COMPLETE STREETS PLAN

PLANNING COMMISSION
MAY 27, 2016

BACKGROUND

- City adopts many policies in Comprehensive Plan related to street design and "complete streets"
- Complete Streets
  - *Streets are designed with consideration of all modes and users of all ages and abilities*
- City Council passes Complete Streets resolution
- State passes complete streets legislation
- City of Saint Paul accredited by APWA
- TIGER II Grant funded project
- Project kicked off five years ago

Complete Streets is a national movement supported by a broad coalition of advocates, government agencies, and transportation professionals. The Complete Streets approach is founded on a comprehensive, integrated, and connected network, using the latest and best practices for design standards. Accommodations should respect the need for flexibility, recognizing that all streets are different, but that user needs should be balanced while respecting needs and travel priorities for each individual street.

Strategy 1: Provide a Safe and Well-Maintained System

A successful system provides dependable and ongoing maintenance and convenient service to ensure year-round reliability. Transportation projects or improvements must consider, respect, and respond to their context. To create a more safe and well-maintained system, projects should also focus on improving accessibility, while accounting for the full range of weather conditions, situations, and surrounding land use.

Additionally, a functioning transportation system depends on the ability of all users to operate in a safe manner. Sometimes the best solutions for safety conflicts come not from physically redesigning the street, but rather through proper enforcement of existing laws and furthering education about how to safely coexist in the public realm.

BEST PRACTICES FOR DESIGN AND MAINTENANCE

1.1 Complete the streets.

The needs of all users of the transportation system – including pedestrians, cyclists, transit, freight, and motor vehicle drivers – should be accommodated and balanced to the extent appropriate to the function and context of the street. The public right-of-way must account for the safety and convenience of the most vulnerable populations, including children, seniors, persons with disabilities, and those who cannot or do not drive a motor vehicle.

Design should be sensitive to the context and community in which it is located. The policy applies to both new and retrofit projects, including design, planning, maintenance, and operations, for the entire right-of-way. Performance standards should be established with measurable outcomes. According to the U.S. Department of Transportation, exceptions to a complete streets policy should be allowed by high-level approval but only in cases where conditions create excessively disproportionate costs (i.e., 20% of the project) or on roads where pedestrians and bicyclists are prohibited by law.[5]

1.2 Examine alternatives to enhance safety through right-of-way design, including narrowing or removing lanes on roads.

Used in the proper applications, "road diets" can be a tool to decrease automobile speed and accidents, maintain or increase automobile capacity, decrease pedestrian crossing times at intersections, or provide additional space for turn lanes, bicycle lanes, on-street parking, or improved streetscape.

1.3 Evaluate existing crosswalk striping, design, and pedestrian-scale lighting standards.

Best practices and integrate practices that foster pedestrian safety by increasing their visibility to the motorist should be studied.

5 "Design Guidance Accommodating Bicycle and Pedestrian Travel: A Recommended Approach," U.S. Department of Transportation Federal Highway Administration, March 2008.

