Focus Area 5:
Improving Options for Mobility and Access
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State transportation departments are tasked with improving travel options and experiences for everyone, not just drivers. Sometimes walking, cycling, or public transportation can provide access to destinations more efficiently and cost-effectively than automobiles. These modes are critical to providing access to jobs, school, and other destinations for those who cannot or prefer not to drive.

In this section:

- Make Urban and Metropolitan Transit a Key Partner
- Support Statewide Transit for Job Access and Economic Growth
- Enact Policies That Support Complete Streets
- Provide Leadership in Promoting Bicycle and Pedestrian Travel
Focus Area 5

Make Urban and Metropolitan Transit a Key Partner

The Opportunity
In most American cities and metropolitan areas with transit service, stand-alone transit agencies are responsible for funding their own capital projects and operating service, whether through funds generated from their own revenue sources or through assistance from their state legislature, the federal government, or local governments. With very few exceptions, state departments of transportation (DOTs) have not taken on a role of providing transit service.

However, current trends in state DOT budgets are making it clear that states can no longer meet mobility needs predominantly through expanding road and highway capacity, nor does the public want this from DOTs. In a poll led by Transportation for America, over 59 percent of respondents said that increasing transit was the best way to address traffic congestion, instead of continuing to build and expand roads.1 Americans are even willing to pay for this investment, as evidenced by the ballot measures that have passed in cities and metropolitan areas such as Charlotte, Denver, Dallas, and Los Angeles.2 By working more closely with their partners in the transit world, DOTs may be able to achieve better system performance with smaller investments and meet their constituents’ desire for more choices.

This is not necessarily about state DOTs providing funding for transit—though many do, and it is sometimes the least costly way to solve a transportation problem. Funding aside, basic changes to project development policies and adoption of design standards that better enable state roads to accommodate transit can greatly assist transportation agencies in meeting their service mandates.

What Is It?
Investing in and planning for transit represent relatively new undertakings for many state DOTs. By and large, they focus on roadway infrastructure, both for passenger and freight service, and providing metropolitan and urban transit is not typically one of their core responsibilities. In many states, highway and transit responsibilities are in separate divisions within the DOT. In some cases, similar to restrictions on the use of motor fuel taxes, laws prohibit direct DOT sponsorship of or an act of assistance to a transit agency, other than as a distributor of federal transit funding assistance. In the past, DOTs and transit agencies—especially larger transit agencies—pursued projects somewhat independently of one another, sometimes leading to inefficiencies and a lack of coordination that raised project costs or thwarted desired outcomes.

However, most states do provide some state level of funding to transit agencies, in addition to acting as a pass-through for federal funding.3 Improved partnerships between state DOTs and metropolitan transit can result in both better transit service and a reduced need to provide additional vehicle capacity.

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The key is for the state DOT to better understand and identify where transit offers strategic benefits and mobility potential. As discussed in further detail later in this section, this is possible through a variety of approaches. In some cases, travel demand is concentrated between particular origins and destinations, such as between college towns and larger metropolitan areas, or to and from major employment centers or corridors. The state DOT can focus investment in transit service in these areas—even if it is through assisting a non-DOT agency with operations—to forestall the need for expensive roadway capacity projects to serve a relatively confined travel demand.

DOTs can also focus efforts on strategic highway and street corridors under their purview where transit agencies are already providing service. Many routes that are highly useful for transit service—because of their direct connections between major centers of employment, commerce, and activity throughout cities and metropolitan regions—are controlled by state DOTs, and better design and operation to make transit a convenient and desirable travel option can greatly increase these routes’ effectiveness.

**Implementation**

At its heart, this initiative involves partnerships between transit authorities and state DOTs. Even in the rare cases where state DOTs are also responsible for urban transit operations, such as in Maryland and Delaware, planning for road projects and for transit does not always occur in the same room. Planning and designing road projects with transit in mind involves a paradigm shift away from movement of vehicles and toward movement of people.

Nearly all state transportation agencies were formed from multiple predecessor agencies focused on individual elements of an overall transportation system, such as highways, ports, and aviation. The dominance of automobiles and trucks in American personal and commercial travel patterns has kept highways and roads in the top position in many integrated transportation agencies. Support for transit does not need to mean directly providing transit service, but rather can mean bringing transit to the table in discussing approaches for meeting urban and metropolitan area mobility needs.

**Detailed Steps**

With this in mind, state transportation agencies can take the following actions:

1. **Align project selection criteria and design principles and standards to include transit as a potential roadway user.** In many cases, the addition of transit service can increase the number of people a transportation facility serves, especially on corridors nearing the limits of their vehicle-carrying capacity and facing the need for capacity expansion.

   Maximizing impact means not only advancing projects that will serve potentially successful transit lines, but also including transit-facilitating features in the project design and ensuring that these features are consistent with the transit agency’s operational policies. State roads that will accommodate transit service should be designed and constructed so that transit can use them efficiently; this includes attention to the following elements:

   - Enhanced sidewalks and crosswalks that allow pedestrians appropriate access to transit
   - Bicycle lanes or parallel facilities so that transit’s reach to non-motorized travelers can be expanded
   - Auxiliary lanes or other features, such as turn lane storage or enhanced roadway shoulders, that allow buses and other transit vehicles priority at traffic signals and ways to move past long queues of traffic (commonly referred to as “queue jumps”)
   - Lanes for exclusive bus use along the full length of a corridor
• Appropriate locations and right-of-way for enhanced stops and stations, recognizing in particular the needs of passengers waiting for service and for transit vehicles to re-enter roadway traffic once they have completed a stop

• Designing and timing traffic signals to prioritize bus movement at intersections. In its most basic form, this may entail the use of queue jump lanes to allow a bus or other transit vehicle to reach the front of a traffic queue, although more advanced systems of signal priority feature two-way communication between signal equipment and transit vehicles.

2. Identify the gaps in the cost of transit-enhanced DOT projects and available funding. This is the key to avoiding a ‘go-it-alone’ strategy that forces state DOTs and transit agencies to spend different amounts of money on separate projects serving separate travel purposes when pooling resources would actually provide a greater benefit. Adding transit facilities to a state infrastructure project may increase that project’s cost, but it is likely that the incremental increased cost would be less than what a transit agency would spend on new capital construction for premium transit routes. Working with the transit agency to determine funding gaps, state DOTs can provide the additional necessary funding to transit agencies as a cost-sharing opportunity and a relatively low-cost way to advance a transit project.

