

Complete Streets:

Best Policy and Implementation Practices



Barbara McCann and Suzanne Rynne, Editors



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*Cover photo: Ninth Avenue in Manhattan, after complete streets improvements;
image courtesy New York City Department of Transportation*

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CHAPTER 3

Elements of a Complete Streets Policy



Complete streets policies come in many shapes and sizes. City councils have quickly passed simple resolutions directing their transportation agencies to consider the needs of all users. State departments of transportation have gone through extensive public input processes to rewrite their design manuals. Planning departments have worked with community members to include complete streets goals in comprehensive plans. Directors of transportation agencies have written internal memorandums outlining policy changes and implementation steps. And policy makers at both the state and local levels have passed complete streets laws and ordinances.

Some policies have been developed very quickly, often using the resources of the National Complete Streets Coalition or the U.S. DOT Guidance on Accommodating Bicycle and Pedestrian Travel. In other cases, communities have engaged in an extensive development process (see Rochester, Minnesota, sidebar, p. 15).

In many cases, policy development may involve many steps beyond the initial adoption of a resolution or vision statement. For example, in Massachusetts, a two-sentence law eventually led the state highway department to create an award-winning new design manual that firmly entrenches complete streets into project development and design (see sidebar, p. 83). In Seattle, the initial inclusion of a complete streets requirement in a bond measure led to a well-crafted ordinance, followed by the formation of a steering committee to further define what the ordinance means. Such gradual processes allow communities to create policies that work in their particular contexts.

Taking into consideration all of these permutations, the National Complete Streets Coalition has identified 10 elements that should appear in a comprehensive complete streets policy document. A good complete streets policy:

- Includes a vision for how and why the community wants to complete its streets.
- Specifies that “all users” includes pedestrians, bicyclists, and transit passengers of all ages and abilities, as well as automobile drivers and transit-vehicle operators.
- Encourages street connectivity and aims to create a comprehensive, integrated, connected network for all modes.
- Is adoptable by all relevant agencies to cover all roads.
- Applies to both new and retrofit projects, including design, planning, maintenance, and operations, for the entire right-of-way.
- Makes any exceptions specific and sets a clear procedure that requires high-level approval of exceptions.
- Directs the use of the latest and best design standards while recognizing the need for flexibility in balancing user needs.
- Directs that complete streets solutions will complement the context of the community.
- Establishes performance standards with measurable outcomes.
- Includes specific next steps for implementing the policy.

SET A VISION

A strong vision statement can keep a community focused on its purpose in calling for complete streets—and that purpose can vary considerably. Some communities, especially those that pass resolutions, may list many reasons for complete streets policy adoption, but it is helpful to be clear about the primary purpose. For example, Rochester, Minnesota, included no less than four “whereas” clauses clearly designating “active living” as the primary reason behind its policy adoption. In all cases, the vision statement can help guide the inevitable difficult choices that must be made in striking a balance that provides for the needs of a variety of users along a single right-of-way. For more information about developing a complete streets vision, see Chapter 4.

INCLUDE ALL USERS

The complete streets movement initially arose within the bicycle advocacy community as a response to the absence of space for bicyclists and pedestrians along too many roads. But a sidewalk without curb ramps is useless to someone who uses a wheelchair (and is difficult to use for parents with strollers and travelers with suitcases). An awkwardly placed bus stop that does not provide a safe and convenient way to cross the street can endanger transit riders. A true complete streets policy does not simply call for the addition of bicycle and pedestrian facilities but rather inspires a careful consideration of the needs of all travelers. Is there a senior center along the road? A school? A heavily used bus route? The consideration of such features and facilities can help identify the transportation needs of road users and the design elements that will be most useful to complete those streets.

The Massachusetts Project Development and Design Guide gives an almost comprehensive list, going beyond pedestrians and bicyclists to specify “people requiring mobility aids, drivers and passengers of transit vehicles, trucks, automobiles and motorcycles.” However, it leaves out concern for age. This is a common omission, but it is particularly important to consider the mobility needs of older adults and children. These populations are more likely to be killed or injured in a crash, and children and many older people do not have the option to drive.

The Community Transportation Plan of Decatur, Georgia, does make specific mention of age, stating that the complete streets policy “is especially beneficial to the City’s most vulnerable populations such as low income households, children and older adults, all of who experience differing physical, mental and financial challenges to mobility.” The plan goes on to discuss complete streets in the context of Universal Design principles—the idea that homes and other places should be designed for “universal” use, not just for able-bodied people. The AARP

SHAPING COMPLETE STREETS THROUGH A COMMUNITY TRANSPORTATION PLAN: DECATUR, GEORGIA

The City of Decatur, Georgia, has long been interested in providing travel choices, especially for pedestrians. Inspired by recent studies demonstrating the link between the built environment and health, Decatur has committed itself to active living by increasing opportunities for nonmotorized modes of transportation for people of all ages and abilities. The city’s interest in promoting active living through good transportation design is embodied in the 2008 Community Transportation Plan (CTP).