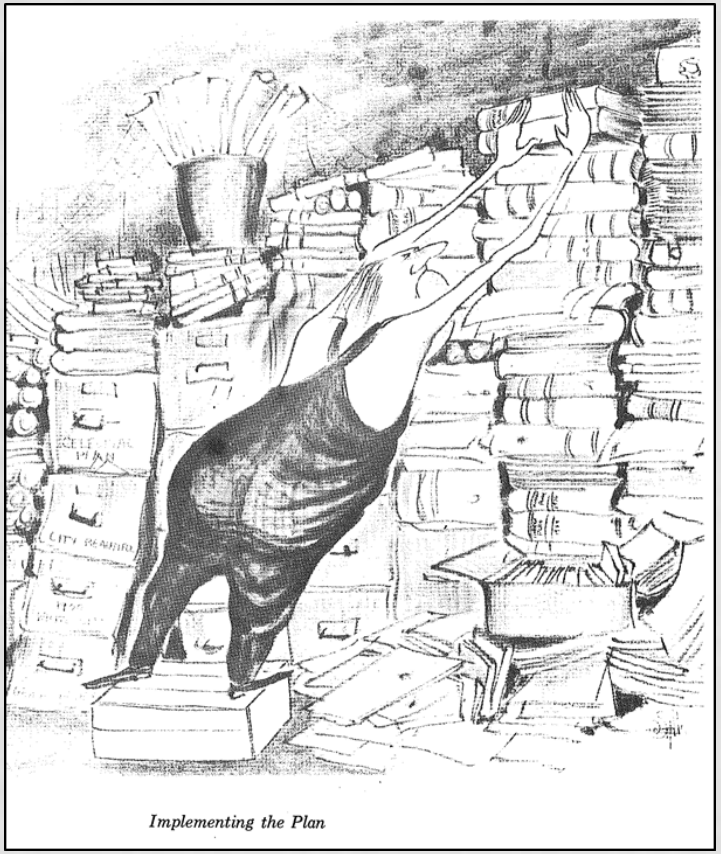
SUSTAINABILITY: SOCIAL ENVIRONMENTAL ECONOMIC

OUTREACH & DEVELOPMENT

- Transportation Committee is advisory committee
- Six pilot projects
  - Five design workshops
    - ~100 participants
  - Enhanced Better Block pilot project
    - ~250-300 participants
- Interdepartmental technical committee
  - Public Works
  - Parks (Design & Forestry)
  - PED
  - Fire

STREET DESIGN MANUAL

- The **Street Design Manual** is based on "complete streets" principles and:
  - Establishes the Street Design Manual as Saint Paul's best design practices.
  - Provides a reference for guiding manuals and standards.
  - Illustrates street improvements.
  - Explains how street elements affect multiple transportation modes.
  - Provides examples of multimodal projects.
  - Living document that will be updated regularly and administratively.
  - Will be approved by City Council by resolution.



ACTION PLAN

- The **Complete Streets Action Plan**:
  - Guides City staff on next steps for implementing Complete Streets policies.
  - Based on the work to complete the Street Design Manual and Pilot Projects
- Nine recommendations
  - Short-term (1 year)
  - Medium-term (2 years)
  - Long-term (3-5 years)

QUESTIONS?

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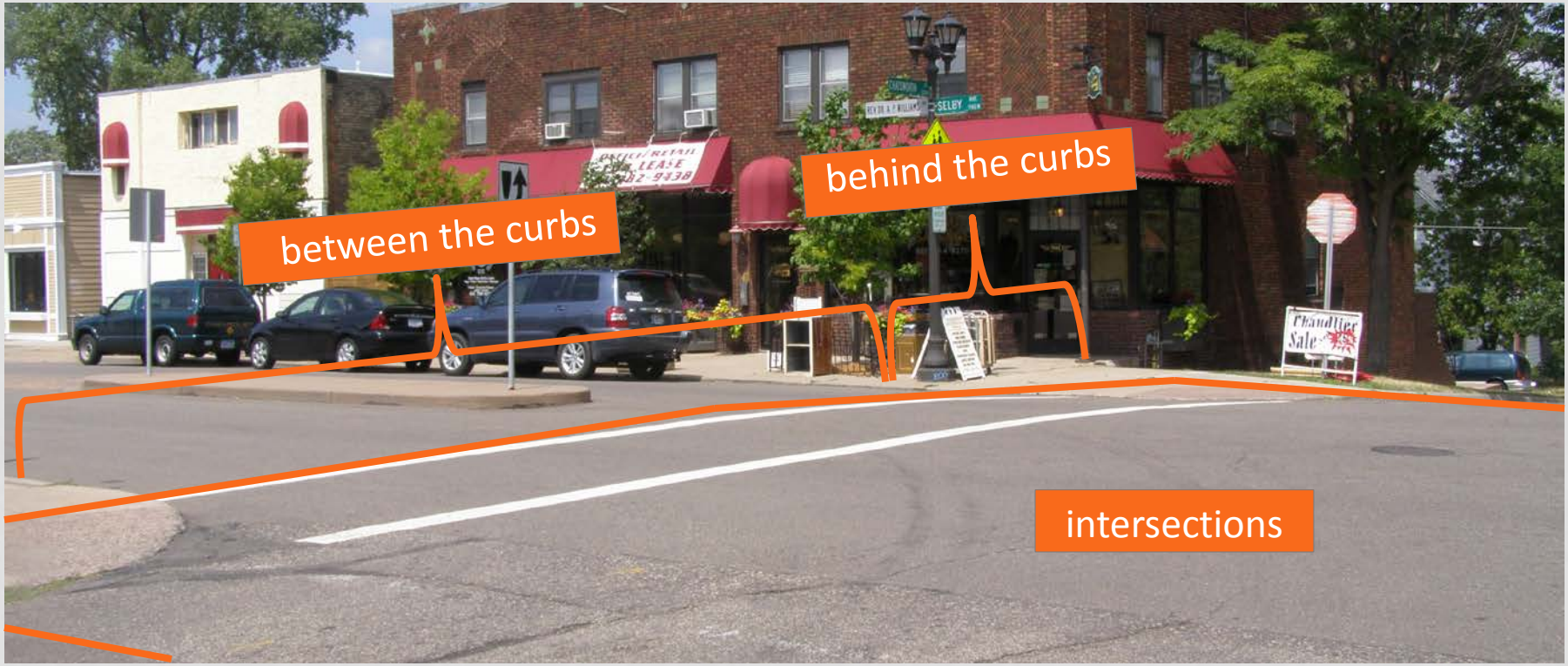
TESTIMONY