3. Provide technical assistance to transit agencies to determine appropriate facilities. In the case of smaller transit agencies, a state DOT already has an oversight role in how some operational funding is used (specifically funding provided by the federal government). The DOT can provide helpful technical services to allow the transit agency to make better decisions on where to focus its resources for corridor improvements and service enhancements. These technical services include transit demand modeling and forecasting, traffic simulation, and traffic signal timing support. Modeling and forecasting services in particular can be useful to a transit agency determining the potential for transit use and where the most effective projects may be advanced.

4. Provide direct highway access to transit facilities. Providing this access allows a DOT to utilize the capacity already offered by a transit system and conserve resources by shifting auto travel to transit within a corridor. It also offers the potential for increased transit ridership, which allows transit agencies to recover a greater share of their costs for a given level of service provided. Interchange and ramp projects from regional expressways to transit stations with parking facilities are one way to provide this access. The Atlanta region, for example, provides direct freeway ramp access from the Georgia 400 expressway to the MARTA North Springs station’s park-and-ride facility, and the Washington, D.C., region has a comparable example, with its direct ramp access to the Greenbelt Metro rail station.

Case Study

Greater Washington, DC Region
The Washington Metropolitan Area Transit Authority (WMATA) has developed a plan for a network of enhanced bus routes (the Priority Corridors Network, or PCN) that, because of the multi-state nature of the Washington region, uses state arterial roads to carry transit service.4

Priority bus service was a topic of discussion in the Washington region for several years prior to the formal development of the PCN, but insufficient funding from WMATA and a lack of targeted focus from state agencies kept the idea largely confined to a conceptual understanding. Perhaps the most significant move toward implementation of the idea was WMATA’s receipt of a Transportation Investment Generating Economic Recovery (TIGER) grant in 2009 for a variety of projects that will make priority bus operations along surface arterial roads competitive with vehicle travel. Implementing these TIGER grant-funded improvements has required partnership with the various state DOTs that control the roads in the PCN.5

The TIGER grant covered a range of proposed improvements, including:6

- **Wisconsin Avenue Bus Priority Improvements (street controlled by the DC Department of Transportation).** Capital improvements include transit signal priority at multiple intersections and real-time bus arrival display technology at select express service stop locations. The amount awarded from the TIGER grant was approximately $700,000.

- **Addison Road Improvements (road controlled by Maryland State Highway Administration (SHA)).** This includes upgrades to bus shelters along the existing WMATA P12 bus route with real-time arrival prediction displays at bus stops. The amount awarded from the TIGER grant was approximately $200,000.

- **University Boulevard Bus Priority Improvements (road controlled by Maryland SHA).** Improvements include four queue jump lanes, transit signal priority at nearly 20 intersections, and a number of bus stop enhancements, such as real-time arrival prediction displays. The amount awarded from the TIGER grant was approximately $1.3 million.

- **U.S. Route 1 Bus Priority Improvements (road controlled by Maryland SHA).** Capital improvements include queue jump lanes and transit signal priority at multiple intersections. The TIGER grant amount was just under $1 million.

- **Viers Mill Bus Priority Improvements (road controlled by Maryland SHA).** Capital improvements include a queue jump lane and real-time bus arrival displays at several stations along the route. The amount awarded from the TIGER grant was approximately $300,000.

- **Potomac Yard Transitway (road controlled by the Virginia DOT).** One of the largest individual corridor enhancements in the TIGER package, this includes the design and addition of a bus transit-way in the median of U.S. 1 within Alexandria’s city limits, providing exclusive right of way for buses. While additional funding is needed to fully construct the proposed passenger amenities, the bulk of this TIGER grant amount (approximately $8.5 million) has been dedicated to the transit-way.

- **VA 7 (Leesburg Pike) Bus Priority Improvements.** Improvements include real-time arrival displays at several express service bus stops and transit signal priority at a number of intersections along the corridor. The TIGER grant amount was approximately $1.3 million.

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6 Ibid.
The Maryland SHA has voiced its support for this collaboration, with specific roadway enhancements to include timing traffic signals to prioritize buses using the PCN and constructing queue-jumper lanes and facilities so buses may continue to achieve timely operations. Coordination between SHA and WMATA to design and implement these improvements is ongoing at the time of this publication, with completion expected in 2013.

Resources


Wisconsin DOT Programs for Local Governments—Public Transportation. Retrieved 8/7/12 from http://www.dot.wisconsin.gov/localgov/transit/index.htm. This website describes a number of funding assistance programs the Wisconsin DOT offers to local governments to support the provision of transit.

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Support Statewide Transit for Job Access and Economic Growth

The Opportunity
States have a great deal to gain from seamless public transportation between cities, in rural areas, and between rural areas and cities. While state transportation agencies have traditionally focused on roadway projects, public transportation investments can often be the most efficient and cost-effective way to improve intercity and rural travel for both riders and drivers. Intercity and rural transit provides job access for those who do not drive — currently 30 percent of Americans — as well as access to hospitals, schools, shopping, and social services for those who cannot or choose not to drive, or cannot afford to drive.

By operating separately from transit providers, most state DOTs miss opportunities to integrate different transportation modes that support intercity and rural transit. Partnering with regional transit authorities, intercity bus providers, and Amtrak to provide better-integrated transit service between cities and along corridors will encourage local and long-distance transit travel with more frequent and reliable service, relieving pressure on highways and improving travel options for residents in rural areas.

What Is It?
States can support intercity and rural transit by directly funding rail and bus systems, by providing technical assistance to small city and rural transit agencies, and by coordinating service providers. Strategies will vary by state according to structural, legislative, and funding contexts. States that already hold some control over the funding or operations of transit systems will have more autonomy and flexibility to work with transit agencies, whereas other states will need to build solid partnerships between roadway and transit authorities. In most cases, state DOTs will first need to modify their practices to integrate transit into the decision-making process. Specific policies that can support intercity transit development include the following:

Partnering with regional transit authorities, intercity bus providers, and Amtrak to better integrate transit service. State DOTs can coordinate activity between public transportation service providers across the state. In many cases, it is helpful for the state to act as a central database for state-wide transit information and contacts. States can also provide a central source of information about public transportation to help riders who use multiple systems and lead efforts to coordinate fare payment with a universal pass program. In addition, through direct contracts with private transportation providers, states can help bridge gaps in a state-wide network.

Supporting development around intercity passenger rail and bus stops. To maximize the economic potential of public transportation investments, states and local municipalities should actively encourage development around rail and bus stations and create incentives to attract job creation and housing within walking distance. For example, it is often necessary to provide parking for rail and bus stops, and most states have found it helpful to construct structured parking to preserve land area for private development. States can partner with local public and private organizations to directly fund parking construction. They can also work with local agencies to identify ways to improve roadway and non-roadway access in the station area.

