A GUIDE TO
Building Healthy Streets

COMPLETE STREETS

MARKET

BIKES

ChangeLab Solutions
Law & policy innovation for the common good.

CONTENTS

INTRODUCTION

What happens after a community adopts a Complete Streets policy?

This guide will help provide guidance for communities that are implementing Complete Streets. *A Guide to Building Healthy Streets* provides guidance for communities who are working to ensure a Complete Streets policy becomes more than words on paper, and creates real, on-the-ground change.

Who can use this guide?

After interviewing state-level health department staff from across the country about their work on Complete Streets, we heard a consistent theme: many reported success in terms of passing Complete Streets policies, but implementing those policies remained a big challenge. Many wondered what they could do to move forward.

New to Complete Streets?

Check out the sections on page 7 — "What are Complete Streets" and "Why are complete streets important for health?" For additional background or introductory information, see the National Complete Street Coalition's Fundamentals.

A Guide to Building Healthy Streets was developed to help public health practitioners who have some familiarity with basic concepts of active living and transportation, and who are working in communities that have passed a Complete Streets policy (or who are looking ahead to plan for what happens after a policy is passed).

Public health professionals have many opportunities to shape how decisions about street design are made. State and local public health departments can participate in Complete Streets committees or working groups, support and maintain community coalitions, lead educational and outreach activities, provide input on local projects, collect and share health data, and evaluate how well programs and projects are working to help a community achieve their health goals.

An additional audience for this guide is planners, engineers, and transportation professionals who are interested in partnering with public health to create safer, healthier streets.

Leading through partnership

While public health professionals have much to contribute to Complete Streets implementation, they must do this work in partnership with other government agencies, such as city planning, transportation, public works, public safety, regional planning or metropolitan planning organizations (MPO), and state departments of transportation. These agencies make many of the day-to-day decisions about the design of transportation systems, including streets, transit networks, and trails.

City leaders, such as mayors and council members, are also important partners. If decision makers have passed a Complete Streets policy, they have already committed to developing safer, healthier, and more active communities. But their job is not yet finished. They may need to amend zoning ordinances, adopt new plans or budgets, approve new design guidelines, or direct new staff initiatives. Public health professionals can engage and educate these leaders to help them make healthier decisions for their communities.

Throughout implementation, public health staff will also need to work in close partnership with schools, law enforcement, businesses, residents, and community organizations. It is these groups who will see the benefits of Complete Streets, and who must become the largest supporters for continued, sustained changes.

How to use this guide

A Guide to Building Healthy Streets is divided into three major sections. This section includes an orientation to the guide, a short description of Complete Streets and their health benefits, and an overview table highlighting each of the key players in Complete Streets implementation along with their respective major roles.

Next, the guide discusses five key steps for effective Complete Streets implementation, with a particular focus on the unique role that public health staff can play during each step:

① BUILD YOUR TEAM: Establish a committee to manage and oversee Complete Streets implementation.

② ASSESS THE LANDSCAPE: Assess the community's policy and physical landscapes.

③ GET TECHNICAL: Provide input during the development of roadway design guidelines and transportation projects.

④ ENGAGE AND LISTEN: Engage and educate staff, consultants, community leaders, and the general public; facilitate meaningful input into priorities and projects

⑤ EVALUATE AND LEARN: Identify, collect, and share performance measures.

Each step requires agencies to think, plan, and collaborate in new and better ways. While we have ordered these steps into a path that many communities follow, they are not strictly linear. Public health staff may find themselves engaging and listening throughout Complete Streets implementation. Changes to projects may yield useful data for evaluation. In other words, consider your local context and jump in where it makes sense.

Implementation is often the most challenging piece of building complete streets.

All five steps include the following:

● Overview: Key roles, activities, and concepts.

● Model policy language: Connecting Complete Streets policy to implementation. Complete Streets policies provide a blueprint that can guide implementation. The strongest Complete Streets policies include provisions that address each step of the implementation process. These implementation actions help to ensure the policy becomes more than an aspirational statement. In order to highlight this connection, each step in this guide includes a Connecting to Policy call-out box, which provides model Complete Streets policy language to make each step easier to implement.

Transportation Equity Caucus

The Transportation Equity Caucus developed four principles to help guide conversations about equity in transportation planning:

- Create affordable transportation options for all people
- Ensure fair access to quality jobs, workforce development, and contracting opportunities
- Promote healthy, safe, and inclusive communities
- Invest equitably and focus on results

Look for similar language in your community's Complete Streets policy. If your community has not yet adopted a policy, visit our website for ChangeLab Solutions' *Complete Streets Model Policy*. To help your community get started, use the *National Complete Streets Coalition's Policy Workbook*.

- **How to address equity: Discussion and key questions for addressing equity during the relevant implementation step.** Health equity is the "attainment of the highest level of health for all people. Achieving health equity requires valuing everyone equally with focused and ongoing societal efforts to address avoidable inequalities, historical and contemporary injustices, and the elimination of health and health care disparities."* In order to help communities ensure that Complete Streets implementation builds towards health equity, each step includes relevant guidance and considerations.

- **Community examples from state, regional, and local jurisdictions.** These examples include brief summaries of best practices culled from a diversity of places across the US, from rural communities to metropolitan centers.

- **Key resources.**

Finally, the guide includes two appendices:

- **Appendix 1: Policy and Equity Overview Table** is a reference table that includes a quick overview of each step alongside the relevant model policy language and equity questions.

- **Appendix 2: Glossaries and Terms** includes links to transportation glossaries, definitions of key terms, and additional resources. Use these resources to understand the overall steps, policy language, equity considerations, and key terms used throughout this guide.

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* Braveman, P.A., Monitoring equity in health and healthcare: a conceptual framework. *Journal of health, population, and nutrition*, 2003. 21(3): p. 181.
www.cdc.gov/nchhstp/socialdeterminants/definitions.html

What are Complete Streets?

Complete Streets are planned, designed, built, and maintained to serve all people who use streets. They are developed for individuals of all ages, abilities, and income levels, including people walking, biking, taking transit, and driving.

Today, most of our streets are designed primarily for cars, with few features that support safe travel for people walking and bicycling or taking transit. Complete Streets policies change how decisions about street design are made, shifting the priority to ensuring people of all ages and abilities can get around safely and easily. The purpose is to design streets for all people.

Complete Streets are for communities of all sizes. Each street does not require the same features to be "complete" or safe for active travel. A road designed for slow speeds, or one with a wide paved shoulder, may be safe for walking or bicycling. Complete Streets may look different in rural communities than they do in urban centers. For example, roads surrounded by agricultural lands may be "complete" by providing wide shoulders for safe bicycling and walking.

In rural environments, it is especially important to allow for design flexibility so that solutions can be context sensitive.

Other streets may require new elements, such as painted crosswalks, accessible transit stops, pedestrian signals, lighting, median islands, sidewalks, and bicycle facilities (e.g., protected bike lanes, bike parking). Incorporating Complete Streets features during street construction or resurfacing decreases the cost of adding those features; the costs are folded into budgeted transportation project expenses.

What does a street need to be considered "complete"? A street's context determines what features are necessary to support safe active travel. Many factors help create this context, including the natural environment (e.g., rivers, open space); surrounding land use (e.g., parks, school, shopping district, health clinics); the demographics (e.g., children, older adults, low-income); and the function of the street (e.g., neighborhood local street, arterial, expressway).

Complete Streets — What's in a name?

Almost every jurisdiction that has passed a Complete Streets policy uses the specific phrase "Complete Streets" to describe the initiative. But in some communities, other phrases fit the local context better. Here are some examples from communities that are using an alternate phrase for "Complete Streets":

▸ Livable Streets (Kansas City, MO)
▸ Safe and Accessible Streets (Shelby, MT)
▸ Healthy Roads (DuPage County, IL)

WHY ARE COMPLETE STREETS IMPORTANT FOR HEALTH?

People are more physically active, mentally healthier, and physically healthier when their neighborhoods are designed to promote safe active transportation.

Designing, building, and retrofitting our communities with sidewalks, bicycle lanes, and other safe amenities helps more people be physically active — and healthier — in their daily lives.

Physical activity (e.g., bicycling or walking) is linked to higher cognitive functioning as well as improved emotional well-being, and can help prevent mental health disorders.[1,2]

Adults who bicycle enjoy both lower weight and lower blood pressure, and are less likely to become diabetic.[3]

Young people who bicycle support their long-term health. Adolescents who bicycle are 48 percent less likely to be overweight in adulthood.[4]

Walking and biking are good for the local economy. Multiple studies show that people who visit shopping districts by bicycle spend more money on a weekly basis than those who visit by car.[5-10] Construction projects that build biking and walking infrastructure also create more jobs than do traditional road projects.[10]

Approaches to Improve Safety

Vision Zero policies are also proving to be effective at increasing safety for people walking and biking. New York City instituted Vision Zero in early 2014, which resulted in the safest year for people walking since record-keeping began in 1910.[48]

A technique called Crime Prevention Through Environmental Design (CPTED) reduces crime by employing four strategies: natural surveillance, natural access control, territoriality, and maintenance.

Low-income communities and communities of color consistently have the fewest resources for physical activity.[11-20] Complete Streets can provide access to safe and comfortable physical activity opportunities.

Complete Streets improve public health and safety by reducing the risk of injuries and fatalities from traffic collisions for users of all modes of transportation.[14-18, 38-41]

Streets designed with the safety and convenience of pedestrians and bicyclists in mind increase the number of people walking and bicycling.[30-32]

Complete streets promote a balanced transportation system that supports lively streets, where people walk and bicycle to everyday destinations, such as schools, restaurants, shops, parks, transit, and jobs. Lively streets enhance neighborhood economic vitality[24, 32-37] and livability.[38-40]

Complete Streets encourage an active lifestyle by creating opportunities to integrate physical activity into daily routines.[41, 42] Regular physical activity reduces the risk of several health problems, including diabetes, heart disease, high blood pressure, high cholesterol, as well as certain cancers, stroke, asthma, and depression.[43-47]

A New Approach to Transportation Planning

In the past, transportation professionals handled every aspect of transportation planning: they decided on the technical solution, communicated that solution to the community, and defended their decision. Context Sensitive Solutions (CSS) is a new approach to transportation planning. CSS is a more community-oriented and inclusive process that engages stakeholders and interdisciplinary teams to solve transportation problems together. This approach is collaborative and tailored to the specific context; it refers to both the process and the outcome.

