Application

01968 - 2014 Roadway Reconstruction/Modernization

01952 - CSAH 3 (Lake Street) Reconstruction

Regional Solicitation - Roadways Including Multimodal Elements

Status:	Submitted
Submitted Date:	11/26/2014 12:18 PM

Primary Contact

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What Grant Programs are you most interested in?	Regional Solicitation - Roadways Including Multimodal Elements			

Organization Information

Name:	HENNEPIN COUNTY

Jurisdictional Agency (if different):

Organization Type: County Government

Organization Website:

Address: DPT OF PUBLIC WORKS

1600 PRAIRIE DR

*	MEDINA	Minnesota	55340
	City	State/Province	Postal Code/Zip

County: Hennepin

Phone:* 763-745-7600 Ext.

Fax:

PeopleSoft Vendor Number 0000028004A9

Project Information

Project Name CSAH 3 (Lake Street) Reconstruction

Primary County where the Project is Located Hennepin

Jurisdictional Agency (If Different than the Applicant):

Brief Project Description (Limit 2,800 characters; approximately 400 words)

The CSAH 3 (Lake Street) Reconstruction Project reconstructs the existing section of Lake Street in Minneapolis for a length 0.34 miles. It is a portion of one (Project A) out of three reconstruction projects listed in the Lake Street Midtown Greenway Framework Plan which were intended to bolster the Lake Street environment between Dupont Avenue and West River Parkway in south/central Minneapolis. The overall Lake Street project consists of the following roadway segments:

Project A - Dupont Avenue to Oakland Avenue (20 blocks)

Project B - Oakland Avenue to 21st Avenue (18 blocks)

Project C - TH 55 (Hiawatha Avenue) to West River Parkway (20 blocks)

Together, these three segments will meet the transit oriented beautification objectives for a significant length of Lake Street, a re-emerging mixed-use/commercial corridor and major east/west transit and transportation connection for this part of the city. The revitalization of Lake Street will fill a gap in a much larger network of neighborhoods, business districts, and recreational systems. It is a key piece of a metropolitan-scaled puzzle, demanding focus on two critical qualities that will raise the standards for redevelopment of this corridor: creating meaningful places and linking them together with a high-quality public realm.

The Lake Street project has been split into two segments: Blaisdell Avenue to 1st Avenue and 3rd Avenue to 5th Avenue. This will ensure coordination with the upcoming I-35W Transit &

Access Project, led by MnDOT. The existing roadway is a 4-lane, undivided, urban roadway with limited parking along the east side of the project. Lake Street is classified as an "A" Minor Arterial that functions as an augmentor. The project will replace the deficient roadway; including the sidewalks, storm sewer, and curb/gutter. The traffic signals will also be replaced as part of the project.

Include location, road name/functional class, type of improvement, etc.

Project Length (Miles) 0.34

Connection to Local Planning:

Reference the name of the appropriate comprehensive plan, regional/statewide plan, capital improvement program, corridor study document [studies on trunk highway must be approved by MnDOT and the Metropolitan Council], or other official plan or program of the applicant agency [includes Safe Routes to School Plans] that the project is included in and/or a transportation problem/need that the project addresses. List the applicable documents and pages.

Connection to Local Planning

- The CSAH 3 (Lake Street) Reconstruction Project compliments the I-35W Transit & Access Project (www.35lake.com) that Hennepin County will provide cost participation through its Capital Improvement Program.

- This portion of Lake Street was identified as a key infrastructure improvement project in the Lake Street Midtown Greenway Corridor Framework Plan

- The City of Minneapolis is aware of the Lake Street Reconstruction Project, which is includedin the 2014 Minneapolis Capital Improvement Program

Project Funding

Are you applying for funds from another source(s) to implement this project? No

If yes, please identify the source(s) Not Applicable

Federal Amount $2,844,000.00

Match Amount $711,000.00

Minimum of 20% of project total

Project Total $3,555,000.00

Match Percentage *Minimum of 20%* *Compute the match percentage by dividing the match amount by the project total*	20.0%
Source of Match Funds	Hennepin County
Preferred Program Year	
Select one:	2018

MnDOT State Aid Project Information: Roadway Projects

County, City, or Lead Agency	Hennepin County
Functional Class of Road	A-Minor Arterial - Augmentor
Road System *TH, CSAH, MSAS, CO. RD., TWP. RD., CITY STREET*	County State Aid Highway (CSAH)
Name of Road *Example; 1st ST., MAIN AVE*	Lake Street
Zip Code where Majority of Work is Being Performed	55408
(Approximate) Begin Construction Date	05/01/2018
(Approximate) End Construction Date	11/30/2018
LOCATION	
From: **(Intersection or Address)** *Do not include legal description;* *Include name of roadway if majority of facility runs adjacent to a single corridor.*	1st Segment: Blaisdell Avenue; 2nd Segment: 3rd Avenue
To: **(Intersection or Address)**	1st Segment: 1st Avenue; 2nd Segment: 5th Avenue
Type of Work *Examples: grading, aggregate base, bituminous base, bituminous surface, sidewalk, signals, lighting, guardrail, bicycle path, ped ramps, bridge, Park & Ride, etc.)*	Work includes: grading, aggregate base, bituminous base and surfacing, curb and gutter, sidewalks, pedestrian ramps, storm sewer, and traffic signals.
Old Bridge/Culvert?	No
New Bridge/Culvert?	No
Structure is Over/Under **(Bridge or culvert name):**	N/A

Specific Roadway Elements

CONSTRUCTION PROJECT ELEMENTS/COST ESTIMATES	Cost

Mobilization (approx. 5% of total cost)	$175,000.00
Removals (approx. 5% of total cost)	$175,000.00
Roadway (grading, borrow, etc.)	$200,000.00
Roadway (aggregates and paving)	$475,000.00
Subgrade Correction (muck)	$50,000.00
Storm Sewer	$300,000.00
Ponds	$0.00
Concrete Items (curb & gutter, sidewalks, median barriers)	$250,000.00
Traffic Control	$125,000.00
Striping	$40,000.00
Signing	$40,000.00
Lighting	$0.00
Turf - Erosion & Landscaping	$100,000.00
Bridge	$0.00
Retaining Walls	$0.00
Noise Wall	$0.00
Traffic Signals	$750,000.00
Wetland Mitigation	$0.00
Other Natural and Cultural Resource Protection	$0.00
RR Crossing	$0.00
Roadway Contingencies	$625,000.00
Other Roadway Elements	$250,000.00
Totals	**$3,555,000.00**

Specific Bicycle and Pedestrian Elements

CONSTRUCTION PROJECT ELEMENTS/COST ESTIMATES	**Cost**
Path/Trail Construction	$0.00
Sidewalk Construction	$0.00
On-Street Bicycle Facility Construction	$0.00
Right-of-Way	$0.00
Pedestrian Curb Ramps (ADA)	$0.00
Crossing Aids (e.g., Audible Pedestrian Signals, HAWK)	$0.00
Pedestrian-scale Lighting	$0.00
Streetscaping	$0.00

Wayfinding	$0.00
Bicycle and Pedestrian Contingencies	$0.00
Other Bicycle and Pedestrian Elements	$0.00
Totals	**$0.00**

Specific Transit and TDM Elements

CONSTRUCTION PROJECT ELEMENTS/COST ESTIMATES	Cost
Fixed Guideway Elements	$0.00
Stations, Stops, and Terminals	$0.00
Support Facilities	$0.00
Transit Systems (e.g. communications, signals, controls, fare collection, etc.)	$0.00
Vehicles	$0.00
Transit and TDM Contingencies	$0.00
Other Transit and TDM Elements	$0.00
Totals	**$0.00**

Transit Operating Costs

OPERATING COSTS	Cost
Transit Operating Costs	$0.00
Totals	**$0.00**

Totals

Total Cost	$3,555,000.00
Construction Cost Total	$3,555,000.00
Transit Operating Cost Total	$0.00

Requirements - All Projects

All Projects

1.The project must be consistent with the goals and policies in these adopted regional plans: Thrive MSP 2040 (2014), the 2030 Transportation Policy Plan (amended 2013), the 2030 Regional Parks Policy Plan (amended 2013), and the 2030 Water Resources Management Policy Plan (2005).

Check the box to indicate that the project meets this requirement. Yes

2.Applicants that are not cities or counties in the seven-county metro area with populations over 5,000 must contact the MnDOT Metro State Aid Office prior to submitting their application to determine if a public agency sponsor is required.

Check the box to indicate that the project meets this requirement. Yes

3.Applicants must not submit an application for the same project in more than one funding sub-category.

Check the box to indicate that the project meets this requirement. Yes

4.The requested funding amount must be more than or equal to the minimum award and less than or equal to the maximum award. The cost of preparing a project for funding authorization can be substantial. For that reason, minimum federal amounts apply. Other federal funds may be combined with the requested funds for projects exceeding the maximum award, but the source(s) must be identified in the application. Expansion, reconstruction/modernization, and bridges must be between $1,000,000 and $7,000,000. Roadway system management must be between $250,000 and $7,000,000.

Check the box to indicate that the project meets this requirement. Yes

5.The project must comply with the Americans with Disabilities Act.

Check the box to indicate that the project meets this requirement. Yes

6.The project must be accessible and open to the general public.

Check the box to indicate that the project meets this requirement. Yes

7.The owner/operator of the facility must operate and maintain the project for the useful life of the improvement.

Check the box to indicate that the project meets this requirement. Yes

8.The project must represent a permanent improvement with independent utility. The term independent utility means the project provides benefits described in the application by itself and does not depend on any construction elements of the project being funded from other sources outside the regional solicitation, excluding the required non-federal match. Projects that include traffic management or transit operating funds as part of a construction project are exempt from this policy.

Check the box to indicate that the project meets this requirement. Yes

9.The project must not be a temporary construction project. A temporary construction project is defined as work that must be replaced within five years and is ineligible for funding. The project must also not be staged construction where the project will be replaced as part of future stages. Staged construction is eligible for funding as long as future stages build on, rather than replace, previous work.

Check the box to indicate that the project meets this requirement. Yes

10.The project applicant must send written notification regarding the proposed projected to all affected communities and other levels and units of government prior to submitting the application.

Check the box to indicate that the project meets this requirement. Yes

Requirements - Roadways Including Multimodal Elements

Expansion and Reconstruction/Modernization Projects Only

1.The project must be designed to meet 10-ton load limit standards.

Check the box to indicate that the project meets this requirement. Yes

2.Federal funds are available for roadway construction and reconstruction on new alignments or within existing right-of-way, including associated construction and excavation, bridges, or installation of traffic signals, signs, utilities, bikeway or walkway components and transit components.
The project must exclude costs for right-of-way, studies, preliminary engineering, design, or construction engineering. Noise barriers, drainage projects, fences, landscaping, etc., are not eligible for funding unless included as part of a larger project, which is otherwise eligible.

Check the box to indicate that the project meets this requirement. Yes

Bridge Projects Only

3.The bridge project must be identified as a Principal Arterial (Non-Freeway facilities only) or A Minor Arterial as shown on the latest TAB approved roadway functional classification map.

Check the box to indicate that the project meets this requirement.

4.Bridges selected in previous Bridge Improvement and Replacement solicitations (1994 2011) are not eligible. A previously selected project is not eligible unless it has been withdrawn or sunset prior to the deadline for proposals in this solicitation.

Check the box to indicate that the project meets this requirement.

5.Projects requiring a grade-separated crossing of a Principal Arterial of freeway design must be limited to the federal share of those project costs identified as local (non-MnDOT) cost responsibility using MnDOTs Cost Participation for Cooperative Construction Projects and Maintenance Responsibilities manual. In the case of a federally funded trunk highway project, the policy guidelines should be read as if the funded trunk highway route is under local jurisdiction.

Check the box to indicate that the project meets this requirement.

6.The bridge must carry vehicular traffic. Bridges can carry traffic from multiple modes. However, bridges that are exclusively for bicycle or pedestrian traffic must apply under one of the Bicycle and Pedestrian Facilities sub-categories. Rail-only bridges are ineligible for funding.

Check the box to indicate that the project meets this requirement.

7.The length of the bridge must equal or exceed 20 feet.

Check the box to indicate that the project meets this requirement.

8.Project limits for bridge projects are limited from abutment to abutment.

Check the box to indicate that the project meets this requirement.

9.The project must exclude costs for studies, preliminary engineering, design, construction engineering, and right-of-way.

Check the box to indicate that the project meets this requirement.

Bridge Replacement Projects Only

10.The bridge must have a sufficienty rating less than 50. Additionally, it must also be classified as structurally deficient or functionally obsolete.

Check the box to indicate that the project meets this requirement.

Bridge Rehabilitiation Projects Only

11.The bridge must have a sufficienty rating less than 80. Additionally, it must also be classified as structurally deficient or functionally obsolete.

Check the box to indicate that the project meets this requirement.

Other Attachments

File Name	Description	File Size
1952 HSIP.pdf	Crash B/C	31 KB
Attachment 01 - Letters of Support.pdf	Letters of Support	369 KB
Attachment 02 - Lake Street Midtown Greenway Framework Plan.pdf	Lake Street Midtown Greenway Framework Plan	5.9 MB
Attachment 03 - Access Minneapolis - Roadway Design Guidelines.pdf	Roadway Design Guidelines	1.4 MB
Attachment 04 - Access Minneapolis - Pedestrian Facility Design Guidelines.pdf	Pedestrian Facility Design Guidelines	2.6 MB
Attachment 05 - Access Minneapolis - Street Design Types.pdf	Street Design Types	2.3 MB
Attachment 06 - Access Minneapolis - 10-Year Action Plan.pdf	10-Year Action Plan	261 KB
Attachment 07 - City of Minneapolis - Traffic Volume Count.pdf	Traffic Volume Count	77 KB
Attachment 08 - Hennepin County - Turning Movement Count.pdf	Turning Movement Count	88 KB
Attachment 09 - Hennepin County - Heavy Commercial Count.pdf	Heavy Commercial Count	169 KB
Attachment 10 - MnDOT - Crash History.pdf	Crash History	303 KB
Figure 01 - Project Basemap.pdf	Project Basemap	235 KB
Figure 02 - Project Aerials.pdf	Project Aerials	2.4 MB
Figure 03 - Existing Roadway Elements.pdf	Existing Roadway Elements	282 KB
Figure 04 - Proposed Roadway Elements.pdf	Proposed Roadway Elements	187 KB
Figure 05 - Proposed Layout.pdf	Proposed Layout	6.5 MB
Figure 06 - Proposed Typical Sections.pdf	Proposed Typical Sections	103 KB
Figure 07 - Access Minneapolis - Existing Land Use Features.pdf	Existing Land Use Features	1.6 MB
Figure 08 - Access Minneapolis - 2030 Land Use Features.pdf	2030 Land Use Features	1.9 MB
Figure 09 - Access Minneapolis - 2030 Traffic Analysis Zones.pdf	2030 Traffic Analysis Zones	345 KB
Figure 10 - Access Minneapolis - Historic Development and Transportation Patterns.pdf	Historic Development and Transportation Patterns	1.2 MB

Figure 12 - Access Minneapolis - Citywide Primary Transit Network.pdf	Citywide Primary Transit Network	824 KB
Figure 13 - Access Minneapolis - Citywide Hi-Frequency Transit Networks.pdf	Citywide Hi-Frequency Transit Networks	859 KB
Figure 14 - Approved Lake Street HSIP Project - Ped Countdown Timers.pdf	Approved HSIP Project - Ped Countdown Timers	274 KB
Figure 15 - 2014 Hennepin County CIP - I-35W Transit Access Project.pdf	2014 Hennepin County CIP	154 KB
Figure 16 - 2014 Minneapolis CIP - Lake Street & I-35W Improvements.pdf	2014 City of Minneapolis CIP	1.8 MB
Figure 17 - MnDOT I-35W Transit Access Project - Study Area.pdf	MnDOT I-35W Transit Access Project	1.8 MB

Reliever: Freeway Facility or

Facility being relieved

Number of hours per day volume exceeds capacity (based on the Congestion Report) 0

Reliever: Non-Freeway Facility or

Facility being relieved

Number of hours per day volume exceeds capacity (based on the table below) 0

Non-Freeway Facility Volume/Capacity Table

Hour	NB/EB Volume	SB/WB Volume	Capacity	Volume exceeds capacity
12:00am - 1:00am				
1:00am - 2:00am				
2:00am - 3:00am				
3:00am - 4:00am				
4:00am - 5:00am				
5:00am - 6:00am				
6:00am - 7:00am				
7:00am - 8:00am				
8:00am - 9:00am				

9:00am - 10:00am

10:00am - 11:00am

11:00am - 12:00pm

12:00pm - 1:00pm

1:00pm - 2:00pm

2:00pm - 3:00pm

3:00pm - 4:00pm

4:00pm - 5:00pm

5:00pm - 6:00pm

6:00pm - 7:00pm

7:00pm - 8:00pm

8:00pm - 9:00pm

9:00pm - 10:00pm

10:00pm - 11:00pm

11:00pm - 12:00am

Expander/Connector/Augmentor/Non-Freeway Principal Arterial

Select one:	Augmentor
Area	0.91
Project Length	0.34
Average Distance	2.6765
Upload Map	01 - Roadway Area Definition - CSAH 3 (Lake Street) Reconstruction - Combined.pdf

Measure B: Current Heavy Commercial Traffic

Location	West of I-35W
Current daily heavy commercial traffic volume	2650.0

Measure C: Project Location Relative to Jobs, Manufacturing, and Education

Select all that apply

Direct connection to or within a mile of a Job Concentration	Yes
Direct connection to or within a mile of a Manufacturing/Distribution Location	
Direct connection to or within a mile of an Educational Institution	Yes

Project provides a direct connection to or within a mile of an existing local activity center identified in an adopted county or city plan	Yes
County or City Plan Reference (Limit 700 characters; approximately 100 words)	The CSAH 3 (Lake Street) Streetscape Project is not only within a Job Concentration Center, but has also been identified in the Midtown Greenway Framework Plan as being adjacent to three local activity areas including: the K-Mart block at Nicollet Avenue and the future desire to reconnect Nicollet Avenue, the Midtown Greenway (4000 daily users), and the I-35W Lake Street Transit Station (which serves over 30 buses a day and will soon serve bus rapid transit). This segment of Lake Street also provides connections to Cristo Rey Jesuit High School (Educational) and Nico Products (Manufacturing).
Upload Map	04 - Regional Economy - CSAH 3 (Lake Street) Reconstruction - Combined.pdf

Measure A: Current Daily Person Throughput

Location	East of Blaisdell Avenue
Current AADT Volume	20200.0
Existing Transit Routes on the Project	11, 18, 21, 27, 39, 53, 133, 135, 146, 156, 460, 464, 465, 467, 470, 472, 475, 476, 477, 478, 479, 491, 492, 535, 552, 553, 554, 558, 568, 578, 579, 597, 684, 695

Response: Current Daily Person Throughput

Average Annual Daily Transit Ridership	16117.0
Current Daily Person Throughput	42377.0

Measure B: 2030 Forecast ADT

Use Metropolitan Council model to determine forecast (2030) ADT volume	Yes
METC Staff - Forecast (2030) ADT volume	26500.0
OR	
Approved county or city travel demand model to determine forecast (2030) ADT volume	

Forecast (2030) ADT volume	0

Measure A: Project Location and Impact to Disadvantaged Populations

Select one:

Project located in Racially Concentrated Area of Poverty	Yes
Project located in Concentrated Area of Poverty	
Projects census tracts are above the regional average for population in poverty or population of color	
Project located in a census tract that is below the regional average for population in poverty or populations of color or includes children, people with disabilities, or the elderly.	

The CSAH 3 (Lake Street) Reconstruction Project will include improvements to the sidewalk facilities, pedestrian ramps, and traffic signals which will provide a benefit to those who rely on walking as a mode of transportation.

Response (Limit 1,400 characters; approximately 200 words)

This segment of Lake Street serves 34 bus routes, so it is imperative to ensure that the bus stops are accessible to all; regardless of a person's limitations. The existing sidewalk is aged, and exhibits severe defects that warrant replacement. Many of the pedestrian ramps do not include a truncated dome and contain severe slopes and discontinuities that make navigation difficult. Furthermore, the road has experienced numerous pavement overlays, that included paving on top of the curb's gutter flow line, reducing the vertical separation between vehicles and pedestrians.

The Lake Street Reconstruction Project will remove all physical barriers within the pedestrian access route (such as traffic signal handholes, fire hydrants, and sign posts). ADA compliant pedestrian ramps will be installed to provide smooth transitions from the sidewalk to the roadway at intersections. Countdown timers will be installed at signalized intersections (as part of a separate HSIP Project) to communicate the time remaining in the pedestrian crossing phase to pedestrians.

Upload Map

02 - Socio Economic - CSAH 3 (Lake Street) Reconstruction - Combined.pdf

Measure B: Affordable Housing

City/Township	Segment Length (Miles)
Minneapolis	0.34

0

Total Project Length

Total Project Length	0.34

Affordable Housing Scoring - To Be Completed By Metropolitan Council Staff

City/Township	Segment Length (Miles)	Total Length (Miles)	Score	Segment Length/Total Length	Housing Score Multiplied by Segment percent
Minneapolis	0.34	0.34	97.0	1.0	97.0
		0	**97**	**1**	**97**

Affordable Housing Scoring - To Be Completed By Metropolitan Council Staff

Total Project Length (Miles)	0.34
Total Housing Score	97.0

Measure A: Year of Roadway Construction

Year of Original Roadway Construction or Most Recent Reconstruction	Roadway Segment Length (Miles)	Calculation	Calculation 2
1955.0	0.335	654.925	1955.0
	0	**655**	**1955**

Average Construction Year

Weighted Year	1955.0

Total Segment Length (Miles)

Total Segment Length	0.335

Measure B: Geometric, Structural, or Infrastructure Improvements

Response (Limit 1,400 characters; approximately 200 words)	The CSAH 3 (Lake Street) Reconstruction Project will address multiple areas of need that currently exist along the corridor. The roadway surface has aged to the point that routine maintenance activities, such as overlays, are no longer effective in extending the pavement's useful life. A full reconstruction of the pavement will improve drainage, provide a smooth surface, and reduce uneven transitions at intersections. Various drainage structures and utility manholes require adjustments to address settlement and deterioration that has occurred over the years. The existing curb and gutter is in need of replacement due to settlement and disruption from snow maintenance. The existing traffic signals are obsolete in capabilities, located within the pedestrian access route, and need replacement. The new traffic signals will include improved signal heads, vehicle detection, and lighting. The existing sidewalk adjacent to the roadway includes various defects and barriers that obstruct the pedestrian access route. Many of the existing pedestrian ramps contain steep grades and do not include a truncated dome. The existing signage along the corridor is faded and requires replacement to improve way finding and driver compliance.

Measure A: Cost Effectiveness of Vehicle Delay Reduction

Total Project Cost from Cost Sheet	$3,555,000.00
Total Peak Hour Vehicle Delay Without The Project	13.0
Total Peak Hour Vehicle Delay With The Project	10.0
Total Peak Hour Vehicle Delay Reduced by Project	3.0
Cost Effectiveness	$1,185,000.00
Synchro or HCM Reports	CSAH3_Lake_Nicollet_PMPeak_Synchro, Report.pdf

Measure B: Cost Effectiveness of Emissions Reduction

Total Project Cost from Cost Sheet	$3,555,000.00

Total Peak Hour Kilograms Reduced by Project	0.42
Cost Effectiveness	$8,464,285.71
Synchro or HCM Reports	CSAH3_Lake_Nicollet_PMPeak_Synchro, Report.pdf

Measure A: Benefit/Cost of Crash Reduction

Project Benefit/Cost Ratio	1.4
Worksheet Attachment	MnDOT HSIP - BC Worksheet - CSAH 3 (Lake Street) Reconstruction.xls

Measure A: Transit Connections

Existing Routes Directly Connected to the Project	11, 18, 21, 27, 39, 53, 133, 135, 146, 156, 460, 464, 465, 467, 470, 472, 475, 476, 477, 478, 479, 491, 492, 535, 552, 553, 554, 558, 568, 578, 579, 597, 684, 695
Planned Transitways directly connected to the project (alignment and mode determined and identified in the 2030 TPP)	I-35W BRT (METRO Orange Line Extension), Nicollet Avenue Arterial BRT
Upload Map	03 - Transit Connections - CSAH 3 (Lake Street) Reconstruction - Combined.pdf

Response

Met Council Staff Data Entry Only

Route Ridership	1.3221622E7
Transitway Ridership	1.1776E7

Measure B: Bicycle and Pedestrian Connections

CSAH 3 (Lake Street) is not designated as a bicycle route either by the Hennepin County Bicycle Transportation Plan nor by the Minneapolis Bikeways Master Plan. The Midtown Greenway is located approximately one block north of Lake Street and accommodates east/west bicycle and pedestrian traffic. A bike and pedestrian connection between the Midtown Greenway and Lake Street (the Green Crescent) is planned to be included with the upcoming I-35W Transit & Access Project. The Green Crescent will include separated bicycle and pedestrian facilities, streetscaping elements, and enhancements to the existing bus stops under the I-35W Bridge.

Response (Limit 1,400 characters; approximately 200 words)

The Lake Street Reconstruction Project will be supplemented by a streetscaping project along the same corridor that will provide pedestrian enhancements. These elements may include but are not limited to: shade trees, pedestrian scale lighting, and unique bus transit shelters. TheLake Street Reconstruction Project includes a full replacement of the sidewalk facilities to provide an accessible route that includes ADA compliant sidewalks, pedestrian ramps, and accessible pedestrian signals.

The bicycle and pedestrian elements included in the Lake Street Reconstruction Project are discussed in the Midtown Greenway Framework Plan, along with the upcoming I-35W Transit & Access Project.

Measure C: Multimodal Facilities

Response (Limit 1,400 characters; approximately 200 words)

CSAH 3 (Lake Street) is not designated as a bicycle route by either the Hennepin County Bicycle Transportation Plan nor the Minneapolis Bikeways Master Plan. However, the Midtown Greenway facility is located approximately 700 feet north of Lake Street, which serves 4000 eastbound/westbound cyclists daily.

The Lake Street Reconstruction Project includes the replacement of sidewalk facilities and pedestrian ramps which will allow for the removal of current defects and obstructions within the pedestrian access route. Pedestrian countdown timers will also be installed as part of a previously funded HSIP project.

The Access Minneapolis Plan has identified Lake Street as a high frequency transit network, with over 30 bus routes that are located along the corridor. The I-35W Transit Stop at Lake Street and the K-Mart retail store have been identified as activity centers in the Access Minneapolis Plan. They are located within this project and serve as trip generating nodes.

The Lake Street Reconstruction Project will supplement the following upcoming projects that include significant pedestrian, bicycle, and transit improvements:

- I-35W Transit & Access Project (To be constructed by MnDOT)

- Green Crescent (Led by Minneapolis)

- CSAH 3 (Lake Street) Streetscaping Project (Led by Hennepin County)

Transit Projects Not Requiring Construction

If the applicant is completing a transit or TDM application, only Park-and-Ride and other construction projects require completion of the Risk Assessment below. Check the box below if the project does not require the Risk Assessment fields, and do not complete the remainder of the form. These projects will receive full points for the Risk Assessment.

Check Here if Your Transit Project Does Not Require Construction

Measure A: Risk Assessment

1)Project Scope (5 Percent of Points)

Meetings or contacts with stakeholders have occurred Yes

100%

Stakeholders have been identified

40%

Stakeholders have not been identified or contacted

0%

2)Layout or Preliminary Plan (5 Percent of Points)

Layout or Preliminary Plan completed Yes

100%

Layout or Preliminary Plan started

50%

Layout or Preliminary Plan has not been started

0%

Anticipated date or date of completion

3)Environmental Documentation (10 Percent of Points)

EIS

EA Yes

PM

Document Status:

Document approved (include copy of signed cover sheet)

100%

Document submitted to State Aid for review

75%

Document in progress; environmental impacts identified Yes

50%

Document not started

0%

Anticipated date or date of completion/approval 06/30/2016

4)Review of Section 106 Historic Resources (15 Percent of Points)

No known potential for archaeological resources, no historic resources known to be eligible for/listed on the National Register of Historic Places located in the project area, and project is not located on an identified historic bridge Yes

100%

Historic/archeological review under way; determination of no historic properties affected or no adverse effect anticipated

80%

Historic/archaeological review under way; determination of adverse effect anticipated

40%

Unknown impacts to historic/archaeological resources

0%

Anticipated date or date of completion of historic/archeological review: 12/31/2014

Project is located on an identified historic bridge

5)Review of Section 4f/6f Resources (15 Percent of Points)

(4f is publicly owned parks, recreation areas, historic sites, wildlife or waterfowl refuges; 6f is outdoor recreation lands where Land and Water Conservation Funds were used for planning, acquisition, or development of the property)

No Section 4f/6f resources located in the project area Yes

100%

Project is an independent bikeway/walkway project covered by the bikeway/walkway Negative Declaration statement; letter of support received

100%

Section 4f resources present within the project area, but no known adverse effects

80%

Adverse effects (land conversion) to Section 4f/6f resources likely

30%

Unknown impacts to Section 4f/6f resources in the project area

0%

6)Right-of-Way (15 Percent of Points)

Right-of-way or easements not required

100%

Right-of-way or easements has/have been acquired

100%

Right-of-way or easements required, offers made

75%

Right-of-way or easements required, appraisals made

50%

Right-of-way or easements required, parcels identified

25%

Right-of-way or easements required, parcels not identified

0%

Right-of-way or easements identification has not been completed Yes

0%

Anticipated date or date of acquisition 12/31/2016

7)Railroad Involvement (25 Percent of Points)

No railroad involvement on project Yes

100%

Railroad Right-of-Way Agreement is executed (include signature page) 100%

Railroad Right-of-Way Agreement required; Agreement has been initiated

60%

Railroad Right-of-Way Agreement required; negotiations have begun

40%

Railroad Right-of-Way Agreement required; negotiations not begun

0%

Anticipated date or date of executed Agreement

8)Construction Documents/Plan (10 Percent of Points)

Construction plans completed/approved (include signed title sheet)

100%

Construction plans submitted to State Aid for review

75%

Construction plans in progress; at least 30% completion

50%

Construction plans have not been started Yes

0%

Anticipated date or date of completion 12/31/2016

9)Letting

Anticipated Letting Date 07/31/2017

HSIP worksheet

Control Section	T.H. / Roadway	Location	Beginning Ref. Pt.	Ending Ref. Pt.	State, County, City or Township	Study Period Begins	Study Period Ends
	CSAH 3	From Blaisdell Avenue to 1st Avenue & from 3rd Avenue to 5th Avenue	012+00.298 012+00.634	012+00.447 012+00.821	Hennepin County	1/1/2011	12/31/2013

Description of Proposed Work

Improve traffic signal timing (8% reduction of all crashes; CMF ID: 380)
Improve visibility of traffic signal heads (7% reduction of all crashes; CMF ID: 1430)
Interpolated reduction factors to include both improvements

		Accident Diagram Codes	1 Rear End	2 Sideswipe Same Direction	3 Left Turn Main Line	5 Right Angle	4,7 Ran off Road	8, 9 Head On/ Sideswipe - Opposite Direction	Pedestrian	6, 90, 99 Other	Total
Study Period: Number of Crashes	Fatal	**F**									
	Personal Injury (PI)	**A**									
		B	4			4			3	2	**13**
		C	12	2	1	22	1	1	6	7	**52**
	Property Damage	**PD**	25	23	6	20	4	4		15	**97**
% Change in Crashes *Use Crash Modification Factors Clearinghouse	Fatal	**F**									
	PI	**A**									
		B	-14%			-14%		-14%	-14%	-14%	
		C	-14%	-14%	-14%	-14%	-14%	-14%	-14%	-14%	
	Property Damage	**PD**	-14%	-14%	-14%	-14%	-14%	-14%	-14%	-14%	
Change in Crashes = No. of crashes **x** % change in crashes	Fatal	**F**									
	PI	**A**									
		B	**-0.56**			**-0.56**			**-0.42**	**-0.28**	**-1.82**
		C	**-1.68**	**-0.28**	**-0.14**	**-3.08**	**-0.14**	**-0.14**	**-0.84**	**-0.98**	**-7.28**
	Property Damage	**PD**	**-3.50**	**-3.22**	**-0.84**	**-2.80**	**-0.56**	**-0.56**		**-2.10**	**-13.58**

Year (Safety Improvement Construction) **2018**

Project Cost (exclude Right of Way) **$ 3,555,000**

Right of Way Costs (optional) **$ -**

Traffic Growth Factor **1.4%**

Capital Recovery

1. Discount Rate **4.5%**

2. Project Service Life (n) **20**

Type of Crash	Study Period: Change in Crashes	Annual Change in Crashes	Cost per Crash	Annual Benefit
F			**$ 1,100,000**	
A			**$ 550,000**	
B	**-1.82**	**-0.61**	**$ 160,000**	**$ 97,067**
C	**-7.28**	**-2.43**	**$ 81,000**	**$ 196,560**
PD	**-13.58**	**-4.53**	**$ 7,400**	**$ 33,497**
Total				**$ 327,124**

B/C= 1.40

Using present worth values,

B= $ 4,989,145

C= $ 3,555,000

See "Calculations" sheet for amortization.

Office of Traffic, Safety and Technology **September 2014**

Minneapolis
City of Lakes

Department of
Public Works

Steven A Kotke, P.E.
City Engineer
Director

350 South 5th Street - Room 203
Minneapolis MN 55415

Office 612 673-3000
Fax 612 673-3565
TTY 612 673-2157

November 21, 2014

James N. Grube, P.E.
Director of Transportation and County Engineer
Transportation Department
1600 Prairie Drive
Medina, Minnesota 55340

Re: Letter of Support for Hennepin County's Regional Solicitation Application and Project
CSAH 3 (Lake Street) Roadway Reconstruction/Modernization
Blaisdell Avenue to 1st Avenue and 3rd Avenue to 5th Avenue

Dear Mr. Grube:

The City of Minneapolis supports Hennepin County's federal funding application through the Regional Solicitation for the proposed CSAH 3 (Lake Street) roadway reconstruction/modernization and streetscaping project from Blaisdell Avenue to 1st Avenue and 3rd Avenue to 5th Avenue, which will include the following improvements:

- Roadway reconstruction
- Traffic signal replacement/upgrades
- Sidewalk/trail replacement
- Streetscaping elements

The city supports this county project to reconstruct Lake Street in coordination with the I-35W Lake Street Access project, which will improve capacity and safety for multiple transportation modes. Improvements along this corridor will improve the livability and quality of life for Minneapolis and Hennepin County residents.

Thank you for making us aware of this application effort and the opportunity to provide support. The city looks forward to working with you on this project.

Sincerely,

Steve Kotke
Director of Public Works and City Engineer

Call 311 Minneapolis
City Information and Services

www.ci.minneapolis.mn.us
Affirmative Action Employer

Minnesota Department of Transportation
Metro District
1500 West County Road B-2
Roseville, MN 5511

November 25, 2014

James N. Grube, P.E.
Director of Transportation and County Engineer
Transportation Department
1600 Prairie Drive
Medina, Minnesota 55340

RE: Regional Solicitation Application for CSAH 3 (Lake Street) Roadway Reconstruction/Modernization Improvements:
Blaisdell Avenue to 1st Avenue and 3rd Avenue to 5th Avenue

Dear Mr. Grube:

Thank you for requesting a letter of support from MnDOT for the Metropolitan Council's 2014 Regional Solicitation. Your application for the CSAH 3 (Lake Street) project impacts MnDOT right of way on I-35W.

MnDOT, as the agency with jurisdiction over I-35W, supports this county project to reconstruct Lake Street in coordination with the I-35W Lake Street Access project. Details of any future maintenance agreement with the county will be determined during project development to define how the project will be maintained.

While MnDOT has a significant investment in the I-35W Lake Street Access project in fiscal year 2017, this project currently has no funding from MnDOT.

Sincerely,

Scott McBride, P.E.
Metro District Engineer

Cc: Elaine Koustsoukos, Metropolitan Council
April Crockett, MnDOT Metro District – West Area Manager

Lake Street *Midtown Greenway*
Corridor Framework Plan

October 1999

City of Minneapolis

LAKE STREET MIDTOWN GREENWAY CORRIDOR FRAMEWORK PLAN

U.S. Department of Transportation

FTA
Federal Transit Administration

Prepared for:
Hennepin County and the Midtown Community Works Partnership

Through funding provided by:
United States Federal Transit Administration,
City of Minneapolis Public Works Department, Minneapolis Community Development Agency
The Mcknight Foundation

Prepared by:
Close Landscape Architecture, Inc.
SRF Consulting Group, Inc.
Design Center for American Urban Landscape
Urban Strategies
McComb Group, Ltd.

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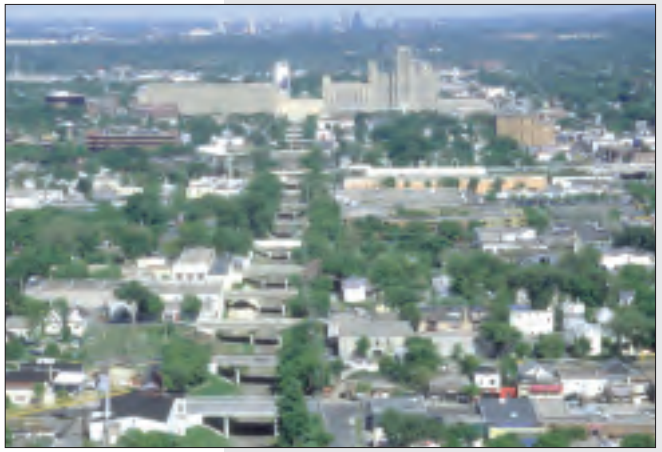
Chapter 3 Planning Principles and Design Guidelines

Chapter 4 Placemaking: Focus Area Recommendations

Chapter 5 Connections: Transit, Infrastructure and Open Space

Chapter 6 Implementation: Getting Things Done!

Appendix



Acknowledgements

We gratefully acknowledge the assistance of the following agencies, groups and individuals in the preparation of this document:

Hennepin County
City of Minneapolis
Midtown Community Works Partnership

Hennepin County Commissioners
Commissioner Randy Johnson, Chair
Commissioner Peter McLaughlin
Commissioner Gail Dorfman

Mayor of Minneapolis
Mayor Sharon Sayles Belton

Minneapolis City Council members
Council Member Brian Herron
Council Member Lisa McDonald
Council Member Jim Niland
Council Member Kathy Thurber

Metropolitan Council
Ted Mondale, Chair

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Fannie Mae
Gloria Bostrum, Director
Minnesota Partnership Office

Honeywell
Glenn Skovholt, Vice President

LISC
Paul Williams, Senior Program Director

Mpls. St. Paul Magazine
Burt Cohen, President and Publisher

Norwest Bank
Jim Campbell, Chair and CEO

NSP
Tom Micheletti, Vice President

Reliant Energy Minnegasco
Gary Cerny, President and CEO

TCF
William Dove, Vice President
TCF Financial Corporation

US Bank
Robert Sznewajs, Vice Chairman

WCCO-TV
Jan McDaniel, General Manager

The Midtown Community Works Technical Advisory Committee

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Midtown Greenway Coalition
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Amy Tibbs

Minneapolis Department of Public Works
John Hotvedt
Jon Wertjes

Minneapolis Mayor's Office
Ron Thaniel

Metropolitan Council
Craig Rapp

Private Sector Business/Institutional Leaders

Neighborhood Groups
- West Calhoun Neighborhood Council
- Whittier Alliance - South Whittier Redevelopment Task Force
- Phillips Community Development Corporation and District One
- Central Neighborhood Improvement Association
- Corcoran Neighborhood Association
- Longfellow Community Council
- Powderhorn Park Neighborhood Association

Locally Based Groups
- Lake Street Partners
- Lake Street Council
- Midtown Greenway Coalition
- FORECAST Public Artworks
- Urban Ventures

Consultant Team
- Dewar & Associates, Inc.
- Smith Parker, PLLP
- George Sutton

Framework Study Team
- Close Landscape Architecture
- SRF Consulting Group, Inc.
- Design Center for American Urban Landscape
- Urban Strategies, Inc.
- McComb Group, Ltd.

Layout and Production
- Anne Rykken

Corridor Illustrations (Chapter 4)
- Janet Lawson

Overview

The purpose of this Framework Plan is twofold: First, to bring forward an exciting and engaging vision resulting from the broad-based commitment of the many stakeholders in this corridor; and second, to identify the specific steps needed to realize this vision.

This document is organized into the following chapters:

Chapter One introduces the corridor and defines the key elements of this redevelopment strategy.

Chapter Two describes the local and regional significance of Lake Street and the Midtown Greenway.

Chapter Three provides an overview of urban planning principles and a detailed description of corridor design guidelines.

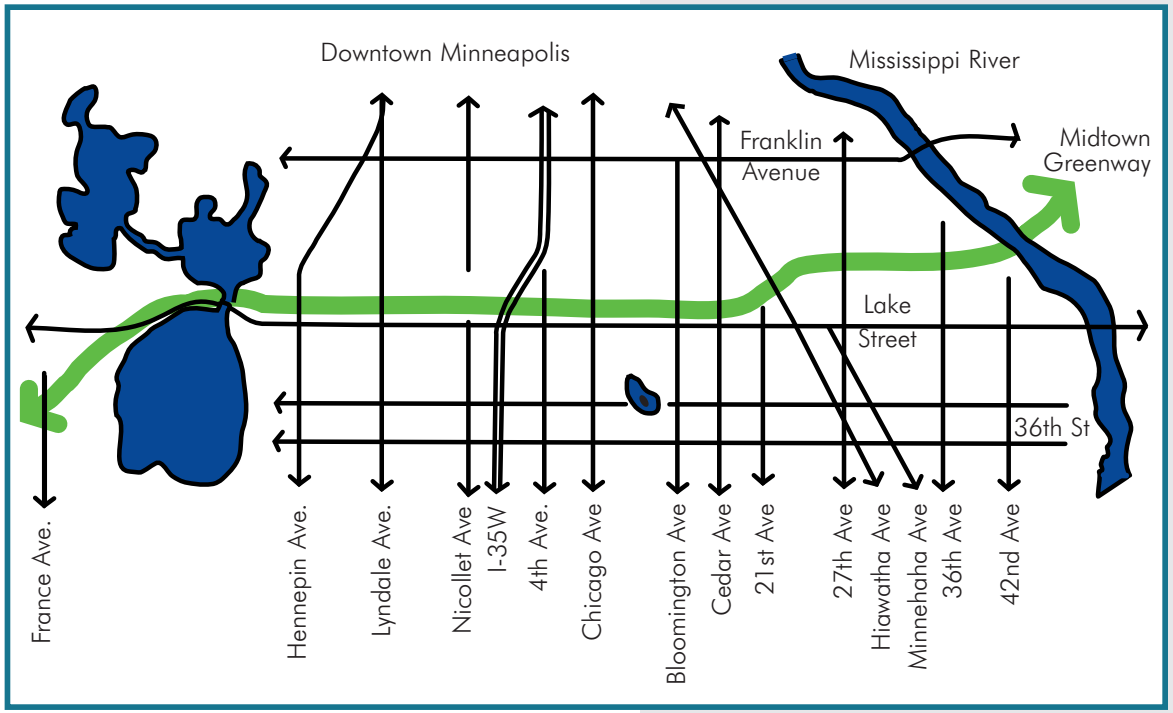
Chapter Four identifies the location and type of project activities, describes neighborhood opportunities/challenges and outlines a checklist for next steps, roles and responsibilities.

Chapter Five describes the key connections that link together corridor amenities, commercial centers, neighborhoods and the region.

Chapter Six provides a summary of corridor priorities and other project implementation issues.

And finally, the Appendix includes a series of inventory maps and a complete bibliography of related studies and source material for this document.

This Framework Plan has been prepared for an audience of both public and private sector groups and individuals. It is already being used as an 'implementation tool' to heighten the discussion and strengthen the resolve of corridor stakeholders, working together to create a unique, memorable, safe and sustainable model from which to build a stable, mixed income community that works for everyone for decades to come.



frame•work \'fram-ˌwerk\ *n*(1644) **1** a: a basic conceptual structure (as of ideas) <the ~ of the constitution> **b**: a skeletal, openwork, or structural frame **2**:FRAME OF REFERENCE **3**: the larger branches of a tree that determine its shape

Chapter 1

The Lake Street Midtown Greenway Corridor

Introduction

The vision for the Lake Street Midtown Greenway Corridor articulated in this Framework is one of opportunity and reinvestment - revitalizing this once thriving commercial/business center into a major neighborhood and regional amenity.

At the core of this revitalization effort is the significance of 'place.' Most people recognize the beauty and value of the Chain of Lakes and the Mississippi River as places of inspiration, recreation and celebration. But many are unaware of the rich history of Lake Street and the abandoned rail corridor that runs parallel to it. People may visit Uptown or the shops and restaurants at Lyndale and Lake, but the huge potential and unique character of the rest of the corridor have gone largely unnoticed . . . until recently!

This Framework serves to vocalize and catalyze a shared vision for development within and around this corridor. Building on the efforts of political and business leadership along with numerous neighborhood groups and organizations who are pursuing a variety of ongoing project initiatives, **this opportunity is too great to miss.** With the newly formed Midtown Community Works Partnership (initiated in January 1998), composed of elected officials from City and County government joined by CEO's from many major corporations and institutions, a clarity of purpose and a plan for action is emerging. But the challenge is in how to tell this story, how to reach a wide and very mixed audience - how to capture the imagination, energy and commitment needed to turn plans into projects and dreams into reality.

This Framework Plan recognizes and incorporates the conclusions and recommendations contained in the many existing planning studies already completed as the foundation for the work ahead. From an urban design perspective, we can look back into the past to understand what made cities great and then reach into the future to embrace new technologies and the creative partnerships needed to get things done. By applying what we learn, we can build safe communities in which to raise families, find a living wage job and develop places for recreation and recharge.

The focus of this work is on 'placemaking and connections' . . . to provide an environment for both existing neighborhoods and new development opportunities that attaches a high value on the public realm. It is about creating places that are unique, identifiable and memorable - places that are worthy of our affection - encouraging a strong sense of community, a pride of ownership and responsibility to be carried forward for future generations.

Placemaking and Connections

The Significance of Place

The revitalization of the Lake Street Midtown Greenway Corridor will fill a gap in a much larger network of neighborhoods, business districts and recreational systems. It is a key piece of a metropolitan-scaled puzzle, providing a highly desirable east-west link across the city, eventually connecting Saint Paul to the western suburbs. It also provides excellent access to north-south streets and bikeways, creating a new urban movement network.

The success of the Lake Street Midtown Greenway corridor is important for reasons that extend far beyond its immediate borders. While this regeneration will stimulate local growth and initiatives, it will also serve as a model for a new way of thinking about the metropolitan area - underscoring the fact that successes in one portion of the community support successes elsewhere.

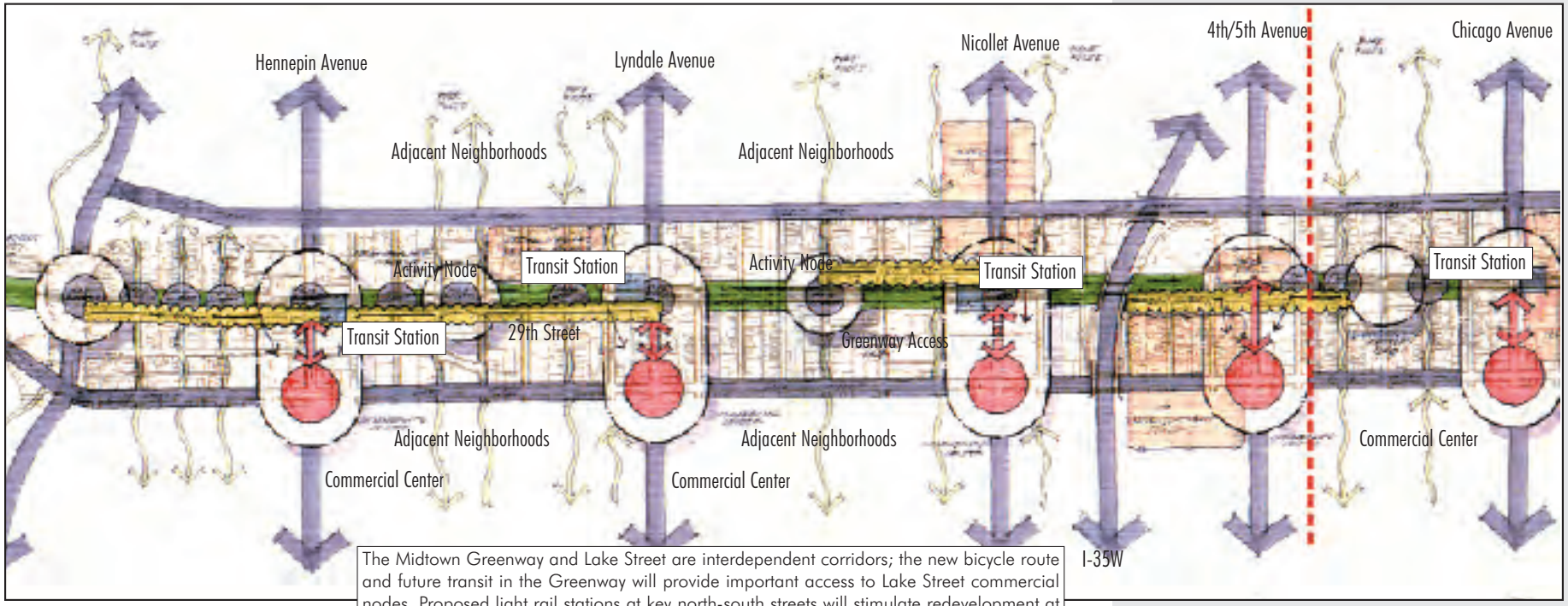
To neighborhoods like those along the Greenway and Lake Street, the goals are simple: keep businesses and residents who already live and work here, and attract new businesses and residents to the area. This can succeed only if the neighborhoods are safe and well maintained, and if the conveniences and amenities of high quality urban living are present.

This Framework is intended to help "guide the market" in the corridor, by identifying new opportunities and uniting all interests - public and private, business and neighborhood resident - behind a shared vision for a revitalized Midtown community. If we do nothing, change will still occur, but it will typically be developer-driven and site specific. This document focuses on the two critical qualities that will "raise the standards" for revitalization: **creating meaningful places and linking them together with a high quality public realm.**

Key Connections - Linking it Together

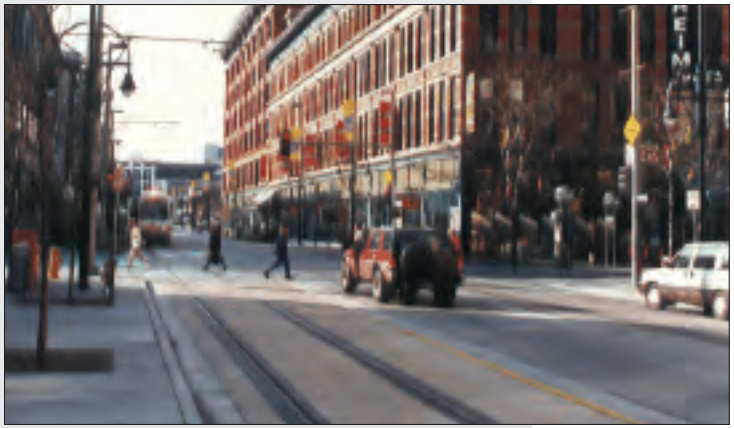
While Lake Street and the Midtown Greenway corridors - running parallel and a block apart - cut a significant east-west swath through much of south Minneapolis, it is their relationship to adjacent neighborhoods on the north and south that is especially important. Historically, the success and decline of the neighborhoods could be measured against the vitality of Lake Street, especially as one moved further east from the Lakes District. The railroad corridor, servicing business and manufacturing facilities, was accepted as a necessary compromise that kept important jobs in the community.

The departure of the railroad (by 2008) and the development of a recreational and commuter bicycle trail in the trench offer a tremendous opportunity to re-think the physical form and character of this entire part of the city. Together, the Greenway and Lake Street act as a joined pair, a redefined armature through the neighborhoods. The accompanying diagram shows the inseparable relationship that exists between the two, especially at the commercial centers, such as Lyndale and Lake, Nicollet and Lake, 4th and Lake, Chicago and Lake, Bloomington and Lake, Hiawatha and Lake and other key nodes from the Chain of Lakes to the Mississippi River.



The Midtown Greenway and Lake Street are interdependent corridors; the new bicycle route and future transit in the Greenway will provide important access to Lake Street commercial nodes. Proposed light rail stations at key north-south streets will stimulate redevelopment at those intersections, further strengthening their commercial viability.

Selby Avenue, 1948. Courtesy MHS



Transit, Mixed Use and the Livable City

Transportation systems have historically determined the form of cities. The streetcar system was the prime generator of form on Lake Street during its maturation in south Minneapolis. The parallel rail corridor, while not a public space, also shaped development by creating a new edge between the neighborhoods to the north and the mixed commercial and industrial uses between Lake Street and 29th Street. While commercial uses always tended to cluster at the major north-south crossroads, there was a remarkable consistency to the retail character of Lake Street from Hiawatha to Hennepin Avenue. Without the streetcar, and with the increased use of the automobile, the character of Lake Street was destined to change.

Purchased by Hennepin County Regional Rail Authority for use as a light rail corridor, the Greenway will once again effect change in land use patterns along Lake Street and adjacent to the Greenway itself. Based on observations of similar light rail "new-starts" in other cities, the areas around proposed stations will see a significant increase in commercial and residential development characterized by a more compact land use pattern at these important nodes. The rail corridor, long a negative space dividing the neighborhood, will become a positive space, attracting significant new investment.

This increase in residential density and commercial activity will certainly bring more people to the Midtown area. Both the Minneapolis Plan and the Metropolitan Council regional Blueprint suggest significant gain in population for these south Minneapolis neighborhoods. This pattern of growth and re-investment cannot be fully realized without improved transit to support it. The potential conflicts caused by increased traffic, business growth and new housing, as described in the Midtown Transportation Composite prepared by SRF Consulting Group for Hennepin County, supports the need for a long-term vision and implementation strategy. Land use, street capacity, infrastructure replacement, access, funding and other issues must match with overall objectives for transit and transportation improvements in the corridor.

Balanced and Integrated Solutions

Strong urban form, an inviting pedestrian realm, availability of living wage jobs and a perception of safety and security are key characteristics of healthy neighborhoods - a shared vision and prized outcome for communities throughout the country. Tree-lined residential streets, life-cycle housing, a variety of nearby goods and services, entertainment and arts attractions, access to local parks and regional open space systems, and good transit connections and traffic circulation will all contribute to the stability and vitality of the Midtown Corridor. The potential is here for the 24-Hour City.

But this also creates new challenges. These positive attributes give rise to a variety of critical issues related to livability and the continuing evolution of our core cities. These issues include traffic conflicts, parking needs, tensions between incompatible land uses, the creep of commercial development into residential neighborhoods and aesthetic concerns including noise, trash and other by-products of all this activity.

So what does this mean? In short, things change and these changes must be addressed through sound strategic thinking joined with decisive action. The goal is to direct implementation activities based on a clear set of desired outcomes and not be forced into a reactionary response to the changes going on around us.

Directed growth and increased density are positive objectives, but can only succeed if the necessary infrastructure is there to support it. The kinds of conflicts and tensions described above will always exist, but better management of these conflicts through quality design, realistic operations/enforcement and balanced land use policy will ensure that the overall vision for the corridor is successful.

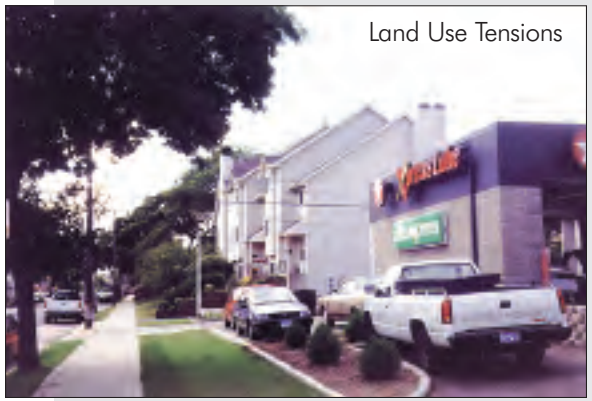
This Framework Plan seeks to balance and integrate solutions for transit and mixed use development throughout the corridor with a focus on:

- Rethinking policy issues - zoning alternatives, site plan requirements, funding for capital projects
- Development strategies that promote transit options as key components
- Development strategies that promote compact development at specific locations more easily facilitated by transit connections
- Regional/neighborhood parking strategies linked to transit at multi-modal stations
- Improvements to public infrastructure and the public realm to enhance existing and attract new business, residential and recreational uses.

This is all about "Urban Stewardship." The way in which cities grow is a contextual issue, not forced or predetermined but an evolution that needs to be directed, nurtured and maintained. The Framework Plan serves to identify the key pieces in this puzzle and also defines a clear set of objectives to describe what success might look like. The challenge is to use these and other planning tools to implement projects that serve to catalyze adjacent development, then adjust as we go along to reach the desired outcome.