Using conventional DOT funds for roadway projects that support transit. State DOTs that are not directly involved in transit operations can still provide and enhance highway connections to intermodal hubs and use highway and automobile capacity-based funds to provide parking.

Directing funding or in-kind assistance to transit providers. States can support intercity transit by committing operating funds, purchasing existing rail tracks and right-of-way, or purchasing new right-of-way for dedicated transit alignments.

**Implementation**

For some state DOTs, direct involvement in transit may be perceived as an expansion of their scope of work, and may therefore require high-level policy reform. If reform only requires DOT action, the transportation executive can allow the DOT to collaborate on transit activities or authorize a particular reform. If state legislative action is required, the transportation executive should work together with key political actors, including the governor and members of the state’s transportation legislative committee.

Once the framework is established and the state’s role in transit is recognized, states can support intercity transit projects by taking the following steps:

- **Modify policy to officially recognize the role transit plays in the greater transportation system.** This should identify areas near transit stations and along transit corridors where critical access to existing transit infrastructure is currently lacking, and adopt evaluation and decision-making metrics that favor projects in those areas that improve transit access (such as infrastructure to support walking and biking).

- **Identify and implement a funding mechanism for transit projects.** It is important to anticipate the costs of intercity transit and to secure funding for activities such as improving station areas, building intermodal facilities, assisting with direct operating costs for improved service, and coordinating activities between state partners.

- **Convene public and private transit providers and develop a state-wide framework for interagency operations.** It may be necessary to create an independent, state-wide transit authority to oversee this work.

**Case Studies**

**Maine: Intercity Transit Spurs Economic Development**

The Northern New England Passenger Rail Authority (NNEPRA) was created by state legislative action in Maine in 1995, at the request of former Governor Angus King, Transportation Commissioner John Melrose, the state Chamber of Commerce, the Maine DOT, and local business leaders, to establish and operate modern passenger rail in the state. This action was in response to a citizens’ initiative known as TrainRiders/Northeast, which collected 90,000 signatures calling for passenger rail service between Portland and Boston.

Intercity passenger rail was viewed as an important symbolic and logistic connection with Boston, the economic center of New England. Even those who did not use the rail themselves viewed it as a key

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link to southern New England, which attracted investment in Portland and throughout the southern Maine coast.

Today, NNEPRA is responsible for marketing, food service, and station-area activities, and negotiates with Amtrak to operate the trains. Funding for NNEPRA comes through ticket revenue and state and federal support. Though the service runs through New Hampshire and Massachusetts, only Maine contributes direct funding. Local municipalities are responsible for maintaining and operating transit stations.

The Amtrak service, known as the Downeaster, has spurred development since service began in December 2001. The following stations have experienced significant growth and economic activity:

- Old Orchard Beach, Maine. Traditionally only a seasonal destination, it is now home to a new $22 million residential and retail complex with over 800 new housing units for year-round residents and shoppers.
- Biddeford-Saco, Maine. Downtown Biddeford-Saco is being renovated with $300 million in development projects underway within walking distance of the Downeaster train station. New retail, office, residential, and restaurant facilities are built or are under construction, including a $2.2 million “green” transportation center that is home to the Biddeford-Saco Chamber of Commerce.
- Dover, New Hampshire. Transit-oriented development is occurring around the station and the state moved the Children’s Museum from Portsmouth to Dover to be walking distance of the station.
- Durham, New Hampshire. The University of New Hampshire spent over $900,000 to renovate the historic train station to better serve passengers and students, and promotes the service as an asset to prospective students.

NNEPRA is planning to expand the service north of Portland to Freeport and Brunswick, two communities that have requested intercity transit service to encourage economic development, and is currently spending $44 million on capital improvements to the transportation system for this expansion. In anticipation of the new service, Brunswick developers are investing more than $30 million in the Maine Street Station Complex, which includes a train station, restaurants, retail shops, office space, medical center, and a 52-room inn. In Freeport, a passenger platform will be constructed within walking distance of the popular shopping strip centered on the L.L Bean flagship store. A $2.5 million theater is being planned adjacent to the station site.

Finally, the Downeaster service has reduced regional traffic congestion, and highway maintenance needs by shifting trips from the highway to the regional transit service.

The NNEPRA model is a realistic option in most states, though the time requirements should be acknowledged at the outset. In Maine, it took six years from the legislative action to the point where service was operational, and the investment described here occurred primarily over the next ten years.

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Wisconsin: The DOT Role in Supporting Intercity Transit

Along with the federal government, WisDOT has begun subsidizing intercity bus routes to cover shortfalls between revenue projections and operating costs. This is intended to provide mobility options between smaller population centers, such as Wausau and Green Bay, Wisconsin, and Dubuque, Iowa.

WisDOT is funding this bus service expansion through its Intercity Bus Assistance Program, established in recent legislation (Wisconsin Statutes 85.26) and inaugurated in early 2011. The legislation enabled WisDOT to provide direct subsidy assistance to private operators to maintain mobility options across the state, especially to smaller population centers and rural areas.

WisDOT understood that private intercity providers manage established route networks and retain knowledgeable operations staff, and that service quality declines when these routes are not profitable. Assisting these organizations helps maintain options for intercity travel, especially for people without access to private automobiles, and in the long term reduces demand for vehicle trips.7

Resources


Kapper, J. (2010, December). “Wisconsin Intercity Bus Assistance Program.” Grassroutes: A Wisconsin Rural and Specialized Transportation Newsletter, Volume 22, Number 4. [http://www4.uwm.edu/sce/resources/cted/grassroutes/Grassroutes_December_2010.pdf](http://www4.uwm.edu/sce/resources/cted/grassroutes/Grassroutes_December_2010.pdf). This program supports intercity bus service in the state and allows WisDOT to work with providers of intercity bus service and/or give grants to “political subdivisions” in support of intercity routes, instead of providing assistance only to local governments.

The Greater Portland Council of Governments and The Southern Maine Regional Planning Commission. (2007, May) Regional Transit Coordination Study. [http://www.gpcog.org/home/RegionalTransitCoordinationStudy.php](http://www.gpcog.org/home/RegionalTransitCoordinationStudy.php). This study explores strategies for better coordination between regional transit providers in the greater Portland, Maine, region to reduce costs and improve transit service, connections, and transfers, and provide information to riders.

