



Smart Growth America
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**National Complete
Streets Coalition**

Complete Streets Implementation: A Brief Guidebook



**YOU HAVE A
COMPLETE
STREETS POLICY
NOW WHAT?**

Summary

You have a Complete Streets policy: now what? Implementing any policy is challenging and Complete Streets policies add additional layers of complexity, including education to a diverse constituency, selecting projects that address your policy's goals, and ultimately funding and maintaining these projects. The following guide can assist your team as you look to navigate the public process for Complete Street implementation. It includes customizable ideas to help manage culture shift, educational resources to teach different stakeholders best practices, and ideas to continuously provide the best possible Complete Streets through key performance indicators.

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Planning for Implementation

A conscious implementation process identifies all the systems, routines, silos, and assumptions that, together, have created the current transportation system. Communities have found it easier to understand the world of possible activities by assessing and understanding the current procedures and processes; planning for clear next steps; and establishing a person or group of people who can help guide implementation efforts within and across departments and agencies.

Successful Complete Streets implementation should include **strengthening relationships** between city departments; between elected officials and departments; and between citizens and transportation professionals. A first step in this process can be a [Complete Streets Implementation Workshop](#), which brings together people from all departments with some interest in transportation, such as planning, public works/transportation, transit, parks, and health as well as key outside interests, such as concerned elected officials and engaged advocacy groups. This understanding can also come about when people from different agencies, departments, and interest groups meet as part of a committee or advisory board charged with implementing the policy.

The Complete Streets policy document itself should **designate a person or committee to lead implementation**. If it has not, champions should see this as a first order of business.

While most communities have centered their implementation planning on committee activities or on updating specific documents or design guidance, some communities have written **formal implementation plans**. Creating an implementation plan or framework can maintain the momentum picked up during policy adoption, and it can help partners who were active in policy adoption remain engaged as the focus shifts to implementation. The creation of such a plan should involve people across the transportation agency, from planners to engineers to maintenance staff, in the decision-making process. An implementation plan provides the opportunity to assess current practices, to assign responsibility for the following activities in this report, and to create estimated timelines for accomplishing those tasks. The community can use the resulting document as a tool to communicate its work with other agencies, with community leaders, and with supporters.

Possible Activities

- Designate a lead person or “champion” to guide the process.
 - Create a committee to guide the implementation process.
 - Use an “internal” committee with representation from multiple departments within an agency and other city/state departments such as public health, planning, economic development, and transit.
- Use an “external” committee with representation from city agencies, bicycle advocates, pedestrian advocates, older adult groups, and disability groups.
- Task an existing committee to with this task (e.g., bicycle and pedestrian advisory council).
- Conduct an audit of existing policies and procedures within the agency and jurisdiction that should be consistent with the Complete Streets policy. May include:
 - Procedures that do not yet consider all users of all ages and abilities as routine.
 - Current training processes.
 - Design standards and guides.
 - Current performance measures and outcomes.
- Develop an implementation plan, which could include:

- Designation of a person or committee responsible for implementation.
- A timeline for updating or revising existing policies or procedures documented in the above preparation step.
- Assigned responsibilities to specific people or departments.
- A reporting plan to inform elected officials, public and internal stakeholders about implementation progress.
- Report when documents listed from above are updated or revised.
- Require annual reports that include Complete Streets progress.

Best Practices

- Build relationships between agencies and stakeholders such as public health, law enforcement, and businesses.
- Having a champion is invaluable; designate a lead person, agency, and/or committee that will move the process forward.
- Formal advisory committees can be an effective catalyst for achieving other implementation steps.