Community input shaped the CTP’s goals, setting a clear vision and ensuring that the plan would be widely supported. Over a period of eight months, the project team held two general public meetings; four group meetings for audiences including older adults, local institutions, and low-income populations; and four workshops on topics such as traffic calming and health. A telephone survey developed by project staff, and a private firm was used to seek public input on a variety of transportation issues and gauge support for a complete streets policy. The survey findings showed that 61 percent of respondents supported a complete streets policy.



City of Decatur, Georgia

Figure 3.1. A midblock crossing in downtown Decatur

Throughout the planning process, more than 700 public comments were collected through formal meetings and via letter or email. These comments emphasized the importance of walking and bicycling and the need to accommodate all users, especially vulnerable groups such as older adults and those with disabilities.

To help identify the transportation networks for various travel modes, the city conducted four technical studies: latent demand score (LDS), level of service (LOS), street typology, and policy and regulatory audits. The LDS predicted citywide bicyclist and pedestrian demand if facilities for those users existed near destinations, such as schools, public transportation stops, and employment centers. The results will allow decision makers to better prioritize projects based on the demand for bike and pedestrian trips, as well as have a better understanding of the types of facilities necessary.

Decatur used traditional measures to evaluate LOS for automobiles but also based its approach on National Cooperative Highway Research Program Report 616 (TRB NCHRP 2008), which will be included in the 2010 edition of the Highway Capacity Manual. This method measures the quality of travel for pedestrians and bicyclists, accounting for comfort, sense of safety, and adjacent land use, rather than throughput and speed.

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The street typology study used a new classification system that added land-use relationships to typical functional classifications. With this system, future roadway designs can better match the uses of the street. Each new type caters to different levels of need for various travelers, by foot, bike, or car. The typology can better guide investment decisions when balancing the needs of all users in construction and reconstruction projects.

Last, Decatur's existing plans, policies, codes, and practices were audited to identify potential challenges when implementing the CTP. Recommendations included updating city codes and landscaping ordinances to incorporate more specific details and designs for complete streets, as well as adding standards for minimum and maximum parking requirements.

Given the largely supportive community and a history of investment in multiple modes of transportation, city staff had few barriers to overcome. In addition to extensive public support, elected officials have stood solidly behind the CTP.

A built-out community, Decatur did not look to acquire or construct new rights-of-way but instead focused on re-allocating existing roadways more efficiently. Most important, following the clear community goal meant changing the planning approach: taking a comprehensive look at all users of the road rather than focusing on moving automobiles. The project team was able to create a comprehensive package of designs and recommendations that promote health, safety, mobility, and access.

Following adoption of the CTP, Planning Director Amanda Thompson reports that Decatur is thinking beyond pedestrians and automobiles. Before, the city always thought about building sidewalks and adding street trees but gave little consideration to bike lanes or bike racks. Despite having solid public transportation within the city, staff did not always consider how better bus stops or improving access to train stations could improve the street environment. "We truly cover all modes now," she says.

The CTP includes detailed plans for five intersections and seven corridors, chosen for their key locations, the public's input, and their impact on health. These designs involve a variety of approaches, including narrowed and reduced travel lanes, widened sidewalks, and improved crossings. They also include ideas on how to make room for public transportation users and vehicles on the right-of-way. The broad definition of complete streets allows them to remain adaptable to the local context.

By first establishing networks, the project team had considerable flexibility in street design. Each of the selected areas is given a section in the CTP where opportunities, needs, and challenges are addressed. Conceptual drawings of the specific recommendations accompany each intersection and new cross-sections are shown for each corridor. Such details allow the city to better envision its transportation goals and ensure that all future projects, regardless of size or scope, contribute to the visions specified by the CTP. Thus, the complete streets goal can be implemented in phases and as funding allows.

Decatur has taken the CTP's implementation steps to heart. The city's recreation department now has a full-time staff dedicated to administering the Safe Routes to School program and

an Active Living Advisory Board. Some front-yard parking for downtown businesses has been replaced with pedestrian seating. Nearby businesses initially resisted the loss of parking but now see the improved street life. Several of the plan's projects have been funded, including two intersection improvements, a bicycle lane, and streetscape improvements. The city also adopted a bicycle parking ordinance.

Decatur does face several hurdles in implementing the CTP. This small city does not directly conduct any transportation work beyond regular maintenance and repair; it uses Georgia Department of Transportation (GDOT) grant funding for all larger projects. Decatur's complete streets vision is in conflict with GDOT standards, and therefore every project, from street tree to bike lane, requires variances. GDOT also controls the main routes connecting the city to the surrounding Atlanta region, and because GDOT rarely considers context Decatur's main roads are addressed in the same manner as roads through any other community. Decatur works through this situation by submitting variances and working to educate GDOT staff on Decatur's vision and reasoning. City staff also try to influence state policy by working with elected officials. Despite these challenges, Thompson firmly believes their approach is great for small governments often at the mercy of larger agencies. The CTP is "a communication tool to build what the community wants."