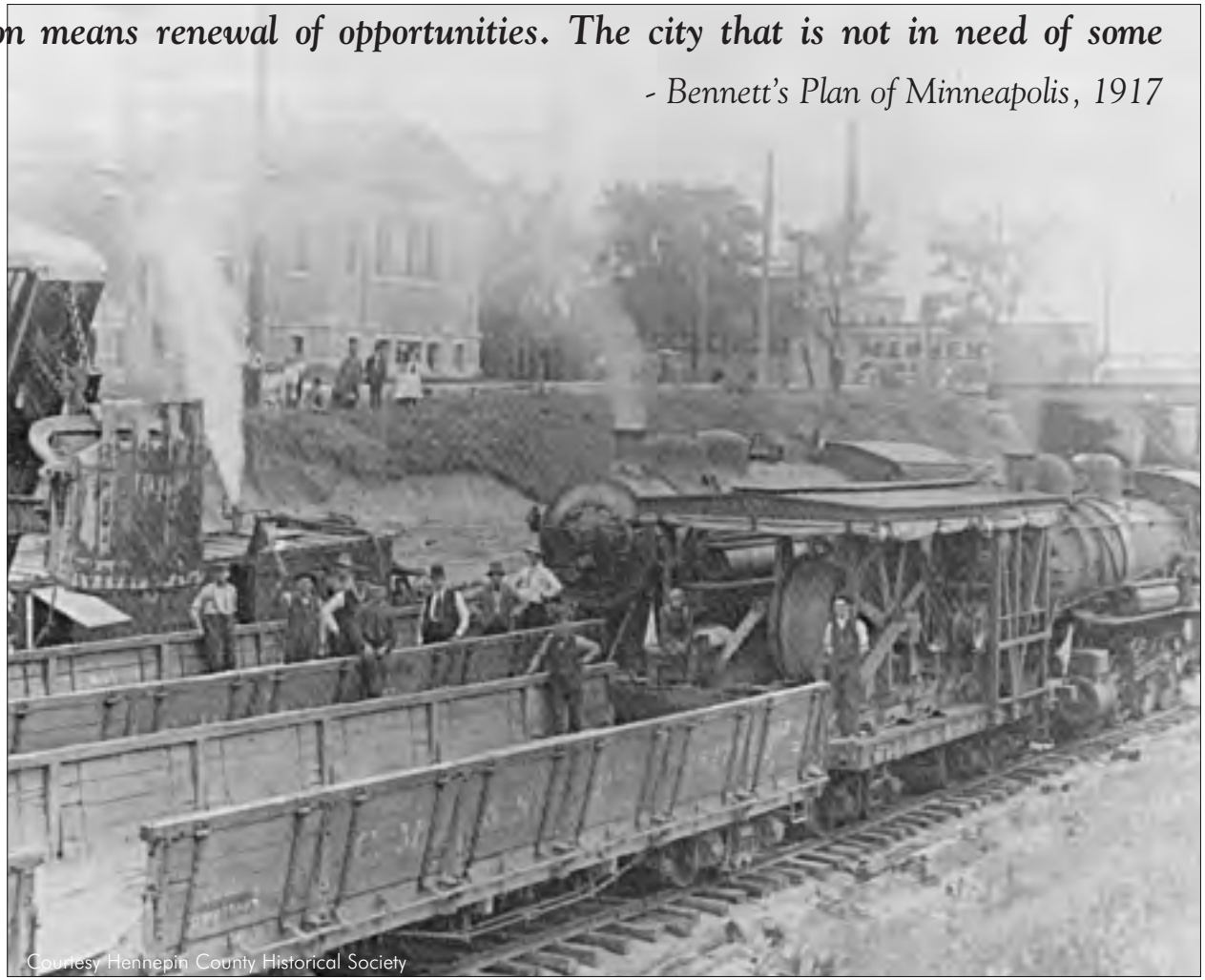
Parking Conflicts

Commercial Activity


Land Use Tensions

"Necessary reconstruction of a city involves necessarily the relocation of its railroads. Reconstruction will always be necessary as long as the city grows. This is a cause for congratulation, because reconstruction means renewal of opportunities. The city that is not in need of some rebuilding is dead."

- Bennett's Plan of Minneapolis, 1917



Excavation of the "Lake Street Depression" (1912-1917), probably near Hennepin Avenue with the Walker Library in the background

Chapter 2

A Bridge to Marketplaces, Neighborhoods and Nature

Introduction

The magic of the Lake Street Midtown Greenway lies in its transformation from a utilitarian linear service district and railroad line into an active public space and recreational amenity. This remarkable change creates new marketplaces, enhanced central city neighborhoods and enriched natural systems while bridging across two critical scales of community:

- Locally, the Greenway will stimulate neighborhood economic, social and environmental revitalization.
- On the metropolitan scale, this rejuvenated section of the city will provide a new regional marketplace, as well as residential options and amenities.

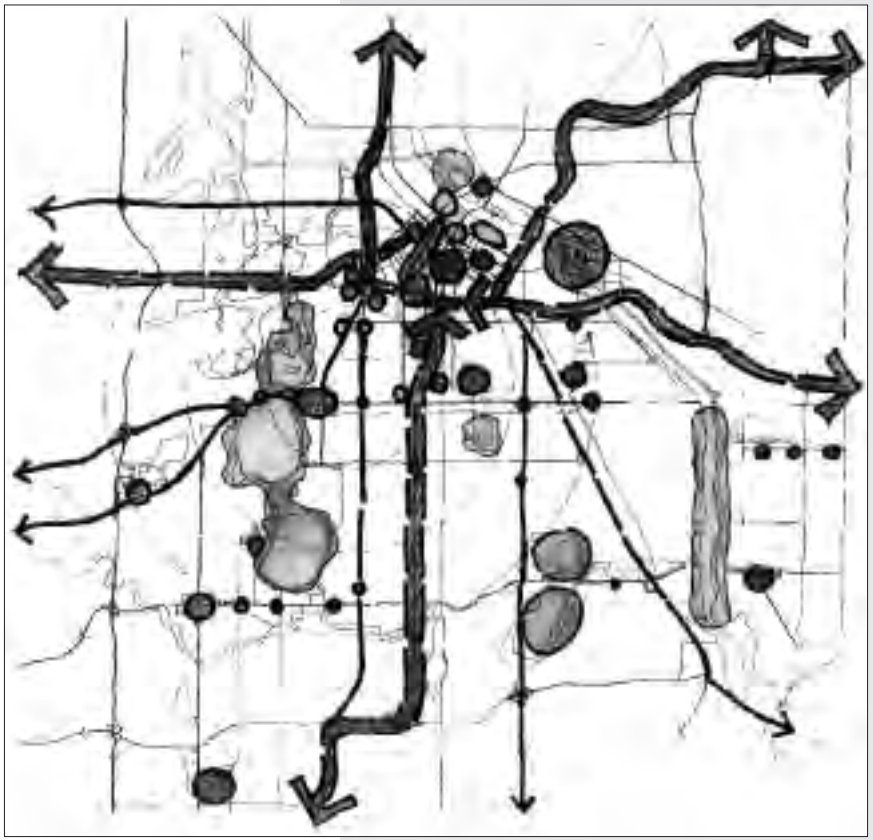
The Traditional Metropolitan View:

Isolated Islands of Activities

To many city and metropolitan residents, the Lake Street and 29th Street corridor or Greenway are barely acknowledged in their list of destinations. In fact, many see the rich list of cultural, entertainment and neighborhood assets along the Greenway as unrelated points of interest and islands of activity. For most, it is known as an island of activity called Uptown. Briefly glimpsing the 29th Street/Greenway Corridor while crossing over it, people's image of the Greenway is one of an abandoned railroad line in a ditch, that divides and segments the community.

This fragmented picture is about to be changed by a public and private partnership that will coordinate actions and developments, both proposed and presently underway. The critical questions facing the city and the county are:

- How do these individual acts add up to a cohesive network of local and regional activities and places, both on and connecting to the Greenway?
- How do we change metropolitan residents' cognitive view of this new regional amenity and market place?



Map A

Map B

Map C

Early History

The first idea of building cultural and environmental connections across the city from the Mississippi River to the Chain of Lakes grew from the city's historical response to its topography.

Map A shows how the Mississippi River has shaped the city's form and structure. The river is carving a beautiful canyon surrounded by highland bluffs to the east. On the western boundary lie the sprawling area of drift hills, the Chain of Lakes and Minnehaha Creek. Between the hills and the canyon, the once meandering Mississippi River has left behind a broad flat sandy loam plain of prairie grassland.

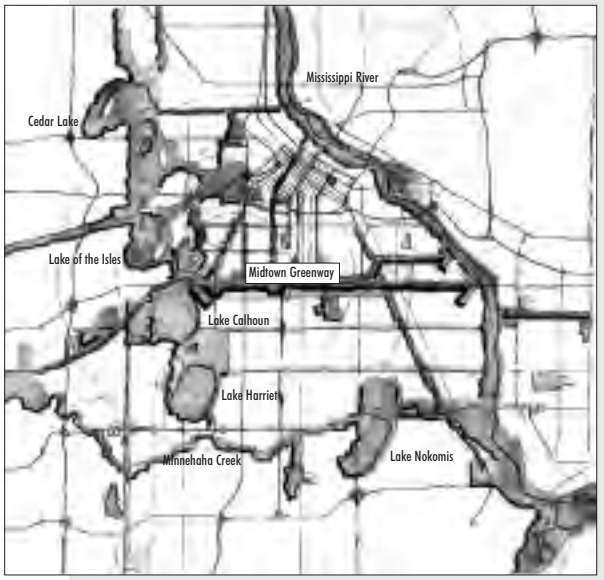
Native American and early settlers approached this broad sandy loam plain with the same response. They created a network of connections uniting the resources on the eastern and western edges of the city with elements located in the middle of the plain. The Trygg map of 1853 (Map B) illustrates a diagram of early trails crossing the triangular shaped grassland prairie marked on the map.

In 1917, the 'Bennett Plan' for Minneapolis would formalize this pattern into a system of interlacing parkways, avenues and boulevards. (Map C) This system formed the basis for uniting the many neighborhoods and parks of the interior section of Minneapolis with the resources on the edge. Though this plan was never fully implemented, this concept became the guide for creating development along the riverfront and our world-renowned system of community parkways, known as The Grand Rounds. Conceived by landscape architect Horace Cleveland in the 1880's, this signature linear network has become the cornerstone of the Minneapolis park system.

Emerging Metropolitan Views

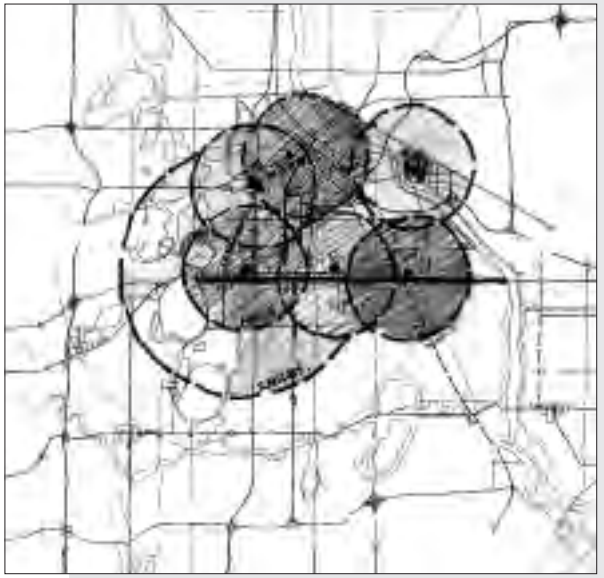
A Regional Network of Recreation Activity and Natural Habitat

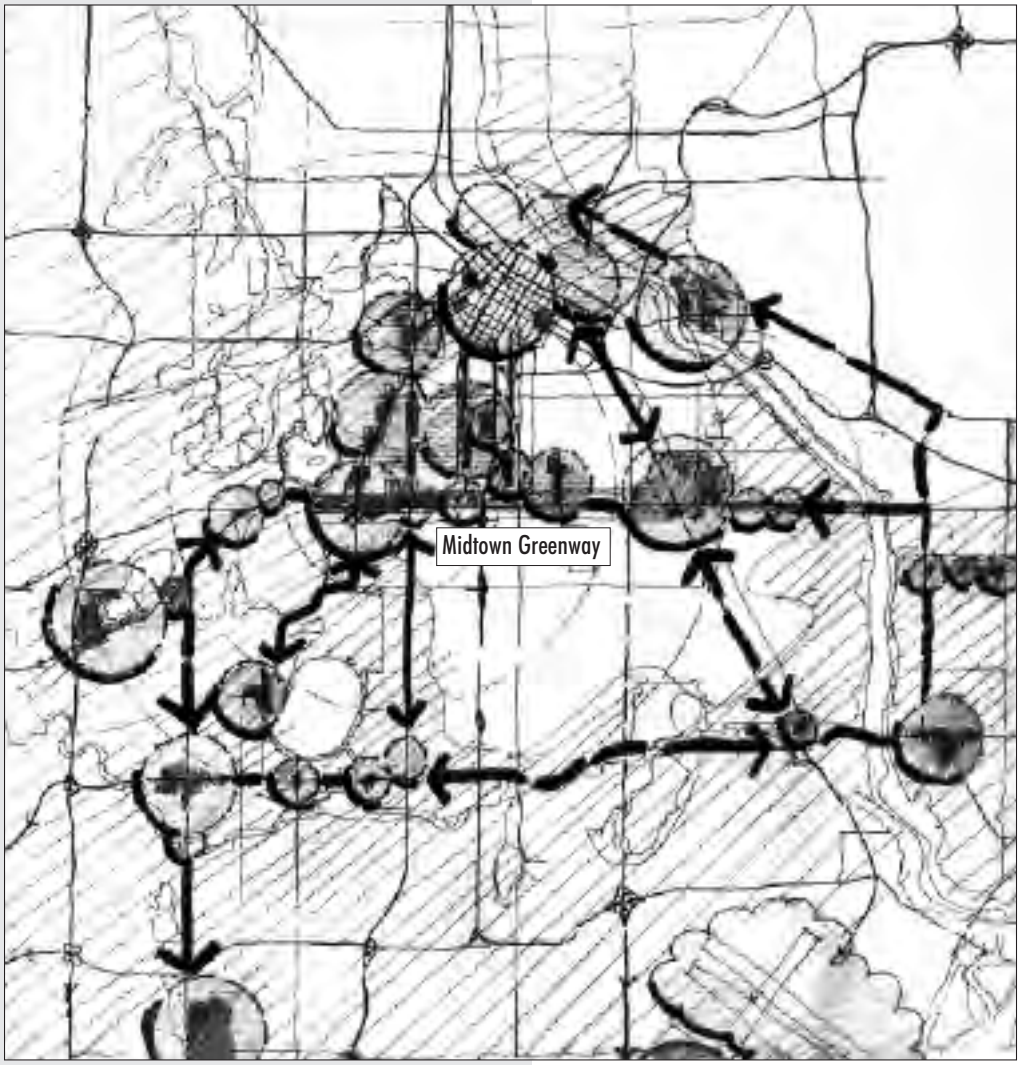
In recent years Neighborhood Revitalization Program plans generated by neighborhoods and revitalization strategies by the City and County have reconstituted these ideas and concepts. In this sketch, a number of proposed east to west and north to south connections are shown. They are a representation of the many detailed proposals to complete this network of connections. The center piece of this system is the completion of the Midtown Greenway Corridor. The Greenway creates both a critical cultural and environmental amenity across the broadest section of this historic flat plain. Not only does the Greenway help unite the city's diverse neighborhoods, it creates a major regional asset. It adds recreational opportunities and open space to the crowded Chain of Lakes system and direct connections to and from the Mississippi National River and Recreation Area.



Expanding Mixed-use Marketplace Thresholds

The second idea builds upon the prosperous growth of neighborhoods and the expansion of the City's cultural, entertainment and recreational centers. There are few American cities that can present a picture of growing cultural centers, a network of neighborhood commercial/entertainment centers, the development of a major greenway and open spaces tied to a growing diversified residential market within a two mile radius of a vital central business district. The combination of expanding institutions and marketplaces is creating a rich network of activities, uniting neighborhoods and in-filling the historical sandy loam plain. **Instead of a set of isolated islands of activity, these centers are becoming a network of regional destinations.** They are destinations which can be explored, providing for the discovery of multiple sets of tastes, activities and places.





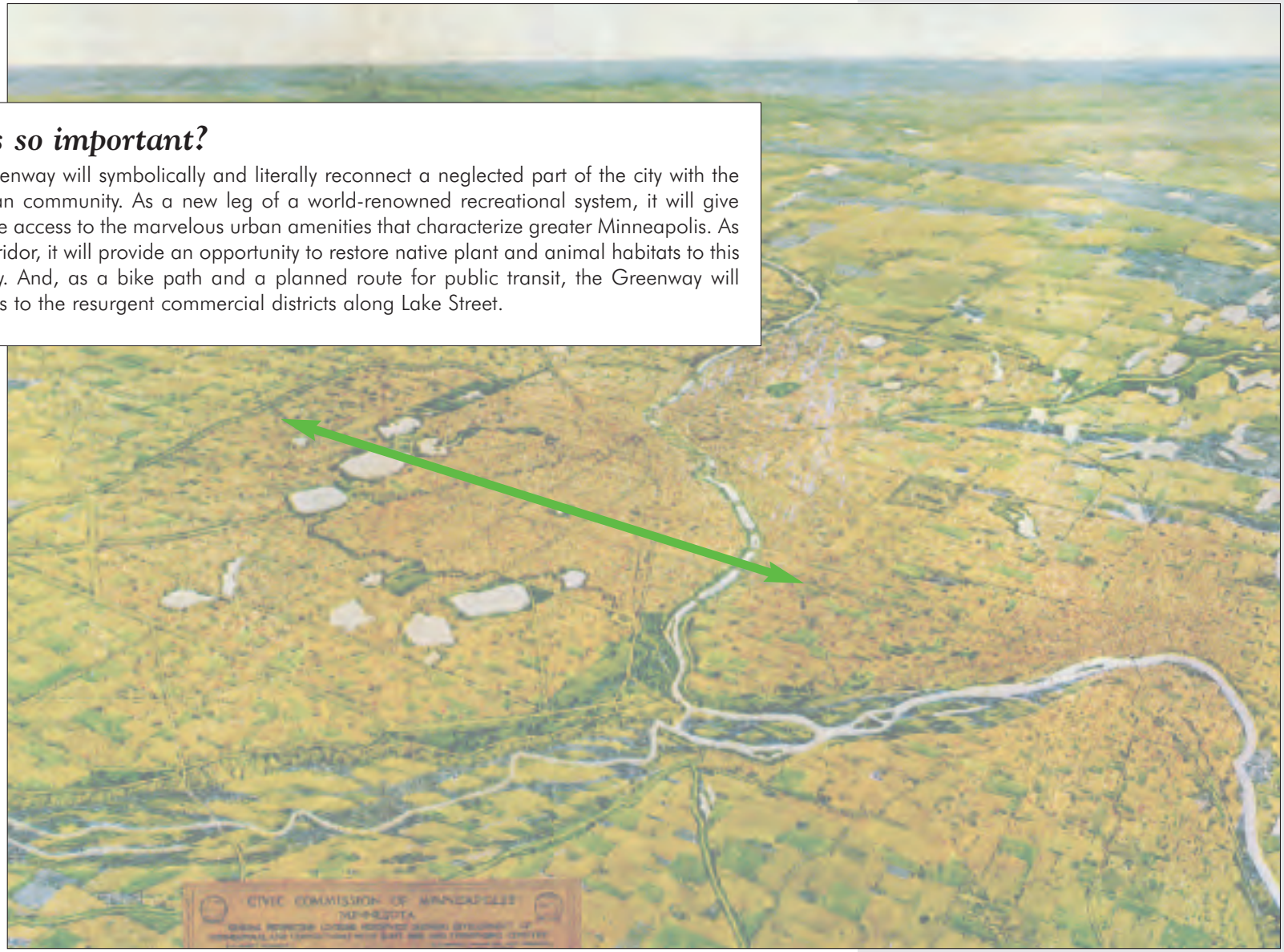
A Regional Necklace of Activities and Neighborhoods

Combining the idea of connections with the concept of creating a "regional necklace" of diverse activities and places, this sketch illustrates how the Midtown Greenway provides a key link in this regional system. It has three functions:

- It provides a strong connection between the prospering and diversified river neighborhoods of St. Paul/Minneapolis to the east with the rich matrix of neighborhoods in the western part of the city, interlaced with Edina, Bloomington and St. Louis Park residents.
- It forms a central spoke in an emerging activity network uniting the city's central business district, cultural centers, and growing neighborhood commercial and entertainment nodes.
- It is a unique space and place in the region. The transformation of this once industrial service corridor into a mixed use commercial, employment, open space and residential linear space provides the metropolitan area with a "one of a kind" development opportunity for new types of market place products and the revitalization of existing adjacent communities.

Why is this so important?

The Midtown Greenway will symbolically and literally reconnect a neglected part of the city with the larger metropolitan community. As a new leg of a world-renowned recreational system, it will give many more people access to the marvelous urban amenities that characterize greater Minneapolis. As a landscaped corridor, it will provide an opportunity to restore native plant and animal habitats to this portion of the city. And, as a bike path and a planned route for public transit, the Greenway will permit easy access to the resurgent commercial districts along Lake Street.



from Bennett's *Plan of Minneapolis*, 1917

"Creating meaningful places and linking them together promotes economic vitality and an improved quality of life."

Chapter 3

Planning Principles and Design Guidelines

Introduction - The Framework Plan

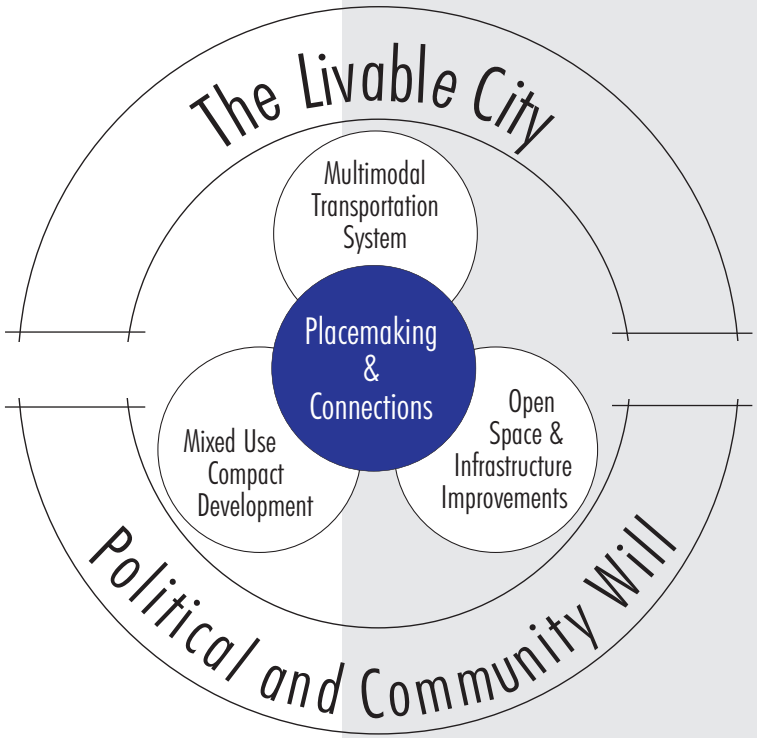
Planning is a process, not a product. A "master plan" is a snapshot in time, and if too prescriptive, it quickly finds its way to the bookshelf. This document is intended to be a flexible "framework" to help civic and political leaders, developers and stakeholders form educated, appropriate decisions about how this urban corridor can and should be enhanced and redeveloped.

The Framework Plan is intended to educate and inform people about the qualities that contribute to good urban places. It seeks to bring focus to the unique opportunities that exist throughout the Lake Street Midtown Greenway Corridor. It also identifies the primary obstacles to successful redevelopment and sets forth a series of guidelines specific to these linked south-side neighborhoods. Above all, it stresses the importance of connecting individual projects together with a high quality public realm to expand the impact of each investment and to strengthen the quality and livability of the entire community.

Building the Livable City - The Foundation and The Structure

Successful revitalization of the Midtown Corridor is dependent upon three essential and interdependent components: a multimodal transportation system; open space and infrastructure improvements; and mixed-use compact development - all supported and energized by the political and community will to succeed. To some degree, each of the three components depends on the other two. For example, while Uptown has experienced significant commercial success, congestion and parking have become more of a problem. Enhanced transit and other open space/infrastructure improvements are certainly part of the solution.

Placemaking and connections relies on the unified vision and shared voices of government agencies, developers, business owners and community residents. Redevelopment of the Midtown Corridor provides a unique opportunity to bring together key stakeholders, forge a common long-view strategy and move forward to implement change.



Urban Planning Principles - Economic Vitality and Quality of Life

For several decades portions of the Midtown Corridor have been perceived as places in decline, suffering from disconnection and disinvestment. This reputation lowered land values, which eventually lured new pioneers to invest in the community and brought new - if modest - stability to the area. As is common with the evolution of urban neighborhoods, those areas experiencing the greatest crisis are often the same areas where dramatic change can occur. It is sometimes as simple as changing perceptions.

The following guiding principles were developed early in this planning process, providing a foundation for the Framework Plan:

Reinforce safe environments

Providing an engaging and safe place for people to live, work, shop and play is essential to this entire effort and requires the transformation of real and perceived negatives - physical, economic and social - into positives.

Be transit, pedestrian and bicycle friendly

The dominance of the automobile in American culture has had a profound impact on the urban landscape. There has recently been a re-awakening to the value of creating places that balance automobile use and other modes of transportation. Creation of this new commuter bike route has tremendous potential to set the tone for new urban redevelopment patterns in south Minneapolis.

Balancing automobile use with other modes of transportation

Establish links to transit and support transit-oriented development

Lake Street and the Midtown Greenway will, in all likelihood, eventually carry public transit (local service on Lake, longer-range service in the Greenway). There must be frequent connections to transit throughout the corridor, including safe, well designed transit stations, weather protection and many other amenities. Transit-oriented development needs to be anticipated around future transit stations. These hubs will become significant activity areas as transit transforms the city.

Foster a sense of place and community

Community means much more than a physical place; it suggests pride of ownership and interaction between people. It suggests shops that support the immediate area as well as the larger community. It suggests safe and comfortable streets and access to recreation. Private reinvestment has already re-energized Uptown, and the Lyn-Lake and 4th Avenue/Lake nodes are coming alive as well. These areas have become identifiable meeting places with a unique character that draws people back again and again. The Midtown Greenway is a major public investment that will connect these new places, with separate but complementary qualities.

A mix of uses intensifies activity on the street

Support compact, mixed use development patterns

The Lake Street Midtown Corridor has always been characterized by a mix of land uses in close proximity to one another. These patterns are still clearly evident in the neighborhoods. Now, with the

consolidation of commercial uses at the major nodes and the promotion of 29th Street and the Greenway as a front door rather than a service door, the patterns of use will change. Still, the mix of uses should be strengthened and, over time, intensified. This should be most apparent with new compact development, including mixed income and multi-family housing and business growth between Lake Street and the Greenway.

Respect architectural form, scale and context

Many traditional architectural forms remain along Lake Street and in the neighborhoods. Two to three story commercial buildings give Lake Street its sense of containment and character. Old, three story walk-up apartments and turn of the century housing reflect the familiar Minneapolis patterns. While it need not replicate older models, new architecture should echo the scale and character of the traditional neighborhoods.

Incorporate environmentally sustainable practices

All matters of sustainability, from stormwater management to the use of recycled materials and the development of “healthy homes" and "green architecture," should be practiced in the corridor to further the area as a model for appropriate contemporary urban revitalization.

Support ‘greening’ as a key component of corridor development projects

All development and infrastructure improvements should incorporate a strong greening/public realm component. A linked network of open space and dedicated public parks will contribute immeasurably to the quality of life for residents, businesses and visitors in adjacent neighborhoods. The revitalization of this corridor must also provide improved access and connections to the Greenway, to existing parks and to regional recreational systems throughout the Twin Cities.

Balance economic vitality with quality of life

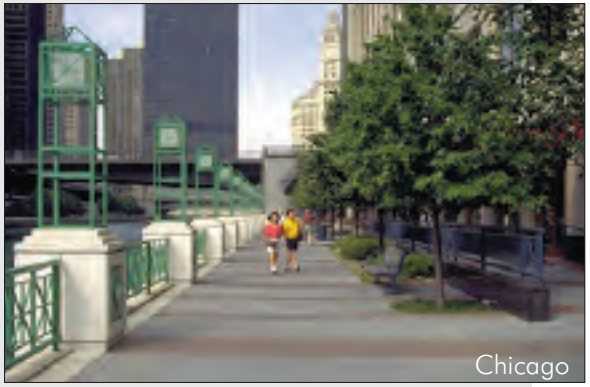
Successful urban environments consist of a mix of land uses, housing options, job opportunities and transit. Economic vitality must be reinforced throughout the corridor by promoting a balance of life-cycle housing, business development and recreational and “greening” opportunities, co-existing in close proximity to create thriving, safe and stable neighborhoods.

Target strategic public improvements to leverage private investment

Significant public investment has been targeted toward this corridor including infrastructure and streetscape improvements, environmental clean-up, and land assembly activities. Private development often follows the lead of these public improvement projects. It is crucial that the City and County continue to join forces with private investors to more effectively identify key development sites and other opportunities to maximize investment decisions in support of the development strategies outlined in this framework plan.

View of a public space between busway lanes on the 16th Street Mall in Denver, Colorado. The ‘low floor’ buses are accessible, quiet and clean.

This narrowed street in Boulder, Colorado, successfully accommodates bicycles and a pedestrian crossing, while calming traffic.


Chicago

Charleston

Chicago

Corridor Design Guidelines - Promoting Placemaking and Connections

The guidelines that follow were developed in response to the specific issues that face these urban neighborhoods as redevelopment occurs. They call for a new vision for the corridor and adjacent areas, but reflect an understanding of the deeply ingrained development patterns that exist adjacent to the Greenway. First and foremost, they support the concepts of placemaking and connection, which are the building blocks for successful revitalization of the corridor.

The Guidelines:

1. Promote an integrated relationship between new development and the Greenway edge. Make the corridor "Greenway friendly."
2. Promote opportunities for additional public green space, dedicated parks and trail connections along the Greenway edge.
3. Develop a premier public edge along both sides of the greenway, including 29th Street on the south side and a public promenade on the north.
4. Promote development that reinforces and relates to adjacent land uses and appropriate architectural scale, particularly along Lake and Lagoon Streets and at commercial nodes.
5. Locate front doors on the street, (including 29th Street and the Greenway) and relocate service doors, away from the public realm.
6. Promote safe, calmed streets with widened sidewalks. Focus investments toward developing an enlivened pedestrian environment and an improved public realm.
7. Integrate transit with all redevelopment projects, including safe and visually appealing transit stops for future light rail or busways.
8. Support compact development and promote mixed use in the corridor. Create a more vibrant and diverse urban environment.
9. Locate parking either on the street or behind/between buildings along the block. Consolidate parking in structures or municipal lots.
10. Promote opportunities for art in public places.

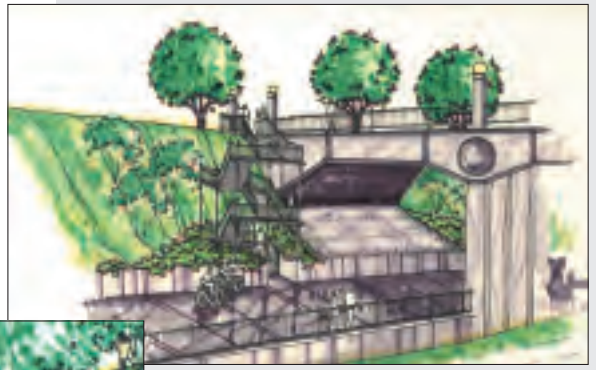
1 Promote an integrated relationship between new development and the Greenway edge. Make the corridor "Greenway friendly."

Based on its history as a railroad service corridor the Greenway trench has been perceived as a necessary compromise in the community. Land values of residential properties near the area have declined in recent years. All the clutter and noise that accompany heavy rail use (open storage, noise, unlighted areas and an untended landscape) combine to create a feeling of abandonment and avoidance. It does not feel safe!

Reversing the negative perception of the corridor - to "turn it inside out" - requires several key moves:

- Make the Greenway a pleasant and inviting experience with the addition of lighting, signage, landscaping and other trail amenities.
- Promote transit use and transit connections as key public amenities in the corridor.
- Require that new development projects front onto the Greenway and along 29th street.
- Re-orient existing businesses and residences to the Greenway by developing new entries and relocating service access and storage areas to internal sites on the block.
- Where relocating entrances onto the greenway is unfeasible, develop pedestrian-friendly facilities along the rim, such as terraces for employees, improved landscaping and additional windows and awnings to improve visual connections to the corridor.
- Coordinate new development with the upgrading of 29th Street and the installation of the north rim public promenade, including a variety of ramp and stair connections to improve access, visibility and activity along the Greenway edge.

The proposed "Urban Village" will face onto a new "Public Promenade" along the north rim of the greenway.



Ramps and stairway connections will strengthen ties between the greenway and surface streets.

2 Promote opportunities for additional public green space, dedicated parks and trail connections along the Greenway edge.

Seek opportunities for a variety of small parks and public spaces.

Identify opportunities for additional public parks and squares as key neighborhood gathering/celebration nodes. (Bryant Park, NYC, by Olin Partnership. Photo by Felice Frankel. Courtesy of Olin Partnership.)

In addition to being an important recreational and commuter bicycle corridor and future transitway, the Midtown Greenway provides a unique opportunity to add valuable open space to an under served sector of the city. Small parks, public squares and gardens and informal green spaces will all contribute to a more sustainable and livable urban environment. Identifying key spaces along the Greenway for the development of new public open space is an essential step in the planning process. A number of guidelines apply:

- Identify opportunities for a wide range of recreational activities to serve people of all ages along the corridor, including playlots, public gardens, strolling paths of varying character and places for resting.
- Establish a variety of landscape types in response to the diverse conditions along the Greenway both in the trench and at the rim. More natural areas, containing native plant communities, will contrast with and augment more structured landscapes such as the 'landscape gallery' at the Urban Village.
- Identify and develop key linkages between the Greenway and nearby parks and open space, on 'green streets.' These connecting streets should focus on calming traffic, emphasizing pedestrian and bicycle access. They should include pedestrian scale lighting, broad sidewalks, well-designed landscaping, and safe crossings of major streets.
- Create new public parks at key locations along the corridor to provide additional public space while supporting and strengthening the impact of existing and proposed private development. Numerous links between the rim and the below-grade corridor are essential to facilitate movement between spaces in and along the Greenway.
- New development must integrate public green space as a key component in their site planning and detailed design work, particularly along the Greenway edge.

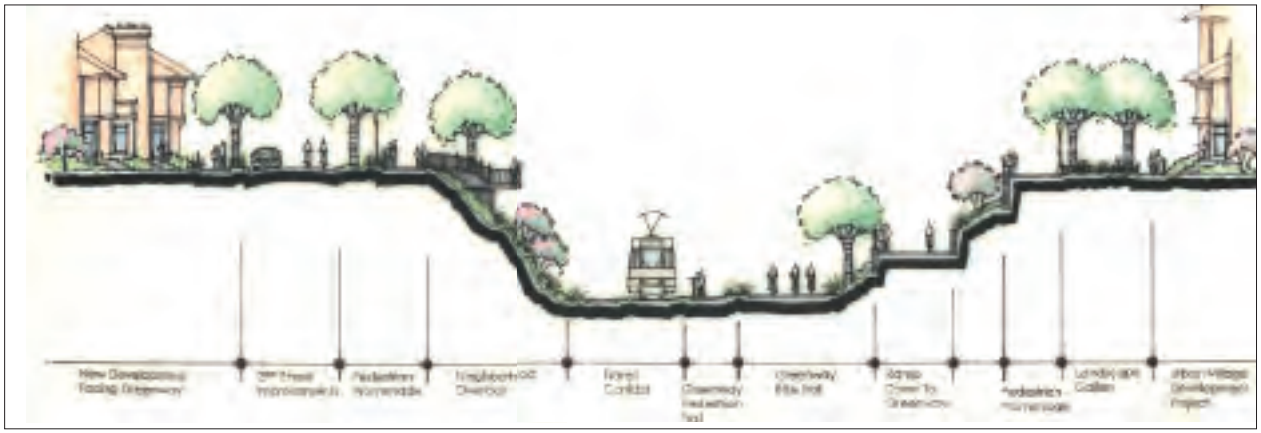
3 Develop a premier public edge along both sides of the Greenway, including 29th Street on the south side and a public promenade on the north.

The success of the Greenway is dependent upon the strength of its relationship with adjacent neighborhoods. Considered an unsightly "no-man's land," there is now the opportunity to transform this forgotten trench into a wonderful neighborhood amenity. The bike trail, new lighting and proposed landscaping will help transform the perception of the corridor. Redevelopment of the public edge along the rim is critical to this effort and several key changes should occur:

- Develop a network of public walks above, adjacent to and connecting with the Greenway trail, linked together to create a series of loops for strolling, watching and interacting with neighbors and Greenway users.
- Develop strong visual links between the Greenway and the surface walkway network to provide eyes on the corridor and increase casual surveillance. Incorporate overlooks and rest areas along the pathway system and on bridges.
- Redevelop 29th Street as a premier public way, accommodating but controlling the automobile, minimizing use by service vehicles, and adding decorative lighting, landscaping and pedestrian amenities such as benches and site furnishings. Explore opportunities to narrow road width in favor of expanded park/open space along the edge.
- Develop landscape galleries - outdoor rooms that act as mini-parks - at the landings where ramps and stairs meet the surface streets. These are important sites for development of unique and inviting public spaces, including seating areas, lighting and landscaping.

A well designed public promenade will transform the character of the greenway edge.

29th Street, as it looks today, is still a local service-oriented street, but provides opportunities for visual and physical ties to the Greenway along the edge.



This drawing of the greenway corridor shows a revitalized 29th Street, with front doors facing onto it, and the pedestrian promenade and 'landscape gallery' across the way.

Buildings fronting on the street strengthen the edge.

Discourage parking lots in front of commercial buildings.

Attention to detail - iron fencing and brick columns - can help screen parking and bring a more urban flavor to the street.

4 Promote development that reinforces and relates to adjacent land uses and appropriate architectural scale, particularly along Lake and Lagoon Streets and at commercial nodes.

Portions of the corridor, such as Hennepin Avenue in Uptown, have a good mix of uses and a strong architectural presence along the street. Other areas, such as east of Hennepin along Lagoon and Nicollet/Lake, have a less distinct street edge/pedestrian realm where buildings are often set back from the street, fronted with parking. Surface parking lots have a major impact on the quality of the public realm in the corridor, creating a hostile pedestrian environment. Policies must be put into place that require a much more pedestrian-friendly, urban character for development.

Guidelines include the following:

- Contain parking between buildings, edged with appropriate urban elements such as ornamental fencing, lighting and landscaping.
- Wherever feasible, develop parking behind buildings. Develop structured parking serving multiple users as densities increase.
- Promote parallel and angled parking on the streets and encourage dedicated bike lanes where space allows.
- Encourage and provide incentives for infill development, promoting compact development patterns and mix of uses.
- Allow no additional surface parking fronting onto intersections or corners. Allow only minimal parking lot frontage along the street and strive to locate new buildings directly adjacent to the sidewalk, strengthening the urban character of the public realm.
- Require active uses at grade, with multiple entries along the length of a block and numerous windows to link interior and exterior spaces.
- Require new architecture to be at least two stories in height: do not accept one-story, stand alone, big-box structures. Integrate larger commercial buildings with "finer-grained" structures to create a more appropriate mix, scale and sense of place.
- Create a gracious and interesting pedestrian realm to encourage and support activities such as transit use, outdoor eating, sitting, observing and buying a paper from the newspaper box.

5 Locate front doors on the street (including 29th Street and the Greenway) and relocate service doors away from the public realm.

The traditional urban pattern in Minneapolis, both in residential and commercial areas, included an alley system to handle service and deliveries. The front door was for people, inviting and free of cars (except parking on the street). Public transit was - and remains - an important part of this street environment. This pattern remains very apparent in residential areas, but commercial areas have changed dramatically. Attention to "front door - back door" issues suggests the following guidelines:

- Design new development to handle service needs in re-created alleys or interior service courts. Reserve the front door for pedestrian use, including transit-related activities. Do not separate the front door from the public sidewalk by parking lots.
- Adapt existing structures, where possible, to reinforce the traditional Minneapolis pattern.
- Address 29th Street with new public entrances and relocate service away from the street. 29th Street will become a new front door to the Greenway instead of the service-oriented corridor that it is today.
- Where possible, adapt existing structures to face onto the Greenway with the addition of doors, windows and related exterior spaces to put eyes on the street and toward the Greenway.

Alleys are traditional service and back door environments.

Front doors invite people into businesses and residences.

6 Promote safe, calmed streets with widened sidewalks. Focus investments toward developing an enlivened pedestrian environment and an improved public realm.

Boulder, Colorado

Landscaping can add tremendous value to pedestrian environments.

Aspen, Colorado

Charleston, S.C.

The use of quality materials can make a walkway more inviting.

Successful urban neighborhoods are characterized by an extensive network of sidewalks, parks and, in many areas of the city, an active pedestrian presence along the street. The automobile has had an enormous impact on urban neighborhoods, compromising the safety and comfort of people in commercial and residential areas alike. To balance these impacts, it is the sidewalk, as noted decades ago by urbanist Jane Jacobs, that visitors remember about cities; it is the sidewalk that makes a city more livable for its residents. An improved public realm will encourage private investment and help stabilize or raise property values along the corridor. It is the cornerstone of successful urban placemaking. The following guidelines address these issues:

- Integrate changes in the physical character of the street as streetscape and public infrastructure projects are funded. Narrow traffic lanes to promote more gracious sidewalks. Provide "bulb-outs," reducing street widths at crossings while calming traffic. Implement creative crosswalk design to promote pedestrian safety, neighborhood identity and sharing of the street.

- Reconsider the sidewalk as more than conveyors of pedestrian traffic. Develop them as public gathering places, providing space for uses such as transit stops, outdoor eating and resting places.

- Accommodate and encourage the elements that invite people to use the sidewalk such as trees, flowers and other landscape elements. Ensure that plantings flourish not simply survive.

- Implement maintenance programs, perhaps through special service districts, along the entire length of the corridor, including Lake Street, the Greenway, and connecting streets.

- Use only quality materials that contribute to the overall character of the street and sidewalk, such as brick paving instead of concrete, iron fencing instead of chain link.

Note: Sketch plans and project lists for each focus area (contained in chapter 4) identify the many key streets recommended for the public realm improvements described above. This includes the primary commercial “crossroad” streets, Lake Street, Lagoon, Excelsior and other pedestrian destinations.

7 Integrate transit with all redevelopment projects, including safe and visually - appealing transit stops for future light rail or busways.

As stated by the Midtown Community Works Transportation Committee, discussion of transit and transportation in the Midtown Corridor must include the following overall vision and key goals:

The Midtown Corridor shall be served by a multi-modal transportation system that supports social and economic enhancements to the area. This balanced, integrated transportation system will provide local and regional connections and will promote the corridor as an attractive, vibrant and desirable place to live, work, shop, play, and invest.

A balanced transportation system will help achieve the following goals:

1. Provide a transportation system that accommodates vehicles, pedestrians, bicyclists, and mass transit, including buses and light rail.
2. Enhance regional and neighborhood marketplace roles through new development and redevelopment.
3. Enhance the livability of the neighborhood by creating a pleasant atmosphere; promoting activity, movement and a sense of place.

The advent of light rail in Minneapolis signals the first system-wide change in public transit in over forty years. Minneapolis was shaped by the streetcar and boasted one of the best systems in the world. There is justified excitement about the return of rail transit, in part because it will start to balance a system too long tilted toward the automobile, but also because of its potential to spur significant urban revitalization. The Greenway corridor was purchased by Hennepin County to accommodate light rail transit. Development needs to respond to this potential by adhering to these principles:

- Anticipate transit in the Greenway, accommodating planned stations along the corridor and providing inviting spaces at the surface, related to ramp/stair access.
- Provide improved bus stops along Lake Street with lighted (and potentially heated) shelters, furnishings and design that integrates into the surrounding streetscape.
- Provide state-of-the-art accommodations for intermodal transportation use (such as bike lockers and park and ride systems) in all design initiatives. Federal financing of intermodal projects will likely be an ongoing resource in the corridor.
- Develop safe and attractive transit connections from the Greenway to the surrounding community.

Light rail transit not only moves people, but is also an important public amenitiy, adding visual interest and activity to the street.

photo by Greg McDonald

8 Support compact development and promote mixed use in the corridor. Create a more vibrant and diverse urban environment.

Higher density, mixed use and active street life are qualities of many vibrant, successful cities

A standard tenet of the new paradigm for urban revitalization recognizes the inherent value that mixed-use development brings to a community. The separation of land uses into discreet places to work, shop, recreate and reside evolved for a variety of reasons over many years, but the benefits of creating 24-hour communities, where land uses and activities mix, is once again being recognized as a major contributor to urban vitality. Ironically, this corridor was an excellent example of a successful mixed-use district before the interstate highway system and the loss of the streetcar began to disassemble and denigrate the community. Several guidelines should be followed for redevelopment:

- Density is not a four-letter word! Create incentives for neighborhoods and developers alike to allow and accept higher densities, through a more compact development pattern in both residential and commercial areas. An educational component is an essential part of this process.

- Modify existing policies using such approaches as an overlay zoning district to allow and encourage mixed-use development along and near the corridor.

- Concentrate commercial uses at the nodes (Lyndale and Lake, Nicollet and Lake, 4th and Lake), developing complementary uses such as mixed-use infill between the commercial nodes.

- Support and accommodate a mix of uses, mixed incomes and increased densities on the north-south streets, with an emphasis on residential use (mostly multi-family) on all but the arterial streets.

Increased density in both commercial and residential uses should be promoted in those areas of the Corridor most able to support it. The diagram on page 13 illustrates this idea that compact development must be supported by improved transit and public infrastructure to be successful.

9 Locate parking either on the street or behind and between buildings along the block. Consolidate parking in structures or municipal lots.

Parking continues to be a primary issue and a key component in any redevelopment strategy for this corridor. The intent is to find balance between the quantity of spaces required to support the existing and proposed land use mix while at the same time addressing the visual character of necessary facilities. There is also a direct relationship among expanding transit systems, transit users and the availability of parking that together support increased density, job growth and other corridor activities and events. Actions to improve parking include:

- Promote strategies for shared parking, such as commercial uses during the day and residential at night.
- Support changes in zoning regulations that would allow fewer spaces per square foot of development based on transit projections for ridership and other key factors.
- Encourage innovative concepts for 'district parking,' including the development of ramps and decks to reduce the negative visual impact of surface parking and the size of footprint required for housing cars.
- Design parking structures to integrate with the character of the surrounding neighborhood, using quality materials and the design elements of nearby structures.
- Provide as much on-street parking as possible, reducing the area required for off-street lots or ramps.
- Where absolutely necessary, locate surface lots away from the street, to ameliorate the impact of parking on the character and urban vitality of commercial nodes.

Street parking and small lots between buildings support this commercial center.

The parking ramp (building on the right) takes direct cues from surrounding architecture.

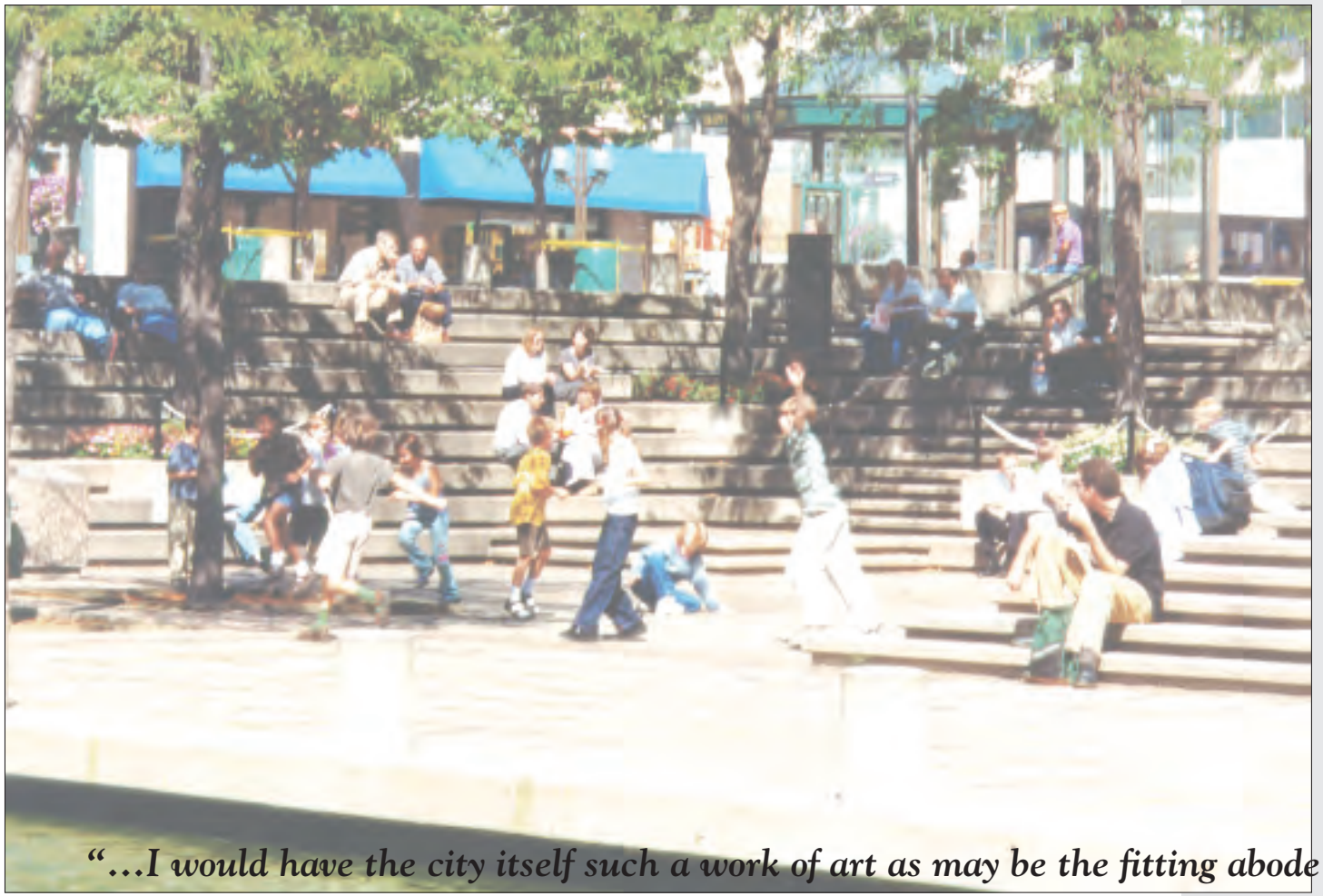
Public art functions at many scales and is intriguing, engaging and sometimes humorous.

Public art can be both functional and aesthetic.

10 Promote opportunities for art in public places.

Public art has long been recognized as a major contributor to the urban environment. It has traditionally set great cities apart from average ones. There are innumerable opportunities for public art to take a significant role in the character and function of the area. Specifically, public art should be applied as follows:

- Use art as a vehicle for placemaking at transit stations or bus stops, and along the Greenway corridor itself, including bridges, at commercial nodes on Lake Street and as neighborhood identifiers.
- Use public art to bring whimsy and delight to the corridor, linking neighborhoods together while acknowledging their diversity.
- Use public art to celebrate the cultural diversity of the neighborhoods along the corridor.
- Create locations for performance art and ephemeral works as key components of the Public Art and Public Greenspace Master Plan.
- Integrate art with infrastructure improvement projects.

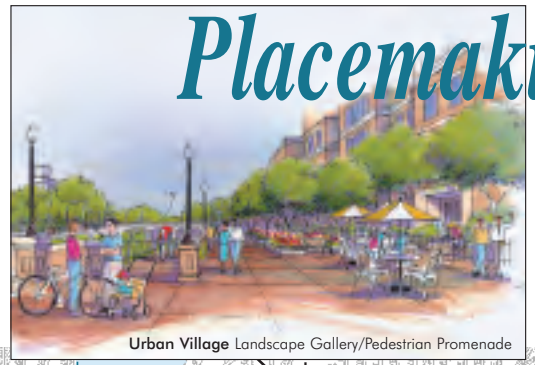


"…I would have the city itself such a work of art as may be the fitting abode of a race of men and women whose lives are devoted to a nobler end than money-getting, and whose efforts shall be inspired and sustained by the grandeur and beauty in which their lives are passed."

-H.W.S. Cleveland, 1888
Address to the Minneapolis Society of Fine Arts

Placemaking and...

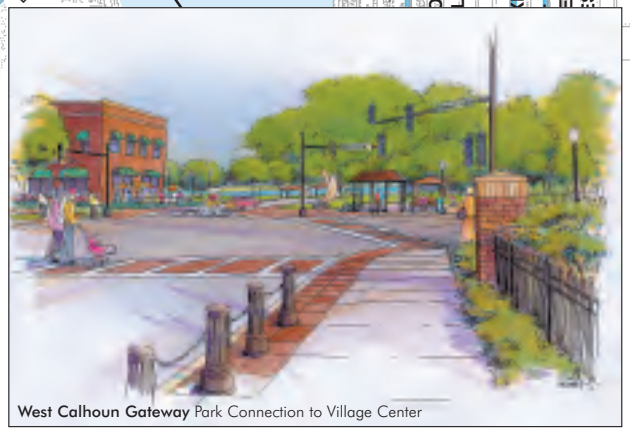
Placemaking is about creating places that are unique, identifiable and memorable - places that are worthy of our affection - encouraging a strong sense of community, a pride of ownership and responsibility to be carried forward for future generations.



Urban Village Landscape Gallery/Pedestrian Promenade

4th & Lake Street 29th Street Public Edge

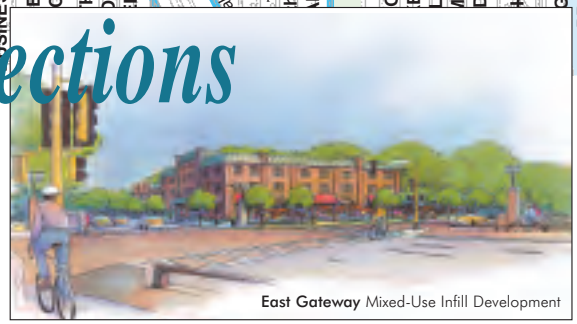
Hiawatha & Lake Street Transit-Oriented Development



West Calhoun Gateway Park Connection to Village Center

Great Lake Center Mixed Use Development

Image courtesy of Ray Harris and KKE



East Gateway Mixed-Use Infill Development

Connections

Creating a network of connecting links including:

Infrastructure Connections - network of streets and bridges.

Transit Connections - bus, future LRT, trolley and other 'people movers.'

Parks, Trails and Open Space Connections - unique mix of existing and new public green space.

Chapter 4

Placemaking: Focus Area Recommendations

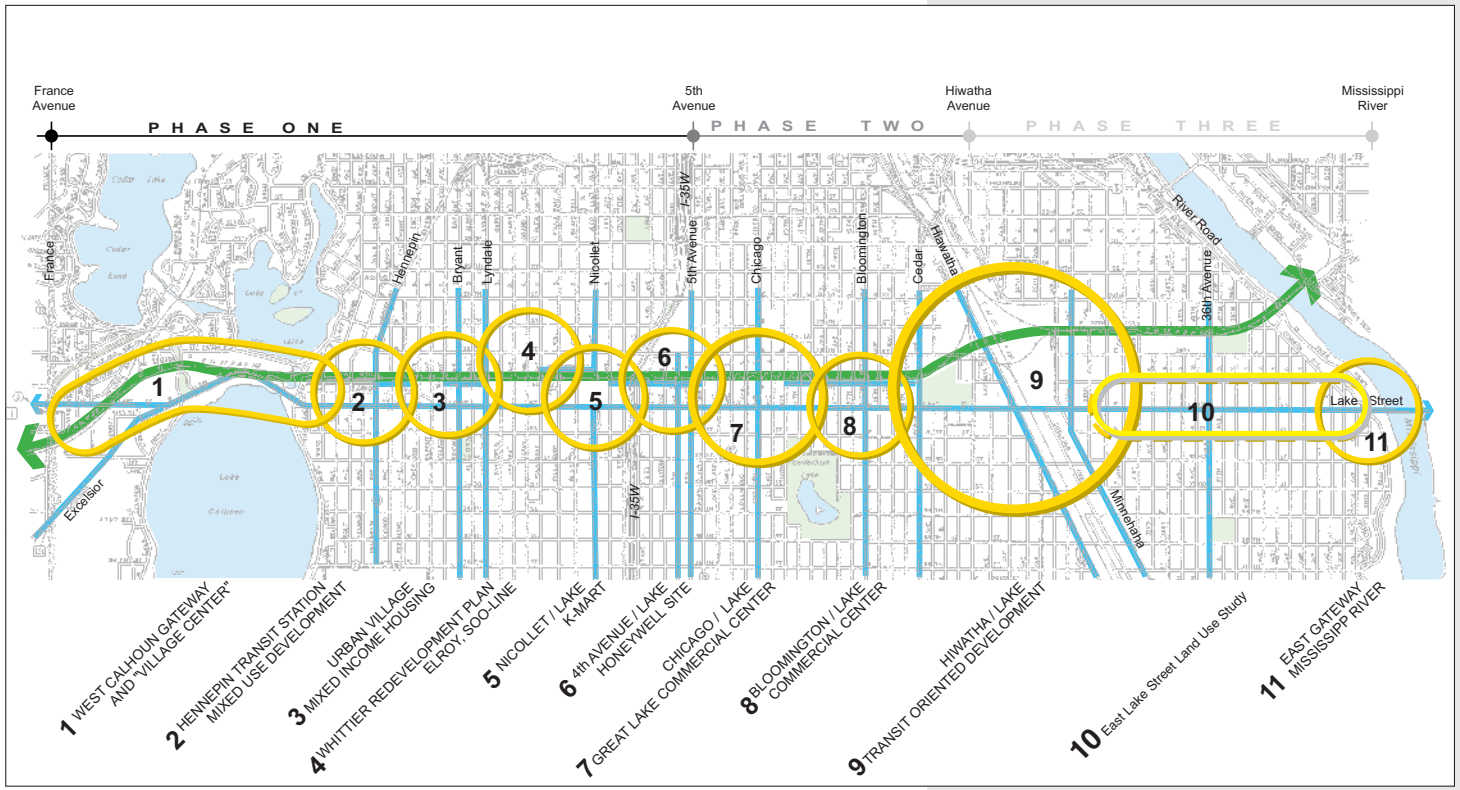
Introduction

The idea of placemaking and connections described in earlier chapters can now be applied in more detail to what we've learned about each of the focus areas mapped below. In shared discussion with neighborhood groups, elected officials and business representatives it is clear that the goal for creating and sustaining memorable places is twofold:

First, is to understand and define the desired character or identity of place-based cultural, market and aesthetic objectives.

And second, to promote specific projects as catalysts for other initiatives throughout the corridor.

Recommendations for each focus area are based on one or more key projects (indicated by the circles on each focus area sketch plan) These projects and the variety of adjacent initiatives related to them work together to provide the basic community building blocks - housing, jobs, transit and recreational amenities - that create active and stable neighborhoods and a strong sense of identity.



Focus Area 1

West Calhoun Gateway: Creating a "Village Center" on the Lake

This photo shows the view looking west from the Uptown area towards the West Calhoun and Cedar-Lake-Isles neighborhoods. The Midtown Greenway corridor can be seen at the center of the photograph, with Lake Calhoun and the "lagoon" to the left. Landscaping improvements along Lake Street at Lake Calhoun and the development of a new "Village Center" along Excelsior Boulevard (seen in the background), will strengthen the corridor as a neighborhood street and a gathering place for people.

