Minnesota Department of Transportation

RESEARCH SERVICES

Office of Policy Analysis, Research & Innovation

Complete Streets Implementation Resource Guide for Minnesota Local Agencies

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February 2013

Research Project
MN/RC – 2013RIC02

LRRB
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Technical Report Documentation Page

1. Report No.	2.	3. Recipients Accession No.
MN/RC – 2013RIC02		

4. Title and Subtitle	5. Report Date
Complete Streets Implementation Resource Guide for Minnesota Local Agencies	February 2013
	6.
7. Author(s)	8. Performing Organization Report No.
Michael Marti, Renae Kuehl, Joni Giese	
9. Performing Organization Name and Address	10. Project/Task/Work Unit No.
SRF Consulting Group, Inc. One Carlson Parkway North, Suite 150 Minneapolis, MN 55477-4443	11. Contract (C) or Grant (G) No. 98383
12. Sponsoring Organization Name and Address	13. Type of Report and Period Covered
Minnesota Department of Transportation Research Services Section 395 John Ireland Boulevard Mail Stop 330 St. Paul, Minnesota 55155	Final Report
	14. Sponsoring Agency Code

15. Supplementary Notes

http://www.lrrb.org/pdf/2013RIC02.pdf

16. Abstract (Limit: 200 words)

There is National movement and legislation regarding Complete Streets with significance for impacts on Local Agencies. The Minnesota Local Road Research Board funded the development of this "Complete Streets Implementation Resource Guide" that is intended as a guide to local agencies interested in developing their own policy. This resource includes an overview on Complete Streets, a brief synthesis of local and national practices, an understanding of the various terms and definitions, guidance on implementation and a summary of agencies in MN with Complete Streets with complete streets policies or other guidance and projects in MN related to Complete Streets.

17. Document Analysis/Descriptors		18.Availability Statement
Complete Streets Context Sensitive Design Implementation Complete Streets policy Resolution Ordinance Legislative Reports Street Typology	State Aid Variance Complete Streets definition Transportation network All abilities All modes Access Transportation equity Intermodal connections	No restrictions. Document available from: National Technical Information Services, Springfield, Virginia 22161

19. Security Class (this report)	20. Security Class (this page)	21. No. of Pages	22. Price
Unclassified	Unclassified	54	

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FINAL Report

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February 2013

Published by:

Minnesota Department of Transportation
Minnesota Local Road Research Board
Research Services Section
395 John Ireland Boulevard, MS 330
St. Paul, Minnesota 55155-1899

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The authors and the Minnesota Department of Transportation and/or Center for Transportation Studies do not endorse products or manufacturers. Trade or manufacturers' names appear herein solely because they are considered essential to this report.

Acknowledgements

We wish to thank the Minnesota Local Road Research Board (LRRB) and its Research Implementation Committee (RIC) for the financial support to make this important resource guide a reality. The Technical Advisory Committee that steered this project was extremely helpful in identifying key issues and concerns related to complete streets and the resources needed at the local level. They also were very generous with their time in attending meetings, reviewing and providing oversight for this final document.

The authors would like to thank the following individuals and organizations for their contributions to this document:

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Introduction: Complete Streets Implementation Resource Guide

Complete streets is a transportation network approach that provides safe access for all street users, regardless of age or ability, which is gaining implementation momentum as communities desire to increase physical activity and use a variety of transportation modes, including transit, bicycles and walking. In 2010, complete streets legislation was enacted in Minnesota that required MnDOT to implement a complete streets policy for the state highway system, which is currently underway. In addition, city and county engineers in Minnesota, through the Local Road Research Board, have developed this Complete Streets Implementation Resource Guide, compiled from national and local sources, to provide communities with a concise summary of best practices for implementing complete streets.

The Resource Guide is intended to help local agencies assess their current practices and to assist them in developing a complete streets implementation process that can be tailored to their community's specific needs and conditions.

The process of implementing complete streets can be broken into two distinct, yet equally important phases:

- Planning
- Project

During the planning phase, complete streets implementation plans and protocols are created, which is a critical step in creating a community-supported, safe, comfortable and convenient transportation network that serves all modes. Effective planning also results in design guidance and implementation clarity that allows the community and project designers to efficiently move forward on individual complete streets projects in a collaborative and cost-efficient manner.

The project phase encompasses the final design, construction, and maintenance of complete streets projects, along with post implementation evaluations.

Effective public engagement is necessary throughout the entire implementation process, including both the planning phase and project phase.

The Complete Streets Implementation Resource Guide describes the two phase implementation process, provides supporting resources, and is comprised of the following chapters:

Chapter 1: An Overview of Complete Streets

Chapter 2: Synthesis of Local and National Practices of Complete Streets

Chapter 3: Terms and Definitions

Chapter 4: Implementation

Chapter 5: Synthesis of Minnesota Complete Streets

Appendix: Complete Streets Worksheet

Chapter 1: An Overview of Complete Streets

Brief Summary of MnDOT's 2009, 2011 and 2012 Legislative Reports… the Requirements Set Out in the Legislation and Their Status

In 2008, the Legislature mandated the Minnesota Department of Transportation (MnDOT) to undertake a complete streets policy review that examines the "costs, benefits, and feasibility" of implementing a statewide policy. The final MnDOT complete streets report dated December 2009 included a recommendation for a statewide policy. In 2010, Governor Tim Pawlenty signed complete streets legislation for the State. The requirements of the legislation are concisely summarized in a publication titled, Minnesota's Statewide Complete Streets Policy, developed by the Public Health Law Center at the William Mitchell College of Law.

The new law includes a requirement for MnDOT to consult with stakeholders and then implement a complete streets policy in Minnesota for the state highway system. The Commissioner of Transportation has assigned the MnDOT State Aid Division Director and MnDOT Director of Context Sensitive Solutions (CSS) to lead this effort. MnDOT has established an external advisory group comprised of state agencies, local government representatives, and other stakeholders to provide feedback and guidance regarding MnDOT's implementation efforts and development of a work plan, vision, policy, and performance measures for complete streets. The legislation requires the Commissioner of Transportation to report progress back to the legislature on complete streets implementation in 2011, 2012 and 2014. The law also encourages local agencies to adopt their own policies.

The 2011 legislative report focused on the State Aid variance process, plan implementation and statutory barriers. Regarding State Aid, actions taken by MnDOT included:

- Modifying the state aid variance checklist to include verbiage related to complete streets
- Moving the variance process link to the front page of the State Aid Local Transportation website to make the process more transparent
- Reviewing past variance requests as they related to complete streets designs.
- Initiating a review of the State Aid standards utilizing a committee of city and county engineers culminating in a revision of the Rules to allow complete streets components to be included on state aid projects.

Under plan implementation, key MnDOT staff were assigned to the implementation process and functional categories were established (Design Process, Funding and Planning, and Training and Support), along with an external advisory group, to address various aspects of complete streets implementation. A Complete Streets page was created for MnDOT's website that highlights MnDOT's complete streets implementation process. Finally, the external advisory group identified three potential statutory barriers to complete streets implementation that may be brought forward in the future.

The 2012 legislative report included a comprehensive overview of work performed to date. Below are several highlights from the report:

- MnDOT is working through a detailed complete streets implementation work plan organized around eight categories: Design & Project Development, Funding & Planning, Training & Support, Vision & Policy Statements, Performance Measurement, Statutes, Rules & Legislation, and Communication & Outreach.
- MnDOT is evaluating the state design standards and developing modified guidance for right-sized solutions that balance competing objectives and optimize returns on investments, which will better serve all surface transportation modes and users within constrained resources and environments. MnDOT has established a Flexibility in Design Technical Advisory Group and Policy Advisory Group to accelerate the development and implementation of this new guidance for the State Trunk Highway System.
- The complete streets implementation was increasingly becoming mainstream within MnDOT.

Understanding of the Basics

Facts and Trends

The implementation of complete streets is an outgrowth of recent trends, such as the following:

- About 40 percent of Minnesotans do not drive, including children, seniors, people with disabilities, and people who cannot afford a vehicle. Complete streets helps to ensure that everyone has safe access to transportation options to lead active and independent lives (Minnesota Complete Streets Coalition, Blue Cross and Blue Shield of Minnesota).
- Minnesota has an aging population. As people age, their dependence on transportation modes beyond vehicles increases. Roads that can support biking and walking to community destinations and transit will help an aging population meet its transportation needs.
- The population of the United States is increasingly concentrated in urban areas with this trend projected to increase into the future, which will result in increased transportation demand that can be efficiently served through a multi-modal transportation system.
- Governmental agencies are required to bring the transportation system into compliance with the ADA to facilitate safe and convenient access for those with disabilities.
- An increased number of Minnesotans are overweight or obese. If left unchecked, obesity will add another $3.7 billion in health care expenses for Minnesotans by 2020 (Blue Cross and Blue Shield of Minnesota and the Minnesota Department of Health). By building infrastructure that support more walking and biking, communities can help create opportunities for people to be more physically active, while improving public health and reducing health care costs (Minnesota Complete Streets Coalition, Blue Cross and Blue Shield of Minnesota).
- Gas prices are increasing, causing people to move to alternative modes of transportation beyond the single occupancy vehicle.
- Government agencies need to do more with less. Roadways need to be planned and designed using a comprehensive process to ensure that costly future roadway retrofits are avoided.

Varying Definitions of Complete Streets…Not All are the Same!

Numerous complete streets definitions and complete streets policy descriptions exist. Some definitions provide clarifying language, such as who the users are and where their movement is in relationship to the roadway, and that designs need to be context sensitive. Another variation is that some definitions state that complete streets is an approach to road planning, design, implementation, and maintenance, while other definitions reference the constructed roadway only. Other definitions address benefits associated with complete streets, such as economic vitality, improved environmental and public health. But there is one consistent theme among these definitions, which is that complete streets provide safe access for all street users, regardless of age or ability. In addition, these definitions do not mandate that all modes must be accommodated on all roads. Rather, several definitions specifically address complete streets in relation to transportation networks that reasonably address the safety and access needs of all users. For the purposes of this document, the following definition brought forward by the Minnesota legislation will be used.

"Complete streets" is the planning, scoping, design, implementation, operation, and maintenance of roads in order to reasonably address the safety and accessibility needs of users of all ages and abilities. Complete streets considers the needs of motorists, pedestrians, transit users and vehicles, bicyclists, and commercial and emergency vehicles moving along and across roads, intersections, and crossings in a manner that is sensitive to the local context and recognizes that the needs vary in urban, suburban, and rural settings (MINN. STAT. 174.75, Subd. 1.).

Additional representative complete streets definitions can be found on the following websites:

National Complete Streets Coalition

Minnesota Complete Streets Coalition

Federal Highway Administration

Why Communities Support Complete Streets and Related Policies

The facts and trends mentioned are receiving a lot of attention in the media, schools, health organizations, and in the legislative process. Yet, while people are starting to see the need to increase physical activity or need to transition to different transportation modes, they find that they currently do not feel safe walking or biking in their communities due to lack of or inadequate pedestrian and bicycle facilities. This heightened awareness of the need for active living, combined with inadequate biking and walking infrastructure, along with the desire for improved community livability and transportation options has motivated communities to demand a change in the way streets are planned, designed and maintained.

Relation to Federal, State and Local Objectives

The movement towards complete streets is not just a Minnesota or local community phenomena. The benefits of a multi-modal transportation system are widely accepted in the transportation, land use planning and engineering fields and many related initiatives are being pursued on the Federal and State levels. The following excerpt taken from an article, "Street Design: Part 1 – Complete Streets" in the Federal Highway Administration publication *Public Roads*, provides a partial listing of federal regulations, policies and programs that support complete streets. However, with the passage of the new federal funding bill, Moving Ahead for Progress in the 21st Century (MAP 21), there could be changes in funding and rule making.

Excerpt from "Street Design: Part 1 – Complete Streets"

UNITED STATES CODE

Several Federal laws and Federal Highway Administration (FHWA) regulations pertaining to transportation planning and project development support the concept of complete streets. A current Federal statute, United States Code, Title 23, Chapter 2, Section 217 (23 USC 217), mandates that "bicycle transportation facilities and pedestrian walkways shall be considered, where appropriate, in conjunction with all new construction and reconstruction of transportation facilities, except where bicycle and pedestrian use are not permitted." To elaborate on that requirement, FHWA developed bicycle and pedestrian guidance that further explains how and when FHWA requires or encourages accommodation of pedestrians and bicyclists in Federal-aid highway projects.