Final design of the CTP's concepts can also be troublesome. Working within existing rights-of-way constrains Decatur's ability to provide all the facilities it might. But by depending on the bicycle and pedestrian networks established through the planning process, staff is better able to balance needs across the system. They can determine the type of facility that is most important in each location and ensure its inclusion, then discuss additional features. Determining the right type of facility is also a challenge. This is especially true for bicycle facilities, where deciding among bike lanes, off-street paths, and "share the road" markings can be difficult.

Transportation project cost is often a barrier. Decatur's transportation funding has not increased appreciably since adopting the CTP, and so plan implementation is a reflection of what the city can afford each year. To make the most of those funds, the city tries to be creative in pursuing low-cost options and prioritizes projects to reflect the network needs established in the CTP. "The general feeling in Decatur," says Thompson, "is that investing public funds into sustainable transportation, rather than the status quo, is a better investment of those funds." To aid in addressing these issues, the city held a complete streets workshop in April 2008. Nationally known experts spent a day with elected officials, planners, and engineers, building a base of support for the CTP as well as determining how best to tackle its goals. The community, city commissioners, and city employees agree that Decatur has much reason to be proud of CTP implementation and progress toward complete streets.

The CTP is at www.decaturga.com/cgs_citysvcs_dev_transportationplan.aspx.

report *Planning Complete Streets for an Aging America* is a good source of strategies to integrate the needs of older adults into street planning.

Automobile drivers are also an important part of the equation. Maintaining acceptable vehicle movement will be a primary concern of many of those charged with implementing complete streets policies, and traffic volume will influence what treatments are used for other transportation modes. For example, a major debate during the development of Seattle's complete streets ordinance concerned the treatment of freight. The final policy reads, "Because freight is important to the basic economy of the City and has unique right-of-way needs to support that role, freight will be the major priority on streets classified as Major Truck Streets. Complete Street improvements that are consistent with freight mobility but also support other modes may be considered on these streets." Pedestrian and bicycle advocates are still not happy with the clause, but the city felt such language was necessary to gain the support of the freight community.

When preparing to undertake street design changes to better accommodate other modes, planners need to measure the impact on drivers, decide what to do, and communicate the change. In some communities, the vision for complete streets deemphasizes automobility, so explaining to the public the changes and new mobility options available is important. In other cases, the changes may actually improve traffic flow, but this may often be counterintuitive and should be communicated clearly. See Chapter 5 for a discussion of balancing the needs of automobiles with other users.

CREATE A NETWORK

The ultimate intent of a complete streets policy is to ensure that roadways provide complete transportation networks for all modes. Often the fastest way to make progress is to focus on opportunities to close gaps: filling in missing sidewalk segments or finding a good way for bicyclists to negotiate a narrow bottleneck. The connectivity of the roadway network is an especially important feature for pedestrians, who are much more reluctant to take indirect routes. The transportation plan of Champaign, Illinois, contains a succinct phrasing of this objective: "Provide a dense, interconnected network of local and collector streets that supports walking, bicycling, and transit use, while avoiding excessive traffic in residential neighborhoods."

A network orientation is also helpful in balancing transportation needs. Trying to accommodate every traveler on every street is a feat that physical constraints can make nearly impossible. Instead, planners and engineers can provide high-quality access for everyone through the creation of interwoven networks in which certain streets emphasize different modes. For example, "bicycle boulevards" in Portland, Oregon, allow bicyclists to travel along lower-traffic streets, avoiding arterials designed primarily for cars. In its new Urban Street Design Guidelines, Charlotte, North Carolina, has created a street classification system in which "parkways" are designed primarily for cars, "main streets" emphasize business uses, and "avenues" serve diverse needs. See Chapter 7 for more information on design approaches. In such systems, it is still important to provide a basic level of safe access on all streets, and no users should be required to take long detours.

COVER ALL ROADS

Creating networks of complete streets is difficult because streets are not controlled by a single agency. Roads are built and maintained by a patchwork of state, county, and city agencies, with private developers often responsible for building roads in new developments. Typically, complete streets policies cover a single jurisdiction; examples include an internal policy adopted by a state DOT or a goal or policy in a city's comprehensive plan. One notable

PAVING THE WAY FOR A COMPREHENSIVE COMPLETE STREETS NETWORK: OREGON

When the Oregon State Legislature passed the “bike bill” (ORS 366.514) in 1971, no one was using the phrase “complete streets.” Now, after nearly four decades on the books, this trailblazing state law is acknowledged as a primary inspiration for the complete streets movement.

Section 366.514 of the Oregon State Statutes requires that all roadway construction and reconstruction must include bicycle and pedestrian facilities. Additionally, at least 1 percent of all state funding received by local governments must be spent on bicycle and pedestrian improvements.

The bike bill became law around the same time that Oregon’s innovative land-use planning laws were taking shape. Don Stathos, a conservative legislator from southern Oregon, secured approval for the measure by a single vote, using the argument that bicycle and pedestrian facilities were necessary to ensure that schoolchildren had safe routes to school.



Figure 3.2.
Oregon state law mandates bicycle and pedestrian accommodation, as evidenced by this Portland intersection.