West Calhoun Gateway: Creating a "Village Center" on the Lake

Opportunities and Challenges

After years of minimal re-investment, the West Calhoun neighborhood has embarked on an ambitious program of redevelopment. The Calhoun Commons development is the first critical step in creating a new village center, a place envisioned by the community where pedestrians and bicycles are welcomed, where traffic is calmed, where park land and open space link to Lake Calhoun and to the Midtown Greenway.

Key to this resurrection is the transformation of Excelsior Boulevard from a commuter's speedway into a street that serves the neighborhood - a "Main Street" with shops and pleasant sidewalks containing amenities that encourage pedestrian use. Calhoun Commons, includes new buildings along Excelsior Boulevard that strengthen the streetwall and add community-focused uses such as restaurants and coffee shops to the street.

Overhead power lines have been buried through much of the new commercial district and improved transit stops and landscaping will be added in the future. With ongoing support from the community, the private sector and public agencies, this is a success story with great potential to create an active neighborhood hub and a signature stopping place along Lake Calhoun.

Calhoun Commons site plan courtesy of Robert Muir Company and KKE.

Along Excelsior Boulevard, outdoor seating areas and streetscape improvements initiated by the developer and the neighborhood have strengthened the pedestrian environment.

Focus Area 1

West Calhoun Gateway: Creating a "Village Center" on the Lake

Mixed use infill development, structured parking and a much stronger public park connection to Lake Calhoun would further enhance this emerging "Village Center".

West Calhoun Gateway: Creating a "Village Center" on the Lake

Sketch Plan

Focus Area 1

West Calhoun Gateway: Creating a "Village Center" on the Lake

Action Steps/Roles and Responsibilities

Project	Action	Agency	Corridor Guidelines
A The Midtown Greenway • Greenway Construction	Complete Phase I Construction	**Hennepin County/ Mpls. Public Works**	#1 - page 17 #2 - page 18 #3 - page 19 #7 - page 23 #10 - page 26
• 'Greening the Greenway' Planting Projects	Secure public agency lead; secure implementation funding; establish maintenance program	Hennepin County/ Mpls. Public Works/**MCW**	
• Greenway Lighting and Security	Establish plan; secure implementation funding	**Hennepin County/ Mpls. Public Works**	
B 'Lagoon Area' Planting Project Between Lake of the Isles and Lake Calhoun	Implement Metro Greenways Grant	**MCW**/Mpls Park Board	#2 - page 18
C Midtown Greenway Access and Connections - At Calhoun Commons, Calhoun Village and Dean Parkway	Secure public agency partner; secure funding and approvals; implement plan	**West Calhoun Neighborhood NRP**/ Mpls Public Works	#1 - page 17 #2 - page 18
D Park/Open Space Link to Lake Calhoun	Secure public agency partner to explore feasibility; secure funding	**West Calhoun Neighborhood NRP**/ Mpls Public Works	All pages 16-26
E Excelsior Boulevard Streetscape Improvements	Secure public agency partner; secure funding and implement plan	**West Calhoun Neighborhood NRP**/ Mpls Public Works	#2 - page 18 #7 - page 23
F Lake Street Streetscape Improvements	Secure public agency partner; secure funding; implement plan	**West Calhoun Neighborhood NRP**/ Mpls Public Works	#2 - page 18 #6 - page 22 #7 - page 23

West Calhoun Gateway: Creating a "Village Center" on the Lake

Action Steps/Roles and Responsibilities

Project	Action	Lead Agency	Corridor Guidelines
G Lake Street 'Parkway' improvements	Secure funding; implement Chain of Lakes Master Plan	**Mpls. Park Board**	#5 - page 21 #7 - page 23
H Future development opportunities • Building infill along Excelsior and Lake Street taking advantage of existing surface parking lots	Secure lead entity		All pages 16-26
I Public Art	Coordinate Master Plan process	**MCW**	#10 - page 26

Bold Type: Agency Commitment

Notes:

Focus Area 2

Hennepin Avenue & Lake Street: The Continuing Uptown Revival

This photo (although somewhat dated) shows the view looking west at the Uptown commercial district with Lake Calhoun in the background. The Greenway will be bordered by a public promenade with trail connections via ramps and stairs. The large expanse of parking in the foreground (described by the rectangle) will contain the future uptown transit station, potential structured parking and a mix of new development opportunities. The Lagoon Theater and Bar Abeline Restaurant have been built since this photograph was taken.

Hennepin Avenue & Lake Street: The Continuing Uptown Revival

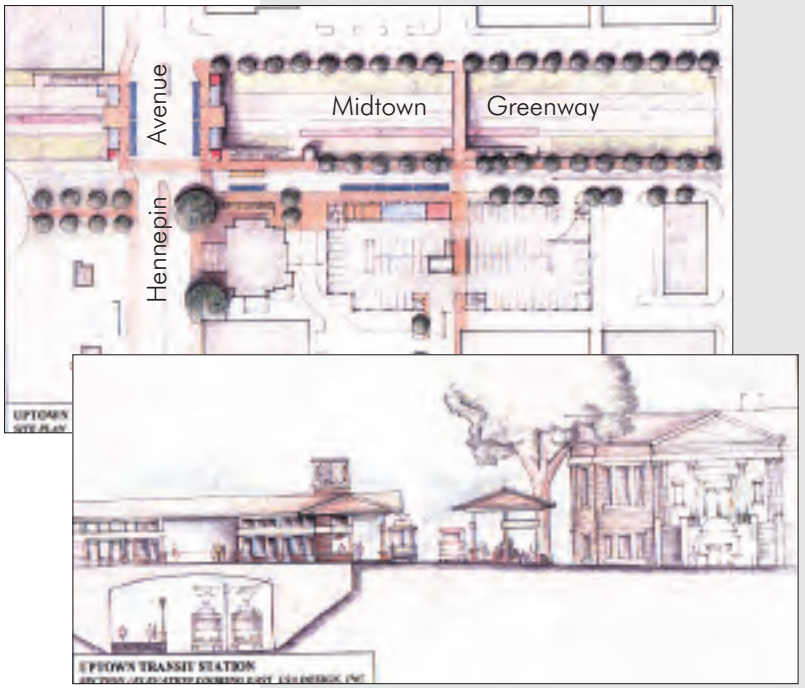
Recent redevelopment along Lagoon

Opportunities and Challenges

Acknowledged as one of the premier mixed-use neighborhoods in the Twin Cities, the Uptown neighborhood still suffers from some of the most common urban maladies: large parking lots and congested streets that favor the car over the pedestrian. The new Midtown Greenway, a 24 hour multi-use public trail, will help bring balance to this issue by providing recreational and commuter connections from the Lakes District to the Mississippi River.

The Greenway Corridor, with future busway or light rail system, has the potential to spur significant additional re-investment along and near the Greenway edge. New development opportunities in the Uptown neighborhood will be more transit-and recreationally-focused. Success ultimately relies on the marriage of public and private reinvestment, including the creation of a well designed "public promenade" along both sides of the greenway rim, and a richly detailed 29th Street along the south edge. With appropriate attention to design and quality, these public ways will become signature addresses in the neighborhood.

The need to re-structure the soft district between Hennepin and Lyndale Avenues is another issue that must be addressed if the area is to become a model of urban redevelopment. It is here that the street becomes less inviting with parking lots along the street and buildings pushed way back on the lot. This paradigm must be reversed by bringing buildings to the street edge, concealing parking behind and between buildings, and providing a much-enhanced pedestrian realm with wide, landscaped sidewalks, good lighting, places to sit and talk with friends, places to buy a newspaper. In short, the pleasant urbanity of Hennepin and Lake must be carried to the east.



Preliminary concept drawings of transit station - provided by LSA Design Inc.

Focus Area 2

Hennepin Avenue & Lake Street: The Continuing Uptown Revival

Potential infill and redevelopment opportunities throughout the Lake/Lagoon node bring buildings to the street and strengthen the pedestrian realm.

Before

Hennepin Avenue & Lake Street: The Continuing Uptown Revival

Sketch Plan

A The Midtown Greenway

B 29th Street Pedestrian Promenade Connection

C 'The Mall' Park Improvements

D Lagoon Avenue Streetscape Improvements

E Lake Street Streetscape Improvements

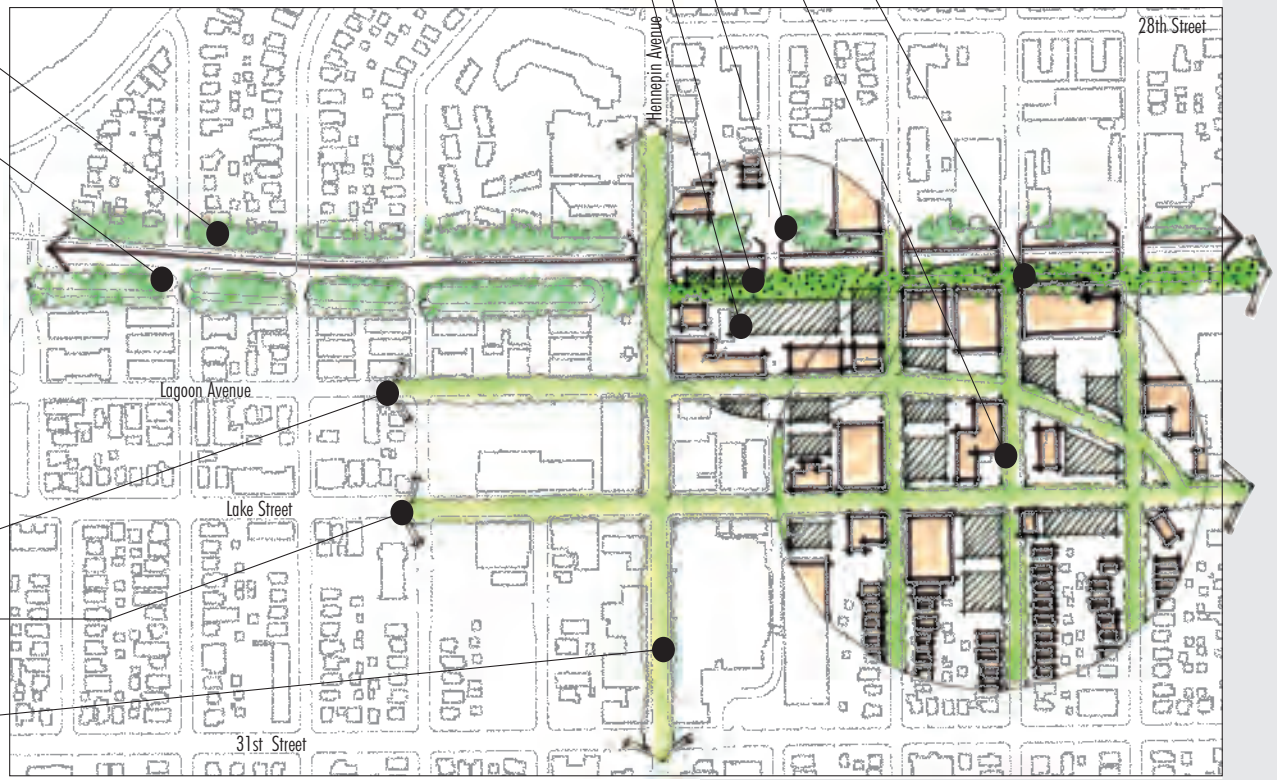
F Hennepin Avenue Streetscape Improvements

G Hennepin Avenue Transit Station

H Girard Avenue Pedestrian Bridge

I Mixed-use Development Adjacent to Transit Station

J Lagoon and Lake Street Development Area **(see character sketch)**



Focus Area 2

Hennepin Avenue & Lake Street: The Continuing Uptown Revival

Action Steps/Roles and Responsibilities

Project	Action	Lead Agency	Corridor Guidelines
A The Midtown Greenway • Greenway Construction	Complete Phase I Construction	**Hennepin County/ Mpls. Public Works**	#1 - page 17 #2 - page 18 #3 - page 19 #7 - page 23 #10 - page 26
• 'Greening the Greenway' Planting Projects	Secure public agency lead; secure implementation funding; establish maintenance program	Hennepin County/ Mpls. Public Works/**MCW**	
• Greenway Lighting and Security	Establish plan; secure implementation funding	**Hennepin County/ Mpls. Public Works**	
B 29th Street Pedestrian Promenade	Secure public agency lead; secure funding, secure the public right of way	Mpls. Public Works/ Hennepin County	#1 - page 17 #2 - page 18 #3 - page 19 #10 - page 26
C 'The Mall' Park Improvements between Hennepin and James Avenue	Secure public agency lead; secure funding	Mpls Park Board	#2 - page 18
D Lagoon Avenue Streetscape Improvements	Secure public agency lead; secure funding	Mpls Public Works	#2 - page 18 #6 - page 22 #7 - page 23
E Lake Street Streetscape Improvements	Secure public agency lead; secure funding	Mpls Public Works	#2 - page 18 #6 - page 22 #7 - page 23
F Hennepin Avenue Streetscape Improvements	Secure public agency lead; secure funding	Mpls Public Works	#2 - page 18 #6 - page 22 #7 - page 23

Hennepin Avenue & Lake Street: The Continuing Uptown Revival

Action Steps/Roles and Responsibilities

Project		Action	Lead Agency	Corridor Guidelines
G	Hennepin Avenue Transit Station	Implement the construction	**Metro Transit**	All Pages 17-26
H	Girard Avenue Pedestrian Bridge	Secure public agency lead; secure funding	Mpls Public Works	#1 - page 17 #2 - page 18
I	Mixed-use Development adjacent to transit station	Secure lead entity to establish proactive business development strategy and provide marketing/ technical assistance		All pages 17-26
J	Lagoon and Lake Street development area	Secure public agency lead to determine feasibility of designated 'Development Area;' recruit investor/developer interest		All pages 17-26
K	Public Art	Coordinate Master Plan process	**MCW**	#10 - page 26

Bold Type: Agency Commitment

Notes:

Focus Area 3 *Urban Village:* Innovative Mixed Income Housing

This photo shows the view looking west along the Greenway corridor: Lyndale Avenue crosses in the foreground, and the Urban Village site occupies the three contiguous blocks along the north rim of the greenway indicated by the rectangle. 29th Street, in the past a service-focused street, can be seen adjacent to the south rim of the greenway. It's transformation into a premier urban street is key to the success of the Greenway.

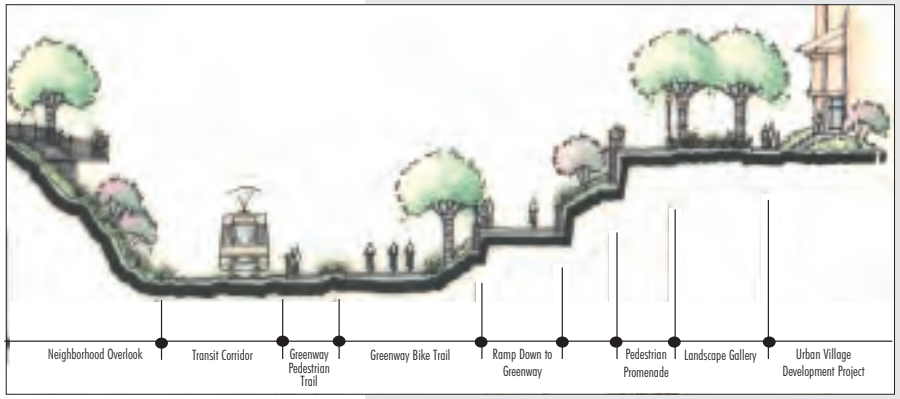
Urban Village: Innovative Mixed Income Housing

Opportunities and Challenges

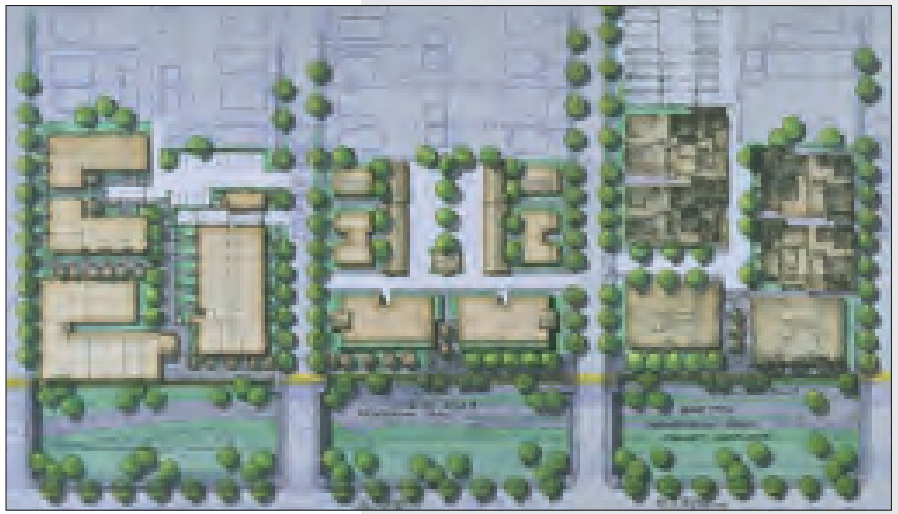
Ideally located between the commercial nodes at Hennepin/Lake and Lyndale/Lake, the Urban Village is a key demonstration project that will serve as a model for additional housing development along the entire corridor. This project is based on the principles of building transit-oriented development and supporting higher density housing while responding to a mix of incomes. The Urban Village orients new housing to the greenway while reinforcing the north-south streets; it brings the talents of several design/development teams to a concerted effort; it receives key Greenway access ramps with a gracious landscape gallery along the rim; and it engages the Greenway from the surface with significant landscaping and a well detailed public promenade along the Greenway edge.

Walking, bicycling and community-related uses are emphasized in the project, which strives for a comfortable relationship between this small, pedestrian-friendly segment of the neighborhood and the regional trail at its doorstep. This project is an example of true place-making, in that it invites neighborhood residents to use the Greenway Corridor for active recreation or passive observance, to stroll along the promenade or walk to the lakes.

The development of the Urban Village also points to the importance of creating safe and engaging connections to other places - those routes we call the public realm. The rim of the Greenway itself has already been cited as a key public improvement, and it needs to be of the highest quality to send the message that this is an important place to live, work, shop and recreate. In addition, the north/south connections to Lake Street and the commercial nodes must also be redeveloped over time, with clean, gracious walks, the familiar canopy trees that comprise Minneapolis' famed urban forest, and other amenities that make a street successful.



Section through the Greenway at the Urban Village



Concept plan of proposed housing mix

Focus Area 3

Urban Village: Innovative Mixed Income Housing

New mixed-income housing fronting on the Greenway between Aldrich and Dupont Avenues.

The landscape gallery pedestrian promenade along Greenway rim

Urban Village: Innovative Mixed Income Housing

H Aldrich/Lyndale Block

C Bryant Avenue Ramp Greenway Access

G Urban Village Mixed Income Residential Development
(see character sketch)

B 29th Street Pedestrian Promenade Connection
(see character sketch)

A The Midtown Greenway

F Shared Municipal Parking Program

I Mixed Use Development Adjacent to Parking

D Bryant Avenue Streetscape Improvements/ Connection to Bryant Square Park

E Lake Street Streetscape Improvements

Sketch Plan

Existing Buildings

Potential Redevelopment Opportunities

Focus Area 3 *Urban Village:* Innovative Mixed Income Housing

Action Steps/Roles and Responsibilities

Project	Action Policy	Lead Agency	Corridor Guidelines
A The Midtown Greenway • Greenway Construction	Complete Phase I Construction	**Hennepin County/ Mpls. Public Works**	#1 - page 17 #2 - page 18 #3 - page 19 #7 - page 23 #10 - page 26
• 'Greening the Greenway' Planting Projects	Secure public agency lead; secure implementation funding; establish maintenance program	Hennepin County/ Mpls. Public Works/**MCW**	
• Greenway Lighting and Security	Establish plan; secure implementation funding	**Hennepin County/ Mpls. Public Works**	
B 29th Street Pedestrian Promenade Connection	Secure public agency lead; secure funding, secure the public right of waz	Mpls. Public Works	#1 - page 17 #2 - page 18 #3 - page 19 #10 - page 26
C Bryant Avenue Greenway Access - Enhance planned ramp/bridgehead improvements	Secure public agency lead; secure funding	**MCW/** Mpls Public Works	#1 - page 17 #2 - page 18
D Bryant Avenue Streetscape Improvements/ Connection to Bryant Park Square	Secure public agency lead; secure funding	Mpls Public Works	#2 - page 18 #6 - page 22 #7 - page 23
E Lake Street Streetscape Improvements	Secure public agency lead; secure funding	Mpls Public Works	#2 - page 18 #6 - page 22 #7 - page 23
F Shared Municipal Parking Program	Secure funding	**Mpls Public Works**	#4 - page 20 #9 - page 25

Urban Village: Innovative Mixed Income Housing

Action Steps/Roles and Responsibilities

Project	Action Policy	Lead Agency	Corridor Guidelines
G Urban Village Mixed Income Residential Development	Identify lead entity: secure funding; complete land assembly, site acquisition, relocation, demolitions, clean up/ remediation, infrastructure improvements	**MCW/MCDA**	All pages 17-26
H Aldrich/Lyndale Block	Integrate redevelopment w/Urban Village; address parking needs	**Lyndale Businesses/MCW**	All pages 17-26
I Mixed Use Development Adjacent to Parking	Secure lead entity to establish proactive business development strategy and provide marketing/technical assistance		All pages 17-26
J Public Art	Coordinate Master Plan process	**MCW**	#10 - page 26

Bold Type: Agency Commitment

Notes:

Focus Area 4

South Whittier Redevelopment Plan: Growing Jobs and Building Community

This view looking west along the Greenway shows the variety of land uses, mixed densities, and available development sites in South Whittier which together create a unique urban character for this neighborhood. The Elroy Property (MCDA owned), outlined in the center of the photograph, provides a premier development opportunity directly adjacent to the Greenway. Note 29th Street on the north side of the corridor, with the back yards of houses facing the Greenway Corridor; this is the only place along the Greenway where this occurs.

South Whittier Redevelopment Plan: Growing Jobs and Building Community

Opportunities and Challenges

The Whittier neighborhood is sensitive to the important and delicate balance that exists in healthy neighborhoods, including the availability of good jobs, mix of housing and safe, convenient transportation. Lake Street was built on that foundation and it flourished as a successful commercial trolley street with industry and manufacturing immediately next door along the 29th Street rail corridor.

Working with the South Whittier Redevelopment Task Force and the Whittier Alliance has led to several approaches to development. These strategies should concentrate on taking full advantage of premier sites to develop demonstration projects that inspire the community, catalyze additional reinvestment, establish strong links to the new Greenway, and shift thinking away from single-use function to a mixed-use village that integrates with the scale and character of the neighborhood. Because of land use and building orientation, continuous access along the Greenway rim is a difficult challenge in this neighborhood.

There are numerous opportunities for adaptive re-use and infill development at a finer-grained scale that historically characterized Lake Street. Filling in the missing pieces and focusing attention at key intersections will strengthen the sense of place and reinforce the business presence along Lake Street. Other important sites, such as the Soo Line Gardens property, lie directly alongside the Greenway, providing outstanding redevelopment opportunities and the unique potential for integrating neighborhood open space with private development and the more public Greenway.

A neighborhood redevelopment strategy needs to take advantage of the numerous vacant/underutilized properties while providing an overall approach that creates strong connections to activities at Lyndale/Lake to the west and Nicollet/Lake to the east.

The Elroy Property primary development site adjacent to the Greenway with key visual and physical connections to adjacent properties.

Redevelopment opportunities along the north edge of the Greenway

Focus Area 4

South Whittier Redevelopment Plan: Growing Jobs and Building Community

The Elroy Site and adjacent development opportunities

South Whittier Redevelopment Plan: Growing Jobs and Building Community

Sketch Plan

K North Greenway Edge Redevelopment Area

H ''The Elroy Site' Development Area
(see character sketch)

D Pleasant Avenue Greenway Access

B 29th Street Pedestrian Promenade Connection

I 'Soo Line Gardens' Development Area

A The Midtown Greenway

F Garfield Avenue Streetscape Improvements

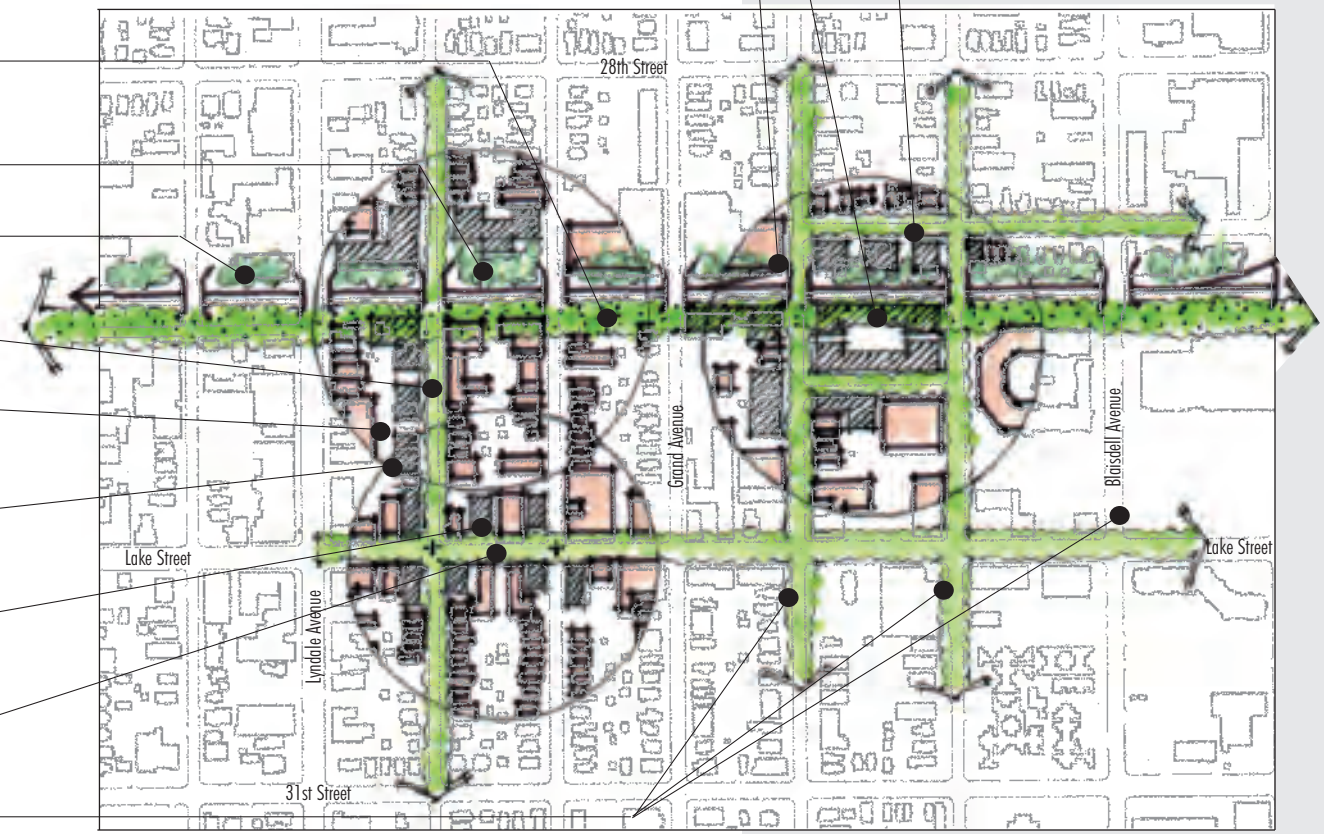
G Shared Municipal Parking Program

K Mixed Use Development Adjacent to Parking

J Lake Street Infill/Business Development

C Lake Street Repavement Project Streetscape Improvements

E Pleasant/Pillsbury/Blaisdell Avenue Streetscape Improvements



Focus Area 4

South Whittier Redevelopment Plan: Growing Jobs and Building Community

Action Steps/Roles and Responsibilities

Project	Action	Lead Agency	Corridor Guidelines
A The Midtown Greenway • Greenway Construction	Complete Phase I Construction	**Hennepin County/ Mpls. Public Works**	#1 - page 17 #2 - page 18 #3 - page 19 #7 - page 23 #10 - page 26
• 'Greening the Greenway' Planting Projects	Secure public agency lead; secure implementation funding; establish maintenance program	Hennepin County/ Mpls. Public Works/**MCW**	
• Greenway Lighting and Security	Establish plan; secure implementation funding	**Hennepin County/ Mpls. Public Works**	
B 29th Street Pedestrian Promenade Connection	Secure public agency lead; secure funding, secure the public right of way	Mpls. Public Works	#1 - page 17 #2 - page 18 #3 - page 19 #10 - page 26
C Lake Street Repavement Project Streetscape Improvements	Establish plan; secure funding; create special service district	**Hennepin County**/Mpls Public Works/MCW	#2 - page 18 #6 - page 22 #7 - page 23
D Pleasant Avenue Greenway Access - Enhance planned Ramp/Bridgehead Improvements	Secure public agency lead; secure funding	Mpls Public Works/ Hennepin County	#2 - page 18 #6 - page 22 #7 - page 23
E Pleasant/Pillsbury/Blaisdell Avenue Streetscape Improvements	Secure public agency lead; secure funding	Mpls Public Works	#1 - page 17 #2 - page 18 #3 - page 19 #10 - page 26
F Garfield Avenue Streetscape Improvements	Secure public agency lead; secure funding	Mpls Public Works	#1 - page 17 #2 - page 18 #3 - page 19 #10 - page 26

South Whittier Redevelopment Plan: Growing Jobs and Building Community

Action Steps/Roles and Responsibilities

Project		Action	Lead Agency	Corridor Guidelines
G	Shared Municipal Parking Program	Secure funding	**Mpls Public Works**	#9 - page 25
H	'The Elroy Site' Development Area	Establish proactive strategy to recruit mixed-use investor/developer interest	**MCDA**	All pages 17-26
I	'Soo Line Gardens' Development Area	Establish proactive strategy to resolve land use issues	**Hennepin County**	All pages 17-26
J	Lake Street Infill/Business Development	Secure lead entity to establish proactive business development strategy; provide marketing and technical assistance		All pages 17-26
K	Mixed Use Development adjacent to municipal parking	Secure lead entity to establish proactive business development strategy; provide marketing and technical assistance		All pages 17-26
L	Public Art	Coordinate Master Plan process	**MCW**	#10 - page 26

Bold Type: Agency Commitment

Notes:

Focus Area 5

Nicollet Avenue Re-opening: Reconnecting Minneapolis' "Main Street"

Fans leaving Nicollet Park at Nicollet Avenue and 32nd Street (1923). Note the mixed-use buildings, transit, and highly urban character of the surrounding neighborhood. Nicollet Park was demolished in 1955.

Photographs (left and below) show the impact of our urban design decisions over the past several decades: Nicollet Avenue - Minneapolis' "Main Street" - ends abruptly at K-Mart, an inappropriately sited, suburban-style "big-box" retail facility. Redevelopment of this and other similar sites is essential to the success of the Greenway.

Nicollet Avenue Re-opening: Reconnecting Minneapolis' "Main Street"

Opportunities and Challenges

There are numerous issues and specific challenges to overcome in order to re-open Nicollet Avenue and re-create a more humane and public environment for the residents and visitors at this important commercial node. Formerly home to a minor league ballpark (the Minneapolis Millers) and small commercial storefronts lining the streets (just those qualities urbanists are trying to re-create in cities across North America!), the Lake Street and Nicollet intersection once contained a rich mix of uses and a truly civic character.

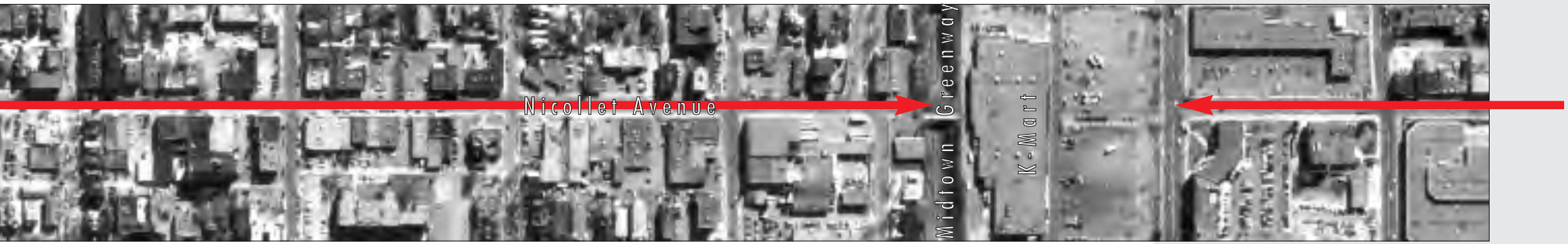
Key components to the rebirth of this focus area include re-orientation of the K-Mart store, strong links to the Greenway, more attention to transit and transit stops, redevelopment along the north edge of the Greenway and on the reconstituted blocks that re-opening the street would provide, and the creation of a more gracious public realm with wide sidewalks, landscaping and other amenities.

The Zimmerman-Volk market study (prepared for Hennepin Community Works) described numerous residential development opportunities in this area, particularly along the north edge of the Greenway. The challenge is not only to re-open the street but also to create strong links to Nicollet Avenue "Eat Street" and the mix of uses to the north. It is a crucial connection in order to provide a safe and interesting pedestrian street environment and to redevelop the big-box retail shopping district into a more urban scale at the Nicollet/Lake crossroads.

The construction of I-35W just east of Nicollet Avenue has certainly left its mark on adjacent neighborhoods, but it also provides some interesting opportunities for better access to the Lake Street commercial centers. (See Chapter 5 - Lake Street and I 35W for more information related to access and connections.)

Looking north along Nicollet Avenue to the K-Mart store entrance.

View of north side/loading area behind K-Mart along the Greenway edge.



Focus Area 5

Nicollet Avenue Re-opening: Reconnecting Minneapolis' "Main Street"

Before

The challenge is not only to re-open the street but also to create strong links to Nicollet Avenue "Eat Street" and the mix of uses both north and south of Lake Street.

Nicollet Avenue Re-opening: Reconnecting Minneapolis' "Main Street"

C 'Greening the Freeway Edge' Planting Projects

B 29th Street Pedestrian Promenade Connection

D Nicollet Avenue Greenway Access

J 'North Greenway Edge' Redevelopment Area

A The Midtown Greenway

I 'The K-Mart Block' Redevelopment Area **(see character sketch)**

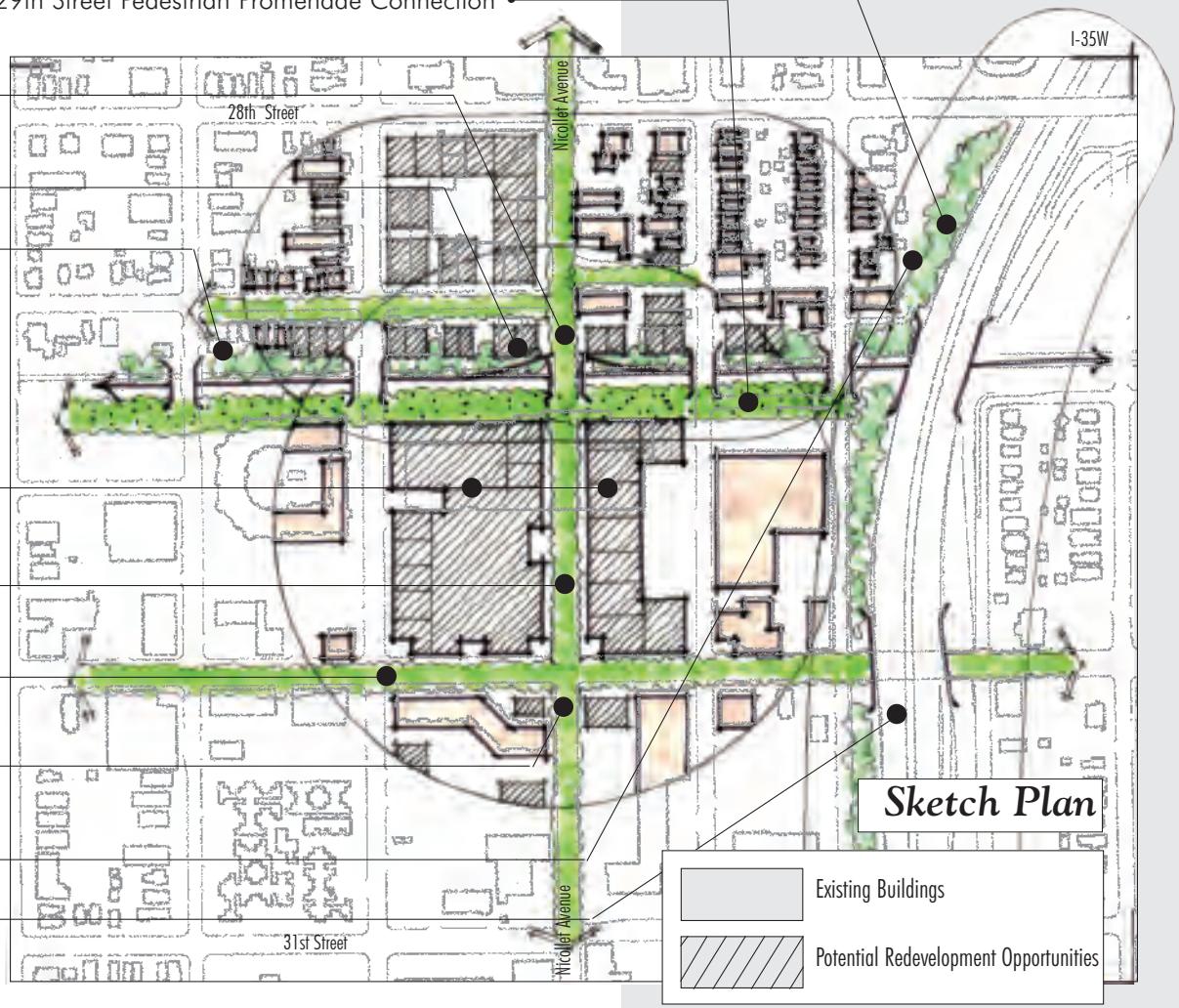
F Nicollet Avenue Re-opening Streetscape Improvements **(see character sketch)**

E Lake Street Repavement Project Streetscape Improvements

K 'Nicollet/Lake Urban Infill' Redevelopment Area

H Potential3rd Avenue Connection to the Minneapolis Institute of Arts

G I-35W Access and Connections



Lake Street Midtown Greenway **Framework Plan**

Focus Area 5 Nicollet Avenue Re-opening: Reconnecting Minneapolis' "Main Street"

Action Steps/Roles and Responsibilities

Project	Action	Lead Agency	Corridor Guidelines
A The Midtown Greenway • Greenway Construction	Complete Phase I Construction	**Hennepin County/ Mpls. Public Works**	#1 - page 17 #2 - page 18 #3 - page 19 #7 - page 23 #10 - page 26
• 'Greening the Greenway' Planting Projects	Secure public agency lead; secure implementation funding; establish maintenance program	Hennepin County/ Mpls. Public Works/ **MCW**	
• Greenway Lighting and Security	Establish plan; secure implementation funding	**Hennepin County/ Mpls. Public Works**	
B 29th Street Pedestrian Promenade	Secure public agency lead; secure funding, secure the public right of way	Mpls. Public Works	#1 - page 17 #2 - page 18 #3 - page 19 #10 - page 26
C 'Greening the Freeway Edge' Planting Projects	Secure public agency lead; secure implementation funding; establish maintenance program; secure agency support	Mpls Public Works/ Hennepin County/ MnDOT	#1 - page 17 #2 - page 18
D Nicollet Avenue Greenway Access - Enhance planned Ramp/Bridgehead Improvements	Secure public agency lead; secure funding	Mpls Public Works/ Hennepin County	#2 - page 18 #6 - page 22 #7 - page 23
E Lake Street Repavement Project Streetscape Improvements	Establish plan; secure funding; create special service district	**Hennepin County/**Mpls Public Works/MCW	#2 - page 18 #6 - page 22 #7 - page 23

Nicollet Avenue Re-opening: Reconnecting Minneapolis' "Main Street"

Action Steps/Roles and Responsibilities

Project		Action	Lead Agency	Corridor Guidelines
F	Nicollet Avenue Re-opening Streetscape Improvements	Secure public agency lead; secure funding	Mpls Public Works/MCDA	All pages 17-26
G	I-35W Access and Connections	Select preferred alternatives; integrate land use plan and streetscape improvements with proposed ramps	**Hennepin County/ Phillips Partnership**	All pages 17-26
H	3rd Avenue Connection linking Minneapolis Institute of Arts to Lake Street	Establish plan	Mpls Public Works	All pages 17-26
I	'The K-Mart Block' Redevelopment Area	Negotiate an agreement with K-Mart; secure road right-of-way; secure funding; recruit mixed-use investor/developer interest	**MCDA**/MCW	All pages 17-26
J	North Greenway Edge Redevelopment Area	Secure lead entity; establish as redevelopment district; recruit mixed-use investor/developer interest; secure funding; land assembly		All pages 17-26
K	'Nicollet/Lake Urban Infill' Redevelopment Area - South of Lake Street	Secure lead entity; establish proactive business development strategy; provide marketing and technical assistance		All pages 17-26
L	Public Art	Coordinate Master Plan process	**MCW**	#10 - page 26

Bold Type: Agency Commitment

Notes:

Focus Area 6

4th & Lake Street Development Plan: Linking Opportunities to Strengthen Community

This photo, looking east along Lake Street with Fourth Avenue in the middle foreground, shows the varied patterns of land use that characterize significant lengths of the road. Commercial buildings range from older, unimproved structures to renovated buildings and newer, fast food restaurants. Expanding commercial uses and parking lots have steadily encroached on residential areas, as is evidenced by the sparseness of the tree canopy. The Greenway corridor can be seen at the left side of the image, with the Great Lake Center (formerly Sears) in the background.

4th & Lake Street Development Plan: Linking Opportunities to Strengthen Community

Opportunities and Challenges

The impact of the interstate highway system on inner-city America is fully apparent around this and the Nicollet Avenue node where the freeway creates a physical and visual barrier. Undesirable conditions below the highway overpass impede commerce between the nodes because of safety, maintenance, and aesthetic concerns for those traveling by foot, bicycle, and public transit. Further, loss of southbound highway traffic access at Lake Street in the 1960's devastated one of the City's most vital commercial districts that is only now recovering.

A new renaissance has begun at this node in the form of private and nonprofit development, business incubation, and residential revitalization. Very much in keeping with the City Comprehensive Plan designation as a growth center, the variety of emerging small businesses have made a very positive impact in the area and have generated significant additional private investment. Building on this development activity by exploring opportunities for business/job growth and increased residentiall density would further strengthen this growth center. Based on the node's economic development history, efforts should be made to ensure that non-profit activities supplement rather than displace private investment. The node has a unique and vibrant multicultural spirit where many ethnic groups mingle and enjoy shopping, dining, theater and public art.

Urban Ventures, a nonprofit developer and social service provider in the area, hopes to develop several recreational facilities for its youth programs adjacent to the Greenway. Surrounding neighborhoods and other stakeholders have expressed appropriate concerns about the privateness of these facilities; venues are enclosed or turn their backs on the public Greenway. The unique at-grade conditions at the crossing of 5th Avenue and the Greenway result in a significant widening of the Greenway corridor and suggest that a more public recreational development would be an appropriate addition. A small but well defined and developed public park would fill a void in this area.

Finally, housing and quality of life remain a high priority for this community. The need to continue the burgeoning housing reinvestment while looking at affordable mixed live/work opportunities requires a concurrent commitment to improve the public realm and craft visionary solutions to land use incompatibilities and negative freeway impact.

Support and enhance existing businesses while attracting new infill/adaptive reuse opportunities along Lake Street ▼

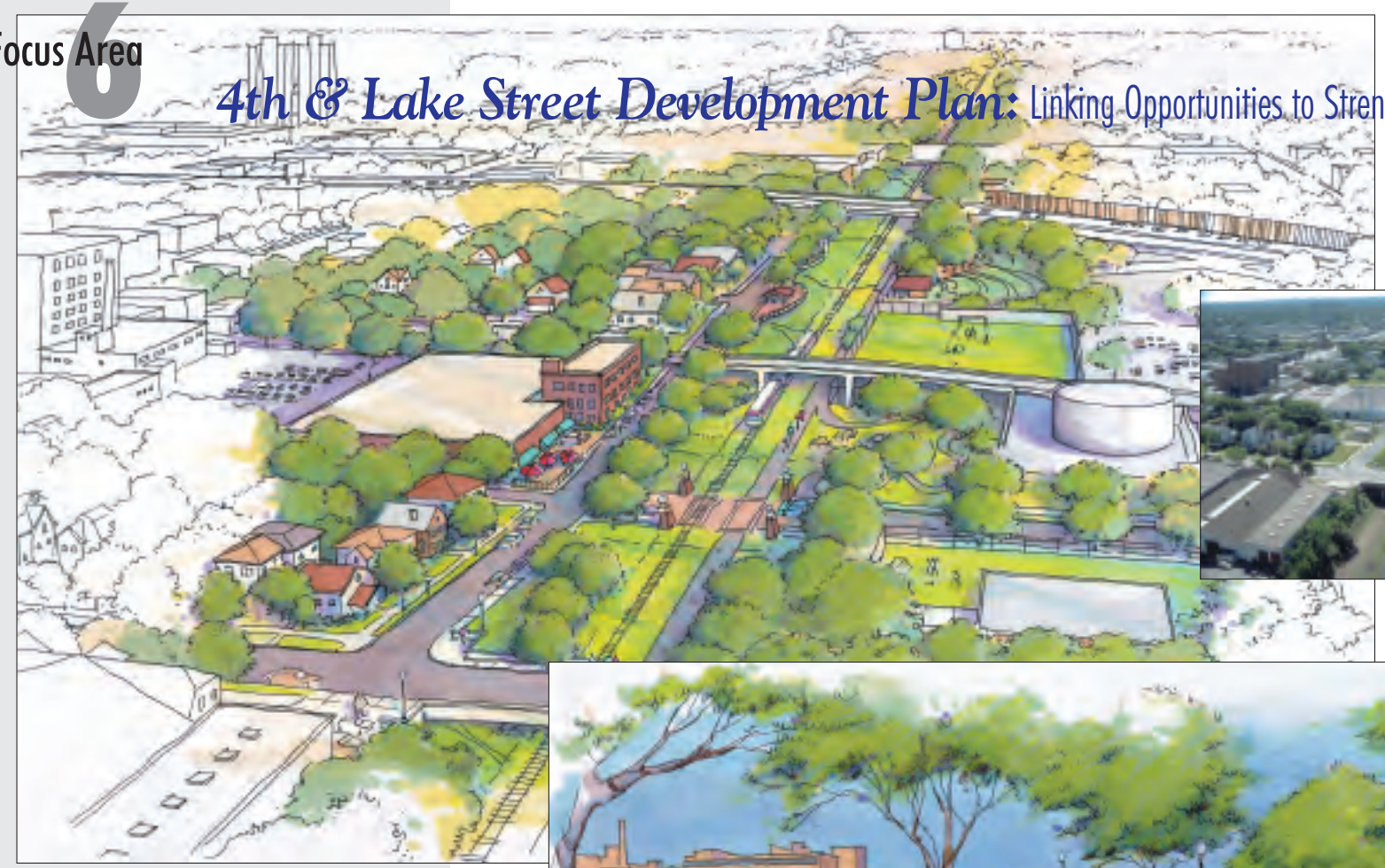
▲ Strengthen neighborhood 'Gateway' connection under the I-35W bridge.

◀ Create a public park/pedestrian promenade along 29th Street overlooking the Greenway

Create park/open space master plan to identify current and future amenities and uses at this important greenway crossroads ▶

Focus Area 6

4th & Lake Street Development Plan: Linking Opportunities to Strengthen Community



Opportunity for "Crossroads Park" at 5th Avenue and the Greenway.

29th Street Public Edge

4th & Lake Street Development Plan: Linking Opportunities to Strengthen Community

A 'Greening the Greenway' Planting Projects •
C Public Park/Open Space Master Plan **(see character sketch)** •
G I-35W Access and Connections •

I 'South Greenway' Edge Infill Development Facing Greenway •

B 29th Street Pedestrian Promenade Connection **(see character sketch)** •

D 'Greening the Freeway Edge' Planting Projects •

K Urban Ventures Recreation Development-Inner City Tennis and Multi-Purpose Facility •

M Residential Enhancement Programs •

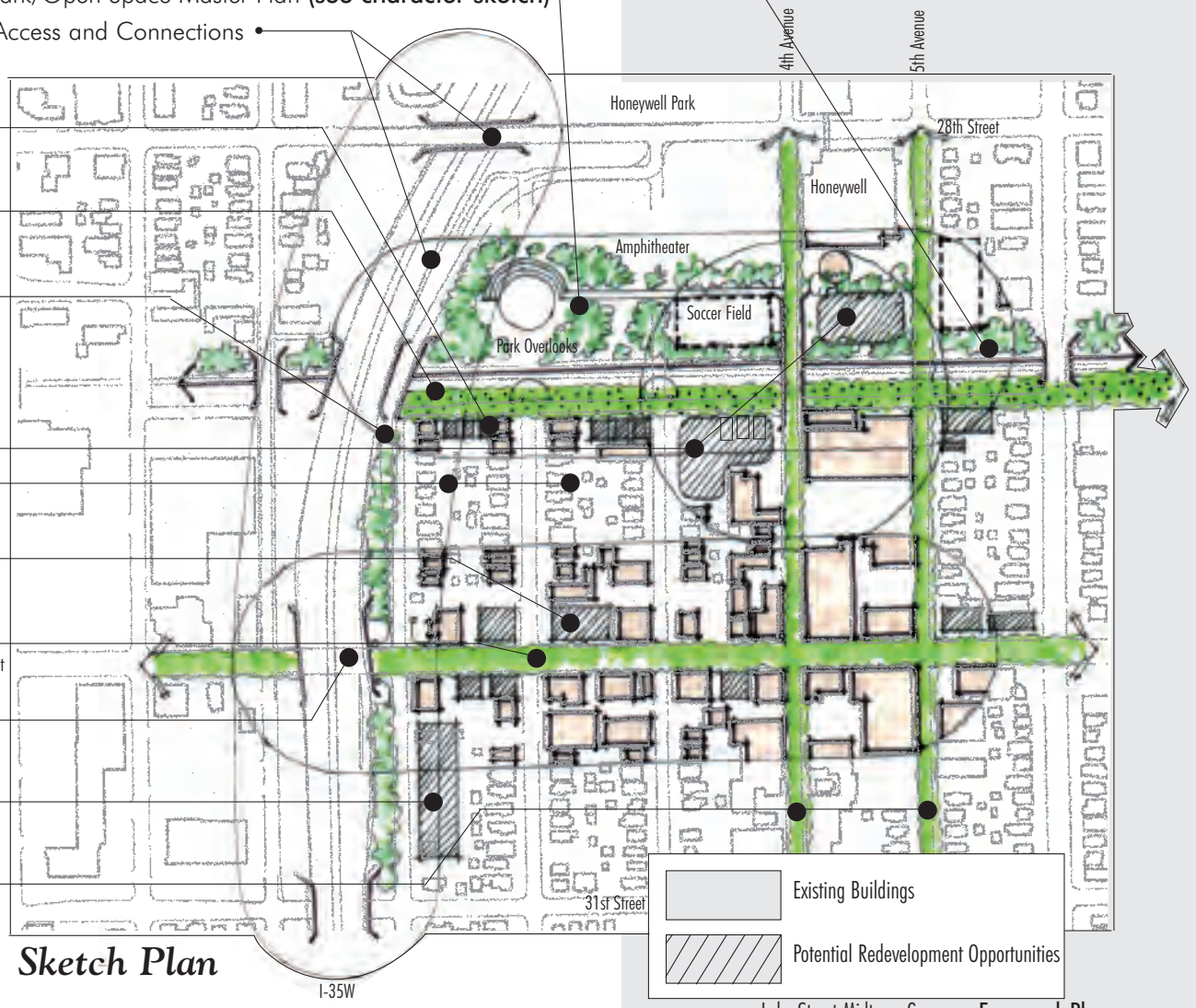
L Lake Street Business Development Area-Enhancement/Infill Project •

E Lake Street Repavement Project Streetscape Improvements •

H I-35W/Lake Street Transit Station •

J 2nd Avenue Development Site •

F 4th and 5th Avenue Streetscape Improvements •



Sketch Plan

Lake Street Midtown Greenway **Framework Plan**

Focus Area 6 4th & Lake Street Development Plan: Linking Opportunities to Strengthen Community

Action Steps/Roles and Responsibilities

Project	Action	Lead Agency	Corridor Guidelines
A The Midtown Greenway • Greenway Construction	Complete Phase I Construction	**Hennepin County/ Mpls. Public Works**	#1 - page 17 #2 - page 18 #3 - page 19 #7 - page 23 #10 - page 26
• 'Greening the Greenway' Planting Projects	Secure public agency lead; secure implementation funding; establish maintenance program	Hennepin County/ Mpls. Public Works/**MCW**	
• Greenway Lighting and Security	Establish plan; secure implementation funding	**Hennepin County/ Mpls. Public Works**	
B 29th Street Pedestrian Promenade	Secure public agency lead; secure funding, secure the public right of way	Mpls. Public Works	#1 - page 17 #2 - page 18 #3 - page 19 #10 - page 26
C Neighborhood Park/Open Space Master Plan - public park at 5th and Greenway 'crossroads'	Determine feasibility of public park space at this location	Mpls Park Board/Mpls Public Works/Hennepin County/Honeywell	All pages 17-26
D 'Greening the Freeway Edge' Planting Project	Secure public agency lead; secure implementation funding; establish maintenance program; secure agency support	Mpls Public Works/ Hennepin County/ MnDOT	#1 - page 17 #2 - page 18
E Lake Street Repavement Project Streetscape Improvements	Establish plan; secure funding; create special service district	**Hennepin County**/Mpls PublicWorks/MCW	#2 - page 18 #6 - page 22 #7 - page 23

4th & Lake Street Development Plan: Linking Opportunities to Strengthen Community

Action Steps/Roles and Responsibilities, cont.

Project	Action	Lead Agency	Corridor Guidelines
F 4th and 5th Avenue Streetscape Improvements	Secure public agency lead; Secure funding	CNIA Mpls Public Works	#2 - page 18 #6 - page 22 #7 - page 23
G I-35W Access and Connections	Select preferred alternatives; integrate land use plan and streetscape improvements with proposed ramps	**Hennepin County/ Phillips Partnership**	All pages 17-26
H I-35W/Lake Street Transit Stations	Implement plans	**Metro Transit**	#7 - page 23
I 'South Greenway' Edge Infill Development	Secure lead entity; determine land ownership; establish plan	**CNIA/Phillips Neighborhood**	All pages 17-26
J 2nd Avenue Development Site	Complete artspace feasibility study; secure lead entity	**CNIA**	All pages 17-26
K Urban Ventures Recreation Development Inner City Tennis and Multi-Purpose Facility	Develop consensus for recreation and land use objectives	**Urban Ventures**	All pages 17-26
L Lake Street Infill/Business Development	Secure lead entity; establish proactive business development strategy; provide marketing and technical assistance		All pages 17-26
M Residential Enhancement Programs	Secure funding for home improvement programs	**CNIA/Phillips Neighborhood**	All pages 17-26
N Public Art	Coordinate Master Plan process	**MCW**	#10 - page 26

Bold Type: Agency Commitment

Focus Area 7

Chicago Avenue & Lake Street: Revitalizing the Commercial Core

The historic Sears Building, soon to become the Great Lake Center, dominates the commercial intersection at Chicago Avenue and Lake Street. This mixed-use commercial, office and entertainment center will include an 18-screen theater complex, restaurants, child-care facilities, retail shops and office uses. Planned parking structures, connections to the Greenway and streetscape improvements are key infrastructure components needed to support this ambitious redevelopment project.

Focus Area 7

Chicago Avenue & Lake Street: Revitalizing the Commercial Core

Opportunities and Challenges

The intersection of Chicago Avenue and Lake Street has historically played an important role in the Lake Street Midtown Corridor. Anchored by the Sears Building since its construction in the 1920's, commercial activity at this hub was consistently strong for decades, providing employment and attracting shoppers from well beyond the local neighborhood area.

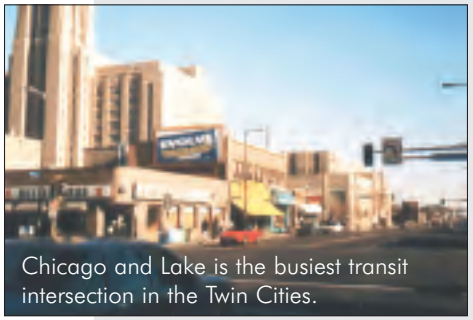
In keeping with this rich history, the Great Lake Center, an exciting adaptive re-use of the Sears Building and surrounding properties, promises to bring new vitality to the area. The proposed mix of uses will include commercial, entertainment and office space supported by a regional transit hub, structured and surface parking facilities and direct connections to the Greenway trail. It is projected that 5,000 people will work at the Great Lake Center.

Chicago Avenue and Lake Street are both scheduled for reconstruction, setting the stage for improving the public realm with widened sidewalks, ample space for street trees and other plantings, and more gracious pedestrian and bicycle amenities. Connections to the Greenway will be accomplished via ramps, stairways, transit stations, all integrated with Greenway level amenities. These amenities related to transit and trail use could include coffee shop, bike repair shop or other service or convenience businesses.

Additional infill development can be anticipated in the area as it is re-energized by planned public and private initiatives. Improved access and connections to existing neighborhood parks will further support reinvestment at this node. For example, Powderhorn Park recently underwent extensive site and building improvements, solidifying its role as a premier neighborhood gathering place.

Roberts Shoes has anchored the Corner of Chicago and Lake for decades.

Lake Street and Elliot Avenue (1929).


Chicago and Lake is the busiest transit intersection in the Twin Cities.

Focus Area 7

Chicago Avenue & Lake Street: Revitalizing the Commercial Core

Great Lake Center Transit Station at Greenway level.

