)
- Implementation of Bicycle and Pedestrian Accommodations Policy Exception Standard Report (2008)
- Maintenance Best Practices Manual, VDOT, 2007
- Maintenance Project Scoping Form AM-430
- VDOT Department Policy Memoranda (DPM) Manual, DPM Number 2-12: Implementation of the CTB Policy for Integrating Bicycle and Pedestrian Accommodations (2007)

2.2.9 Bike Smart! Virginia

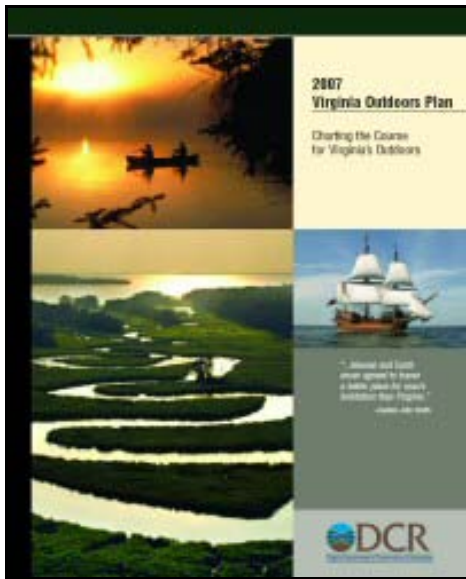
[Bike Smart! Virginia](#) is a collaborative project with the Virginia Departments of Education, Health and Motor Vehicles and the non-profit organization, Bike Walk Virginia. Additionally, Bike Smart, Virginia Schools! teaches children safe biking behavior in an effort to reduce the numbers for injuries and fatalities including: helmet safety, crash avoidance, bike handling



skills, rules of the road etc., as part of the school's Health and P.E. curriculum.

2.2.10 Virginia Outdoors Plan (VOP)

The [Virginia Outdoors Plan](#) (Virginia Department of Conservation and Recreation 2007) is the state's official document regarding land conservation, outdoor recreation and open space planning. It helps all levels of the public and private sectors meet needs pertaining to those issues. The VOP includes items relevant to the planning and provision of bicycle accommodations including greenways, trails, scenic highways, and Virginia byways. The Virginia Department of Conservation and Recreation is currently (until April 6, 2012) accepting public input for the 2013 Virginia Outdoors Plan.



2.3 Regional Guidance and Resources

2.3.1 Bikeway Plan for the Roanoke Valley Area MPO

See Section 1.1

2.3.2 Regional Bicycle Advisory Committee

The Regional Bicycle Advisory Committee (BAC) was established in 2008 by the Roanoke Valley-Alleghany Regional Commission to serve as a forum for local, regional, state, and federal agencies and staff and citizens to discuss various issues impacting cycling in the region. The Regional BAC also guides development of the *Bikeway Plan* for the RVAMPO, coordinates the annual Bike Awards (Extraordinary Bicycle Professional and Bike Hero), participates in group rides and related fieldwork, and other bicycle-related events. A list of current RBAC representatives is provided in Appendix D.

2.3.2 RIDE Solutions

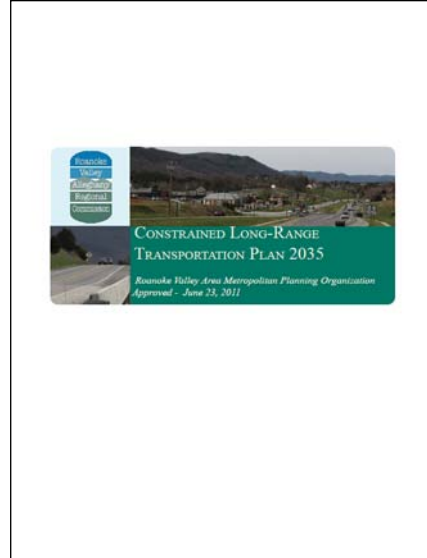
[RIDE Solutions](#) is a regional ridesharing program operated by the Roanoke Valley-Alleghany Regional Commission in cooperation with the New River Valley Planning District Commission that provides carpool matching services and alternative transportation and air quality information (Note: RIDE Solutions will be expanding into the Region 2000 area in 2012). RIDE Solutions is also the lead organizer of annual Bike Month events in the region. RIDE Solutions also maintains the BikeRoanoke.com website.