According to Michael Ronkin, former pedestrian and bicycle program manager for Oregon’s Department of Transportation, for the first 20 years local transportation departments applied the law unevenly. Although there was nothing in the measure that specifically limited the requirement to ODOT roads, the bill had been codified in a chapter dealing with highway funds. As a consequence, many local governments simply ignored the requirements.

The real turning point for the bike bill came when advocates from the Bicycle Transportation Alliance sued the City of Portland for noncompliance in 1992. The court’s decision upheld Stathos’s original idea that the law applied to all road projects. Ronkin and his colleagues wrote an official interpretation of the bike bill, clarifying that all construction and reconstruction must accommodate bicyclists and pedestrians.

Although opponents of the law often pointed to cost as a barrier for compliance, Ronkin contends that the battle over cost was more hype than substance. The bike bill does not say how road builders should pay for bicycle and pedestrian facilities. Instead, the measure assumes that transportation authorities and developers will plan for necessary improvements upfront and pay for them out of the same pots of money used for all surface transportation facilities.

Adding the required improvements up front is much cheaper than a retrofit. Ronkin explains that just as people understand that insulation is a necessary component of any housing project, transportation authorities and developers in Oregon understand that the up-front costs of compliance with the bike bill are just a normal part of the road building process.

For additional information about Oregon’s Bicycle and Pedestrian Program and to read the text of ODOT’s bike bill interpretation, see www.oregon.gov/odot/hwy/bikeped.

exception is Oregon’s state law, which states that “footpaths and bicycle trails ... shall be provided wherever a highway, road or street is being constructed, reconstructed, or relocated.” In 1992, the Oregon Court of Appeals ruled that this law applied to all roads in public use, and therefore state and municipal governments, as well as private entities building roads in new developments, are subject to its provisions (see sidebar). Complete streets elements should ideally extend to subdivision regulations governing streets built by private developers. See Chapter 4 for more information on this.

INCLUDE ALL PROJECTS

For many years in most communities, multimodal streets have been treated as special projects requiring extra planning, funding, and effort. The complete streets approach is different. It is perhaps best stated in the updated policy adopted by Caltrans, California’s DOT: “The Department views all transportation improvements as opportunities to improve safety, access, and mobility for all travelers in California and recognizes bicycle, pedestrian, and transit modes as integral elements of the transportation system.” Under this approach, even repaving projects can be an opportunity to make small adjustments to better accommodate all travelers, such as shifting stripes to provide more room for bicyclists. A strong complete streets policy will integrate complete streets planning into all phases of all types of projects, including new construction, reconstruction, rehabilitation, repair, and maintenance. See Chapters 5 and 6 for suggestions on integration of complete streets into all projects.

SPECIFY EXCEPTIONS

An important element of practical policy implementation is the creation of a process for handling exceptions to requirements that all

modes be accommodated in all projects. The FHWA guidance on accommodating bicycle and pedestrian travel, issued in 2000, listed three exceptions, which have become commonly used in complete streets policies. The first states that accommodation is not necessary on corridors where nonmotorized use is prohibited, such as a freeway.

The second exception involves project cost. The FHWA Guidance recommends that exceptions be allowed “when the cost of accommodation ... is excessively disproportionate to the need or probable use.” The FHWA Guidance includes a set percentage threshold for disproportionate cost, but some communities have discarded this as arbitrary and make decisions on a case-by-case basis. See Chapter 6 for discussion of this provision.

The third exception is a documented absence of need—now and in the future. The future clause is important. Many corridors are unfriendly to pedestrian travel because past development has discouraged walking, but redevelopment under new standards could change that. Also, the increasing mobility of people with disabilities means that people who use wheelchairs or have visual impairments will need more street networks conducive to their safe travel.

Many communities have included additional exceptions. One of the most common excepts ordinary maintenance and repairs, which reassures planners and engineers that basic maintenance work will not trigger a full reconstruction. A few policies, such as the law passed by the Illinois legislature in 2007, make exceptions for repaving projects. But the law also includes a clause to help agencies take advantage of repaving opportunities when appropriate: “Bicycle and pedestrian ways may be included in pavement resurfacing projects when local support is evident or bicycling and walking accommodations can be added within the overall scope of the original roadwork.”

Another relatively common exception is for safety. This should be defined very carefully. A common reaction to an unsafe environment for nonmotorized users is to prohibit bicycling or walking along the corridor. But paths beaten into the grass along arterials show that pedestrian travel is often not optional. High-speed, high-traffic roads that present the greatest danger to nonmotorized users may be the roads that most desperately need facilities.



Figure 3.3. Beaten paths are often indicators of routes that pedestrians find convenient to use despite their lack of safety.

CHANGING BUSINESS AS USUAL: VIRGINIA DEPARTMENT OF TRANSPORTATION

Since 2004, Virginia's Department of Transportation (VDOT) has had a policy for routine consideration of the need for accommodating bicyclists and pedestrians in all state- and federally funded transportation projects. The policy represents a major sea change in the commonwealth, and its impacts are most profound in VDOT's day-to-day operations.