WHO ARE THE KEY PLAYERS IN COMPLETE STREETS IMPLEMENTATION?

There are a number of key players in the implementation of Complete Streets. This table lists each of these key players, and describes how they might **lead** or **support** implementation efforts in each step. The public health 'key player' section is highlighted in the subsequent discussion of each of the five steps.

Step 1: Build Your Team	Step 2: Assess the Landscape	Step 3: Get Technical	Step 4: Engage and Listen	Step 5: Evaluate and Learn
➕ PUBLIC HEALTH				
Lead: organize committee management **Lead:** organize public workshops **Expert:** provide health content	**Lead/Support:** assess policy landscape (e.g., Safe Routes to School plans/programs); assess health implications of physical landscape	**Lead:** educate stakeholders about benefits of design to support physical activity; conduct health impact assessment to evaluate health outcomes of physical environments **Support:** provide input on guidelines and/or projects; engage key stakeholders	**Lead:** organize public workshops and/or internal government agency workshops **Lead/Support:** conduct bike/walk audits	**Support:** analyze and evaluate data — bike and pedestrian counts, bike/walk audits **Lead:** analyze and evaluate data — hospital injury data from traffic collisions; collect, analyze, and evaluate data — physical activity levels; model economic benefits of physical activity (e.g., Integrated Transport and Health Model, Health Economic Assessment Tool)
▦ PLANNING				
Support: attend committee **Expert** manage development/codes	**Lead/Support:** assess policy landscape (e.g., comprehensive plan, neighborhood plans, bike/pedestrian plan, development guidelines, zoning code)	**Support:** provide input on guidelines and/or projects; engage key stakeholders; develop/update plans, guidelines, and/or zoning code	**Support:** attend public workshops and/or internal government agency workshops **Lead/Support:** conduct bike/walk audits	**Support/Lead:** collect, analyze and evaluate data — bike and pedestrian counts, bike/walk audits **Lead:** collect, analyze, and evaluate data — bike/walk facilities in development plans

Step 1: Build Your Team	Step 2: Assess the Landscape	Step 3: Get Technical	Step 4: Engage and Listen	Step 5: Evaluate and Learn
PUBLIC WORKS / TRANSPORTATION				
Lead: organize committee management **Expert:** provide transportation content **Lead:** organize public workshops	**Lead:** assess and update policy landscape (e.g., street standards, guidelines, plans, funding programs) **Lead:** assess physical landscape (e.g., bike/walk audits, counts)	**Lead:** develop guidelines and projects	**Lead:** organize internal workshops/trainings **Lead:** conduct bike/walk audits	**Lead:** collect, analyze, and evaluate data — bike and pedestrian counts, bike/walk audits, infrastructure miles/number **Lead/Support:** analyze and evaluate data — traffic collisions; monitor projects incorporating active transportation components
POLICE				
Support: attend committee Expert: provide safety content		**Support:** provide input on guidelines and/or projects	**Support:** attend public workshops and/or internal government agency workshops **Support:** assist on bike/walk audits	**Lead:** conduct enforcement stings (e.g., speeding, yielding to pedestrians) **Lead:** collect/report traffic collision data
FIRE				
Support: attend committee	**Lead:** assess truck fleet needs (e.g., minimum street widths)	**Support:** provide input on guidelines and/or projects	**Support:** attend public workshops and/or internal government agency workshops **Support:** assist on bike/walk audits	
PARKS AND RECREATION				
Support: attend committee	**Support:** assess policy landscape (e.g., comprehensive plan, neighborhood plans, bike/pedestrian plan, parks plan, tree canopy plan, zoning code)	**Support:** provide input on guidelines and/or projects; engage stakeholders	**Support:** attend public workshops and/or internal government agency workshops **Support:** assist on bike/walk audits	**Support:** collect, analyze, and evaluate data — bike and pedestrian counts, bike/walk audits, infrastructure miles/number

Step 1: Build Your Team	Step 2: Assess the Landscape	Step 3: Get Technical	Step 4: Engage and Listen	Step 5: Evaluate and Learn
SCHOOLS / SCHOOL BOARD				
Support: attend committee	**Lead:** assess policy landscape (e.g., school siting, Safe Routes to School — SRTS) **Lead:** assess physical landscape (e.g., bike/walk audits, counts) near schools **Support:** assist on the development of transportation plans, SRTS policies, plans, and/or programs	**Support:** provide input on guidelines and/or projects near schools	**Support:** attend public workshops and/or internal government agency workshops **Lead/Support:** bike/walk audits	**Support:** assist on analyzing and evaluating data — bike and pedestrian counts, bike/walk audits
ELECTED OFFICIALS				
Support: attend committee	**Lead:** approve/adopt plans, funding programs **Support:** assess physical landscape (bike/walk audits)	**Lead:** approve/adopt guidelines and projects	**Support:** attend public workshops **Support:** assist on bike/walk audits	**Support:** provide feedback on data collection — bike/pedestrian counts, bike/walk audits
COMMUNITY (ORGANIZATIONS, RESIDENTS, BUSINESSES, ETC.)				
Support: attend committee; provide feedback	**Support:** Assist on the development of Safe Routes to School plans/programs, all community plans	**Support:** provide input on guidelines and/or projects	**Support:** attend public workshops **Support:** assist on bike/walk audits	**Support:** assist on data collection — bike/pedestrian counts, bike/walk audits

Key resources

"Complete Streets can only be successful with great community partners of all backgrounds. It takes patience and communication to succeed."

James Kissee, Washington State Department of Health

- **Complete Streets transformations:** *Rethinking Streets – An Evidence-Based Guide to 25 Complete Streets Transformations* uses examples from Complete Streets projects around the United States to help communities imagine alternative futures for their own streets. The book also shows how various communities changed their streets, and what resulted from the changes.

- **Complete Streets implementation:** *Taking Action on Complete Streets: Implementing processes for safe, multimodal streets* provides basic information on implementing a Complete Streets policy and includes several community examples.

- **Complete Streets Resources from Montana, South Carolina, and Washington**

  - **Montana:** The *Montana Complete Streets Toolkit* describes the Complete Streets approach to designing and building a balanced transportation network. It outlines the benefits of Complete Streets, and provides several case studies, with a focus on cities, small towns, and tribal communities.

  - **South Carolina:** The *Complete Streets Toolbook* was developed by Eat Smart, Move More South Carolina, the South Carolina Department of Health and Environmental Control, and the Palmetto Cycling Coalition. The Toolbook includes basic information on Complete Streets, including benefits and cost.

  - **Washington:** The *Active Community Environment Toolkit*, collaboratively developed by the Washington State Department of Transportation and the Washington State Department of Health, is designed to provide local physical activity coordinators, transportation and land use planners, policymakers, and advocates with the steps needed to create successful Active Community Environments. It provides basic information, resources, as well as planning and assessment tools.

BUILD YOUR TEAM

Establish a committee to support Complete Streets implementation.

Step 1: Build Your Team	Step 2: Assess the Landscape	Step 3: Get Technical	Step 4: Engage and Listen	Step 5: Evaluate and Learn
➕ PUBLIC HEALTH				
Lead: organize committee management **Lead:** organize public workshops **Expert:** provide health content	**Lead/Support:** assess policy landscape (e.g., Safe Routes to School plans/programs); assess health implications of physical landscape	**Lead:** educate stakeholders about benefits of design to support physical activity; conduct health impact assessment to evaluate health outcomes of physical environments **Support:** provide input on guidelines and/or projects; engage key stakeholders	**Lead:** organize public workshops and/or internal government agency workshops **Lead/Support:** conduct bike/walk audits	**Support:** analyze and evaluate data — bike and pedestrian counts, bike/walk audits **Lead:** analyze and evaluate data — hospital injury data from traffic collisions; collect, analyze, and evaluate data — physical activity levels; model economic benefits of physical activity (e.g., Integrated Transport and Health Model, Health Economic Assessment Tool)

One big reason why implementing Complete Streets policies may be challenging is because it requires an interdisciplinary, collaborative approach. For many communities, this is a new way of doing business. The existence of silos in government (e.g., transportation, housing, community development, etc.) often hinders Complete Streets implementation. For this reason, some small jurisdictions — ones that employ fewer staff and house all their departments in one building — may find it easier to collaborate and implement Complete Streets. Large communities may need a formal interdepartmental effort, which is why establishing a committee is the first step.

Changing the day-to-day work processes of planners and engineers is key to changing long-term processes. Several communities have created a checklist to assist with implementing Complete Streets; however, a single checklist is unlikely to be effective at addressing and solving problems that arise when changing operating procedures. This is another reason why establishing a committee may facilitate more effective Complete Streets implementation.

Establishing a committee to organize and manage the implementation process allows people from a variety of departments to work together to identify the plans, processes, and systems that need to change, in order to achieve a safer, healthier transportation system. When all the relevant players are involved in implementation, they learn from each other, develop stronger relationships, identify shared goals, and build a common language. Over time, these partnerships will enhance and strengthen implementation.

The committee, or advisory board, is responsible for managing the implementation process of the Complete Streets policy. A committee should involve all departments and agencies that make decisions about the streetscape, typically including planning, public works, transportation, law enforcement, fire, schools, parks and recreation, housing, as well as elected officials or their representatives (see pages 11—13 for a full list of stakeholders). The members of the committee should have the authority to make decisions on behalf of their respective departments or agencies.

Some communities have both an internal city committee and an external public taskforce. Public health staff can support and participate on the internal city committee and lead the external public committee. For example, Boston's Complete Streets Advisory Committee, which was appointed in 2009, includes local professionals, neighborhood residents, advocates, and academics. The internal Interagency Committee includes Boston Public Health Commission, Boston Transportation Department, Boston Public Works Department, Mayor's Office of New Urban Mechanics, Boston Parks and Recreation Department, Boston Bikes, and Commission on the Affairs of Elderly, among others.