The Great Lake Center surrounds an exciting public plaza with a mix of office, retail and entertainment uses, linking local and regional transit at both street level and in the Greenway

Illustrations courtesy of Ray Harris and KKE

Chicago Avenue & Lake Street: Revitalizing the Commercial Core

B 29th Street Pedestrian Promenade Connection

A Grain Elevator Development Site

I The Great Lake Center

G Chicago Avenue Greenway Access

A The Midtown Greenway

K Infill Housing along the Greenway

C Chicago/Lake Street Public Improvements Plan

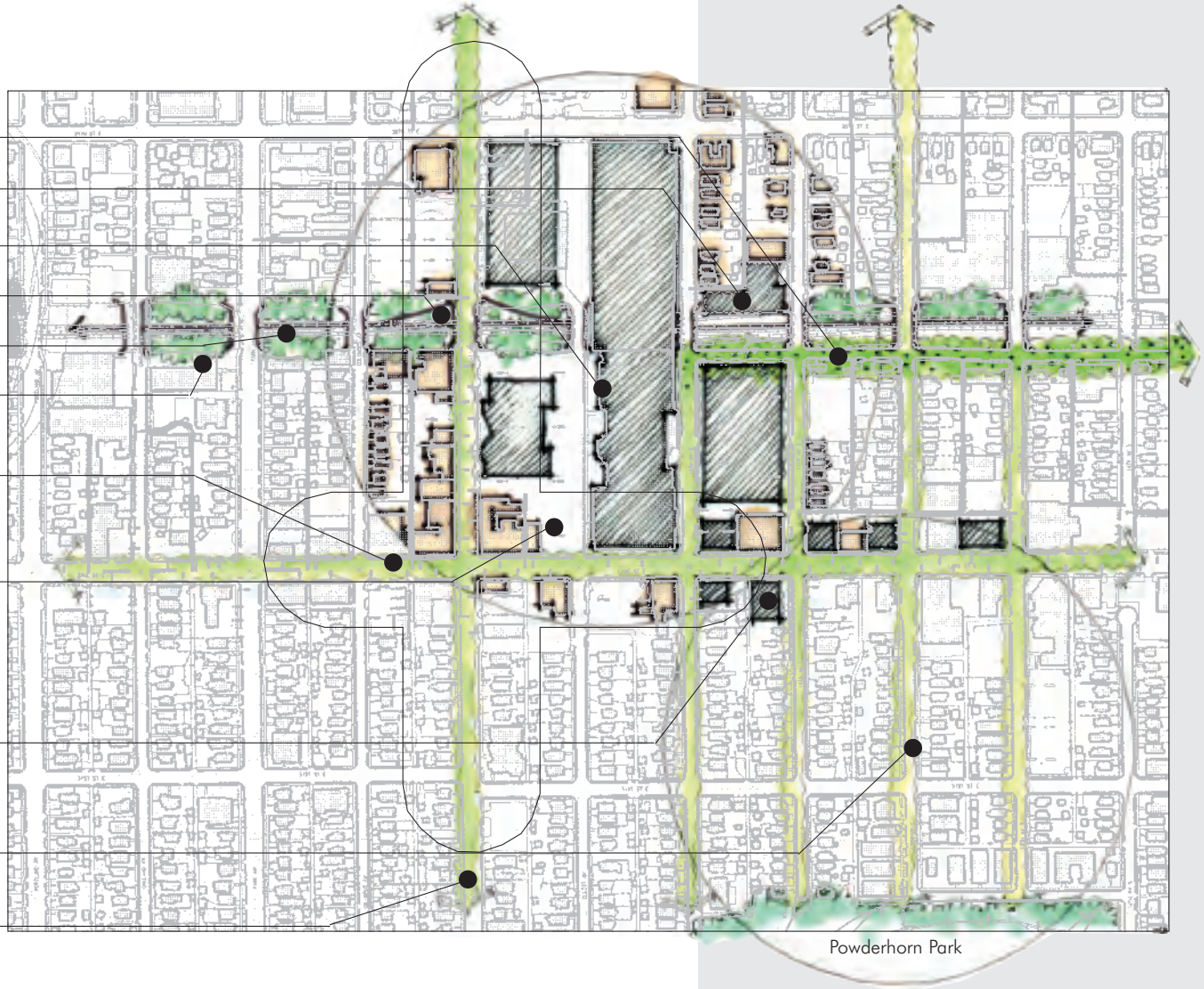
H Chicago/Lake Transit Hub

F Lake Street Repavement Project Streetscape Improvements

J Lake Street Infill Business Development

D 12th Avenue Streetscape Improvements Connection to Powderhorn Park

E Chicago Avenue Streetscape Improvements



Focus Area 7 *Chicago Avenue & Lake Street:* Revitalizing the Commercial Core

Action Steps/Roles and Responsibilities

Project	Action	Lead Agency	Corridor Guidelines
A The Midtown Greenway Greenway Construction 'Greening the Greenway' Planting Projects Greenway Lighting and Security	Purchase grain elevator; complete construction Secure Agency lead; Secure implementation funding; Establish maintenance program Establish plan; Secure implementation funding	**Hennepin County/Mpls Public Works** Hennepin County/Mpls Public Works/**MCW** **Hennepin County/Mpls Public Works**	#1 - page 17 #2 - page 18 $3 - page 19 #7 - page 23 #10 - page 26
B 29th Street Pedestrian Promenade	Secure agency lead; secure funding; secure the public right-of-way	Mpls Public Works	#1 - page 17 #2 - page 18 #3 - page 19 #10 - page 26
C Chicago/Lake Street Public Improvements Plan	Complete plan; secure funding; implement plan	**MCW**/Hennepin County/Metro Transit/Mpls Public Works/STA/Allina ChildrensHospital/ Norwest Bank	#2- page 18 #6 - page 22 #7 - page 23
D 12th Avenue Streetscape Improvements Connection to Powderhorn Park	Secure public agency lead; secure funding	Mpls Public Works	#2- page 18 #6 - page 22 #7 - page 23
E Chicago Avenue Streetscape Improvements	Secure public agency lead; secure funding	Mpls Public Works	#2 - page 18 #6 - page 22 #7 - page 23
F Lake Street Repavement Project Streetscape Improvement	Establish plan; secure funding; create special services district	**Hennepin County**/Mpls Public Works/MCW	#2 - page 18 #6 - page 22 #7 - page 23

Chicago Avenue & Lake Street: Revitalizing the Commercial Core

Focus Area 7

Project	Action	Lead Agency	Corridor Guidelines
G Chicago Avenue Greenway Access - Enhance Planned Ramp/Bridgehead Improvements	Secure public agency lead; secure funding	Mpls Public Works/Hennepin County	**#2 - page 18** **#6 - page 22** **#7 - page 23**
H Chicago/Lake Transit Hub	Establish plan; secure funding; implement the construction	**Metro Transit**/Mpls Public Works	**All pages 17-26**
I Great Lake Center	Coordinate transit, structured parking, development components	STA	**All pages 17-26**
J Lake Street Infill/Business Development	Secure lead entity to establish proactive business development strategy; provide marketing and technical assistance		**All pages 17-26**
K Infill housing along the greenway	Secure lead entity		**All pages 17-26**
L Public Art	Coordinate Master Plan process	**MCW**	**#10 - page 26**

Notes:

Focus Area 8

Bloomington Avenue & Lake Street: Embracing New Opportunities

This aerial photograph, looking east along Lake Street, shows a concentrated massing of commercial structures within a block of Bloomington in each direction. The marquee of the Heart of the Beast Theater, a longtime neighborhood institution, is visible in the foreground. Parking at this intersection is generally placed behind the buildings, strengthening the street edge, but as you move east or west along Lake Street, surface parking lots once again begin to dominate. The Greenway, at the left of the image, is barely visible within the 'urban forest' of trees that characterize the surrounding neighborhood.

Focus Area 8

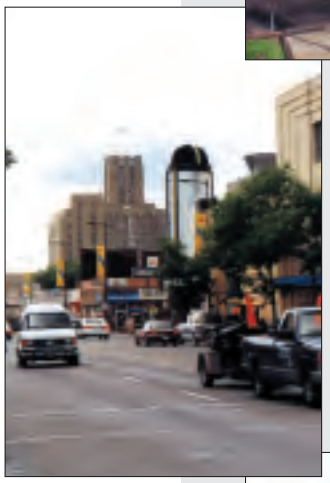
Bloomington Avenue & Lake Street: Embracing New Opportunities

Opportunities and Challenges

Lake Street, with its history as a vibrant commercial corridor, grew up along an active streetcar line, supported by rail service adjacent to 29th Street. The more intense development and mix of uses at the major north/south intersections along this corridor is reminiscent of old streetcar crossroads, and is a pattern we still see today.

The crossroads at Bloomington and Lake, with its more intimate and finer-grained scale of existing buildings, is a wonderful example of these significant neighborhood gathering places. A tremendous amount of time, energy and dollars have been invested in this small commercial district, with the fruits of this effort very evident in the success of the new Mercado, Ingebretsen's, Heart of the Beast Theater and many other attractions. The scheduled repavement project along Lake Street and future improvements to Bloomington Avenue will provide an excellent opportunity for further enhancement of the area for pedestrians and bicycles, strengthening the identity and quality of life for the entire district.

There are numerous opportunities for infill housing and other uses along the south side of 29th Street and along the Greenway. Additional housing development, accommodating a mix of incomes and housing types, supports the general objectives for increased activity and diversity within the corridor. Mixed-use development (both adaptive re-use and new infill projects), with commercial uses on the ground floor and office or residential space above, should be encouraged along Lake Street. Development opportunities where Bloomington Avenue crosses the Greenway should also be explored as part of a long-term plan that includes a future LRT route, transit station and potential public green space.



Bloom-Lake is a vibrant district of small neighborhood businesses and restaurants (above), cultural institutions and landmarks (left), and continuing re-investment (below).

Focus Area 8

Bloomington Avenue & Lake Street: Embracing New Opportunities

Streetscape enhancements strengthen the pedestrian realm, support business development and promote neighborhood identity.

Bloomington Avenue & Lake Street: Embracing New Opportunities

F Bloomington Avenue Streetscape Improvements

H Infill housing along the Greenway

A The Midtown Greenway

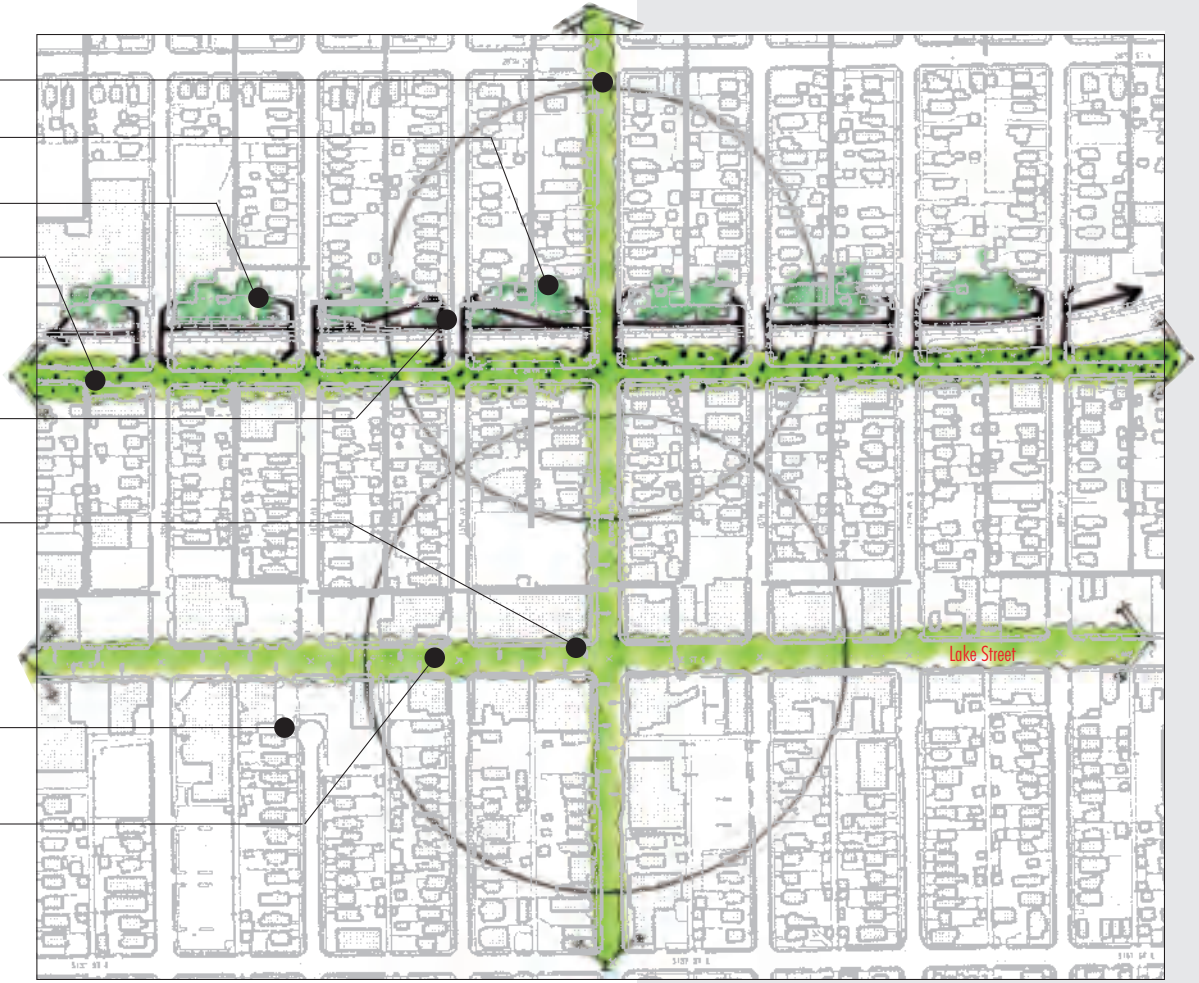
B 29th Street Pedestrian Promenade

D 15th Avenue Greenway access

G Bloomington/Lake 'Commercial Center' business development

C Traffic patterns/cul-de-sacs

E Lake Street repavement project streetscape improvements



Focus Area 8 *Bloomington Avenue & Lake Street:* Embracing New Opportunities

Action Steps/Roles and Responsibilities

Project	Action	Lead Agency	Corridor Guidelines
A The Midtown Greenway Greenway Construction 'Greening the Greenway' Planting Projects Greenway Lighting and Security	Purchase grain elevator; complete construction Secure agency lead; secure implementation funding; establish maintenance program Establish plan; secure implementation funding	**Hennepin County/Mpls Public Works** Hennepin County/Mpls Public Works/**MCW** **Hennepin County/Mpls Public Works**	#1 - page 17 #2 - page 18 $3 - page 19 #7 - page 23 #10 - page 26
B 29th Street Pedestrian Promenade	Secure agency lead; secure funding; secure the public right-of-way	Mpls Public Works	#1 - page 17 #2 - page 18 #3 - page 19
C Traffic Patterns and the Street Grid Calming and Cul-de-Sacs	Conduct corridor-wide traffic study; establish plan	Mpls Public Works	#2- page 18 #6 - page 22 #7 - page 23
D 15th Avenue Greenway Access Enhance Planned Ramp/Bridgehead Improvements	Secure public agency lead; secure funding	Mpls Public Works/Hennepin County	#2 - page 18 #6 - page 22 #7 - page 23
E Lake Street Repavement Project Streetscape Improvements	Establish plan; secure funding; create special services district	**Hennepin County**/Mpls Public Works/MCW	#2 - page 18 #6 - page 22 #7 - page 23

Bloomington Avenue & Lake Street: Embracing New Opportunities

Project	Action	Lead Agency	Corridor Guidelines
F Bloomington Avenue Streetscape Improvements	Secure public agency lead; secure funding	Mpls Public Works	#2 - page 18 #6 - page 22 #7 - page 23
G Bloomington/Lake 'Commercial Center' Business Development	Secure lead agency to establish proactive business development strategy; provide marketing and technical assistance		All pages 17-26
H Infill Housing Along the Greenway	Secure lead entity		All pages 17-26
I Public Art	Coordinate Master Plan process	MCW	#10 - page 26

Notes:

Focus Area 9

Hiawatha Avenue & Lake Street: Introducing Transit-oriented Development

This photograph, looking east along Lake Street toward the new Hiawatha Bridge, shows the broad mix of land uses that exists at this key intersection. Two public schools (South High and Edison Charter School), a cemetery, older commercial storefronts, two shopping centers -one on either side of Hiawatha - and the new YWCA (under construction in the center of the photograph) are surrounded by established residential neighborhoods. The Twin Cities' first light rail line will parallel Hiawatha Avenue as it crosses over Lake Street.

Focus Area 9

Hiawatha Avenue & Lake Street: Introducing Transit-oriented Development

Opportunities and Challenges

The area surrounding the intersection of Lake Street and Hiawatha Avenue and the districts immediately to the east and west will experience dramatic change over the next several decades. The Twin Cities' first light rail transit line - the Hiawatha Corridor - will link downtown Minneapolis with the International Airport and the Mall of America. The Lake Street station (at Lake and Hiawatha) will become a major bus/LRT transfer point along the route. Significant volumes of vehicular traffic will continue to use both Lake Street and Hiawatha Avenue as key connecting routes.

This district is characterized by an interesting mix of land uses, ranging from large floorplate industrial and commercial structures to older, smaller commercial buildings, fast food restaurants and residential areas. This district lacks the cohesiveness and familiar elements of a walkable, bicycle-friendly urban neighborhood. The intersection at Lake Street and Hiawatha Avenue offers a unique challenge to reconnecting this neighborhood. Studies currently underway are exploring alternative approaches for mixed use development with much stronger links between neighborhoods on either side of Hiawatha Avenue. This emerging transit-oriented development pattern must anticipate and then guide future design and implementation decisions for the transformation of this important corridor crossroads.

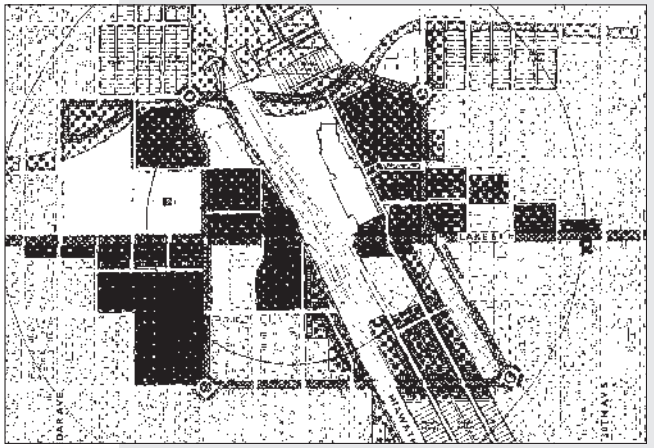
This transformation has already begun with the YWCA opening a new facility on the south side of Lake Street between 21st and 22nd Avenues. This building has a strong presence on the street with a number of planned pedestrian realm improvements. The Green Institute has recently completed a new building one block north of Lake Street on 21st Avenue dedicated to the promotion 'green' construction practices, sustainability and recycling of building materials (among many important programs). The Midtown Greenway will pass by and connect with the north side of the Green Institute property.

A proposed LRT Station will be sited just north of Lake Street, while a flyover ramp will carry the rail line over Hiawatha Avenue and continue into the downtown area. The convergence of the Greenway, light rail and the major arterial roadways present both a significant opportunity and a design challenge.

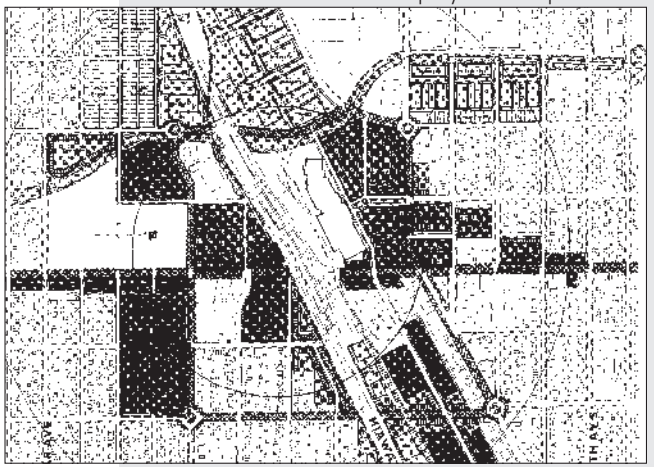
Creating a well designed transit-oriented development plan at Lake and Hiawatha that incorporates land uses west to Cedar Avenue and east to 27th Avenue is the highest priority for this district. A wide range of issues must be addressed, including:

- Parking to support existing uses and proposed development
- Location, scale and character of new and revitalized commercial development
- Interface between residential, commercial and industrial uses
- Links between light rail and bus transit, pedestrian and bicycle use
- Pedestrian and bicycle connections under Hiawatha Avenue and across the Greenway

Residential Emphasis ▼



Employment Emphasis ▼



Two alternate land use maps for Hiawatha/Lake Street Station Area Plan
Courtesy of Calthorpe Associates, IBI Group and Coen & Stumpf Associates

Focus Area 9

Hiawatha Avenue & Lake Street: Introducing Transit-oriented Development

The intersection of transit routes. vehicular corridors and the Greenway present unique challenges and opportunities at this important regional crossroads.

Hiawatha Avenue & Lake Street: Introducing Transit-oriented Development

N 27th Avenue Streetscape Improvements

O 27th Avenue Redevelopment Opportunities

A The Midtown Greenway

I Midtown Greenway/Hiawatha crossing

B Neighborhood park/open space at Hiawatha and the Greenway

D 'Greening Hiawatha' planting project

J Hiawatha/Lake Shopping Center - Transit oriented development opportunities

C Cemetery public access

H Hiawatha LRT and transit station

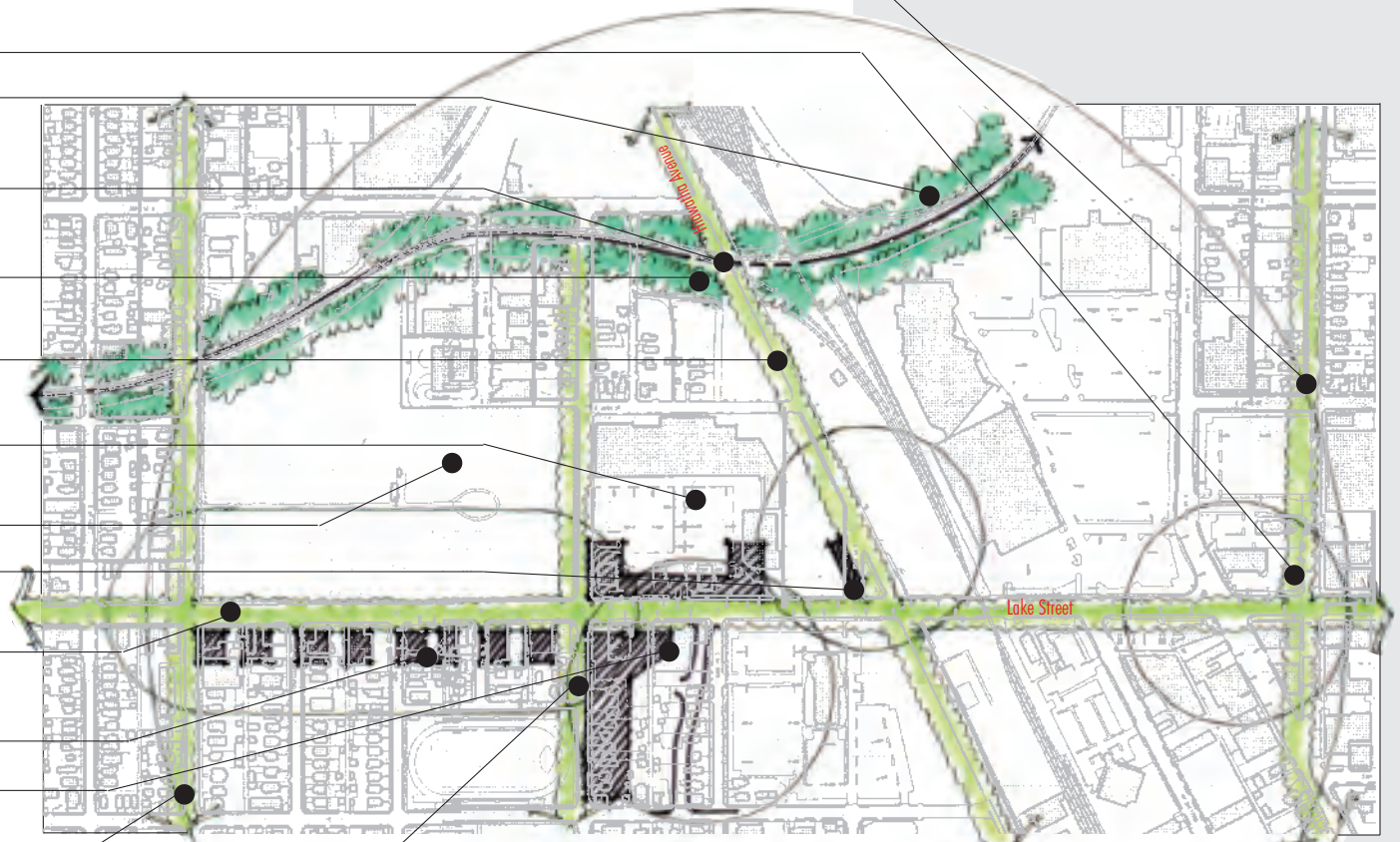
E Lake Street repavement project

L Mixed use development along Lake Street

K YWCA Mpls

G Cedar Avenue Streetscape improvements

F 21st Avenue Streetscape improvements



Focus Area 9

Hiawatha Avenue & Lake Street: Introducing Transit-oriented Development

Action Steps/Roles and Responsibilities

Project	Action	Lead Agency	Corridor Guidelines
A The Midtown Greenway Greenway Construction	Purchase grain elevator; complete construction	**Hennepin County/Mpls Public Works**	**#1 - page 17** **#2 - page 18** **#3 - page 19** **#7 - page 23** **#10 - page 26**
'Greening the Greenway' Planting Projects	Secure agency lead; secure implementation funding; establish maintenance program	Hennepin County/Mpls Public Works/**MCW**	
Greenway Lighting and Security	Establish plan; secure implementation funding	**Hennepin County/Mpls Public Works**	
B Neighborhood Park/Open Space Master Plan Public Park at Hiawatha and the Greenway	Secure public agency lead; determine feasibility of public park at this location	Mpls Park Board/Mpls Public Works/Hennepin County	**All pages 17-26**
C Cemetery public access	Secure public agency lead; Determine feasibility; establish plan; implement		
D "Greening Hiawatha" Planting Project	Secure public agency lead; establish plan; secure funding	Mpls Public Works/Hennepin County/MnDOT	**#1 - page 17** **#2 - page 18**
E Lake Street Repavement Project Streetscape Improvements	Complete construction	**MnDOT**/Mpls Public Works	**#2 - page 18** **#6 - page 22** **#7 - page 23**
F 21st Avenue Streetscape Improvements	Secure public agency lead; secure funding	Mpls Public Works	**#2 - page 18** **#6 - page 22** **#7 - page 23**
G Cedar Avenue streetscape improvements	Secure public agency lead; secure funding; construct	Mpls Public Works	**#7 - page 23**
H Hiawatha LRT & Transit Station	Complete design; secure funding; construct	**MnDOT**/MetroTransit/ Hennepin County	**#7 - page 23**

Hiawatha Avenue & Lake Street: Introducing Transit-oriented Development

Focus Area 9

Project		Action	Lead Agency	Corridor Guidelines
I	Midtown Greenway/Hiawatha Crossing Pedestrian Connections	Establish plan; secure funding, construct	**Hennepin County**/Mpls Public Works/MnDOT/MCW	**#1 - page 17** **#2 - page 18** **#7 - page 23**
J	Hiawatha/Lake Shopping Center Transit Oriented Development Opportunities	Secure public agency lead	MCDA; MCW	**All pages 17-26**
K	YWCA Mpls	Complete construction	YWCA Mpls	**All pages 17-26**
L	Commercial Blocks Along Lake St. - Mixed Use Development across from Pioneer Cemetery	Secure public agency lead to redevelop	MCDA; MCW	**All pages 17-26**
M	Corcoran/Longfellow LRT Station Area Planning	Complete Plan	**Corcoran/Longfellow**	**All pages 17-26**
N	27th Avenue Streetscape Improvements	Secure public agency lead; secure funding; construct	Mpls Public Works	**#2 - page 18** **#6 - page 22** **#7 - page 23**
O	27th Avenue Redevelopment Opportunities	Secure public agency lead to redevelop	MCDA	**all pages 17-26**
P	Public Art	Coordinate Master Plan process	**MCW**	**#10 - page 26**

Notes:

Focus Area 10

East Lake Street: Promoting Neighborhood Identity and Re-energizing the Street

Looking east along Lake Street, commercial development becomes less concentrated and smaller in scale. The number of parking lots, auto-related uses and vacant storefronts provide many opportunities for redevelopment and public-realm improvements. A number of established neighborhood businesses, including restaurants with sidewalk seating, convenience stores and a hardware store provide a strong foundation for future development efforts along this segment of Lake Street.

Focus Area 10

East Lake Street: Promoting Neighborhood Identity and Re-energizing the Street

Opportunities and Challenges

A mix of commercial, institutional and residential land uses characterize the east end of Lake Street from 27th Avenue to the Mississippi River. Newer commercial facilities with parking lots fronting the street tend to dominate the visual character of this segment of the corridor. Numerous surface parking lots at street intersections interspersed with older buildings and missing pieces in the building wall break up the continuity of the street edge and weaken the pedestrian environment. Increased interest and activity at 27th and Lake Street illustrate the potential for re-use and infill redevelopment at several key crossroads throughout the neighborhood. There are a number of local services and institutions along this section of Lake Street, including banks, a post office and library. Their relationship to the street should be strengthened and celebrated as important neighborhood amenities.

The relationship between Lake Street and the Greenway corridor changes significantly through this neighborhood. Rather than paralleling Lake Street, the Greenway curves several blocks to the north and is elevated above a mix of industrial, residential and park uses along its edge. Opportunities to strengthen both visual and physical connections between the Greenway, Lake Street, adjacent neighborhoods and local attractions should be explored. Brackett Park, recently renovated with a new community center, remains an important gathering place and recreational facility in the area.

The Longfellow Community Council is undertaking a planning study and neighborhood process for East Lake Street from 27th Avenue to the Mississippi river. They recognize that this segment of the Midtown Corridor has a much different character than areas to the west and lack neighborhood identity or gathering places except at individual buildings. They are implementing a process to identify key crossroads where they can focus investment strategies to foster placemaking and build on neighborhood based market opportunities.

There are many neighborhood businesses fronting east Lake Street, including several restaurants with outdoor seating.

The Greenway Corridor heads north, away from Lake Street as you travel east along Brackett Park.

Focus Area 10

East Lake Street: Promoting Neighborhood Identity and Re-energizing the Street

Existing

Infill development opportunities strengthen the street edge, providing a mix of uses while enhancing neighborhood character with new lighting, planting, furniture, crosswalks and other amenities.

East Lake Street: Promoting Neighborhood Identity and Re-energizing the Street

Focus Area 10

A 'Greening the Greenway' Planting Projects

B Midtown Greenway Access and Connections to Brackett Park

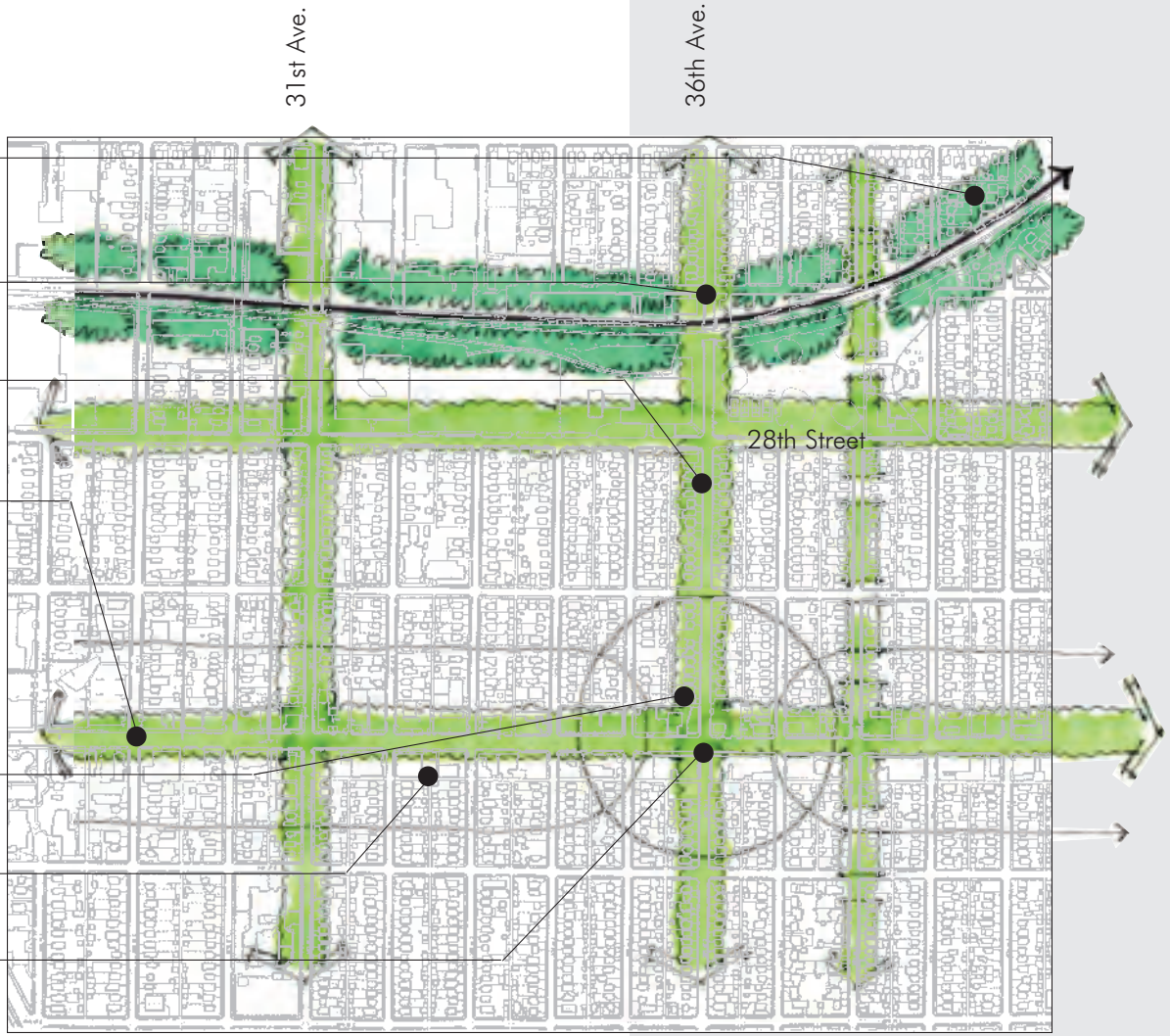
C 36th Avenue Streetscape Improvements

D Lake Street Repavement Project Streetscape Improvements

E 36th/Lake Street Mixed-use Development

G Lake Street Mixed-use Infill Development

F 36th/Lake Street Transit Improvements



Focus Area 10 *East Lake Street:* Promoting Neighborhood Identity and Re-energizing the Street

Action Steps/Roles and Responsibilities

Project	Action	Lead Agency	Corridor Guidelines
A The Midtown Greenway	Purchase grain elevator; complete design and construction documents, construct.	**Hennepin County/Mpls Public Works**	#1 - page 17 #2 - page 18 #7 - page 23 #10 - page 26
Greenway Construction	Secure agency lead; secure implementation funding; establish maintenance program	Hennepin County/Mpls Public Works/**MCW**	
'Greening the Greenway' Planting Projects			
Greenway Lighting and Security	Establish plan; secure implementation funding	**Hennepin County/Mpls Public Works**	
B Midtown Greenway Access and Connections to Brackett Park	Secure public agency lead; secure funding	Mpls Public Works/Hennepin County/MPRB	#1 - page 17 #2 - page 18
C 36th Avenue Streetscape Improvements	Secure public agency lead; secure funding	Mpls Public Works	#6 - page 22 #7 - page 23
D Lake Street Repavement Project Streetscape Improvements	Establish plan; secure funding; create special services district	**Hennepin County**/Mpls Public Works/MCW	#6 - page 22 #7 - page 23
E 27th/Lake Street Mixed-use Development	Determine feasibility of commercial/mixed use development; secure lead entity to establish proactive business development strategy	Longfellow NRP	All pages 17-26
F 36th/Lake Street Transit Improvements	Establish plan; secure funding	Hennepin County/MCW	#7 - page 23

East Lake Street: Promoting Neighborhood Identity and Re-energizing the Street

Focus Area 10

Project	Action	Lead Agency	Corridor Guidelines
G Lake Street Mixed-use Infill Development Commercial Center/Node Study	Determine feasibility of commercial/mixed use development; secure lead entity to establish proactive business development strategy	Longfellow NRP	**All pages 17-26**
H Public Art	Coordinate Master Plan process	**MCW**	**#10 - page 26**

Notes:

Focus Area 11

East Gateway/River Road: Celebrating Natural Resources

This view north from Lake Street shows a confluence of systems at the east end of the corridor where Lake Street and West River Road meet the Lake Street Bridge to St Paul. Among many opportunities is the redevelopment site at the corner of Lake Street and West River Road that could serve as a gateway to both the City of Minneapolis and the surrounding neighborhoods. At the upper left of this image, the eastern teminus of the Greenway will provide links from Brackett Park to East River Road and to the recently improved Mississippi River Gorge accesses. Protection and enhancement of this unique river resource is a primary objective.

East Gateway/River Road: Celebrating Natural Resources

Opportunities and Challenges

The Lake Street Bridge across the Mississippi River is the east gateway to Minneapolis. The river lies in a relatively narrow, deep gorge at this point, a unique geological condition found nowhere else along the entire length of the river. In response to environmental degradation, the Longfellow neighborhood, which borders the valley's west rim, recently commissioned and adopted a Master Plan that calls for aggressive preservation and restoration of natural systems along the River while allowing controlled recreational use. The first phases of the plan are currently being constructed. The Minneapolis Rowing Club has completed design work for their new building in the gorge below the Lake Street bridge.

The Midtown Greenway will connect with the existing trails along the Mississippi River at River Road; with potential future links to St. Paul via the existing railroad bridge. This provides an opportunity to create a trail gateway amenity to announce the Greenway and an important open space connection through south Minneapolis. River Road itself is an important recreational link along a beautiful corridor of national significance. The boulevard is part of the nationally designated Great River Parkway that runs along the Mississippi from Minnesota to the Gulf of Mexico. River Road connects north to downtown and south to Minnehaha Park and Creek as part of the Minneapolis' Grand Rounds Park system.

Residential neighborhoods at the east end of the corridor are well maintained and have retained their value over the years. Housing consists primarily of single family residences, although there are duplexes and multi-family apartments as well. Commercial and institutional land uses are less concentrated at this end of Lake Street, but convenience stores and surface parking continue to fragment the street edge. The former Union 76 gas station site, located at the bridgehead, provides a tremendous opportunity for an innovative, architecturally significant mixed-use development incorporating commercial, office or residential use.

As in focus areas to the west, the repaving of Lake Street will provide excellent opportunities to improve the quality of the public realm, providing safer crossings of the street and better amenities for transit users, bicyclists and pedestrians.

Eventually the Greenway will cross the Mississippi River to St Paul.

The Lake Street bridge serves as a gateway to the Midtown Corridor.

Focus Area 1

East Gateway/River Road: Celebrating Natural Resources

Midtown Corridor gateway redevelopment opportunity at the bridgehead with potential for retail/restaurant, and office/residential uses. Outdoor seating area would promote strong visual and physical connections to River Road trail and parkway system with additional streetscape improvements including new lighting, plantings, and crosswalks to strengthen the public realm.

Existing

East Gateway/River Road: Celebrating Natural Resources

A 'Greening the Greenway' Planting Projects

B Midtown Greenway Access and Connections - Eastern Trail Terminus

C Railroad Bridge - Greenway Connection to St. Paul

D Mississippi River Gorge Project

E Lake Street Bridehead and Gateway Improvements

G "76" Gas Station/Lake Street Development Site

F Lake Street Repavement Project Streetscape Improvements

Sketch Plan

Focus Area 11 *East Gateway/River Road:* Celebrating Natural Resources

Action Steps/Roles and Responsibilities

Project	Action	Lead Agency	Corridor Guidelines
A The Midtown Greenway Greenway Construction 'Greening the Greenway' Planting Projects Greenway Lighting and Security	Purchase grain elevator; complete design and construction documents; construct. Secure agency lead; secure implementation funding; establish maintenance program Establish plan; secure implementation funding	**Hennepin County/Mpls Public Works** Hennepin County/Mpls Public Works/**MCW** **Hennepin County/Mpls Public Works**	#1 - page 17 #2 - page 18 #7 - page 23 #10 - page 26
B Midtown Greenway Access and Connections Eastern Trail Terminus	Secure public agency lead; establish plan; secure funding	Mpls Public Works/Hennepin County	#1 - page 17 #2 - page 18
C Railroad Bridge - Greenway Connection to St. Paul	Secure agency lead; determine feasibility	Mpls Public Works	#1 - page 17 #2 - page 18
D Mississippi River Gorge Project	Secure public agency partner; secure funding; implement the plan	**Longfellow NRP**/Mpls Park Board	#2 - page 18 #6 - page 22
E Lake Street Bridgehead and Gateway Improvements	Secure public agency lead; establish plan; secure funding	Mpls Public Works/Hennepin Country	#2 - page 18 #6 - page 22 #7 - page 23
F Lake Street Repavement Project Streetscape Improvements	Establish plan; secure funding; create special services district	**Hennepin County**/Mpls Public Works/MCW	#2 - page 18 #6 - page 22 #7 - page 23

East Gateway/River Road: Celebrating Natural Resources

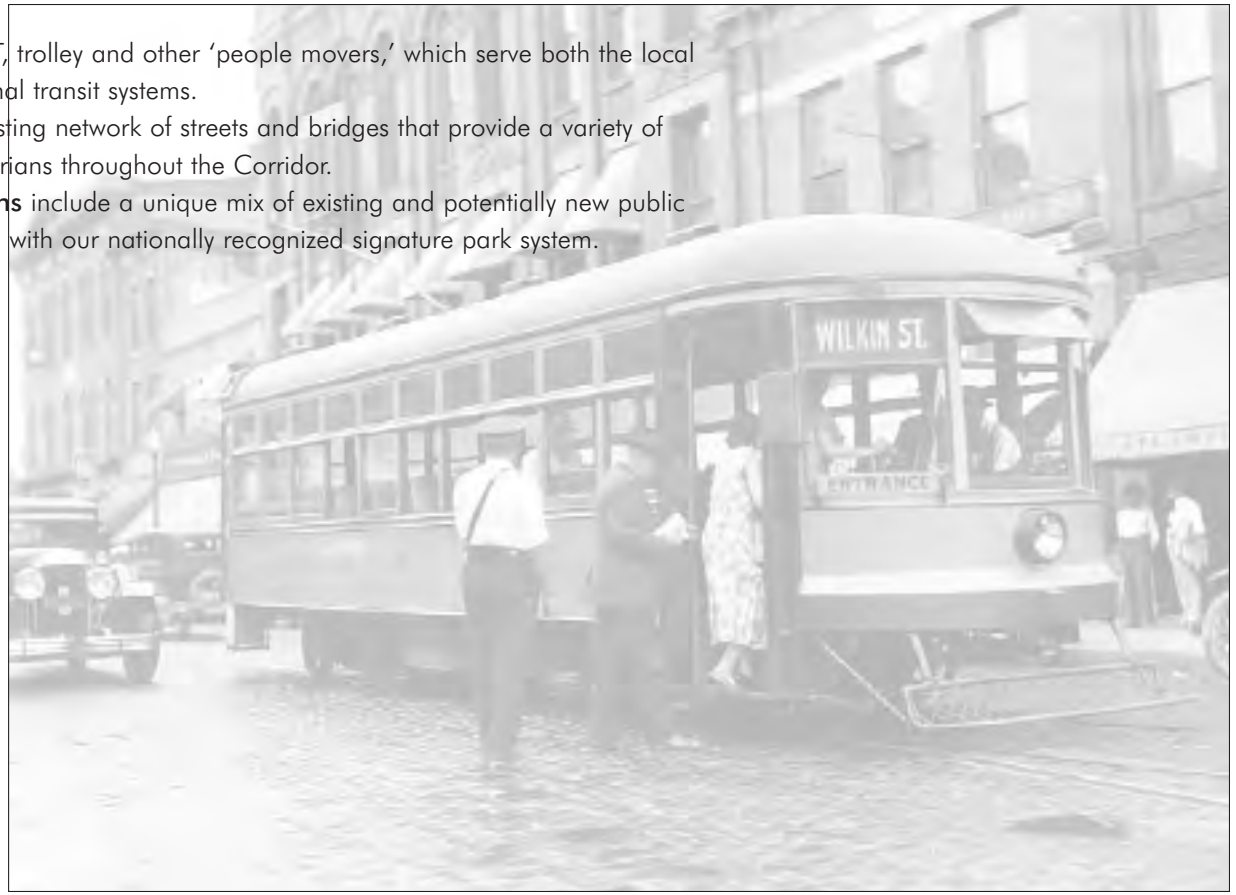
Project	Action	Lead Agency	Corridor Guidelines
G '76' Gas Station/Lake Street Development Site	Secure lead entity to establish proactive business development strategy; determine feasibility of commercial/mixed use development; recruit investors		All pages 17-26
H Public Art	Coordinate Master Plan process	MCW	#10 - page 26

Notes:

"A Network of Connecting Links"

The multi-layered connectedness that characterizes many successful, stable urban neighborhoods has evolved, and is strengthened by, an overlapping pattern of transit, infrastructure and open space systems.

Transit Connections include bus, future LRT, trolley and other 'people movers,' which serve both the local neighborhoods and also connect with regional transit systems.
Infrastructure Connections include the existing network of streets and bridges that provide a variety of travel paths for vehicles, bicycles and pedestrians throughout the Corridor.
Parks, Trails and Open Space Connections include a unique mix of existing and potentially new public green space linking neighborhood amenities with our nationally recognized signature park system.



Chapter 5

Connections: Transit, Infrastructure and Open Space

Introduction

The Lake Street Midtown Greenway provides a critical link - a central spoke- in a regional pattern of connections. These connections must function simultaneously at several levels:

- **Regional** - providing easy access to streets, highways, transit systems; parks, trails and open space.
- **Sub-Regional/Neighborhood** - providing a variety of connections to area goods and services, employment centers, recreational amenities and attractions.
- **Local/Block to Block** - providing the frame for daily activities close to home.

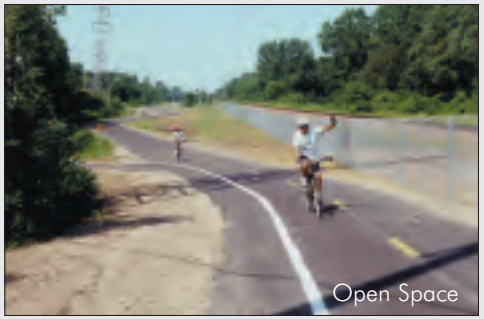
The combination of business growth and new housing is energizing neighborhoods while creating a rich network of regional destinations instead of isolated islands of activity. The traditional pattern of city streets allows tremendous freedom of movement, for pedestrians and bicycles as well as motorized vehicles. Sidewalks provide safe travel paths for children and a place for the private edge to meet the public street. Trails connect local and regional open space and also provide a non-street option for travel through the neighborhood.

Public infrastructure improvements and links to area open space systems are obviously important components, but the significance of improved transit connections cannot be overstated. The existing pattern of business, institutions and housing, together with the proposed redevelopment strategies described in this document, will only survive and thrive with the support of a broad based, multi-modal system of transit options. Connections to this system must be accomplished through a variety of highly visible, fully accessible transit stops and transit stations, ramps, stairs, elevators that are fully integrated with adjacent land use.

As this corridor continues to develop and evolve over time, transportation and land use must always be integrated. The creative interaction of multiple uses must address current challenges while maintaining the flexibility to adapt to future needs.

Transit

Infrastructure


Open Space

Transit Connections

The Lake Street Midtown Greenway Corridor includes multiple transit components as part of a local and regional transit system. These components include:

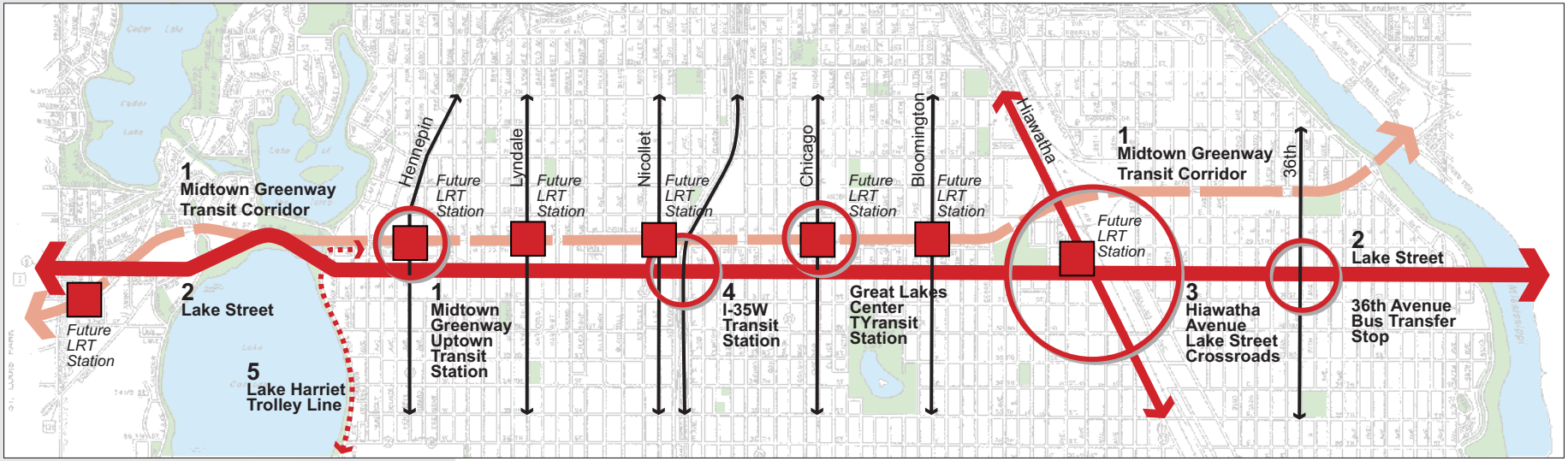
1 The Midtown Greenway Corridor

2 Lake Street

3 The Hiawatha Avenue LRT Corridor

4 I - 35W transit station

5 Other Transit Connections



1 The Midtown Greenway Corridor

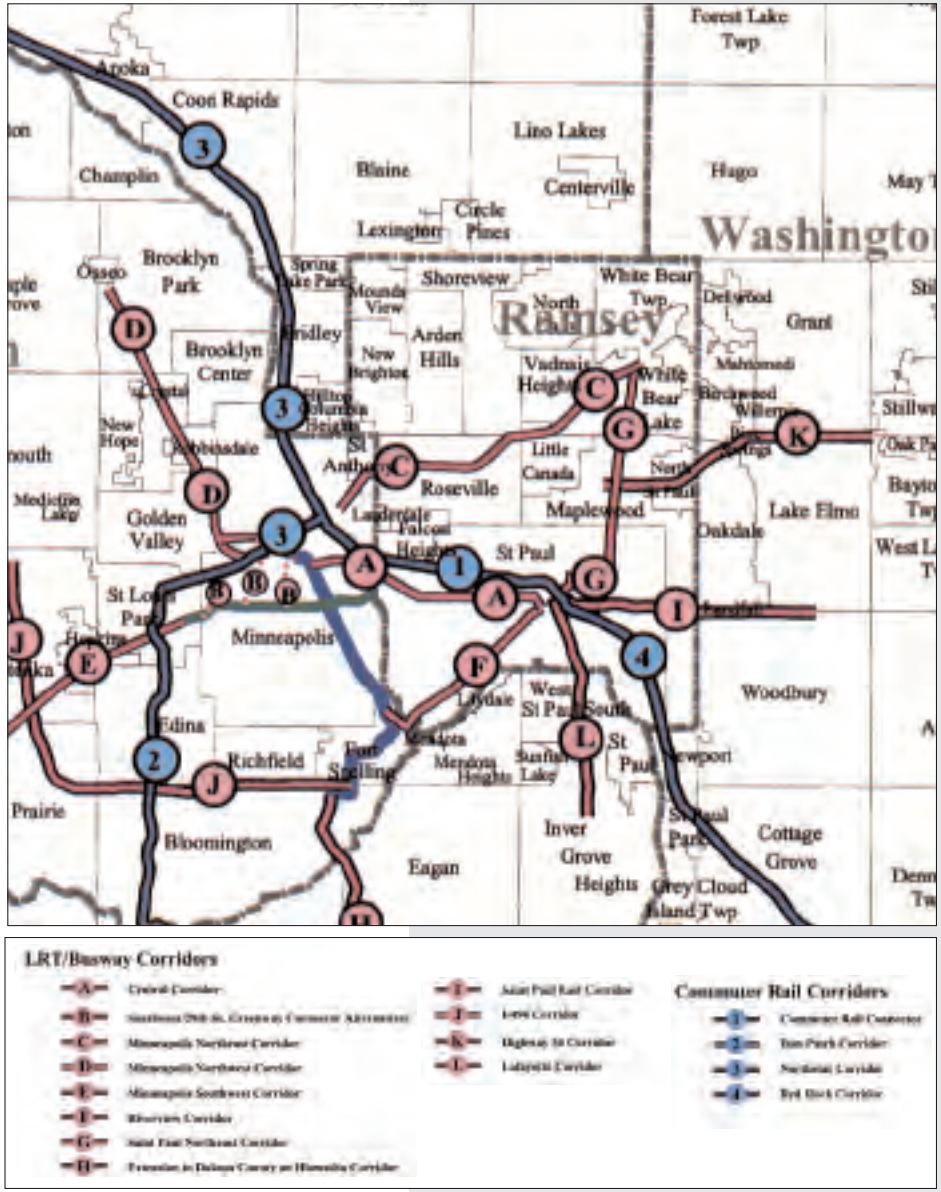
As previously discussed, the old railroad right-of-way was purchased by Hennepin County Regional Rail Authority for use as a future light rail transit corridor. With prospects for rail transit within the trench still some time away, much attention has been placed on the importance of completing the bike trail and related improvements to make the corridor a safe and pleasant place for both recreational and commuter traffic.

Phase One construction of this commuter bike trail, to be completed Summer 2000, provides the much-needed foundation for a series of bicycle and pedestrian connections that will link area destinations including job centers, commercial/shopping districts, restaurants, institutions, transit hubs, green space and arts/entertainment attractions. In the absence of light rail in the corridor, this critical first step serves as an important demonstration of the enormous potential to link adjacent neighborhoods to this transit corridor and to the surrounding area.

Concurrent with construction of the trail, a number of options for future public transit use are being actively pursued. The corridor is a key component of the Metropolitan Councils' transpotation plan (see map) and feasibility for either rail or express bus systems in the corridor is a major priority and a current study initiative supported by the County and Metropolitan Council. The express busway feasibility study currently underway, will link Hopkins and St. Louis Park to Downtown Minneapolis and the Hiawatha Avenue LRT Corridor. A community-based process will integrate neighborhood input with urban planning criteria and transit design guidelines to ensure that busway improvements support and strengthen the Corridor Framework Plan Vision. Express bus options being explored include clean, quiet state-of-the-art vehicles.

Detailed plans and illustrations have been completed for the Hennepin Avenue/Uptown transit station to be located at the edge of the Greenway. Opportunities for additional ramp, stair and elevator connections between street level uses and the bottom of the trench are also being studied.

Regional LRT map



2 Lake Street

Once containing an active trolley line and still home to a bus system with very high ridership, Lake Street was profoundly impacted by a series of changes that began with the dismantling of the streetcar system in the fifties and the construction of the interstate highway system a decade later. Formerly a very successful commercial corridor, Lake Street businesses now find themselves in competition with a number of regional shopping destinations in surrounding suburbs and other parts of the metropolitan area.

Lake Street and 26th Avenue, 1926. Courtesy MHS.

As was typical in so many American cities, Lake Street fell into a period of disinvestment and decline. The departure of several anchoring stores, such as Sears, contributed to further economic downturn and the subsequent visual symptoms of poverty and blight. The history of Lake Street (through periods of activity, decline,and now regeneration) is still being written. The demand for transit improvements along Lake Street is heightened by the combination of many existing successful businesses, key redevelopment projects now underway and the enormous potential for new investment throughout the corridor.

Much work has been done to explore this important issue and additional studies related to a comprehensive system of bus, trolley, train and other transit options are currently being explored. The objective is to integrate and improve transit and transportation systems as a major component, development catalyst and public service for Lake Street businesses, residents and visitors. Improvements to curbside transit stops are being planned as part of the Lake Street repavement project. Transit hubs or stations are included as integral components of the Great Lake Center development at Chicago Avenue, the Hiawatha Avenue development strategy, the new transit station at Hennepin Avenue and the proposed redevelopment at 27th Avenue.

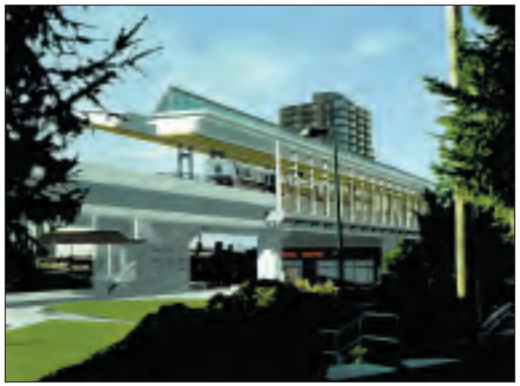
Bus connections along the corridor

3. The Hiawatha Avenue/Lake Street Crossroads

With approval of the Hiawatha Avenue corridor as the first segment of the Twin Cities Light Rail Transit Plan, this important crossroads of Lake Street, the Midtown Greenway and Hiawatha Avenue has added significance for the region because:

- It will provide a regional link between downtown and the airport.
- Minneapolis' first Transit Oriented Development (TOD) will be created at this location.
- It will integrate light rail and other modes of transportation to support a mix of new and existing uses.

Transit solutions related to this important node must provide highly visible, accessible and safe connections to transit stops/stations, green systems, new development and surrounding neighborhoods. The new Hiawatha Avenue bridge presents a visual and physical challenge for east/west pedestrian, bicycle and vehicular traffic. The City and County are currently exploring options for rail alignment; grade separated crossings for rail transit and the Greenway corridor; and transit station location and design.



Partial plan of Hiawatha LRT line (right) and views of typical Vancouver, BC, LRT stations (courtesy of IBI).