Resources

Strategic & Implementation Plans

- [Complete Streets Implementation Work Plan](#), Minnesota Department of Transportation (October 2014)
- [Great Streets for Los Angeles Strategic Plan](#), Los Angeles
- [Sustainable Streets Strategic Plan](#), New York City
- [Complete Streets Implementation Action Plan 2.0](#), California Department of Transportation (November 2014)
- [FY12-13 Status Update](#), California Department of Transportation
- [Complete Streets Guidance Document](#), Vermont Agency of Transportation
- [Complete Streets Implementation Strategy](#), Regional Transportation Commission of Southern Nevada
- [Complete Streets Action Agenda and Design Guidelines](#), Oakland, California
- [Implementation Action Plan](#), Lee County, Florida
- [Complete Streets Plan](#), Saint Paul, Minnesota

Committees

- [Complete Streets Steering Committee Roster](#) (.doc), California Department of Transportation
- [Complete Streets Technical Advisory Committee Roster](#) (.doc), California Department of Transportation
- [Get Fit Kauai Built Environment Task Force](#), Kauai County, Hawaii
- [Complete Streets Committee](#), Lawrence, Kansas
- [Louisiana Complete Streets Work Group](#)
- [Complete Streets Advisory Committee](#), Boston
- [Minnesota Complete Streets Coalition](#)
- [Complete Streets Task Force](#), Hennepin County, Minnesota
- [Complete Streets Advisory Council](#), Kingston, New York

General

- [From Inspiration to Action: Implementing Projects to Support Active Living](#), Walkable and Livable Communities Institute and AARP

Changing Procedure and Process

“Complete Street design should be understood as a process, not a specific product.” —
Major and Collector Street Plan, Nashville

Changing the everyday processes that guide decision-making is at the heart of the Complete Streets movement. Changing the way planners and engineers do their jobs on a day-to-day basis is challenging, but is essential if Complete Streets plans or new design manuals are to do more than collect dust.

Implementing Complete Streets successfully requires **inclusive decision-making processes**. In many communities, Complete Streets implementation is delayed, or even derailed, by ‘silos’ that have been built within and between agencies. Such silos keep departments working independently from, and sometimes at odds with, each other — meaning the Complete Streets vision is interpreted differently or ignored completely. Simply bringing the right people together to discuss projects in light of Complete Streets is an important procedural step. It requires attention to who is involved with transportation projects as well as who *should* be involved. A committee can become a forum for this collaboration, so long as it includes representation from appropriate agencies and can influence their actions. Such committees are great for specific tasks, such as creating a specific plan or document.

Project-level teams that **bring together many departments** or agencies can also be influential in ensuring major work is done in the spirit of a Complete Streets policy. Such an approach is used in communities such as Seattle and Duluth, Minnesota. More sophisticated public involvement strategies should be employed by project-level teams, including design charrettes and regular interaction with residents and business owners.

To change processes, implementing agencies must **review the rules, procedures, and habits** that have typically guided them. Facilities for bicycling, walking, and taking and operating public transportation are simply not in some plans, codes, manuals, and other guiding documents. They can, and must, be added. Some communities do this systematically by reviewing all documents that might affect transportation. Others work through pilot projects, finding the issues that must be corrected as they work through the project.

Implementing Complete Streets requires that the **maintenance and operation procedures be updated** to look beyond automobile movement. Commonly, the only criteria for selecting and designing these projects is pavement condition and keeping costs low. However, such projects are often the most important — and frequent — opportunities to quickly create change within communities, since larger construction and reconstruction projects may take years to plan. Changes made during maintenance and operations adjustments are often inexpensive and tied to work that is already necessary. Many communities are now *planning ahead* for restriping of roadways following repaving and looking for opportunities to incorporate bicycle lanes, clearer pedestrian crossings, or improved parking. Communities can revise their paving plans so citizen groups and city planners can use the upcoming opportunities to suggest changes.