On March 15, 2010, Secretary LaHood announced the release of an updated "Policy Statement on Bicycle and Pedestrian Accommodation Regulations and Recommendations." The policy statement reemphasizes USDOT's support for the development of fully integrated transportation networks and encourages States, local governments, and other organizations to adopt similar policy statements and commit to accommodating bicyclists and pedestrians in the transportation system. The policy statement also calls on transportation agencies and communities to go beyond minimum design standards and requirements to create safe, attractive, sustainable, accessible, and convenient bicycling and walking networks, and offers recommendations on how to do so.

The design and construction of bicycle and pedestrian facilities are eligible to receive funding through core Federal highway funding categories, such as the Surface Transportation Program, the National Highway System, and the Highway Bridge Program.

SAFE ROUTES TO SCHOOL

Another example, the Federal Safe Routes to School Program, brings together individual schools and school districts, students, parents, and law enforcement to develop programs to encourage students from kindergarten through 8th grade to walk or bike to and from their schools. Not only does the program promote exercise in students' daily lives, it also reduces the need for parents to drive their children and the resulting traffic congestion on streets around schools in the mornings and afternoons. For fiscal years 2005 – 2011, the FHWA provided Federal funds to all States to distribute to eligible recipients, usually through a competitive grant process, to support educational, safety, and other programs and to pay for infrastructure improvements. (The Minnesota Safe Routes to School Program is administered through MnDOT.)

CONTEXT SENSITIVE SOLUTIONS

Another FHWA-backed approach is applying Context Sensitive Solutions (CSS) to help ensure that streets are indeed "complete" in the sense of being appropriate for the area in which a project is implemented. As defined by FHWA and the American Association of State Highway and Transportation Officials, CSS is a collaborative, interdisciplinary approach that involves all stakeholders in providing a transportation facility that fits its setting. CSS leads to preserving and enhancing scenic, aesthetic, historic, community, and environmental resources, while improving or maintaining safety, mobility, and infrastructure conditions.

Transportation officials can apply CSS early in the planning process and throughout project development and delivery. Some of the major elements of CSS include the following:

- Early and frequent consultation and collaboration with stakeholders and the community during planning and design, and using communications tools, such as design visualization, that help citizens better understand project proposals.
- Use of an interdisciplinary team to oversee and manage project development.
- Emphasis on enhancing and retaining the sense of place or uniqueness of an area and its valued resources and features.
- Consideration of multiple alternatives with the goal of building consensus on a final project, which might include elements of the various alternatives.
- Minimization of disruptive impacts on the community.

HUD-DOT-EPA PARTNERSHIP FOR SUSTAINABLE COMMUNITIES

The complete streets concept is closely associated with the livability principles promoted by the HUD-DOT-EPA Partnership for Sustainable Communities, a joint endeavor started in 2009 involving the U.S. Department of Transportation (USDOT), U.S. Department of Housing and Urban Development (HUD), and U.S. Environmental Protection Agency (EPA). The partnership aims to provide more transportation choices; support existing communities through transit-oriented, mixed-use development and land recycling (that is, reuse of abandoned, vacant, or underused properties for redevelopment); and value communities by investing in healthy, safe, and walkable neighborhoods. (End of excerpt)

Benefits & Challenges

Benefits

A compilation of the previous referenced literature indicates the implementation of complete streets:

- **Promotes safe and convenient access and travel** for all users (pedestrians, bicyclists, transit riders, cars, freight) and people of all abilities
- **Improves public health and fitness** by allowing people to walk and bike
- **Improves transportation equity** by providing viable transportation modes for those who cannot or choose not to drive a vehicle
- **Integrates intermodal connections**, encouraging mode shift to non-motorized transportation/ transit
- **Helps lessen dependence on oil** through the provision of more transportation options
- **Improves environmental health** by reducing vehicle related noise impacts and pollutants that negatively impact air and water quality
- **Maximizes the use of existing facilities** through reallocation of space
- **Supports an efficiently planned transportation system** that reduces gaps, increases overall capacity, and reduces congestion
- **Improves returns on transportation expenditures** by integrating sidewalks, bike lanes, transit amenities, and safe crossings into the initial design of projects that spare the expense of retrofits later
- **Supports economic development** by increasing the number of people who can easily and independently access commercial destinations
- **Fosters strong communities and neighborhood vibrancy** by increasing opportunities for community residents to interact and reach community destinations such as schools and parks
- **Bolsters economic development** by providing accessible connections between residences, public transportation, offices, and retail destinations
- **Improves quality of life** by providing transportation options and encourages active living
- **Improves safety** through reduced crash rates and severity of crashes

Challenges

The implementation of complete streets must also address a number of challenges:

- Requiring public outreach and education to enhance user understanding and overcome resistance to change (e.g., construction of sidewalk in street right-of-way perceived as encroachment in residential front yards)
- Encouraging public participation during the planning process
- Requiring staff training on new planning, design and operations approaches
- Developing design solutions for locations with constrained conditions and/or right-of-way widths or natural barriers
- Balancing the needs of multiple transportation modes safely and efficiently
- Addressing variability within modes (e.g., commercial vehicles versus smart cars, commuter versus recreational bicyclists)
- Funding potential increases in associated operations and maintenance costs
- Funding potential property acquisitions
- Funding potential increased initial construction costs on select projects
- Complying with design standards associated with roadway construction funding sources
- Re-evaluating long established paradigms about transportation investment and design priorities
- Resolving cross-jurisdictional issues. The implementation of complete streets is voluntary for many local governments and an agency cannot be "forced" to implement a complete streets approach
- Re-evaluating multi-jurisdictional cost sharing and maintenance agreements
- Effectively involving regional interests in project-level public engagement processes
- Overcoming the perception that a wider road is always a safer road
- Maintaining adequate space for snow storage for all modes of transportation

Needs to be Identified Within the Planning Process

As stated previously, some complete streets definitions state that it is a process that encompasses more than a specific end-product. Yet, complete streets is not about creating more process, it is about implementing a better process for scoping, planning, designing, implementing and maintaining a balanced transportation network. The concepts embodied in complete streets must be integrated into all aspects of the transportation network planning and implementation process in order to successfully achieve the desired complete streets goals.

Should be Integrated Within Other Policies/Processes

In order for complete streets to be successfully implemented, the concepts behind complete streets must be integrated into existing design guidelines and land use plans to include all modes of transportation and design elements that are typically installed in the street right-of-way. Complete streets is a process for developing a transportation network that best accommodates all modes of transportation. Planners and designers of each mode must be systematically considering all other modes when developing their long-range plans and short-term maintenance and construction projects. The following is a list of representative documents that should have complete streets concepts incorporated into them:

Long-range Planning

- Comprehensive Plans
- Small Area Plans
- Transportation and Land Use Plans
- Corridor Studies
- Park, Open Space and Trails System Plans
- Pedestrian System Plans
- Bicycle System Plans
- Freight Plans
- Transit Plans
- ADA Transition Plans
- Safe Routes to School Plans

Design Manuals/Guidelines

- Street Design Manuals
- Pedestrian Design Manuals
- Bicycle Design Manuals
- Streetscape Design Guidelines
- Uniform Traffic Control Signage Manuals

Other Documents

- Subdivision Regulations
- Codes of Ordinances
- Administrative Procedures and Project Checklists
- Traffic Impact/Analysis Report Expectations and Criteria

Chapter 2:
Representative Minnesota Complete Street Policies

A thorough and well vetted complete streets policy can be beneficial to communities, as it clearly articulates commitment to the implementation of complete streets and how this will occur. The following is a summary of the National Complete Streets Coalition's recommended ten elements that should be addressed as part of a comprehensive complete streets policy.

www.pedbikeimages.org / Dan Burden

A. Sets a Vision

The policy should provide a strong vision communicating the integral role complete streets plays within the community's long term transportation plan. Each community's vision will be unique focusing on the community's primary issues, such as promoting health through physical activity and active transportation or creating streets that are safe for vulnerable travelers including children, older adults, and those with disabilities.

B. Specifies All Users

The policy states that it applies to everyone traveling along the road, including pedestrians, bicyclists and transit passengers of all ages and abilities, as well as trucks, buses and automobiles.

C. All Projects

A strong complete streets policy will identify all transportation projects as opportunities to create safer, more accessible streets for all users and will integrate complete streets planning into new construction, reconstruction, rehabilitation, repair, and maintenance projects types.

D. Exceptions

Making a policy work requires developing a process to handle exceptions to providing for all modes in each project. The Federal Highway Administration's guidance on accommodating bicycle and pedestrian travel named three exceptions that have become commonly used in complete streets policies: 1) accommodation is not necessary on corridors where non-motorized use is prohibited, such as interstate freeways; 2) cost of accommodation is excessively disproportionate to the need or probable use; 3) a documented absence of current or future need. Many communities have included their own exceptions, such as severe topological constraints. In addition to defining exceptions, there must be a clear process for granting them, where a senior-level department head must approve them. Any exceptions should be kept on record and publicly-available.

E. Creates a Network

Complete streets policies should result in the creation of a complete transportation network for all modes of travel. A network approach helps to balance the needs of all users. Instead of trying to make each street perfect for every traveler, communities can create an interwoven array of streets that emphasize different modes and provide quality accessibility for everyone. It is important to provide basic safe access for all users regardless of design strategy and networks should not require some users to take long detours.

F. All Agencies and All Roads

It is desirable to get all agencies that have control over roadways in the community to adopt a complete streets policy. An absence of complete streets policies by all agencies may cause difficulties in implementing a comprehensive network.

G. Design Criteria

Communities adopting a complete streets policy should review their design policies to ensure their ability to accommodate all modes of travel, while still providing flexibility to allow designers to tailor the project to unique circumstances. Some communities will opt to re-write their design manual. Others will refer to existing design guides, such as those issued by AASHTO, state design standards, and the Americans with Disabilities Act Accessibility Guidelines.

H. Context-sensitive

An effective complete streets policy must be sensitive to the community context. Being clear about this in the initial policy statement can alleviate fears that the policy will require inappropriately wide roads in quiet neighborhoods or miles of little-used sidewalks in rural areas. A strong statement about context can help align transportation and land use planning goals, creating livable, strong neighborhoods.

I. Performance Measures

Communities with complete streets policies can measure success through a number of ways, such as the miles of on-street bicycle routes created; new linear feet of pedestrian accommodation; changes in the number of people using public transportation, bicycling, or walking (mode shift); and/or the creation or adoption of a new multi-modal Level of Service standard that better measures the quality of travel experience.

J. Implementation

Taking a complete streets policy from paper into practice is not easy, but providing some momentum with specific implementation steps can help. Some policies establish a task force or commission to work toward policy implementation. There are four key steps for successful implementation: 1) Restructure procedures to accommodate all users on every project; 2) Develop new design policies and guides; 3) Offer workshops and other training opportunities to planners and engineers; and 4) Institute better ways to measure performance and collect data on how well the streets are serving all users.

Examples of Complete Street Policies

The report Complete Streets Policy Analysis 2010: A Story of Growing Strength, developed by the National Complete Streets Coalition, provides examples of policy language and the Coalition's assessment regarding the strength of policies adopted through the end of 2010.

From this report, three policies from Minnesota agencies (Hennepin County, City of Rochester, and City of Big Lake) that depict various levels of government (county, large cities and small cities) were selected and synthesized in the table below. These policies provide model policy language that agencies and communities of comparable size may find useful as they develop their agency's or community's complete streets policy.

For ease or review and comparison, the policies reviewed were categorized using the proposed policy elements proposed by the National Complete Streets Coalition. The table is organized with the policy elements being highlighted, followed by a summary of how each agency responded to that specific element.

Policy Element

Hennepin County, MN

Policy Adopted by the Hennepin County Board of Commissioners (Resolution 09-0058R1)

Rochester, MN

Policy Adopted by the Common Council of the City of Rochester

Big Lake, MN

Policy Adopted by the City Council (Resolution 2010-74)

Table 1: Complete Street Policy Examples

Policy Background

Hennepin County, MN

The County is working to enhance safety, mobility, accessibility and convenience for all its transportation users. This means planning, designing, operating and maintaining a network of roads that serve buses, bicycles and pedestrians as well as cars and commercial truck traffic.

The County's Complete Streets policy complements the County's Active Living initiative, which increases opportunities for people to integrate physical activity into their daily lives through policies and plans that encourage walkable communities and active transportation.[1]

Rochester, MN

A. The mobility of freight and passengers and the safety, convenience, and comfort of motorists, cyclists, pedestrians - including people requiring mobility aids, transit riders, and neighborhood residents of all ages and abilities should all be considered when planning and designing Rochester's streets.