In most of the commonwealth, counties are the default unit of local government. Because only two counties in Virginia operate and maintain their own roads, VDOT maintains the third most miles of road of any state in the country. Consequently, it is the single most important entity for implementing complete streets in rural and suburban areas statewide.

Changing the course of an agency as large as VDOT has not been easy. For years, VDOT was slow to react to changing development patterns. The agency had traditionally focused on building roads to carry vehicular traffic at high speeds over long distances, but as previously rural parts of the commonwealth became more urbanized, communities across Virginia as well as voices within the transportation agency itself called for reform.

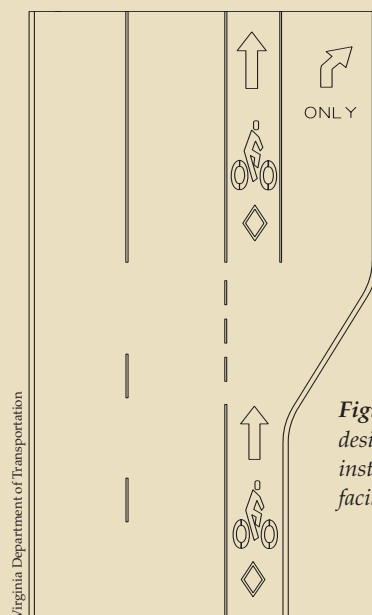


Figure 3.4. VDOT's design manuals include instruction for bicycle facilities.

In 2004, the Commonwealth Transportation Board, which oversees transportation policies in Virginia, promulgated the "Policy for Integrating Bicycle and Pedestrian Accommodations." This internal policy statement outlines a basic decision-making process to ensure that appropriate accommodations are considered for all VDOT projects. The policy requires all state- and federally funded projects to accommodate pedestrians and bicyclists except when bikes and pedestrians are not allowed by law, when there is a scarcity of population, when there are environmental or social impacts that discourage accommodation, when the total cost of accommodation is disproportionate to the benefit, or when the project purpose is in conflict with accommodation.

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Many policies make the head of the transportation department responsible for approving exceptions, while others require approval by an elected body, such as the city council. In Rochester, Minnesota, the final responsibility for deciding exceptions is divided among the city council and the heads of the planning and public works departments, depending on the type of exception. Because an exceptions process can be complex, another strategy is to use broad exceptions language in the policy and then allow the transportation agency to design an exceptions approval process as part of the implementation plan. See Chapter 5 for more information about creating an effective exceptions process.

ADDRESS DESIGN STANDARDS

When the subject of complete streets comes up, the conversation often heads straight to design standards. Engineers in particular are likely to view the creation of streets for all users as primarily an issue of modifying standards; they assume that a complete streets policy will include such specific modifications. However, design specifics are often less important at first than the political will to choose different priorities in transportation planning and the leadership and confidence to move away from rigid adherence to doing things "by the book."

Some communities have specified new design standards, such as Louisville, Kentucky, or Fort Collins, Colorado. Another approach is to make reference within the policy to existing design guidance while emphasizing flexibility. This is the case with the State of Virginia's policy: "The accommodations will be designed and built, or installed, using guidance from VDOT and AASHTO publications, the MUTCD, and the *Americans with Disabilities Act Accessibility Guidelines (ADAAG)*. Methods for providing flexibility within safe design parameters, such as context sensitive solutions and design, will be considered."

COMPLEMENT CONTEXT

Sensitivity to the community context is essential to an effective complete streets policy. Being clear about this in the initial policy statement can allay common fears that a complete streets policy will require inappropriately wide roads in quiet neighborhoods or miles of little-used sidewalks in rural areas. The Context Sensitive Solutions movement has been moving highway design in this direction for well over a decade. A strong statement about context can also help bridge the traditional divide between transportation and land-use planning.

The best examples of context statements can be found in transportation master plans. Charlotte's plan states, "The City will promote context-sensitive streets (i.e., by designing transportation projects within the context of adjacent land uses to improve safety and neighborhood livability, promote transportation choices and meet land use objectives), consistent with the City's Urban Street Design Guidelines." The guidelines include a six-step process for designing complete streets—and the first step is determining the land-use context. Arlington County, Virginia, sets out three components of a complete street, and the first is context (see sidebar on p. 32). The streets element of the master transportation plan includes this definition:

The context of a street includes the buildings and sites adjacent to the street, or right-of-way. This area is described in terms of land use—residential, commercial, and industrial. It is also described in terms of physical form—such as office buildings, single-family detached homes, and townhouses. Intensity (low-, medium- or high-density development) also affects how an area is described. A street's surroundings are the major factors that define the character of the corridor.