During formation of a committee (either internal or external), public health staff can help bring people together. The public health department can help fund, initiate, facilitate and/or manage the committee. For example, in Kaua'i County, the Built Environment Task Force is funded through the Health Hawai'i Initiative by the Hawai'i Department of Health.

Partners for Complete Streets

- Public Health
- City/Regional Planning
- Transportation Department
- Public Works
- Public Safety
- Mayor/Council Members
- Schools
- Law Enforcement
- Businesses
- Residents
- Community Organizations

"The 'change management' part of policy implementation should not be understated. This is a major barrier but it can and will be overcome; the rate of change and policy implementation will vary based on the agencies current administration, political atmosphere, and culture of relevant staff."

Annick Beaudet, City of Austin

Tips for starting and maintaining a committee:*

- Identify a lead agency (this may be done within a Complete Streets policy)
- Determine whether there is an existing interagency committee that meets regularly and is able, and willing, to implement Complete Streets; if no group exists, create one with stakeholders mentioned in the introduction of this guide
- Focus on building relationships
- Educate other sectors on Complete Streets
- Be prepared to address any pushback from departments that do not readily see Complete Streets as relevant to their work
- Be strategic about what is mandatory
- Use the interagency committee to hold departments accountable

CONNECTING TO POLICY

This Complete Streets model policy language addresses the first step of implementation:

- The *[identify relevant internal departments and agencies by name]* shall routinely work in coordination with each other, any Bicycle or Pedestrian Coordinator, and any relevant advisory committees to create Complete Streets and to ensure consistency with any existing Pedestrian/Bicycle/Multi-Modal Plans *[or insert name of other comparable plans]*.

- The *[insert name of lead department or agency (e.g., Transportation or Planning Department) and title of person accountable (e.g., Director or Bicycle/Pedestrian Coordinator)]* shall lead the implementation of this Policy and coordinate with *[insert names of other relevant departments or agencies]*.

Community examples: Build your team

- **State — Michigan:** The Michigan Complete Streets Advisory Council was established through Complete Streets legislation (Public Acts 134 and 135), signed in 2010. The Complete Streets legislation specified the groups to be represented on the council, including the State Transportation Department, Department of Community Health, Department of State Police, Michigan Municipal League, League of Michigan Bicyclists, Michigan Public Transit Association, and Michigan Townships Association, among others.

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* This list is adapted from the toolkit, *From Start to Finish: How to Permanently Improve Government through Health in All Policies*

As the Michigan legislation states, the Complete Streets Advisory Council shall "provide education and advice to the state transportation commission, county road commissions, municipalities, interest groups, and the public on the development, implementation, and coordination of Complete Streets policies." The legislation also establishes a system of reporting: "By December 30, 2011, and each calendar year thereafter, [the Council will] report to the governor, the state transportation commission, and the legislature on the status of complete streets policies in this state."

- **Regional — Mid-America Regional Council, Kansas:** In 2010, the Mid-America Regional Council (MARC), the metropolitan planning organization for the bi-state Kansas City region, adopted the Transportation Outlook 2040 plan, which supports implementation of complete streets. MARC established a Complete Streets Policy Task Force, composed of members from their transportation, modal, and programming committee. Using grant funds from the Health Care Foundation of Greater Kansas City, MARC has also helped to support complete streets policies and implementation at the local level.

- **Local — Boston:** In 2009, a Complete Streets Advisory Committee was created to bring together local professionals, neighborhood residents, advocates, and academics to provide ideas and collaborate with a team of consultants. The committee meets bimonthly to guide city agencies in the development of new design guidelines. Boston has both a citizen-led advisory committee and a high-level interagency group working toward Complete Streets implementation. The City of Boston Interagency Group includes a variety of city agencies, including Boston Transportation Department, Mayor's Office of New Urban Mechanics, Public Health Commission, Boston Bikes, Commission for Persons with Disabilities, Office of Budget Management, and others.

⊟ HOW TO ADDRESS EQUITY

In the Complete Streets committee, engage with individuals and organizations that have varied expertise (e.g., transportation, public health, community advocates, etc.) and represent diverse demographics (e.g., low-income, people of color, women, older adults, people with disabilities, homeless, and members of other historically under-represented groups). Community members from historically under-represented groups should be encouraged to participate.

Key Questions

- Are people from historically underrepresented populations – women, people of color, low-income individuals, people with disabilities, and homeless individuals – represented on the committee?

- Is Complete Streets implementation occurring in all areas of the community? How can we ensure historically underinvested areas benefit from Complete Streets implementation?

- Are all people in our community, especially children, women, people of color, low-income individuals, people with disabilities, and homeless individuals, benefiting from Complete Streets?
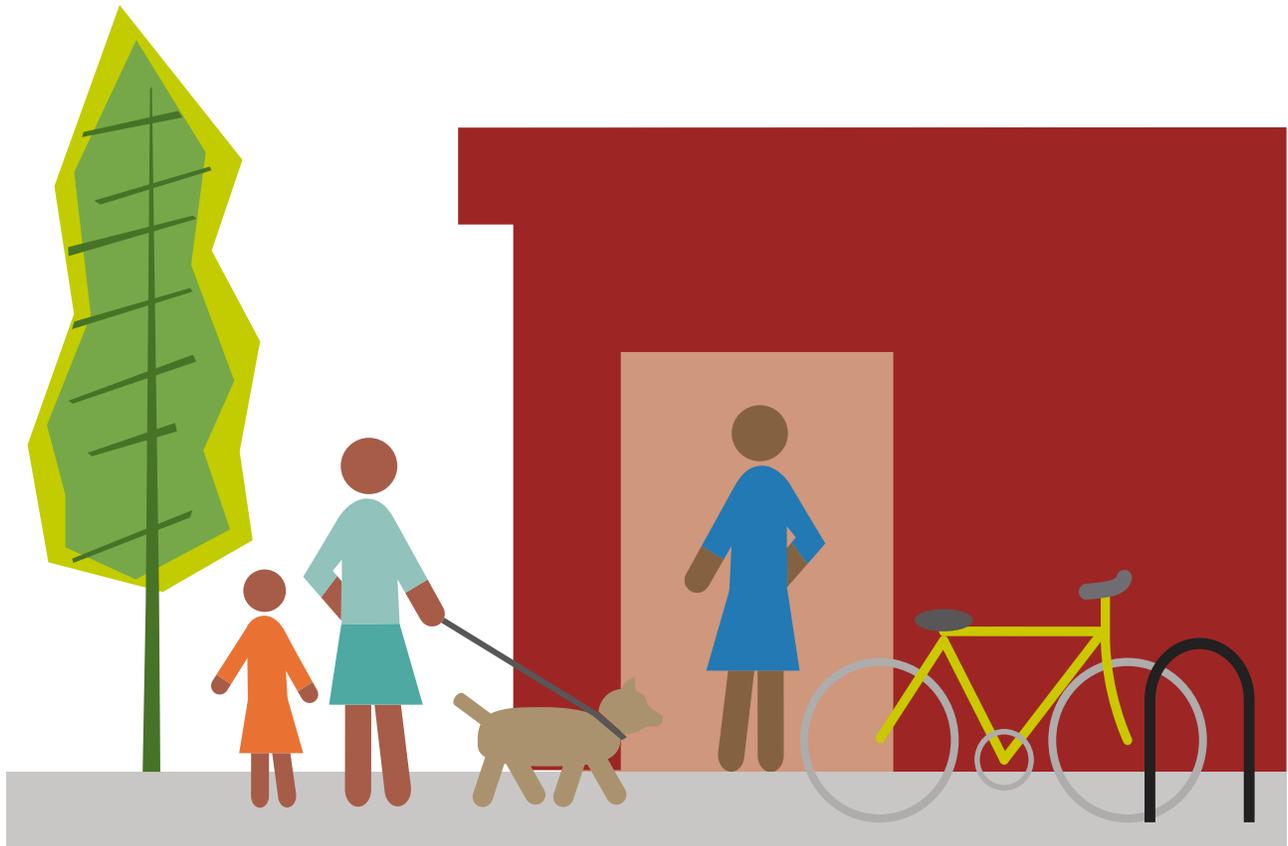
Key resources: Build your team

- *From Inspiration to Action: Implementing Projects to Support Active Living*, developed by the Walkable and Livable Communities Institute and AARP, provides general information on the connections between the built environment and health, as well as specific information on forming collaborative groups.

- The Federal Highway Administration provides general information on organizing a coalition, including recruiting members, working as a group, conducting research, and drafting letters.

- Health in All Policies Toolkit, developed by ChangeLab Solutions, outlines five key strategies: Engage & Envision, Convene & Collaborate, Make a Plan, Invest in Change, and Track Progress. The toolkit also includes best practices and lessons learned from community leaders.

- The Transportation and Health Toolkit, developed by the American Public Health Association, creates a common language for use by public health professionals to ensure the public health voice is heard.

- The Transportation and Health Tool (THT) was developed by the U.S. Department of Transportation and the U.S. Centers for Disease Control and Prevention to provide easy access to data that practitioners can use to examine the health impacts of transportation systems. The tool provides data on a set of transportation and public health indicators for each state and metropolitan area that describe how the transportation environment affects safety, active transportation, air quality, and connectivity to destinations. It also provides information and resources to help agencies better understand the links between transportation and health, and to identify strategies to improve public health through transportation planning and policy.

- Health Equity Resource Toolkit for State Practitioners Addressing Obesity Disparities, developed by the U.S. Centers for Disease Control and Prevention, provides information and resources for addressing health equity.

- The Built Environment and Health Tool, developed by the U.S. Centers for Disease Control and Prevention, measures the core features and qualities of the built environment that affect health, especially walking, biking, and other types of physical activity.

TIP

To strengthen the overall impact of your committee, involve organizations that promote physical activity, as well as specific government agencies: public health, transportation, law enforcement, fire, housing, and disability.

ASSESS THE LANDSCAPE

Assess the community's policy and physical landscape.