U.S. DOT. (2011, September). Transit at the Table III: Washington Case Study. [http://www.planning.dot.gov/documents/TransPlanning/TAT_III_CaseStudy_WA.pdf](http://www.planning.dot.gov/documents/TransPlanning/TAT_III_CaseStudy_WA.pdf). This paper provides a case study of how rural transit agencies throughout Washington work with the Washington State DOT to plan rural transit. Because of the DOT’s innovative funding strategy, the intercity bus service provides the “backbone” of transportation service in the state.

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Enact Policies That Support Complete Streets

The Opportunity
Complete Streets policy initiatives offer a clear and popular route for state DOTs to begin systematically considering the needs of diverse road users in their own projects and in their work with other jurisdictions. Examining and modifying standard practices to ensure that projects include safe accommodation for users of all ages and abilities nets clear safety gains. Complete Streets policies also help a state DOT meet citizen demand for non-motorized and public transportation access under its existing budget. Integrating the needs of all road users across all departmental activities provides opportunities to make small changes in routine operations that will result in significant improvements at minimal or no cost.

Thoughtful Complete Streets policy initiatives are generally strongly supported by citizens and political leaders, who then become allies and resources throughout the implementation process. Many smaller communities are also supportive of Complete Streets policies because they support main street revitalization plans. In Washington State, careful implementation of a main street focused policy was found to reduce project delays, saving an average of $9 million per project.¹

National, state, and local polls show strong, consistent support for ensuring that transportation projects include all modes; in fact, respondents generally support allocations for non-motorized and transit access at far greater than current levels.² Such support can translate into financial support when funding measures come up for either a popular vote or for consideration in the legislature. This support applies not only to special measures for specific projects, but also to support for core programs. Including all users in transportation projects broadens the range of constituents who will take action to support increased transportation funding, and it can also make such projects more competitive for funding from some sources.

What Is It?
State DOTs traditionally focus on improving the movement of motor vehicles over long distances, and historically have set and used standards and procedures that preclude consideration of other road users. Yet many, if not most, state roads are also used by people walking, riding bicycles, and using public transportation vehicles or school buses. This is particularly true in urban areas and along small town main streets. State DOT practices that are not responsive to these road users cause safety problems, project delays, and citizen opposition.

Over half of the states have adopted Complete Streets policies through legislative action or internal departmental directives.³ At its core, a Complete Streets policy is a simple declaration that all future projects undertaken by an agency will seek to accommodate all users of the roadway; it doesn’t necessarily have to use the term Complete Streets. Often the policy lists the users, including people of all ages and abilities who are walking, riding bicycles, driving, and catching public transportation, and notes the specific modal needs of public transportation and freight vehicles. Policies should aim

to change the mindset of everyday decision-making, so that all users are assumed to be present and expected to be safely accommodated along the corridor, with limited and explicit exceptions.

Beyond that core commitment to serve all users, successful policies include a compelling vision; language that directs best practices in issues such as design, network connectivity, and performance measures, and provides some structure for implementation. The development of the policy itself should be inclusive of both the public and the practitioners who will be implementing it. Often a very general policy passed by a state legislature is followed by a more detailed policy document from the DOT, such as a new design manual or new project development processes.

**Implementation**

The clarity and simplicity of a Complete Streets policy gives strength and direction to an implementation process that involves changing everyday procedures and practices inside a transportation agency. The innovation of Complete Streets is not in new designs, but in new ways of doing business and making decisions. Agencies with successful Complete Streets policies have reexamined their day-to-day procedures and changed them to ensure the needs of all users are taken into account as a matter of course. They have offered educational opportunities to personnel in how to achieve a balance for the mix of users on a particular street. They have usually made changes to design manuals, and they are coming up with new ways to measure the success of their transportation projects.

Implementation can be roughly categorized into five areas of action. These categories overlap; agencies may pursue activities in several concurrently, or they may focus more heavily on one aspect at a time. Undertaking activities in each of these categories will ensure routine, on-the-ground changes and institutionalization of the Complete Streets approach.

**Structuring Implementation:** Undertaking activities to assess current procedures and activities, and to plan for the full implementation of Complete Streets.

Once a Complete Streets policy is adopted, an agency can focus on the changes required inside a transportation agency to routinely account for the needs of all users. Many policies include a strong role for an advisory committee and/or designation of an internal champion. Some policies include reporting requirements and deadlines; this step may also include a benchmarking audit of current policies and processes, to determine if anything needs to be updated to reflect the Complete Streets directive. Some agencies have written detailed implementation plans, setting timelines and responsibilities across the department. Though this step is listed first, it can happen concurrently with other activities and over time.

**Changing Processes and Procedures:** Restructuring or revising related procedures, plans, regulations, and other processes to accommodate all users on every project. This includes incorporating Complete Streets into plans as they are updated, changing internal processes to support Complete Streets activities and related initiatives, modifying state aid standards and rules, shifting the cost burden for sidewalk construction from municipalities and/or modifying procedural documents such as checklists and decision trees.

Thorough implementation requires a review of current project development procedures, and may include the creation of new procedures, project-level checklists, and exceptions processes. For example, procedural changes may revise maintenance and operations procedures to help identify low-cost projects that can be completed within the existing scope of work. In many cases, agencies also initiate outreach beyond the departments immediately responsible for a project; this includes
cross-departmental collaboration or team creation to ensure all projects address the needs of all users, more collaboration with local and regional transportation agencies that may also be implementing local Complete Streets policies, and more sophisticated and on-going public involvement.

**Reviewing and Updating Design Guidance:** Updating or adopting new design guidance and standards that reflect current best practices in providing multi-modal mobility.

A key activity under this step is to identify and address any design specifications that currently act as a barrier to creating multi-modal projects. While some agencies, such as the Massachusetts DOT, have undertaken extensive re-writes of design manuals, much can also be achieved by using existing national resources, such as the latest guidance from AASHTO, or by encouraging a more flexible use of existing guidance. A number of innovative model design manuals are now available, including those issued by the Institute of Transportation Engineers and the National Association of City Transportation Officials.

**Providing Training and Educational Opportunities:** Offering workshops and other educational opportunities to transportation staff, community leaders, and the general public so that everyone understands the importance of the Complete Streets vision and the part they play in its implementation.

For state DOTs, instilling this knowledge across a large agency is a challenge that may require a formal training system reaching employees working across the state. Also, training is about far more than just helping engineers learn how to incorporate bicycle and pedestrian facilities into road projects. Planners, engineers, consultants, and other agencies need a thorough understanding of new procedures and an understanding that a multi-modal approach has become core to their agency’s mission. Often the best messengers during the training process are those within the same profession: engineers need to hear directly from other engineers, planners from other planners.