B. Integrating sidewalks, bike facilities, transit amenities, and safe crossings into the initial design of street projects avoids the expense of retrofits later.

C. Streets are a critical component of public space and play a major role in establishing the image and identity of a city, providing a key framework for current and future development.

D. Streets are a critical component of the success and vitality of adjoining private uses and neighborhoods.

E. Active Living integrates physical activity into daily routines that improves health by lowering risk for poor health conditions such as obesity, diabetes, and heart disease. Active Living communities encourage individuals of all ages and abilities to be more physically active and strive to create amenities that will enhance the quality of life of its residents, improve the environment, improve the physical and social environment in ways that attract businesses and workers, and contribute to economic development.

F. Complete Streets policy supports implementation of the City Council's Resolution Affirming Activity-Friendly Commitments.

G. City policy, as stated in the adopted Long Range Transportation Plan, includes the goal of creating a multi-modal transportation system that encourages walking, bicycling, and transit use as part of a safe, accessible, convenient transportation system that meets the needs of people of all abilities, whether they are pedestrians, bicyclists, transit riders, or motor vehicle occupants, including children, elderly or disabled.

H. Rights-of-way are constrained in many developed areas of the city, which limits the ability to expand roadways to accommodate continued growth in traffic volumes, suggesting that alternatives to single occupant vehicles must also be pursued.

I. There are some streets or corridors in the City that would not fully satisfy a complete streets environment - where it would not be advisable to have non-motorized travel, but that the transportation system will support a comprehensive network of complete streets to serve all users.

Big Lake, MN

Complete streets will create transportation corridors that are safe, functional and aesthetically attractive for all users as supported by the following principles:

1. Safety
   The guiding principle of Complete Streets is to provide safety for all road users.
2. Public Health
   The City of Big Lake can promote public health and physical activity through the built environment.
3. Access and Transportation Equity
   Not all residents of the City drive a vehicle and rely on safe alternative modes of transportation such as walking or biking.
4. Affordable Transportation Choices
   Gas prices are constantly fluctuating and alternative modes of transportation should be supported.

[1] Excerpt from the Hennepin County website page that introduces the County's Complete Streets policy.

5. Economic Development
   Walking and biking offer additional means to access businesses and encourage economic development.
6. Environment
   Complete Streets supports many transportation options that help lessen dependence on oil and promote cleaner air.
7. Cost Effectiveness
   Designing roads with all users in mind from the beginning saves costly retrofits.
8. Quality of Life/Social Capital
   Walkable neighborhoods increase community interaction and create sense of community pride.

A. Vision

Hennepin County, MN

The resolution demonstrates the county's commitment to develop and maintain a safe, efficient, balanced and environmentally sound county transportation system and to support Active Living - integrating physical activity into daily routines through activities such as biking, walking, or taking transit. The county strives to be a leader in providing opportunities and choices for its residents, and believes that a well-planned transportation system that includes Complete Streets demonstrates this leadership.

Rochester, MN

The City of Rochester will seek to enhance the safety, access, convenience and comfort of all users of all ages and abilities, including pedestrians (including people requiring mobility aids), bicyclists, transit users, motorists and freight drivers, through the design, operation and maintenance of the transportation network so as to create a connected network of facilities accommodating each mode of travel that is consistent with and supportive of the local community, recognizing that all streets are different and that the needs of various users will need to be balanced in a flexible manner.

Big Lake, MN

This Complete Streets Policy incorporates the simple and basic concept that streets and roadways should be designed and operated to be safe and accessible for all transportation users whether they are pedestrians, bicyclists, transit riders or vehicular motorists. Transportation shall include all multi-modal users regardless of age or ability.

B. Users

Hennepin County, MN

Hennepin County will enhance safety, mobility, accessibility and convenience for all corridor users including pedestrians, bicyclists, transit riders, motorists, commercial and emergency vehicles, and for people of all ages and abilities by planning, designing, operating, and maintaining a network of Complete Streets

Rochester, MN

See Vision

Big Lake, MN

The City of Big Lake will seek to enhance the safety, access, convenience and comfort of all users of all ages and abilities, including pedestrians (including people requiring mobility aids), bicyclists, transit users, motorists and freight drivers, through the design, operation and maintenance of the transportation network so as to create a connected network of facilities accommodating each mode of travel that is consistent with and supportive of the local community, recognizing that all streets are different and that the needs of various users will need to be balanced in a flexible manner

C. Projects

Hennepin County, MN

Developing Complete Streets will be a priority on all corridors, and every transportation and development project will be treated as an opportunity to make improvements. This will include corridors that provide connections or critical linkages between activity centers and major transit connections, and in areas used frequently by pedestrians and bicyclists today or with the potential for frequent use in the future.

Applicable design standards and best practices will be followed in conjunction with construction, reconstruction, changes in allocation of pavement space on an existing roadway, or other changes in a county corridor.

Rochester, MN

Early consideration of all modes for all users will be important to the success of this Policy. Those planning and designing street projects will give due consideration to bicycle, pedestrian, and transit facilities from the very start of planning and design work. This will apply to all roadway projects, including those involving new construction, reconstruction, or changes in the allocation of pavement space on an existing roadway (such as the reduction in the number of travel lanes or removal of on-street parking).

Transportation improvements will include facilities and amenities that are recognized as contributing to Complete Streets, which may include street and sidewalk lighting; sidewalks and pedestrian safety improvements such as median refuges or crosswalk improvements; improvements that provide ADA (Americans with Disabilities Act) compliant accessibility; transit accommodations including improved pedestrian access to transit stops and bus shelters; bicycle accommodations including bicycle storage, bicycle parking, bicycle routes, shared-use lanes, wide travel lanes or bike lanes as appropriate; and street trees, boulevard landscaping, street furniture and adequate drainage facilities.

Big Lake, MN

Transportation improvements will include facilities and amenities that are recognized as contributing to Complete Streets, which may include street and sidewalk lighting; sidewalks and pedestrian safety improvements such as median refuges or crosswalk improvements; improvements that provide ADA (Americans with Disabilities Act) compliant accessibility; transit accommodations including improved pedestrian access to the Big Lake Station; bicycle accommodations, shared-use lanes, wide travel lanes or bike lanes as appropriate; and street trees, boulevard landscaping, street furniture and adequate drainage facilities.

Early consideration of all modes for all users will be important to the success of this Policy. Those planning and designing street projects will give due consideration to bicyclists and pedestrians, from the very start of planning and design work. This will apply to all roadway projects, including those involving new construction, reconstruction, or changes in the allocation of pavement space on an existing roadway (such as the reduction in the number of travel lanes or removal of on-street parking).

D. Exceptions

Hennepin County, MN

Hennepin County will implement Complete Streets unless one or more of the following conditions are documented:

- The cost of establishing Complete Street elements is excessive in relation to total project cost.
- The City Council refuses municipal consent or there is a lack of community support.
- There are safety risks that cannot be overcome.
- The corridor has severe topographic, environmental, historic, or natural resource constraints.
- The County Engineer will document all conditions that require an exception.

Rochester, MN

Bicycle, pedestrian, and transit facilities shall be included in street construction, re-construction, re-paving, and re-habilitation projects, except under one or more of the following conditions:

A. A project involves only ordinary maintenance activities designed to keep assets in serviceable condition, such as mowing, cleaning, sweeping, spot repair, concrete joint repair, or pothole filling , or when interim measures are implemented on temporary detour or haul routes.

B. The City Engineer determines there is insufficient space to safely accommodate new facilities.

C. The City Engineer determines there are relatively high safety risks.

D. The City Council exempts a project due to the excessive and disproportionate cost of establishing a bikeway, walkway or transit enhancement as part of a project.

E. The City Engineer and the Director of the Planning and Zoning Department jointly determine that the construction is not practically feasible or cost effective because of significant or adverse environmental impacts to streams, flood plains, remnants of native vegetation, wetlands, steep slopes or other critical areas, or due to impacts on neighboring land uses, including impact from right of way acquisition.

Big Lake, MN

Bicyclist and pedestrian transportation users shall be included in street construction, re-construction, re-paving, and re-habilitation projects, except under one or more of the following conditions:

A. A project involves only ordinary maintenance activities designed to keep assets in serviceable condition, such as mowing, cleaning, sweeping, spot repair, concrete joint repair, or pothole filling , or when interim measures are implemented on temporary detour or haul routes.

B. The City Engineer and City Staff determine there is insufficient space to safely accommodate new facilities.

C. The City Engineer and City Staff determine there are relatively high safety risks.

D. The City Council exempts a project due to the excessive and disproportionate cost of establishing a bikeway, walkway or transit enhancement as part of a project.

E. The City Engineer and Staff jointly determine that the construction is not practically feasible or cost effective because of significant or adverse environmental impacts to streams, flood plains, remnants of native vegetation, wetlands, steep slopes or other critical areas, or due to impacts on neighboring land uses, including impact from right of way acquisition.

E. Network/ Connectivity

Hennepin County, MN

See Users

Rochester, MN

The City will maintain a comprehensive inventory of the pedestrian and bicycling facility infrastructure integrated with the Roadway Network Database and will carry out projects to eliminate gaps in the sidewalk and trail networks.

Also see Implementation

Big Lake, MN

The City will maintain a comprehensive inventory of the pedestrian and bicycling facility infrastructure integrated with the Capital Improvements Plan and will carry out projects to eliminate gaps in the sidewalk and trail networks.

F. Jurisdictional Coverage/ Applicability

All corridors under Hennepin County jurisdiction.

The County will work with other transportation agencies to incorporate a Complete Streets philosophy and encourages the State of Minnesota, municipalities, other counties and regional organizations to adopt similar policies.

Rochester, MN

Streets within the City of Rochester, MN

Big Lake, MN

See Implementation

G. Design Criteria

Hennepin County, MN

See Projects and Context Sensitivity

Rochester, MN

The City will generally follow accepted or adopted design standards when implementing improvements intended to fulfill this Complete Streets policy but will consider innovative or non-traditional design options where a comparable level of safety for users is present.

The design of new or reconstructed facilities should anticipate likely future demand for bicycling, walking and transit facilities and should not preclude the provision of future improvements. [For example, under most circumstances bridges (which last for 75 years or more) should be built with sufficient width for safe bicycle and pedestrian use in anticipation of a future need for such facilities].

Big Lake, MN

The City will generally follow accepted or adopted design standards when implementing improvements intended to fulfill this Complete Streets policy but will consider innovative or non-traditional design options where a comparable level of safety for users is present.

The design of new or reconstructed facilities should anticipate likely future demand for bicycling and walking and should not preclude the provision of future improvements. [For example, under most circumstances bridges (which last for 75 years or more) should be built with sufficient width for safe bicycle and pedestrian use in anticipation of a future need for such facilities].

H. Context-Sensitivity

Hennepin County, MN (none)
Rochester, MN (none)
Big Lake, MN

It will be important to the success of the Complete Streets policy to ensure that the project development process includes early consideration of the land use and transportation context of the project, the identification of gaps or deficiencies in the network for various user groups that could be addressed by the project, and an assessment of the tradeoffs to balance the needs of all users. The context factors that should be given high priority include the following:

A. Whether the corridor provides a primary access to a significant destination such as a community or regional park or recreational area, a school, a shopping / commercial area, or an employment center;

B. Whether the corridor provides access across a natural or man-made barrier such as a river or freeway;

C. Whether the corridor is in an area where a relatively high number of users of non-motorized transportation modes can be anticipated;

D. Whether a road corridor provides important continuity or connectivity links for an existing trail or path network; or

E. Whether nearby routes that provide a similar level of convenience and connectivity already exist.

I. Performance Measures

Hennepin County, MN

Hennepin County will identify and apply measures to gauge the impact of Complete Streets on Active Living and the quality of life of its residents

Rochester, MN

See Implementation

Big Lake, MN

See Implementation

J. Implementation

Hennepin County, MN

Hennepin County will conduct an inventory and assessment of existing corridors, and develop Complete Streets implementation and evaluation procedures. The Complete Streets policy and implementation procedures will be referenced in the Transportation Systems Plan and other appropriate plans or documents.

- The planning, design, and implementation processes for all transitway and roadway corridors will:
- Involve the local community and stakeholders,
- Consider the function of the road,
- Integrate innovative and non-traditional design options,
- Consider transitway corridor alignment and station areas,
- Assess the current and future needs of corridor users,
- Include documentation of efforts to accommodate all modes and all users,
- Include documentation of efforts to accommodate all modes and all users,
- Incorporate a review of existing system plans to identify Complete Streets opportunities.