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To successfully implement Complete Streets, existing land use and transportation plans and procedures may need to change. It is important to conduct an inventory of all documents and procedures that need to be updated to align with a Complete Streets approach. This process can help all key players to identify specific changes to make. The Complete Streets committee mentioned in Step 1 may oversee this process, but each participating agency will likely be responsible for its own documents and procedures.

Public health professionals can provide a unique health-oriented perspective when analyzing and proposing updates to plans and procedures, such as focusing on the total health of the community including children, older adults, people with disabilities, and low-income people. In addition, public health can assess the health outcomes of the existing physical environment, as well as proposed environmental solutions.

CONNECTING TO POLICY

This Complete Streets model policy language addresses the second step of implementation:

- *[Insert names of all relevant departments and agencies]* shall incorporate this Policy into relevant internal manuals, checklists, rules, and procedures.

- *[Insert name of lead agency]* shall assess whether any municipal and zoning codes, land use plans, or other relevant documents, including the Capital Improvement Program *[include all relevant programs, e.g., pavement management program, traffic signal program, tree program, ADA curb ramp program, etc.]*, conflict with this Policy, and shall submit a report, along with a proposal for addressing any conflicts, to the *[City Manager or insert relevant position]*.

Assessing the policy landscape

A policy inventory may include reviewing documents from the list below. These documents are organized by the time frame in which they are likely to affect a community's transportation system. During this assessment phase, the committee managing the process may decide to create a formal implementation plan. For example, the Florida Department of Transportation has a Complete Streets Implementation Plan that includes the following: revising guidance, standards, manuals, policies; updating decision-making process; modifying approaches for measuring performance; managing internal and external communication and collaboration during implementation; and providing ongoing education and training.

State departments of transportation (DOTs) and Metropolitan Planning Organizations (MPOs) are required to certify that all projects in their State Transportation Improvement Plans are in conformance with the long-range transportation plan. Therefore, long-range transportation plans that contain specific, measurable livability (or healthy) objectives can be a very powerful tool in this process.

Medium-term transportation planning documents (less than five years)

- A Capital Improvement Program (CIP) is a road map for planning and funding public facilities and infrastructure for a local jurisdiction (i.e., city, town, or county). It typically incorporates both the construction of new facilities and the rehabilitation, or replacement, of existing capital.

- A pavement preservation program consists primarily of three components: preventive maintenance, minor rehabilitation (non-structural), and some routine maintenance activities.

- A Regional Transportation Improvement Program (RTIP) is a comprehensive four-year regional spending plan. It is required by federal law.

- A State Transportation Improvement Program (STIP) is a comprehensive plan for allocations of certain state transportation funds, which can be used to improve state highways, intercity rail systems, and regional highway and transit systems.

Long-term transportation planning documents (more than five years)

- A Comprehensive Plan (also known as a General Plan or Master Plan) (county–city) is a long-term (20-year horizon) blueprint for how a community will grow and develop.

- A Transportation Plan (state–regional–county–city) is a long-term plan that includes policies, goals, investments, and designs to prepare for future needs to move people and goods.

- An Active Transportation Plan (also known as a Bicycle and Pedestrian Plan, or Trails Plan) (state–regional–county–city) is a long-term plan that focuses on "active transportation" – multimodal transportation solutions that connect people of all ages and abilities to where they need to go using active modes such as walking, bicycling, and taking public transit.

Assessing the physical landscape

Assessing the physical environment can be done using any of the following tools: observations, conversations with community members, and/or surveys. An environmental assessment helps you understand the existing environmental, or physical, conditions in your community.

All assessments should take health inequities into account. For example, a scan of physical activity opportunities should identify the areas of a

Bike Lane Markings

Safest/Most Comfortable

Protected

Buffered

Green

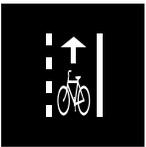### Less Safe/Less Comfortable

Advisory

Green Shared

Shared

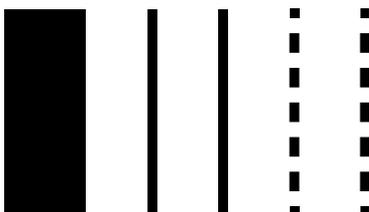## Crosswalk Markings

Ladder

Zebra

Continental

Highly visible

Solid

Standard

Dashed

city or town that have the least access to safe spaces for exercise, play, and active transportation. After mapping these areas, then identify the income disparities among residential areas, and see how that income data relates to the locations of parks, trails, playgrounds, recreation facilities, bike lanes, and sidewalks. In many cases, these assessments demonstrate that higher-income neighborhoods have more safe spaces to be physically active.

There are several tools to help communities assess their physical, or environmental, landscape. Walkability and bikeability audits are designed to assess the ease with which people can move around a community or neighborhood without a motorized vehicle. This is frequently referred to as "active transport." These audits may be completed by experts or community members (depending on the survey tool used) for neighborhoods, areas near schools, transportation corridors, or another area of focus.

Another tool is bicycle and pedestrian counts, which provide important data on how people are using streets, sidewalks and trails for walking and bicycling. The National Bicycle and Pedestrian Documentation Project provides a methodology for conducting a counting program, national data, reports on best practices, training materials, and count/ survey forms. Community members can easily conduct bicycle and pedestrian counts — only paper and a pen are necessary for manual counts. In many communities, local advocacy groups (a bicycle coalition or walk coalition, for instance) help cities and counties conduct bicycle and pedestrian counts.

In Louisville, Kentucky, the "Health Kids, Healthy Communities" initiative (also part of the "Mayor's Healthy Hometown Movement") focused on improving health in 12 lower income neighborhoods. The initiative, led by the Louisville Metro Department of Public Health and Wellness (LMPHW), united diverse community partners from business, schools, government, academia, neighborhood groups, and non-profit organizations. In order to assess walking conditions in the "Healthy Kids, Healthy Communities" neighborhoods, Planning & Design Services, Department of Public Health & Wellness, Public Works and Assets, and the University of Louisville worked together to create and implement Louisville's walkability assessment tool. The assessment included streetscapes, sidewalks, lighting, vacant lots, and abandoned houses. The walkability assessment reports were presented to policy makers, and improvements identified in these reports were integrated into the Louisville Pedestrian Master Plan. Some of this work occurred concurrently with the adoption of the Louisville Complete Streets Manual (2007) and the Louisville Complete Streets Ordinance (2008).

Focus on historically underinvested areas when assessing the policy and physical landscape. Once the updated transportation and land use procedures align with Complete Streets principles, everyone in the community should benefit, especially low-income individuals, people of color, women, older adults, people with disabilities, homeless individuals, and members of other historically under-represented groups. These groups face specific challenges related to access in the transportation system. Assessments of the physical landscape should focus on areas in the community that experience a high need, such as areas that have high levels of low-income, people of color, women, older adults, people with disabilities, homeless individuals; areas near sensitive land uses such as schools, hospitals or elder care facilities; or corridors or intersections that have high pedestrian and bicycle crash rates.

Key Questions

- How do existing policies, processes and/or the physical environment affect people who use the transportation system, especially women, people of color, low-income individuals, people with disabilities, and homeless individuals?

- Do any policies, processes and/or the physical environment negatively affect women, people of color, low-income individuals, people with disabilities, or homeless individuals? Identify these plans, programs, and/or policies and discuss how to update them.

- Do any policies, processes and/or the physical environment improve access for women, people of color, low-income individuals, people with disabilities, or homeless individuals? Identify these plans, programs, and/or policies and discuss how to make them more effective.

- What are the barriers to implementing Complete Streets in all districts, with a focus on districts with women, people of color, low-income individuals, people with disabilities, or homeless individuals? Identify barriers and discuss how to overcome them.

- How can plans, policies, or processes ensure implementation in all districts, with a focus on districts that are "high need areas" (e.g., areas that have high levels of low-income, people of color, women, older adults, people with disabilities, homeless individuals; areas near sensitive land uses such as schools, hospitals or elder care facilities; or corridors or intersections that have high pedestrian and bicycle crash rates)?

"Implementation can be a challenge. When a project comes up, project managers aren't always sure how to incorporate the policy into the planning process."

Amber Dallman, Minnesota Department of Transportation

Community examples: Assess the landscape

- **State — California:** California state transportation department released the *Complete Streets Implementation Action Plan 2.0* (CSIAP 2.0), the second edition of the action plan, in November 2014. The updated action plan was created through an assessment of current policies, plans and procedures. The update includes 109 additional action items to further integrate complete streets into all Caltrans functions and processes. These are a few of the action items:

  ○ Provide a Complete Streets Overview Training Course to Caltrans staff in all departmental functions

  ○ Develop a State Bicycle and Pedestrian Plan

○ Collect complete streets data and performance measures

○ Assess and revise Caltrans' manuals to be consistent with and supportive of complete streets principles

○ Support Caltrans' District complete streets plans and partnerships

● **Regional — Nashville Area Metropolitan Planning Organization, Tennessee:** In response to regional need for more opportunities to walk, bike, and take transit, the Nashville Area Metropolitan Planning Organization assessed its existing policy and procedure for scoring regional transportation projects. This assessment lead to an updated project scoring process. This process is connected to the Regional Transportation Improvement Program (RTIP), as mentioned on page 22. In the 2035 Regional Transportation Plan, more than half of the project scoring criteria pertain to active transportation, health, and safety. The new scoring system also prioritizes active transportation projects that would serve low-income, minority, and older populations. Changing the project scoring criteria has dramatically increased funding for active transportation projects: 70 percent of the projects in the recent 5-year plan have a bicycling or walking element. Previously, only 2 percent of the projects had a bicycling or walking element.

- **Local – Saint Paul, Minnesota:** Saint Paul passed its Complete Streets policy in 2009, and created an implementation action plan to assess and adjust the existing design processes and establish clear next steps. The city then released a draft design manual, testing it on projects over the course of a year. This pilot year has enabled the city to begin changing their internal processes by creating interdisciplinary teams that work together to assess those changes. The new teams are breaking down silos and collaboratively working through design issues.

Key resources: Assess the landscape

- Taking Action on Complete Streets: Implementing processes for safe, multimodal streets, developed by the National Complete Streets Coalition, describes steps communities can take to implement complete streets policies. This report discusses assessing existing plans, policies and procedures.