The education process should also include elected officials and the general public, who need ongoing engagement to understand how the general policy goal will be translated into projects on the ground. The public may support the concept of Complete Streets, but residents will have questions once the project is on their street or in their neighborhood.

**Measuring Performance:** Developing and instituting ways to measure progress and performance and collecting and disseminating data on how the streets are serving all users.

Measuring the impact of a Complete Streets policy is essential to its ultimate success, yet the development of new performance measures often lags behind other activities. Agencies may discover they have few existing tools to measure whether their network is becoming more multi-modal. Some agencies stick to relatively simple measures, such as the number of facilities built; others create new questions in customer satisfaction surveys. Agencies can also measure safety improvements and mode splits. They can cooperate with local officials to document economic gains on newly redesigned main street highways. An important motivator for developing new performance measures should be their use in communicating with the public about the purpose and efficacy of the Complete Streets policy and showing the multiple benefits received from investing in projects that follow that policy.
Case Studies

Over half the states have adopted some form of a Complete Streets policy. High-quality state Complete Streets policies are noted in the annual Complete Streets Policy Analysis report, and news about state Complete Streets activities can be found in the National Complete Streets Coalition’s publications.

Massachusetts

Massachusetts was among the first states to require its state DOT to build every transportation project with all users in mind, through a simple two-sentence law passed in 1996. The state initially struggled with the meaning of the law, issuing a too-prescriptive directive the following year that laid out very specific methods of accommodation, with little regard to context or need. Though several later documents provided further guidance, there was still a strong desire for more flexible design that responded better to community needs.

In April 2003, Governor Mitt Romney formed the Highway Design Manual Task Force as one part of a larger initiative to provide communities with more flexibility and input into transportation projects. Comprising representatives from municipalities, MPOs, advocacy groups, professional organizations, and state agencies, the Task Force sought to develop a new design guide. Though Governor Romney had requested a final version by October 1, 2003, the magnitude of the project forced a delay in its release until January 2006.

Three guiding principles emerged in the process: multi-modal consideration, context sensitive design and a clear project development process. Here’s an excerpt:

Multi-modal Consideration. to ensure that the safety and mobility of all users of the transportation system (pedestrians, bicyclists and drivers) are considered equally through all phases of a project so that even the most vulnerable (e.g., children and the elderly) can feel and be safe within the public right of way. This includes a commitment to full compliance with state and federal accessibility standards for people with disabilities.

These goals helped to shape the final document, the Project Development and Design Guide. Throughout, the guide takes the approach that non-motorized modes are fundamental to the transportation network, and all modes—bicyclists, pedestrians, public transportation, and motorists—are integrated in every aspect of design.

Yet full implementation of the principles in the award-winning guide has been slow, and in 2012, Massachusetts worked with consultants and the National Complete Streets Coalition to provide three- and six-hour training sessions across the state for state and local engineers, planners, and consultants. The workshops highlighted specific language in the guide and provided examples, a chance for discussion, and field exercises.

Complete Streets has become an important element in continuing support for transportation funding in Massachusetts. Discussion in the state senate of a $250 million bond for road repairs in 2011 included a proposal for a Complete Streets fund; the fund was not included, but lawmakers emphasized that

5 Ibid.
7 See Baystate Roads Program. Browse Workshops: http://baystateroads.eot.state.ma.us/workshops/.
they expected to see a Complete Streets approach integrated across the agency’s projects.\textsuperscript{8} It has also been a key part of the state’s GreenDOT sustainability initiative.\textsuperscript{9}

**California**

Caltrans first directed the full accommodation of bicyclists and pedestrians in 2001 with the adoption of Deputy Directive 64, in part to comply with guidance drafted by FHWA under the federal transportation law TEA-21. Advocates in the state kept Complete Streets in the spotlight by pushing for passage of state law AB 1358, which requires local governments to include Complete Streets policies when they update their general plans, in 2008.\textsuperscript{10} Also that year, Caltrans updated its policy to include transit and users of all ages and abilities, and to incorporate some other advances of the Complete Streets movement.

A core statement in DD64-R1 is “The Department views all transportation improvements (new and retrofit) as opportunities to improve safety, access, and mobility for all travelers and recognizes bicycle, pedestrian, and transit modes as integral elements of the transportation system.”

After delays caused by budgetary issues and personnel turnover, Caltrans has pursued a very deliberate implementation process, creating a 73-step Action Plan\textsuperscript{11} in 2010 that focuses on seven areas of implementation:\textsuperscript{12}

1. Highest Focus Areas (design manual and project development manual revision)
2. Guidance, Manuals, and Handbooks
3. Policy and Plans
4. Funding and Project Selection
5. Raising Awareness
6. Training
7. Research

The state is producing a number of revised guides and manuals and has already issued a new Complete Intersections Guide,\textsuperscript{13} a comprehensive and easy-to-follow tool that identifies actions that will improve safety for pedestrians and bicyclists at intersections and interchanges. Caltrans also commissioned a review of the potential for bicycle and pedestrian performance measures. An update to the state’s Highway Design Manual that fully integrates Complete Streets is expected in 2012.\textsuperscript{14}

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\textsuperscript{14} California Department of Transportation. Complete Streets Program website. Retrieved 8/6/12 from [http://www.dot.ca.gov/hq/ttp/offices/ocp/complete_streets.html](http://www.dot.ca.gov/hq/ttp/offices/ocp/complete_streets.html).
The state points to a number of recently completed projects:15

- A half-million dollar project to convert a four-lane undivided segment of State Route 225 in Santa Barbara to two lanes, with a new center turn lane and bike lanes.

- A partnership between Caltrans and the City of Arcata to make pedestrian and bicycle improvements on the Samoa Gateway project on State Route 255.

- The Mission Gorge Road detour in Santee, where Caltrans considered the needs of non-motorized users during construction by having staff pedaled bikes on the proposed detour to ensure it minimized out-of-direction travel before directing the public there. The cost of providing the detour, including a bike lane and signage, amounted to a fraction of the total project cost and increased work zone safety.

Resources


The Caltrans Complete Intersections Guide provides guidance for designing intersections to accommodate all travelers.


The Caltrans Complete Streets page provides an overview of Complete Streets at Caltrans, including links to relevant plans and design guidance.


This guide serves as a national model for road and bridge development.


This report is the most comprehensive resource available, with 33 case studies.


Mn/DOT’s Complete Streets page provides an overview of efforts to date to implement state Complete Streets legislation and the development of an internal policy for the DOT.