An agency committed to Complete Streets will need to **make changes to the way it selects its transportation projects**. Communities that rely on automobile Level of Service (LOS) should consider alternatives, such as relaxing LOS standards in some areas or at certain times; creating a different type of LOS that applies to all other modes; or switching to entirely different measurements such as Auto Trips Generated. Communities with mode-specific plans should

coordinate those efforts via an overarching street prioritization map and ensure that small improvements can be made on every project, not just on major routes identified in the documents. Agencies, especially Metropolitan Planning Organizations, can also employ a points system in selecting projects that reward multimodal inclusion. Equity — ensuring projects are distributed across neighborhoods regardless of income or ethnicity — must also be considered so as to avoid building out a great network in one neighborhood but nothing in the next.

Often, the most effective way to overcome barriers is to simply **create new systems**. Broadly, three commonly pursued tactics are: developing a strong exceptions review process; adopting project-specific checklists; and creating a new project development process. Complete Streets policies should spell out specific **exceptions** to the policy’s application, and successful implementation requires a system to determine when and how those exceptions are made. **Checklists** remind or require planners and engineers to consider the needs of all users as they go about their work, helping to provide appropriate solutions based on transportation and land use needs; collect and share information between departments; and illuminate the decisions to the public. By themselves, checklists are usually not enough to fundamentally change transportation planning. Communities can bring all the procedural changes together by creating entirely **new step-by-step project development processes**. The best-known example is the six-step process created by the Charlotte Department of Transportation in their [Urban Street Design Guidelines](#). The process starts by evaluating the existing land use and transportation context of the project; moves on to identifying gaps and deficiencies and defining future objectives; and then recommends a street classification and deliberates the tradeoffs that might need to be made.

Possible Activities

- Designate a lead person or “champion” to guide the process
- Create a list of all documents to be updated to be consistent with the Complete Streets policy.
- Modify department procedural documents. May include:
 - Checklists.
 - Decision trees.
 - Standard operating procedures.
 - Project development steps or phases.
- Include non-transportation departments (e.g. planning, environment) that have a role in street planning, design, operations, or maintenance or participates in the updating of:
 - Utilities’ street documents.
 - Plans, including neighborhood, area, redevelopment, urban forestry/street tree, and/or comprehensive plans.
 - Transit agency’s street and planning documents.
- Prioritize multi-modal projects by:
- Awarding points or otherwise prioritizing multimodal projects in project selection criteria.
 - Formally prioritizing multimodal projects in the capital improvement program (CIP) or transportation improvement program (TIP or STIP).
 - Prioritizing projects that are identified as closing gaps in the multimodal network.
- Change or create new project procedures at the following phases:
 - Planning,
 - Programming (including CIP/TIP decisions),
 - Scoping,
 - Design,
 - Construction,
 - Operation, and

- Maintenance.
- Ensure changes apply to all project types, including:
 - New construction,
 - Retrofitting/reconstruction,
 - Repair,
 - Resurfacing/restoration/**rehabilitation**,
 - Bridges,
 - Privately built roads,
 - Master planned neighborhoods and planned unit developments,
 - Infill,
 - Greenfield, and
 - Transit.
- Establish a process for allowing exceptions to the Complete Streets policy.
- Name a specific entity for approving exceptions (e.g., transportation director, city council, other committee or staff).
- Provide staff the decision-making power to be flexible and consider the land use context.
- Adopt or update relevant plans, such as:
 - Bicycle Master Plan,
 - Pedestrian Master Plan,
 - Transit Master Plan,
 - Non-Motorized Network Plan,
 - Transportation Plan,
 - Major Street Plan, and/or
 - General or Comprehensive Plan.
- Adopt or update relevant policies, including:
 - Education policies and activities,
 - Encouragement policies and activities,
 - Enforcement policies and activities, and
 - Multimodal Level of Service guidelines and criteria.
- Require consultants to use Complete Streets approach in project scope and/or consultant contracts.

Best Practices

- Encourage stronger relationships between departments, with citizens, and with elected officials.
- Try easier, smaller projects or those with obvious, visible benefits first.
- Keep a network approach in mind when selecting the first projects. New facilities won't be well used if they don't connect to destinations or other routes.
- Document results of early projects, including before-and-after studies of safety benefits if possible.