- Walkability and bikeability checklists, developed by the Pedestrian and Bicycle Information Center, can be used to rate the quality of your neighborhood for walking and bicycling. They can also help users identify improvements to make. Walkability and bikeability audits can also be done in *Step 4: Engage and Listen* as part of a community engagement process.

- The National Bicycle and Pedestrian Documentation Project provides a methodology for conducting a counting program, national data and reports on best practices, training materials, and count/survey forms.

- Photovoice is a community engagement tool that uses photographs to document community features that may be barriers to healthy eating and active transport. This tool works well in combination with windshield tours and walkability audits.

TIP

SHARE RESOURCES. A state health department employee can help assess policies and the environment for the state transportation department. This will enhance collaboration among these agencies and improve the ongoing process of policy and environmental assessment.

GET TECHNICAL

Provide input during the development of guidelines and projects.

Step 1: Build Your Team	Step 2: Assess the Landscape	Step 3: Get Technical	Step 4: Engage and Listen	Step 5: Evaluate and Learn
✚ PUBLIC HEALTH				
Lead: organize committee management **Lead:** organize public workshops **Expert:** provide health content	**Lead/Support:** assess policy landscape (e.g., Safe Routes to School plans/programs); assess health implications of physical landscape	**Lead:** educate stakeholders about benefits of design to support physical activity; conduct health impact assessment to evaluate health outcomes of physical environments **Support:** provide input on guidelines and/or projects; engage key stakeholders	**Lead:** organize public workshops and/or internal government agency workshops **Lead/Support:** conduct bike/walk audits	**Support:** analyze and evaluate data — bike and pedestrian counts, bike/walk audits **Lead:** analyze and evaluate data — hospital injury data from traffic collisions; collect, analyze, and evaluate data — physical activity levels; model economic benefits of physical activity (e.g., Integrated Transport and Health Model, Health Economic Assessment Tool)

Once a community has identified the list of plans, policies, and guidelines that need to be updated to implement a Complete Streets approach, the next step is to make the appropriate changes. It is likely that changes will need to extend beyond the policies and design guidelines to include new administrative systems, check lists, and project review processes.

While public health staff may not play a lead role in re-writing design guidelines or technical manuals, they do have an important role to play in educating the community and stakeholders about why design should support safe, convenient opportunities for physical

activity. They may also play a role in project review, providing similar input and accountability to ensure projects reflect the community's Complete Streets goals and principles, and that health equity is being taken into account.

In particular, public health can provide language that describes how different street elements positively or negatively affect the health of the community. For example, sidewalks and protected bike lanes improve the safety of people who are walking and biking, and increase the likelihood that people will walk and bike, thereby improving the health of the community by decreasing injuries and increasing physical activity. Conversely, a street without sidewalks or protected bike lanes increases the likelihood that people walking or biking will be hit by a car — a reality that discourages people from walking and biking due to the real and perceived danger of being hit by a car.

CONNECTING TO POLICY

This Complete Streets model policy language addresses the third step of implementation:

[Jurisdiction] shall rely upon the current editions of street design standards and guidelines that promote and support Complete Streets.

- *Urban Street Design Guide and Urban Bikeway Design Guide* (National Association of City Transportation Officials)

- *Designing Walkable Urban Thoroughfares: A context sensitive approach* (Institute of Transportation Engineers/Congress for the New Urbanism)

- *Separated Bike Lane Planning and Design Guide* (U.S. Department of Transportation, Federal Highway Administration)

Updating design manuals

Highway and street design manuals (technical documents generally used by engineers that describe how street features can be constructed for different types of streets) are often the go-to reference for transportation projects, but they may not include the newest, best design practices for multimodal roads. Communities can choose to write and adopt their own street design guidelines or use existing design manuals that provide flexible, context-sensitive solutions for all transportation options.

Rewriting manuals helps agencies uncover barriers to active transportation in auto-oriented design manuals, develop new procedures, and train internal and external professionals on Complete Street design principles. The best street design manuals discuss the connection between land use and transportation as well as create new street "typologies," or classifications of streets based on their use and context. Traditionally, street typologies were defined by street's function for automobiles. Today, new street typologies (e.g., downtown thoroughfare, neighborhood "main street," transit corridor) are used to guide decisions about appropriate design, given their function for people (including elements that support physical activity).

While developing a new design manual may allow a community to create a customized document for their particular needs, doing so can be time-consuming and costly. Using existing national and state manuals may work for communities that don't have the resources or capacity to build their own. Additionally, the best practices for developing safe infrastructure for people biking and walking are changing rapidly, such that a design manual written five years prior may already be out of date with current design standards in the field. Some communities may choose to adopt existing national and/or state design guidelines that represent the newest, best design practices, such as guides from the National Association of City Transportation Officials.

HOW TO ADDRESS EQUITY

During the design and scoping phases, look for specific practices that ensure all residents, particularly low-income individuals, people of color, children, women, older adults, people with disabilities, homeless individuals, and members of other historically under-represented groups, benefit from Complete Streets initiatives.

Key Questions

- How will an updated street design guide be used to address Complete Streets in all neighborhoods, especially high-need areas (e.g., low income areas, places that experience a high number of collisions involving people walking and biking, people of color, etc.)?

- What strategies and practices ensure children, women, people of color, low-income individuals, people with disabilities, or homeless individuals feel safe and have access to new infrastructure and resources?

- Does the Complete Street design update address the unique needs of the community?

- What groups of people or areas in your community suffer from poor health outcomes? Which of these health outcomes and health behaviors can be improved through safer street infrastructure and increased physical activity?

Incorporating health in transportation projects

Health Impact Assessments

Incorporating health into project development through health impact assessments (HIAs) can have lasting benefits and produce positive health outcomes. An HIA is a process that helps evaluate the potential health effects of a plan, project, or policy before it is built or implemented. An HIA can provide recommendations to increase positive health outcomes and minimize adverse health outcomes.

Often, Complete Streets policies establish new administrative processes, such as an exceptions process. If these processes were not established in the policy itself, they will need to be developed during implementation.

At all levels of government, many transportation departments implement a checklist system to determine how a project incorporates Complete Streets principles. Many local transportation departments are also creating new project development systems to adequately incorporate Complete Streets principles into all aspects of transportation planning. These checklists could include a variety of health and demographic data to inform project development and project prioritization. Complete Streets checklists can also be used to support positive health outcomes by encouraging those involved in implementation to answer questions regarding physical activity.

To implement a Complete Streets policy, a community may establish a process for a multidisciplinary committee (ideally, the same committee mentioned in Step 1) to review all paving projects. The committee may identify potential alterations that do not change the curb-to-curb street space (e.g., painting buffered bike lanes) and that enhance the safety and comfort for all people, including people biking and walking. If there are other committees (e.g., Bicyclist & Pedestrian Advisory Committee, Disability Committee, etc.) that discuss street changes, then these committees need to assess these projects as well.

Many communities have embraced low-cost, simple changes to street projects that use paint to create buffered or protected bike lanes, curb extensions, and highly visible crosswalks. These projects can be completed through a pavement program, which numerous communities have used to make improvements that provide a safer environment for people biking and walking. Generally, only pavement condition (e.g., the prevalence of potholes) determines when a street is repaved. Applying Complete Streets principles to the pavement project list may be one of the easiest paths to making change on the ground in a short amount of time. The pavement program's only drawback is that it prohibits projects from changing the street width (i.e., no curbs can be moved) or integrating complex design elements.

Community examples: Get technical

- **State — Minnesota:** In addition to the state complete streets policy, the Minnesota Department of Transportation has a number of documents to assist with implementation, such as the Complete Streets Technical Memorandum, Complete Streets Work Plan, Complete Streets Project Report, Annual Minnesota Complete Streets Performance snapshot, and the Complete Streets Scoping Worksheet. Each of these documents aids in the implementation and monitoring of the statewide policy.

- **Regional — San Diego Association of Governments (SANDAG):** SANDAG's *Smart Growth Design Guidelines* shows how good design can contribute to a better quality of life in the San Diego region. It is a resource for policymakers, local agency planning and engineering staff, developers, and interested citizens. The guidelines address the importance of design in maintaining and enhancing community character and in creating great public places. It serves as both a primer and a technical reference. Among the subjects covered are site design, street design, and parking to support mixed-use development and a variety of transportation options.

- **Local — Austin, Texas:** Austin's Complete Streets Policy commits the city to "design, operate and maintain the community's streets and right-of-way so as to promote safe, comfortable and convenient access and travel for people of all ages and abilities" by all travel modes. Austin's Complete Streets Program initiatives include updated city street design guidance, Complete Streets Network Development, Project Compliance Review, Education, Outreach and Communications, and Complete Street Metrics and Reporting. The Directors of the Transportation, Planning and Zoning, and Public Works Departments jointly review and approve projects. There are various documents and checklists to assist with this process: Checklist for City Projects, Complete Streets for Private Development, as well as incorporating health data in the prioritization process in the Sidewalk Master Plan.

Key resources: Get technical

- **The Urban Street Design Guide,** * developed by the National Association of City Transportation Officials, is an informative primer for anyone who wants to learn about better, safer street design. Through words, diagrams, and images, it describes better street design principles for different types of streets and areas (e.g., downtown, neighborhood, commercial, etc.). It also describes different street design elements, interim design strategies, intersection design, and design controls. The web-based version of the guide is free.

- **The Urban Bikeway Design Guide,** ** developed by the National Association of City Transportation Officials, provides cities with state-of-the-practice solutions that can help create complete streets that are safe and enjoyable for bicyclists.

- **Complete Streets Planning and Design Guidelines,** from the Department of Transportation in Charlotte, North Carolina, may be useful in helping your community create its own street design guide.

- **Project Development and Design Guide,** from the Massachusetts Department of Transportation, is a model for developing context-sensitive, community-friendly road and bridge projects.

TIP

Develop relationships with other cities, counties, and states to discuss innovative Complete Streets design interventions.