ESTABLISH PERFORMANCE MEASURES

The traditional performance measure for transportation planning has been vehicular level of service—a measure

(continued from page 30)

Perhaps the most important tools for battling business as usual at VDOT have been the agency's new project scoping forms and decision tree. In 2006, VDOT added a new section to its scoping forms for new construction and maintenance activities to ensure that the state's accommodation policy was considered for each project. According to Jakob Helmboldt, AICP, VDOT's bicycle and pedestrian program coordinator, the scoping forms follow the Federal Highway Administration approach of mainstreaming the accommodation policy. Ensuring that each project contains appropriate bicycle and pedestrian facilities has become a routine element to check off in the scoping process. To supplement the forms, VDOT has also created a simple flowchart that helps individuals in charge of scoping see whether or not each project is exempted for any of the reasons outlined in the policy statement.

Helmboldt says that mainstreaming the policy has kept VDOT from getting too caught up in budgeting for bicycle and pedestrian improvements. The policy has a built-in safety valve in the form of a "cost disproportionate to the need" exemption. If the cost of accommodation is more than 10 percent of the total project and if the project is not on a designated bike/ped plan, the project is exempt from compliance. If the project is on a plan, the cost threshold for exemption goes up to 20 percent.

In Helmboldt's view, project costs can be a red herring. "Overengineering leads to cost problems," he says. Sometimes costs balloon when someone wants to make changes that may represent the gold standard in accommodation but ignores other lower-cost alternatives.

Aside from new projects, VDOT's nine highway construction districts each have a goal of using 2 percent of maintenance funds for shoulder paving in rural areas to improve bicycling conditions. Because paved shoulders stabilize the pavement edge and reduce crashes, adding the extra pavement has not faced much resistance in areas not traditionally thought of as bike friendly.

Cross-jurisdictional cooperation in Virginia took a major leap forward in 2006 with the enactment of new legislation that requires more VDOT involvement in local land-use decisions. Section 15.2-2222.1 requires VDOT to review all new or amended local comprehensive plans and traffic impact statements for activities that will substantially affect transportation on state roads. The legislation ensures that VDOT is aware of new plans for bicycle and pedestrian improvements.

Recognizing that private developers have a major impact on road networks in Virginia, the commonwealth adopted new secondary-street acceptance requirements in 2009. According to Nick Donohue, Virginia's assistant secretary of transportation, the new requirements were an outgrowth of the governor's initiative to improve the coordination of transportation and land use. Prior to that policy, VDOT accepted streets for perpetual public maintenance without considering the overall public benefit the new roads provided. Developers built the roads, and the state accepted maintenance responsibilities as long as the roads were built to adequate geometric standards.

"Travel distance, which is influenced by street connectivity, has a big impact on whether you decide to walk or not," says Donohue. For that reason, the new acceptance requirements require greater connectivity of the street network along with sidewalks or other pedestrian features and narrower streets to help reduce vehicle speeds. In Donohue's view, the requirements work hand-in-glove with VDOT's accommodation policy. While the latter applies to all VDOT projects (new roads, road expansion, or maintenance) as well as any locally administered project using state or federal money, the new acceptance standards deal exclusively with local streets built by private developers.

VDOT's "Bicycling and Walking in Virginia" page, available at www.virginiadot.org/programs/bk-default.asp, contains links to the accommodation policy, the project scoping forms, and the decision tree. For Virginia's Secondary Street Acceptance Requirements, see www.virginiadot.org/projects/ssar/default.asp.

TYING TOGETHER A LEGACY OF INNOVATIVE PLANNING POLICIES: ARLINGTON COUNTY, VIRGINIA

Though Arlington County, Virginia, has only recently adopted an official complete streets policy, these principles are nothing new. For more than 30 years, this municipality of nearly 210,000 people and 26 square miles in the metropolitan Washington, D.C., area has been a leader in smart growth, transit-oriented development (TOD), and innovative pedestrian, bicycle, and transit policies.

"[Complete streets] had been the policy, before it had officially been adopted. Over the past 10 years we've been moving towards complete streets without calling it that," says Richard Viola, county planning supervisor for transportation planning.

Implementation of complete streets was called out as one of the most important guiding themes for Arlington County in the 2007 update to its Master Transportation Plan. During the revision process, a group of local cutting-edge transportation-planning leaders met and decided to draft a complete streets policy that would formalize 10 years of pedestrian, bicycle, and transit planning efforts in the county.

The complete streets concept gives good transportation planning an identity. While Arlington County has received a lot of attention for TOD, the complete streets policy solidifies and formalizes the county's multimodal commitment and brings attention to its many bicycle and pedestrian improvements, campaigns, and other promotional activities. Furthermore, the complete streets policy provides the county with a more systematic approach to transportation and development projects. It requires any development project that has an impact on transportation infrastructure to consider all necessary transportation modes needed to accommodate all users.

The revision of the Master Transportation Plan and the adoption of its complete streets policy was a result of a community planning process which included the county board, elected officials, a plenary group, two dozen citizens representing various committees and advisory groups from across the county, and transportation planning staff. According to Viola, the county board and the community have been very supportive of the complete streets policy, largely because of Arlington County's legacy of TOD and managed growth.

Despite this legacy, a car-dominated infrastructure is still present in much of the county. But since the official adoption of the policy in November 2007, limited retrofits to existing streets are occurring as financial and staff resources permit, and complete streets principles are being addressed more systematically in the conception or initial design of a development project rather than during later review stages. The policy has contributed to more cost-effective investment of public funds.