This table lists all state-level Complete Streets policies, with links.

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The coalition offers workshops for agency personnel aimed at introducing the Complete Streets concept, developing policy language, and implementing a policy.


NJDOT Complete Streets page provides an overview of efforts to implement the DOT’s internal policy directive, including video and resources for local governments.


Local Policy Development Workbook: While aimed at local governments, this workbook gives a detailed look at ideal Complete Streets policy language with many examples. A state level model policy guide is under development by the American Association of Retired Persons the National Complete Streets Coalition.
FOCUS AREA 5: IMPROVING OPTIONS FOR MOBILITY AND ACCESS

Provide Leadership in Promoting Bicycle and Pedestrian Travel

The Opportunity
Providing bicycle and pedestrian accommodations is inexpensive for local governments and state DOTs compared to the cost of roadway construction and maintenance, and is a good way to improve local economies. Where facilities are good and land uses relatively compact, these modes can relieve congestion, reduce the need for car parking, possibly forestall future road expansion, and allow more land to be used for housing, commercial, and retail space instead of parking, thereby boosting the tax base. They can also provide links to work and other destinations for those who cannot or choose not to drive. Safe and convenient bicycling and walking are essential to a good transit system; many transit users begin or end their journeys with biking and walking trips that make use of crosswalks, sidewalks, curb ramps, bike racks, and other facilities.

What Is It?
Although walking and biking are an integral part of the transportation system, they are often overlooked when transportation decisions are made. Advancing policies that include provisions for bicycles and pedestrians on all roadways and state-funded projects enhances the efficiency and cost-effectiveness of the full transportation network. DOTs can also take responsibility for educating drivers, pedestrians, and bicyclists to ensure that all road users operate safely and know their legal status.

Engineering
Physical accommodations are often the first or only area that is considered with regard to improving bicycling and walking conditions. This is an important component, because allocating space in the public right of way is the first step to making it safer for those traveling by foot or bicycle.

Accommodating bicycling and walking is a cost-effective choice and adds minimal additional width to a roadway construction or reconstruction. Demand for bicycle infrastructure has become stronger in recent years, as the population seeks more active, environmentally friendly, and lower cost transportation options. In cities across the country, bike commute share has grown rapidly over the past decade, with triple-digit growth rates in a number of communities. Non-work trips, which make up the majority of trip segments, offer additional opportunity to diversify travel choices. For example, pedestrian and bicycle facilities near schools may encourage children to bike and walk to school, reducing congestion.

Non-motorized facilities can be either on-road or off-road. On-road facilities include dedicated space within the street right-of-way for bicycling and walking, such as sidewalks, median islands, well-marked crosswalks, bicycle lanes, cycletracks, shared lane markings, and paved shoulders. Off-road

1 Federal Highway Administration. (2010, January). 2009 National Household Travel Survey Retrieved from http://nhts.ornl.gov/publications.shtml. Nearly ten million households don’t have access to a car, and 30 percent of the U.S. population does not drive. Half of all trips are less than three miles, and 75 percent of those trips are made by car. Bicycling and walking are inexpensive, healthy, and often as fast or faster than driving for short distances.
facilities generally refer to separate multi-use paths where bicycles and pedestrians travel separately from motorized vehicle traffic.

For on-road facilities, states can provide sidewalks, bicycle lanes, and wide paved shoulders on state highways as part of a standard highway cross-section when they are constructed or reconstructed. Some roadways can also be retrofit without reconstruction simply by changing the markings on the existing pavement. The recently released Urban Bikeway Design Guide from the National Association of City Transportation Officials (NACTO) provides guidance for appropriate bicycle facilities in urban areas,4 as does the recently updated American Association of State Highway and Transportation Officials (AASHTO) Guide for the Development of Bicycle Facilities.5

Accommodating bicycle and pedestrian travel on state facilities will generally involve balancing convenience and capacity for drivers with the safety and convenience of non-motorized users. For example, wide roadways designed to allow cars to travel at high speeds take longer for pedestrians to cross than narrower ones. Curb extensions make it easier for people of all ages and abilities to cross the road and may also reduce the time drivers must wait for pedestrians at traffic signals. Signal detectors embedded in the roadway should be calibrated and located so that they detect bicycles. Intersection markings must also be clearly delineated to ensure motorist compliance and protect the safety of the most vulnerable roadway users. Clearly marked crosswalks and bike lanes that are positioned to avoid conflict with turning vehicles—such as to the left of an exclusive right turn lane—are examples of necessary design principles.

Off-road facilities should have fewer at-grade roadway crossings than adjacent streets and few or no driveway crossings. Paths built immediately adjacent to roadways, such as wide sidewalks, position bicyclists to be in conflict with turning vehicles at intersections and driveways. If no separate right of way is available for a path, on-road facilities may be preferable to a side path. Off-road facilities within urbanized areas should be planned to maximize non-recreational use, making them good choices for people commuting to work, children travelling to school, or families headed to the library.

Although state DOTs traditionally tend not to design state highways for non-motorized users, many destinations may be only accessible from a state highway. In addition, state highways may be the only connection between more preferable walking and biking routes, or they may serve as a community’s “main street.” Unless pedestrians and bicyclists are banned from a highway, as with many expressways, it should be assumed that they will use the road. If there is no safe way to accommodate pedestrians and bicyclists within the road right-of-way, an off-road option should be provided. In other cases, it may be necessary to provide an off-road connection to bridge an important gap in the roadway network or to cross major barriers such as rail lines, major highways, or rivers.

Funding
A state DOT’s role in funding and constructing bicycle and pedestrian infrastructure varies by state, according to legislation and policy. Some states are required to spend revenues raised from fuel taxes and motor vehicle licensing solely on state highway and bridge projects, while others have more flexibility. However, it may still be possible to fund on-road pedestrian and bicycle facilities as part of the “highway.”

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Funding these projects will help states enhance their overall transportation network and will provide more transportation choices at a lower cost. Where funding regulations prevent such investment, states can look to alternative options to support bicycling and walking such as the multiple funding sources offered in recent years by the federal government, including the Transportation Alternatives program in the new federal transportation bill, MAP-21. One of the most important steps state DOTs can take is to use the Transportation Alternatives funds for non-motorized transportation, instead of invoking the flexibility to use their portion of this funding for other purposes.

Other federal funding programs can be used for bicycle and pedestrian programs, but are often overlooked. Federal 402 funding to reduce traffic crashes, deaths, injuries, and property damage is one example. The Congestion Mitigation and Air Quality Improvement program is used by many states for non-motorized transportation as well.