- The Assistant County Administrator for Public Works will provide the Hennepin County Board with annual reports detailing how this policy is being implemented into all types and phases of Hennepin County's Public Works projects.

Rochester, MN

The City will develop implementation strategies that may include evaluating and revising manuals and practices, developing and adopting network plans, identifying goals and targets, and tracking measures such as safety and modal shifts to gauge success.

Complete Streets may be achieved through single projects or incrementally through a series of smaller improvements or maintenance activities over time.

The feasibility report prepared for a street project shall include documentation of compliance with this Policy.

The City of Rochester Comprehensive Plan was amended to include the Complete Streets Policy

J. Implementation (Cont.)

Big Lake, MN

The City will develop implementation strategies that may include evaluating and revising manuals and practices, developing and adopting network plans, identifying goals and targets, and tracking measures such as safety and modal shifts to gauge success.

Complete Streets may be achieved through single projects or incrementally through a series of smaller improvements or maintenance activities over time.

The Complete Streets Policy will be implemented through the following practices:

1. City street construction and reconstruction projects shall be reviewed at staff level by the City Engineer, Public Works Director and City Planner to determine appropriate level of complete street implementation. Greater attention will be made to those projects within the Downtown and TOD Districts.
2. The City will work with governmental agencies such as Sherburne County and Minnesota Department of Transportation to encourage incorporation of the City's Complete Street policy into street and road projects under their jurisdiction.
3. Update City's Comprehensive Plan to include Complete Streets policy.
4. Staff will continuously educate themselves, Council and Planning Commission members about best practices and cost-effective measures to design and construct Complete Streets.
5. Institute a means to measure performance and success of Complete Streets policy.

Although not included in the above table, MassDOT recently developed a GreenDOT Policy; a comprehensive environmental responsibility and sustainability initiative that is driven by three primary goals:

- Reduce greenhouse gas (GHG) emissions
- Promote the healthy transportation options of walking, bicycling, and public transit
- Support smart growth development

Complete streets are an integral component in MassDOT's approach to reaching their stated GreenDOT goals.

Chapter 3: Terms and Definitions

Policy versus Process

Many times interest in implementing complete streets starts gaining momentum when a group of community members start advocating for them. This initial advocacy may result in the community developing and adopting a complete streets policy. Yet, a formal adopted complete streets policy is not a mandatory precursor to implementing complete streets. Many agencies without an adopted policy are already implementing complete streets as standard practice because the community has expressed their desire for complete streets through a combination of existing policies. When taken together, these existing policies communicate the same intent as a new complete streets policy.

Policies establish a future vision that reflects the community's values and priorities. Yet the policy itself does not address many of the important details needed to implement the policy. An agency must evaluate the extent of impact the policy will have on existing agency practices and develop a process to implement new agency practices that will meet the intent of the policy.

Where a **policy** is a plan or course of action intended to influence and determine decisions and actions, a **process** is a series of actions or steps taken to achieve an end result. This document focuses primarily on the complete streets implementation process that will assist agencies in developing comprehensive and collaborative projects. Chapter 4 will address the complete streets implementation process in more detail.

Roadway Classification versus Settings

Roadways historically have followed a functional classification approach that is organized around two primary factors, vehicle speeds and parcel access, with the two having an inverse relationship. Communities around the country are starting to realize that functional roadway classifications by themselves do not provide sufficient guidance when designing a roadway. There is a new emphasis that roadway designs should incorporate context sensitive solutions where the full range of street users and their access needs (e.g., pedestrians, bicyclists, transit, vehicles and trucks), the local site context (e.g., type and intensity of the adjacent land use), and desired street character and activity, must all be taken into consideration. The functional classification system developed by the Federal Highway Administration and applied to all roadways in the United States

remains a key element of system planning so that a safe and efficient transportation network, providing the desired level of regional connectivity and land access, is developed and maintained. This classification system is also used as a determinate of federal funding eligibility. Minnesota roadways are typically classified as one of the following:

Principal Arterials are comprised of interstate highways, freeways and expressways. Principal arterials provide a high degree of mobility but very limited land access. These roadways are primarily under the jurisdiction of MnDOT.

Minor Arterials supplement the mobility function of the principal arterials while providing more access to parcels than principal arterials. These roadways can be under the jurisdiction of MnDOT, counties or cities.

Collectors provide a balance of mobility and land use access. These roadways are typically under the jurisdiction of counties or cities.

Local Roads are mainly comprised of city streets and township roads, which provide access to adjacent land parcels on lower speed roadways.

The Massachusetts Department of Transportation states that formal classification often serves as a useful starting point, but the designer should not simply rely on this formal designation as a design control. The roadway type should be selected to reflect the actual role that the roadway plays in the transportation system, as defined through a project development process. For example, a roadway may serve a high number of regional trips, but may pass through a town center with frequent driveways, close intersection spacing, and high levels of pedestrian activity. In this case, the roadway serves as both an arterial and a local road. The designer should work closely with the community, users, and project reviewers to determine the roadway characteristics and appropriate design considerations to serve both the regional purpose of the roadway and its role in the local setting.

To better address the context of the street, many communities are developing a more nuanced street typology system that reflects the diverse uses and functions of the city's streets. The development of a street typology system is not required to develop roadways that are context sensitive, but may provide helpful design guidance, in particular for larger agencies and communities. Three examples of street typology systems are highlighted below:

- Project Development & Design Guide, Massachusetts Department of Transportation, Highway Division
- Smart Transportation Guidebook, New Jersey Department of Transportation and Pennsylvania Department of Transportation
- ACCESS Minneapolis, Design Guidelines for Streets and Sidewalks, City of Minneapolis, Department of Public Works

The first example may be appropriate for application on a state and county basis. The second may be appropriate for both counties and cities and the third is primarily applicable for city conditions.

Project Development & Design Guide

The Massachusetts Department of Transportation's (MassDOT) Project Development & Design Guide, states that a context-sensitive design should begin with analysis of the context of the area through which a roadway passes. It goes on to state that land use is the fundamental determinant in the function of a road; as land use changes along a road, the road's function also changes. Roadways must be designed in a manner that serves the existing land use while supporting the community's future land use goals.

This approach is based on the premise that a designer must understand and balance the three primary factors (area type, roadway type and access control) when designing a roadway.

Area Type is defined as the surrounding built and natural environment. MassDOT developed area types to help designers understand the users, constraints, and opportunities that may be encountered in different settings. MassDOT uses the following three broad area types, each comprised of three sub-types:

- Rural
  - Natural
  - Village
  - Developed
- Suburban
  - High Density
  - Village/Town Center
  - Low Density
- Urban
  - Urban Park
  - Urban Residential
  - Central Business District

The designer should also identify unique or project-specific contextual elements that will influence the design beyond those generalized for the following area types. These might include, as examples, schools, churches, historic features, environmental resources, area bike facilities, sidewalks, and bus stops.

Figure 1 is an example illustration of the area types and sub-types (e.g., Suburban) provided in the Project Development & Design Guide

Roadway Type is defined as the role the roadway plays in terms of providing regional connectivity and local access. MassDOT uses the following roadway types, which are similar to functional road classifications:

- Freeways
- Minor collectors
- Major arterials
- Local roads and streets
- Minor arterials
- Parkways
- Major collectors

Access Control is defined as the degree of connection or separation between the roadway and the surrounding land use. MassDOT uses three approaches to access control:

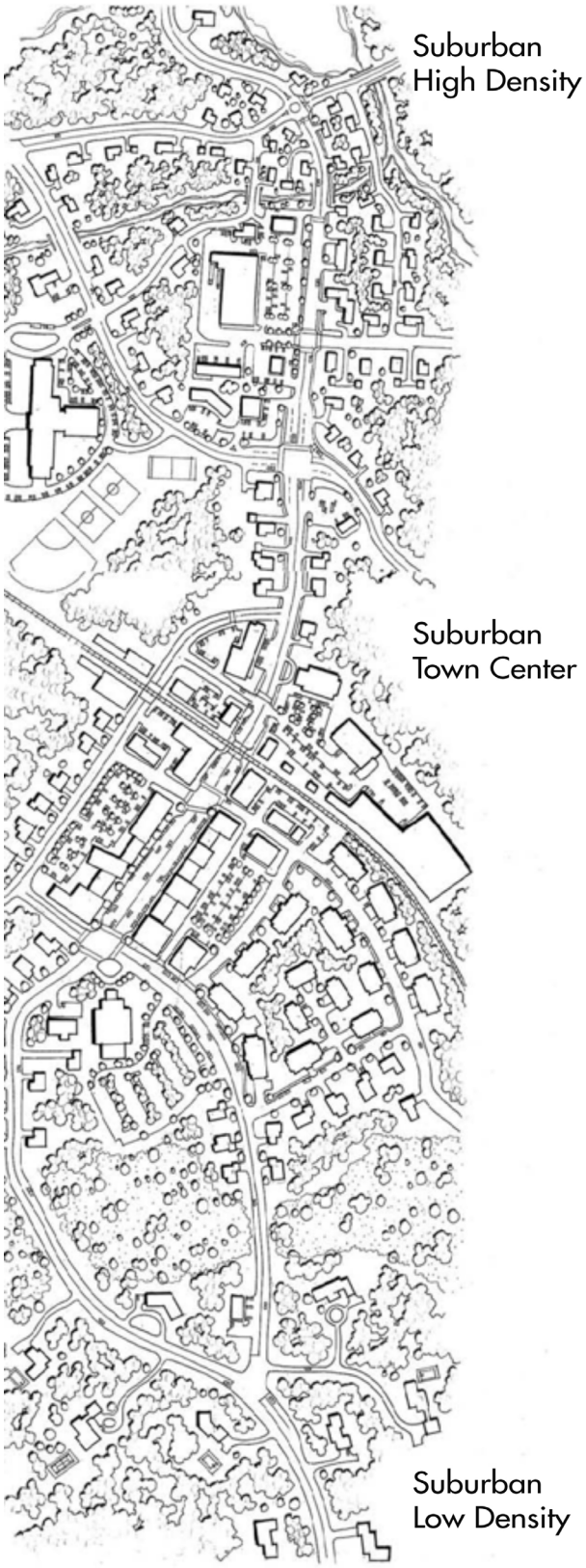
- Full Control
- Partial Control
- Statute, Zoning and Regulation

Smart Transportation Guidebook

Similar to MassDOT, the Smart Transportation Guidebook, which was developed through a partnership between the New Jersey Department of Transportation and the Pennsylvania Department of Transportation, uses a series of land use contexts and roadway types in order to design roadways that better reflect their role in the community.

The Smart Transportation Guidebook defines seven different land use contexts and provides quantifiable characteristics for each as shown in Table 2.

Figure 1: Suburban Area Types



High Density This category covers a wide range of suburban development where the majority of the roadside is intensively developed with a mix of property-types and building setbacks. Residential property frontage is often less than 200 feet and intensive commercial development, including strip development, is frequently encountered. Right-of-way is usually restricted to a moderate extent by the built environment. Frequent driveways are usually encountered and influence the operating characteristics of roadway users including the prevailing travel speeds. If facilities are available, pedestrian and bicycle activity can be high, although most properties are often designed primarily for motor vehicle access. Transit service is sometimes present.

Village/Town Center This is a built-up area of commercial and residential uses. The commercial uses are usually concentrated together and are notable for a uniform building setback. Residential areas consisting of properties with frontage of less than 200 feet often define the edges of a suburban town center. Pedestrian and bicycle activity are the highest in town centers compared to the other suburban settings and sidewalks are usually present. Right-of-way is usually restricted by the built environment. On-street parking is often found in these areas. Travel speeds are usually lower than in other suburban areas.

Low Density These are transitional areas where roadways have a mix of natural and developed characteristics. Residential development is low to moderate in density, and there are isolated commercial properties. There are generally large setbacks to buildings and individual property frontage usually exceeds 200 feet. Frequent low volume driveways and intersections have an impact on the travel speed and operating characteristics of roadway users. Pedestrian and bicycle activity is higher than in rural developed areas and transit service through these areas is occasionally encountered.