Existing transit stop at I 35W and Lake Street

4 I-35W Transit Station

Overview

Metro Transit commissioned a study to evaluate and recommend options relative to ADA compliance and associated improvements to the existing transit stops located at the intersection of I 35W and Lake Street. This study delineated several options based on the project goals and project opportunities described below. Further study including a comparative analysis of costs and programmatic components led to preliminary recommendations for station floor plans and general character.

Project Goals

The primary functional goal of this project is to successfully link the two levels of the Lake Street and I 35W intersection with an ADA compliant vertical circulation system integrated into the transit facility which affords maximum user convenience and safety, ease of maintenance, durability of materials and reasonable cost.

Project Opportunities

Significant opportunities exist for Metro Transit to become the impetus for the redevelopment and revitalization of the Lake Street corridor and to provide a defining element or gateway for both local and greater metropolitan communities.

Given Metro Transit's goal of doubling ridership within the next 20 years, (combined with the significant presence of this location), there is tremendous opportunity for Metro Transit to reinforce this goal with a defining image that takes the concept of transit well into the next century.

5 Other Transit Connections

In addition to the grid system of streets that provide multiple routes for cars, bicycles and pedestrians, a number of other transit options are being proposed. These include the extension of the Lake Harriet Trolley into Uptown and a variety of neighborhood circulators/'small bus' routes throughout the corridor.

While some of these systems may be years away, it is very likely that they will be integrated with new development projects connecting to and departing from area transit stations. Transit friendly street design, with ample room for curb-side stops and inter-modal capability with bike lockers and storage facilities nearby are important considerations. Planning and detailed design of transit systems in this corridor must:

- Anticipate the future of transit in the Twin Cities and the powerful impact of LRT in the Greenway by providing the space and appropriate sites for transit facilities to support the development objectives outlined in this document;

- Bring together neighborhood institutions and businesses to identify common goals and establish local transit systems that serve the immediate community and link to city and regional transit systems;

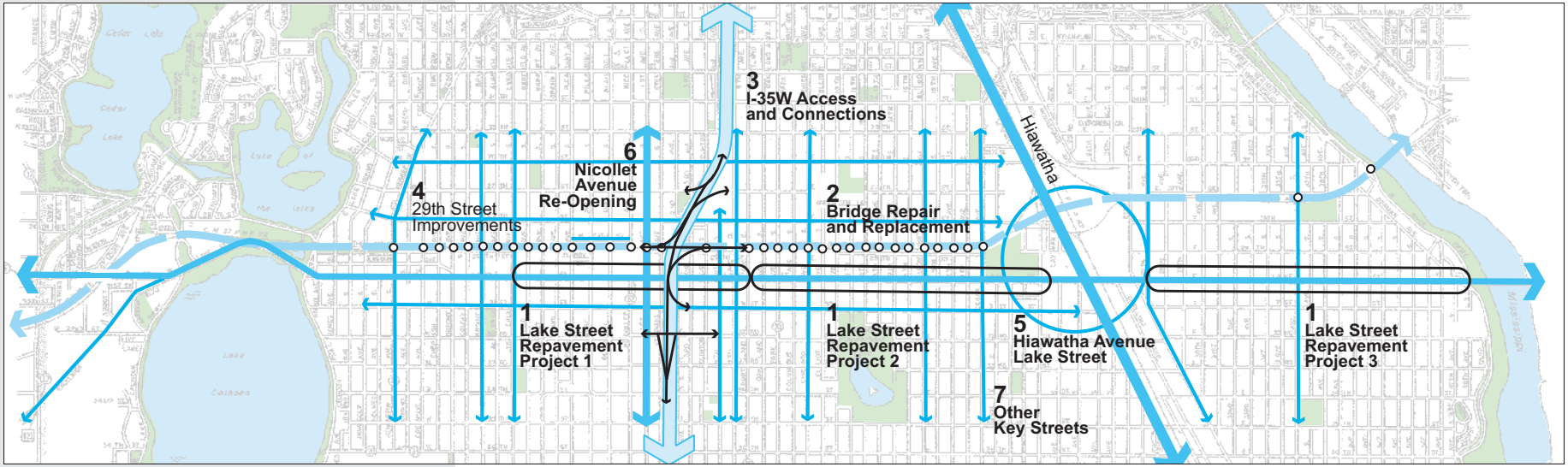
- Support the development of the proposed trolley route through Uptown, exploring opportunities to extend it further east along Lake Street and the Greenway. Linkages between the popular Lakes District and the variety of commercial nodes and other amenities will strengthen the unique and attractive qualities of the west end of the corridor.

Lake Harriet trolley, courtesy Minnesota Transit Museum.

Infrastructure Connections

A number of key infrastructure initiatives and implementation projects are currently underway throughout the corridor including:

1. Lake Street Repavement Project
2. Bridge Repair and Replacement
3. I-35W Access and Connections
4. 29th Street Improvements
5. Hiawatha Avenue/Lake Street
6. Nicollet Avenue Re-opening
7. Other Key Streets



1 Lake Street Repavement

The process of revitalization and regeneration along Lake Street has already begun. Lake Street is on the rebound and at the same time is redefining its role in the Corridor. With this increased interest and activity, there is greater pressure for the City and County to respond with a variety of infrastructure and public realm improvements to support development, promote safety and catalyze private investment. The following strategies are key to the ongoing success of Lake Street initiatives:

- Piggyback streetscape improvements with already funded infrastructure projects such as the county repavement project scheduled to begin in the year 2001.
- It is crucial that the guidelines for streetscape improvements described in this and other city/neighborhood documents be included early in the program and design discussions continue through the implementation phases.
- In addition to the already funded projects, neighborhoods must work closely with the City and County to effect changes in street design, including wider sidewalks, improved lighting, transit stops and site furnishings, ample areas for trees and plantings, state-of-the-art/safe street crossings and other streetscape improvements.
- Secure funding to insure excellent streetscape improvements including specific allocations for ongoing maintenance and repair programs. Creating places that people care about is essential and providing the means to take care of them needs to be included in every project budget.
- Establish a Special Services District to insure the continuity of quality maintenance, garbage collection and other business needs for the length of Lake Street.

It is important to note that the proposed County repavement project generally covers improvements from curb-to-curb, basically the width of the street. The potential for streetscape enhancements from "back of curb" to building wall is also being pursued by the City and County as a separate but integrated project through application for TEA-21 Grant monies.

The detail and variety of the pedestrian environment at 50th & France

Transit shelter, lighting, and paving improvements in St Louis Park

2 Bridge Repair and Replacement

The visual quality, traffic carrying capacity and structural stability of the many bridges spanning the Greenway corridor have rapidly become significant issues for discussion, additional study and action. Original construction of these bridges occurred in the early 1900's as excavation for the railroad trench was completed. Unfortunately, because they were all built at nearly the same time, they will all need to be repaired or replaced at the same time.

While bridge repair or replacement represents a large sum of money, financial impacts may not be the only reason for concern. These bridges have provided the opportunity for the grade separated transit line below and the continuation of the street grid pattern above. This street grid is a key element in the flow of vehicle, bicycle and pedestrian movement throughout the corridor. Interruption of the pattern of streets and sidewalks, as we've learned from the past, produces a number of negative effects related to safety, security and neighborhood livability. There may be some location-specific reasons to remove a bridge, but generally the bridges are a wonderful asset and should remain as much as possible in keeping with the history of the area.

A comprehensive analysis of bridge condition and recommended next steps should be completed in conjunction with the corridor-wide traffic and parking study currently being pursued by the City and County.

Examples of the many bridges that cross this corridor

3 I-35W

This Framework Plan has already described the relationship between freeway systems and the existing patterns of core city neighborhoods. While there is no easy solution to the impacts created along these margins, extensive landscaping, visible/accessible transit stations and appropriate ramp connections may all contribute to significant improvements for adjacent communities.

A design and feasibility study currently underway (entitled 'Phillips Partnership Transportation Initiative I-35W Access Project') explores a variety of options to more directly link I-35W with Lake, 26th and 28th Streets.

The following issues must be addressed as key components related to I 35W:

- Provide easily accessible and visually attractive on and off ramps from Lake Street to I 35W. While this reconnection to the regional freeway system will make Lake Street an easy destination and help revitalize its commercial viability, it also impacts land use (both existing and proposed) adjacent to these access locations. A balance between convenience, accessibility and the quality of the public realm must be established to ensure neighborhood vitality and livability.

- Improve the functional and aesthetic quality of the surface streets in and around the freeway ramps to guide visitors to their commercial, institutional, business and residential destinations along a safe and inviting network of streets. Well designed local streets, encourage people to visit local shops and restaurants.

- Balance local and regional uses of Lake Street and other major surface streets in the district. Recognize the corridor's role in a larger transportation network. As with many urban streets, a variety of uses must be accommodated. This should be done gracefully, with attention paid to balancing the uses of the street - shared between vehicles, pedestrians and bicycles.

- Improve signage and orientation systems throughout, using a coordinated, well-designed system that allows for flexibility and individuality. It is important to consider the experience of the pedestrian and car alike. Systems designed to capture only the driver's attention are overscaled and inappropriate for urban neighborhoods with significant pedestrian traffic.

The impact of freeways on urban neighborhoods.

The interstate highway is a daunting barrier, yet provides opportunities for access and connections to area destinations.

4 29th Street

View of 29th Street as it runs along the edge of the Greenway Corridor.

Much of the discussion related to 29th Street has focused on streetscape improvements and the visual character of the street itself. In the context of this chapter - Connections - it is important to emphasize the key role 29th Street plays both as a neighborhood street and also as a connection/interface between the Greenway and the commercial centers along Lake Street. Its unique location along the Greenway edge provides opportunities for active and passive interaction and surveillance of trail users while at the same time providing an important street level, east/west link between amenities and attractions at each commercial node.

Its history as a back door street has resulted in a physical pattern that is expensive and challenging to change, yet that is precisely what must happen to support the Greenway and transform the perception of the corridor. 29th Street should become an exemplary city street - a strolling street - where pedestrians, bikes, cars and perhaps eventually the Lake Harriet trolley extension can commingle in an engaging urban environment. The vision for this narrow road includes front doors to homes, businesses and perhaps some smaller commercial establishments, a full canopy of trees, good lighting, new iron fencing and well-designed overlooks to the greenway with benches and landscaping.

While not a continuous right of way the length of the corridor, there is a key opportunity to enhance the connection where the street does exist. The following issues must be addressed as key components for the reinvention of 29th Street:

- Reconstruct 29th Street as a quiet local street, providing parallel parking on at least one side and including sidewalks on both sides of the street.
- Develop overlooks along the sidewalks to encourage interaction between the street level, and the Greenway, and increase casual surveillance of the corridor.
- Provide additional links between the Greenway and 29th Street (ramps and stairs) to create and enhance walking and bicycling connections to public transit, centers of activity, attractions on Lake Street and neighborhood parks and other amenities. A key component of this connection between the Greenway and Lake Street should include visual cues and identifiers (columns, arches, sculpture) that invite people to the Greenway, especially where access ramps and stairs are provided.
- In areas where 29th Street disappears, continue a gracious public pedestrian walkway along the south rim. Secure funding to purchase easements as required. This walkway promenade provides a continuous pedestrian/bicycle link through the corridor, even where automobiles can't travel.
- Develop a continuous public promenade on the north rim, promoting the concept of interconnected walking loops from the neighborhood to Lake Street and around the Greenway. Secure funding to purchase easements as required. This further promotes the idea of choices for both active and passive recreational use - an equally wonderful experience to walk around the block, around the neighborhood or into the surrounding communities.

5 Hiawatha/Lake Street

Much like I-35W to the west, the Hiawatha Avenue corridor presents a significant challenge to reconnect adjacent neighborhoods and area amenities. Particularly at the crossroads at Lake Street, soon to be a major hub of activity, housing and jobs, these primary travel routes must be both visually pleasing and functional for a mix of vehicles, pedestrians and bicycles. Streetscape enhancements such as lighting, plantings, signage, furniture and other improvements will provide the backdrop for additional development opportunities in the area.

6 Nicollet Avenue Reopening

A Task Force has been established for the purpose of making redevelopment, roadway, transportation and streetscape design recommendations for Nicollet Avenue from 28th Street to 62nd Street. By resolution, the City of Minneapolis recognizes that Nicollet Avenue is a major corridor serving southwest Minneapolis as a gateway, thoroughfare and destination with opportunities that include housing, shopping, services, dining, recreation, worship, education, and employment. It is critically important that issues related to redevelopment, transportation, streetscape and land use be explored and resolved as part of the overall corridor plan.

7 Other Key Streets

As described and mapped in chapter 4, there are many important streets that provide key connections within and between neighborhoods throughout the corridor. Each of the focus areas along the corridor have identified several key streets requiring streetscape improvements in support of future development opportunities. In addition, a corridor-wide study of traffic patterns, parking needs and bridge repair/replacement has been proposed.

Parks, Trails & Open Space Connections

A number of key parks, trails and open space initiatives and implementation projects are currently underway throughout the corridor including:

1 The Midtown Greenway

2 Proposed Dedicated Park Opportunities

3 Proposed Public Green Space Integrated with Development

4 Green Streets - Links to Existing Parks

1 The Midtown Greenway Corridor

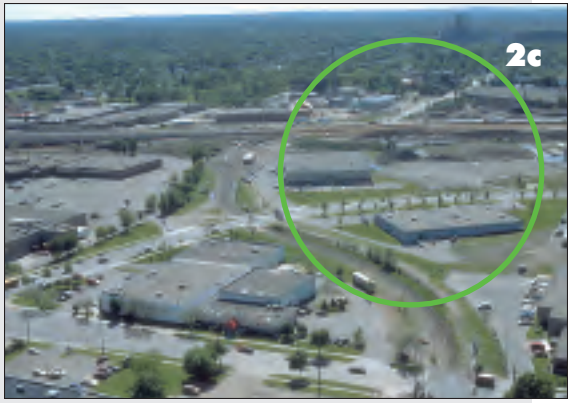
Perhaps the greatest potential to transform the Midtown Corridor lies with the Greenway itself. There is strong community interest and public commitment to develop the Greenway as a signature green space - a pleasant environment where people can enjoy a more natural setting in the heart of the city. This idea is the fundamental underpinning for all other improvements in the area. This Greenway renaissance provides a broad range of opportunities for development and, equally important, an excellent mix of recreational activities and regional connections. A tremendous amount of effort and resources have already been expended to make this happen - yet there is so much more to be done!

The following issues must be addressed as key components of the Greenway development:

- Promote the Greenway as an inviting, safe and fun place to be.
- Promote Greening the Greenway as a key initiative in this corridor, providing a wonderful opportunity for partnerships and participation through a variety of planting programs. Several examples of recent successes in this Greening effort include the DNR Metro Greenways grant for the Lake of the Isles area, the donation of trees to the city from the University of Minnesota and numerous neighborhood based planting plans, clean-up activities and the Midtown Greenway Coalitions' Adopt a Greenway Program.
- Explore, define and implement numerous public art projects throughout the corridor. This not only adds to the richness and variety of corridor amenities but also celebrates cultural diversity, neighborhood individuality/identity and our connection to the environment.
- Safety and security must be primary considerations in and around the Greenway. Allow maximum opportunity for observation when developing the Greenway edge. Policing must be regular and highly visible, with easily identifiable access points.
- Provide a variety of amenities at Greenway bridges and other locations from which to observe activity in the Greenway (for example, overlooks, sitting areas and other bridgehead improvements). Secure funding for bridge maintenance to enhance pedestrian/bicycle use.

Concept plan of DNR Metro Greenways Lake of the Isles lagoon area planting project.

photo courtesy of Great River Greening



2 Proposed Dedicated Park Opportunities

One of the most exciting, yet challenging opportunities in the overall strategy for park and open space in this corridor is the addition of public park space directly adjacent to the Greenway. There are several key locations along the corridor that should be explored and promoted for this use including:

2a

Park connection between Lake Calhoun and the Calhoun Commons Village Center along Excelsior Boulevard: This piece of Park Board property could be improved to include a system of walkways linking the just completed recreational trails around the Lake with the proposed streetscape/sidewalk improvements along Excelsior Boulevard. This new park connection could also feature wetland ponds, walls and bridges (similar to the newly constructed wetlands west of Lake Calhoun), picnic shelters, bike racks and storage, new lighting and landscape improvements.

2b

Public park at the 5th Avenue / Greenway crossroads: This new park opportunity is located at the mid-point between the Chain of Lakes and Hiawatha Avenue. At this location, it offers a perfect opportunity for destination park, rest stop and also a key at-grade connecting link to surface streets and to attractions along Lake Street and the rest of the corridor.

2c

Park space along either side of Hiawatha Avenue as part of the future Greenway overpass: This new park not only announces the Greenway as a key east/west link, but also provides a more gracious connection to the Hiawatha Avenue Transit Station and bikeway corridor. This potential trail head should include a number of rest stop amenities such as rest rooms, drinking fountain, bike racks and bike storage, lighting and landscape improvements.

2d

There are numerous vacant, underutilized or remnant (small, abandoned) properties along the Greenway edge that should be examined for potential park use.

3 Proposed Public Green Space Integrated with New Development

The potential to integrate a variety of public green space with new and existing development is also an important opportunity throughout this corridor. These pocket parks, public squares, sitting areas and other types of public spaces provide the richness, variety (and to some extent) the unique neighborhood identity that characterizes memorable placemaking. These public spaces also provide important visual and physical connections between the built edge and the street, reinforcing the idea of casual surveillance as a part of everyone's daily routine. Several new development projects have already integrated public space as a key component in their site planning and detailed design work, including the Urban Village Pedestrian Promenade and the Great Lake Center plaza area.

4 Green Streets - Links to Existing Parks & Neighborhood Assets

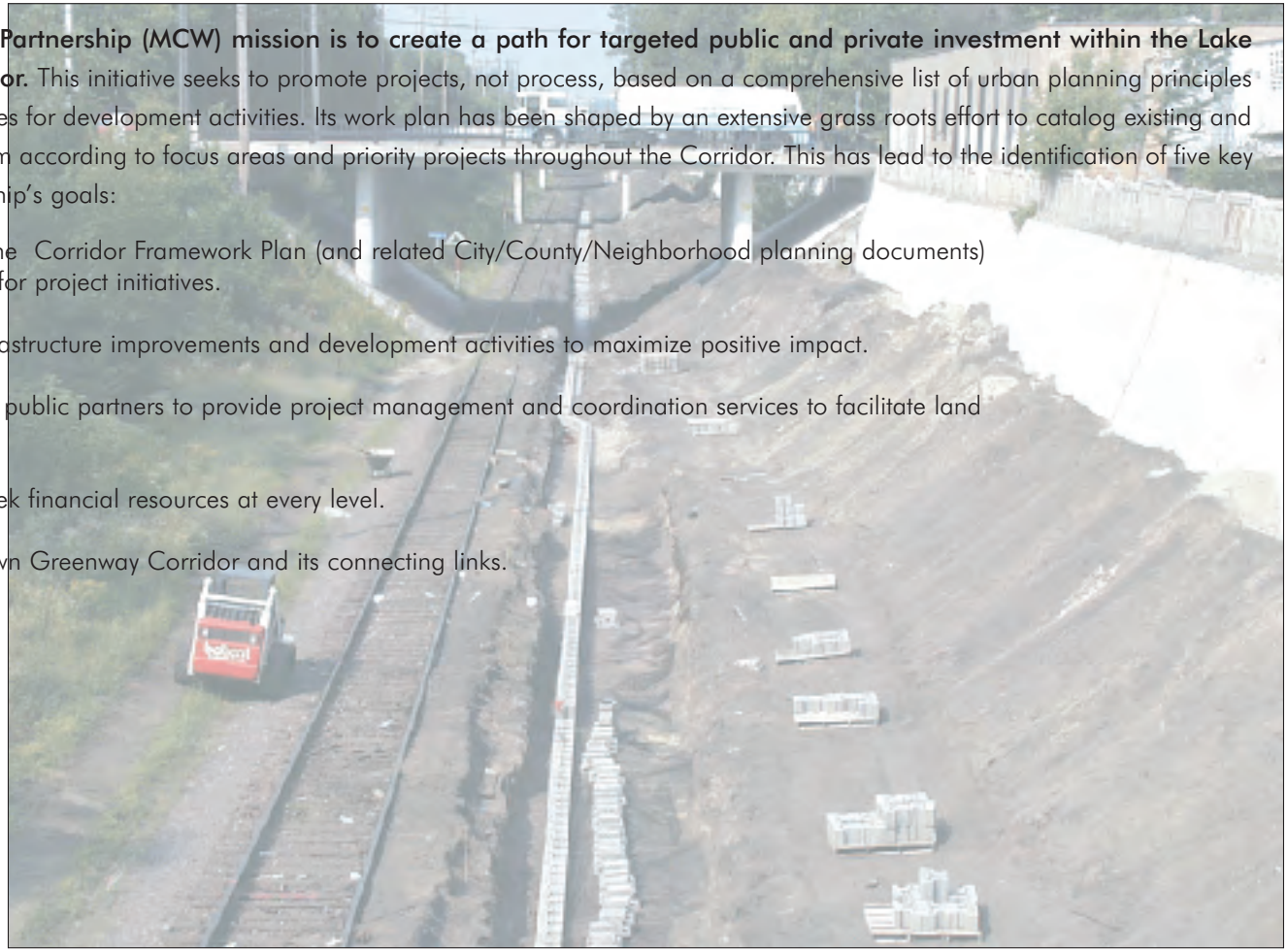
There are numerous existing City parks and other public spaces within the corridor that play an important role in the community. The idea of green street connections emerged as a means to tie together many of these already recognized and heavily used park spaces. The character of these 'green streets' will be much enhanced by additional lighting, benches and other street furniture, crosswalk markings, traffic calming where possible, traffic signing/signals and landscape improvements.

These key connector streets will provide a network of suggested routes for residents, workers and visitors to follow that takes best advantage of neighborhood assets. A creative, community-wide system of pedestrian level signage and other way-finding techniques (maps, paving patterns) should be pursued.

MCW Implementation Strategies

The Midtown Community Works Partnership (MCW) mission is to create a path for targeted public and private investment within the Lake Street Midtown Greenway Corridor. This initiative seeks to promote projects, not process, based on a comprehensive list of urban planning principles and a set of specific design guidelines for development activities. Its work plan has been shaped by an extensive grass roots effort to catalog existing and planned initiatives and organize them according to focus areas and priority projects throughout the Corridor. This has lead to the identification of five key strategies to implement the Partnership's goals:

- Guide development, utilizing the Corridor Framework Plan (and related City/County/Neighborhood planning documents) building broad-based support for project initiatives.
- Facilitate the integration of infrastructure improvements and development activities to maximize positive impact.
- Work in cooperation with area public partners to provide project management and coordination services to facilitate land assembly activities.
- Creatively and energetically seek financial resources at every level.
- Promote the Lake Street Midtown Greenway Corridor and its connecting links.



Midtown Greenway under construction, Fall 1999.

Chapter 6
Implementation: Getting Things Done

Introduction

This Framework Plan is intended to effect change by guiding decision-making, helping to shape policy and directing physical development. With or without planning, cities inevitably change. Lake Street and adjacent neighborhoods have experienced a number of these changes in the past forty years. It is a unique set of circumstances that now places this corridor on the threshold of yet another transformation, one that promises to bring South Minneapolis much closer to its roots as a true mixed-use neighborhood, closely aligned with public transit and a strong commercial and housing base.

A key component of this unique opportunity is the creation of the Midtown Community Works Partnership (MCW) with membership including local corporate/institutional executives, the Mayor of Minneapolis, Metropolitan Council Chair, Minneapolis City Council members, and Hennepin County Board of Commissioners. Formed in early 1998, MCW is committed to unifying public policy around a common vision for the Lake Street Midtown Greenway Corridor and to mobilize public and private investment to implement this vision.

Goals of the Partnership are threefold;

1 Enhance economic vitality within the Corridor,

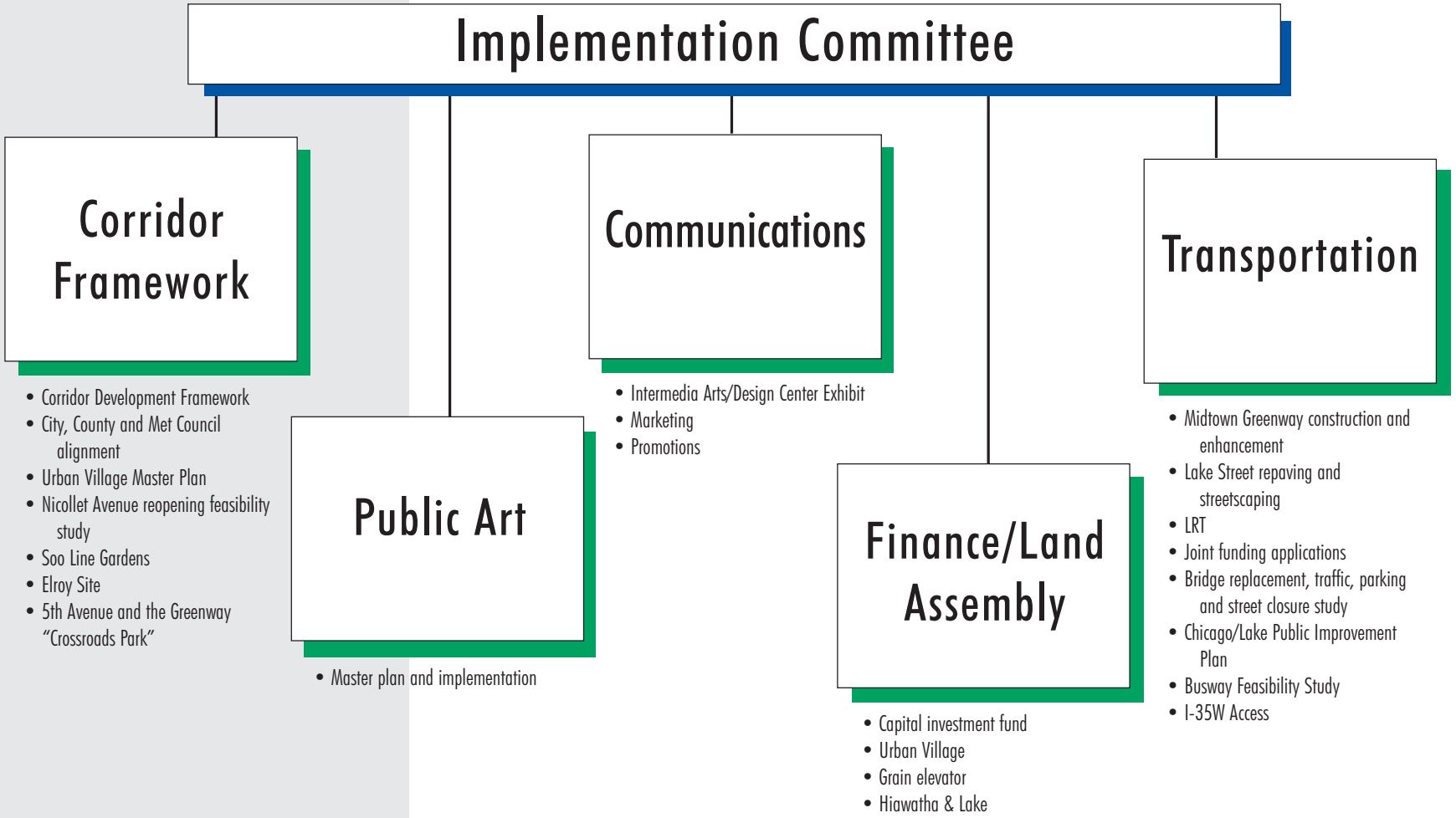
2 Support a balanced transportation system and improve the integration of the Corridor within the City and the region,

3 Enhance public safety and community vitality within the Corridor.

The primary focus of MCW is to facilitate specific projects with tangible effects. Identification of these projects and setting an agenda for Corridor priorities is the centerpiece of this Framework Plan and the core of the MCW Partnership's role in this effort. Implementation of recommended projects will be coordinated through the newly formed **Implementation Committee** whose specific charge is to carry out the priorities described in the following: **MCW 2000 Corridor Priorities.**

New projects in the Midtown Corridor

MCW Partnership



The MCW Implementation Committee

Overview

The Implementation Committee was formed to carry out the priorities of the MCW Partnership. Its members include key staff from each public agency and representatives of the private partners. It meets monthly to coordinate public/private project implementation, share information and problem solve. It is guided by the MCW 2000-Corridor Priorities Chart which identifies each project, its cost, funding source, funding submission deadlines and projected implementation schedule. In addition, the progress of each subcommittee is reviewed and items are acted on as needed. Subcommittees include:

Corridor Framework

This Corridor Framework Plan was developed to foster a unified vision and implementation strategy for the Lake Street Midtown Greenway Corridor. The Framework was shaped through an extensive community process, has the buy-in of our public partners and is market-based. It identifies overall corridor planning principles and design guidelines and is focused on building economically vital, livable places and strong connections to the surrounding community and the region. It will be adopted by the City of Minneapolis and Hennepin County and will direct development, policy and capital improvements.

Several projects are underway that are being guided by the Framework principles including:

- Design and construction of the Midtown Greenway
- Lake Street Improvements
- Feasibility study for reopening Nicollet Avenue
- Variety of development projects

Public Art Committee

MCW was awarded a grant from the Bush Foundation to develop a master plan and implementation strategy for public art in the Midtown Greenway. The Freeman/Whitehurst Group was selected as the project consultants with work beginning in early 2000.

Communications Committee

A strong communications strategy is essential to promote the Midtown Corridor Vision. MCW's Communications Committee is working to develop communication materials, events and partnerships to promote the corridor vision and the many projects and initiatives already underway. In addition, Intermedia Arts and the Design Center are planning an exhibit that will showcase artists' vision for the Corridor. A stunning photo essay by artist Wing Young Huie featuring photos all along Lake Street will be implemented in the spring, 2000.

The Framework Plan, monthly updates and the MCW brochure are intended to inform and educate corridor stakeholders. A comprehensive 5 year marketing and public relations plan is also being developed. Marketing includes everything you do, say or visually communicate to obtain the desired results. This strategic plan will recommend specific strategies and tactics to achieve these results.

Finance/Land Assembly Committee

The MCW Partnership established a Finance and Land Assembly Committee to assist new projects with 'bridge' financing, making funds available for up-front development costs ultimately repaid through tax increment financing. Representatives from Norwest Bank, Fannie Mae, Hennepin County, the Metropolitan Council, the City Finance Director and the Executive Director of the Minneapolis Community Development Agency have developed a new model to provide this bridge financing through an investment fund approach.

The MCW Investment Fund initially envisions ten initial investors providing $1 million each. This fund will establish a working model, using the proposed Urban Village development as a demonstration, with hopes that this process can be replicated for subsequent projects. Investors could be repaid within 3-4 years when the City's bonds are sold, or they could allow their investment to be utilized again for another project offering. The success of the fund will depend in large measure on the success of the individual development projects. Thus the MCW Finance Committee will pay careful attention to the real market potential of individual projects.

The initial offering for the MCW Investment Fund is planned for early 2000, and funds will be available by April, 2000.

Transportation Task Force

The Transportation Task Force's purpose is to monitor the construction of the Midtown Greenway, assist with the Lake Street Repaving and Streetscaping Project, support construction of the Hiawatha LRT, facilitate joint funding applications, oversee the bridge replacement, traffic, parking and street closure study and align transportation capital improvement projects.

MCW 2000 Corridor Priorities

The matrix of policy and project priorities outlined on the following pages represents the synthesis of intense study and focused discussion related to the revitalization of the Lake Street Midtown Greenway Corridor. These priorities are not just about new development, but also suggest an awareness of corridor strengths, wonderful diversity and overall neighborhood character. The intent is to support and enhance existing business, institution and housing as key components of the redevelopment strategy, while at the same time actively seeking new projects that will serve to ignite reinvestment throughout the corridor.

Information in the matrix is organized under three headings:

1. **Policy Issues**
2. **Infrastructure and Open Space**
3. **Development Opportunities**

The matrix also highlights two key pieces of information according to the following symbols:

Funding Status

○ Not Funded ◒ Partially Funded ● Fully Funded

Project Status

▭ Planning Phase ▭ In Progress ▭ Completed

Policy Issues	Responsibility	$$	Funding Source	Submit	Decision Date	Implement
1. Adopt Corridor Framework as a policy document to guide Implementation of the City's Comprehensive Plan and identify near-term strategies to encourage development priorities.	City of Mpls	n/a	n/a	n/a	n/a	12/01/99
2. Adopt Corridor Framework as a Hennepin Community Works Policy Guide.	Hennepin Cty	n/a	n/a	n/a	n/a	12/01/99
3. Adopt Corridor Framework as a demonstration model to Implement the Regional Blueprint	Met Council	n/a	n/a	n/a	n/a	12/01/99
4. Align Capital Improvement Budgets.	City of Mpls Hennepin Cty	n/a n/a	CLIC County Budget	08/01/99 08/01/99	12/15/99 12/15/99	2000-2004 2000-2004
5. Submit joint TEA-21 application	City of Mpls Hennepin Cty	n/a	TEA-21	09/20/00	01/31/00	2000-2004
6. Integrate Corridor Framework with corridor-wide traffic, parking, bridge replacement, and street closure.	City of Mpls Hennepin Cty	n/a	n/a	n/a	n/a	12/01/99

Infrastructure and Open Space		Responsibility	$$	Funding Source	Submit	Decision Date	Implement
1. Midtown Greenway							
a. Phase 1 design, construction and safety improvements (France Avenue - 5th Avenue)	●	City of Mpls	1.071 m. 1.162 m. 350,000 170,000 668,000	ISTEA HCW HCRRA MnDOT City of Mpls	secured	n/a	11/30/99
b. Expand landscaping in Phase 1 (32 blocks) Isles/Calhoun Lagoon Project *(adopt a block: implementation and maintenance)* Greening Project	◒	Mpls Pk Brd Hennepin Cty/ City of Mpls	50,000 450,000 inkind	Metro Greenway public/private U of M	secured TBD n/a	n/a TBD n/a	1999-2000 2000 1999-2000
c. Purchase grain elevator; relocate Rahr Malting	◒	Hennepin Cty	6 m. 1m.	TEA-21 Hennepin Cty	09/20/00 secured	01/31/00	1999-2000
d. Phase II design and construction (5th Ave - Hiawatha Ave)	●	Hennepin Cty City of Mpls	1.185 m. 638,000	TEA-21 City of Mpls	secured secured	n/a n/a	2001-2002
e. Phase III design and construction (Hiawatha Ave - Mississippi River)	●	Hennepin Cty/ City of Mpls	890,000 479,000	TEA-21 City of Mpls	secured secured	n/a n/a	2003-2004
f. Phase II/III safety and landscaping (48 blocks) landscaping security: blue phones and security cameras lighting: fixtures and bridges	○	Hennepin Cty City of Mpls	 750,000 770,000 346,000	 public/private TEA-21 public/private	 TBD 09/20/99 TBD	 TBD 1/31/00 TBD	 2002
g. Complete express bus feasibiltiy study	●	Hennepin Cty	152,850	Hennepin Cty	secured	n/a	10/01/99
h. Secure express bus implementation funding	○	Metro Transit	TBD	State Bonding	01/01/00	05/01/00	2003
i. Establish plan and budget to integrate safe Greenway crossing, LRT station, Lake Street east/west pedestrian connection and express bus function at Hiawatha Ave and Lake Street	○	Hennepin Cty/ City of Mpls	TBD	TEA-21	2001	2002	2003
j. Establish plan and budget to bridge over the Mississippi River	○	Hennepin Cty/ City of Mpls	TBD	TBD			
k. Select consultant team to establish and implement public art master plan	●	MCW	100,000	Bush Fnd	07/01/99	11/03/99	2000

Infrastructure and Open Space (cont.)		Responsibility	$$	Funding Source	Submit	Decision Date	Implement
2. Lake Street							
a. Establish repaving plan/budget (Lyndale - River) Lyndale - I 35W I 35W - 21st Avenue 21st Avenue - 27th Avenue 27th Avenue - River	◒	HennepinCty/ City of Mpls Hennepin Cty/ City of Mpls MnDOT Hennepin Cty/ City of Mpls	2.7 m. 300,000 6.585 m. 415,000 1.4 m. 3.6 m 400,000	Hennepin County TEA-21/asesmnt Hennepin County TEA-21/asesmnt MnDOT Hennepin County TEA-21/asesmnt	secured 2001 secured 2001 secured secured 2001	n/a 2002 n/a 2002 2002	2001-2002 2002 1999 2003
b. Establish streetscape plan/budget: Lyndale - the River (50 blocks @ 150k/block)* Lyndale - Calhoun Pkwy (13 blocks @ 200k/block) Calhoun Parkway - Excelsior (VanValkenberg Plan) Excelsior - France (3 blocks @ 10k/block) Abbott - France on Excelsior	○	Hennepin cty/ City of Mpls Mpls Pk Bd Hennepin Cty	 7.5 m. 2.6 m. TBD 450,000 675,000	 TEA-21 public/private public/private public/private public/private	 09/20/99	 01/31/00	 2001-2002 2001
c. Establish special service district	○	City of Mpls	TBD	public/private			2001
3. 29th Street Promenade							
a. Implement Urban Village demonstration project between Lyndale and Dupont	○	City of Mpls MCDA	400,000 600,000	TEA-21/LCA City of Mpls	09/20/99	01/31/00	2001
4. I 35W Access							
a. Ramp design	●	Hennepin Cty	2.2 m.	FHA/MN DOT/	secured	n/a	n/a
b. Determine feasibility of converting 26th/28th one-ways to two-way streets	●	Phillips Partnership		Hennepin County City of Mpls			08/01/99
c. Determine preferred alternatives	●						01/01/00
d. Integrate ramps and surrounding land uses	●						01/01/99
e. Secure construction funding	○		TBD	MnDOT	05/01/00		06/01/01
f. Establish plan and budget to green freeway edge	○	MnDOT	42,000	TEA-21	2001	2002	2002
g. Lake/I 35W Transit Station	●	Met Transit	1.6 m.	FTA	secured		1999-2000
h. I 35W Service Improvement	○	Met Transit	7.0 m.	TEA-21	09/20/99	01/31/0	2001
5. Hiawatha Light Rail Transit							
a. Support LRT implementation	●	MNDOT	170 m.	FTA/County/MN	1999-2000	2000	2003
b. Support LRT implementation	○		380 m.	FTA unsecured			
6. Parks and Open Space	○						

Total Not Funded	409.3 m.
Total Funded	195.9 m.

Development Opportunities		Responsibility	$$	Funding Source	Submit	Decision Date	Implement
1. Land Assembly							
a. Establish public/private funding/financing tools		MCW	n/a	public/private			2000
b. Marshall resources	◒	MCW	TBD	public/private			2000
2. Urban Village							
a. Secure funding, e.g. TIF, Hennepin County, Met Council, DTED, NRP, PHA, credit enhancement to complete land assembly, relocation, demolition and site improvement activities	◒	MCW/MCDA	13 m.	public/private	various	12/31/99	01/01/00
3. Elroy Site							
a. Articulate Elroy site development guidelines based on Corridor Framework; issue RFP to solicit developers	●	MCDA	?	secured	n/a	n/a	1999
4. Soo Line Gardens							
a. Resolve land use issues	●	Hennepin Cty	Tax Forfeiture	secured	n/a	n/a	1999
5. Nicollet Avenue Re-opening							
a. Complete feasibility analysis	●	MCDA	n/a	secured	n/a	n/a	12/01/99
6. Honeywell Campus							
a. Determine Honeywell Campus redevelopment plan	n/a	Phillips Partnership	n/a	n/a	n/a	n/a	12/31/99
7. Great Lake Center							
a. Establish integrated public improvement plan	◒	STA	TBD	public/private			2001
8. Hiawatha Avenue and Lake Street							
a. Complete market analysis	◒	MCDA	50,000	secured	n/a	n/a	10/01/99
b. Complete land use plan	◒	Hennepin Cty	200,000	secured	n/a	n/a	2000
c. Assemble development parcels	◒	MCDA	TBD	public/private	2000	2000	2000-2001
9. East Lake Street							
a. Identify development opportunities	◒	MCDA/Planning	n/a	secured	n/a	n/a	12/01/99

The Lake Street Midtown Greenway Corridor is an exciting, dynamic place - with neighborhoods characterized by increasing demands and rapid change. To meet those needs, this Framework Plan represents a beginning, not an end, casting a strong image and direction with the flexibility to be updated as projects are completed and new priorities are identified in response to changing needs in the Corridor. Input from various neighborhood associations, business groups, elected officials and other stakeholders is key to understanding these specific needs and future demands while addressing the more general objectives defined in this Framework Plan. Both private and public sector initiatives must support each other to ensure success.

Resource List/Bibliography

The Minneapolis Plan; City of Minneapolis; Minneapolis Planning Department; Fianl Draft; June 1998

Hennepin Community Works; An Employment, Public Works and Tax Base Development Program; Final Report; Parks and Public Works Commission; June 1994

Midtown Community Works Partnership Notebook; Mission Statement, Goals and Objectives; April 1998

Lake Street at the Crossroads; The Ackerberg Group; Presented to the Lake Street Project Team; August 1996

Creating Transit-oriented Development for Livable Communities and a Sustainable Region: A Handbook; the Metroplitan Council; Draft, September 1999

Making Housing Home; A Design Guide for Site Planning Quality Housing; University of Minnesota; Design Center for American Urban Landscape; 1996

Planning to Stay; Learning to See the Physical Features of Your Neighborhood; Design Center for American Urban Landscape; 1996

Defining Community: A Neighborhood Perspective; Community Connections Project; Design Center for American Urban Landscape; 1996

Public Art Review; A Program of Forecast Public Artworks; Semi-annual publication

29th Street Midtown Greenway Master Plan; Hennepin County Regional Railroad Authority and City of Minneapolis Department of Public Works; Prepared by SRF Consulting Group, Inc; July 1996

Midtown Greenway - Phase III Corridor Master Plan; Hennepin Community Works; Prepared by SRF Consulting Group, Inc.; November 1997

Midtown Greenway - Personal and Physical Safety Final Report; City of Minneapolis and Minnesota Guidestar; Prepared by SRF Consulting Group, Inc.; January 1998

Midtown Transportation Composite; Hennepin County and Hennepin Community Works; prepared by SRF Consulting Group, Inc.; December 1998

5 Design Guidance

5.1 Design Zones

The cross section of a street is grouped into three design zones that reflect the activity and movement influences along the roadway. There are overlapping influences within these zones from the different modes that may use a street. For example, a curb extension is part of the pedestrian zone but overlaps the parking/transit zone. If there is on-street parking, then the bicycle may be accommodated in the traffic zone. Buses operate primarily in the traffic zone but often pull into the parking zone for loading. Within the pedestrian zone, there may be an overlap between the planting/furnishing zone and the pedestrian through zone. The general design zones are illustrated in Figure 5-1 and discussed below.

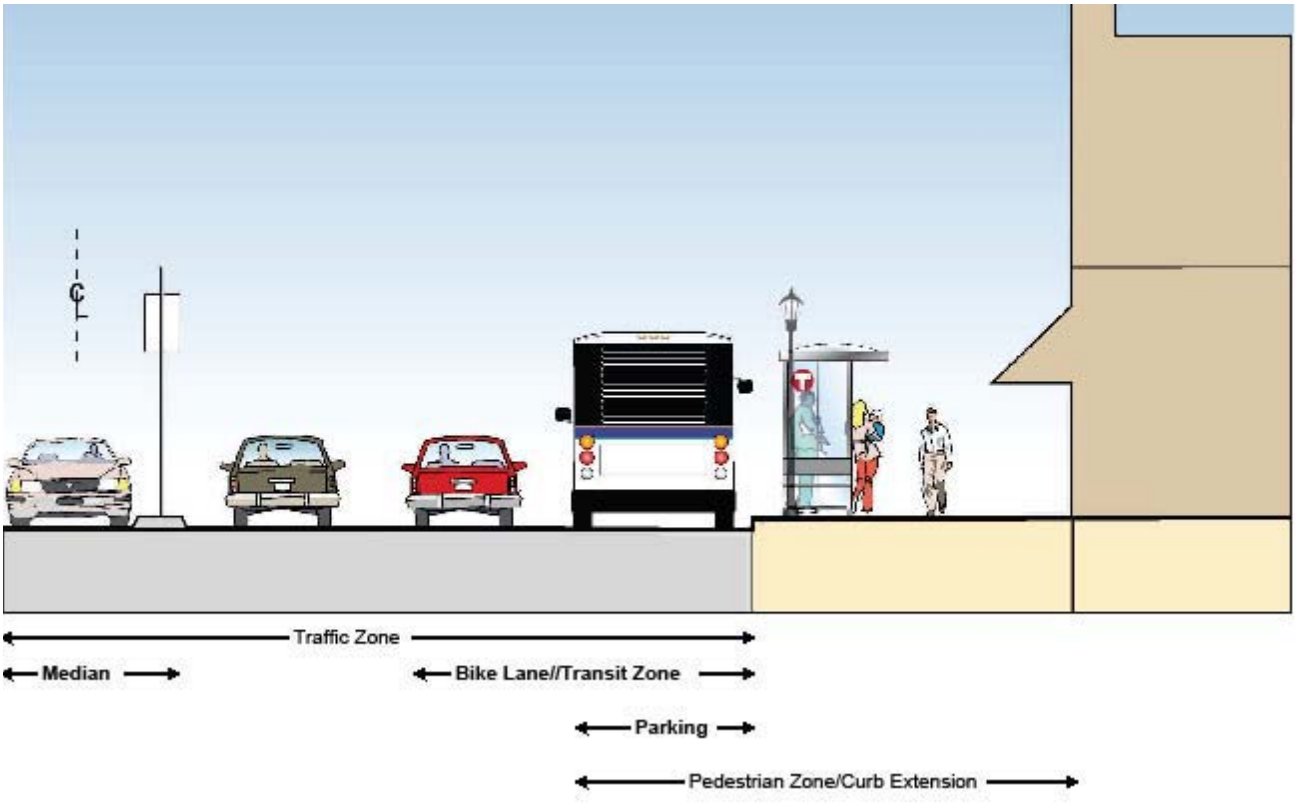


Figure 5-1 Design Zones

5.1.1 Traffic Zone

The traffic zone covers the area for vehicle movement on the street and includes the median/turn area in the center of the street. The median/turn area is used to define the area in the center of the roadway where raised or planted medians and/or turn lanes could be present, either individually or in combination. For the traffic zone, design guidance is

provided to reflect the various combinations of lane widths and median treatments, and to reflect how these elements change as edge conditions vary. The traffic zone can extend into the bicycle/parking/transit zone when right turn lanes are provided or the space is used for right turns.

5.1.2 Parking/Bicycle/Transit Zone

This zone is adjacent to the pedestrian zone and reflects the interface between the areas of pedestrian movement and vehicular movement. It overlaps the traffic zone and the pedestrian zone and represents a zone of activity where vehicles (autos, bicycles, and transit) are moving more slowly than in the travel lanes. Design guidance is provided for parking, bicycle facilities and transit elements. The provision of bicycle facilities and transit service is a function of the citywide transportation planning process that precedes the street design process. If a street is on a designated bicycle route, then the appropriate level of bicycle accommodation (marked lane, separated path, shared lane, signing, chevron pavement markings, etc.) for the street type should be added to the design or accommodated on a parallel street. Similarly, if a street is a Primary Transit Network route and is expected to support a particular level of transit service, guidance is provided for how to accommodate stops and service patterns along the street.

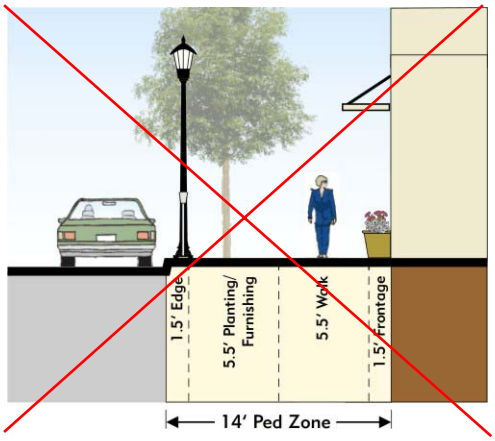
5.1.3 Pedestrian Zone

The subsections of section 5.1.3 are superseded by section 10.2.

The pedestrian zone frames the street and contains the building interface between the movement aspects of the street and adjacent land uses. This zone contains both the area for pedestrian movement and the area used for tree plantings, landscaping and street furnishings. The pedestrian zone is divided into four subzones, the total of which covers the space between the property line and the face of curb.

~~5.1.3.1 Frontage Zone~~

~~The frontage zone is the space at the edge of the walkway adjacent to the property line. It reflects the varying level of activity associated with property frontage and is wider where people are likely to window shop or activities such as sidewalk cafes are allowed. It also reflects the tendency of people to shy away from walls above waist height. The frontage zone may also be used as a secondary area for plantings, street furniture and people activities.~~



~~Figure 5-2 Pedestrian Zones~~

~~5.1.3.2 Through Walk Zone~~

~~The through walk zone contains the basic sidewalk width or clear area for pedestrian travel and is sized to provide for two directions of pedestrian travel.~~

~~5.1.3.3 Planting/Furnishing Zone~~

~~The planting/furnishing zone is an amenity zone that contains planted boulevards, trees, landscaping, planters and space for sidewalk furniture. This zone may be expanded to include transit shelters and extended into the parking zone by the use of curb extensions.~~

~~5.1.3.4 Edge Zone~~

~~The edge zone is closest to the curb and reflects the setback required from the roadway for the placement of signs, light poles, etc.~~

5.2 Lane Widths – Sources for Design Guidance

In the national literature for urban streets, travel lane widths are recommended in the range of 9 to 12 feet, with 9 foot lanes only used on very low volume residential local streets. The principal sources typically used for lane width guidance are noted below. Other sources from peer cities are provided in the bibliography in Appendix A.

5.2.1 AASHTO "Green Book"

AASHTO guidance on lane widths for urban collectors recommends the following:

- 10-12 foot travel lanes
- 10-12 foot turn lanes
- 7-8 foot parking lanes in residential neighborhoods
- 8-11 foot parking lanes in commercial areas
- 4-8 foot sidewalks in residential areas (no specific guidance for commercial areas)
- 2 foot minimum boulevard (planted strip between curb and sidewalk)

It is important to note that, at the national level, recently completed research[8] by the NCHRP is demonstrating that lane widths in the range of 10-12 feet in low speed operating environments have similar safety records (i.e., narrower lane widths do not affect safety). Other research[9] has shown that lane width may influence vehicle operating speed with wider lanes generally showing higher average operating speeds.

5.2.2 ITE RP-036

ITE RP-036 recommends a range of 10 to 12 feet for travel lanes on urban arterial and collector streets and urban parking lane widths of 7 to 8 feet. Narrower travel lane widths are recommended on lower volume and lower speed streets. Narrower parking lane widths are recommended in areas with a low volume of large vehicles (trucks and buses) using the parking lane. Wider parking lanes are recommended for industrial areas regardless of volume or length of time that parking is used to allow space for trucks parked at the curb.

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[8] Potts, Harwood, and Richard, *Relationship of Lane Width to Safety for Urban and Suburban Arterials*, Transportation Research Board Annual Meeting 2007.

[9] Fitzpatrick, Kay, *et al*, *Report 1769-3, Design Factors That Affect Driver Speed on Suburban Arterials,* Texas Transportation Institute, 2000 and Ewing, Reid, *Traffic Calming State of the Practice*, Institute of Transportation Engineers, Washington, D.C., 1999.

5.2.3 Minnesota State-Aid

State Aid requirements[10] allow for travel lane widths of 11 to 12 feet, depending upon posted speed. Parking lane widths vary from 8 to 10 feet on the basis of daily volume and posted speed. On MSA and CSAH routes with daily traffic volumes in excess of 10,000 vehicles per day, the requirement is for 10 foot parking lanes. State Aid requirements for streets without on-street parking include a curb reaction distance that varies from two feet to four feet, depending upon traffic volume, that is added to the minimum lane width. Conflicts with State Aid standards must be addressed on a case by case basis through a variance process.

5.3 Design Guidelines for Lane Widths

The guidance for lane widths presented in this document identifies *desirable* and *minimum* lane widths. *Desirable* lane widths represent the lane width that should be provided where space is available to do so. Wider widths are allowable, but caution must be exercised to avoid creating conditions that will encourage vehicle speeds to rise above target operating speeds. *Minimum* lane widths represent the minimum lane width that should be provided in constrained conditions where it is not feasible to provide the desirable lane widths within the existing right-of-way. Decisions on appropriate lane widths will need to consider all modes of transportation and the modal priorities that best suit the subject street. The City's *desired* lane widths for each of the street design types are provided in Figure 5-3. The desired lane widths are based on the following rationale:

- Accommodates typical vehicle widths (passenger vehicles up to 7 feet wide; buses and trucks up to 8.5 feet wide; mirrors add 1-2 feet width)
- Minimizes impact of snow storage on effective lane widths
- Reduces risk of sideswipe accidents
- Reduces amount of impervious surface and improves stormwater management
- Accommodates desired space for pedestrian zones within existing street rights-of-way

5.3.1 Travel Lanes

For traffic lanes, functional lane width minimums vary depending upon the mix and volume of traffic, traffic speed, volume of trucks, and on-street parking characteristics.

[10] Minnesota Rules 8820.9936 *Geometric Design Standards, Urban; New or Reconstruction Projects*, http://www.revisor.leg.state.mn.us/arule/8820/9936.html.

Figure 5-3 Desired Lane Widths[1]

Street Type	Travel Lane[2]	Left Turn Lane	Bicycle Lane[3]	Typical Curb and Gutter[3]	Parking Lane[5]
Commuter Street	12 ft	12 ft	Off-road trail	2 ft	Not Recommended
Commerce Street Activity Area Street	11 ft	11 ft	5-6 ft	2 ft[3]	8 ft
Community Connector Neighborhood Connector	11 ft	10 ft[5]	5-6 ft	2 ft[3]	8 ft
Industrial Connector	12 ft	12 ft	6 ft	2 ft[3]	10 ft
Parkway	10 ft	10 ft	Parallel paths	2 f[3]	Recessed in bays (7 ft)
Local Street	9 ft[4]	None	5 ft	2 f[3]	7 ft

Notes
1. Widths shown are desirable dimensions – these are the widths that should be provided when adequate space is available for all needs. Narrower widths may be necessary in constrained conditions. Wider widths are allowable, but caution must be exercised to avoid creating conditions that will encourage vehicle speeds to rise above target operating speeds. This table establishes desired dimensions – it does not indicate that all elements are required in all street types.
2. Widths measured from edge of gutter pan. Outside lanes adjacent to standard B6/24 curb and gutter would be 13 feet wide to face of curb. Inside lanes adjacent to medians would be 12 feet wide to face of curb.
3. Curb and gutter included in parking lane and bike lane dimensions.
4. 9 ft lanes should only be used on very low volume residential streets (<1000 ADT).
5. Travel lanes and turn lanes less than 11 feet and parking lanes less than 10 feet wide will require a variance if on a state-aid route.

Figure 5-4 Shows functional *minimums* for various conditions, *all for low speed streets (target speeds of 30 mph or less)*. Target speed represents the actual travel speed on the subject roadway. Low speed is a key component in selecting a narrow lane. Slower vehicle speeds reduce the dynamic envelope of the vehicle, which allows the vehicle to operate in a smaller lateral space on the street. Likewise, low volume streets (<6000 ADT) can function adequately with narrower lanes because there are adequate gaps for vehicles to safely pass one another. Similarly, lower speed movements, such as those in turn lanes that must yield to conflicting movements at intersections, can also function in narrower lanes. The presence of large vehicles (trucks and buses) is a factor throughout since wider vehicles in narrow lanes can encroach on adjacent lanes. Choosing to use a functional minimum is something that will occur on a case by case basis. Accordingly, such decisions will need to be well documented and trade-offs will need to be discussed thoroughly with key stakeholders.

Figure 5-4 Functional Minimum Lane Widths for Low Speed Streets (30 mph)[1]

Type of Lane	Minimum Width[2]	Traffic Volume	Percent Large Vehicles	Other Conditions Where Minimum Width Could Be Acceptable
Traffic	10.5 ft	<6,000 ADT	< 3%	Narrower lane allows bike lane to be provided Next to 2' curb and gutter Narrower travel lane allows 8' or wider parking lane
Turn	9-10 ft	NA	< 3%	
Parking[3]	7 ft	<6,000 ADT	NA	Narrower lane allows bike lane to be provided Adjacent land use is residential Low utilization of parking lane Minimal deliveries

[1]Minimum lane widths do not apply to industrial connector streets which carry high volumes of large trucks.
[2]These lane widths will require variances on a state-aid road. The City cannot require the County to obtain a variance on a county road.
[3]9-10' or wider parking lanes are needed if parking lane is used as a travel lane during peak periods

Nine foot travel lanes may be used on low volume, low speed local residential streets. There are many existing local residential streets throughout the city that function adequately today with travel lane widths of 9-10 feet. These streets typically have very low traffic volumes (<1,000 ADT) and low operating speeds (25 mph or less), allowing frequent gaps for vehicles to pass one another.

Ten foot travel lanes are acceptable on parkways and parkway design type streets. These streets tend to have higher traffic volumes than local residential streets and more bicycle use but few trucks or buses.

Eleven foot travel lanes are desirable for all other street design types. However, in constrained conditions, a reduced travel lane width of 10.5 feet may be used if one or more of the following conditions exists:

- Traffic volume is less than 6,000 ADT
- A narrower travel lane makes it possible to provide a bike lane.
- Travel lane is next to a 2 foot curb and gutter
- A narrower travel lane makes it possible to provide a parking lane that is at least 8 foot wide

Optional lane configurations meeting the above lane width guidance are shown in Figure 5-5. It should be noted that other options may be possible and other design approaches may be needed in constrained conditions. It should also be noted that the above described lane widths for constrained conditions would require a variance on a state-aid roadway. Also, the city cannot require Hennepin County to obtain a variance on a county road. The project manager should evaluate each situation and exercise good engineering judgment in making these design decisions.

5.3.2 Turn Lane Widths

Since operating speeds are very low, narrower turn lanes are acceptable. While an eleven foot lane is desirable, a 10 foot width is acceptable for left turn lanes and a 9 foot width is acceptable for right turn lanes in constrained conditions except in cases with a large volume of large trucks or buses or on industrial design type streets.

5.3.3 Parking Lane Widths

Seven foot parking lanes are acceptable on low volume, low speed local residential streets and on parkway streets. The width of the curb and gutter is included in this dimension which is measured from face of curb. Many existing local residential streets and parkway streets in the city function adequately today with seven foot parking lanes. The low volume and low speeds on these roadways provide adequate gaps for vehicles to pass one another.