States can assume a leadership role, whether they control funding or not, by modifying requirements, providing technical assistance, and engaging local governments to consider all transportation modes in planning and design. Where funding is more flexible, DOTs can proactively solicit non-motorized projects for direct funding and ensure that state facilities include accommodations for all roadway users, including pedestrians and bicyclists. In addition, DOTs can partner with other state agencies to find new funding opportunities; for example, some Department of Natural Resources agencies have discretion over portions of the gas tax paid for fuel to be used in lawnmowers, ATVs, snowmobiles, motor boats, and other non-highway vehicles. These funds are often used for recreational trails; however, these trails can also be used as transportation corridors, or funds can be used to build important links to on-road facilities.

An investment in bicycle and pedestrian infrastructure can be a DOT’s best transportation investment, providing new types of mobility at a fraction of the normal cost for both the DOT and the users, while also benefiting public health, increasing safety, and decreasing congestion. Research has shown that striping bicycle lanes makes the road safer for motorists as well as bicyclists.

For further information on funding non-roadway projects, please see the section of this handbook titled, “Mechanisms for Funding Non-roadway Projects.”

**Education**

DOTs provide safety education for many road users and cover a variety of situations. Education efforts to improve bicyclist and pedestrian safety can take many forms. Education may be aimed at non-motorized users to help them operate safely and understand their rights and responsibilities, or they may target other road users to assure a safe environment for bicyclists and pedestrians. States may use some combination of brochures, public service announcements, billboards, classes, or trainings for a variety of audiences. Further information on effective education to promote bicyclist and pedestrian safety can be found at the Pedestrian and Bicycle Information Center.

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7 Federal Highway Administration. “Bicycle and Pedestrian Provisions of the Federal-aid Program.” Retrieved from http://www.fhwa.dot.gov/environment/bicycle_pedestrian/overview/bp-broch.cfm. Note: This website does not reflect the alignment of funding programs in the federal transportation bill passed June 2012. However, many of the programs still exist and can continue to be used for bicycle and pedestrian funding.


Encouragement
Encouraging bicycling and walking can be part of a transportation demand management program, shifting users to facilities and modes that can generally absorb more users and maintaining capacity on congested facilities. See the section in Focus Area 3 of this document on Transportation Demand Management for further information. State health departments may also encourage active transportation modes and may provide additional support, funding, and partnerships to further these efforts. The Centers for Disease Control has resources about the health benefits of bicycling and walking.11 Partnering with state health departments can provide additional expertise and additional funding, and potentially reach a wider audience.

Implementation
State DOTs can take a variety of steps to support bicycle and pedestrian travel and improve facilities for travelers, including the following:

- **Map existing infrastructure, including facilities under local jurisdiction, to identify gaps in the walking and bicycling network.** Identify state highways, state-owned lands (such as parks) that might support an off-road facility, and state-funded projects under local jurisdiction that can provide missing links in the network. These connections are especially important where employment centers, retail destinations, or residential developments are only accessible by using a state highway or state-funded roadway. Areas with a history of pedestrian and bicycle crashes should also be high priority.

- **Identify potential funding sources** for on-road and off-road non-motorized facilities, including restrictions on funding infrastructure such as trails and paths on state-owned roadways and bridges.

- **Examine existing transportation funding** for flexibility potential.

- **Establish state-sponsored funding program for bicycle and pedestrian projects and programs.** Local agencies should be allowed to apply for projects both on and off state facilities as well as to implement education and encouragement programming. Depending on a state’s legislative requirements, these dollars may or may not come from transportation trust funds.

- **Enact policies requiring appropriate multi-modal accommodation on all state-owned or state-funded roadways.** State transportation officials must work together to set guidelines on what provisions are appropriate for a wide variety of contexts.

- **Establish technical training and leadership programs for local transportation agencies.** Training can include an explanation of multi-modal transportation fundamentals, technical features of bicycle and pedestrian infrastructure, and funding opportunities from traditional and non-traditional sources.

- **Establish design guidance for local governments to use on non-state projects.** This should guide bicycle facility design along and across roads to ensure a complete system.

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States can pursue several specific activities to provide leadership for pedestrian and bicycle planning, including:

- **Funding Non-Motorized Facilities.** States can directly fund the planning, design, and construction of bicycle and pedestrian infrastructure on their own and non-state facilities. These facilities can complement motor vehicle capacity needs. For example, in rural areas, simply providing wide paved shoulders can greatly improve the bicycling network and improve safety for drivers. Creating a comprehensive roadway network that is safe and comfortable for all users requires partnership with cities and counties. States should identify non-motorized priorities and evaluation measures for rating and selecting applicant projects. Criteria should include compliance with state-wide bicycle plans, connections to key transit locations, environmental justice benefits, and overall utility (such as measuring the trips accommodated relative to the project cost).

- **Revise Policies to Support Multi-modal Transportation.** States can enact policies that encourage bicycle and pedestrian transportation. Local and state transportation agencies have enacted Complete Streets policies to encourage roadway planning that accommodates all transportation modes, as appropriate for a given land use context. The National Complete Streets Coalition provides support to states looking to adopt Complete Streets policies, including sample language. States can also eliminate policies that hinder bicycle and pedestrian travel, such as requirements that cyclists travel on side paths if they exist.

**Case Study**

**Wisconsin**

Bicycling and walking has benefitted from a number of WisDOT’s policies, and Wisconsin has long supported bicycling as an important transportation option. Even before the passage of the original ISTEA bill, the Wisconsin legislature prescribed a “bicycling role” for WisDOT. According to State Statute 85.023, amended in 1979, WisDOT is to provide assistance in the development of bicycle facilities: “The department (WisDOT) shall assist any regional or municipal agency or commission in the planning, promotion, and development of bikeways.”

The first rail-to-trail conversion in the country, the Elroy-Sparta Trail in Wisconsin, was opened in 1967. Since then, WisDOT has worked diligently with the Wisconsin Department of Natural Resources and local communities to convert many abandoned rail lines into non-motorized trails. These have formed the backbone of a bicycle highway system, serving both transportation and recreational purposes in large and small cities as well as rural areas.

The Wisconsin Rural Bicycle Planning Guide (2006) assists rural communities and counties with their planning for bicycle travel. This is important because of the significant role tourism plays in the

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13 Wisconsin Legislative Documents. Statute 85.023, “Planning for bicycle facilities.” Retrieved from: [http://docs.legis.wisconsin.gov/statutes/statutes/85/023](http://docs.legis.wisconsin.gov/statutes/statutes/85/023)


Wisconsin economy, including bicycle tourism\textsuperscript{16} as a growing segment.