- No written comments
- 2 comments
  - Highland District Council
    - Action Plan Item 6
      - Further differentiate between pedestrian and Bike data
  - Ward 4 Office
    - Action Plan Item 2
      - Shift to neighborhood schools has not reduced bussing
    - Action Plan Item 7
      - City has begun collecting more comprehensive pedestrian and bike crash data

DRAFT MANUAL SUMMARY

- "Living Document"
- Links to founding documents
- Focus on design elements rather than idealized cross-sections



BACKGROUND

level of governance

State of Minnesota Standards and Guidelines

Minnesota MUTCD

Issuing Agency/Organization: Minnesota Department of Transpor

Level of

Overvie

traffic co and guide road users along all roadways within Minnesota. This manual is in compliance with the federal Manual on Uniform Traffic Control Devices for Streets and Highways (MUTCD) produced by the Federal Highway Administration. Much of the content of this manual is taken directly from the federal MUTCD, however several have been altered to better represent Minnesota regulations and conditions.

agency

Minnesota Department of Transportation Road Design Manual

Issuing Agency/ Organization: Minnesota Department of Transportation

Level of Authority: Guidelines

Overview: The Minnesota Department of Transportation Road Design Manual establishes uniform policies and procedures for the Minnesota Department of Transportation. The design criteria included in the manual is applicable to the broader highway and street system within the state. The policy and criteria in the manual are largely adapted from the AASHTO publication, "A Policy on Geometric Design of Highways and Streets," which itself has been adopted as the design standard for the National Highway System by the Federal Highway Administration. However, the manual is not intended as a legal standard. Rather, it presents vital information and guidance normally required in the design of a new or reconstructed facility. The City of Saint Paul applies the Manual's design criteria to its street design projects while also using engineering judgment and balancing social, economic and environmental factors to yield appropriate designs suitable for unique circumstances.

Minnesota Best Practices Synthesis and Guidance in At-Grade Trail-Crossing Treatments

Issuing Agency/ Organization: Minnesota Department of Transportation

Level of Authority: Guidelines

Overview: The Minnesota Best Practice Synthesis and Guidance in At-Grade Trail-Crossing Treatments was developed by MnDOT in order to provide transportation professionals with a comprehensive resource for the design of safe at-grade trail crossings. While a variety of resources exist for the design of trails and their intersections with roadways, this document provides a compre sive review of best practices on the state and This document provides transportation a synthesized list of best practices in trail Minnesota, as well as nationally. The docume examines a variety of safety issues associated with several trail crossing types and considers the wide range of trail users in Minnesota (e.g. people who travel by foot, bicycle, or snowmobile) and the varying needs of each mode at trail crossings.

Minnesota Department of Transportation Load and Resistance Factor Design (LFRD) Bridge Design Manual

Issuing Agency/ Organization: Minnesota Department of Transportation

Level of Authority: Guidelines

Overview: The Minnesota Department of Transportation Load and Resistance Factor Design (LFRD) Bridge Design Manual is a guide to MnDOT Bridge Office policies and procedures for the design, evaluation and rehabilitation of bridges. The most recent version of the manual (2013) presents MnDOT's design practices in conformance with a new design methodology, Load and Resistance Factor Design (LRFD) and also contains fifteen comprehensive design examples.