Resources

Checklists

- [Complete Streets Checklist](#), *Complete Streets Complete Networks – Chapter 5*, Active Transportation Alliance
- [Project Checklist](#), Seattle
- [Complete Streets Project Review Checklist](#), Philadelphia
- [Active Living Design Checklist](#), Hennepin County, Minnesota
- [Complete Streets Checklist for Project Sponsors](#), Mid-Ohio Regional Planning Commission

(Columbus, Ohio region)

- [Complete Streets Checklist](#), New Jersey Department of Transportation
- [Complete Streets Planning Phase Checklist and Design Phase Checklist](#), Vermont Agency of Transportation
- [Complete Streets Checklist](#), Onalaska, Wisconsin
- [Complete Streets Checklist](#), Saratoga Springs, New York
- [Complete Streets Checklist](#), Metropolitan Transportation Commission (San Francisco region)
- [Complete Streets Checklist](#) (draft), Regional Transportation Commission of Southern Nevada
- [Complete Street Design Review Checklist](#) (draft), Dallas

Plans

- [Transportation Outlook 2040](#), Mid-America Regional Council (Kansas City, Missouri region)
- [Transportation Improvement Program 2012-2016](#), Mid-America Regional Council (Kansas City, Missouri region)
- [2030 Long-Range Transportation Plan](#), Nashville Area Metropolitan Planning Organization (Tennessee)
- [Sustainable Streets Strategic Plan](#), New York City
- [Active Transportation Plan](#), Forest Park, Illinois

Funding Priority Systems

- [Transportation Project Prioritization Technical Report](#) (draft), Oakland, California
- [Project Solicitation & Evaluation: Scoring Criteria](#), Mid-America Regional Council (Kansas City, Missouri area)
- [MPO Project Evaluation & Scoring Documentation](#), Nashville Metropolitan Planning Organization
- [Local Aid Program](#), New Jersey Department of Transportation
- [Transportation Factors for Highway Projects](#), Ohio-Kentucky-Indiana Regional Council of Governments (Cincinnati, Ohio region)

Process

- [Complete Streets Complete Networks](#), Active Transportation Alliance
- [Urban Street Design Guidelines](#), Charlotte, North Carolina
- [Complete Streets Guide](#), Maricopa Association of Governments (Phoenix, Arizona region)
- [Complete Streets Design Manual](#), New Haven, Connecticut
- [Project Development and Review Process](#), Boston

General

- [Complete Streets: Best Policy and Implementation Practices \(PAS 559\)](#), American Planning Association
- [The Role of Transportation Systems Maintenance and Operations in Supporting Livability and Sustainability: A Primer](#), Federal Highway Administration
- [From Policy to Pavement: Implementing Complete Streets in the San Diego Region](#), Walk San Diego
- [Complete Streets Implementation Resource Guide for Minnesota Local Agencies](#), Minnesota Department of Transportation

Offering Training and Educational Opportunities

A successful Complete Streets initiative requires ongoing education and training — and it is about far more than 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. Elected officials need ongoing engagement to understand how the general policy goals will be translated into projects on the ground. And communication with the public about what they want out of their streets, and what is happening to their roads, is essential for implementation to be successful.

Many communities employ a workshop approach to help **transportation staff** understand and embrace the intention behind Complete Streets. They need to hear how this approach works in other communities, and how it fits into their professional goals and standards. The best messengers for these sessions are those within the same profession; engineers need to hear directly from other engineers, planners from other planners. Many agencies have also used a more informal, on-the-job training approach that encourages dialogue between departments. Additional technical training should be part of regular professional development.

Work with **elected officials, involved stakeholders, and the general public** must be ongoing. Transportation staff and Complete Streets supporters need to be able to communicate how the proposed projects benefit the community and nearby residents and businesses, and how incomplete streets negatively affect mobility and access to schools, offices, and shops. Regular updates on goals and successes are key. “Experiential” learning, through activities such as walking audits and bicycle tours, has been very helpful in building support and camaraderie among staff, elected officials, and community members. Some have also produced or shared short videos that focus on the health, economic, and safety benefits of changing street design.