Some challenges faced by the county include community parking demand and state design controls. In some neighborhoods, the demand for on-street parking can present a significant barrier to implementing innovative uses of limited rights-of-way on arterial and neighborhood streets. "Residents are



Figure 3.5. Pedestrian safety is emphasized in Arlington County's Master Transportation Plan.

reluctant to give up their free curbside parking. This translates into fewer trees, fewer bike lanes, etc., and ultimately limits choices," says David Patton, bicycle and pedestrian planner for the county. In addition, changes to many arterial streets in the county require explicit approval from the Virginia Department of Transportation (VDOT). VDOT design standards have often prioritized the needs of the automobile, above the needs of other street users, and have frustrated county intentions for greater multimodalism. However, as VDOT works to better implement its own bicycle and pedestrian accommodation policy (see p. 30), such conflicts should ease.

On July 1, 2008, the county implemented a 0.12 percent property tax on commercial property for transportation improvements. This extra revenue has allowed the county to update streetscapes and transit stations and purchase new buses, among other things. Arlington County is a model example of how transportation planners can use the complete streets concept to highlight synergies among multiple planning efforts and outcomes, including TOD, smart growth, bicycle and pedestrian improvements, improved property values, and more transportation options.

For more information about the county's complete streets policy, visit www.arlingtonva.us/Departments/EnvironmentalServices/dot/planning/mplan/mtp/MTP_Draft.aspx.

For more information about the transportation planning in the county, visit www.arlingtonva.us/Departments/EnvironmentalServices/dot/planning/EnvironmentalServicesPlanning.aspx.

of automobile congestion. Complete streets planning requires taking a broader look at how the system is serving all users. Some communities, such as Louisville, Kentucky, have gone so far as to create their own metrics that measure transportation performance in terms of bicycle or pedestrian friendliness.

Few policies have established performance measures within the original policy document; in most cases, performance measures are dealt with as a later implementation step. An exception is Roanoke, Virginia, which lists a series of simple performance measures as part of its three-page complete streets policy:

- Total miles of on-street bicycle routes defined by streets with clearly marked or signed bicycle accommodation
- Linear feet of new pedestrian accommodation
- Number of new curb ramps installed along city streets
- Number of new street trees planted along city streets

Such simple quantitative performance measures can be a powerful way to communicate the intent of the new policy to the community, but in the workshops offered by the National Complete Streets Coalition it has become clear that people want to also measure qualitative outcomes. Health, safety, the economy, and user satisfaction are mentioned most often.

The performance measures developed by a community may also refer back to the vision statement included in the policy document. For more information on performance measures, see Chapter 5.

CREATING COMPLETE STREETS THROUGH NEW STREET DESIGN GUIDELINES: ROANOKE, VIRGINIA

Thanks to new street design guidelines and a collaborative approach to project scoping, Roanoke, Virginia, is putting its recent commitment to complete streets into action. In 2001—seven years before the city adopted a formal complete streets policy—Roanoke’s comprehensive plan set a goal of creating an integrated, multimodal transportation system for automobiles, bicycles, pedestrians, and transit. The plan called for new street design guidelines based on a classification system that would balance the purpose of the roadway with the impacts on surrounding areas.

To implement this directive, the city formed an interdisciplinary team to draft the guidelines. Participants included staff from the city’s planning, engineering, and transportation departments, as well as an urban forester, a park planner, and a representative from the local MPO. Eventually, after many drafts and multiple reviews, the city planning commission adopted new street design guidelines in 2007 as an internal guidance document.

According to Cristina Finch, the manager of the project team, the guidelines take a different approach to street design. In Virginia, every area has a street classification system determined by the state DOT. Finch and her colleagues took this preexisting street hierarchy and then simplified it. Instead of being classified as major or minor, roads were simply arterials, collectors, or local streets. The bulk of the guidelines look at how these street types relate to different character districts. For example, Finch says her team looked at what a collector street would look like as it went through a suburban neighborhood versus in a traditional neighborhood versus in a downtown.

The guidelines present examples of cross-sections for various street types based on the character of the area they are in. The illustrations depict different widths and facilities for seven distinct roadway zones (travel, parking, gutter/drainage, curb, planter/utilities, pedestrian, and right-of-way edge), depending on where the local or collector street section is located.

The city council issued a formal endorsement of the street design guidelines with its Complete Streets Resolution in 2008. This resolution recommends that the guidelines developed by Finch’s team be used in the planning, funding, design, operation, and maintenance of new and modified streets. The new policy also requires a written explanation to the city manager if accommodations cannot be made.

To help implement the new complete streets policy, Roanoke formed a street design team

to make sure that new projects contain the appropriate pedestrian, bicycle, and transit accommodations. The interdepartmental team has representatives from the departments of planning, building, and development, parks and recreation, and neighborhood services, as well as from the transportation and engineering divisions of the public works department.