2.3.4 Roanoke Valley Area MPO Long Range Transportation Plan (LRTP)

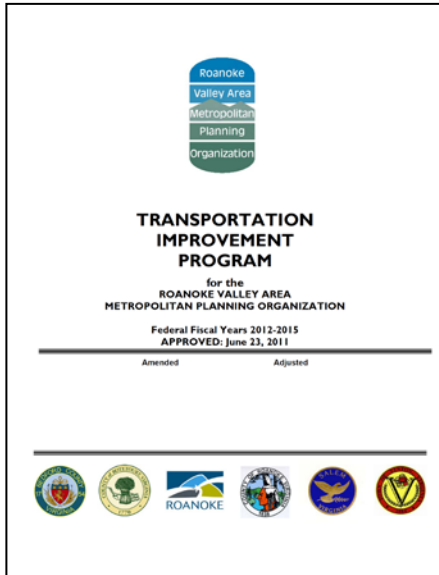
The [Roanoke Valley Area Metropolitan Planning Organization \(MPO\)](#) is recognized as the official transportation planning agency for Roanoke, Virginia urban region as required by federal law (US Code Title 23, Chapter 1, Sec. 134). In order for the region to receive federal funds for use on highway, transit, non-motorized, and multi modal systems, the MPO is required to develop a long range transportation plan with a 20-year planning horizon. The [2035 Financially Constrained Long Range Transportation Plan \(CLRTP\)](#) is a long-range strategy and capital improvement program developed to guide the effective investment of public funds in multi modal transportation facilities. The plan is updated every 5 years, and may be amended as a result of changes in projected Federal, State and local funding, or other significant studies/plans. The Long Range Plan provides the context from which the region's *Transportation Improvement Program (TIP)*, a short-range capital improvement program for implementing highway, transit, and bikeway projects, is drawn.



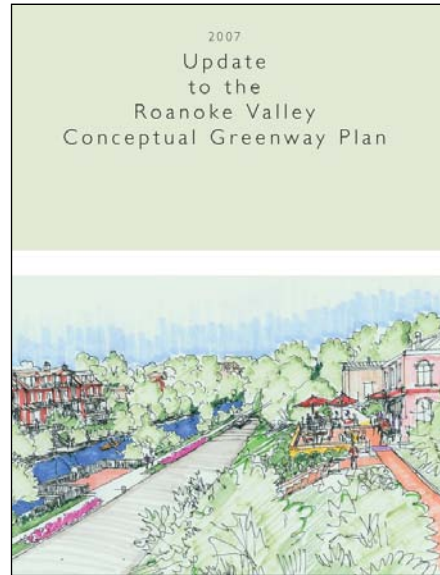
2.3.5 Roanoke Valley Area MPO Transportation Improvement Program (TIP)

In addition to the CLRTP, the MPO is required to develop a *Transportation Improvement Program (TIP)*. [The Roanoke Valley Area MPO TIP](#) is a 4-year financial program that describes the schedule for obligating federal funds to state and local projects. The TIP contains federal funding information for all modes of transportation including highways, transit and pedestrian facilities. Additionally, the TIP also reflects projects and priorities identified in the Long Range Transportation Plan. The MPO works closely with the Virginia Departments of Transportation and Rail & Public Transportation, as well as local transit operators, to update and amend the TIP each year as funding conditions change. Projects from the current RVAMPO TIP (2012-2015) are discussed in Section 4.





and/or shared roadways. The Conceptual Greenway Plan references the *Bikeway Plan* as the document to assist in the development and implementation of on-street greenway connections.