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* States that have endorsed NACTO Urban Street Design Guide: CA, CO, DE, MA, MN, TN, UT, WA; Counties: Hennepin County, MN]
http://nacto.org/publication/urban-street-design-guide/endorsement-campaign

** States that have endorsed NACTO Urban Bikeway Design Guide: CA, CO, DE, GA, MA, VA, WA; County: Montgomery County, MD]
http://nacto.org/publication/urban-bikeway-design-guide/endorsement-campaign

ENGAGE AND LISTEN

Engage and educate staff, consultants, elected officials and the public, and facilitate meaningful input into projects and priorities.

Step 1: Build Your Team	Step 2: Assess the Landscape	Step 3: Get Technical	Step 4: Engage and Listen	Step 5: Evaluate and Learn
+ PUBLIC HEALTH				
Lead: organize committee management **Lead:** organize public workshops **Expert:** provide health content	**Lead/Support:** assess policy landscape (e.g., Safe Routes to School plans/programs); assess health implications of physical landscape	**Lead:** educate stakeholders about benefits of design to support physical activity; conduct health impact assessment to evaluate health outcomes of physical environments **Support:** provide input on guidelines and/or projects; engage key stakeholders	**Lead:** organize public workshops and/or internal government agency workshops **Lead/Support:** conduct bike/walk audits	**Support:** analyze and evaluate data — bike and pedestrian counts, bike/walk audits **Lead:** analyze and evaluate data — hospital injury data from traffic collisions; collect, analyze, and evaluate data — physical activity levels; model economic benefits of physical activity (e.g., Integrated Transport and Health Model, Health Economic Assessment Tool)

Education and engagement occurs throughout Complete Streets implementation. At each step of the way, changing processes, design standards, and norms takes time, and ongoing education and engagement efforts can help move change forward. Successful implementation requires everyone to have a general understanding of Complete Streets principles and why they are important.

Opportunities to engage and listen include workshops, webinars, on-the-job trainings, and walk/bike audits. Public agency staff, consultants, elected officials, and the public need to be educated on new procedures and design outcomes. Including a public health perspective will help ensure that information about the benefits of increasing physical activity, decreasing unhealthy weight and other chronic diseases related to inactivity, reducing injuries, and improving air and water quality are understood to be part of the Complete Streets approach.

Importantly, engagement and education is not a one-way street. Listening is a key skill! Creating engagement forums allows public health staff, along with their partners, to hear the community's concerns and priorities, and incorporate these into their approach.

Public health departments can sponsor educational events that bring together transportation, land use, public health, elected officials, and advocates to learn about and discuss Complete Streets. For example, one webinar from the Minnesota Department of Health focused on implementation of the state complete streets policy and outlined how public health and other key partners can assist locally. In addition, public health departments have opportunities to participate in technical trainings that transportation departments lead for their staff and consultants.

In addition to more traditional or familiar engagement forums, such as community workshops or training, experiential learning can be an important part of Complete Streets education. Events like organized bike rides and walks bring together elected officials, planners, public health professionals, engineers, advocates, and the general public together. These activities give everyone a shared understanding of the challenges and opportunities that exist. Pilot projects, such as those done by Better Block, have installed temporary biking, walking, and/or transit infrastructure to test out its efficacy.

CONNECTING TO POLICY

This Complete Streets model policy language addresses the fourth step of implementation:

● *[Insert name of lead agency]* shall provide training on Complete Streets and the implementation of this Policy to all relevant staff, and develop a plan for providing such training for new hires.

HOW TO ADDRESS EQUITY

During the engagement phase, focus on inclusive training and educating practices. Trainings and outreach events should include staff, officials, and the public, especially low-income individuals, people of color, women, older adults, people with disabilities, homeless individuals, and members of other historically under-represented groups.

Key Questions

- Are the materials written in an understandable way for a variety of community members?

- Do the materials need to be translated for any non-English-speaking community members?

- Are the events held in locations and at times that are easily accessible to women, non-English speakers, people of color, low-income individuals, people with disabilities, older adults, and homeless individuals? Try holding events in central neighborhood locations, such as libraries, schools, and churches, or at existing community events (farmers' markets, fairs, etc.).

- Has the committee partnered with organizations or groups, such as faith groups and neighborhood organizations, to ensure the events reach groups that cannot or do not attend?

- Are services like childcare or food provided that make the event easier for families to attend?

Community examples: Engage and listen

- **State — Massachusetts:** The Massachusetts Department of Transportation (MassDOT) has sponsored a series of workshops on Complete Streets. The training attendees include city public works and planning staff, local elected leaders, professional designers, and MassDOT employees throughout the Commonwealth. In keeping with state law, the Office of Transportation Planning is working with the Highway Division and the Massachusetts Department of Public Health to develop guidelines for the Complete Streets Certification Program. MassDOT has allocated $5 million per year to the program for the next four years. MassDOT is committed to implementing Complete Streets projects across Massachusetts and to supporting municipal efforts to accommodate all roadway users in their cities and towns.

- **Regional — Mid-Ohio Regional Planning Commission (MORPC):**
  MORPC has a Complete Streets policy and toolkit; it has also been
  very active in Complete Streets education and outreach. MORPC was
  awarded a grant through the Ohio Department of Health to develop
  the Complete Streets Game, an interactive educational tool. The
  game includes three different streetscapes — school, retail corridor,
  and intersection. Participants play with magnetic street components
  (e.g. sidewalks and bike lanes) to redesign the streetscape. Participants
  also think about policy changes such as speed limits, as well as
  the feasibility of their proposed changes based on funding and
  local politics.

- **Local — Spokane, Washington:** The Washington State Department
  of Health provides funding and technical assistance to communities
  across the state on developing complete streets policies, hosting
  educational workshops, and implementing complete streets at the
  local level. The Washington Coalition for Promoting Physical Activity
  (WCPPA) helped sponsor Complete Streets workshops for elected
  officials and city department leaders in Spokane. along with
  co-sponsors: the Spokane Regional Health District, the Washington
  State Department of Health in conjunction with the Centers for
  Disease Control and Prevention, and the Bicycle Alliance of Washington.

Key resources: Engage and listen

- **Complete streets workshops** are offered by the Massachusetts Department of Transportation to spread awareness about the Complete Streets approach in MassDOT's **Project Development and Design Guide**. These workshops are attended by local transportation planners and engineers, elected officials, and MassDOT employees.

- **Complete streets training**, offered by the North Carolina Department of Transportation, is a two-day training course to provide detailed information about implementing the state's Complete Streets Policy.

- **Walkability and bikeability checklists**, developed by the Pedestrian and Bicycle Information Center, can be used to rate the quality of your neighborhood for walking and bicycling. They can also help users identify improvements to make. Walkability and bikeability audits can also be done in *Step 2: Assess the Landscape*.

- **The Guide to Answering the Cost Question** (National complete Streets Coalition) provides four overarching points to make in answering cost questions: (1) Complete Streets policies are necessary to safely accommodate existing users; (2) Complete Streets can be achieved within existing budgets; (3) Complete Streets can lead to new transportation funding opportunities; and (4) Complete Streets add lasting value.

TIP

Group bike rides and walk-about-town events are especially educational for elected officials who are unfamiliar with biking and walking conditions in certain areas. Use hands-on events to educate and advocate for better, safer street design.

EVALUATE AND LEARN

Identify, collect, and share performance measures.

Step 1: Build Your Team	Step 2: Assess the Landscape	Step 3: Get Technical	Step 4: Engage and Listen	Step 5: Evaluate and Learn
➕ PUBLIC HEALTH				
Lead: organize committee management **Lead:** organize public workshops **Expert:** provide health content	**Lead/Support:** assess policy landscape (e.g., Safe Routes to School plans/programs); assess health implications of physical landscape	**Lead:** educate stakeholders about benefits of design to support physical activity; conduct health impact assessment to evaluate health outcomes of physical environments **Support:** provide input on guidelines and/or projects; engage key stakeholders	**Lead:** organize public workshops and/or internal government agency workshops **Lead/Support:** conduct bike/walk audits	**Support:** analyze and evaluate data — bike and pedestrian counts, bike/walk audits **Lead:** analyze and evaluate data — hospital injury data from traffic collisions; collect, analyze, and evaluate data — physical activity levels; model economic benefits of physical activity (e.g., Integrated Transport and Health Model, Health Economic Assessment Tool)

The ultimate purpose of a Complete Streets policy is to make the transportation network safer and healthier for all of its users. Without evaluation, communities will have a hard time understanding how and where they are meeting their goals. When members of multiple professional fields bring data to the table, the measurement and evaluation processes paint a clearer picture of community issues and needs.

Public health professionals can provide leadership and valuable information in this step, especially when they contribute capacity and training in evaluation techniques, as well as health and demographic

CONNECTING TO POLICY

This Complete Streets model policy language addresses the fifth step of implementation:

Performance Measures

In order to evaluate whether the streets and transportation network are adequately serving each category of users, *[insert names of relevant agencies and departments]* shall collect and/or report baseline and annual data on matters relevant to this Policy, including, without limitation, the following information:

1. Mileage by *[district/neighborhood]* of new bicycle infrastructure (e.g., bicycle lanes, paths, and boulevards)

2. Linear feet *[or mileage]* by *[district/neighborhood]* of new pedestrian infrastructure (e.g., sidewalks, trails, etc.)

3. Number by *[district/neighborhood]* of new curb ramps installed

4. Number by *[district/neighborhood]* of new street trees planted

5. Type and number by *[district/neighborhood]* of pedestrian- and bicycle-friendly signage and landscaping improvements, including street furniture and lighting

6. Bicycle and pedestrian counts, including in High-Need Areas

7. Commute mode percentages by *[district/neighborhood]* as provided by the American Community Survey conducted by the U.S. Census Bureau (e.g., drive alone, carpool, transit, bicycle, walk)

8. The percentage by *[district/neighborhood]* of transit stops accessible via sidewalks and curb ramps

9. The number, locations, and cause of collisions, injuries, and fatalities by mode of transportation

10. The total number *[or rate]* by *[district/neighborhood]* of children walking or bicycling to school

Reporting Requirements

One year from the effective date of this Policy, and annually thereafter, the lead agency shall submit a report to the *[insert name of governing body, e.g., city council]* on the progress made in implementing this Policy that includes, at a minimum, the following: (1) baseline and updated performance measures as described in Section (F); (2) a summary of (a) all Transportation Projects planned or undertaken and their status, including a full list and map, with clear identification of which projects are located in High Need Areas; (b) all exceptions granted pursuant to Section E of this Policy, including identification of exceptions granted in High Need Areas; (c) the progress made in achieving the benchmarks for High Need Areas developed pursuant to Section D(5); (d) updates to street design standards, internal department and agency manuals and procedures, zoning and municipal codes, and land use plans, pursuant to Sections D(1)-(3); (e) all funding acquired for projects that enhance the Complete Streets network; (f) all staff trainings and professional development provided pursuant to Section D(4); and (3) any recommendations for improving implementation of this Policy.

data (e.g., hospital data related to traffic collisions). This information complements transportation data (e.g., law enforcement data related to traffic collisions). A summary of trends and changes may be prepared in the form of an annual report. Public health professionals can also help measure physical activity levels, and health economic impacts through tools such as the Heath Economic Assessment Tool (HEAT) and the Integrated Health and Transport Model (ITHM).