60' R.O.W. (Neighborhood Connectors and Local Streets)

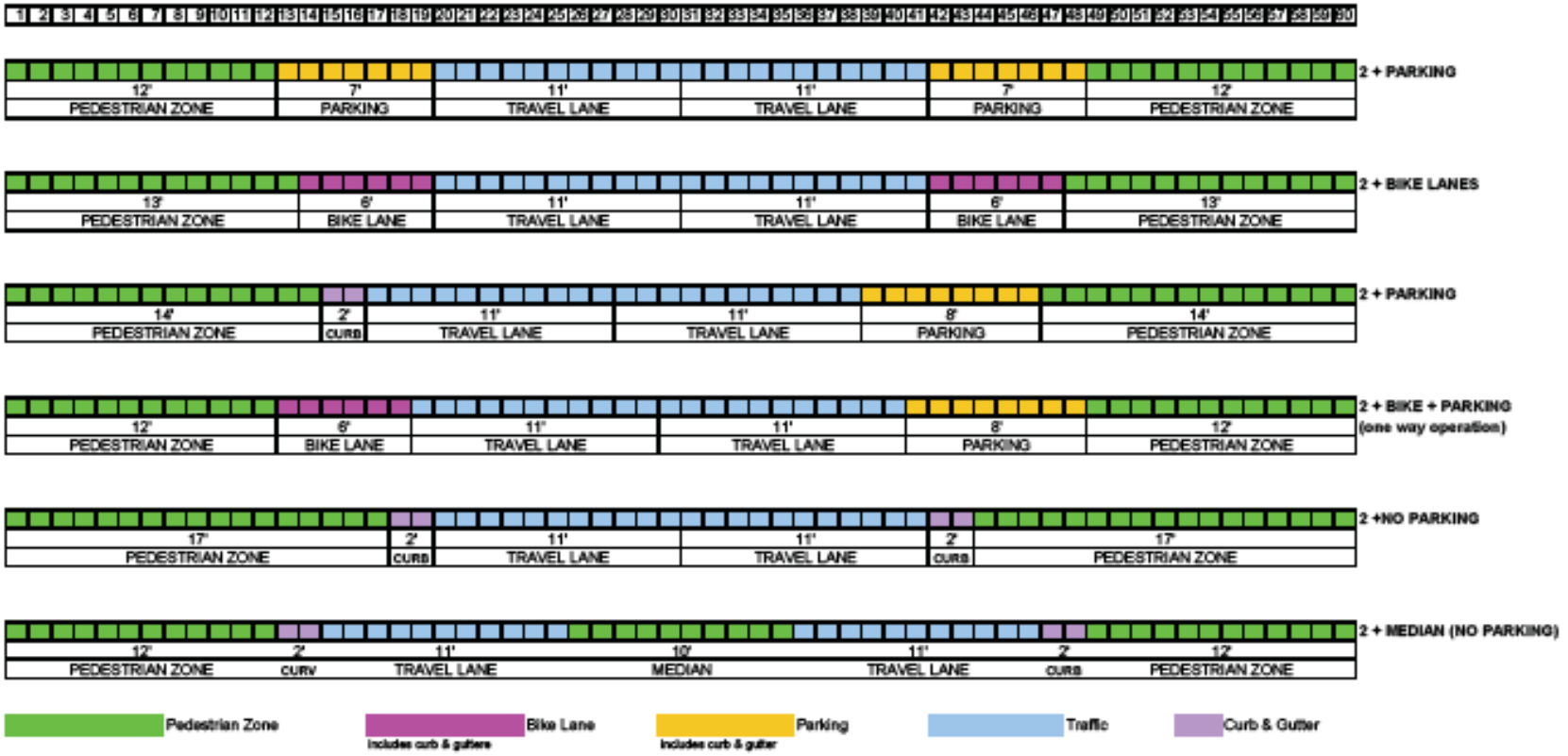

Figure 5-5 Optional Lane Width Configurations

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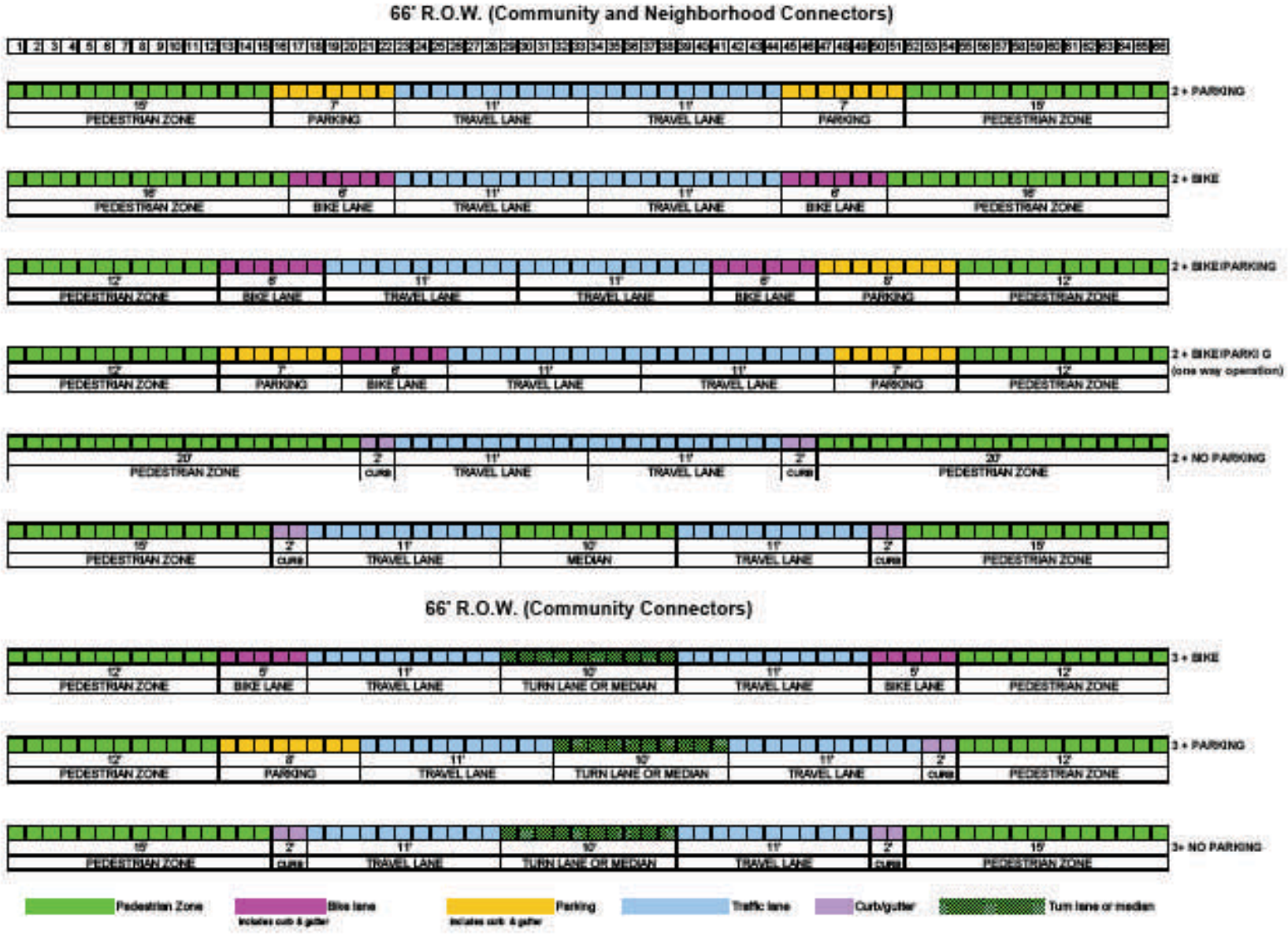

Figure 5-5 Optional Lane Width Configurations (continued)

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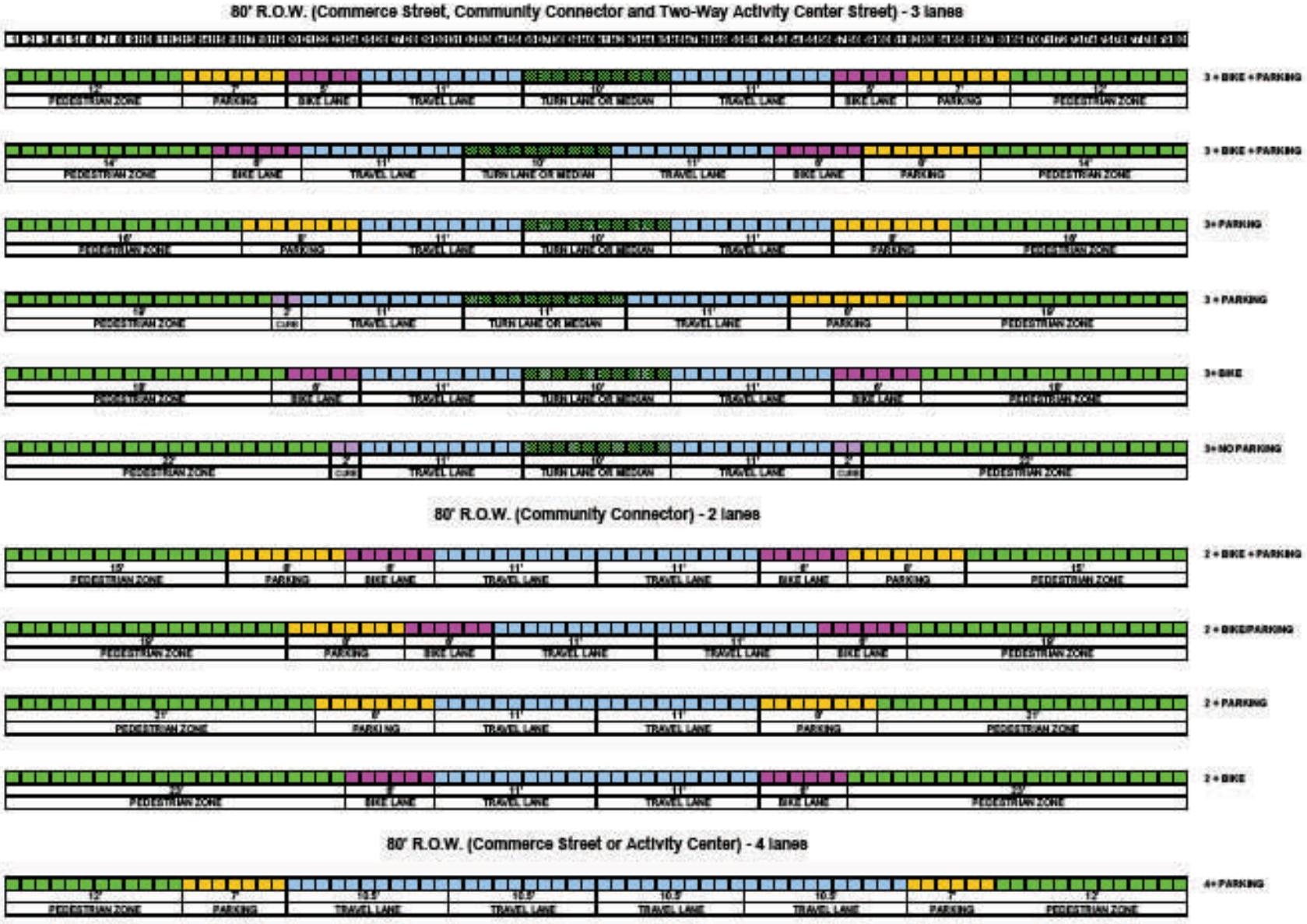

Figure 5-5 Optional Lane Width Configurations (continued)

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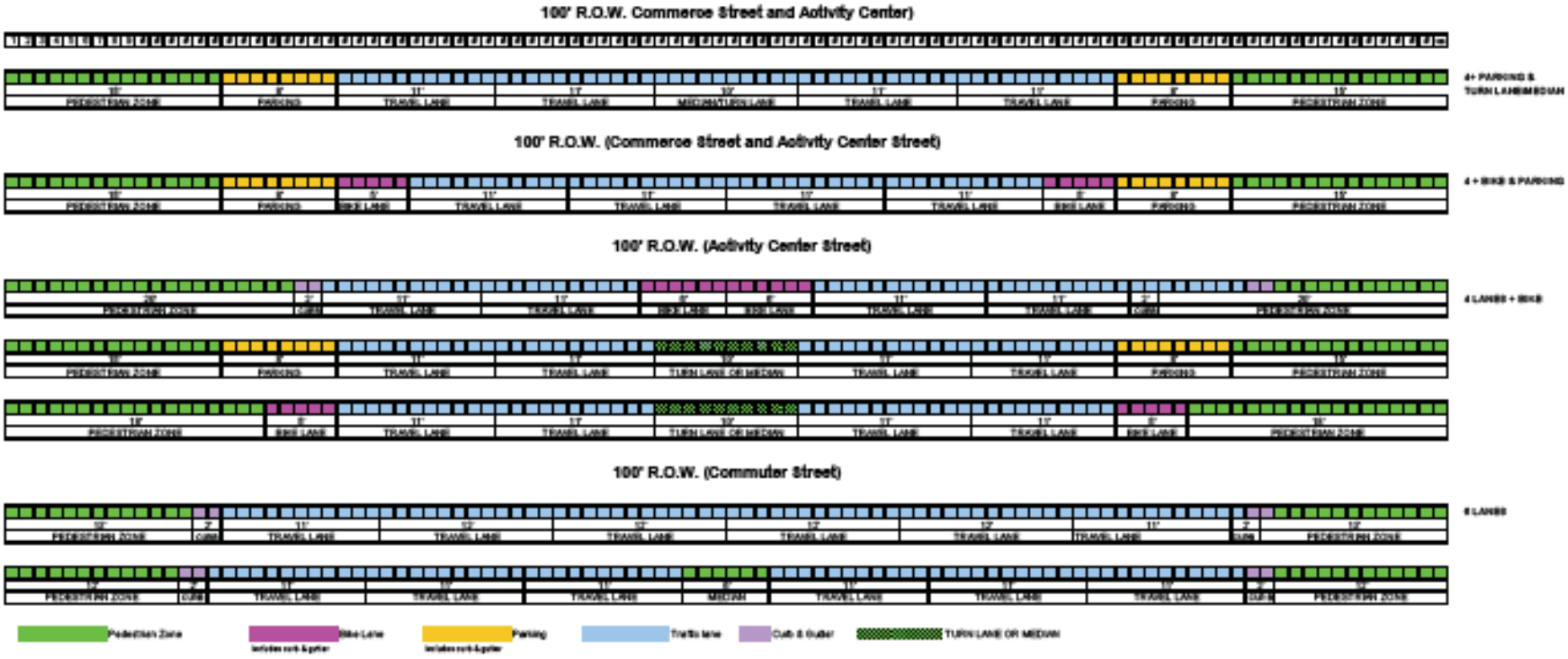

Figure 5-5 Optional Lane Width Configurations (continued)

ACCESS MINNEAPOLIS

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Eight foot wide parking lanes are desirable on all other street design types. It should be noted that parking is typically not permitted on commuter streets (such as Olson Memorial Highway) and wider parking lanes may be needed on industrial streets which carry a high percentage of large trucks.

Seven foot parking lanes may be acceptable on other street design types if one or more of the following conditions exists:

- Narrower lane allows a bike lane to be provided
- The adjacent land uses are residential or other land uses that require a minimal amount of truck deliveries
- The parking lane is not heavily utilized

A 9-10 foot or wider parking lane is needed if the parking lane is used as a travel lane during peak periods, is in an industrial area where on-street parking is utilized by large trucks, or other unique circumstances exist requiring wider parking spaces.

Guidance for the width of parking or drop-off bays is the same as for parking lanes. The minimum length of bays should be the equivalent of two parking spaces. Tapers in and out of parking bays are not required. Where tapers are not provided, staking or some other marking may be needed during the winter months for snow removal.

5.3.4 Bicycle Lane Widths

On-street bicycle lane widths are incorporated in Figure 5-5 and are typically five to six feet wide. Where space is available, six foot lanes are desired on streets with traffic volumes over 15,000 ADT or with a high turnover of parking. Five foot lanes are acceptable in constrained conditions. Where the bicycle lane is next to the curb, the width of the curb and gutter (typically 2 feet) is included in the width of the bike lane.

There are a number of ways other than bicycle lanes that bicyclists can be more safely accommodated on streets. The Bicycle Master Plan, which is currently being developed, will address appropriate uses and design characteristics of a variety of strategies including some innovative treatments. This information will be incorporated into the city's design guidelines as appropriate when it becomes available.

5.3.5 Curb and Gutter Widths

The City typically uses a two-foot wide curb and gutter on all streets. In order to protect drainage facilities from excessive wear, travel lanes next to the curb should be offset from the face of curb by two feet. The two-foot curb and gutter width is included in parking lane and bicycle lane widths, which are measured from face of curb. Where a bike lane is being provided next to the curb, consideration should be given to the use of an extra wide gutter, thereby eliminating the crack between the pavement and the gutter pan in the bike lane.

5.3.6 Planted Medians

Planted medians should be considered on those streets where space is available or where pedestrians must cross several lanes. A minimum width of 10 feet is desirable for tree plantings. This width also provides a safe refuge for pedestrians who must wait in the middle of the street to complete their crossing. A 10-foot wide median can be combined with 10-foot wide turn lanes where needed. However, the removal of the median to provide a dedicated left turn lane results in a much wider street for pedestrians to cross without a median refuge. It is very important to address these issues in locations where there is a high number of pedestrians or there are pedestrians with special needs. Examples include transit station areas and transit centers, schools, activity centers and growth centers.

Additional information on medians and pedestrian crossings will be provided in the Pedestrian Master Plan, which is currently being prepared. This information, as appropriate, will be incorporated into the city's design guidelines when it becomes available.

5.3.7 Snow Removal Issues

Snow removal practices and the space available for snow storage on the roadside have an influence on travel and parking lane width. Wider boulevard/sidewalk areas would provide for more snow storage on the sidewalk/boulevard than is currently available. Clearing to the curb to allow for parking in narrower parking lanes may require a two stage process that would require temporary use of the parking lane for snow storage. This will increase the cost of snow removal. The propensity to provide for on-street snow storage to minimize operating costs must be weighed against effects of the wider lane width on travel speeds, pedestrian crossing times, parking operations, and desirable street design for adjacent land uses.

~~*5.4 Pedestrian Zone*~~

Section 5.4 is superseded by section 10.2.

~~Appropriate design arrangements for the pedestrian zone are limited in built urban environments due to existing right-of-way width and past practices. Typical sidewalk conditions seen today in Minneapolis are:~~

- ~~On many arterial streets, the sidewalk is paved to the back of curb (except adjacent to ground floor residential outside of activity centers) and often the sidewalk has been narrowed to allow for an increase in the number of traffic lanes.~~
- ~~The dimensions of the planting/furnishing and frontage zones increase or decrease in relation to the intensity of development in nodes and activity centers and in relation to the proximity of adjacent buildings. Frequently, the planting/furnishing and frontage zones in commercial nodes and activity centers are too narrow to provide adequate space for both plantings/streetscaping and through pedestrian flow.~~
- ~~The through walk dimension is wider for more intensely urbanized areas although this dimension is often significantly reduced by sidewalk uses such as sidewalk cafes and the placement of transit shelters and street furniture.~~
- ~~The placement of signs, signals, fire hydrants, newspaper vending, waste receptacles and other street furniture often impedes pedestrian movement and bus loading.~~

5.4.1 Desired Pedestrian Zone Dimensions

Figure 5-6 illustrates the *desired* dimensions for the various street design types and place types and shows overall pedestrian zone dimensions that range from 12 to 15 feet. Even wider pedestrian zones are needed in very high volume pedestrian areas such as in activity centers, downtown, the University of Minnesota campus, transit station areas and transit centers. These dimensions may not be achievable on many streets, unless the street is being fully reconstructed, except with the use of curb extensions at intersections. Factors that should be considered in determining pedestrian zone width include land use density, transit use, existing curb-to-curb width, design/location of drainage systems, pedestrian volumes, parking demand and overall available right-of-way. As described earlier in this chapter (see Figure 5-2), the pedestrian zone dimension includes the frontage zone, the through walk zone, the planting/furnishing zone and the edge zone.

5.4.2 Sidewalks in Constrained Conditions

For pedestrian zones (which includes sidewalk and boulevard span), the functional minimums vary by place type and street design type. On all streets, pedestrian zone dimensions should not drop below 12 feet. Going below these dimensions may result in the encroachment of utilities, plantings and street furnishings into the through walk zone or the loss of space for plantings and furnishings. Figure 5-6 shows these constrained conditions for most street design types. Examples of pedestrian zone dimensions for the various street design types are shown in Figure 5-8.

5.4.2.1 Edge Zone

The edge zone (also known as the curb zone) is the clear zone needed for safety between an obstruction (for example, a light pole or a tree) and a moving lane of traffic. A minimum clear zone of 1.5 feet between the face of curb and the obstruction is required in all circumstances. However, in areas with planted boulevards, the edge zone can become part of the planted boulevard so long as any obstruction is placed in such a way as to maintain the required 1.5 feet clear zone distance. In constrained conditions, the planting/furnishing zone can overlap the edge zone. A minimum of 0.5 feet, the width of the top of the curb, will be hard surface.

5.4.2.2 Planting/Furnishing Zone

The planting/furnishing zone provides for an important and essential element of the infrastructure: trees, vegetation and stormwater management. This is the area where street trees, landscaping materials, benches, light poles and other fixtures may be located and where pervious materials, plant materials and other strategies can be utilized to better manage stormwater runoff and achieve the associated environmental benefits. The dimension of this area will vary depending on the location of transit stops, sidewalk cafes, street vendors and other sidewalk activities and uses. The minimum width required for tree planting is 4 feet; however, with this width, special planting techniques are required which are very costly. A width of at least 6 feet is desirable in all except the most constrained conditions. This minimum width should be provided in all cases except where the space is required for transit stops or a decision is made to use the available space for a sidewalk café or another sidewalk use. Irregardless of the width and length of the planting zone, a

minimum planting depth of five feet is required for tree planting. Thus, utilities and other underground features must be carefully located so that tree planting is possible and trees can be sustained in good health.

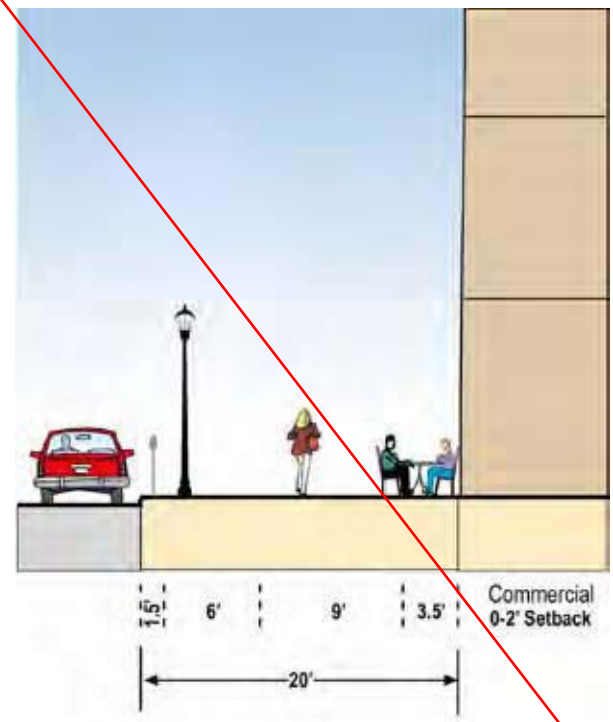
In residential areas, the planting/furnishing zone is made up of a planted boulevard, typically a combination of trees and grass. The planted area may extend to the back of the curb. Signs, parking meters, lamp posts, etc. are located within the planted boulevard area but, as noted above, are typically positioned 1.5 feet from face of curb to maintain a safe clear distance from moving traffic.

Work is currently underway to prepare design guidelines for tree planting, landscaping and stormwater management in public rights of way. When these guidelines are completed, they will be incorporated into the city's design guidance as appropriate.

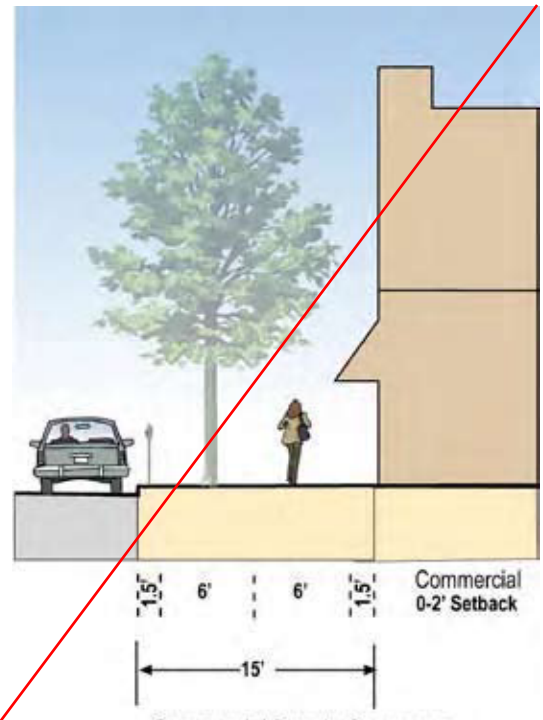
Figure 5-6 Desired and Minimum Pedestrian Zone Dimensions (ft)[1]

ELEMENT	DESIRED DIMENSIONS	CONDITIONS UNDER WHICH LESSER DIMENSIONS MAY BE ACCEPTABLE	FACTORS TO CONSIDER IN DETERMINING PEDESTRIAN ZONE DIMENSIONS
Frontage Zone	1.0-1.5'	▪ Building, wall, fence set back >1' from ROW ▪ Ped through zone 6' or greater	▪ People "shy away" from vertical obstructions (steps, railings, walls, fences) by at least 1 ft.
Through Walk Zone	5' with boulevard 6' or more without boulevard	▪ Obstruction in sidewalk creates unavoidable narrowing for short segment within block. ▪ Passing space provided at maximum of 200' intervals when less than 5'. ▪ Planting/furnishing zone designed with walking surface	▪ Average person requires 2.5'; 5' needed for 2 people to pass each other ▪ 4' minimum proposed ADA requirement ▪ 5' recommended, 4' minimum in ITE Guidelines for Accessible Right of Way ▪ If 5' is used, than frontage zone must be clear of steps, railings, fencing and plantings that may impede pedestrian movement
Planting/Furnishing Zone	5.5' or more	▪ Edge zone is planted as part of boulevard (signs located in planted boulevard) ▪ No additional space available without impacting dimension of through walk zone	▪ 5.5' recommended in Urban Forestry Policy ▪ 4' is absolute minimum required for tree planting (requires special planting techniques that are very costly) ▪ 2' is minimum required for small planters ▪ 2' is minimum required for turf ▪ Minimum 5' depth required for tree pits or trenches
Edge Zone (measured from face of curb)	0.5-1.5'	▪ 0.5 ' (top of curb) acceptable if planting zone includes 0.5-1.0' space for signs and light poles ▪ No signals or poles should be placed in areas with minimum dimensions	▪ Top of curb is 8" (12" for fatback curb used in downtown) ▪ Signs and light poles must be set back 1.5' from face of curb (or 1.0' from back of curb) to prevent being hit by car or bike rider; this also provides space for a conduit raceway behind the curb
TOTAL PEDESTRIAN ZONE	12-15'		

[1]See Pedestrian Master Plan for further details

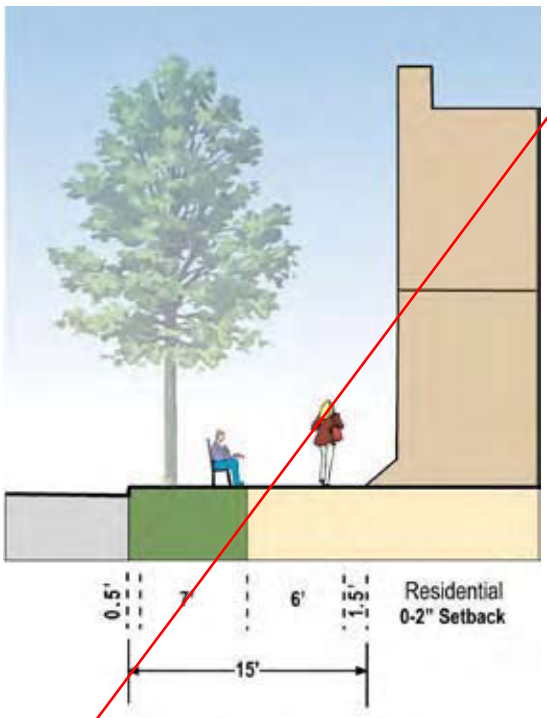


Activity Center Street - Commercial
Dimensions Listed are Desired Requirements

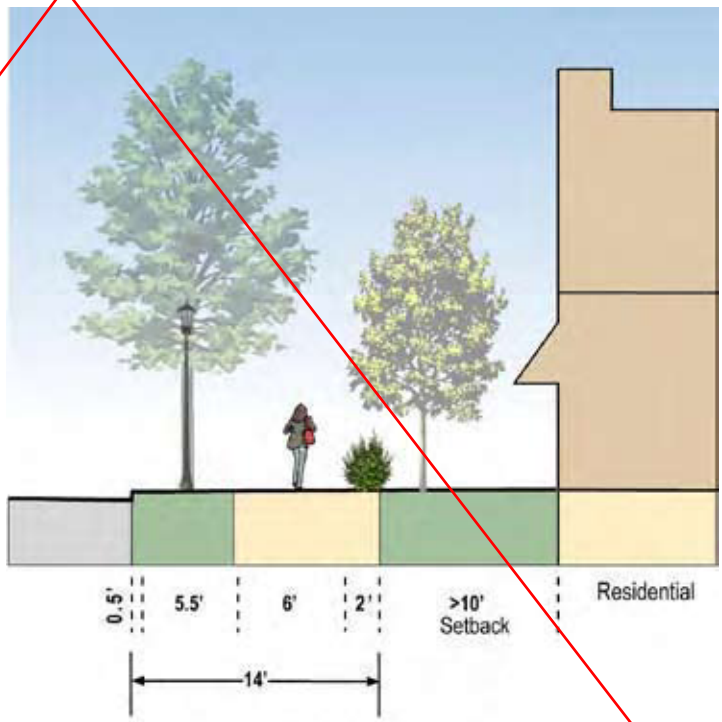


Commercial Street - Commerce
Community Connector - Commerce
Neighborhodd Connector - Commerce
Dimensions Listed are Desired Requirements

ILLUSTRATIVE ONLY: SEE SECTION 6 AND PEDESTRIAN MASTER PLAN FOR ADDITIONAL DETAIL



Community Connector - Residential
Neighborhood Connector - Residential
Dimensions Listed are Desired Requirements



Local Street - Residential
Dimensions Listed are Desired Requirements

Figure 5.7 Examples of Pedestrian Zone Dimensions for Street Design Types

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5.4.2.3 Through Walk Zone

The through walk zone is the area that must remain clear of all obstructions for the safe passage of pedestrians. It is generally based on the space required for two people to pass each other. A minimum through walk zone of 5 to 6 feet should be provided in all cases. It is also important to maintain lateral consistency in the pedestrian through path. Conditions that can impact lateral consistency include sidewalk cafes, building design, placement of street furniture and transit shelters, and variations in setbacks or street width from one block to another. An effort should be made to avoid a meandering through walk zone as this is inconvenient for all pedestrians and hazardous for persons with disabilities.

It is especially important to pay attention to the placement of signs, light poles, signal poles, fire hydrants and other necessary vertical elements that must be located within the pedestrian zone. If not carefully located, these elements can create impediments to walking, impact the ability to plant trees, and create safety hazards. These and other details will be further addressed in the Pedestrian Master Plan. This information will be incorporated into the Design Guidelines when it has been completed.

5.4.2.4 Frontage Zone

The frontage zone represents both the space that people tend to put between themselves and the side of a building and also the space where people stand to window shop; wait for the bus and other similar activities. A minimum clear space of at least one foot is needed between buildings that front the sidewalk and the through walk zone. Additional space is desired in activity centers and commercial nodes where more people activity is likely to occur. Frontage zones can also be utilized as a secondary location for plantings. Plantings in these areas generally take the form of planter boxes, green walls or other materials that do not require a great deal of space. Small building setbacks provide additional opportunities for plantings, street furniture and sidewalk cafes in the frontage zone.

Sidewalk cafes are typically located in frontage zones. They require a minimum width of four feet. If the pedestrian zone is less than 12 feet wide, an unobstructed walkway of four feet must be maintained. If the pedestrian zone is more than 12 feet wide, an unobstructed walkway of six feet must be maintained. Curbside placement is acceptable if parking is prohibited and a two foot clearance to the curb is maintained. Where sidewalk cafes are provided, the through walk zone is adjusted and the space for the sidewalk café is drawn from both the through walk zone and the planting/furnishings zone.

5.4.3 Pedestrian Zone Dimensions on Bridges

Bridges can present particular challenges in providing an adequately sized pedestrian zone that is both safe and attractive for pedestrians. Since bridges are very expensive to construct, many bridges have been built with minimal sidewalk space and some have sidewalks on only one side. At the same time, state design guidance requires, for safety reasons, that the curb location on the roadways approaching a bridge be maintained across the bridge. Most approach roadways in the city have on-street parking but parking is not

allowed on bridges. Thus, bridges often have very wide roadways but narrow sidewalks. One approach for addressing this issue is to change the curb location on the approach roadway by constructing curb extensions. This then provides the opportunity to widen the sidewalks on the bridge and to provide sidewalks on both sides of the bridge. The minimum sidewalk width on a bridge should be 10 feet. This provides a clear distance of 8 feet for sidewalk maintenance vehicles with an additional two feet for sign post and light pole placement. Additional width may be required if seasonal plantings and/or street furnishings are desired on the bridge.

5.4.4 Pedestrian Zone Dimensions at Transit Stops

Transit stops are required to have a minimum landing pad of four feet that is clear of obstructions for bus loading and unloading. This space is technically located within the edge zone and/or planting/furnishings zone. Where transit stops are provided without curb extensions, the space for the landing pad is drawn from the through walk zone, the planting/furnishings zone and/or the edge zone as needed. A minimum through walk zone of 5-6 feet is desired. A wider area may be needed in locations where there are high passenger waiting and/or pedestrian through volumes.

Because many pedestrian zones in the City of Minneapolis will not likely be much more than 12 feet, the provision of curb extensions for transit stops is very important. A curb extension will typically widen the pedestrian zone by 7-8 feet or more, depending on the width of the parking lane. Curb extensions provide much needed space for the landing pad and transit shelter while maintaining an adequate through walk zone and some space for furnishings, trees and landscaping.

5.5 Curb Extensions

Section 5.5 is supplemented by section 10.3.5.

Curb extensions, which are also known as “bump-outs, bulb-outs, neckdowns and flares”, are essentially pedestrian zones that are widened at the intersection or at specific mid-block locations to incorporate the approximate width of the on-street parking lane (Figure 5-8). They provide additional space where pedestrian volumes are higher and where additional space is needed for sidewalk ramps, bus shelters, bicycle parking, waiting areas, signal poles and/or street furniture. Curb extensions reduce the street crossing distance for pedestrians, significantly reducing crossing times and increasing pedestrian visibility. Curb extensions may also provide additional pervious space for plantings and management of stormwater runoff.

Figure 5-8 Example of Curb Extension to Intersection

Curb extensions are recommended on all streets where on-street parking is allowed. Exceptions include intersections where turn lanes are provided, streets where the parking lane is used as a travel lane turning peak periods, and locations where a bus stop is desired outside the travel lane.

Curb extensions should be approximately the same width as the parking lane on the street where they are provided (typically 7-8 feet wide) and they should be at least 30 feet in length. This minimum length is based on typical cross-walk dimensions (10-15 feet) and ordinances requiring no parking within 20 feet of a cross-walk or 30 feet of a stop sign. Additional length may be required, depending on the furnishings and/or uses that need to be accommodated on the curb extension. No catch basins should be placed along the end of a curb extension – they should be placed in the parking area. Curb extensions need to be carefully designed to drain properly and to avoid ice, leaf and road debris buildup. A taper is not required. However, in some locations, the extended curb may need to be marked to improve visibility for snowplow operators.

5.6 Street Furniture, Lighting, Trees and Landscaping

Ample pedestrian zone width is needed, particularly in activity centers, growth centers, transit station areas and neighborhood commercial nodes, to accommodate a wide variety of activities and facilities. More width is desirable to accommodate bus shelters, sidewalk cafes, outdoor retail, street furniture, trees and landscaping, and stormwater management. Additional guidance is currently being developed for these facilities and will be included in other sections of the Design Guidelines. In general, the following guidance should be considered.

- Lighting for sidewalks should be pedestrian-scale and additional illumination should be provided at crosswalks and areas where higher pedestrian volumes are expected. *See City's lighting policies for further guidance (Section7).*

- Street furniture such as benches (or other seating such as low walls, planter edges or wide steps), gathering places, drinking fountains, newspaper racks, clocks, kiosks, recycling bins, public art, etc. can make pedestrian zones more interesting and inviting. However, if not well managed, street furniture can clutter the sidewalk and become a nuisance. It is important to maintain an adequate clear space on the sidewalk for pedestrian movement and transit loading. *See City's street furniture policies and guidelines for further guidance (Section 8).*

- Trees and landscaping are considered an essential infrastructure component of streets. They create comfortable spaces, help to manage stormwater, improve air quality, remove pollutants, provide shade and reduce heat, add value to adjacent properties, buffer the sidewalk area from traffic, provide habitat and provide a distinctive identity. *See City's guidelines for street trees and landscaping for further guidance (Section 9).*

- Street furniture and/or landscaping may be placed within curb extensions so long as the through walk zone, access to transit and access to curb ramps is not obstructed. Curb extensions may also provide space for bicycle parking.

- Streets or intersections identified as gateways into the city or into a particular area may require special architectural design and/or landscaping. Work in these locations should be coordinated with CPED and the Minneapolis Arts Commission.

5.7 Utilities

Section 5.7 is supplemented by section 10.2 and Chapter 9.

Above ground utilities need to be placed outside the area designated for pedestrian flow. Underground utilities need to be placed outside the area designated for tree planting as a minimum depth of 5 feet is required. The design of sidewalks, planted boulevards, medians and other street elements must allow for service access to underground utilities. Attention needs to be paid to the location of light poles, controller boxes, fire hydrants and other similar elements that are required but can impede accessibility if not placed appropriately.

This issue will be addressed in greater detail in the Pedestrian Master Plan and in the design guidelines for tree planting and landscaping. Appropriate elements from these initiatives will be incorporated in the city's design guidelines when the work is completed.

5.8 Intersections

Intersections play an important role in urban design, pedestrian access, efficiency of traffic flow, and safety of all transportation modes. Drivers expect to be able to pass through intersections without conflicting with other vehicles and with a minimum of delay. Pedestrians and bicyclists expect to be able to cross the street safely, comfortably and quickly. Understanding these competitive needs and the associated trade-offs is very important when designing intersections. Each intersection has a unique mix of users, turning movements, operating conditions and physical constraints. Design flexibility is needed to address the complex mix of needs and achieve an effective multi-modal solution. In general, intersections should be designed:

- As compact as practical to minimize pedestrian crossing distance and time.
- Using design speeds and design vehicles appropriate to the context.
- To provide good visibility by pedestrians, bicyclists and motorists.

5.8.1 Curb Return or Corner Radii

Section 5.8.1 is supplemented by section 10.3.

The curb return is the curved connection of curbs where two streets come together to form an intersection. The purpose of the curb return is to guide vehicles in turning corners and to separate vehicular traffic from pedestrian areas at intersection corners. Longer radii are used to accommodate the turning of large trucks and buses but longer radii also significantly increase the distance and time required for pedestrians to cross the street (see Figure 5-9). In general, the smallest practical curb return radii should be used at city intersections to shorten the length of pedestrian crosswalks.

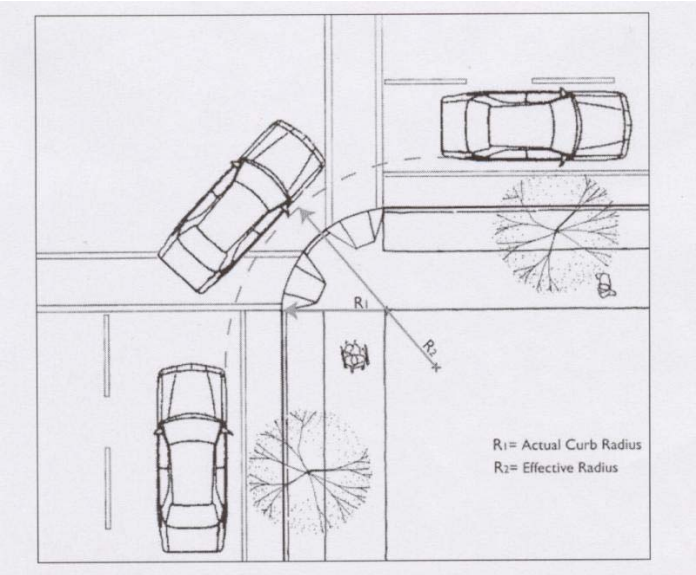
Figure 5-9 Effect of Curb Radii on Pedestrian Crossing Distance

Curb Return Radius (feet)	Added Crossing Distance (feet)	Added Crossing Time (seconds)[1]
15	0	0
25	8	2
50	38	10

[1]Crossing time at 4 ft. per second.
Source: ITE RP-36, Context Sensitive Solutions in Designing Major Urban Thoroughfares for Walkable Communities.

The following guidelines, which are taken from ITE RP-36 (page 161), should be used to design curb return radii:

- Curb return radii should be designed to accommodate the largest vehicle type that will *frequently* turn the corner (see Figure 4-1 for recommended design vehicles for various street design types). This principle assumes that the occasional large vehicle can encroach into the opposing travel lane when turning. In this circumstance, it may be desirable to place the stop line for opposing traffic further from the intersection.
- Curb return radii should be designed to reflect the "effective" turning radius of the corner, taking into account the width of parking and/or bicycle lanes (Figure 5-10). Using the effective turning radii allows a smaller curb return radius while still accommodating larger design vehicles.
- Curb return radii of different lengths can be used on different corners of the same intersections. This may be applicable, for example, where there is a high frequency of buses turning on a major bus route or where a city street intersects with a high volume county road.
- A typical minimum curb return radius of 10-15 feet should be used where high pedestrian volumes are present, where bicycle and/or parking lanes create additional space to accommodate the "effective" turning radius of vehicles, and where the width of the receiving intersection approach can accommodate a turning passenger vehicle without encroachment into the opposing lane.



Source: ITE RP-036, Context Sensitive Solutions in Designing Major Urban Thoroughfares for Walking Communities (page 163)

Figure 5-10 Effective Turning Radii

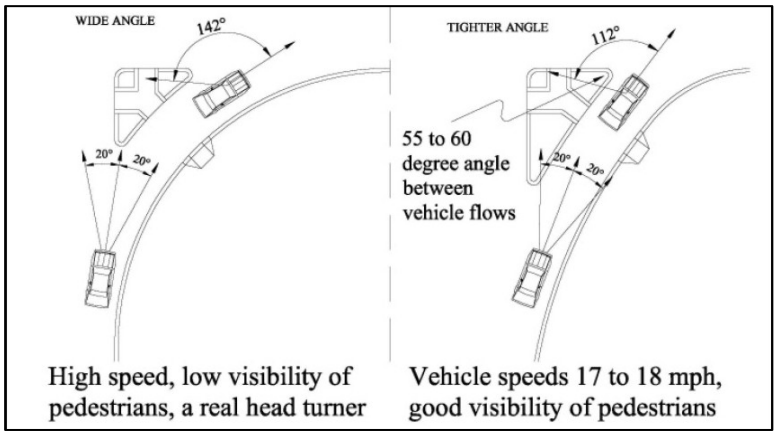
5.8.2 Dedicated Left and Right Turn Lanes

Dedicated left and right turn lanes have the primary benefit of reducing vehicle conflicts and improving vehicular travel times by removing turning vehicles from through traffic lanes. However, the provision of dedicated turn lanes uses precious space when working within constrained right-of-way widths and this is the case with most streets in the City of Minneapolis. Dedicated turn lanes should only be provided where significant safety problems exist and/or where there are unusually high traffic volumes that cannot be managed through signalization or other traffic management techniques. The length of the turn lane and the taper required will need to be determined based on an analysis of expected turning volumes. "No Right Turn on Red" should only be used when there is a demonstrated benefit.

5.8.3 Channelized Right Turn Lanes

In general, channelized right turn lanes should not be provided at urban intersections unless there is a geometric reason or an unusually high volume of right-turning vehicles. Likewise, in most circumstances, channelized right turns are inappropriate because they create additional conflicts with pedestrians and increase the time required and complexity for a pedestrian to cross the street. In rare circumstances, a well-designed channelization island can provide a refuge for pedestrians crossing multiple lanes at a complex intersection (Figure 5-11). The following general principles should apply:

- Channelized right turns should not be used except at intersections where there is complex geometry and/or complex traffic movements. If an urban channelized right-turn lane is provided, it should be designed for slow speeds (5-10 mph) and high pedestrian visibility.
- Where channelized right-turn lanes already exist, pedestrians can best be served by installing pedestrian signals to the right-turn lane crossings.



Source: ITE RP-036, Context Sensitive Solutions in Designing Major Urban Thoroughfares for Walkable Communities (page 166) – Kimley-Horn and Associates, Inc., adapted from an illustration by Dan Burden.

Figure 5-11 Angle of Dedicated Right-Turn Lane

5.8.4 Roundabouts and Traffic Calming Strategies

The City will consider roundabouts in limited locations (see Figure 5-12). If a roundabout is being considered, the Project Manager should refer to previous documentation (for example, Franklin-Cedar/Riverside Transit Oriented Development Master Plan, Appendix C)[11] for guidance on traffic analysis and design alternatives. Additional design guidance may be developed in the future.

Information on other traffic calming strategies can be found in *Traffic Calming for Neighborhoods*[12], which is currently being updated by the Division of Traffic and Parking Services.

Figure 5-12 Example of Roundabout

~~5.8.5 Crosswalks~~

Section 5.8.5 is superseded by section 10.5.

~~There are legal crosswalks, marked or unmarked, on all legs of all intersections with sidewalks, including T intersections except where closed by ordinance and appropriately signed. Marked crosswalks alert motorists that they are approaching an area where they should expect pedestrians. Crosswalks should be marked at all signalized intersections and at all unsignalized intersections with significant safety problems along with high pedestrian activity.~~

~~At most crosswalks, a standard crosswalk marking of two parallel stripes is sufficient. In unique circumstances where additional visibility is needed, a zebra or ladder striping pattern may be used (Figure 5-13). However, due to the additional cost to provide and maintain these markings, they should only be used where need has been clearly demonstrated. Colored and/or textured crosswalks may also be used. It may also be desirable to have signs and flashing beacons at some crosswalks to provide maximum visibility and pedestrian safety. Crosswalks should also be well lit. Curb extensions, medians and refuge islands are all important techniques for reducing crossing distances at intersections.~~

~~Figure 5-13 Zebra Pattern Crosswalk Striping~~

[11] *Franklin-Cedar/Riverside Transit Oriented Development Master Plan, Appendix C,* City of Minneapolis Community Planning and Economic Development, 4/12/2001.
[12] *Traffic Calming for Neighborhoods,* City of Minneapolis Traffic and Parking Services, DRAFT, 2/17/2000 (Resource 003) – contact Jim Steffel for updated information.

~~Additional information on designing crosswalks and other pedestrian facilities will be provided in the pedestrian design guidelines being developed as part of the Pedestrian Master Plan.~~

5.8.6 Bike Lanes at Intersections

The design of bicycle lanes in Minnesota is guided by the Mn/DOT Bikeway Facility Design Manual. Additional guidance will be developed by the City of Minneapolis as part of the Bicycle Master Plan. The primary design objective at intersections is to promote a clear understanding of safe paths through the intersection and protect the safety of bicyclists where there is a high potential for conflicts with vehicles. Figure 5-14 provides guidance for bicycle lane treatments through intersections. Such guidance is continually being updated and designers should seek out the latest design guidance and standards.

Figure 5-14 Recommended Practice for Bicycle Lane Treatment at Intersections

With pedestrian crosswalks
• Bike lane striping should not be installed across any pedestrian crosswalks and, in most cases, should not continue through any street intersections.
With no pedestrian crosswalks
• Bike lane striping should stop at the intersection stop line, or the near side cross street right-of-way line projection, and then resume at the far side right-of-way line projection • Bike lane striping may be extended through complex intersections with the use of dotted or skip lines.
Parking considerations
• The same bike lane striping criteria apply whether parking is permitted or prohibited in the vicinity of the intersection.
Bus stop on near side of intersection or high right-turn volume at unsignalized minor intersections with no stop controls
• 6-inch solid line should be replaced with a broken line with 2-ft. dashes and 6-ft. spaces for the length of the bus stop. Bike lane striping should resume at the outside line of the crosswalk on the far side of the intersection.
Bus stop located on far side of the intersection
• Solid white line should be placed with a broken line for a distance of at least 80 ft. from the crosswalk on the far side of the intersection.
T-intersections with no painted crosswalks
• Bike lane striping on the far side across from the T-intersection should continue through the intersection area with no break. If there are painted crosswalks, bike lane striping on the side across from the T-intersection should be discontinued at the crosswalks.
Pavement markings
• Bike lane markings should be installed according to the provision of Chapter 9C of the MUTCD. • The standard pavement symbols are one of two bicycle symbols (or the words "BIKE LANE") and a directional arrow as specified in the MUTCD. Symbols should be painted on the far side of each intersection. Pavement markings should be white and reflectorized.
Signs
• Bike lanes should be accompanied by appropriate signing at intersections to warn of conflicts (see Chapter 9B of the MUTCD).

Source: ITE RP-036, Context Sensitive Solutions in Designing Major Urban Thoroughfares for Walkable Communities (page 176)

5.9 Transit Stops

Section 5.9 is supplemented by section 10.4.

The design of transit stops is guided by Metro Transit design guidelines[13] and should meet Americans with Disabilities (ADA) guidelines. A bus stop checklist is also provided to assist in the evaluation of conditions at existing bus stops (Appendix B). This checklist and other information in this section are based on the Easter Seals Project ACTION's "Toolkit for the Assessment of Bus Stop Accessibility and Safety".[14] These guidelines are based on both minimum American with Disabilities (ADA) requirements and "Universal Design" guidelines which are intended to create environments that are usable by all people.

5.9.1 Curbside Bus Stops and Curb Extensions

Bus stops are typically located at curbside, in bus bays or on curb extensions or bus bulbs. These options are illustrated in Figure 5-15. The advantages and disadvantages of these options are summarized in Figure 5-16.

5.9.2 Near Side and Far Side Bus Stops

Bus stops may be located on the near or far side of the intersection and may, in some cases, be located in mid-block. Figure 5-17 illustrates placement of far side stops and Figure 5-18 illustrates placement of near side stops. The advantages and disadvantages of each are shown in Figure 5-19. This decision will need to be made in close coordination with Metro Transit and will need to be based on a thorough understanding of traffic, transit and pedestrian patterns in the subject intersection.

Figure 5-15 Example of Transit Stop on Curb Extension

5.9.3 Design of Transit Shelter/Bus Stop Area and Bus Landing Pads

A bus stop platform is a designated bus stop area clear of obstructions to facilitate boarding and alighting of all users. A bus stop checklist is provided in Appendix B to assist in the evaluation of conditions at existing bus stops. The length of the bus stop should be determined by the number of buses using the stop at any one time with a minimum 70-80 ft length desired (100 ft for mid-block stop). The city typically provides a 100-110 ft no parking zone for bus stops. Bus stop design should be based on Metro Transit's *Guidelines for the Design of Transit Related Roadway Improvements.*[15] Metro Transit should be involved in any design that incorporates transit facilities. To meet minimum ADA requirements, bus stop sites must have:

---

[13] *Guidelines for the Design of Transit Related Roadway Improvements,* S.E.H. for Metropolitan Transit Commission, 1983.
[14] *Toolkit for the Assessment of Bus Stop Accessibility and Safety,* Easter Seals Project ACTION
[15] *Guidelines for the Design of Transit Related Roadway Improvements,* S.E.H. for Metropolitan Transit Commission, 1983.

- A firm, stable surface
- A minimum clear length of 8 feet, measured from the face of curb or vehicle roadway edge and a minimum clear width of 5 feet, measured parallel to the vehicle roadway
- Connections to streets, sidewalks or pedestrian paths by an accessible route

Universal Design[16] guidance also recommends the following:

- Locate street furniture to maintain a minimum clear width of 4 feet and a clear headroom of approximately 6.5 feet from the pedestrian pathway to the stop
- Clear the bus stop platform of all obstacles (including trees, newspaper boxes, waste and recycling receptacles)
- Design the sidewalk adjacent to the bus stop platform to be wide enough to handle the expected level of pedestrian activity and for two wheelchair users to pass each other traveling in opposite directions when two-way traffic is frequent
- Keep the front and rear door areas of a bus stop clear of trees, utility poles, wires, hydrants and other street furniture, accounting for the variance in door positions on different types and sizes of buses

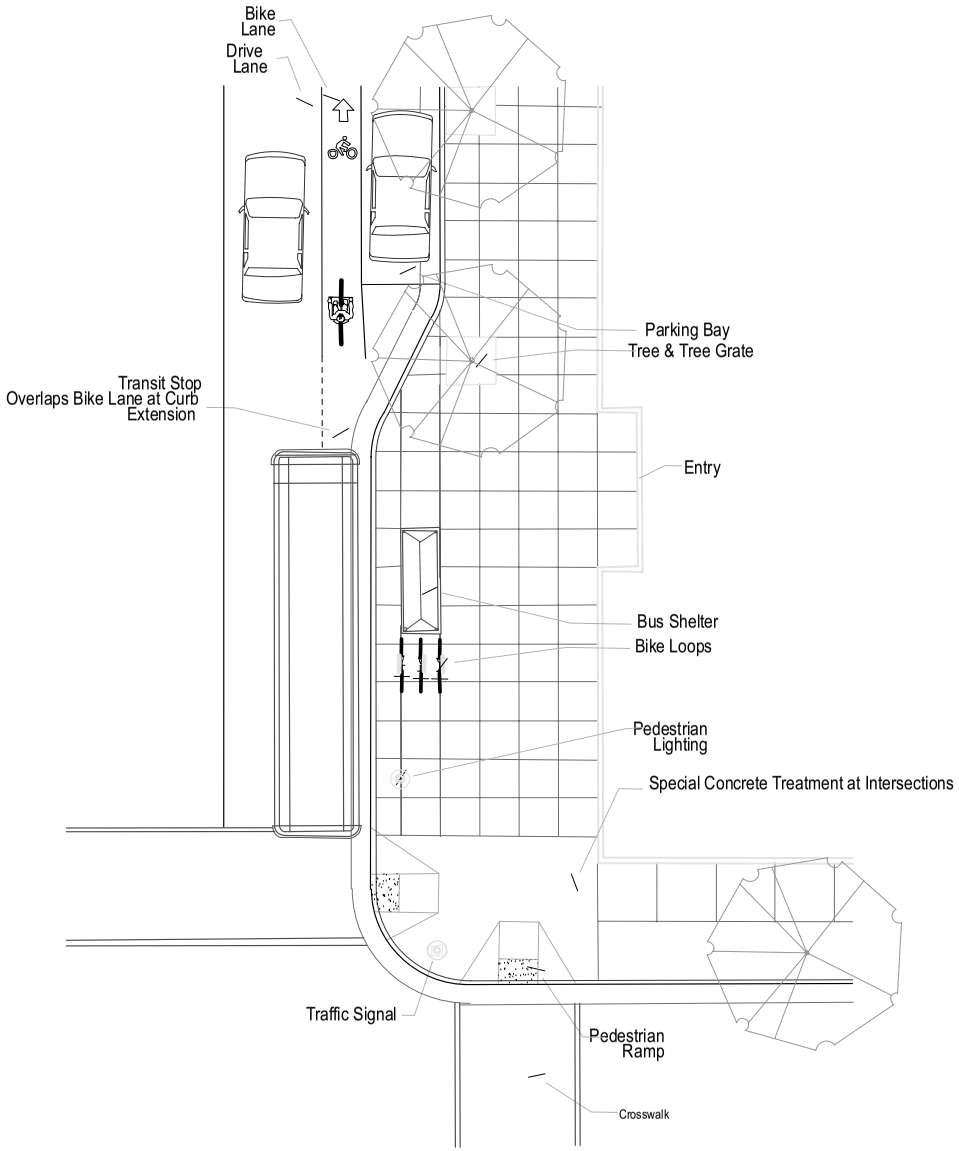
Figure 5-16 Comparative Evaluation of Bus Stop Designs

Type of Stop	Advantages	Disadvantages
Curb-side	• Provides easy access for bus drivers and results in minimal delay to bus • Is simple to design and easy and inexpensive for a transit agency to install • Is easy to relocate	• Can cause traffic to queue behind stopped bus, thus causing traffic congestion • May cause drivers to make unsafe maneuvers when changing lanes in order to avoid a stopped bus
Bus Bay	• Allows patrons to board and alight out of the travel lane • Provides a protected area away from moving vehicles for both the stopped bus and the bus patrons • Minimizes delay to through traffic	• May present problems to bus drivers when attempting to re-enter traffic, especially during periods of high roadway volume • Is expensive to install compared with curbside stops • Is difficult and expensive to relocate
Curb Extension	• Removes fewer parking spaces for the bus stop • Decreases the walking distance (and time) for pedestrians crossing the street • Provides additional sidewalk area for bus patrons to wait • Results in minimal delay for bus	• Costs more to install compared with curbside stops • See Curb-side disadvantages

Source: TCRP Report 19-B, Guidelines for the Location and Design of Bus Stops, Part B

[16] *Toolkit for the Assessment of Bus Stop Accessibility and Safety,* Easter Seals Project ACTION.