2.3.6 2007 Update to the Conceptual Greenway Plan for the Roanoke Valley

The *2007 Update to the Conceptual Greenway Plan* document is an update of the 1995 conceptual Greenway Plan and serves as the guiding document for the planning and development of the regional greenway network in the four Greenway Commission localities (cities of Roanoke and Salem, Roanoke County, and the Town of Vinton). The update has two components: an update and prioritization of routes included in the 1995 Plan; and an organizational assessment of the roles and responsibilities of the various greenway partners.

In addition to providing recreational opportunities, area greenways and trails are considered integral components of the regional network of bicycle accommodations. Additionally, connection of existing and planned greenways will require the use of on-street accommodations

2.3.7 Regional Bicycle Suitability Study

The purpose of the study was development of *planning level data and tools* to assess the current level of service (LOS) offered by the existing roadway network in regards to bicycle travel in the region. The Regional Bicycle Suitability Study was intended to serve as a resource to facilitate development of a regionally significant bikeway network in the RVARC service area. Work products and information developed are available to identify, evaluate, and recommend improvements to the regional surface transportation infrastructure to better accommodate bicyclists.

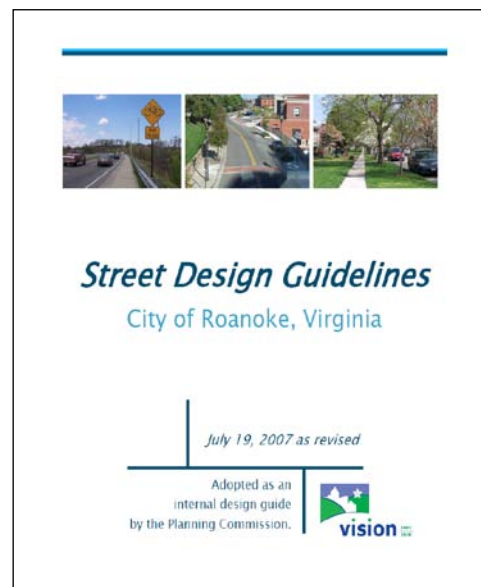
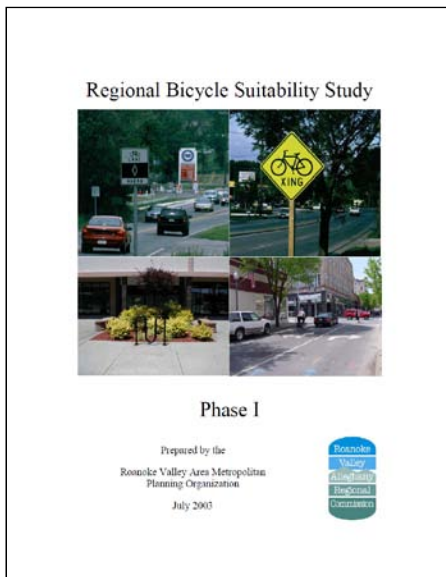


Phase I of the study, conducted in 2003, includes an overview of the level of service (LOS) concept and models, bicycle facilities, existing conditions, workshop material, and preliminary LOS modeling. Phase II, conducted in 2004, is a continuation of the Phase I methodology applied to corridors comprising the regional study area bicycling network. Additionally, the Regional Bicycle Suitability Study provides a “snapshot” and overview of bicycle accommodations and resources in the MPO study in 2003-2004 and is useful in evaluating progress toward better accommodation of cyclists in the region.

endorsed in 2007. The City of Roanoke Complete Streets Policy is provided in Appendix E.

2.4.2 City of Roanoke Street Design Guidelines

The Street Design Guidelines states that all arterial and collector streets should have some form of bicycle accommodation, and provides design guidance on how to achieve such. The Street Design Guidelines should be used in support of the City of Roanoke’s Complete Streets Policy