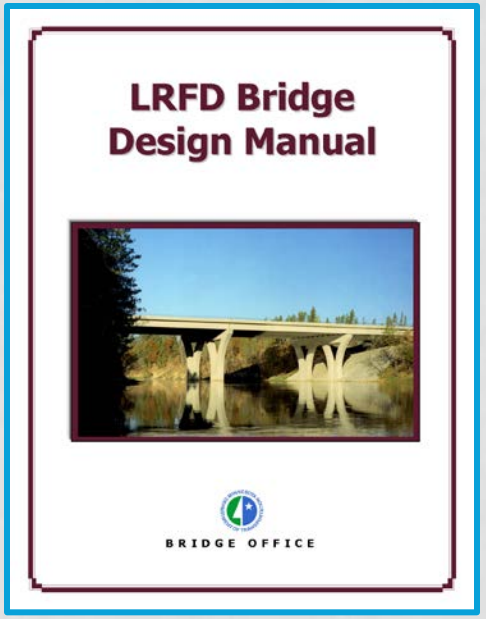
Saint Paul Street Design Manual 11

title of manual

level of authority

overview of guidance

- Most relevant manuals and guidelines that control street design
  - Federal down to local
  - Link to actual document



STREET DESIGN TREATMENTS

general definition & photo

parameters for use

specific design guidance

measured drawing or table

public art relevance & guidance

related design elements and references

Bicycle Parking

Definition

…nveniently located bicycle parking is an important …ponent of a multi-modal transportation system … it allows bicyclists to secure their bicycles at their …estination, whether that is their place of work, …ss or attraction, or a transit station. Bicycle …e provided in a variety of forms depending …r it is for short-term or long-term use (e.g., …shopping stop, or an all day event). Short-term …ng may consist of individual or multiple bike racks …aced within the furniture or building frontage zones of a street or high capacity corrals placed within the street itself (where there is a defined motor vehicle parking lane). Long-term parking may consist of racks or an array of racks that may be sheltered and placed in off-street locations such as parking garages/ lots or transit station entrances (e.g., cages, sheltered corrals). Long-term parking may be access controlled.

Applicability and Use

- Well-designed and placed bicycle parking promotes a more orderly streetscape, preserves the pedestrian r…ht of way and prevents damage to trees and street f…ture.
- …e conveniently placed within close …to destinations such as businesses, parks, …s and other community facilities, and major t…sit stops and stations.
- Bump outs may present an opportunity for bicycle rack installation.
- In general, locating one or two racks at multiple locations along a block face are preferred to grouping all the racks at one location. In order to ensure there is adequate parking to meet demand, parking utilization should be periodically assessed, and additional parking should be provided where demand is high.
- In areas with high bicycle parking demand and limited space behind the curb and limited private bike parking, in-street corrals or other high capacity bike rack designs may be considered. In-street facilities require a right of way permit. Bump outs may present an opportunity for bicycle rack installation.

Placemaking / Public Art Opportunity

Bike racks pres-ent an opportu-nity for public art; however, the basic Design Considerations outlined on the next page should be adhered to.