Source:Project Development Design Guide, MassDOT

	Rural	Suburban			Urban		
	Rural	**Suburban Neighborhood**	**Suburban Corridor**	**Suburban Center**	**Town/Village Neighborhood**	**Town Center**	**Urban Core**
Density Units (DU/ac)	1 - 20	1 - 8	2 - 30	3 - 20	4 - 30	8 - 50	16 - 75
Building Coverage (%)	NA	< 20	20 - 35	35 - 45	35 - 50	50 - 70	70 - 100
Lot Size/Area	20 acres	5,000 – 80,000 sf	20,000 - 200,000 sf	25,000 - 100,000 sf	2,000 –12,000 sf	2,000 - 20,000 sf	25,000 - 100,000 sf
Lot Frontage (ft)	NA	50 - 200	100 - 500	100 - 300	18 - 50	25 - 200	100 - 300
Block Dimensions	NA	400 wide by varies	200 wide by varies	300 wide by varies	200 by 400 ft	200 by 400 ft	200 by 400 ft
Max. Height (stories)	1 to 3	1.5 to 3	retail -1; office 3-5	2 to 5 s	2 to 5	1 to 3	3 to 60
Min./Max. Setback (ft)	Varies	20 - 80	20 - 80	20 - 80	10 - 20	0 - 20 ft	0 - 20

Source: Smart Transportation Guidebook, New Jersey Department of Transportation and the Pennsylvania Department of Transportation

Table 2: Representative Land Use Contexts

Roadway types were developed as shown in Figure 2 that relate back to the roadway's functional classification and land use context to better define the appropriate roadway character.

Figure 2: Representative Roadway Types

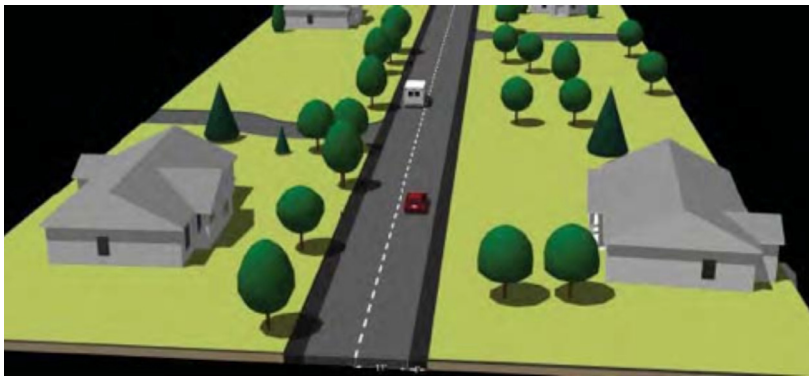
Regional Arterial (In Suburban Corridor Context)

- Desired operating speed: 30-55 mph
- Average trip length: 15-35 miles
- Volume: 10,000-40,000
- Intersection Spacing: 660-1,320 ft
- Roadways in this category would be considered "Principal Arterial" in traditional functional classification.

Community Arterial (In Town Center Context)

- Desired operating speed: 25-55 mph
- Average trip length: 7-25 miles
- Volume: 5,000-25,000
- Intersection Spacing: 300-1,320 ft
- Often classified as "Minor Arterial" in traditional classification but may include road segments classified as "Principal Arterial."

Community Collector (In Rural Context)



- Desired operating speed: 25-55 mph
- Average trip length: 5-10 miles
- Volume: 5,000-15,000
- Intersection Spacing: 300-660 ft
- Often similar in appearance to a community arterial.
- Typically considered a "Major Collector" in traditional functional classification

Neighborhood Collector (In Suburban Neighborhood Context)

- Desired operating speed: 20-30 mph
- Average trip length: < 7 miles
- Volume: < 6,000
- Intersection Spacing: 300-660 ft
- Similar in appearance to local roadways.
- Typically considered a "Minor Collector" in traditional functional classification.

Local Road (In Suburban Neighborhood Context)

- Desired operating speed: 20-25 mph
- Average trip length: < 5 miles
- Volume: < 3,000
- Intersection Spacing: 200-660 ft

Source: Smart Transportation Guidebook, New Jersey Department of Transportation and the Pennsylvania Department of Transportation

ACCESS Minneapolis, Design Guidelines for Streets and Sidewalks

Similar to the previous examples, the City of Minneapolis' urban streets design approach is based on the premise that land use characteristics and the roadway types should be mutually reinforcing. The following are several excerpts from the Design Guidelines for Streets and Sidewalks:

> The design guidance provided in this document is predicated on the concept that the elements of street design should change as the context of the places that a street passes through change. This concept is rooted in the belief that the design of the street and the place-making aspects of the areas adjacent to the street influence each other and that consistency between the two is necessary for successful place-making in the City. The palette of street design types and place types from the system planning framework described in the Citywide Ten-Year Action Plan are the basic building blocks for identifying design elements that are appropriate for reinforcing the character and role of the place and the street through the design process. The street design should reflect the street's design type and the adjacent land uses (including future land use where changes are proposed). Conversely, future land uses should be consistent with the street design type to the extent possible. Street design decisions and land use decisions should be mutually reinforcing.

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Place typologies used in the Design Guidelines for Streets and Sidewalks include:

- Activity Centers
- Commercial Corridors
- Community Corridors
- Neighborhood Commercial Nodes
- Transit Station Areas
- Growth Center
- Major Retail Centers
- Industrial Employment Districts

Additional descriptions for the place typologies can be found in the guidelines.

Street typologies used in the Design Guidelines for Streets and Sidewalks include:

> ### Commuter Street
> A commuter street is a high capacity roadway that carries primarily through traffic, serves longer trips and provides limited access to land uses. These streets are likely to be under the jurisdiction of MnDOT or Hennepin County. Examples are Hiawatha Avenue (Hwy 55) and Olson Memorial Highway (Hwy 55) and most have a functional classification of Principal Arterial. There are very few true commuter streets in Minneapolis outside the freeway system. It should be noted that the design guidelines do not address freeway design (MnDOT jurisdiction) although they are applicable to cross-streets and bridges and to city streets that serve as the freeway's frontage roads. The freeway system provides for the majority of commuter trips to, from and through Minneapolis.
>
> ### Commerce Street
> A commerce street is a medium capacity street that supports retail, service commercial and higher intensity residential land uses on a corridor basis. These streets are likely to be under the jurisdiction of MnDOT or Hennepin County. Examples include Lake Street (Hennepin County) and Central Avenue (MnDOT).
>
> ### Activity Area Street
> Activity Area Streets support retail, service commercial and higher intensity residential land uses in a large node of several blocks (sometimes very large like downtown). Activity Area Streets are

found primarily near the land use categories of activity centers, growth centers and transit station areas. They may also be found near some neighborhood commercial nodes or major retail centers. Activity Area Streets may have many different design characteristics and capacities depending on the unique needs within the specific area where they are located. These streets may be under the jurisdiction of Hennepin County or the city. Examples of Activity Area Streets include 3rd Avenue S. in downtown, 15th Street S.E. near the University of Minnesota campus, and 31st Street W. near Uptown. There is no one design appropriate for an activity area street because each street may have unique needs depending on the adjacent land uses and how the street fits into and serves the area. In addition, activity area streets may extend along the edge or outside the boundaries of a designated Activity Center, Growth Area or Transit Station Area. In some cases (31st Street W. is a good example), connection and transition needs between adjacent neighborhoods and higher intensity land use areas may be even more important than the linear needs of the street. Activity area streets typically need significant pedestrian capacity, need to accommodate high transit loadings/unloadings, often serve high bicycle volumes, and have significant on-street and/or off-street parking demand. Traffic volumes are often high in these areas with a large share of traffic accessing parking and properties within or near the adjoining activity center, growth area or other high density area.

Community Connector

A Community Connector is a medium capacity street (usually under Hennepin County or city jurisdiction) that connects neighborhoods with each other, neighborhoods with commercial corridors and other districts, districts with each other and serves as the main street of a neighborhood commercial node. Examples are Nicollet Avenue (city) and Lowry Avenue (Hennepin County).

Neighborhood Connector

A Neighborhood Connector a low capacity street (usually under city jurisdiction) that connects neighborhoods with each other. Examples are Emerson Avenue North and Bloomington Avenue South.

Industrial Connector

An Industrial Connector is a low capacity street (usually under city jurisdiction) that provides access to or serves abutting property in industrial/employment districts. These streets may need to be designed to accommodate high truck volumes, depending on the uses in the industrial/employment district. An example is Washington Avenue North.

Representative Street Typologies For Small Communities

Many small communities have a limited pallet of street typologies, given the size of the community. Representative street typologies for small communities may include the following.

Local Street

This is a low capacity street that provides access primarily to residential properties. Local streets typically accommodate on-street parking. The community may determine that vehicles, bicycles and pedestrians can all safely share the existing roadway on local streets or they may determine that vehicles and bicycles can safely share the existing roadway and pedestrians shall be provided sidewalks.

Traditional Downtown Street

This is a higher capacity street that provides access primarily to commercial properties. Downtown streets may also have a highway designation. These streets typically accommodate on-street parking and there may be designated on-street bicycle facilities. Typically, sidewalks and marked intersection crosswalks are provided for pedestrians. Curb extensions at intersections may also be included to reduce pedestrian crossing distances.

Commerce or High Activity Street

This is a higher capacity street that provides access primarily to commercial properties outside of a traditional downtown district, institutional uses, or civic uses, such as school campuses, churches, or County Courthouses. Commerce and high activity streets may also have a highway designation. These streets may or may not accommodate on-street parking. There may be designated on-street bicycle facilities or off-street multi-use paths. Pedestrians are typically provided sidewalks or off-street multi-use paths and marked crosswalks.

Industrial Street

An Industrial Street is a low capacity street that provides access to industrial districts. These streets may need to be designed to accommodate high truck volumes, which may influence how to best accommodate anticipated pedestrian and bicycle traffic.

Complete Streets Checklist and Priority Elements Matrix

If a community chooses to use these street typologies, they need to be adapted to each community's specific conditions and complete street implementation approach. Another resource, the Seattle Department of Transportation has taken the Street Types approach one step further. Seattle has developed a Complete Streets Checklist and Priority Elements Matrix. For each street type, the Priority Elements Matrix (found on the last page of the checklist) indicates what design features are preferred, should be considered, or are preferred in the City Center. Representative design features included in the matrix include pedestrian scaled street lighting, street furniture, curb bulb-outs, bus shelters, street trees and landscaping. An appendix to this guide provides a worksheet similar to Seattle's checklist to assist with the complete streets implementation process.

Chapter 4: Implementation

Complete Streets Implementation Process

Each community and agency is unique in terms of its size and existing physical conditions that requires each community to implement complete streets in a manner that is tailored to the community's specific needs. The implementation process provided in this guide should be treated as a reference template for individual communities. Each community should determine which of the implementation components presented in this resource guide are relevant to their community and then modify the templates to achieve a complete streets implementation process that responds to their community. Effective public engagement is an integral component of complete streets implement and will be addressed in more detail in this chapter.

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The process of implementing complete streets can be broken into two distinct, yet equally important phases:

Planning Phase

1. Create a complete streets network plan
2. Develop street and area typologies and circumstantial exceptions as needed
3. Define project types that may trigger complete streets implementation
4. Integrate and institutionalize a complete streets approach

Project Phase

5. Implement individual projects
6. Post implementation (evaluation and maintenance)

During the planning phase, complete streets implementation plans and protocols are created. Some of these tasks, such as the creation of complete streets network plans, must incorporate an effective public engagement process during their development to ensure the plans are meeting the community's needs and to generate public support for the resulting modal network plans. Establishing these plans and protocols is a critical step in creating a community-supported, safe, comfortable and convenient transportation network that serves all modes. Effective planning also results in design guidance and implementation clarity that allows the community and project designers to efficiently move forward on individual complete streets projects in a collaborative and cost-efficient manner. The project phase encompasses the final design, construction, and maintenance of complete streets projects. It also includes a post implementation evaluation to determine to what extent that constructed projects are meeting expected outcomes.

Public Engagement

Complete streets is a context sensitive approach to design, which benefits from early and on-going communication with project stakeholders for educational outreach, input and feedback purposes. Effective public engagement is necessary throughout the entire implementation process, including both the planning phase and project phase. In the planning phase, public engagement ensures that community and agency stakeholders have a chance to participate in the development of broader policy and planning documents, such as comprehensive plans, transportation plans and modal network plans. In the project phase, public engagement allows stakeholders to provide feedback on specific complete streets projects.

Whether planning documents are being developed or a specific project is being designed and constructed, there are typically three communication phases to a project:

- Informing stakeholders of the upcoming planning study or construction project.
- Active participation of stakeholders in planning or project design.
- Formalized public meetings and hearings.

Construction projects should also include a communication plan to keep stakeholders informed of construction issues that may impact them.

The specific stakeholders and communication approaches will vary depending on the complexity of the planning study or project and anticipated impacts. Early identification of stakeholders and their concerns will aid in the development of an appropriate public engagement plan.