2.4 Local Guidance and Resources

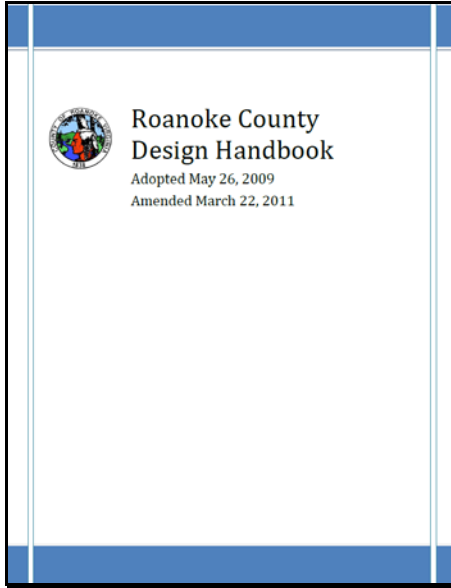
2.4.1 City of Roanoke Complete Streets Policy

The Complete Streets policy states that City streets should provide a safe and attractive environment for all users, including cyclists. The policy is based upon the Street Design Guidelines the City of Roanoke Planning Commission

2.4.3 Roanoke County Design Handbook

The [Roanoke County Design Handbook](#) (2009) is an illustrative guide to the Roanoke County's Zoning Ordinance. The Design Handbook was amended in 2011 to include Chapter 3 – Transportation - which provides design guidance and standards for private roads, sidewalks, shared use paths, trails, and bicycle accommodations.





2.4.3 City of Roanoke Bicycle Advisory Committee

The City of Roanoke established a Bicycle Advisory Committee in 2009 to guide and support the City of Roanoke's application for Bicycle Friendly Community (BFC) designation by the League of American Bicyclists. The BAC is composed of local government staff from various departments, area businesses, citizens, Regional BAC representatives, Valley Metro, and other stakeholders. The City of Roanoke was designated as a BFC at the Bronze level in 2010 and the BAC continues to work to improve cycling in the City of Roanoke.

2.4.4 Comprehensive Plans and Other Local Guidance

All Virginia localities are required to develop and maintain a comprehensive plan that provides guidance on the planning and development of a community including transportation, utilities, land

use, recreation, housing, etc. Comprehensive plans generally cover a 20-30 year time horizon and are periodically updated. Local governments may also adopt or incorporate other plans or policies relevant to bicycling or the provision of bicycle accommodations as part of their respective comprehensive plans. Examples include neighborhood plans, corridor or area plans, regional plans (e.g., Bikeway, Greenway), complete streets policies, design guidelines, safe route to schools, etc.

2.5 Professional and Other Guidance

2.5.1 A Policy On Geometric Design of Highways and Streets (AASHTO)

The American Association of State Transportation Officials (AAASHTO) publication, *A Policy on Geometric Design of Highways and Streets* (1999) or "Green Book," contains design practices in universal use as the standard for highway geometric design. The Green Book serves as the primary guidance document for federal, state, and local governments throughout the United States including VDOT. An updated version of the publication will be release in 2012.