“I think that the complete streets policy has helped unify the city in terms of visioning and its communication about streets,” says Finch. “With the street design team we now have folks regularly talking about our streets, whereas before, for example, the Transportation Division would previously work with the state DOT, but other divisions weren’t necessarily being coordinated with to give input.”

(continued on page 34)




Ian Shaw, City of Roanoke

Figure 3.6. Roanoke’s street design guidelines call for bicycle accommodation.

(continued from page 33)

Having a street design team ensures that repaving and restriping projects are now routinely considered as a method for providing accommodations. Because Roanoke is a built-out city where major street projects are rare, this design input into routine maintenance activities is important. Redesign of existing streets (such as reallocation of existing pavement with striping) is where Roanoke has the most impact on accommodating all street users.

According to Senior Planner Ian Shaw, his department has also brought the complete streets approach into the neighborhood planning process. Shaw and his colleagues have developed a scoring system for major streets in each neighborhood. The system looks first at safety and then at connectivity and design. The scoring also considers whether or not the available right-of-way can accommodate a complete street, the ability to locate street trees within the right-of-way, and the potential for stormwater and drainage issues. So far, the city has scored 30 streets and hopes to have all major streets scored with each neighborhood plan update.

Roanoke's Street Design Guidelines and the city's complete streets policy are both available at www.roanokeva.gov. 

PROVIDE IMPLEMENTATION STEPS

Taking a complete streets policy from paper to practice is not easy, but providing some specific implementation steps can help build momentum. For example, Seattle's complete streets ordinance made clear that a systematic review of the city's practices was in order. Section 2 states: "SDOT will incorporate Complete Streets principles into: the Department's Transportation Strategic Plan; Seattle Transit Plan; Pedestrian and Bicycle Master Plans; Intelligent Transportation System Strategic Plan; and other SDOT plans, manuals, rules, regulations and programs as appropriate."

The internal policy updated by Caltrans in 2008 takes a different approach. It specifies the responsibilities of each position in the agency in implementing the plan—from the chief deputy director down to the division chiefs and general employees. Other communities have established task forces or commissions to work toward policy implementation. For more information, see Chapter 5.

of special interest



Planning for Street Connectivity

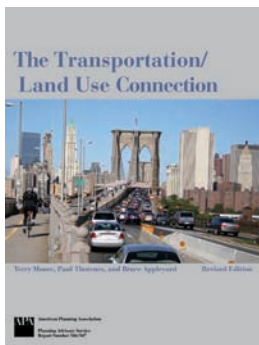
PAS 515. Susan Handy, Robert G. Patterson, and Kent Butler. 2003. 95 pp. \$48.

The authors provide an overview of efforts by communities across the U.S. to increase street connectivity. They look at the motivation behind such efforts, the wide variety of issues these efforts have raised, and the different approaches that communities have taken to resolve them. Planners, decision makers, and residents will gain a better understanding of the concept of connectivity as well as ideas on how best to address the goal of connectivity in their own communities.

Integrating Planning and Public Health

PAS 539/540. Marya Morris, ed. 2006. 132 pp. \$60.

Is the form of American cities to blame for the shape of Americans? With obesity rates climbing ever higher, planners are reconsidering how the built environment affects public health—not only obesity, but also asthma, cardiovascular disease, water quality, air pollution, pedestrian safety, and mental health. This report examines collaborations between planners and public-health professionals committed to building healthy communities. It outlines the five strategic points of intervention at which planners and public-health professionals can coordinate their efforts: visioning and goal setting, plans and planning, implementation tools, site design and development, and public facility siting and capital spending. Case studies illustrate the specific tools—including health impact assessments—used in such collaborations. It also examines the role of universal design in creating healthy communities.



The Transportation/Land Use Connection

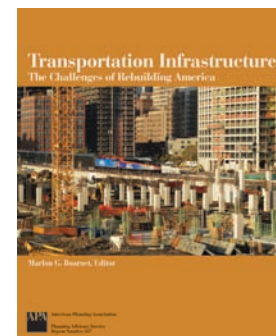
PAS 546/547. Terry Moore and Paul Thorsnes, with Bruce Appleyard. 2007. 376 pp. \$60.

Communities that integrate transportation and land-use policies are better able to manage growth, improve the efficiency of travel, and contain infrastructure costs. Highways have shaped America's growth, but they have a big problem: congestion. Building more roads doesn't solve this problem for long, but changes in the way we approach transportation and land-use planning might. This report examines the need for public-sector investment in land-use and transportation development and presents the tools and techniques planners can use to integrate transportation and land use.

Transportation Infrastructure

PAS 557. Marlon G. Boarnet, ed. 2009. 128 pp. \$60.

Transportation infrastructure is one of the most pressing issues for planners and communities today. In the short term, stimulus funding is being used to create jobs and fix critical systems; in the long run, communities are struggling to determine how best to restructure transport networks to encourage better land use and to foster reductions in greenhouse gas emissions. This report was compiled with an eye to the urgency and severity of the challenges that we now face. Some of the leading researchers, scholars, and practitioners in transportation planning put forth fresh best practices and visionary ideas.





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