Because a significant portion of the local rural roads in Wisconsin (farm-to-market roads in other states) are paved, and there is basically a one-mile grid in most rural areas of the state, bicycling can easily be accommodated on this low-traffic network without any additional accommodations.

In 2010, the Wisconsin legislature passed the Wisconsin Pedestrian and Bike Accommodation Law, State Statute 84.01(35),\textsuperscript{17} a Complete Streets Act, requiring all state and state-funded transportation projects to accommodate walking and bicycling, except in narrowly defined circumstances.

There are a multitude of plans and policies available to both regional offices and local communities that outline both a vision for walking and bicycling for the state and guidelines on implementation:

- The 1998 Wisconsin Bicycle Transportation Plan 2020\textsuperscript{18} outlines a vision for bicycle transportation. It has since been supplemented by a number of other publications and policies, mentioned below.

- The 2002 Wisconsin Pedestrian Policy Plan 2020\textsuperscript{19} fulfills the same role for pedestrians. It also outlines funding sources for local governments, guidance in design and planning, education and safety programs, and training opportunities.

- The Wisconsin Guide to Pedestrian Best Practices (2010)\textsuperscript{20} serves as a companion document to assist with the implementation of the plan’s goals, objectives, and actions and serves as a reference or guidebook for state and local officials.

- Wisconsin Bicycle Planning Guidance (2003)\textsuperscript{21} advises local communities and metropolitan planning organizations (MPOs) on how to plan for appropriate facilities and outlines basic design guidance.

- The Wisconsin Bicycle Facility Design Handbook (2004)\textsuperscript{22} outlines minimum standards for facilities, both on state roadways and for state-funded projects. The handbook also provides design guidance for local communities on a variety of topics.

- The Advisory on Installation of Bicyclist Compatible Rumble Strips\textsuperscript{23} addresses a frequent problem for bicyclists on rural roadways. As noted in this guide, rumble strips on paved shoulders can be installed close to the lane edge and not across the entire shoulder, allowing bicyclists safe and comfortable areas to ride.

\textsuperscript{16} Bicycle Federation of Wisconsin. \textit{The Economic Impact of Bicycling in Wisconsin.} Retrieved from \url{http://www.dot.state.wi.us/business/econdev/docs/impact-bicycling.pdf}.

\textsuperscript{17} Wisconsin Department of Transportation. (2010, December). \textit{Bikeways and Sidewalks in Highway Projects.} Retrieved from \url{http://www.dot.state.wi.us/projects/state/docs/complete-streets-rules.pdf}.


\textsuperscript{23} Wisconsin Department of Transportation. \textit{Advisory on Installation of Bicyclist Compatible Rumble Strips.} Retrieved from \url{http://www.dot.state.wi.us/projects/state/docs/advisory-rumble.pdf}. 140
For many years Wisconsin has had a policy of paving the shoulders of most state roads and roads utilizing state funding. Although this policy benefits non-motorized travel, WisDOT does not use limited pedestrian and bicycle funding, such as Transportation Enhancements/Transportation Alternatives funding for this purpose.

The Wisconsin Bicycle Map is also funded and supported by WisDOT. All state and county roads are rated by how bicycle-friendly they are, and local roads, non-motorized trails, and other key information are included on the maps, which are also available to be downloaded on WisDOT’s website. This tool is useful not only for road cycling, touring, and recreational rides, but also provides information to local planners on areas of the roadway system that are in need of upgrades in order to safely accommodate bicyclists.

WisDOT is also involved in education and trainings for citizens and law enforcement officials to enhance bicyclist and pedestrian safety and comfort. Teaching Safe Bicycling is a one-day course offered free for those wishing to teach bicycle safety to children. It is offered in various locations each spring and frequently attracts participants from surrounding states who do not have similar opportunities locally. Enforcement for Bicycle Safety is offered through WisDOT—which also oversees the state highway patrol—as a 12-hour course to train officers on the most important law enforcement practices to reduce crashes.

Resources

Guidance from U.S. DOT


National Bicycle and Pedestrian Design Guides


National Association of City Transportation Officials. (2011). Urban Bikeway Design Guide. A print version can also be ordered. [http://nacto.org/cities-for-cycling/design-guide/](http://nacto.org/cities-for-cycling/design-guide/). This guide is geared primarily toward urban areas.

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Model State Bicycle and Pedestrian Plans
In addition Wisconsin, other states have developed useful bicycle and pedestrian plans and guides. Oregon had one of the first and best bicycle and pedestrian plans. Its planning guide is also a useful resource. Washington State's plan is also cited as an example of a newer plan that incorporates the NACTO Bicycle Guide, the AASHTO Bicycle Guide, and guidance for local communities.


Additional resources for planning, education, policies, and programs
The Pedestrian and Bicycle Information Center has suggested policies and planning resources for improving state and local governments. For bicycle safety education programs, FHWA has a resource guide as well as a searchable database of programs and materials from around the country. Many more programs have been developed since the publication of the guide.


This report provides state- and city-level data on bicycling and walking and discusses a number of policy measures and provisions to support bicycling and walking.


Sample state, local, and regional bicycle and pedestrian plans can be found at the Pedestrian and Bicycle Information Center. Although there is a separate link for bicycle and pedestrian plans, there is considerable overlap in the two pages, since many agencies write combined bicycling and walking plans.


These tools are part of “The Innovative DOT: A handbook of policy and practice,” published by Smart Growth America and the State Smart Transportation Initiative.

Download all the tools at www.smartgrowthamerica.org/the-innovative-dot.

Smart Growth America is the only national organization dedicated to researching, advocating for and leading coalitions to bring smart growth practices to more communities nationwide. From providing more sidewalks to ensuring more homes are built near public transportation or that productive farms remain a part of our communities, smart growth helps make sure people across the nation can live in great neighborhoods. For additional information visit www.smartgrowthamerica.org.

The State Smart Transportation Initiative, a network of 19 state DOTs, promotes transportation policies and practices that advance environmental sustainability and equitable economic development, while maintaining high standards of governmental efficiency and transparency. Housed at the University of Wisconsin, SSTI operates in three ways: as a community of practice, where participating agencies can learn together and share experiences as they implement innovative smart transportation policies; as a source of direct technical assistance to the agencies on transformative and replicable smart transportation efforts; and as a smart transportation resource to the wider transportation community, including local, state, and federal agencies. Learn more at www.ssti.us.