Possible Activities

- Leadership sends a formal memo or email to staff about the new Complete Streets Policy.
- Conduct a formal staff training process, potentially through:
 - Staff retreats,
 - Series of Complete Streets specific training sessions,
 - Funded professional development with outside experts, and/or
 - On-the-job training.
- Conduct informal mentoring-training within the transportation department.
- Provide training on technical aspects of the policy (e.g. engineering/design).
- Provide training on non-technical aspects of the policy (e.g. process changes within the department to consider all users of all abilities).
- Provide training on non-transportation topics such as environment and public health benefits.
 - Provide sensitivity training to learn about all users of the road such as those with disabilities.
 - Training includes department heads, managers and program staff.
 - Develop systematic training in incorporating all users of all abilities for new staff.
 - Include multiple departments in training, such as utilities, public health, transit agencies and economic development.
- Engage with community to explain the importance of Complete Streets policy, when and how it will be applied, from a multi-disciplinary view. Engage through:
 - Public meetings,

- Presentations at city council meetings,
- Presentations at district offices that are open to the public,
- Video presentation available online,
- Printed materials such as newsletters, pamphlets, posters, and/or
- Walking and/or biking audits or tours.
- Educational campaigns, which may include information about new road markings and signs, coaching on sharing the road with other users, benefits of walking, biking, and taking public transportation.

Best Practices

- Community engineers and planners must hear from their professional peers.
- Strive to instill a sense that Complete Streets is part of everyone's job.
- Outreach to community members is an on-going process and must not end with a policy's adoption.
 - The first projects are the hardest to sell. Communicate on a project-by-project scale as well as in more general terms. Go to the public so they hear about the project and your goals directly from you first.
 - Start with temporary or pilot projects, or choose projects with relatively simple implementation; be sure to tie these projects back to the Complete Streets objective.
 - Provide regular updates to community and agency elected officials and media on implementation and successes.
 - Ask your Metropolitan Planning Organization to provide training for its member jurisdictions.
 - Share project successes in the context of overall policy implementation.

Resources

Professional Training: Workshops

- [Complete Streets Checklist](#), *Complete Streets Complete Networks – Chapter 5*, Active Transportation Alliance
- [National Complete Streets Coalition Workshops](#)
- [Designing Pedestrian Facilities for Accessibility](#), Association of Pedestrian and Bicycle Professionals
- [Designing for Pedestrian Safety](#), Pedestrian and Bicycle Information Center
- [Planning and Designing for Pedestrian Safety](#), Pedestrian and Bicycle Information Center
- [Creating Livable Communities through Public Involvement](#), Pedestrian and Bicycle Information Center
- [Complete Streets Workshops](#), Massachusetts Department of Transportation
- [Complete Streets Training](#), North Carolina Department of Transportation
- [One Bay Area Grant: Complete Streets Policy Development Workshops](#), Metropolitan Transportation Commission (San Francisco region)/

Professional Training: Web-based

- [Webinars](#), Association of Pedestrian and Bicycle Professionals
- [Webinars](#), State Smart Transportation Initiative
- [Webinars](#), Pedestrian and Bicycle Information Center
- [Professional development opportunities](#), Institute of Transportation Engineers
- [Professional development opportunities](#), American Planning Association

Professional Training: Notable Conferences

- [Annual Meeting](#), Transportation Research Board

- [Pro Walk Pro Bike Conference](#), Project for Public Spaces
- [Professional Development Seminar](#), Association of Pedestrian and Bicycle Professionals
- [Technical Conference and Annual Meeting](#), Institute of Transportation Engineers
- [National Planning Conference](#), American Planning Association
- [New Partners for Smart Growth](#), Local Government Commission