Potential stakeholders include:

- Facility users (All modes)
- Adjacent residents and neighborhood organizations
- Adjacent businesses and business associations
- Elected officials and local/county boards and commissions

- Other city/county departments
- Regional planning organizations
- Regional transit authorities
- State agencies (e.g., DNR, DOT, SHPO)
- Federal agencies (e.g., FHWA, NPS)
- Watershed districts/management organizations
- Advocacy and special interest groups (e.g., bicycling organizations, preservation organizations)
- Local emergency responders
- Utilities and railroads

Planning Phase Steps

Additional descriptions of the steps within each of the implementation phases are presented below.

1. Develop a complete streets network plan

As stated in the State of Minnesota enabling legislation, complete streets should consider local context and that user needs vary based on roadway settings. While many community policies state that all users should be provided safe access, it is also recognized that it is not feasible to accommodate all modes on all roads due to physical constraints. Rather, most communities strive to create comprehensive modal transportation networks that balance the transportation needs for each mode. The resulting modal networks designate certain streets that emphasize different modes based on road context and community connectivity.

The modal networks typically take the form of individual bicycle, pedestrian, transit, and roadway network plans. While having individual network plans for each mode provides easy to read plans, it is critical that these modal network plans be developed in conjunction with each other to ensure that the combined network does not over-program specific streets and that logical connections are made between various modes, such as bicyclists transferring to bus routes for work commutes. It is important that modal network planning be developed in conjunction with land use planning, to ensure the appropriate mode provides safe and convenient access to desired destinations such as trucks routes to industrial areas and sidewalks and bike routes to schools and parks.

Creating modal network plans is a highly important planning phase step, regardless of community size. Developing a network plan could take as little as an hour for a small rural community or several months for a large city. It is important to note that a vast majority of local residential streets, whether in large cities or rural towns, already provide safe, comfortable access for all modes. Given low traffic volumes, many communities have determined that all modes (pedestrians, bicyclists, cars, and limited transit services) can safely share the existing roadway, with no designated facilities for each mode. The challenge of creating a complete street network typically occurs at locations that have experienced increased transportation demands within spatially constrained right-of-ways, such as a highway corridor that also functions as a rural community's main street or an arterial roadway located in an established residential neighborhood or historic commercial corridor.

2. Develop street and area typologies and circumstantial exceptions, as needed

While beneficial, communities will need to determine whether the items addressed in this section are necessary or applicable to their community, especially small communities.

Street and area typologies

Depending on the size and complexity of the community, it may be desirable to develop place typologies and/or street typologies to assist with the implementation of complete streets as described in Chapter 3 of this guide. A street typology template for small communities is also presented in Chapter 3.

Circumstantial exceptions

In an attempt to provide additional clarity to the complete streets implementation process, many communities have developed a complete streets exceptions process. The FHWA provided the following three exceptions in the document, Accommodating Bicycle and Pedestrian Travel: A Recommended Approach. Many communities have incorporated variations of these into their complete streets exceptions process:

- Accommodation is not necessary on corridors where non-motorized use is prohibited, such as freeways.
- When the cost of accommodation will be excessively disproportionate to the need or probable use. The FHWA defined "excessively disproportionate" as exceeding 20 percent of the cost of the larger transportation project. Some communities have incorporated the 20 percent ratio, while others have not.
- When minimal population or other factors indicate an absence of need.

The document, Complete Streets: Best Policy and Implementation Practices, states that another commonly used complete streets exception is that ordinary maintenance and repair projects will not trigger the implementation of complete streets. The complete streets policies for the cities of Big Lake and Rochester (see Chapter 2) include representative exceptions beyond those listed above.

Finally, both the FHWA and Complete Streets documents recommend that exceptions be approved at a senior level and be documented with supporting data that indicates the basis for the decision.

3. Define project types that may trigger complete streets implementation

It is important to define what project types may trigger complete streets implementation; such project types typically include:

- New construction
- Reconstruction
- Some types of rehabilitation
- Resurfacing and changes in the allocation of pavement space on an existing roadway (e.g., removal of on-street parking or reduction in the number of travel lanes).

The defining of project types should be done carefully to avoid misinterpretation of project types that may trigger a complete streets project, such as a routine maintenance project. Some communities specifically call out in their exceptions process that ordinary maintenance and repair projects will not require the implementation of complete streets. Consideration should also be given to how to implement complete streets on long corridors that require phased construction projects to minimize facility gaps.

www.pedbikeimages.org / Laura Sandt

4. Integrate and institutionalize a complete streets approach

A culture of complete streets must be integrated throughout the implementing agency and institutionalized through agency planning documents, operations, and design manuals. Complete streets concepts should be incorporated into visioning and planning documents, such as comprehensive plans, neighborhood plans, active living plans, and transportation plans. A community's zoning ordinance, subdivision ordinances, and/or design manuals may need to be updated to reflect the community's complete streets approach. Ideally, all modes of transportation should be integrated into one design manual, as this will reinforce the complete streets methodology of considering all modes of transportation early in the design process.

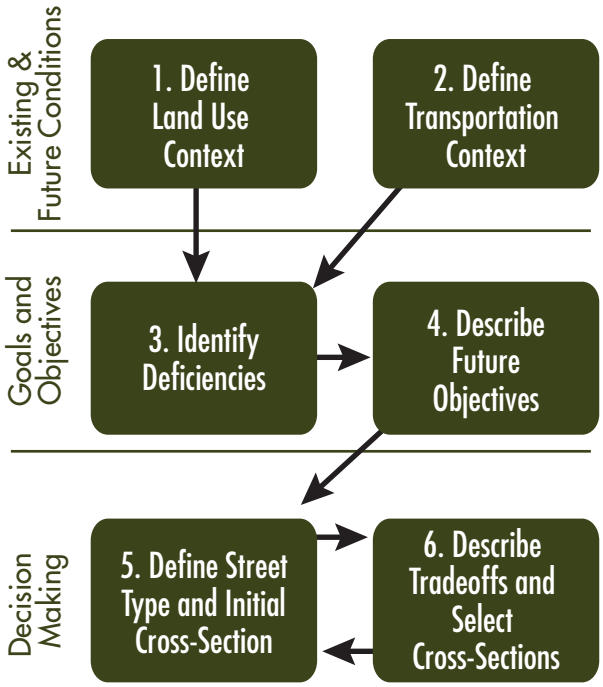
Project Phase Steps

5. Implement individual projects

In the report, Urban Street Design Guidelines, the City of Charlotte, NC, outlines a six-step process (see Figure 3) that provides a good model approach for the implementation of individual complete streets projects. The intent of the six steps is to ensure that existing and future contexts are given adequate consideration, that any related plans are consulted and modified (as needed) to reflect the outcome, and that all perspectives are given equal consideration in the process. This process is also based upon three assumptions:

- The process will involve a variety of stakeholders. The number of stakeholders and discussions will vary, depending on the magnitude and consequences of the street(s) to be designed.
- The resulting street will be as "complete" a street as possible, in order to meet the multimodal objectives defined in the City's Transportation Plan.
- The steps in the decision-making process will be well-documented. The documentation will clearly describe the major tradeoff s made among competing design elements, how those were discussed and weighed against each other, and the preliminary and final outcomes. Thorough documentation will ensure that all stakeholders' perspectives are adequately considered in the final design.

Figure 3: Model Approach for Implementation of Individual Complete Projects



Step 1: Define Land Use Context

The existing and future contexts should be considered from the broadest, area wide perspective down to the details of the immediately adjacent land uses.

Step 2: Define Transportation Context

The transportation assessment should consider both the existing and expected future conditions of the transportation network adjacent to or affecting the street to be designed. The recommended design should reflect the entire transportation context (function, multimodal features, form), rather than that related strictly to capacity on a given segment.

Step 3: Identify Deficiencies

Describe any deficiencies that could/should be addressed by the new or modified street. This step should consider all modes and the relationship between the transportation and the land use contexts.

Step 4: Describe Future Objectives

This step synthesizes the information from the previous steps into defined objectives for the street project. The objectives could be derived from the plans and/or policies for the area around the street, as well as from the previously identified list of deficiencies. The objectives will form the basis for the street classification and design.

Step 5: Recommend Street Classification and Test Initial Cross-Section

The appropriate street typology should be selected, based on the previous steps. The rationale behind the classification should be documented. This step should also include a recommendation for any necessary adjustments to the land use plan/policy and/or transportation plan for that area. Once the preferred option is identified, the ideal cross-section will typically include the design features with their preferred dimensions specified for that street type. The initial cross-section should then be tested against the land use and transportation contexts and the defined objectives for the street project. At this point, any constraints to the provision of the initial, preferred cross-section should be identified, such as:

- Lack of right-of way
- Existing structures
- Existing trees or other environmental features
- Topography
- Location and number of driveways.

This step should clearly identify which constraints may prohibit the use or require refinement of the initially defined cross-section.

Step 6: Describe Tradeoffs and Select Cross-Section

In many cases, the initial cross-section will need to be refined to better address the land use and transportation objectives, given the constraints identified in Step 5. Sometimes, more than one alternative design will be developed. Any refinements to the initial cross section (or alternatives) should result from a thoughtful consideration of tradeoff s among competing uses of the existing or future public right-of way. All perspectives should receive equal consideration and accountability in the plan/design process.

Proper documentation will also generate information useful for future street design projects that might have similar characteristics, objectives, or constraints. Once the tradeoff s are evaluated, a refined cross-section should be developed. The culmination of all of the previous steps, including any additional stakeholder comments, should provide sufficient rationale to select the design alternative that best matches the context and future expectations for the street project.

Source: Urban Street Design Guidelines, City of Charlotte, NC

The Charlotte approach, along with the Seattle's Complete Streets Checklist and the San Francisco Bay Area Metropolitan Transportation Commission's Complete Streets Checklist, were used to develop a Complete Streets Worksheet template included in Appendix A of this guide. Agencies may find the worksheet template a helpful tool as they move forward with designing complete streets. Cities should modify the template to better serve their community's specific circumstances and needs.

Two other documents provide model approaches for implementing complete streets projects:

- Designing Walkable Urban Thoroughfares: A Context Sensitive Approach, Institute of Transportation Engineers (ITE) and the Congress for the New Urbanism (CNU)

  Similar to the City of Charlotte, this document provides a five stage project design process. The report also highlights the importance of flexibility in applying design criteria.

> Flexibility in the application of design criteria requires an understanding of the functional basis for the criteria and the ramifications of changing dimensions or adding/eliminating design elements. Dimensions, whether for elements in the streetside, traveled way, or intersection, should not be applied arbitrarily but should be based on a specific rationale. The concept of design flexibility is not limited to thoroughfares in walkable areas but is a concept that recognizes the unique circumstances of every project under every setting.

- Smart Transportation Guidebook: Planning and Designing Highways and Streets that Support Sustainable and Livable Communities, New Jersey Department of Transportation and Pennsylvania Department of Transportation

  This guidebook provides six principles for the development of smart transportation planning, which are directly applicable to complete streets. Tools and techniques are provided in the guidebook to assist project stakeholders better understand design challenges and to identify potential solutions and cost implications early in the design process.

6. Post implementation

Evaluation

Once a project has been constructed, it is important to evaluate the project outcome. The information type, level of detail desired, and ability to collect data will impact the evaluation method selected. Typical evaluation approaches include:

Informal Observation and Feedback

As the name indicates, this approach relies on designers to informally observe how the completed project is functioning. This approach also relies on feedback from project users. If there is an aspect of the project that is not functioning to users' satisfaction, they will contact the jurisdiction where it is located and notify them of the issue. At this point, a determination will be made whether the outcome requires design modifications and how those will be achieved. While this approach requires minimal resources, it does have the drawback of not documenting results for others to learn from.

Before and After Studies

This approach measures multimodal conditions before and after implementation of a project. Typical measures that can be taken include mode volumes and shifts, vehicle speeds, and crashes. This form of evaluation is important for building a base of evidence from which others can learn from and may provide support for the continued implementation of complete streets.

Goal Attainment Measurements

Another evaluation approach is to measure to what extent an agency is meeting its stated complete streets goals. This may take the form of measuring miles of sidewalks or bikeways, calculating the completion percentage of a planned network, or user surveys regarding satisfaction and perceived safety.

When developing project evaluation measures, it is important to reference the agency's complete streets goals and visions to ensure that the evaluation is measuring outcomes that can indicate whether the projects are achieving community goals. When

measuring outcomes related to health improvements (e.g., obesity reduction and increased physical activity), it may be helpful to consult with a local, county or state public health department.