Transit Stop on Curb Extension



Transit Stop without Curb Extension

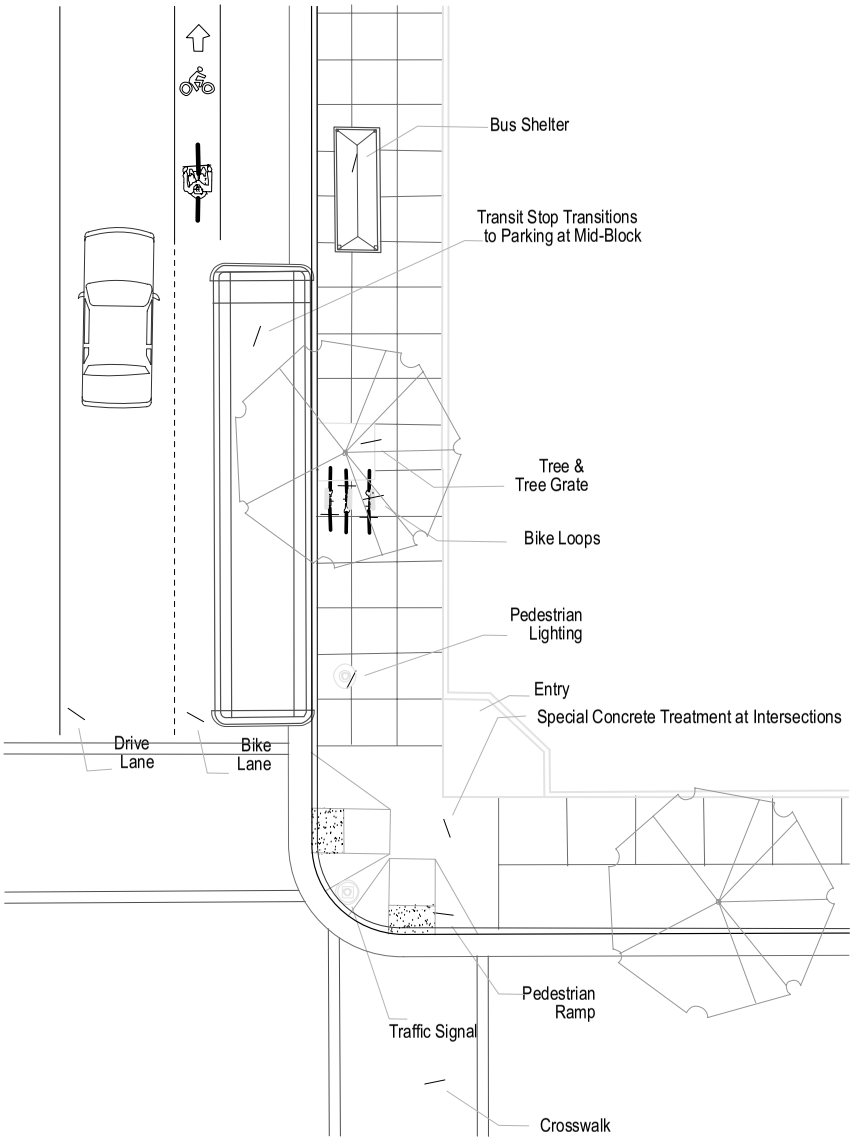
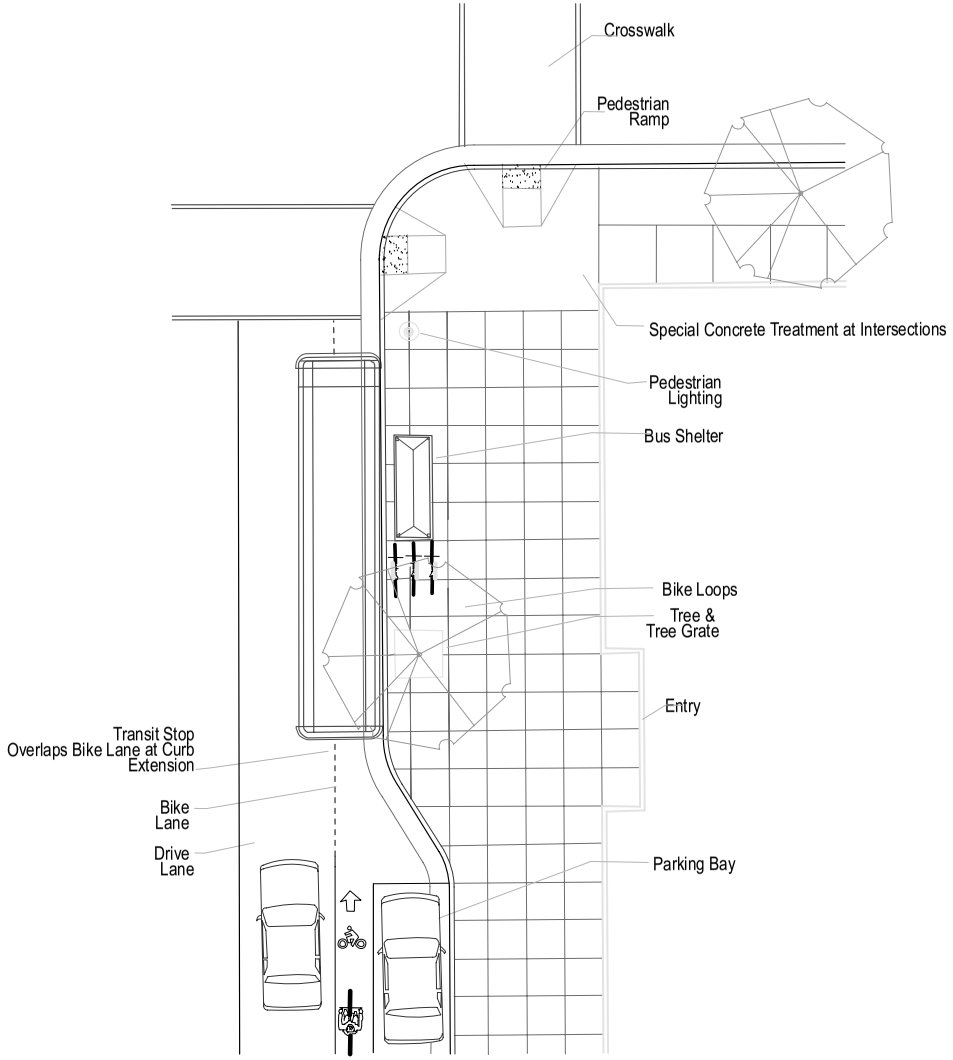


Figure 5.17 Typical Far Side Bus Stops

Transit Stop on Curb Extension



Transit Stop without Curb Extension

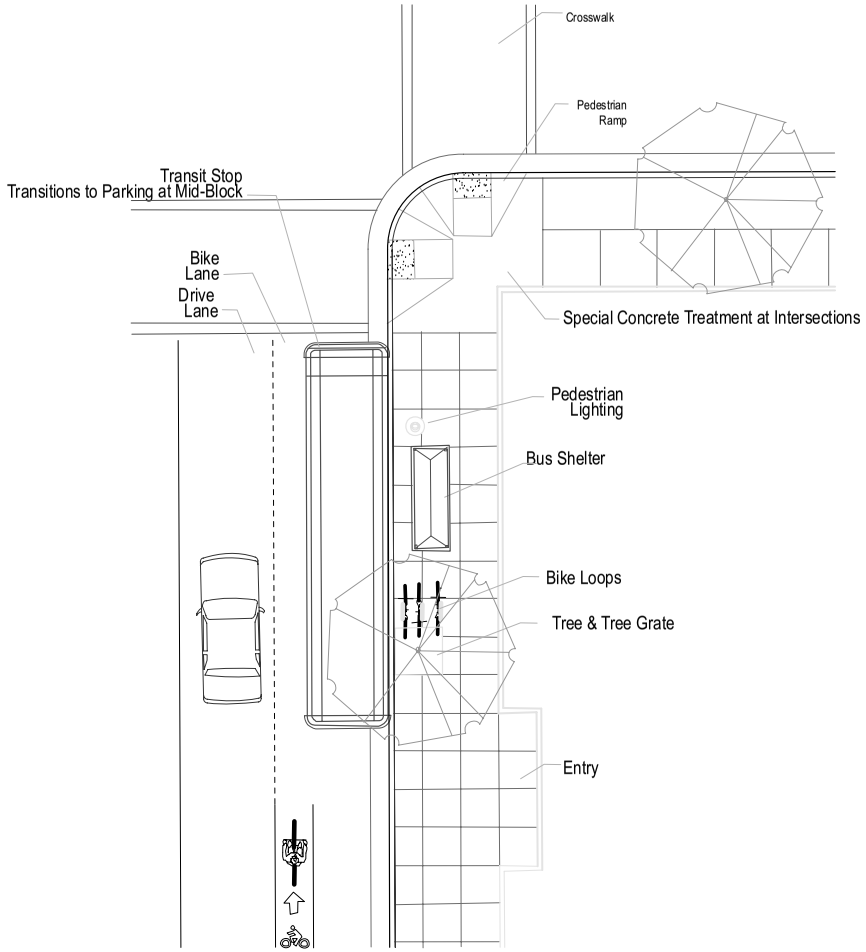


Figure 5.18 Typical Near Side Bus Stops

Figure 5-19 Comparative Evaluation of Bus Stop Locations

	Advantages	Disadvantages
Far-Side Stop	• Minimizes conflicts between right turning vehicles and buses • Provides additional right turn capacity by making curb lane available for traffic • Minimizes sight distance problems on approaches to intersection • Encourages pedestrians to cross behind the bus • Creates shorter deceleration distances for buses since the bus can use the intersection to decelerate • Results in bus operators being able to take advantage of the gaps in traffic flow that are created at signalized intersections	• May result in the intersections being blocked during peak periods by stopping buses • May obscure sight distance for crossing vehicles • May increase sight distance problems for crossing pedestrians • Can cause a bus to stop far side after stopping for a red light, which interferes with both bus operations and all other traffic • May increase number of rear-end accidents since drivers do not expect buses to stop again after stopping at a red light • Could result in traffic queued into intersection when a bus is stopped in travel lane • Snow removal less likely to be done and thus special attention and requirements needed to ensure that snow removal at bus stop is done promptly • Less likely to meet ADA requirements and thus special attention and requirements needed to ensure that ADA requirements are met
Near-side Stop	• Minimizes interferences when traffic is heavy on the far side of the intersection • Allows passengers to access buses closest to the crosswalk • Results in the width of the intersection being available for the operator to pull away from curb • Eliminates the potential of double stopping • Allows passengers to board and alight while the bus is stopped at a red light • Provides operator with the opportunity to look for oncoming traffic, including other buses with potential passengers	• Increases conflicts with right-turning vehicles • May result in stopped buses obscuring curbside traffic control devices and crossing pedestrians • May cause sight distance to be obscured for cross vehicles stopped to the right of the bus • May block the through lane during peak period with queuing buses • Increases sight distance problems for crossing pedestrians
Mid-block Stop	• Minimizes sight distance problems for vehicles and pedestrians • May result in passenger waiting areas experiencing less pedestrian congestion	• Requires additional distance for no-parking restrictions • Increases walking distances for patrons crossing at intersections • Increases distance passengers must walk to make transfer connections • Increases the likelihood of passengers crossing the street at mid-block locations (jaywalking)

Source: TCRP Report 19-B, Guidelines for the Location and Design of Bus Stops, Part B

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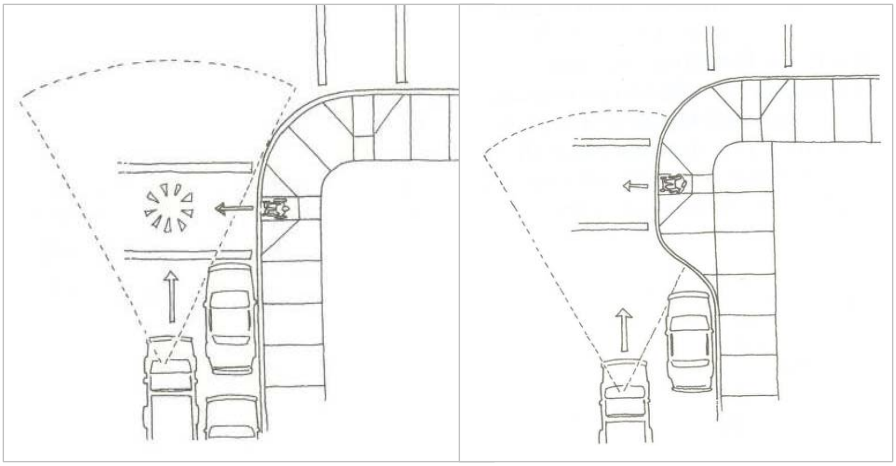
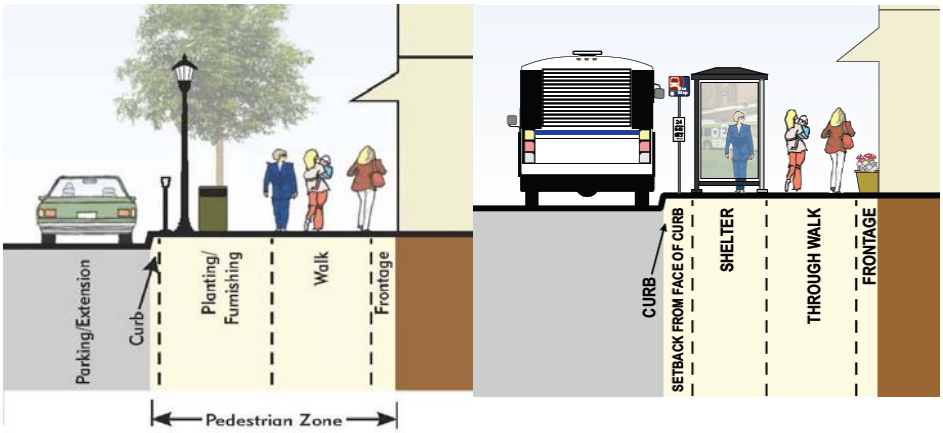
Chapter 10:
Pedestrian Facility Design

ACCESS MINNEAPOLIS
Design Guidelines for Streets & Sidewalks





October 26, 2009

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10 Pedestrian Facility Design

10.0 INTRODUCTION

10.0.1 Principles for Pedestrian Facility Design

The following principles are the basis for the guidance in this document and should guide any improvements or modifications to pedestrian facilities.

- **The pedestrian system should be safe.** Streets, sidewalks, and walkways should be designed to minimize conflicts with motorized and non-motorized vehicle traffic, minimize tripping hazards and protruding objects, and promote a reality and perception of personal safety.
- **The pedestrian system should be accessible to all**. The pedestrian system should be designed for all pedestrians, including people with disabilities, seniors, and youth.
- **The pedestrian system should provide direct and convenient connections.** The pedestrian system should provide continuous and well-connected sidewalks and walkways and be designed in a manner that is responsive to pedestrians' desire to reach their destinations using the shortest and quickest route. This should be achieved by providing minimal delays and direct connections while ensuring safety for all users.
- **The pedestrian system should provide comfortable places to walk.** The pedestrian system should be designed and maintained to promote walking and include elements that create a comfortable walking environment, such as trees, pedestrian-scaled street lighting, buffers from traffic, trash receptacles, places to sit, and a pedestrian-scaled environment.
- **The pedestrian system should enhance the public realm of the City.** The pedestrian system should be designed not only to serve a transportation function, but also to provide public spaces that enhance community interaction, economic vitality, and the image of the City.
- **Pedestrian improvements should be cost-effective and financially sustainable.** Pedestrian improvements should be designed and funded to maximize the benefits of the improvements relative to the cost to build and to maintain the improvements.

10.0.2 Background/Purpose

The intent of the Pedestrian Facility Design Guide (Guide) is to establish guidelines by which the City of Minneapolis will design infrastructure improvements and carry out policies as they relate to pedestrian facilities within City rights-of-way. The Guide was developed as part of the *Minneapolis Pedestrian Master Plan* and is intended to be Chapter 10 of the City's *Design Guidelines for Streets and Sidewalks* developed originally as part of the Access Minneapolis Ten Year Transportation Action Plan (http://www.ci.minneapolis.mn.us/public-works/trans-plan/DesignGuidelines.asp).

The Guide is intended to supersede or supplement the following sections of the *Design Guidelines for Streets and Sidewalks* dated 2/22/08 as indicated below:

- Supersede section 5.1.3 (Pedestrian Zone)
- Supersede section 5.4 (Pedestrian Zone)
- Supersede section 5.8.5 (Crosswalks)
- Supplement section 5.5 (Curb Extensions)

- Supplement section 5.7 (Utilities)
- Supplement section 5.8.1 (Curb Return or Corner Radii)
- Supplement section 5.9.3 (Design of Transit Shelter/Bus Stop Area and Landing Pads)

The Guide is structured to begin at a broad level, first discussing the overall pedestrian system, then becoming more specific as it addresses sidewalk, street corner, and street crossing designs. The last part of the Guide presents elements of the pedestrian system that are not specific to street right-of-way design, such as off-street paths, wayfinding, and site planning.

10.0.3 Relationship to Accessibility Standards

The Americans with Disabilities Act (ADA) of 1990 is a civil rights statute that prohibits discrimination against people with disabilities, and Title II of the ADA applies to the design and construction of pedestrian facilities in the public right-of-way. The current ADA design standard is contained in the ADA Accessibility Guidelines (ADAAG), which were principally developed for buildings and site work that are not directly applicable to sidewalks, street crossings, and related pedestrian facilities in the public right-of-way. The US Access Board has since developed draft Proposed Rights-of-Way Accessibility Guidelines (PROWAG)[1] that provide more specific guidance for the design of pedestrian facilities in the public right-of-way. The PROWAG guidelines are expected to become the new ADA standard and supersede ADAAG once they are adopted by the US Department of Justice and Department of Transportation. In the interim, the Federal Highway Administration has identified the PROWAG guidelines as the current best practice.[2]

This Guide includes much of the guidance from the draft PROWAG guidelines. The *pedestrian access route*, as defined in PROWAG guidelines, is defined as the *Through Walk Zone* in the Pedestrian Design Guide. The Guide is not intended to replace design standards, and design standards will need to be updated to reflect the PROWAG guidance once the PROWAG becomes the new ADA standard.

10.0.4 Relationship to Roadway Design Guidelines

The design of facilities for motor vehicles has a direct impact on the design of pedestrian facilities in a given street corridor. Pedestrian safety, accessibility, mobility, and comfort are enhanced by:

- Slower traffic speeds
- Fewer traffic lanes
- Narrower traffic lanes
- Shorter street crossings
- Clear visibility between pedestrians and vehicles at intersections
- A buffer from traffic provided by wider sidewalks, curbside bike lanes and on-street parking
- Tighter corner radii
- Space in the sidewalk corridor for trees, planted boulevards, transit shelters, and other street furniture

[1] November 23, 2005 draft PROWAG: http://www.access-board.gov/prowac/draft.htm

[2] January 2006FHWA Memorandum: http://www.fhwa.dot.gov/environment/bikeped/prwaa.htm

However, pedestrian needs are often compromised by competing demands for right-of-way space for vehicle movement, transit stops, loading zones, and on-street parking and other curbside uses. The following sections of the *Design Guidelines for Streets and Sidewalks* provide guidance regarding roadway designs while also considering pedestrian needs:

- **Section 2: Framework for Urban Street Design** - includes a street design typology and associated maximum number of desired through lanes for different street types. Following these guidelines will help achieve a better balance among the various transportation modes.
- **Section 3: The Design Process** - includes guidance on determining modal needs and priorities, forecasting traffic volumes and options for intersection treatments and traffic management.
- **Section 4: Design Controls** - addresses the appropriate design speed and design vehicle for different street types, which has a direct impact on speed, roadway width, and corner design, which in turn impacts pedestrian safety and comfort.
- **Section 5.3: Design Guidance for Lane Widths** - addresses appropriate lane widths for different street types, traffic volumes, and modal priorities, all of which must be balanced with pedestrian needs.
- **Section 5.8: Design Guidance for Intersections –** addresses curb return radii, right turn lanes and bike lanes at intersections. Intersections are high risk areas for pedestrians and shall be designed with pedestrian needs in mind.

In addition, the design of streets for bicyclists has benefits for pedestrians. On-street bicycle lanes encourage bicyclists to ride in the streets, thereby reducing potential bicycle-pedestrian conflicts on sidewalks. Curbside bicycle lanes also help to buffer pedestrians from motor vehicle traffic. Chapter 11 of the *Design Guidelines for Streets and Sidewalks* addresses bikeway design.

10.1 PEDESTRIAN NETWORK

Sidewalks are fundamental pedestrian facilities. Sidewalks enable pedestrians to access properties, parks, transit, businesses and employment. They also provide safety from traffic. A high level of connectivity is necessary for an efficient pedestrian network. While Minneapolis has an extensive pedestrian network with sidewalks on over 90% of streets, gaps remain in some locations.

10.1.1 New Sidewalk Construction

Gaps within the current network should be completed as part of public and private construction improvements. Sidewalks are particularly important along non-local streets where higher traffic volumes are likely, where there are existing "cow-paths," and where there are gaps in otherwise contiguous sidewalks.

10.1.1.1 New Street Construction

All new street construction should include sidewalks on both sides, including private streets.

10.1.1.2 Reconstruction and Renovation of Existing Streets

Reconstruction and renovation of existing streets should include construction of sidewalks on both sides where sidewalks do not exist.

10.1.1.3 Infill Development

Infill development should include construction of a continuous sidewalk system adjacent to the development and connecting to the existing sidewalk system. This may require sidewalk construction beyond the property frontage or on an adjacent block.

10.1.1.4 Exceptions

Generally, sidewalks are needed on both sides of all streets. Streets that may require sidewalks on only one side of the street include:

- A street adjacent to a freeway with non-transportation land uses on only one side.
- A street with severe topographic constraints or mature landscaping. These are locations where the provision of a sidewalk would result in building large retaining walls or removing mature trees.

In all cases, streets with sidewalks on one side of the street shall have safe street crossings to allow pedestrians to access the sidewalks on the continuous side of the street. Cul-de-sacs and diverted streets should maintain sidewalk connections.

10.1.2 Street and Walkway Grid

The Minneapolis historic street grid provides a high level of connectivity for walking trips. However, there are some gaps in the street grid system, such as those created by historic railroad development, freeway construction, big box retail, and megastructures. These gaps increase walking distances and reduce the convenience of walking.

10.1.2.1 Street Vacations

The connectivity of current and future pedestrian networks should be maintained or improved in every street and right-of-way vacation request. Otherwise, street vacations may result in large block sizes and increased travel distances, which are particularly problematic for walking.

10.1.2.2 New Streets

Sidewalks are to be provided along all new streets to improve connectivity and facilitate pedestrian-oriented development. New streets are particularly effective when designed to typical Minneapolis block dimensions, or smaller.

10.1.2.3 Walkways and Trails

Where blocks are longer than typical blocks in the surrounding area, creation of off-street pedestrian walkways or multi-use bicycle and pedestrian trails through the block, providing logical connections to other sidewalks and destinations, is encouraged and should be provided where feasible.

10.2 PEDESTRIAN ZONE DESIGN

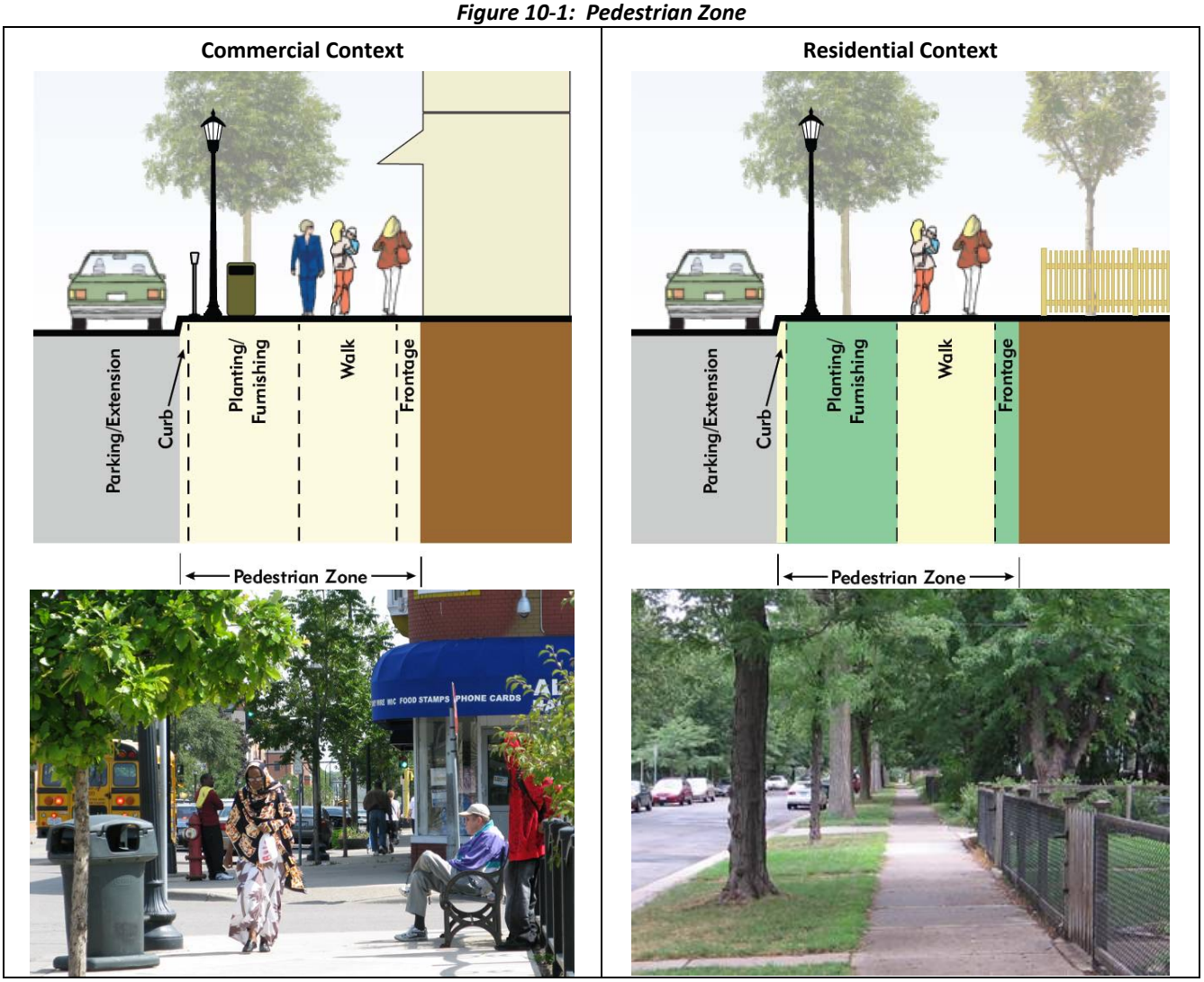
The pedestrian zone – the space between the curb and the property line – plays an important role in providing: safe and efficient movement of pedestrians of all abilities and disabilities; access to properties, on-street parking, and transit; necessary space for above ground street utilities, traffic control, trees and street furniture; and space for sidewalk cafés, street vendors and other active uses.

10.2.1 Pedestrian Zone Organization

The pedestrian zone should be organized into four distinct subzones that maintain an accessible walking path and organize the placement of elements. The four subzones are the Curb Zone, the Planting/Furnishing Zone, the Through Walk Zone, and the Frontage Zone (see Figure 10-1).

The following guidelines are intended for use in street reconstruction or large-scale redevelopment projects when it is feasible to alter curb lines; considerations for constrained conditions on existing narrow sidewalk corridors are addressed in section 10.2.4. Considerations for bridges are addressed in section 10.2.9, and considerations for transit stops are addressed in section 10.4.

Figure 10-1: Pedestrian Zone



10.2.1.1 Frontage Zone

Use: The Frontage Zone is the space at the edge of the walkway adjacent to the property line. It reflects the varying level of activity associated with property frontage and is wider where people are likely to window shop or activities such as sidewalk cafes are allowed. It also reflects the tendency of people to shy away from walls above waist height. The Frontage Zone may also be used as a secondary area for plantings, street furniture and social activities.

Width: 1.5 feet recommended minimum, 1.0 foot acceptable minimum (see Figure 10-7).

Special Considerations: People tend to shy away from a building, wall, fence, steps or railing by at least 1 foot. In constrained conditions away from major pedestrian generators or where there are wide building setbacks, this distance may be decreased. In activity centers and neighborhood commercial nodes, this width should be increased to allow for café tables, seating, benches, planting, and other amenities, as well as higher volumes of retail-related pedestrian activity.

10.2.1.2 Through Walk Zone

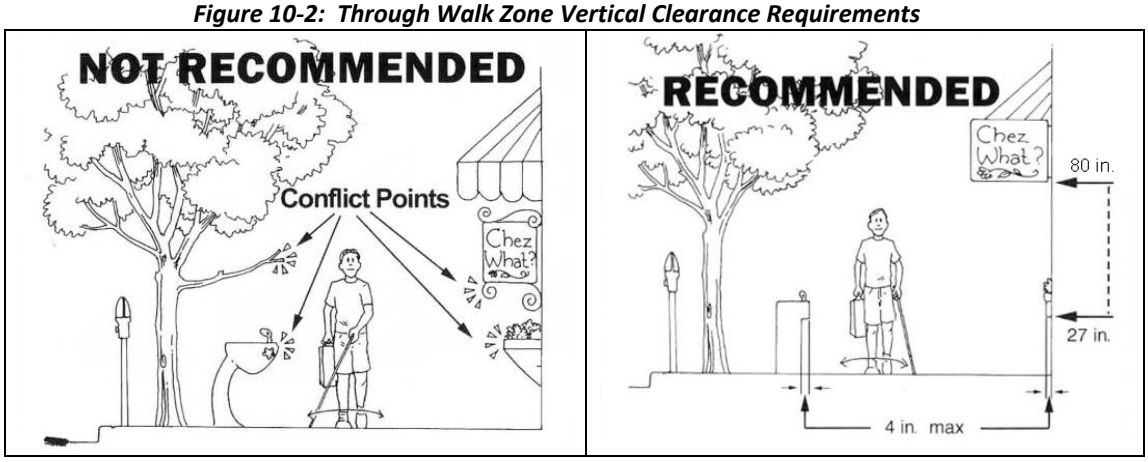
Use: The Through Walk Zone contains the basic sidewalk width or clear area for pedestrian travel and is sized to provide for two directions of pedestrian travel. The Through Walk Zone should have a safe and accessible walking surface and be free of vertical obstructions and protruding objects.

Width: 6.0 feet recommended minimum, 5.0 feet acceptable minimum (see Figure 10-7).

Special considerations:

- 5 feet is the necessary width for two wheelchairs to pass each other.
- 6 feet is the necessary width for two wheelchairs or two people pushing strollers to walk side by side comfortably.
- If 5 feet is used, the Frontage Zone should be clear of steps, fencing, and railings that may impede pedestrian movement.
- For downtown and activity centers, the preferred width may need to be greater than 6 feet.
- Wall- or post-mounted objects placed between 27 and 80 inches above the walking surface may not extend more than 4 inches horizontally to prevent hazards for people with vision impairments (see Figure 10-2).
- Through Walk Zone surfaces should be designed as explained in section 10.2.7 Sidewalk Surface Design.

Figure 10-2: Through Walk Zone Vertical Clearance Requirements



Source: Designing Sidewalks and Trails for Access, Part II, FHWA, 2001.

10.2.1.3 Planting/Furnishing Zone

Use: The Planting/Furnishing Zone contains trees, signs, street lights, utility boxes, planted boulevards, landscaping, planters, bus shelters, bicycle parking and other furniture.

Width: 5.5 feet or more, depending on street type (see Figure 10-7).

Special Considerations:

- The Planting/Furnishing Zone may be extended into the parking lane by the use of curb extensions to provide additional space for trees, pedestrian ramps, bus shelters, bicycle parking, waiting areas, street furniture, or other needs. See section 10.3.5 for more information on curb extensions.
- Bus shelters have significant space requirements; see section 10.4 for more detailed guidance.
- Trees benefit from as much space as possible, as described in Chapter 9. The minimum width required for tree planting is 4 feet; yet this is not desirable for long term tree health and vitality. In constrained conditions, structural soils or other approved structural approach can be used to expand the planting zone underneath the Through Walk Zone.
- For downtown and activity centers, the preferred width may need to be greater.
- *See Chapter 9 of the Design Guidelines for Streets and Sidewalks for additional street tree and boulevard guidelines.*

10.2.1.4 Curb Zone

Use: The Curb Zone is comprised of the top of curb adjacent to the sidewalk. The curb is used primarily for drainage and to discourage motorists from driving onto the Pedestrian Zone.

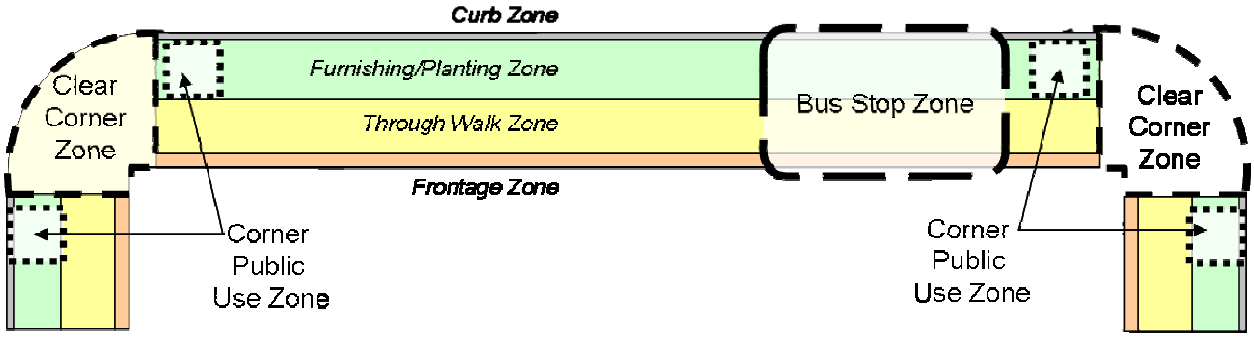
Width: A minimum of 0.5 feet, the width of the top of the curb, will be hard surface.

Special consideration: The top of curb in Minneapolis is typically 6-inches wide from face of curb, made of concrete, and is integrally poured with the gutter. The top of curb is flush with the adjacent use. Fatback curbs used in downtown and along parkways are typically 1.0 feet wide from the face of the curb.

10.2.2 Specialty Zones

In addition to the four primary subzones within the Pedestrian Zone, there are three additional specialty subzones that overlap the Pedestrian Zone, as shown in Figure 10-3: the Clear Corner Zone, the Corner Public Use Zone, and the Bus Stop Zone.

Figure 10-3: Specialty Zones



10.2.2.1 Clear Corner Zone

Use: The Clear Corner Zone is an obstruction-free space between the curb and the lines created by extending the inside sidewalk line to the curb face. Priority use of the Clear Corner Zone shall be for accessible curb ramps and pedestrian call buttons at actuated signals. All other uses should be placed outside of the Clear Corner Zone in the Corner Public Use Zone or Planting/Furnishing Zone.

Size: Size varies, measured by the extension of the inside edge of the sidewalk to the face of curb

Special Considerations:

- There are many existing conditions with vertical elements such as signal poles, street lights, utility poles, and fire hydrants in the Clear Corner Zone. As streets and sidewalks are reconstructed, utilities and traffic control equipment currently located within the Clear Corner Zone should be relocated to the Corner Public Use Zone.
- Surface-level elements such as manhole covers, utility vault covers or signal handholes should be kept out of the Clear Corner Zone to the greatest extent possible. If surface-level elements must remain in the Clear Corner Zone, they must accommodate two accessible curb ramps.
- In narrow Pedestrian Zone corridors, it may be necessary to extend the Clear Corner Zone around the corner beyond the extension of the inside sidewalk lines to the end of radius in order to fit two accessible curb ramps.
- In residential areas with a wide Pedestrian Zone, particularly those with a tight corner radius, it may be possible to plant a boulevard garden in the corner between curb ramps and still fit two accessible curb ramps.

10.2.2.2 Corner Public Use Zone

Use: The Corner Public Use Zone is the portion of the Planting/Furnishing Zone immediately adjacent to the Clear Corner Zone designated for public utilities and traffic control devices, including fire hydrants, traffic signals, street lights, and service cabinets. This space may not be used for street furniture or private temporary uses such as sidewalk cafes, newspaper vending machines, or street vendors.

Size: Size varies, depending upon the size and number of public uses

Special Considerations:

- Service cabinets should be placed in the Corner Public Use Zone opposite bus stops, in order to maintain as clear a Bus Stop Zone as possible.
- At bus stops, it may be necessary to place a trash receptacle in the Corner Public Use Zone in order to maintain clear access to the front and back doors of the bus and in order to service the trash receptacle automatically by a truck. (See section 10.4.4.1)

10.2.2.3 Bus Stop Zone

The Bus Stop Zone is the area behind the curb which provides access to buses, waiting space and facilities for bus passengers, as well as through walk access. The Bus Stop Zone is described in more detail in section 10.4.

10.2.3 Pedestrian Zone Width by Street Design Type

The recommended and minimum pedestrian zone dimensions vary by street type, as shown in Figure 10-7. ***On all street types, the minimum acceptable pedestrian zone width for street reconstruction is 12 feet.*** In general, street types that will have high pedestrian traffic, such as activity centers,

neighborhood commercial nodes, and commercial and community corridors should have wider pedestrian zones. See Section 2.2 for more information on street types. Recommended and minimum pedestrian zone dimensions for bridges are addressed in section 10.2.9 and for transit stops are addressed in section 10.4.

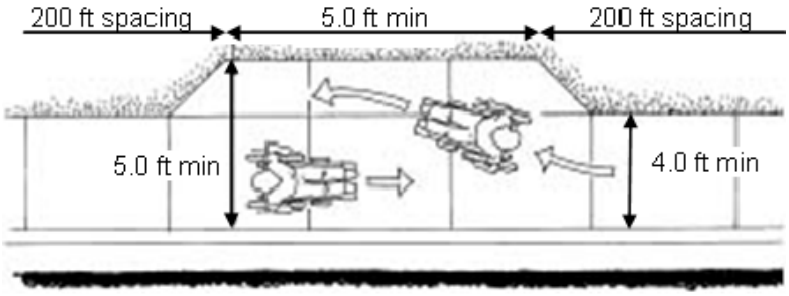
10.2.4 Solutions for Existing Constrained Conditions

The acceptable minimum width in a street reconstruction project for the pedestrian zone is 12 feet from face of curb to property line. However, throughout the city many existing pedestrian zones are narrower, ranging from 8 feet to 10 feet wide and in some circumstances even as narrow as 5-6 feet. When there are opportunities to reconstruct these constrained pedestrian zones, such as with street reconstruction projects or major redevelopment opportunities, these pedestrian zones should be widened to the dimensions shown in Section 10.2.1 and Figure 10-7.

Where existing pedestrian zone widths are less than 12 feet wide, and street reconstruction is not planned, the pedestrian zone width and placement of elements should meet the following criteria (in order of priority):

1. Provide an accessible Through Walk Zone of at least 5 feet continuous or 4 feet continuous with a 5 x 5 foot passing zone every 200 feet (see Figure 10-4).
2. Accommodate expected levels of pedestrian activity.
3. Provide necessary buffering between the active area of the sidewalk and adjacent traffic lanes.
4. Integrate trees, street furniture, and other desired elements into the right-of-way or adjacent properties, as feasible.

Figure 10-4: Minimum Accessible Passing Zone Intervals

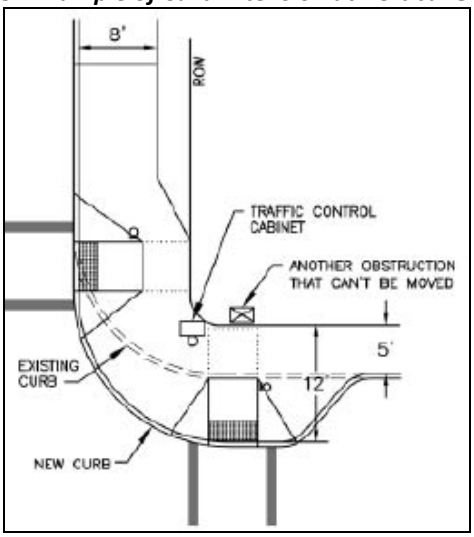


Source: Designing Sidewalks and Trails for Access, Part II, FHWA, 2001.

Potential retrofit solutions for constrained conditions include (in order of priority):

1. **Curb Extensions** – In constrained conditions, curb extensions can be used to create additional space for street trees, street furniture, transit stops at corners or mid-block or to create a bypass around an obstruction as shown in Figure 10-5. See section for additional information.
2. **Relocate Obstacles** - Obstructions in the Through Walk Zone may be moved. As situations allow, this can be achieved by relocating utilities, moving signs, etc.
3. **Create a Bypass around Obstructions** - When obstacles cannot be relocated or removed, a bypass around obstructions could be created, as shown in Figure 10-6.

Figure 10-5: Example of Curb Extension at Vertical Obstruction



Source: Accessible Public Rights-of-Way: Planning and Designing for Alterations, ITE, July 2007

Figure 10-6: Example of a Bypass at Vertical Obstruction

Source: Accessible Public Rights-of-Way: Planning and Designing for Alterations, ITE, July 2007

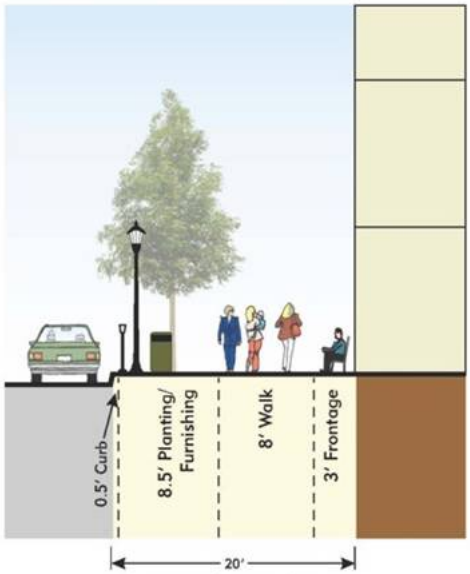
Narrow, curb-attached sidewalks that are less than 8 feet wide present significant challenges, including:

- Insufficient space for the required landing pad for accessible bus stops (see section 10.4).
- Insufficient space for bus shelters.
- Need for special design of driveway sidewalk crossings in order to maintain an accessible sidewalk.
- Difficult conditions for proper snow clearance, due to lack of planting/furnishing zone for snow storage.
- Need to place utility poles and other physical obstructions closer to the roadway than is recommended in order to maintain a required 4 foot Through Walk Zone (with a passing space 5x5 feet every 200 feet).

Figure 10-7: Pedestrian Zone Dimensions by Street Design Type

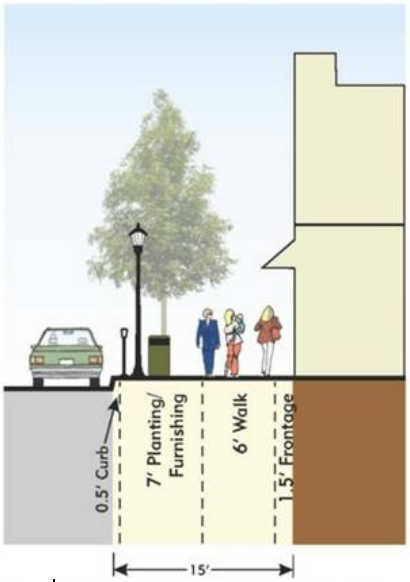
Commercial or Mixed Use Land Use

Activity Center Street Type with High Pedestrian Priority*



Minimum Width	Curb	Planting/ Furnishing	Through Walk	Frontage	Total
Recommended	0.5	8.5	8.0	3.0	**20.0**
Acceptable	0.5	7.0	6.0	1.5	**15.0**

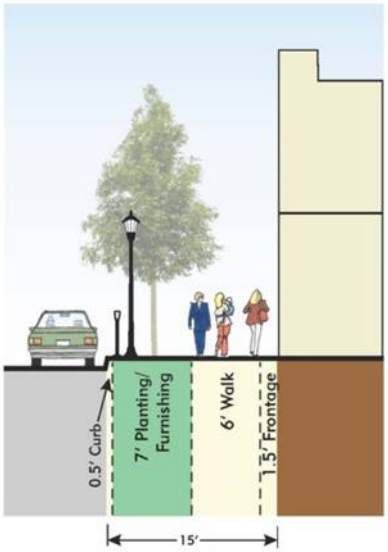
All Non-Local Street Types



Minimum Width	Curb	Planting/ Furnishing	Through Walk	Frontage	Total
Recommended	0.5	7.0	6.0	1.5	**15.0**
Acceptable	0.5	5.5	5.0	1.0	**12.0**

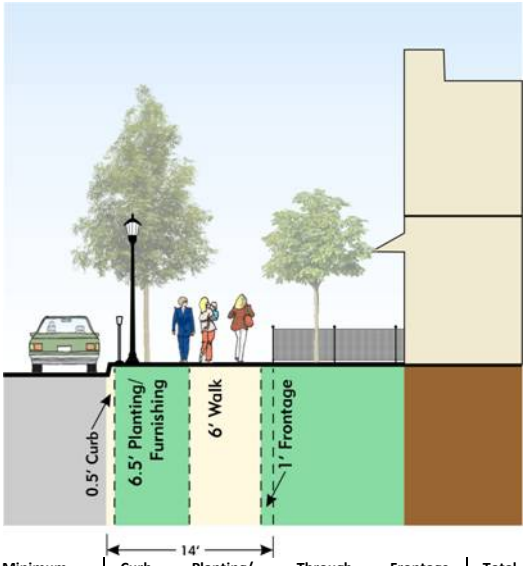
Residential Land Use

All Non-Local Street Types



Minimum Width	Curb	Planting/ Furnishing	Through Walk	Frontage	Total
Recommended	0.5	7.0	6.0	1.5	**15.0**
Acceptable	0.5	5.5	5.0	1.0	**12.0**

Local Street



Minimum Width	Curb	Planting/ Furnishing	Through Walk	Frontage	Total
Recommended	0.5	6.5	6.0	1.0	**14.0**
Acceptable	0.5	5.5	5.0	1.0**	**12.0**

Note: Recommended and minimum pedestrian zone dimensions for bridges are addressed in section 10.2.9 and for transit stops are addressed in section 10.4. See section 2.2 for more information about street design types.

* "Activity Center Street Type with High Pedestrian Priority" are typically streets such as Nicollet Mall or Hennepin Avenue in downtown or other activity centers that are priority pedestrian corridors.

** When a 12.0' Pedestrian Zone is used on local street types, it is desirable that both the Through Walk Zone and the Frontage Zone be constructed of concrete to provide a 6.0' wide sidewalk.

10.2.5 Placement of Elements in the Pedestrian Zone

There are many elements that typically need to be placed in the Pedestrian Zone, including utility poles, utility cabinets, traffic control, trees/landscaping, and street furnishings. These elements need to be organized in a manner that ensures pedestrian accessibility, accommodates the functional requirements for utilities and traffic control, promotes safety and visibility, and makes the most efficient use of the public-right-of-way for the many competing needs within the Pedestrian Zone. Guidance on the placement of various elements within the Pedestrian Zone is shown in Figure 10-8. Underground utilities should be placed in the street, with the exception of electrical conduit and irrigation.

Figure 10-8: Recommended Placement of Utilities and Street Furnishings in the Pedestrian Zone

Element "R" = recommended placement "A" = acceptable placement in constrained conditions	Primary Zones				Specialty Zones				Notes
							Bus Stop		
	Planting/Furnishing	Through Walk	Frontage	Private Property	Clear Corner	Corner Public Use	Front Door	Back Door	
Areaway Covers/ Grates	A	A	A	R			A	A	See section 10.2.7 re: surface design.
Benches	R		A	R					See section See section 10.4 re: bus stops.
Bicycle Lockers/Shelters	R			R					
Bicycle Racks	R		A	R					See chapter 11 re: bicycle facility design.
Bus Shelters	R		A	R					See section 10.4 re: bus stops.
Bus Stop Signs	R					R			18" from face of curb to edge of sign. See section 10.4 re: bus stops.
Fences and Railings				R					
Fire Hydrants	R					R			18" from face of curb to edge of hydrant. 5 ft clear zone recommended.
LRT Catenary Poles	R					R			
Mail Boxes	R		A	A					
Newspaper Boxes & Corrals	R		R	R					See City Ordinance Title 17, Ch 464.
Parking Meters	R								18" from face of curb to edge of meter.
Pedestrian Signal Push Buttons					A	R			See section 10.3.4 re: push button design.
Public Art	R			R					
Sandwich Sign Boards	R		R	R					
Signal Control Boxes	R		A			R			Placement beyond the curb return with sight lines to signals for maintenance. Maintain safe auto and pedestrian sight lines.
Signal Poles	R					R			2.5' from face of curb to centerline of pole.
Street light Service Cabinet	R		A			R			Placement beyond the curb return. Maintain safe auto and pedestrian sight lines.
Street Lights	R					R			2' from back of curb to centerline of pole. See section 7.
Street Signs						R			
Surface Covers (Manholes, Utility Vaults, Signal Hand Holes)	R	A	A		A	R	A	A	See section 10.2.7 re: surface design.
Trees and Landscaping	R		A	R					See chapter 9.
Traffic Signs	R					R			18" from face of curb to edge of sign.
Trash Receptacles	R		A	R		A			Placement depends upon collection method. See section 10.4.4.1.
Utility Poles	R		A	A		R			Frontage Zone or Alley ROW when utility lines are running perpendicular to the roadway
Wayfinding Kiosks	R		A	A					

10.2.6 Encroachments and Active Uses of the Pedestrian Zone

Active uses of the pedestrian zone such as sidewalk cafes and street vendors can substantially improve the walking environment; however, it is necessary to balance their placement with the need to maintain the Through Walk Zone, as well as access to other Pedestrian Zone elements, such as parking meters and bus stops. Similarly, other private elements placed in the Pedestrian Zone must be appropriately placed. This balance is achieved by requiring permits, which allow private activities in the public right-of-way, ensure health and safety standards, and provide the City with a process to review and regulate encroachments. See *Minneapolis City Code of Ordinances, Title 5 Building Code, Chapter 95 Projections and Encroachments*.

10.2.6.1 Stairs/Ramps/Doors

Impacts to the pedestrian right-of-way from private entryways should be limited to the Frontage Zone. One method to mitigate the potential impacts from new development is by recessing entryways. During sidewalk reconstruction, the new sidewalk, while following ADA standards, should be constructed to avoid conflict between opening doors and the sidewalk surface. Stairways, including railings, should be designed as to not extend into the Through Walk Zone.

10.2.6.2 Commercial Signs

Commercial signs extending over public right-of-way should be hung so that there is at least 8 feet of clearance above the sidewalk. Signs should not extend more than 6 inches from the exterior wall. Signs projecting over public alleys should allow 15 feet of clearance above the alley.

Sandwich boards should be placed in the Planting/Furnishing Zone or Frontage Zone to avoid encroaching upon the Through Walk Zone.

See *Minneapolis City Code of Ordinances, Title 5 Building Code, Chapter 109 Signs and Billboards* and *Title 20 Zoning Code, Chapter 543 On-Premise Signs, Chapter 544 Off-Premise Advertising and Billboards, and Chapter 95 Projections and Encroachments.*.

10.2.6.3 Sidewalk Cafes

The City's Sidewalk Café regulations require that sidewalk cafes be designed and operated as follows:

- For sidewalks 12 feet or narrower: A minimum of 4 feet of clear, unobstructed Through Walk Zone must be maintained between all obstructions and the edge of sidewalk cafés when the existing sidewalk is 12 feet or less. The Through Walk Zone must widen to 6 feet for a minimum of 6 feet every 30 feet to provide ample room for two or more wheelchairs, strollers, or pedestrians to pass. When two neighboring cafes fall within the 30 foot zone, both will equally share the 6 foot zone.
- For sidewalks wider than 12 feet: A minimum of 6 feet of clear, unobstructed Through Walk Zone must be maintained between all obstructions and the edge of sidewalk cafés.
- Tables and heating elements must be aligned as straight as possible.
- Cafes must be in a physically delineated area, either marked by structural devices such as planters or stanchions or with painted markings on the sidewalk.
- Wait staff are not allowed to block the pedestrian walkway when taking or delivery orders.
- Sidewalk cafes may not be located within 10 feet of a designated bus stop, taxi stand, traffic signal, crosswalk, pedestrian curb cut or active loading zone.

- A minimum vertical height of 6'6" must be maintained between the sidewalk and the lowest edge of table umbrellas or awnings if the umbrella or awning extends over the edge of the café boundary.

In addition to these standards, the following guidelines are recommended:

- The Through Walk Zone widths recommended in section 10.2.1 and Figure 10-7 are wider than the existing sidewalk café regulations. These wider widths should be used when possible, particularly in activity centers and other locations with high pedestrian activity.
- A straight and continuous Through Walk Zone from one end of the block to the other should be maintained to the greatest extent possible.
- Fencing around sidewalk cafes should be in compliance with PROWAG guidelines (R302.4) and MUTCD standards. Fences should be continuous, stable and rigid. A continuous edge should be provided no more than 6 inches from the ground, and an upper rail should be provided at a minimum of 3 feet above the ground. Support members should not protrude into the Through Walk Zone.
- The placement of sidewalk cafes must be managed. Sidewalk cafes are mobile objects and may encroach upon the Through Walk Zone if not properly managed. The City's Regulatory Services Department enforces the sidewalk café ordinance.

See *Minneapolis City Code of Ordinances, Title 13 Licenses and Business Regulations, Chapter265. Special Permits for Specific Businesses and Uses, Article VII Sidewalk Cafes*.

10.2.6.4 Street Vendors

Street vendors, such as those on Nicollet Mall add to the liveliness of the street. Street vendors should be allowed in activity centers, neighborhood commercial nodes, and community and commercial corridors wherever the width of the Pedestrian Zone allows. Vending should take place in the Planting/Furnishing Zone and not encroach upon the Through Walk Zone. A minimum of four feet of clear unobstructed pedestrian Through Walk Zone must be provided around street vendor stands, and the recommended widths recommended in section 10.2.1 and Figure 10-7 should be used when possible, particularly in activity centers.

See *Minneapolis City Code of Ordinances, Title 13 Licenses and Business Regulations, Chapter 323 Peddlers and Chapter 331 Sidewalk Flower Cart Vendors.*

10.2.7 Sidewalk Surface Design

The Through Walk Zone should provide a safe and accessible surface for walking, rolling wheelchairs, and people using walkers, crutches and walking canes. Sidewalks should be level, firm, stable and slip resistant and avoid excessive vibrations for wheelchair users.

10.2.7.1 Material and Surface Finish

The standard sidewalk material in Minneapolis is concrete pavement. This material is used on the majority of sidewalks in Minneapolis, and typical sidewalk panel sizes are approximately 6 x 6 feet. In some cases, however, it may be desirable to enhance the streetscape by using enhanced paving materials such as scored sidewalks, pavers, colored concrete, stone or other approved paving material.

Enhanced paving materials often have more frequently-spaced joints that can create uncomfortable or painful vibrations for wheelchair users if pavers are not properly constructed or maintained. PROWAG advises:

> Surfaces with individual units laid out of plane and those that are heavily textured, rough, or chamfered, will greatly increase rolling resistance and will subject pedestrians who use wheelchairs, scooters, and rolling walkers to the stressful (and often painful) effects of vibration. It is highly desirable to minimize surface discontinuities; when discontinuities on the pedestrian access route are unavoidable, they should be widely separated. (PROWAG R301.5)

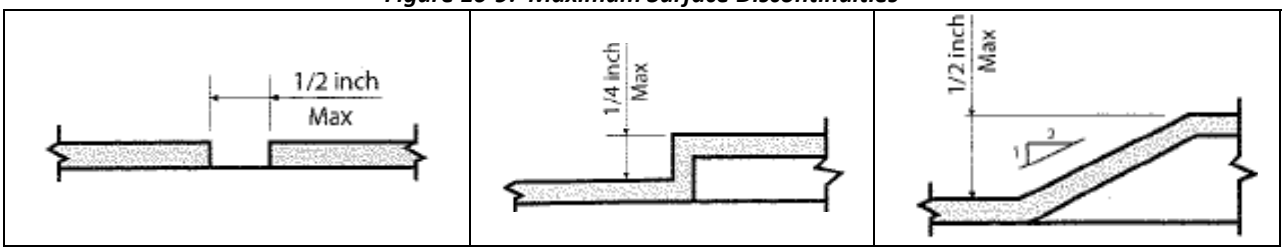
Therefore, when selecting a design and material for sidewalk surfaces, the following must be considered:

- **Surface Discontinuities** – Surface discontinuities may not exceed ½ inch maximum (openings should not permit the passage of a ½ inch sphere), and vertical discontinuities between ¼ and ½ inch maximum must be beveled at 1:2 minimum (PROWAG R301.5), as shown in Figure 10-9.
- **Mn/DOT Construction Specifications** - Mn/DOT standard specifications require that joints between panels be formed with a ¼ inch rounding tool and that sidewalk surfaces be constructed with a maximum 3/16 inch variation in surface over a 10 foot plane.
- **Panel/Paver Size** – The more frequently-spaced the joints between paver units or sidewalk panels, the more opportunities there are for excessive surface discontinuities to be present at the time of construction or to develop over time. Larger panel sizes generally ensure a more comfortable and accessible surface for all pedestrians. Smaller decorative pavers that add architectural detail may be placed at the edges of the Through Walk Zone, thereby minimizing potential excessive vibrations for wheelchair users, while also improving the aesthetic design as shown in Figure 10-10.
- **Material -** Material must be slip-resistant and durable and resistant to chipping, breakage, deterioration, or corrosion resulting from snow removal equipment and solvents. Some stone pavers are more slippery in wet or icy conditions than concrete.
- **Cost -** Special paving materials generally have higher initial costs, as well as long-term maintenance costs.
- **Decorative Scoring** – Concrete sidewalks may be enhanced with a decorative design by scoring smaller panel sizes and finishing the edge of each panel with a smooth border instead of a continuous broom finish (see Figure 10-10). Decorative scoring must be carefully constructed to minimize the surface discontinuities not only between scored sidewalk panels, but also between the smoothed border and broom finish within each panel.
- **Stamped and Etched Designs** – Concrete sidewalks may also be stamped or etched with designs, as shown in Figure 10-11. As with decorative scoring, stamped and etched designs must be carefully designed and constructed to minimize surface discontinuities. Stamped and etched designs are typically placed on only a few sidewalks panels per block, which helps to minimize surface discontinuities.

See *Special Provisions for the Construction of Concrete Sidewalks, Curb and Gutter, Alleys and Drive Approaches* for design standards.

See also Section 10.5.3.5 Textured and Colored Pavement Crosswalks.