Walking Audit

- [Walkability Checklist](#), Pedestrian and Bicycle Information Center
- [Walkability Workbook](#), Walkable and Livable Communities Institute
- [Walkability Audits with Dan Burden](#), Walkable and Livable Communities Institute
- [Walkable Community Workshops](#) with Mark Fenton

Pilot Projects, Demonstration Events, Programs, and Placemaking

- [Pavement-to-Parks program](#), San Francisco
- [Make Way for People Initiative](#), Chicago
- [Tactical Urbanism 2: Short Term Action, Long Term Change](#), Street Plans Collaborative
- [City Repair](#), Portland, Oregon
- [The Better Block: Rapid Urban Revitalization Projects](#)
- [The Open Streets Guide](#), Alliance for Biking & Walking and Streets Plans Collaborative
- [Resources for Organizers](#), Open Streets Project
- [“20 Is Plenty” program](#), Hoboken, New Jersey
- [“Neighborhood 25” program](#), Arlington, Virginia
- [Sustainable Jersey community certification](#), New Jersey

Public Information About Projects

- [Project webpages](#), Seattle
- [Project webpages](#), Boston
- [Current projects](#), New York City

General

- [Participation Tools for Better Community Planning](#), Local Government Commission, 2013

Reviewing and Updating Design Guidance

In many agencies, the street design manual is the go-to reference for all transportation projects. If it is not supportive of flexible, context-sensitive, and multi-modal approaches, it can be the largest barrier a community faces. A flexible manual can empower planners and engineers to develop design solutions that balance the needs of many users and support the surrounding neighborhood. Changes to the subdivision codes that apply to private development are also necessary to ensure that all new roadways and planned developments are aligned with the community's Complete Streets goals.

A number of agencies have undertaken **a complete rewrite** of their manuals, usually accompanied by developing new procedures and producing training to staff. The most innovative new manuals go beyond cross-sections to create new ways to tackle the connection between land use and transportation needs. These documents create new street typologies that provide greater nuance than is available through the traditional functional classification system, which defines roads exclusively by their function for automobiles. However, design manual re-writes can be expensive and time-consuming, and they still may not be enough to change the everyday workings of an agency.

Some places do not have their own design manuals, preferring to use a variety of national or state resources. **By referring to outside guidance**, these communities do not need to use significant resources to stay up on best practices and the latest design approaches. Instead, they opt to adapt or adopt the latest resources that best reflect their needs. Even in communities with their own design manuals, transportation staff will refer to national or state resources in addition to their own. **Project-based design decisions** can also be made through collaborative design charrettes, temporary installations, or opportune pilot projects.

Possible Activities

- Create new design guidelines, either as:
 - Entirely new document, or
 - A series of rules or recommended practices to augment existing guidance.
- Adopt or direct use of new standards, including the latest versions of:
 - AASHTO: A Policy on Geometric Design of Highways and Streets (“Green Book”),
 - AASHTO: Guide for Planning, Designing, and Operating Pedestrian Facilities,
 - AASHTO: Guide for the Development of Bicycle Facilities,
 - FHWA: Separated Bike Lane Planning and Design Guide
 - ITE: Designing Walkable Urban Thoroughfares: A Context Sensitive Approach,
 - NACTO: Urban Street Design Guide,
 - NACTO: Urban Bikeway Design Guide,
 - US Access Board: Public Right-of-Way Accessibility Guidelines, and/or
 - 2010 Highway Capacity Manual.
- Update street design standards that apply to:
 - Private developers,
 - City-initiated projects, and
 - Contractors working in the right-of-way via permits.
- Provide relevant updates to:
 - Land use standards and zoning codes,
 - Subdivision code,

- Motor vehicle parking policies,
- Bicycle parking policies,
- Traffic calming,
- Streetscape,
- Transit and station-area plans, and/or
- Recreation and parks maintenance plans for roads, sidewalks, medians, etc.
- Collaborate across departments to incorporate Complete Streets design guidance into utilities, planning, public transit, and/or other agencies dealing with roads.