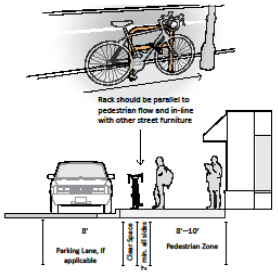

Troy Pillow


Kaylyn & Kyle Bancroft


Annaliese Bischoff

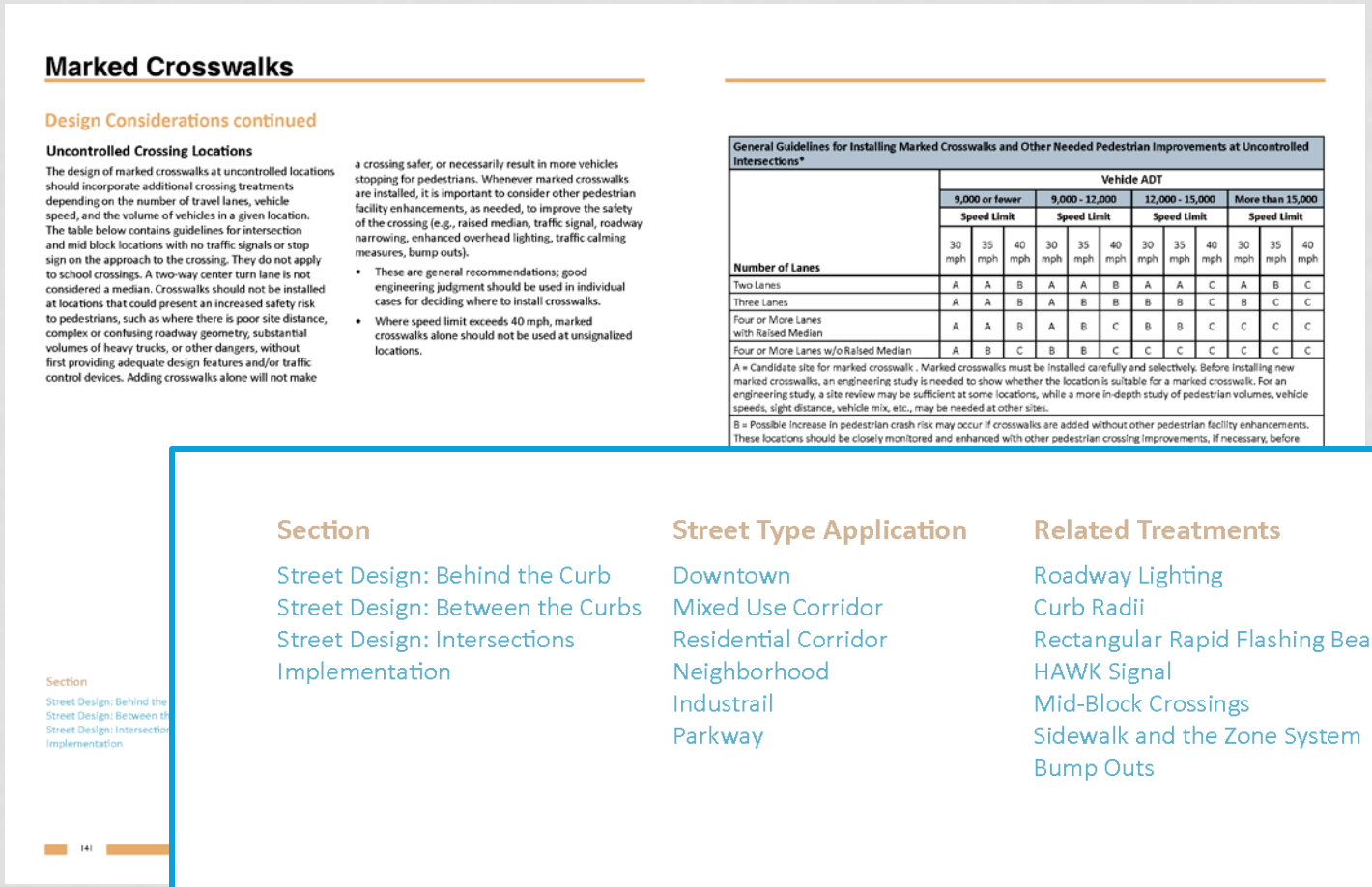
Design Considerations

- Bicycle racks must support the bicycle in at least two places to prevent it from falling over and allow locking of the frame and one or both wheels with a standard U-lock.
- Racks must be securely anchored to the ground and resist cutting, rusting and bending or deformation.
- A minimum 2 feet of clearance around the rack should be provided to allow users to access and securely lock the bicycle from the side. Adequate end clearance should also be provided to allow users to enter and exit the rack area.
- Bicycle racks must not interfere with bus loading/ unloading areas.
- Generally, bicycle racks should be placed within the furniture or building frontage zones, where there is adequate room for a bicycle to be locked up without protruding into the pedestrian zone or the clear zone behind the curb.
- Bicycle racks should be placed on concrete or other similarly paved surface. Racks should not be placed on a grass boulevard.
- In-street bicycle parking (i.e., corrals) may be considered where there is on-street parking and high bicycle parking demand and limited other locations fo… public and private bike parking.
- In-street bicycle corrals require special conside… for street sweeping and snow removal and s… Maintenance agreements may be required for … street bicycle parking facilities to ensure they are cleared of snow and debris. In-street bicycle corrals may be seasonal, and may be removed during winter months to facilitate snow removal."
- Bus stops, fire hydrants, turning bus movements, utility covers and sewer valves, parking meters, stormwater inlets, and adjacent landscaping obstacles should be considered when identifying a location for an in-street bicycle corral.