2.5.2 Guide for the Development of Bicycle Facilities (ASSHTO)

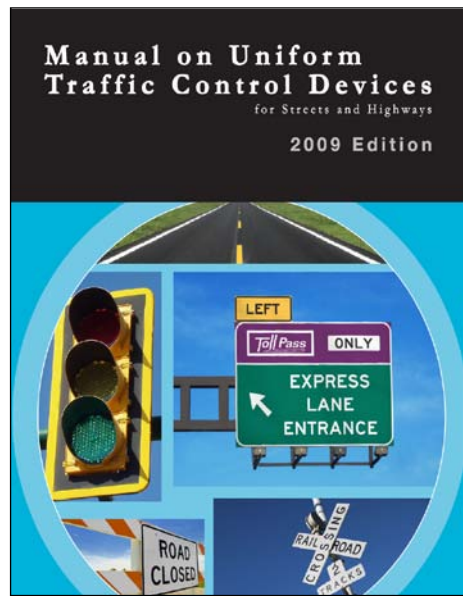
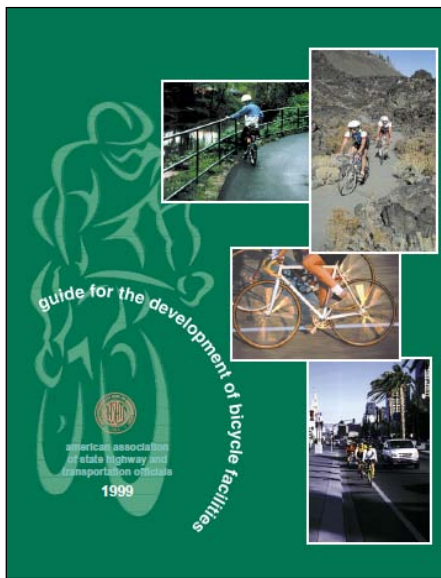
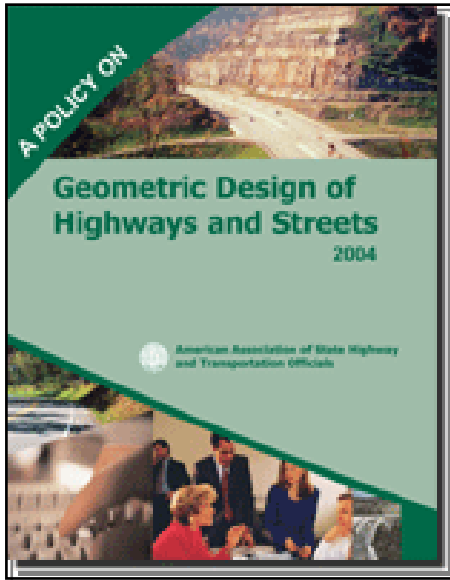
The [Guide for the Development of Bicycle Facilities](#) (1999) provides information to help accommodate bicycle traffic in most riding environments. As with the Green Book, this guide serves as the primary reference document guiding bicycle facilities design for federal, state, and local governments and agencies throughout the United States. AASHTO guidance is used in conjunction



with the Manual on Uniform Traffic Control Devices (MUTCD).

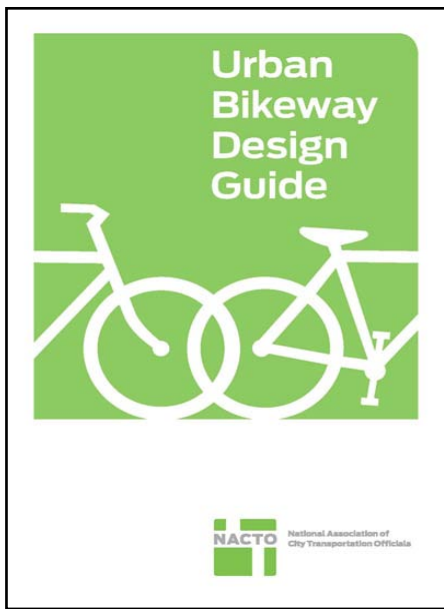
2.5.3 Manual on Uniform Traffic Control Devices (2009)

The [Manual on Uniform Traffic Control Devices](#) (MUTCD) defines the standards used by road managers nationwide to install and maintain traffic control devices on all public streets, highways, bikeways, and private roads open to public traffic. The MUTCD is published by the Federal Highway Administration (FHWA) under 23 Code of Federal Regulations (CFR), Part 655, Subpart F (MUTCD). Chapter 9 of the MUTCD - Traffic Control for Bicycle Facilities –covers signs, pavement markings, and highway traffic signals specifically related to bicycle operation on both roadways and shared-use paths. The MUTCD is available at <http://mutcd.fhwa.dot.gov>.



2.5.4 Urban Bikeway Design Guide (NACTO)

The National Association of City Transportation Officials (NACTO) [Urban Design Guide](#) (2010) provides state-of-the-practice solutions to better accommodate cyclists on urban streets. The Urban Design Guide includes information on bike lanes, cycle tracks, intersections, and signaling and marking. The Urban Design Guide also includes bicycle facility design and principals not described in other referenced national guidance documents such as the Green Book and MUTCD.



2.5.5 Other Resources

Links to all documents referenced in this section as well as a range of range of additional bicycle related plans, policies, and other guidance are provided on the [RVARC Bicycle, Pedestrian, and Greenway Planning](#) webpage.