Maintenance

The implementation of complete streets may entail the construction of additional facility types, all of which require on-going maintenance. Maintenance operations need to be factored into the development of complete streets. It is important to understand who will be responsible for maintenance (adjacent property owner, or city, county, or state crews) and whether they have the equipment needed to maintain the facilities. The equipment that a community owns may influence the choice of facility type developed. For smaller communities, it might be prudent to develop agreements with larger adjacent communities to have them perform needed maintenance, such as street sweeping to remove sediment from bike lanes or small trucks for snow removal from trails.

The accommodation of more users in a given right-of-way may result in less right-of-way space for snow storage. This is a particular concern when trails and sidewalks are located immediately adjacent to the curb. When possible, a boulevard should be provided between the roadway and sidewalks for snow storage. When adjacent property owners are responsible for sidewalk snow clearance, it is important for cities to have ordinances that require snow removal from sidewalks within a designated period after a snowfall and to enforce the ordinance. Snow clearance at transit stops and intersection corners need to be addressed in order to facilitate year-round walking.

Each community will need to make a determination whether to clear snow from trails during winter months. If they are used heavily for commuting, efforts should be made to keep them clear in the winter. At a minimum, roadways should be cleared in a manner that allows bicyclists who are equipped and trained to travel in winter months to travel along them.

Complete Streets Implementation Process Summary

Table 3 depicts potential applications of the six step complete streets implementation process for various sized communities. Each community is unique and will need to determine the appropriate level of detail needed by their community for each phase to best facilitate the complete streets implementation process.

Table 3: Complete Streets Implementation Process – Potential Community Application

Implementation Process	Community Size		
	Small	Medium	Large
Planning Phase			
Create a complete streets network plan	x	x	x
Develop street and area typologies and circumstantial exceptions as needed	Street typologies	Street typologies & exceptions	Street and place typologies & exceptions
Determine project types that will trigger complete streets implementation	x	x	x
Integrate and institutionalize a complete streets approach	Informal	Update planning documents	Update planning documents and design manuals
Project Phase			
Implement individual projects	x	x	x
Post implementation:			
Evaluation	Informal	Goal attainment measurements	Before/after studies
Maintenance	x	x	x

Chapter 5: Synthesis of Minnesota Complete Streets

Local Complete Streets Policies/ Resolutions

Many agencies in the State of Minnesota have adopted their own Complete Streets approach through a plan, policy, statute, resolution or ordinance. Table 4 compares the current local agencies that have a Complete Streets approach in place, looking at items such as definition, exceptions and performance measures.

MnDOT and the MN Complete Streets Coalition keep an up to date list of local agencies with Complete Streets policies on their websites (see links below). Be sure to check for updates to this list.

MnDOT Complete Streets website: http://www.dot.state.mn.us/planning/completestreets/index.html

Minnesota Complete Streets Coalition website: http://www.smartgrowthamerica.org/complete-streets

Table 4 – Local Agencies in Minnesota with Complete Streets Policies or other Guidance

Agency	Type of Complete Streets Document & Adoption Date	Defines complete streets?	Consider vs. must/shall?	Is there a list of exceptions?	Formal review process required for exceptions?	Does it clearly cover ALL project types?	Addresses a network?	Jurisdiction sharing?	Performance measures tracked?
State									
State of Minnesota	Statute, 2010	yes	shall implement for the commisioner, but then "encouraged but not required" for locals	none, to be outlined in the design manual by the commissioner	yes	Trunk Highways	no	no	none
City									
Albert Lea	Ordinance, Sept. 2009	yes	subdivisions shall be designed with complete streets	none	no	no, only covers "subdivisions shall be"	semi-addressed "connect to adjoining subdivisions and destinations"	no	none
Battle Lake	Policy, Oct. 2012	yes (in the whereas section)	"Will be considered"	ordinary maintenance, insufficient space, safety, cost, environ	no	new construction, reconstruction, changes in the allocation of pavement on existing roadway	yes	no	no
Big Lake	Policy, Oct. 2010	yes	bicyclist and ped trans user shall be included in street construction	ordinary maintenance, insufficient space, safety, cost, environ	no	street construction, reconstruction, repaving, rehab	yes	yes	implementation sections says they should be mentioned
Bloomington	Internal Policy, Feb. 2012	yes	will be considered	maintenance/absence of need or space/ safety/unduly impair capacity or mobility for another group/cost/environment	no	construction, reconstruction, rehabilitation projects	yes	yes	no
Breckenridge	Resolution, Apr. 2011	no	"seek to enhance" and "due consideration"	ordinary maintenance, safety, cost, environ	yes - city council involved in 2 of 3 exemption (minus routine maintenance)	construction, reconstruction, repaving, rehabilitation	yes	no	none
Byron	Resolution, Oct. 13, 2010	no	shall be included	ordinary maintenance, insufficient space, safety, cost, environ	City Council - cost	construction, reconstruction, repaving, rehabilitation	yes	no	none
Dillworth	Resolution (See Notes), Aug. 8, 2011	yes	will consider CS principles						
Duluth	Resolution, March 2010	no	"shall apply," but no policy yet?	none	requests one be built into any policy they draft	construction and reconstruction of existing and new streets	"interconnected trans system"	yes	data collection procedures and tracking
Eagan	Resolution, Sept. 2011	yes	"CS elements are evaluation where possilble"	none	no	no	no	yes	no
Falcon Heights	Policy, Oct. 2011	yes	will implement	cost, street jurisdiction refuses suggested plans, documented lack of community support, safety, environment	no	construction, reconstruction, changes in allocation of pavement space	yes	yes	no
Independence	Resolution And Policy, March 3, 2011	yes (resolution)	"will implement"	cost/safety/environment	city staff has to document, but not report	no	"maintaining a network"	yes	none
New Hope	Policy, May 2011	yes	This policy requires that planning for all projects…. shall include complete streets	access prohibited/cost/ environment/ absence of need exceptions recommended by city official (fire, public works etc.)	no	new construction, reconstruction, rehabilitation	interconnected transportation system	yes	yes
North Saint Paul	Plan, Jan. 2011	yes - Livable Streets	plan language						
Northfield	Resolution, April 2012	yes	Shall be balanced	cost/environment/outside the purview of the City	yes, city staff review the project and make a recommendation to the council	project identification, planning, scoping, construction, reconstruction, rehabilitation, resurfacing, repair, maintenance	yes	no	measures shall be established
Pipestone	Policy, Feb. 2011	yes	consider	maintenance/safety/cost/ environment	no	construction, reconstruction, repaving, rehabilitation	"connected network of facilities"	no	"the city will develop… tracking measures"

Agency	Type of Complete Streets Document & Adoption Date	Defines complete streets?	Consider vs. must/shall?	Is there a list of exceptions?	Formal review process required for exceptions?	Does it clearly cover ALL project types?	Addresses a network?	Jurisdiction sharing?	Performance measures tracked?
Red Wing	Policy, Jan. 2011	yes	shall be included	maintenance/safety/space/cost/ environment	no	construction, reconstruction, repaving, rehabilitation	development of a connected network	yes	indicates that Engineering/ Planning should come up with some
Richfield	Policy, Jan. 2013	no	consider	safety/space/cost	no	construction, reconstruction, changes in allocation of pavement space	"connected network of facilities"	no	"the city will develop… tracking measures"
Rochester	Resolution/Policy, March 2009	no	in the Whereas section, "should all be considered" but in 4, "shall be included"	maintenance/space/safety/cost/ environment	no	construction, reconstruction, repaving, reconstruction, rehabilitation	connected network of facilities accommodating each mode of travel	no	none
St. Cloud	Policy, Nov. 2011	yes, in the whereas section	shall be included	maintenance, space, safety, cost, environment	no	reconstruction, repaving, and rehabilitation projects	yes	no	not specifically mandated, but mentioned
St. Louis Park	Plan, 2009	St. Louis Park incorporates CS into its comprehensive plan.							
St. Paul	Resolution, March 2009	yes	nothing, just a resolution	no	no	no	no	no	none
Stewartville	Resolution/Policy, Oct. 2010	yes	shall be included	maintenance/space/safety/cost/ environment	only on cost, City Council has to approve	This will apply to all roadway projects, construction, reconstruction, changing in the allocation of pavement space	connected network of facilities accommodating each mode of travel	no	none
County									
Clay County	Resolution (See Notes), Dec. 2011								
Hennepin County	Resolution And Policy, June 10, 2009	yes (resolution)	"will implement"	cost/lack of community support/safety/ environment	yes	construction, reconstruction, changes in allocation of pavement space, or other changes	yes	yes	says they will identify and apply measures
Ottertail County	Resolution, Dec. 2011	yes	should be considered	no	no	no	no	no	no
Wilkin County	Policy, Aug. 2011	yes	will be considered	maintenance/saftey/cost/environment	no	construction, reconstruction, repaving, rehabilitation	yes	yes	not specifically mandated, but mentioned
MPO									
Fargo-Moorhead Metropolitan Council of Governments	Policy, Nov. 18, 2010	yes	encourage/consider	access prohibited/desirable alt available/ cost/documented absence of need/ public consensus that the accomodation is unwanted	no	construction, reconstruction, maintenance	"complete transportation network"	yes	none
Rochester-Olmsted Council of Governments	Policy, May 2011	no	shall be included	maintenance/space/safety/cost/ environment	no	construction, reconstruction, repaving, rehabilitation	yes, in the whereas section	no	not specifically mandated, but mentioned
St. Cloud Area Planning Organization	Resolution, May 2011	yes	will promote the CS concept	no	no	no	no	yes	no

Complete Streets Studies/Resources in MN

A number of Complete Street related projects have been completed or are in process in Minnesota. Table 5 includes a summary of known work to date, the status of the studies and a link to the full reports.

Table 5 - Complete Streets Studies/Resources in MN

Description	Agency	Date	Summary
2009 Legislative Report	MnDOT	2009	Study to determine the benefits, cost and feasibility of establishing a complete streets policy in Minnesota http://www.dot.state.mn.us/planning/completestreets/2009report.html
2011 Legislative Report	MnDOT	2011	This report is in response to the legislative directive to the commissioner of transportation to report on the department's Complete Streets activities regarding three items: • State Aid variance process • Plan implementation • Statutory barriers http://www.dot.state.mn.us/planning/completestreets/2011report.html
2012 Legislative Report	MnDOT	2012	Comprehensive overview of Complete Streets related work performed to date http://www.dot.state.mn.us/planning/completestreets/2012report.html
Complete Streets Planning Process: City of Rochester	MnDOT	2013	The City of Rochester will document the process they took to develop, adopt and implement a Complete Streets policy, with lessons learned. Contact the Rochester-Olmsted Planning Department for more information.
Review of State Aid Rules	MnDOT/ CEAM CS Committee and County Engineers	As of October 2012	The committee reviewed existing MnDOT State Aid operations rules Chapter 8820 regarding flexibility for on-road bicycle accommodations and developed proposed new sections and/or changes to the rule. Rules revisions are at the Governor's office for approval. A Notice to State Register will then be completed (thereby adopted).
Best Practices for Non-Standard Designs	MnDOT RSS/ UW - Madison	April 2013	This study will review existing design guidelines for agencies in MN and nationwide to find alternative designs that have shown success. Perform safety analysis of existing "complete streets" designs in MN and categorize solution types based on design elements. http://www.lrrb.org
Complete Streets Plan of Grand Rapids	MnDOT/ City of Grand Rapids, MN	2013	Funded by the TRB Strategic Highway Research Program, this study was to apply the Transportation for Communities - Advancing Projects through Partnerships (TCAPP) decision making tool to the development of a Complete Streets Plan and Planning Process http://transportationforcommunities.com/shrpc01/realworld
Wadena County Complete Streets Worksheet	Wadena County	2012	The study was to document the process used to develop a Complete Streets worksheet; provide case study examples, which tested its applicability, strengths and weaknesses; and document the outcomes from the case studies with findings. Contact Wadena County for more information.
Highway 58 Zumbrota Subarea Study	MnDOT	2013	The Study uses a "Context Sensitive Solutions" approach to plan short-term and long-term multi-modal transportation and land use in the study area to guide the safe and effective movement of people and goods, and support local growth and economic development. http://www.dot.state.mn.us/d6/projects/zumbrota-study/index.html
Planning and Implementation of Complete Streets at Multiple Scales	UMN – Humphrey School of Public Affairs/ MnDOT/ LRRB	March 2013	This research will inform a guide to planning and implementing complete streets at multiple scales, including regional, community, and project. Based on best practices and insights from professionals, the guide will highlight emerging Complete Streets policies, integrative design approaches, and successful projects constructed in a variety of settings. http://www.cts.umn.edu/Research/ProjectDetail.html?id=2012009

Appendix A:
Complete Streets Worksheet

This Complete Streets Worksheet is intended to serve as a guide when reviewing a roadway's ability to accommodate all modes of transportation (pedestrian, bicyclists, transit riders, freight, and automobiles) and people of all abilities in a cost-effective manner, while promoting safe operation for all users. Complete streets address the design of the entire street right-of-way to determine the best allocation of space between the various transportation modes. Complete streets may be achieved through single projects or incrementally through a series of smaller improvements or maintenance activities over time. This worksheet was developed to facilitate implementing the complete streets process and to help sort through potentially conflicting modal priorities. The worksheet is also available in an electronic format that allows responses to by typed directly into the worksheet.