Section	Street Type Application	Related Treatments	References
Street Design: Behind the Curb	Downtown	Bump Outs	MnDOT Design Manual
Street Design: Between the Curbs	Mixed Use Corridor	Sidewalks and the Zone System	MN MUTCD
Street Design: Intersections			APBP Bicycle Parking Guidelines
Maintenance			AASHTO Guide for the Development of Bicycle Facilities
Implementation			Comprehensive Plan

STREET DESIGN TREATMENTS



Marked Crosswalks

Design Considerations continued

Uncontrolled Crossing Locations

The design of marked crosswalks at uncontrolled locations should incorporate additional crossing treatments depending on the number of travel lanes, vehicle speed, and the volume of vehicles in a given location. The table below contains guidelines for intersection and mid block locations with no traffic signals or stop sign on the approach to the crossing. They do not apply to school crossings. A two-way center turn lane is not considered a median. Crosswalks should not be installed at locations that could present an increased safety risk to pedestrians, such as where there is poor site distance, complex or confusing roadway geometry, substantial volumes of heavy trucks, or other dangers, without first providing adequate design features and/or traffic control devices. Adding crosswalks alone will not make a crossing safer, or necessarily result in more vehicles stopping for pedestrians. Whenever marked crosswalks are installed, it is important to consider other pedestrian facility enhancements, as needed, to improve the safety of the crossing (e.g., raised median, traffic signal, roadway narrowing, enhanced overhead lighting, traffic calming measures, bump outs).

- These are general recommendations; good engineering judgment should be used in individual cases for deciding where to install crosswalks.
- Where speed limit exceeds 40 mph, marked crosswalks alone should not be used at unsignalized locations.

General Guidelines for Installing Marked Crosswalks and Other Needed Pedestrian Improvements at Uncontrolled Intersections*

Number of Lanes	Vehicle ADT: 9,000 or fewer – Speed Limit 30 mph	35 mph	40 mph	9,000 - 12,000 – Speed Limit 30 mph	35 mph	40 mph	12,000 - 15,000 – Speed Limit 30 mph	35 mph	40 mph	More than 15,000 – Speed Limit 30 mph	35 mph	40 mph
Two Lanes	A	A	B	A	A	B	A	A	C	A	B	C
Three Lanes	A	A	B	A	B	B	B	B	C	B	C	C
Four or More Lanes with Raised Median	A	A	B	A	B	C	B	B	C	C	C	C
Four or More Lanes w/o Raised Median	A	B	C	B	B	C	C	C	C	C	C	C

A = Candidate site for marked crosswalk . Marked crosswalks must be installed carefully and selectively. Before installing new marked crosswalks, an engineering study is needed to show whether the location is suitable for a marked crosswalk. For an engineering study, a site review may be sufficient at some locations, while a more in-depth study of pedestrian volumes, vehicle speeds, sight distance, vehicle mix, etc., may be needed at other sites.

B = Possible increase in pedestrian crash risk may occur if crosswalks are added without other pedestrian facility enhancements. These locations should be closely monitored and enhanced with other pedestrian crossing improvements, if necessary, before

Section
Street Design: Behind the
Street Design: Between th
Street Design: Intersection
Implementation

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Section

Street Design: Behind the Curb
Street Design: Between the Curbs
Street Design: Intersections
Implementation

Street Type Application

Downtown
Mixed Use Corridor
Residential Corridor
Neighborhood
Industrail
Parkway

Related Treatments

Roadway Lighting
Curb Radii
Rectangular Rapid Flashing Beacon
HAWK Signal
Mid-Block Crossings
Sidewalk and the Zone System
Bump Outs