If you don't count it, it doesn't count.

Both community-wide and project measures help communities document success and highlight areas for improvement. Community-wide indicators apply broadly to a community. These indicators include information on public health, economic development, environment, and transportation. The community should identify performance measures, based on local needs and values, in order to measure progress. Typical transportation indicators include public transportation ridership, bicycle and pedestrian counts, and number or miles of certain types of infrastructure (e.g., protected bike lanes, sidewalks, curb extensions, street trees, benches, human-scale lighting, etc.). Equity should be an integral part of measuring and evaluating community-wide data.

HOW TO ADDRESS EQUITY

When collecting and evaluating data, focus on using performance measures to identify districts or areas that include historically under-invested groups, such as low-income individuals, people of color, women, older adults, people with disabilities, homeless individuals, and members of other historically under-represented groups. One method of assessing equity in performance measures is to require data collection per neighborhood, census tract, or voting district, combined with demographic and health data.

Key Questions

- Do any performance measures demonstrate how resources for Complete Streets implementation are distributed throughout the community?

- Do any performance measures demonstrate how projects are prioritized across neighborhoods?

- Do any performance measures demonstrate the efficacy of different Complete Streets projects across neighborhoods?

- Can performance measures be disaggregated by race, income, gender, and other relevant demographic information?

- Has the committee effectively used the performance measures to demonstrate the equitable distribution of resources across different demographic indicators (e.g., race, income level, gender, etc.)?

- Are there barriers to implementing Complete Streets in high-need areas? Discuss and identify ways to overcome those barriers.

Project indicators refer to collecting before and after data for specific projects. These indicators may include: bicycle/pedestrian/transit/traffic counts; traffic speed data; collisions; and qualitative survey data.

A Complete Streets annual report includes information on the performance of the previously mentioned indicators and provides a summary of the status of implementation. An annual report should be presented to decision makers (e.g. City Council, transportation committee, etc.), and should also include information about the following: committee(s) updates, assessment and update status of plans and procedures, status of updating or creating design standards/guidelines, and an overview of events (including educating and training staff, consultants, community leaders and the public).

Community examples: Evaluate and learn

- **State — Minnesota:** The Minnesota Department of Transportation (MNDOT) created a statewide methodology for bicycle and pedestrian counting called *The Minnesota Bicycle and Pedestrian Counting Initiative: Methodologies for Non-motorized Traffic Monitoring*. The current phase of this project includes implementing automated counters throughout the state with permanent and portable equipment. The automated counters will enable transportation planners to establish benchmarks for a statewide data collection system. The regional district offices are supporting this process.

- **Regional — Kauai, HI:** Since 2011, Get Fit Kauai's Built Environment Task Force has prepared an annual *Complete Streets Indicators Report*. The Task Force completes the report in collaboration with the County of Kauai Planning Department. The report tracks five key indicators: pedestrian and bicyclist safety, active transportation rate, Safe Routes to School participation, public transportation use, and active transportation facilities.

- **Local — Boulder, CO:** The City of Boulder's Transportation Division released a progress report on transportation projects, *Transportation to Sustain a Community: A Report on Progress*. The report covers a variety of transportation planning topics, including tracking data on single-occupant vehicle mode share, change in all mode shares (including biking and walking), vehicle miles traveled, congestion, and how people travel to work.

Key resources: Evaluate and learn

<p><strong style="color:orange">TIP</p>

Combine the release of yearly performance measure reports with a group bike ride, or walk along a newly completed project site to demonstrate the successes.

- **Bicycling and Walking in the United States Benchmarking Report (2016)** contains a wide variety of data (e.g., bike/walk to work, obesity and related health factors, physical activity rates, socio-economic, race/ethnicity, legislation, and funding) for all states, the 50 most populous cities, and a few smaller cities (e.g. Davis, CA).

- **Statewide Pedestrian and Bicycle Planning Handbook. Chapter 4: Developing Goals, Objectives, and Performance Measures**, by the Federal Highway Administration, describes how to develop performance measures related to active transportation.

- **National Bicycle and Pedestrian Documentation Project** describes how to set up a pedestrian and bicycle count program.

- **Seattle Pedestrian Master Plan Performance Measures and Targets** is an example of how you could include performance measures into an active transportation master plan.

- The **Sustainable Streets Index** in New York City is an example of how to include performance measures into an active transportation plan.

- The **Health Economic Assessment Tool** is designed to help you conduct an economic assessment of the health benefits of walking or cycling by estimating the value of reduced mortality that results from specified amounts of walking or cycling.

- The **Integrated Transport and Health Modeling Tool** (ITHM) helps you to perform an integrated assessment of the health effects of transport scenarios and policies at the urban and national level.
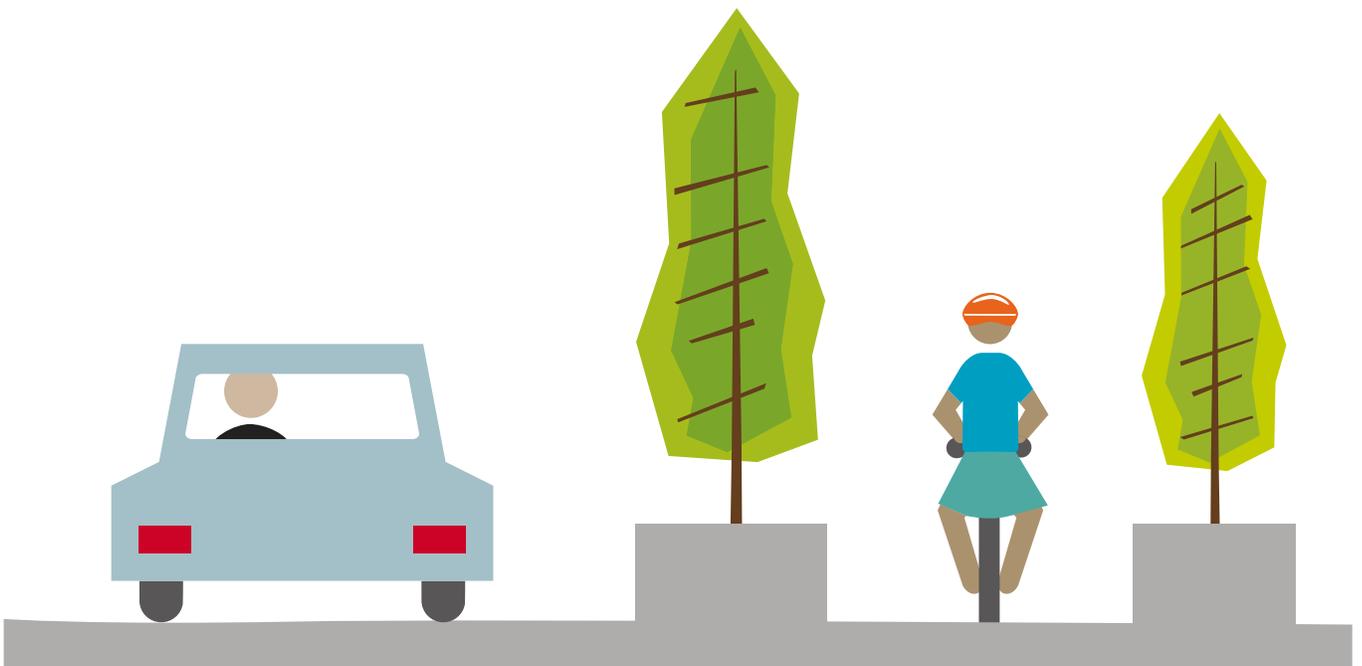
POLICY AND EQUITY OVERVIEW TABLE

STEP 1: BUILD YOUR TEAM	
Complete Streets Model Policy	**How To Address Equity**
The *[identify relevant internal departments and agencies by name]* shall routinely work in coordination with each other, any Bicycle or Pedestrian Coordinator, and any relevant advisory committees to create Complete Streets and to ensure consistency with any existing Pedestrian/Bicycle/ Multi-Modal Plans *[or insert name of other comparable plans]*. The *[insert name of lead department or agency (e.g., Transportation or Planning Department) and title of person accountable (e.g., Director or Bicycle/Pedestrian Coordinator)]* shall lead the implementation of this Policy and coordinate with *[insert names of other relevant departments or agencies]*.	In the Complete Streets committee, engage with individuals and organizations that have varied expertise (e.g., transportation, public health, community advocates, etc.) and represent diverse demographics, (e.g., low-income, people of color, women, older adults, people with disabilities, homeless). Community members from historically under-represented groups shall be encouraged to participate. **Key Questions** • Are people from historically underrepresented populations — women, people of color, low-income individuals, people with disabilities, and homeless individuals — represented on the committee? • Is Complete Streets implementation occurring in all areas of the community? How can we ensure historically underinvested areas benefit from Complete Streets implementation? • Are all people in our community, especially women, people of color, low-income individuals, people with disabilities, and homeless individuals, benefiting from Complete Streets?

Complete Streets Model Policy

- *[Insert names of all relevant departments and agencies]* shall incorporate this Policy into relevant internal manuals, checklists, rules, and procedures.