Please reference the following materials when filling out the checklist:

- City and/or County Comprehensive Plans that cover the project area
- Transportation Plans that cover the project area (e.g., City, County, and/or State)
- Bicycle or Pedestrian Master Plans that cover the project area (e.g., City, County, and/or State)
- City and/or County ADA Transition Plans that cover the project area
- Area specific studies
- A Policy on Geometric Design of Highways and Streets (AASHTO "Green Book")
- AASHTO Guide for the Development of Bicycle Facilities, 4th Edition
- MnDOT Bikeway Facility Design Manual
- Minnesota Manual on Uniform Traffic Control Devices (MMUTCD)
- ADA Accessibility Guidelines (ADAAG)
- Proposed Rights-of-Way Accessibility Guidelines (PROWAG)

Project Information	
Project Location (municipality):	
Roadway Jurisdiction:	
Project/Roadway Name:	
Project Start Point:	
Project End Point:	
Project Manager	

Define Existing and Future Land Use and Urban Design Context

1. Do any adopted plans call for the development of bicycle, pedestrian, transit or roadway facilities on, crossing, or adjacent to, the proposed project? If yes, list the applicable plan(s).

Guidance: Possible sources of this information include Comprehensive Plans, Transportation Plans, Bicycle or Pedestrian Master Plans or area-specific studies developed by applicable City, County and/or State Agencies.

2. Are there any local, county, statewide or federal policies that call for incorporating multimodal facilities?

Guidance: Policies at the state and federal level may impact a project due to funding sources.

3. Describe the study area.

Guidance: What are the predominant land uses along the corridor? What is the community character? (e.g., tree-lined streets, historic, new development) Are there any planned redevelopment areas in the project area?

4. What trip generators (existing and future) are in the vicinity of the project that might attract walkers, bikers or transit users?

Guidance: For example, large employers, downtown or shopping districts, schools, parks, community centers, medical centers, transit stations, government buildings and senior care facilities.

Define Existing and Future Transportation Context

5. Describe existing and projected modal volumes, if available.

Volumes (as available)	Existing	Projected (Year)
Average Daily Traffic		
Pedestrian Counts		
Bicycle Counts		
Truck Volumes		
Transit Volumes		

6. Existing vehicle speed conditions.

a. What is the posted speed limit for the project and associated intersecting streets?

b. Provide speed data, if available.

c. Are excessive speeds an issue in the project area?

7. Describe crash data, if available, and known conflict locations.

Guidance: Crash data will likely not be available for pedestrians and bicycles. Crash trends and known conflict points should include neighborhood input and antidotal data, such as areas of known "near misses", or areas where seasonal activities cause safety issues, such as sports arenas or fairgrounds.

Transportation Mode	Number of Crashes	Period Covered
Vehicles		
Pedestrians		
Bicycles		

a. Are there any crash trends between specific modes?

b. Are there known conflict points between specific modes?

8. Describe Classifications.

a. What is the road functional classification?

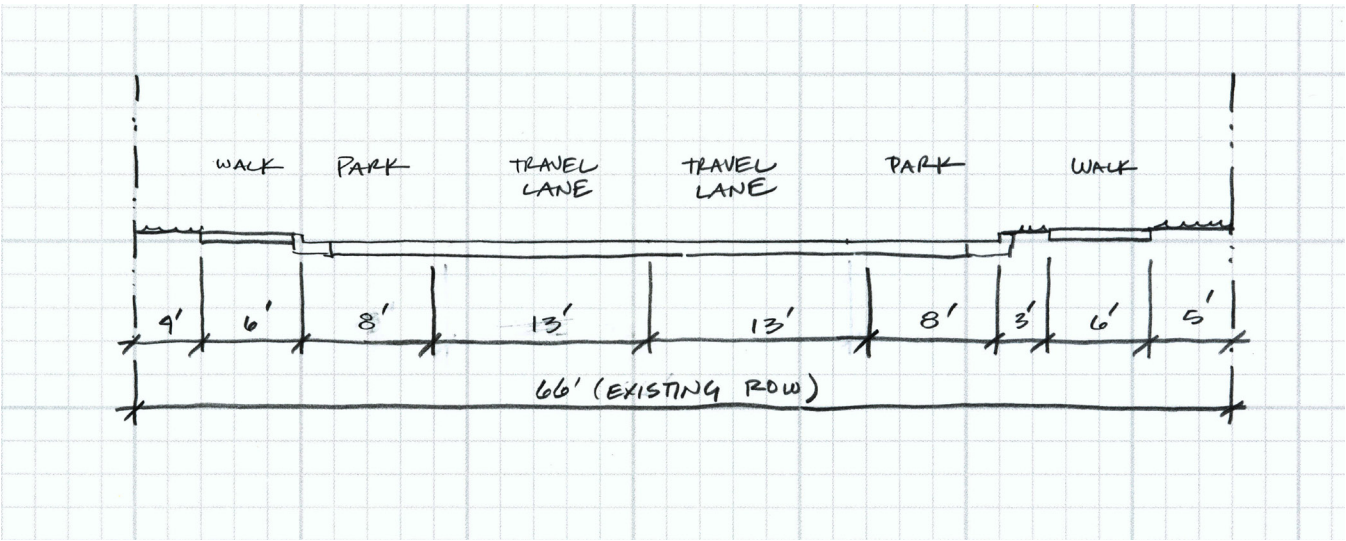
b. Does the street cross any high functional classification roads? (yes/no) If so, please list.

c. Does the roadway have other classifications (e.g., truck route, transit route, bicycle route, emergency vehicle route)? (yes/no) If so, please list.

9. Sketch in or attach the existing cross-section(s).

Guidance: The existing cross-section should include the full right-of-way and be clearly dimensioned. Additional cross-sections are advisable to illustrate specific situations or if corridor segments greatly vary.

Example Cross Section



10. What multimodal accommodations exist in the project and on streets that it intersects?

Guidance: Multimodal accommodations may include transit routes, sidewalks, trails, and designated on-street bicycle facilities, such as bike lanes, sharrows or signed bike routes.

11. If there are no multimodal accommodations, how far away are the closest parallel facilities?

Guidance: Designated transit routes or bikeways may not exist within the community, and therefore, may not be applicable.

12. What multimodal amenities exist in the project?

Guidance: multimodal amenities may include benches, bike racks/lockers, trash receptacles, crosswalks, traffic signals, mature tree canopy, transit stops/shelters, and wayfinding signage.

13. Describe any particular user needs/challenges along the project corridor that you have observed or have been informed of.

Guidance: User needs may consist of lack of facilities (worn dirt pathways), traffic congestion, difficulty accessing bus stops or sidewalks due to snow piles at intersections, at-grade crossings of railroads or high volume roadways, and steep terrain.

14. Are the existing facilities ADA and PROWAG compliant?

Guidance: Reference resources include the ADA Accessibility Guidelines (ADAAG), Proposed Rights-of-Way Accessibility Guidelines (PROWAG), and MnDOT Accessibility Design Tools website.

Identify Existing Deficiencies

15. Based on the land use and transportation context analysis, describe existing and anticipated future deficiencies to full multimodal transportation that the project could/should address.

Describe Future Objectives

16. Develop objectives regarding how multimodal facilities will be integrated into the project and how identified deficiencies will be addressed.

Guidance: The objectives will form the basis for the street design.

Recommend Area Typology/Street Typology and Test Cross-section(s)

17. Complete the following questions if your community has developed Area Typologies and Street Typologies (See page 21, "Roadway Classification versus Settings" for a description of area and street typologies.)

Guidance: If applicable, list document that contains your agency's Area Typologies and Street Typologies

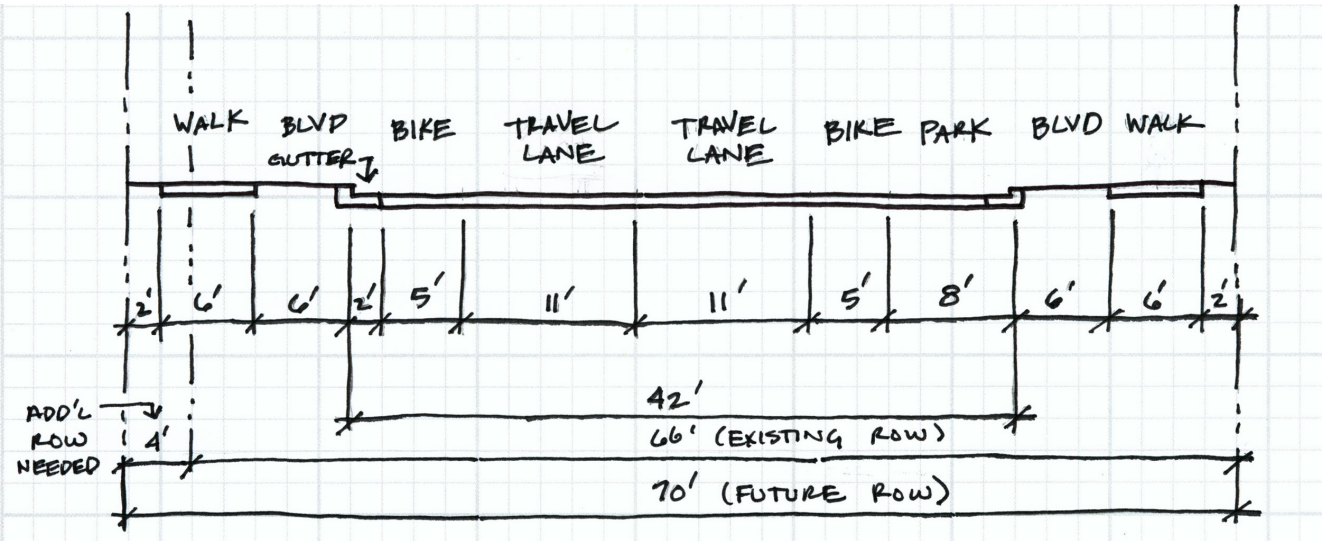
a. What is the recommended Area Typology?

b. What is the recommended Street Typology?

18. Sketch in or attach the initial cross-section(s) that depicts desired street elements.

Guidance: Initial cross-section should be clearly dimensioned and indicate any additional right-of-way required. Additional cross-sections are advisable for specific situations or if corridor segments greatly vary.

Example Cross Section



19. Describe any constraints associated with the initial cross-section.

Guidance: Potential constraints include lack of right-of-way, existing structures, existing mature trees or environmental features, topography or number of driveways.

20. Sketch in or attach alternative cross-sections.

Guidance: Alternative cross-sections should be modifications of the initial cross-section that respond to identified constraints. All modes should receive equal consideration and accountability in the development of alternatives.

Describe Tradeoffs and Select Cross-section

21. Describe tradeoffs associated with the alternative cross-sections.

Guidance: Examples of tradeoffs include removal of mature vegetation, narrower travel lanes, removal of on-street parking (one or both sides), right-of-way acquisition costs, and provision of bikeway facility on an adjacent parallel street.

22. Sketch in or attach the selected cross-section(s).

Guidance: Selected cross-section should be clearly dimensioned and indicate any additional right-of-way required. Additional cross-sections are advisable for specific situations or if corridor segments greatly vary.

23. If the project does not accommodate all modes, list reasons why facilities for that mode are not provided.

Guidance: For example, the cost of the facility will be disproportionately high in relation to number of projected users; adequate right-of-way does not exist and acquisition of additional right-of-way would create adverse impacts to valued community assets; a bikeway facility is being planned on an adjacent parallel route that can service bicyclists' needs.

Implementation

24. Identify project milestones, roles and responsibilities for project implementation

25. How will access for all modes be maintained during project construction?

Guidance: Reference resource includes MnDOT Context Sensitive Solutions (CSS) Webinar, Maintaining Pedestrian Access Through Construction & Maintenance Work Zones

26. Facility Maintenance

a. What agency will be responsible for on-going maintenance for each mode?

b. What specific seasonal and long-term maintenance is needed for each mode?