References

MnDOT Design Manual
State Aid Manual
Comprehensive Plan
Standard Plates
MN MUTCD

RECOMMENDATION 1

- Goal: The City and community should explore traffic problems and options together, resulting in recommendations that will be the most likely to achieve the neighborhood's objectives (Comprehensive Plan – Transportation Chapter, Policy 4.11).
  - Issue: There is a wide variation in neighborhood capacity around transportation-related issues.
    - Action: **Support District Councils' capacity for transportation issues by providing training to transportation committees particularly around safety and arterial roads.**

RECOMMENDATION 2

- Goal: Provide safe citywide connections to schools, libraries, parks, and recreation centers, with improved crossings and comfortable pedestrian environments at high demand destinations (Comprehensive Plan – Transportation Chapter, Policy

  - Issue: Some neighborhoods are missing the infrastructure necessary to allow children to walk to school.

    - Action: **Develop a Safe Routes to School or similar program.**

RECOMMENDATION 3

- Goal: Design should be sensitive to the context and community in which it is located. Performance standards should be established with measurable outcomes (Comprehensive Plan – Transportation Chapter, Policy 1.1).
  - Issue: Reports to Transportation Committee provide minimal information and do not allow for tracking project characteristics related to complete streets.
    - Action: **Modify Transportation Committee report to explicitly include how projects are meeting complete streets policies.**

RECOMMENDATION 4

- Goal: Support transit-oriented design through zoning and design guidelines. Compact, street-oriented design should be emphasized to promote walkability and transit use, especially in commercial corridors. Standards for building placement and design based primarily on the needs of the pedestrian should be enforced and expanded (Comprehensive Plan – Transportation Chapter, Policy 2.2).
  - Issue: Traffic studies done as part of site plan review typically are only for auto traffic and pedestrian accommodation is limited to sidewalks.
    - Action: **Review and implement pedestrian-oriented features adjacent to development projects as part of site plan review.**

RECOMMENDATION 5

- Goal: Develop a strategy for investing in a broad range of infrastructure projects, including, but not limited to, street and traffic improvements to support the growth of existing employment, services, parks, and schools (Comprehensive Plan – Transportation Chapter, Policy 2.4).
  - Issue: Public Works has not as standard practice coordinated with other departments in the street design process.
    - Action: **Build on recent efforts of inter-departmental collaboration by continuing project planning coordination meetings and scoping retreats for upcoming street projects. This collaboration facilitates identifying "win-wins," implementing plans, and designing streets that live up to the City's vision.**

RECOMMENDATION 6

- Goal: Collaborate with non-profit, volunteer, and business organizations to coordinate bicycle counts at sample intersections and on selected routes. Regular counts will help the City better understand trends in bicycling citywide and prioritize improvements and maintenance (Comprehensive Plan – Transportation Chapter, Policy 3.14).
  - Issue: Very limited biking and walking data impair decision making processes.
    - Action: **Establish a practice of bike and pedestrian counts including frequency and methodology.**

RECOMMENDATION 7

- Goal: Increase pedestrian, bicycle, and motorist safety through effective law enforcement, detailed crash analysis, and engineering improvements to reduce the risk of crashes (Comprehensive Plan – Transportation Chapter, Policy 1.14).
  - Issue: Projects have been prioritized based pavement quality rather than safety especially the safety of those most vulnerable.
    - Action: **Refine data-driven methodology to rank street projects for citywide programs.**

RECOMMENDATION 8

- Goal: Connect neighborhoods that have poor sidewalks or little access to trails and bike routes, especially east and north of Downtown (Comprehensive Plan – Transportation Chapter, Policy 4.7).
  - Issue: Many gaps in sidewalk infrastructure exist throughout the city.
    - Action: **Initiate a Comprehensive Pedestrian Plan.**

RECOMMENDATION 9

- Goal: Define parkway character, features, and amenities; clarify parkway designations; and assign improvement responsibilities and resources (Comprehensive Plan – Parks Chapter, Policy 6.10).
  - Issue: Policies guiding parkway design and management are confusing and do not identify goals.
    - Action: **Develop specific guiding policies and priorities for parkways as part of the 2040 Comprehensive Plan update.**