- *[Insert name of lead agency]* shall assess whether any municipal and zoning codes, land use plans, or other relevant documents, including the Capital Improvement Program *[include all relevant programs, e.g., pavement management program, traffic signal program, tree program, ADA curb ramp program, etc.]*, conflict with this Policy, and shall submit a report, along with a proposal for addressing any conflicts, to the *[City Manager or insert relevant position]*.

How To Address Equity

Focus on historically underinvested areas when assessing the policy and physical landscape. Once the updated transportation and land use procedures align with Complete Streets principles, everyone in the community should benefit, especially low-income individuals, people of color, women, older adults, people with disabilities, homeless individuals, and members of other historically under-represented groups. These groups face specific challenges related to access in the transportation system. Assessments of the physical landscape should focus on areas in the community that experience a high need, such as areas that have high levels of low-income, people of color, women, older adults, people with disabilities, homeless individuals; areas near sensitive land uses such as schools, hospitals or elder care facilities; or corridors or intersections that have high pedestrian and bicycle crash rates.

Key Questions

- How do existing policies, processes and/or the physical environment affect people who use the transportation system, especially women, people of color, low-income individuals, people with disabilities, and homeless individuals?

- Do any policies, processes and/or the physical environment negatively affect women, people of color, low-income individuals, people with disabilities, or homeless individuals? Identify these plans, programs, and/or policies and discuss how to update them. .

- Do any policies, processes and/or the physical environment improve access for women, people of color, low-income individuals, people with disabilities, or homeless individuals? Identify these plans, programs, and/or policies and discuss how to make them more effective.

- What are the barriers to implementing Complete Streets in all districts, with a focus on districts with women, people of color, low-income individuals, people with disabilities, or homeless individuals? Identify barriers and discuss how to overcome them.

- How can plans, policies, or processes ensure implementation in all districts, with a focus on districts that are "high need areas" (e.g., areas that have high levels of low-income, people of color, women, older adults, people with disabilities, homeless individuals; areas near sensitive land uses such as schools, hospitals or elder care facilities; or corridors or intersections that have high pedestrian and bicycle crash rates)?

STEP 3: GET TECHNICAL

Complete Streets Model Policy

[Jurisdiction] shall rely upon the current editions of street design standards and guidelines that promote and support Complete Streets.

- Urban Street Design Guide and Urban Bikeway Design Guide (National Association of City Transportation Officials)
- Designing Walkable Urban Thoroughfares: A context sensitive approach (Institute of Transportation Engineers/ Congress for the New Urbanism)
- Separated Bike Lane Planning and Design Guide (U.S. Department of Transportation, Federal Highway Administration)

How To Address Equity

During the design and scoping phases, look for specific practices that ensure all residents, particularly low-income individuals, people of color, women, older adults, people with disabilities, homeless individuals, and members of other historically under-represented groups, benefit from Complete Streets initiatives.

Key Questions

- How will an updated street design guide be used to address Complete Streets in all neighborhoods, especially high-need areas (e.g., low income areas, places that experience a high number of collisions involving people walking and biking, people of color, etc.)?
- What strategies and practices ensure women, people of color, low-income individuals, people with disabilities, or homeless individuals feel safe and have access to new infrastructure and resources?
- Does the Complete Street design update address the unique needs of the community?
- What groups of people or areas in your community suffer from poor health outcomes? Which of these health outcomes and health behaviors can be improved through safer street infrastructure and increased physical activity?

STEP 4: ENGAGE AND LISTEN

Complete Streets Model Policy

[Insert name of lead agency] shall provide training on Complete Streets and the implementation of this Policy to all relevant staff, and develop a plan for providing such training for new hires.

How To Address Equity

During the engagement phase, focus on inclusive training and educating practices. Trainings should include staff, officials, and the public, especially low-income individuals, people of color, women, older adults, people with disabilities, homeless individuals, and members of other historically under-represented groups.

Key Questions

- Are the materials written in an understandable way for a variety of community members?
- Do the materials need to be translated for any non-English-speaking community members?
- Are the events held in locations and at times that are easily accessible to women, non-English speakers, people of color, low-income individuals, people with disabilities, older adults, and homeless individuals? Try holding events in central neighborhood locations, such as libraries, schools, and churches, or at existing community events (farmers' markets, fairs, etc.).
- Has the committee partnered with organizations or groups to ensure the events reach groups that cannot or do not attend?
- Are services such as childcare or food provided that make the event easier for families to attend?

Complete Streets Model Policy

In order to evaluate whether the streets and transportation network are adequately serving each category of users, *[insert names of relevant agencies and departments]* shall collect and/or report baseline and annual data on matters relevant to this Policy, including, without limitation, the following information:

1. Mileage by *[district/neighborhood]* of new bicycle infrastructure (e.g., bicycle lanes, paths, and boulevards)

2. Linear feet *[or mileage]* by *[district/neighborhood]* of new pedestrian infrastructure (e.g., sidewalks, trails, etc.)

3. Number by [district/neighborhood] of new curb ramps installed

4. Number by [district/neighborhood] of new street trees planted

5. Type and number by [district/neighborhood] of pedestrian- and bicycle-friendly signage and landscaping improvements, including street furniture and lighting

6. Bicycle and pedestrian counts, including in High-Need Areas

7. Commute mode percentages by [district/neighborhood] as provided by the American Community Survey conducted by the U.S. Census Bureau (e.g., drive alone, carpool, transit, bicycle, walk)

8. The percentage by [district/neighborhood] of transit stops accessible via sidewalks and curb ramps

9. The number, locations, and cause of collisions, injuries, and fatalities by mode of transportation

10. The total number [or rate] by [district/neighborhood*]* of children walking or bicycling to school

Reporting Requirements

One year from the effective date of this Policy, and annually thereafter, the lead agency shall submit a report to the *[insert name of governing body, e.g., city council]* on the progress made in implementing this Policy that includes, at a minimum, the following: (1) baseline and updated performance measures as described in Section (F); (2) a summary of (a) all Transportation Projects planned or undertaken and their status, including a full list and map, with clear identification of which projects are located in High Need Areas; (b) all exceptions granted pursuant to Section E of this Policy, including identification of exceptions granted in High Need Areas; (c) the progress made in achieving the benchmarks for High Need Areas developed pursuant to Section D(5); (d) updates to street design standards, internal department and agency manuals and procedures, zoning and municipal codes, and land use plans, pursuant to Sections D(1)-(3); (e) all funding acquired for projects that enhance the Complete Streets network; (f) all staff trainings and professional development provided pursuant to Section D(4); and (3) any recommendations for improving implementation of this Policy.

How To Address Equity

When collecting and evaluating data, focus on using performance measures to identify districts or areas that include historically under-invested groups, such as low-income individuals, people of color, women, older adults, people with disabilities, homeless individuals, *and members of other historically under-represented groups*. One method of assessing equity in performance measures is to require data collection per census tract, or voting district, combined with demographic and health data.

Key Questions

- Do any performance measures demonstrate how resources for Complete Streets implementation are distributed throughout the community?

- Do any performance measures demonstrate how projects are prioritized across neighborhoods?

- Do any performance measures demonstrate the efficacy of different Complete Streets projects across neighborhoods?

- Can performance measures be disaggregated by race, income, gender, and other relevant demographic information?

- Has the committee effectively used the performance measures to demonstrate the equitable distribution of resources across different demographic indicators (e.g., race, income level, gender, etc.)?

- Are there barriers to implementing Complete Streets in high-need areas? Discuss and identify ways to overcome those barriers.

GLOSSARIES AND TERMS

Technical jargon can be one of the biggest obstacles to collaboration between public health and transportation professions. Use the following resources to overcome this challenge.

Reference glossaries

- **Physical Activity Glossary of Terms**
  The Center for Disease Control and Prevention
  Division of Nutrition, Physical Activity, and Obesity
  www.cdc.gov/physicalactivity/basics/glossary/index.htm

- **Transportation Recommendation Glossary**
  The Center for Disease Control and Prevention
  www.cdc.gov/transportation/glossary.htm

- **Planning Glossary**
  Federal Highway Administration
  www.fhwa.dot.gov/planning/glossary

- **Glossary of Transportation Planning Terms**
  Pinellas County, Florida — some terms are particular to Florida
  www.pinellascounty.org/mpo/PDFs/Glossary.pdf

- **Glossary of Healthy-Community Terms**
  Toolkit for a Healthy Delaware
  www.ipa.udel.edu/healthyDEtoolkit/glossary.html

Terms

- **Complete streets design guidelines** refers to street guidelines that align with Complete Streets principles.

- **A complete streets checklist** refers to a checklist that a city, county, regional agency or state agency uses to determine whether a transportation project complied with a Complete Streets policy.

- **A Complete streets implementation plan** refers to a formal implementation plan that a community develops to assist with updating procedures and plans.

The Six "E"s

The "E's" of transportation planning include: education, encouragement, enforcement, engineering, equity, and evaluation. Like all planning concepts, the E's continue to evolve over time.

EDUCATION refers to educating people about the benefits of complete streets; teaching them safety skills; and learning about the needs of the community.

ENCOURAGEMENT refers to activities that promote walking and bicycling (e.g., International Walk-n-Roll to School Day). Encouragement activities generate enthusiasm, increase community awareness, and inspire political champions.

ENFORCEMENT refers to partnering with local law enforcement to ensure traffic laws are obeyed.

ENGINEERING refers to designing, building, and maintaining infrastructure (e.g., sidewalks, crosswalks, bike lanes, protected bikeways, and signs). In the complete streets context, engineering is a core principle.

EQUITY refers to geographic equity, demographic equity, and modal equity. Geographic equity ensures all areas see the same types of facilities at the same density and quality. Demographic equity ensures people of all ages, races, ethnicities, and genders are treated equitably in planning processes. Modal equity is achieved when all modes (especially bicycling and walking) are treated as an equal mode of transportation alongside motorized vehicles.

EVALUATION refers to monitoring and documenting outcomes, attitudes, and trends via data collection (e.g., surveys, walk and bike audits, walk and bike counts, and gathering demographic information).

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* Amber Dallman worked for the Minnesota Department of Health when she was interviewed. She now works for the Minnesota Department of Transportation.