Best Practices

- Consider making simple changes to design standards, or adopting templates such as the Model Design Manual for Living Streets or Complete Streets, Complete Networks.
- Take advantage of mill and overlay/repaving projects by planning, and even designing, ahead of time to include bicycle and walking needs in the process.
- Evaluate budgets to support maintenance needs, especially with roadway striping.
- Add an evaluation of bicycle and walking needs to the maintenance and operations review cycle.

Resources

National Guidance

- [A Policy on Geometric Design of Highways and Streets, 6th Edition](#), AASHTO
- [Guide for the Development of Bicycle Facilities, 4th Edition](#), AASHTO
- [Guide for the Planning, Design, and Operation of Pedestrian Facilities, 1st Edition](#), AASHTO
- [Separated Bike Lane Planning and Design Guide](#), Federal Highway Administration
- [Manual on Uniform Traffic Control Devices](#), Federal Highway Administration
- [Bicycle Facilities and the Manual on Uniform Traffic Control Devices](#), Federal Highway Administration
- [Public Rights of Way Accessibility Guidelines](#), U.S. Access Board
- [Memorandum: Bicycle and Pedestrian Facility Design Flexibility](#), Federal Highway Administration
- [Designing Walkable Urban Thoroughfares: A Context Sensitive Approach: An ITE Recommended Practice](#), Institute of Transportation Engineers and the Congress for the New Urbanism
- [Urban Bikeway Design Guide](#), National Association of City Transportation Officials
- [Urban Street Design Guide](#), National Association of City Transportation Officials
- [Highway Capacity Manual 2010](#), Transportation Research Board
- [Model Design Manual for Living Streets](#), Los Angeles County Department of Public Health
- [Complete Streets Complete Networks](#), Active Transportation Alliance

Agency-Specific Guides

- [Complete Streets Guidelines](#), Boston
- [Urban Street Design Guidelines](#), Charlotte
- [Complete Streets Guidelines](#), Chicago
- [Implementing Complete Streets: Major & Collector Street Plan](#), Nashville, Tennessee
- [Complete Streets Design Manual](#), New Haven, Connecticut
- [Street Design Manual](#), New York City
- [Complete Streets Design Handbook](#), Philadelphia
- [Better Streets Plan](#), San Francisco

- [Rights-of-Way Improvements Manual](#), Seattle
- [Complete Streets Planning and Design Guidelines](#), North Carolina Department of Transportation
- [Project Development and Design Guide](#), Massachusetts Department of Transportation
- [Complete Intersections: A Guide to Reconstructing Intersections and Interchanges for Bicyclists and Pedestrians](#), California Department of Transportation
- [Complete Streets Manual](#) (draft), Dallas

Measuring Performance

Creating and using new performance measures for transportation projects and the transportation system is essential. It helps agencies ensure if they are on the right track — and helps them celebrate their new way of doing business. Performance data for all modes is not a luxury. Hard figures documenting the performance of Complete Streets implementation can become a powerful selling point for future projects and funding.

The first challenge is **agreeing to a set of performance measures**. Community members, leaders, and staff have varying needs and demands from the transportation system, such as mode shift, decreases in chronic disease, better air quality, retail vacancy rates, and roadway safety. Further, traditional measures can be difficult to change or adapt to multimodal needs. These challenges have meant that very few communities have tackled the creation of new performance measures in any systematic way.

Yet, there are relatively easy ways to demonstrate Complete Streets success. Communities can **measure progress by simply counting the facilities** they are building, such as blocks of new or repaired sidewalks; number of bus stops with shelters; miles of new bicycle facilities; and installation of pedestrian countdown signals. Communities can also account for maintenance activities such as repairs to curb ramps and repainted bicycle lanes or crosswalks. Tracking such facilities demonstrates that the community is making on-the-ground changes each year. If packaged and made publicly available at the close of each year, these numbers can add to a community's efforts in improving education and awareness of Complete Streets.

A growing number of communities are **counting the number of people walking and bicycling**. Such counts have not traditionally been taken in most communities on a regular basis, though new tools and techniques have made this a more common activity today. Monitoring non-motorized data allows jurisdictions to monitor trends across the network and along key corridors. Another simple step toward performance measurement is at the project level, where data collection can show the **direct and immediate benefits of a transportation investment**. Such information can be especially powerful with road conversions, which typically show an immediate reduction in speeding, a dramatic reduction in crashes and crash severity, and, sometimes, an increase in non-motorized use or even user satisfaction.

Once a community has established transportation-oriented performance measures, transportation staff can **work with other agencies and departments** to link them to larger goals such as long-term changes to public health, economic growth, and the physical environment. Such measures require collaboration with and leadership from other departments, sectors, and often universities.

Possible Activities

- Track multi-modal projects by:
 - Counting facilities or miles of facilities such as sidewalks, bike lanes, and street trees,
 - Counting intersections improved by signal timing, medians, count down timers, bulb outs, and other improvements,
 - Tracking dollar amounts or percentage of funds used for each mode, and
 - On-road transit performance such as the percentage of buses running on time and average speed
- Track (or work with another agency to track) broader community performance measures

such as:

- Air quality improvement as measured by ground-level ozone, particulate matter, carbon monoxide, sulfur dioxide, and nitrogen dioxide,
- Health indicators such as incidence of chronic disease or rates of physical activity,
- Housing + transportation affordability,
- Response time of emergency responders,
- Transit operating costs and farebox recovery ratio,
- Economic impact, such as the decreases in vacancies, changes in revenue, and the number of new jobs created in proximity of multimodal streets and near transit.
- Adopt or revise transportation performance measures. New performance measures may include:
- Deaths and injuries by mode,
 - Crashes by mode and type, including ‘doorings’ and pedestrians accessing transit,
 - Mode shift, such as bike, walk and transit trips over time,
 - Percentage of children walking and bicycling to school,
 - Corridor impact analysis,
 - Travel times and delays for all modes,
 - Automobile Trips Generated (ATG),
 - Vehicle Miles Traveled (VMT) or Single Occupancy Vehicle (SOV) trip reduction, and/or
 - Multimodal Level of Service, Pedestrian Level of Service, or Bicycle Level of Service.
- Provide regular reports to the public on the data being tracked or the agency progress on Complete Streets performance measures.
- Changed philosophy and attitude to implement Complete Streets and stop primarily building and maintaining ‘incomplete’ streets.

Best Practices

- Transportation departments should not be the only ones to track performance. They can collaborate with others to collect and analyze data, including the health department and public health organizations; law enforcement agencies and emergency responders; and advocacy groups, including those focused on equity.
- Use rates, rather than straight numbers, to show changes in safety and mode shift over time.
- Establish baseline data so as to better illustrate successes.
- Be clear about measuring outputs (such as blocks of sidewalks built or repaired) versus outcomes (such as increases in walking rates).
- Create metrics that are specific to community goals.

Resources

Counts

- [National Bicycle and Pedestrian Documentation Project](#)
- [Standard Manual Bicycle and Pedestrian Screenline Count Form](#), Minnesota Department of Transportation
- [2012 Bike Walk Twin Cities Pedestrian and Bicycle Count Report](#), Minneapolis and its surrounding communities
- [Pedestrian Counts](#), Seattle
- [Bicycle and Pedestrian Counts](#), Minneapolis

Health Impact Assessments and Environmental Audits

- [Community Transportation Plan Health Impact Assessment](#), Decatur, Georgia

- [Pedestrian Environmental Quality Index](#), San Francisco
- [Bicycle Environmental Quality Index](#), San Francisco
- [Vehicle-Pedestrian Injury Collision Model](#), San Francisco
- [Bicycling Environmental Audit Tool](#), Philadelphia
- [Walkability Assessment Tool](#), Philadelphia
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