Figure 10-9: Maximum Surface Discontinuities



Source: NvDOT Field Guide for Accessible Public Rights of Way

Figure 10-10: Decorative Sidewalk Scoring and Pavers in the Planting/Furnishing Zone

Location: Marquette Avenue S

Figure 10-11: Stamped Sidewalk Design

Location: Franklin Avenue

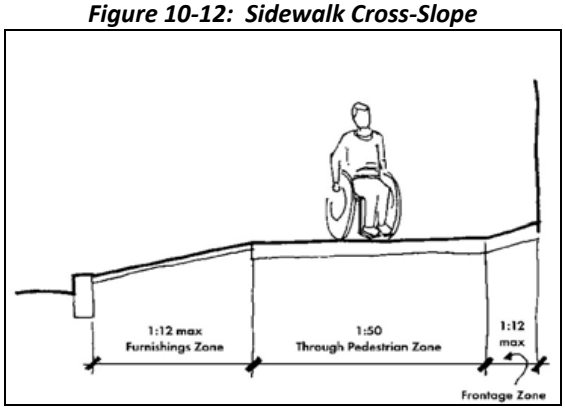
10.2.7.2 Sidewalk Grade and Cross-Slope

Sidewalk running grade should be no greater than 5% unless the public sidewalk is following a public street with a running grade greater than 5%. Sidewalks should slope towards the curb to allow for stormwater drainage. The cross slope on the Through Walk Zone should be no greater than 2%.

To achieve an acceptable cross-slope in locations with exceptional topographic conditions, the Planting/Furnishing Zone and Frontage Zone may have a steeper cross-slope as long as the 2% cross-slope is maintained for the minimum Through Walk Zone width, as shown in Figure 10-12. Allow enough space for the opening of parked car doors. The exception to this design is at transit stops, which require a level loading area (see section 10.4.2.1).

See *Special Provisions for the Construction of Concrete Sidewalks, Curb and Gutter, Alleys and Drive Approaches* for more City standards.

Figure 10-12: Sidewalk Cross-Slope



Source: Santa Barbara Pedestrian Master Plan

10.2.7.3 Grates

Areaway ventilation grates, tree grates, and other types of grates which serve as a walkable surface within the Pedestrian Zone should be designed as follows:

- Openings should not allow the passage of a ½ inch sphere; and
- Openings should be oriented so that the long dimension is perpendicular or diagonal to the dominant direction of travel.

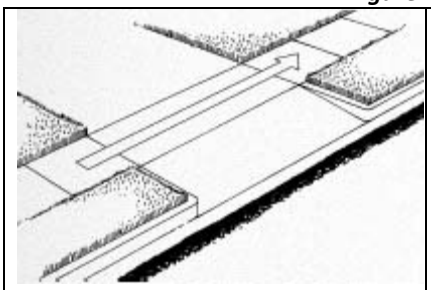
10.2.8 Driveway, Alley, & Railroad Crossings of Sidewalks

Driveway and alley entrances and railroad crossings expose pedestrians to potential hazards.

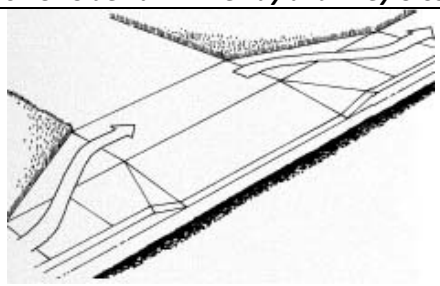
10.2.8.1 Driveways and Alleys

- **Sidewalk Width and Grade** - The width and grade of the Through Walk Zone should continue across driveways and alleys as shown in Figure 10-13, consistent with the recommended widths in section 10.2.1.2 (6 feet recommended, 5 feet acceptable). Driveways over the Through Walk Zone of sidewalks may not exceed a 2 percent cross slope. The ramp portion of a driveway entrance should be located within the Curb and Planting/Furnishing Zone wherever possible. The grade of driveway entrances in the Curb and Planting/Furnishing Zone may not exceed a 12 percent grade. In existing constrained conditions, the Through Walk Zone width may be reduced to 4 feet, and the sidewalk may be jogged back, as shown in Figure 10-13. The slope of driveways for the first 20' behind the public right-of-way should not exceed 4 percent.

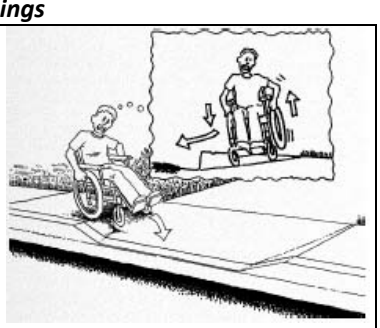
Figure 10-13: Sidewalk Driveway and Alley Crossings



DESIRABLE: Through Walk Zone maintained across driveway.



ACCEPTABLE: Jogged sidewalk. Note that Minneapolis standard curb design uses returned, not flared edges, as shown in this image.

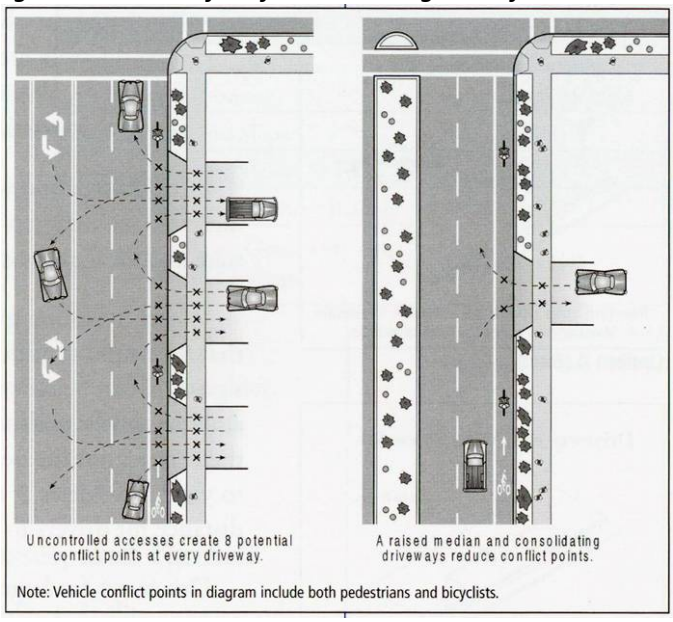


UNACCEPTABLE: Driveway cuts through the Through Walk Zone creating accessibility problems.

Source: Designing Sidewalks and Trails for Access, FHWA.

- **Access Management** - Driveway entrances to buildings should be consolidated whenever possible to reduce the frequency of curb cuts on any given block face. Less frequent spacing will minimize vehicle conflicts with pedestrians on sidewalks as shown in Figure 10-14 and will provide more space for street furniture, street trees, and lighting, as well as street parking.

Figure 10-14: Benefits of Access Management for Pedestrians



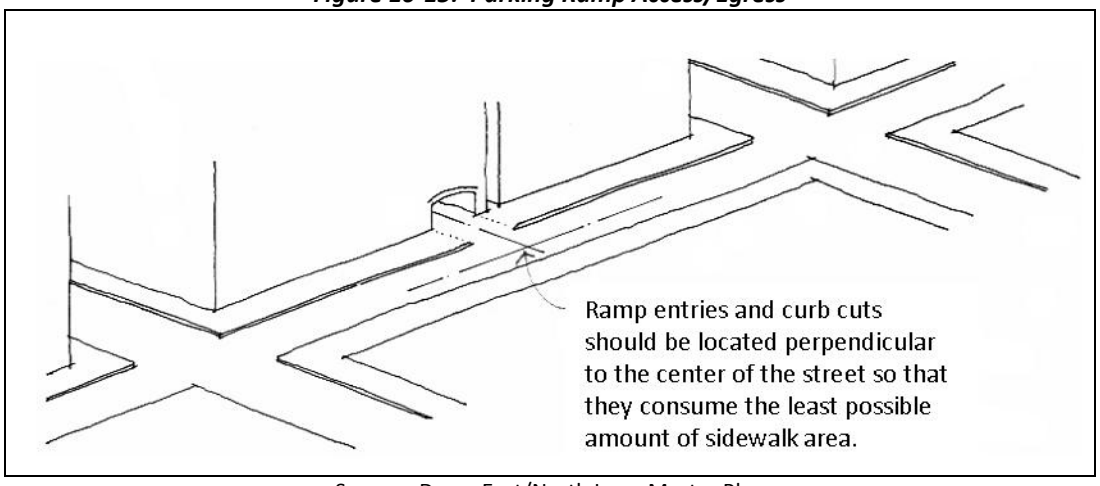
Source: Guide for the Planning, Design, and Operation of Pedestrian Facilities, AASHTO.

- **Driveway and Alley Width -** Driveway and alley widths should be minimized to reduce entrance speeds, maximize landscaping opportunities, and reduce pedestrian exposure at vehicle access points. Driveways widths are regulated by *Chapter 541, Off-Street Parking and Loading* in the zoning code and vary by zoning district; the minimum driveway width is typically 12 feet, and the maximum driveway width is typically 25 feet. New alleys should be a minimum of 14 feet unless they are reconstructing an existing condition, where they can be a minimum of 12 feet wide.
- **Driveway Location** - Driveways should be located away from intersections in order to minimize conflicts with pedestrians at corners and in crosswalks. Driveways should be a minimum of 30 feet clear of the intersection of two major streets and a minimum of 20 feet from all other

intersections. Driveways are discouraged for residential properties with access to an alley, except on corner lots, where the driveway curb cut can be located from the side yard.

- **Parking Ramp and Vehicular Building Access/Egress** – Access to and egress from parking ramps should be designed perpendicular to the street in a single curb cut, as shown in Figure 10-15. This design promotes good visibility between pedestrians and vehicles and minimizes potential conflict points between pedestrians and vehicles. In large developments, it is recommended that vehicular curb cuts be located midblock and be limited to one curb cut per block face.

Figure 10-15: Parking Ramp Access/Egress



Source: Down East/North Loop Master Plan

- **Other Considerations** - Parked cars should not block the sidewalk crossing driveways.

See *Special Provisions for the Construction of Concrete Sidewalks, Curb and Gutter, Alleys and Drive Approaches* for more information.

10.2.8.2 At-Grade Railroad Crossings

When not properly designed, rail crossings can be barriers to wheelchairs, strollers, carts, and other wheeled items used by pedestrians, as shown in Figure 10-16, and can encourage pedestrians to walk in the street across railroad tracks. There are several existing railroad crossings in Minneapolis that have concrete sidewalks on both side of the tracks, but ballasted track or crumbling asphalt across the tracks.

Figure 10-16: Wheelchair Wheel Stuck in Flangeway

Source: Rail Reflections Magazine, Issue 18, Transportation Safety Board of Canada.

Where sidewalks are needed on both sides of a railroad crossing, a continuous sidewalk with a firm and stable surface must be provided. It is also recommended that the Planting/Furnishing Zone be carried

across the railroad crossing to separate the street crossing from the pedestrian crossing and prevent vehicles from driving on the sidewalk, as shown in Figure 10-17; this is particularly important at multi-track railroad crossings where crossings are long.

Figure 10-17: Planting/Furnishing Zone across Railroad Crossing

Location: 11th Avenue NE; Source: Google Streetview

Openings for wheel flanges at pedestrian crossings of railroad tracks should be designed to prevent wheelchair wheels from becoming stuck in the tracks. Additional guidance on rail crossing design is available in the PROWAG.

10.2.9 Sidewalks on Bridges

Bridges provide pedestrians with connections across major barriers, such as rivers, freeways, railroads, and creeks. Because bridges are expensive to construct and maintain, they are much less frequently spaced than the rest of the street and sidewalk network. Bridges are essential connections in areas with otherwise poor pedestrian connectivity and must be designed to provide safe, comfortable and appealing pedestrian connections.

Bridges can present particular challenges in providing a pedestrian zone that is adequately sized, safe and attractive for pedestrians. Many bridges in Minneapolis have been built with minimal sidewalk space (typically 5-8 feet), and some have sidewalks on only one side. Bridges often have wide vehicle lanes and a wide shoulder, typically matching the width of approaching streets. Unlike on street approaches to bridges where on-street parking helps to buffer pedestrians from traffic and provide some side friction to slow vehicle speeds, pedestrians are unprotected from fast moving vehicles. In addition, bridges do not have the benefit of adjacent land uses, which provide "eyes on the street" and lighting to provide pedestrians with a sense of personal security.

10.2.9.1 Pedestrian Zone Organization and Widths

Pedestrian facilities on bridges have the same organization and functional needs for the pedestrian zone as do pedestrian facilities on streets (see section 10.2.1). The organization and width of the pedestrian zone on bridges is as follows:

- **Curb/Furnishings Zone** – The Curb and Planting/Furnishing Zones are combined on bridges. This zone provides a buffer between the roadway and the Through Walk Zone, space for temporary snow storage on bridges, and space for signage. It also provides a curb to discourage vehicles from driving onto the sidewalk. Because most bridges do not have on-street parking to buffer pedestrians from moving traffic, it is essential that this zone provide sufficient width to buffer pedestrians from moving traffic. The width of this zone should be a minimum of 2 feet wide. On longer bridges, which typically have higher vehicle operating speeds, this zone may need to

be wider or a barrier rail provided. Additional width will also be required if seasonal plantings and/or street furnishings are desired on the bridge.

- **Through Walk Zone** – This zone provides an accessible clear walking space for pedestrians, as well as bicyclists who prefer to ride on sidewalks.[3] As shown in Figure 10-18, the recommended Through Walk Zone on bridges is 8 feet on non-local street types and 6 feet on local street types. (See section 2.2 for more information on street design types.) Bridges that connect to multi-use trails often serve bicyclists who do not feel comfortable riding in on-street bike lanes. If the bridge connects to a multi-use trail, as do many of the Mississippi River bridges, the Through Walk Zone should be a minimum of 10 feet wide.
- **Frontage Zone** – This zone reflects the tendency of people to shy away from the precipice of a bridge. It should be a minimum of 2 feet wide.

It should be noted that the necessary width for snow clearance equipment on bridge sidewalks is typically 8-9 feet.

Figure 10-18: Minimum Pedestrian Zone Width on Bridges

Type of Bridge	Curb/Furnishing Zone	Through Walk Zone	Frontage Zone	Total Width
Bridge on Local Street Design Type	2′	6′	2′	10′
Bridge on Non-Local Street Design Types	2′	8′	2′	12′
Bridge Connecting to Multi-Use Trail	2′	10′	2′	14′

See section 2.2 for more information on street design types.

10.2.9.2 Lighting

Bridges do not have the benefit of light coming from adjacent land uses such as store fronts and residences. In addition to lighting for vehicle movement, all bridges with pedestrian facilities should have pedestrian-scaled lighting to provide a safe pathway. Lighting may be placed in the Planting/Furnishing Zone if appropriate Through Walk Zone widths and space for snow clearance equipment can be maintained, or it may be incorporated into bridge railings/fencing. Lighting placed on the inside of the sidewalk, as shown in Figure 10-19, instead of the outside railing, helps define the separation between roadway and pedestrian facilities.

10.2.9.3 Barriers from Traffic

Longer bridges that promote higher vehicle speeds and bridges along arterial routes should provide a barrier from traffic to give pedestrians a sense of enclosure and safety. The Federal Highway Administration recommends a railing or barrier measuring at least 42 inches in height for roads with heavy traffic or high speeds, although Mn/DOT allows barriers of 36 inches, see Figure 10-19. The barrier styles chosen should match the site and context of the bridge.

10.2.9.4 Railings

The outside railings on bridges should be well-designed to provide an appealing pedestrian environment, as shown in Figure 10-19. Use of chain-link fence on bridges is not recommended. On bridges where bicycles may legally ride on the sidewalk (all sidewalks outside business districts), a 54 inch high railing should be used to protect bicyclists from falling over the edge of the bridge.

[3] Bicyclists are permitted sidewalk users outside of business districts under state statute.

Figure 10-19: Example of Pedestrian Barrier and Pedestrian Scale Lighting on Bridge

Location: Lake Street bridge over the Mississippi River

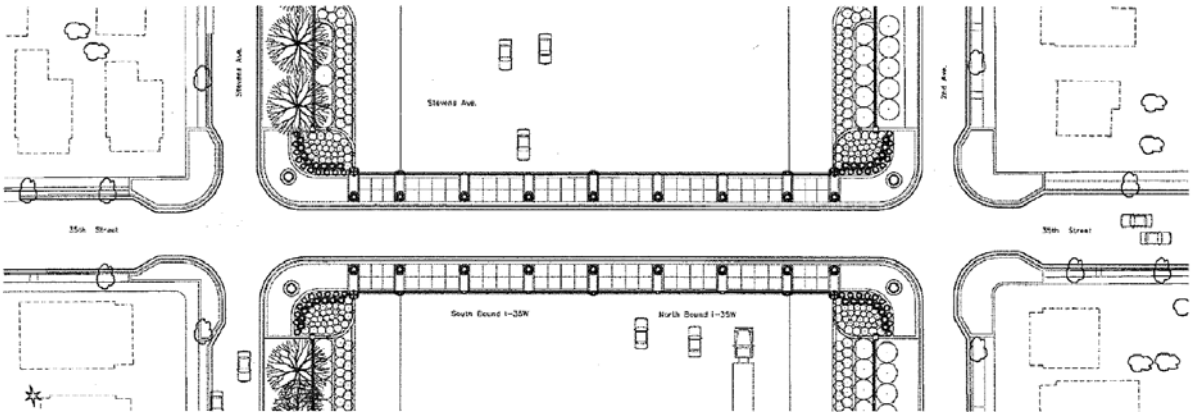
10.2.9.5 Visibility

Pedestrian facilities on bridges must be designed to provide adequate sight lines between pedestrians and vehicles at intersections at the ends of bridges. High fencing and overgrown vegetation should be avoided.

10.2.9.6 Retrofitting pedestrian improvements on bridges

Many existing bridges in Minneapolis have narrow sidewalks and a shoulder lane that is the same width as the parking lane on the approaching street. In most circumstances, parking is restricted on bridges, so a parking lane is not needed, but a shoulder for disabled vehicles is usually required.[4] The shoulder may typically be 6 feet wide on either side of the bridge, which also provides space for a bike lane; it does not need to be the full width of a typical parking lane. This provides an opportunity to retrofit many bridges to widen sidewalks and narrow the vehicle shoulder within the existing bridge width. Where the approaching street on either side of the bridge has a parking lane, curb extensions may be constructed to match the curb line of the street with the curb line of the bridge, as shown in Figure 10-20.

Figure 10-20: Conceptual Bridge Design



Source: I-35W Access Project

[4] There may be some circumstances on very short bridges where a shoulder for disabled vehicles is not needed.

10.2.10 Sidewalks under Bridges

Pedestrian facilities under bridges are often unappealing pedestrian environments due to poor lighting, blocked sight lines, narrow sidewalks, and bridge pier design that create locations for people to hide. In addition, under bridge environments do not have the benefit of adjacent land uses that provide "eyes on the street." Real and perceived personal security is significant concern in under bridge environments.

The principles of Crime Prevention Through Environmental Design (CPTED) should be applied to the design of pedestrian facilities under bridges, and the creation of entrapment or habitation areas should be avoided. Pedestrian facilities under bridges should be designed with adequate physical space for pedestrians, proper lighting, clear sight lines, and architectural treatments that create an inviting, human-scaled pedestrian environment.

10.2.10.1 Pedestrian Zone Organization and Widths

Pedestrian facilities under bridges have the same organization and functional needs for the pedestrian zone as do pedestrian facilities on streets. The organization and width of the pedestrian zone under bridges is the same as that shown for streets in section 10.2.1. The total width should be a minimum of 12 feet.

10.2.10.2 Pier Design and Placement

The design and placement of bridge piers should provide good visibility between the street and the sidewalk and avoid creation of hiding places where criminals could lurk unseen.

10.2.10.3 Retaining Wall Design

The design of retaining walls under bridges should incorporate design treatments to create a pedestrian scale environment.

10.2.10.4 Lighting

Lighting is paramount to how safe pedestrians feel traveling under bridges. Sidewalks under bridges should have pedestrian-scaled lighting. Pedestrian lighting under bridges can be an opportunity for a community gateway though public art or architectural lighting. Exclusive use of utilitarian "wallpaks" should be avoided. *See Section 7 for further guidance on City's Lighting Policy.*

10.2.10.5 Snow and Ice Clearance

Sidewalks under bridges do not have the benefit of sunlight to melt snow and ice. They must be designed to minimize snow and ice accumulation, and they must be maintained to ensure proper snow and ice clearance.

10.3 STREET CORNERS

Pedestrian activities are often concentrated at street corners. Corners are where the transition between sidewalk grade and crosswalk grade are made for wheelchair users. Corners are where pedestrians meet, wait to cross or for a bus, and often stop to talk. Each corner of an intersection should be analyzed to determine the best design given the various conditions that exist at each intersection corner along a corridor.

Unfortunately, other design considerations sometimes erode the space available for pedestrian activities at corners, because many other elements are placed at corners, such as traffic signal poles, fire

hydrants, and traffic signal control boxes. Additionally, turning vehicles can erode the corner space by requiring larger turning radii.

10.3.1 Elements of Good Corner Design

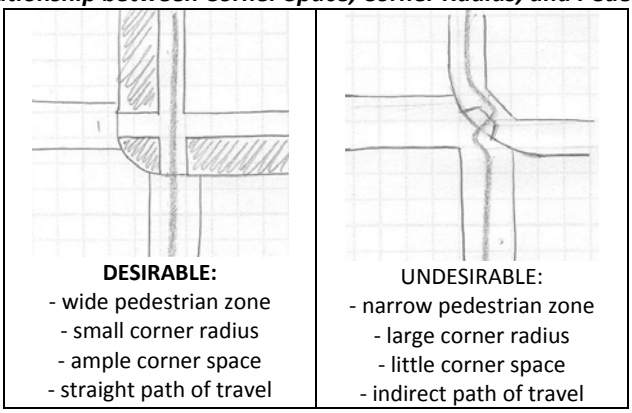
Good corners exhibit the following attributes:

- *Clear Space:* Corners should be clear of obstructions, and have enough space to accommodate the number of pedestrians for the site conditions. For example, activity centers, neighborhood commercial nodes, and community and commercial corridors require more pedestrian space than neighborhood intersections. They should also have enough room for curb ramps, for transit stops where appropriate, and for social interaction.
- *Visibility:* It is critical that pedestrians, cyclists and motorists have a good view of each other at intersections.
- *Legibility:* Symbols, marks, and signs used at corners should clearly indicate what actions the pedestrian, cyclists, and motorists are expected to take.
- *Accessibility:* All corner design features shall meet accessibility standards.

10.3.1.1 Corner Space

The most desirable corner condition for pedestrians is a wide pedestrian zone and small corner radius. This scenario provides the most corner space and makes it easy to align the sidewalks, curb ramps and crosswalks, which provides the most direct and likely path of travel for pedestrians, minimizes the likelihood of pedestrians crossing outside of the crosswalk, and minimizes the maneuvering that wheelchair users must perform to use the ramp, as shown in Figure 10-21.

Figure 10-21: Relationship between Corner Space, Corner Radius, and Pedestrian Zone Width



10.3.1.2 Visibility at Corners

It is critical that pedestrians at the corner have a good view of the travel lanes and that motorists in the travel lanes can easily see waiting pedestrians. Visibility between motorists and pedestrians is often impeded by parked vehicles near the intersection. Visibility may also be impeded by other vertical elements, such as buildings, fences, hedges and walls.

Current parking ordinances restrict parking within the vicinity of intersections as a way to increase the visibility of pedestrians. Minneapolis ordinance prohibits on-street parking near intersections as follows:

- Within 20 feet of a legal pedestrian crossing (whether marked or unmarked) at an intersection.

- Within 30 feet of the approach of any flashing school signal stop sign, traffic-control signal, or school sign at the side of a roadway.
- Within 5 feet of an alleyway or driveway.

Curb extensions (see section 10.3.5) are an excellent technique for increasing visibility particularly for shorter pedestrians, such as wheelchair users and children, because they physically restrict parking near intersections. Thus curb extensions do not remove parking, but simply formalize it.

Visibility can also be impeded by wide corner radii, which place curb ramps and sidewalks further back from the intersection. Tighter turning radii can improve visibility in some instances (see section 10.3.2).

See *Minneapolis City Code of Ordinances, Title 18 Traffic Code, Chapter 478 Parking, Stopping, and Standing.*

10.3.2 Curb Return or Corner Radii

The curb return is the curved connection of curbs where two streets come together to form an intersection. The purpose of the curb return is to guide vehicles in turning corners and to separate vehicular traffic from pedestrian areas at intersection corners. Large curb radii allow motorists to maintain a high speed while turning right, which puts pedestrians at risk. Reduced corner radii force vehicles to slow down. In general, the smallest practical curb return radii should be used at city intersections to provide adequate space for properly aligned curb ramps, shorten the length of pedestrian crosswalks, manage the speed of turning vehicles, and provide adequate space at the corner for curb ramps.

See Section 5.8.1, Curb Return or Corner Radii for more information about corner radii. In addition to the guidance in section 5.8.1, where turning movements are prohibited, such as at one-way streets, a tight (5 foot) corner radius should be used.

10.3.3 Curb Ramps

Access for people with disabilities is critical to an interconnected and continuous pedestrian system and curb ramps are one of the key design features that make sidewalks accessible. Curb ramps provide access for people, such as those who use wheelchairs or other mobility aids, who would otherwise be excluded from the sidewalk because of the barrier created by the curb. This accessibility extends to many other sidewalk users, including parents with strollers/wagons, children on bicycles, adults with rolling luggage, elderly pedestrians walking to/from stores with collapsible grocery carts, and those using walkers, etc.

10.3.3.1 Number of Ramps

Curb ramps must be provided at all legal crossings. At a typical intersection, there should be **two curb ramps** at each corner, regardless of traffic control. Use of small turning radii and curb extensions can help to accommodate two curb ramps at each corner. In some circumstances, it may not be possible to fit two curb ramps, depending upon corner radius and sidewalk width, and, although least desirable, a single diagonal ramp must be used.

10.3.3.2 Types of Curb Ramps

There are a variety of curb ramp design options, the basics of which are shown in Figure 10-25. In general, the most desirable configuration for curb ramps is to have curb ramps placed perpendicular to the curb and aligned with the direction of travel, as shown in Figure 10-25, Curb Ramp Types 1 and 2. This provides continuity in the direction of travel that helps to guide visually impaired pedestrians across

the intersection and is convenient and efficient to all pedestrians. This also benefits drivers as they know to expect which direction pedestrians will travel. Curb ramps in line with the direction of travel also add to an orderly appearance to the streetscape. However, because it is not always possible to provide two perpendicular ramps, Figure 10-25 also provides several other design options for curb ramps in more constrained conditions.

The Mn/DOT standard curb ramp template, which the City uses, does not currently allow for all of these curb ramp types. Additional design options such as those shown in Figure 10-25 are needed to accommodate accessible curb ramps on typical Minneapolis corners. The current design standard requires 10 feet from the face of curb to the back of ramp landing, which is more space than exists on many Minneapolis corners.

10.3.3.3 Technical Details

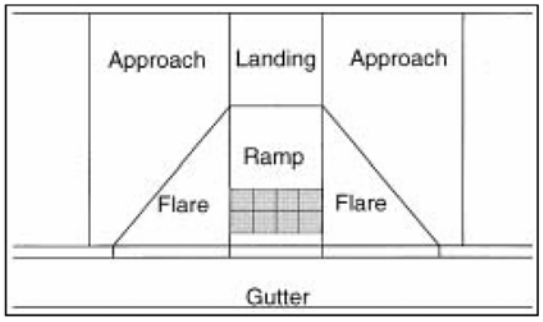
The current PROWAG guidelines recommend the following design dimensions for the curb ramp components shown in Figure 10-22:

- **Ramp Running Slope:** 5.0% minimum and 8.3% maximum on perpendicular and parallel ramps not to exceed 15.0 foot ramp length; 5.0% maximum on blended transitions
- **Ramp Cross Slope:** 2% maximum
- **Ramp Width:** 4.0 foot minimum (It is desirable to maintain the same width as the Through Walk Zone.)
- **Landing Dimensions:** 4.0 x 4.0 foot minimum
- **Landing Cross Slope:** 2% maximum
- **Flared Side Cross Slope**:10% maximum

Returned Edges: Flared sides are not required. Returned edges as shown in Source: Designing Sidewalks and Trails for Access, FHWA.

- Figure 10-23 can aid in aligning curb ramps with sidewalks and crosswalks and aid in wayfinding for visually impaired people. Returned edges may be used if protected from cross travel by turf grass, landscaping, street furniture, or other vertical obstruction.
- **Gutter Counter Slope:** 5% maximum
- **Detectable Warnings:** Required on all ramps
- **Clear Space at Ramp Bottom:** 4.0 x 4.0 foot minimum (free of vehicle movement)

Figure 10-22: Curb Ramp Components



Source: Designing Sidewalks and Trails for Access, FHWA.

Figure 10-23: Curb Ramp with Returned Edges

Source: Accessible Public Rights-of-Way: Planning and Designing for Alterations, ITE, July 2007

10.3.3.4 Drainage

The designer should ensure that stormwater drains should be on the upstream side of the curb ramp to reduce the potential for pools at the ramp. The gutter slope should be designed to direct water across ramp landings to avoid pooling at the bottom of the curb ramp.

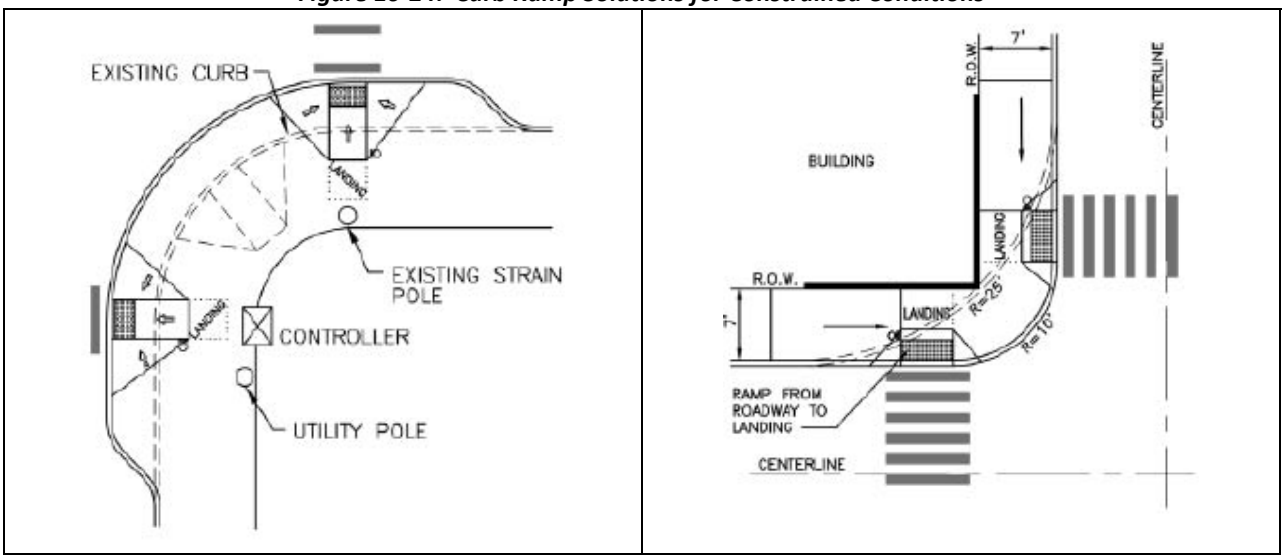
10.3.3.5 Obstructions

Curb ramps and crosswalks must remain clear of obstacles. Existing obstructions in curb ramps should be moved as opportunities and budgets allow. No new pole, utility or other impediment should be placed in the curb ramp return areas.

10.3.3.6 Solutions for Constrained Conditions

There are many constrained corner conditions in Minneapolis that make it very difficult to fit two perpendicular curb ramps per corner. In these cases, it may be necessary to use curb extensions, tighter corner radii or to a combination parallel and perpendicular ramp, as shown in Figure 10-24.

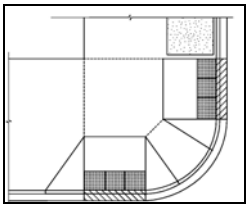
Figure 10-24: Curb Ramp Solutions for Constrained Conditions



Source: Accessible Public Rights-of-Way: Planning and Designing for Alterations, ITE, July 2007

Figure 10-25: Curb Ramp Types

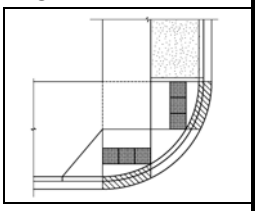
1. Perpendicular Ramps on Tangent — DESIRABLE



Pros:
- Ramp is in line with Through Walk Zone and crosswalk.
- Aids snow clearing because plows travel straight along edge of ramp.
- Optional returned edge next to planted boulevard reduces impervious surface, allows placement next to vertical obstructions, and aids wayfinding for visually impaired users.

Cons:
- Requires sufficient physical space – typically 10 feet behind the curb - which requires a small curb radius and/or large Pedestrian Zone.

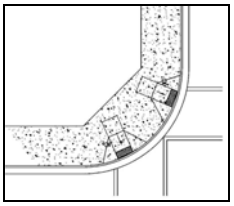
2. Directional Ramps on Radius — DESIRABLE



Pros:
- Ramp is in line with Through Walk Zone and crosswalk.
- Accommodates wider radius and/or narrower Pedestrian Zone than type #1.
- Aids snow clearing because plows travel straight along edge of ramp.
- Optional returned edge next to planted boulevard reduces impervious surface, allows placement next to vertical obstructions, and aids wayfinding for visually impaired users.

Cons:
- More complicated grade requirements to provide level landing at ramp bottom.

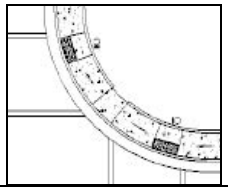
3. Dual Diagonal Ramps (Perpendicular Ramps on Radius) — ACCEPTABLE



Pros:
- Accommodates wider radius and/or narrower Pedestrian Zone than types #1 & 2.
- Can be built on corners of any radius and along Pedestrian Zones of any width.

Cons:
- May require additional right of way behind typical sidewalk intersection for necessary grades.
- Curb ramps do not align with the direction of travel.
- Snow plows more likely to leave wedge of snow in front of ramps and can be difficult for property owners to locate ramps under snow for clearance.

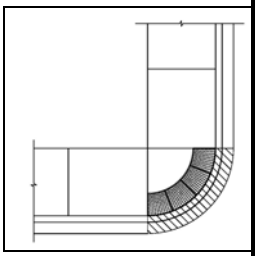
4. Parallel Ramps — ACCEPTABLE



Pros:
- Easier to fit in constrained conditions.

Cons:
- Curb ramps do not align with the direction of travel.
- Multiple grade changes are required in the Through Walk Zone.

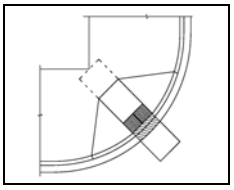
5. Blended Transition — ACCEPTABLE



Pros:
- Easier to fit in constrained conditions.
- Ramp is in line with the Through Walk Zone.

Cons:
- Lack of a raised curb may encourage vehicles to drive onto the curb ramp.
- Curved truncated dome plate not available in cast iron, Mn/DOT approved material.
- Although ramp is in line with Through Walk Zone, diagonal travel is possible.
- Requires crosswalk markings closer to intersection.
- Landing at-grade with gutter increases potential for pooling and debris accumulation.
- Snow plows leave wedge of snow in front of ramp.

6. Single Diagonal — UNDESIRABLE



Pros:
- Easier to fit in constrained conditions.

Cons:
- Curb ramps do not align with the direction of travel.
- Provides unclear information to drivers of pedestrians' crossing intentions.
- Wheeled users are steered to the center of the intersection and need to make a directional adjustment in the roadway.
- Requires crosswalk markings closer to intersection.
- May not allow proper spacing for pedestrian signals.
- Snow plows leave wedge of snow in front of ramp.

10.3.4 Locating Pedestrian Signal Call Buttons

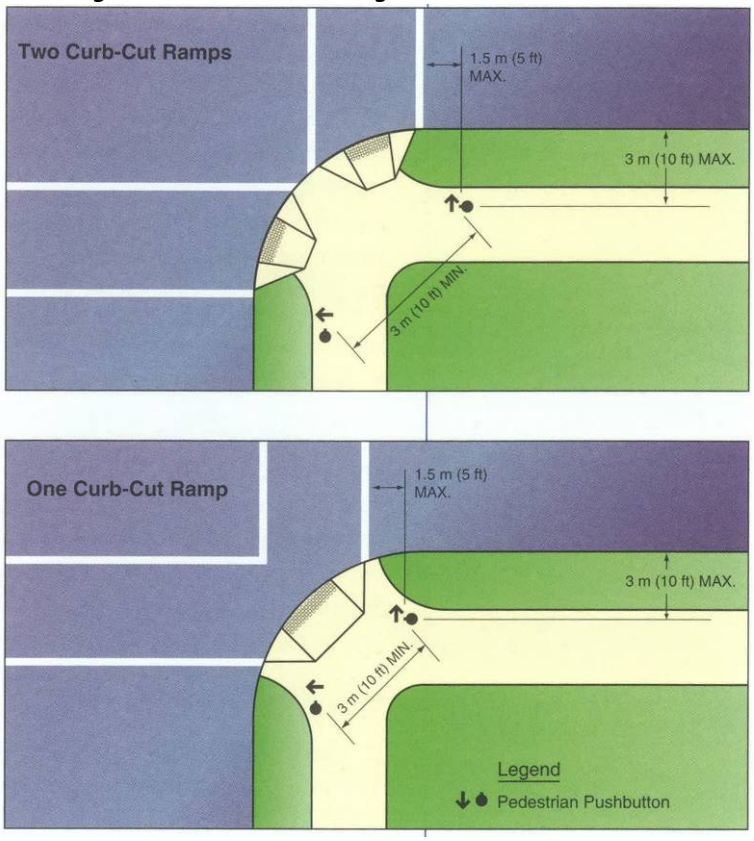
When pedestrian signal call buttons are used, they should be located within the Corner Public Use Zone or Clear Corner Zone as follows:

- The call button must be accessible from the level landing at the top of a curb ramp or from the dropped landing of a parallel curb ramp.
- The control face of the accessible pedestrian signal shall be installed to face the intersection and be parallel to the direction of the crosswalk it serves.
- Accessible pedestrian signals must be 10.0 feet minimum from other accessible pedestrian signals at a crossing and 5.0 feet from other signals in a median or island. (See Figure 10-26)
- Place the device no closer than 30 inches from the curb, no more than 5 ft from the crosswalk, extended and within 10 ft of curb, unless curb ramp is longer than 10 ft.

Pushbuttons should follow Mn/DOT 3833 specifications unless otherwise noted on signal plans.

See section 10.5.5.4 for more information on the use of pedestrian signal call buttons.

Figure 10-26: Pedestrian Signal Call Button Placement



Source: Guide for the Planning, Design, and Operation of Pedestrian Facilities, AASHTO.

10.3.5 Curb Extensions

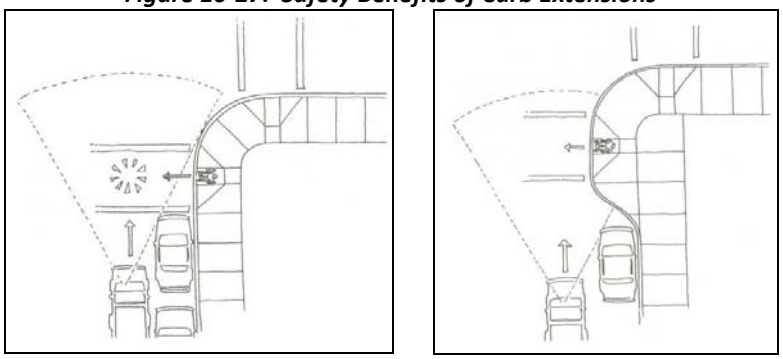
Curb extensions, which are also known as "bump-outs, bulb-outs, neckdowns, and chokers", are an extension of the pedestrian zone into the on-street parking lane. Curb extensions are typically used at intersections, but they may also be used at mid-block locations.

10.3.5.1 Purpose

Curb extensions have many benefits, including:

- Improved sight lines between vehicles and pedestrians (see Figure 10-27)
- Reduced crosswalk distance, thereby reducing pedestrian exposure to potential vehicle conflicts.
- Curb extensions can slow the speed of turning vehicles by decreasing turning radii and visually narrowing the roadway.
- Additional corner space to fit two perpendicular curb ramps per corner, utilities and traffic control, street furniture, trees and landscaping, transit facilities, bicycle parking, and sidewalk cafes.
- Additional pervious space for plantings and stormwater management.

Figure 10-27: Safety Benefits of Curb Extensions



Source: Designing Sidewalks and Trails for Access, FHWA.

10.3.5.2 Locations

Curb extensions can be installed on all streets where on-street parking is allowed. Specific priority areas for curb extensions include:

- New or reconstructed streets
- Streets where the pedestrian zone is less than 12 feet.
- Community and commercial corridors
- Wide streets with long crossing times
- Activity centers and neighborhood commercial nodes
- Primary Transit Network (PTN) streets

Although typically used at intersections, curb extensions may be used at midblock locations to provide additional sidewalk space for landscaping, bus shelters, seating, stormwater treatment, and bike parking, and improve pedestrian visibility and safety at mid-block crossings, as shown in Figure 10-28.

Figure 10-28: Midblock Curb Extension

Location: Ann Arbor, Michigan

Although curb extensions have many benefits, they may not be appropriate in all circumstances. Curb extensions may have the following disadvantages:

- They may be more expensive to construct than alternative designs.
- They can reduce flexibility of the roadway in construction routing.
- They may cause traffic to queue behind a stopped bus, thus causing traffic congestion.
- They prevent the use of the parking lane during peak travel periods.
- They can reduce future flexibility in making changes to the location of bus zones, bike lanes, roadway lane layout, or crosswalks.
- They may result in traffic back-up if the resulting through traffic, including left turns, is restricted to one lane so that left-turning cars block through traffic.

10.3.5.3 Design

The design of curb ramps should account for the following:

- **Width** - Curb extensions should be a minimum of 6 feet wide and be typically 2 feet narrower than the parking lane width, such that the curb and gutter of the curb extension is outside the vehicular travel lane or bicycle travel lane.
- **Length** - Curb extensions should be at least 30 feet in length. This minimum is based on typical crosswalk dimensions (10-15 feet) and ordinances requiring no parking 20 feet of a crosswalk or 30 feet of a stop sign. Additional length may be desired, depending on the furnishings and/or uses that need to be accommodated on the curb extension.
- **Taper** - The taper length will be determined based on the quantity of on-street parking stalls desired and snow removal/storage requirements. In some locations, the extended curb may need to be marked to improve visibility for snowplow operators.
- **Curb Ramp Placement** - It is desirable that curb extensions be designed to fit two perpendicular curb ramps aligned with the sidewalk and crosswalk.
- **Drainage** - Curb extensions need to be carefully designed to drain properly and to avoid ice, leaf and road debris buildup.

- **Transit Stops** - Where curb extensions are provided at transit stops, they should be the length of the bus stop, as it can be difficult for a bus to exit or re-enter traffic around a curb extension. *See Section 5.9, Transit Stops for more information.*
- **Tree Planting** - Trees may be grouped at curb extensions instead of along the entire block face, allowing more space for pedestrian through movement adjacent to the parking lane when space is tight. In all cases, street trees and plantings shall not interfere with visibility at corners; as such street trees shall be at least 20 feet from intersections. In addition, tree placement should not interfere with street lighting.
- **Bicycle Lanes** - Curb extensions shall not encroach upon designated bike lanes or routes. Where bike lanes use a painted inside edge, the bike lane shall be painted continuously along the curb extension to prevent the extension from encroaching into the bike lane. On neighborhood streets where bikes can travel in mixed flow with vehicles, curb extensions should not force cyclists to merge unexpectedly with cars at the end of the block. *See Chapter 11, Bicycle Facility Design for further information.*

10.3.6 Corner Geometry Retrofit Guidance

Changing the geometry of corners can be expensive because a street's drainage inlet is typically placed at or near an intersection with another street. In some cases it may be possible to alter the geometry of the corner with a detached curb extension or detached corner radius retrofit, which do not alter existing drainage infrastructure, as shown in Figure 10-29.

The geometry of a corner can also be altered through striping a tighter turn, or a narrower roadway. Striping techniques may be used as a temporary solution to test the effect of a certain tool before an investment is made on more permanent infrastructure. In some cases, the striping may be enough and can be a permanent solution.

These types of retrofits are not typically used in Minneapolis and are considered experimental.

Figure 10-29: Corner Radius and Curb Extension Retrofit Examples

Source: Pedestrian Bicycle Information Clearinghouse

10.4 BUS STOPS

Bus stops are critical elements of the transit system, the pedestrian system, and the public realm of the city. Bus stops and the streets on which they are located should be designed to accommodate waiting transit passengers, through walking pedestrians, bus shelters, and other street furniture and public infrastructure typically sited near bus stops.

The purpose of this section is to address the design of bus stops within the stop area. It does not address the location of bus stops (near-side vs. mid-block vs. far-side), which is addressed in section 5.9.

Because there are many competing needs for space at bus stops (turning lanes at intersections, utility boxes, manholes, street lights, trees, bus shelters, trash receptacles, benches, etc.), it is important to identify bus stop design needs early in the street design process.

10.4.1 Bus Stop Sign

All bus stops must have a bus stop sign to indicate to transit passengers and bus drivers where passengers should stand to board the bus. The bus stop sign should be at the front of the stop immediately adjacent to the Accessible Front Door Zone. At near side bus stops, the bus stop sign may be placed in the Corner Public Use Zone (see section 10.2.2.2).

10.4.2 Bus Stop Clear Zones

Bus stops need to have clear and accessible paths to and from the bus. There are three clear zones within the bus stop sidewalk area, as described below and as illustrated in Figure 10-30.

10.4.2.1 Accessible Front Door Zone

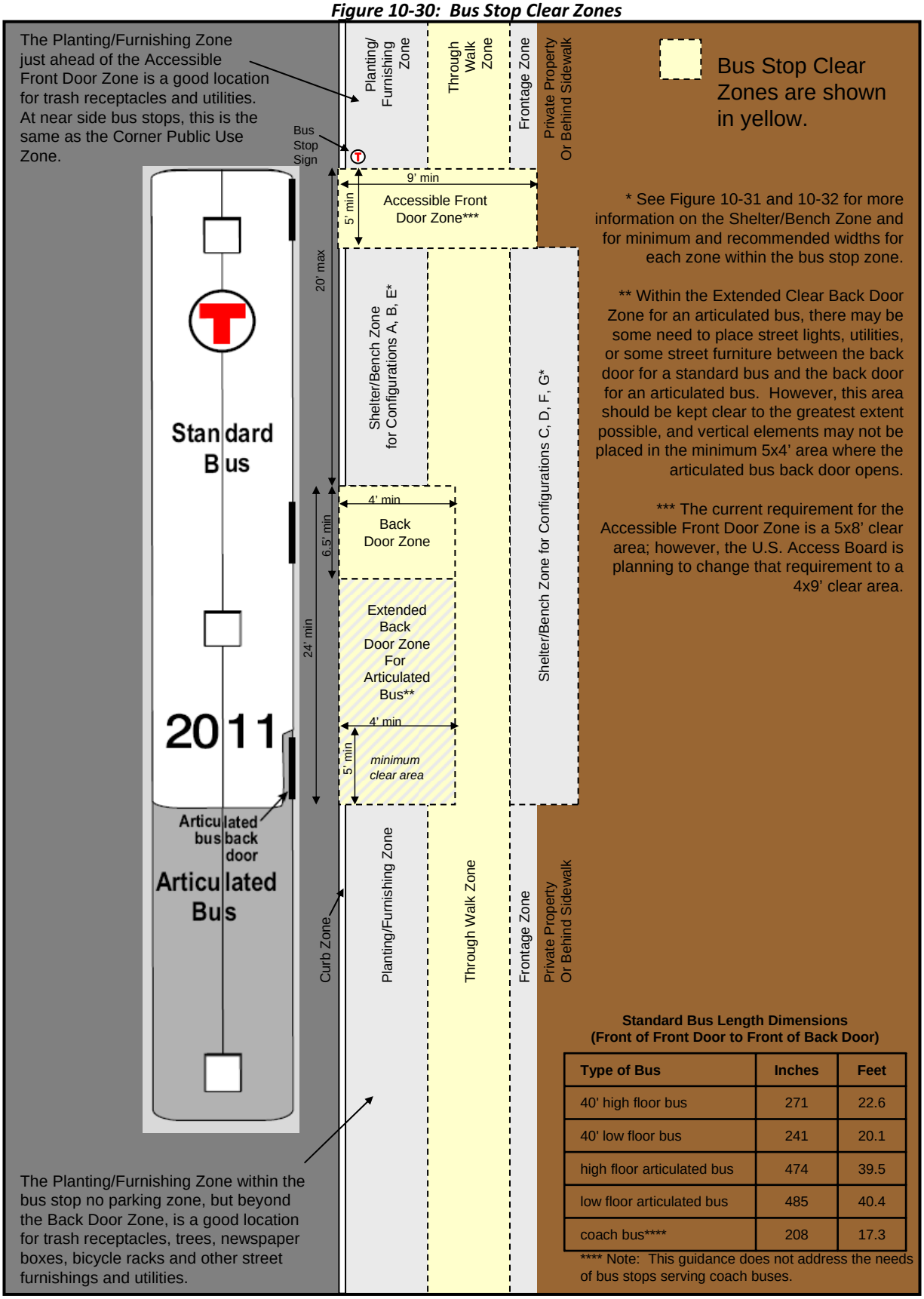
All bus stops must have a minimum 5x8' Accessible Front Door Zone to load and unload bus passengers and service wheelchair lifts at the bus' front door and should have a recommended minimum 5x9' Accessible Front Door Zone[5]. Measured from the bus stop sign, it must be at least 5' long (along curb) and 8-9' wide (8' minimum, 9' recommended - from the face of curb toward the property line). It may overlap with the Through Walk Zone. It must be constructed of a firm, stable and slip resistant surface and have a maximum cross-slope of 2% perpendicular to the curb. The Accessible Front Door Zone should be provided outside of the shelter, rather than through a shelter with a removed back panel, as may currently exist in some locations.

10.4.2.2 Through Walk Zone

All bus stops must have an accessible Through Walk Zone, as described in section 10.3.1. The recommended Through Walk Zone width at bus stops is 6 feet plus an additional 1.5 feet Frontage Zone width, and the minimum Through Walk Zone width at bus stops is 5 feet plus an additional 1 feet Frontage Zone width. In some activity centers, additional width may be needed. In existing constrained conditions where street reconstruction is not possible, the Through Walk Zone may be narrowed to 5 feet continuous or 4 feet continuous with a 5 x 5 foot passing zone every 200 feet.

[5] While the current requirement for the Accessible Front Door Zone is a 5x8' clear area, the U.S. Access Board is considering changing that requirement to a 4x9' clear area because 9' is actually needed for a wheelchair to exit the ramp and turn on the sidewalk, and 4' is an acceptable width for wheelchair access to buses.

Figure 10-30: Bus Stop Clear Zones



* See Figure 10-31 and 10-32 for more information on the Shelter/Bench Zone and for minimum and recommended widths for each zone within the bus stop zone.

** Within the Extended Clear Back Door Zone for an articulated bus, there may be some need to place street lights, utilities, or some street furniture between the back door for a standard bus and the back door for an articulated bus. However, this area should be kept clear to the greatest extent possible, and vertical elements may not be placed in the minimum 5x4' area where the articulated bus back door opens.

*** The current requirement for the Accessible Front Door Zone is a 5x8' clear area; however, the U.S. Access Board is planning to change that requirement to a 4x9' clear area.

Standard Bus Length Dimensions
(Front of Front Door to Front of Back Door)

Type of Bus	Inches	Feet
40' high floor bus	271	22.6
40' low floor bus	241	20.1
high floor articulated bus	474	39.5
low floor articulated bus	485	40.4
coach bus****	208	17.3

**** Note: This guidance does not address the needs of bus stops serving coach buses.

10.4.2.3 Back Door Zone

All bus stops should have a clear Back Door Zone to provide access to and from the back door of the bus. It may overlap with the Through Walk Zone. It should be located a maximum of 20' back from the front of the Accessible Front Door Zone. The length of the Back Door Zone depends upon transit operations and vehicle design: (a) 6.5' for standard 40' buses (assuming both high floor and low floor vehicles), (b) 24' for both standard 40' buses and 60' articulated buses (assuming both high floor and low floor vehicles), or (c) 40' or longer to service front door of second 40' bus, as illustrated in Figure 10-30. The Back Door Zone should be a minimum of 4' deep from the face of curb, and it must connect to the Through Walk Zone via a minimum 4' wide clear walking path. It should be constructed of a firm, walkable surface, free of tripping hazards. In residential areas, turf grass may be an acceptable walking surface.

If the Clear Back Door Zone is extended for an articulated bus, there may be some need to place street lights, utilities, or some street furniture between the back door for a standard bus and the back door for an articulated bus. However, this area should be kept clear to the greatest extent possible, and vertical elements should not be placed in the area adjacent to where the articulated bus back door opens.

10.4.3 Shelter / Bench Zone

There are two basic locations for the placement of bus shelters and bus benches, as shown in Figure 10-30: within the Planting/Furnishing Zone adjacent between the curb and the sidewalk or in the Frontage Zone/private property area at the back of sidewalk. Within these two basic locations, there are several options for placement of shelters and benches, as described below.

10.4.3.1 Bus Shelters

At bus stops where passenger volumes warrant a shelter, the shelter must be placed outside of the clear zones identified in section 10.4.2. All bus shelters must have a minimum 36x48" clear zone within the shelter and a recommended 5' and minimum 4' wide accessible walking route from the bus shelter entrance to the Through Walk Zone and from the bus shelter entrance to the Accessible Front Door Zone.

Where a shelter is warranted, a standard shelter (typically 5x13') should be used wherever possible. A narrow shelter (typically 2.5 x 13') may be used where a standard shelter is not feasible; however, a standard shelter is preferred for passenger comfort. Because shelters need to provide a 30x48" clear wheelchair space, the functional minimum width for a narrow shelter is considered to be 4', although only 2.5' is a permanent fixture (for typical 2.5' wide narrow shelters).

Bus shelters must be designed to provide clear visibility between the street and transit passengers inside the shelter for both personal security and for transit operations purposes. On shelters with advertising panels, the ad panels should not be placed to obscure the visibility of waiting transit passengers from the street.

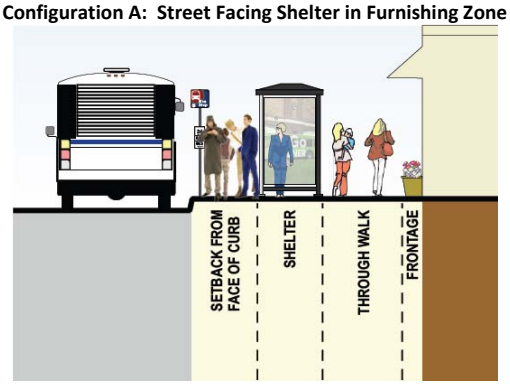
In general, shelters should have closed back walls to provide shelter from wind and rain. Extra long shelters that serve very high passenger volumes may need to have limited open back walls to provide sufficient access between the Through Walk Zone and the Back Door Zone.

There are 4 placement options for bus shelters as shown in Figure 10-31:

- Configuration A: Street-Facing Shelter in the Furnishing Zone
- Configuration B: Sidewalk-Facing Shelter in the Furnishing Zone
- Configuration C: Shelter behind Sidewalk or on Private Property
- Configuration D: Shelter in Frontage Zone

Figure 10-31: Bus Shelter Placement Options

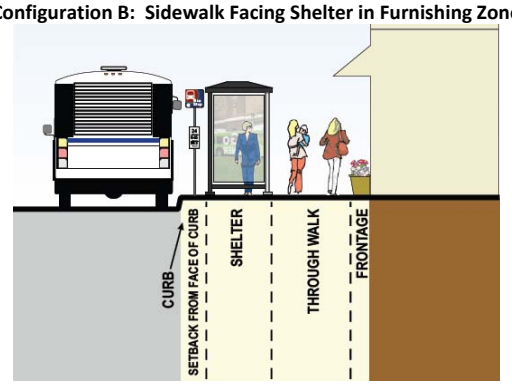
Configuration A: Street Facing Shelter in Furnishing Zone



	Curb/ Furnishing				
	Setback from Face of Curb	Shelter*	Through Walk	Frontage	Total
A1-Standard Shelter					
Recommended Minimum	5.0′	5.0′	6.0′	1.5′	**17.5′**
Acceptable Minimum	4.0′	5.0′	5.0′	1.0′	**15.0′**
A2-Narrow Shelter					
Recommended Minimum	5.0′	4.0′	6.0′	1.5′	**16.5′**
Acceptable Minimum	4.0′	4.0′	5.0′	1.0′	**14.0′**

Benefits of this configuration: Transit passengers separated from pedestrians. Shelter setback from curb gives buses flexibility to stop behind queued vehicle to board/alight passengers. Ample space for street furnishings. **Note:** This configuration has no acceptable minimums in existing constrained conditions because other configurations are a more efficient use of space.

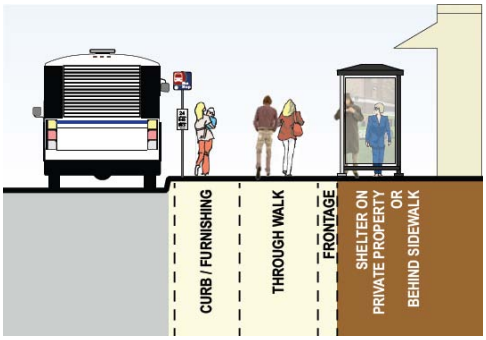
Configuration B: Sidewalk Facing Shelter in Furnishing Zone



	Curb/ Furnishing				
	Setback from Face of Curb	Shelter*	Through Walk	Frontage	Total
B1-Standard Shelter					
Recommended Minimum	2.0′	5.0′	6.0′	1.5′	**14.5′**
Acceptable Minimum	2.0′	5.0′	5.0′	1.0′	**13.0′**
B2-Narrow Shelter					
Recommended Minimum	2.0′	4.0′	6.0′	1.5′	**13.5′**
Acceptable Minimum	2.0′	4.0′	5.0′	1.0′	**12.0′**
Acceptable Existing Condition	2.0′	4.0′	4.0′**	0′	**10.0′**

Benefits of this configuration: Accommodates full size shelter with less width than Configurations A or D. Space for street furnishings. **Note:** When a narrow shelter is used in this configuration, the back wall should be transparent.

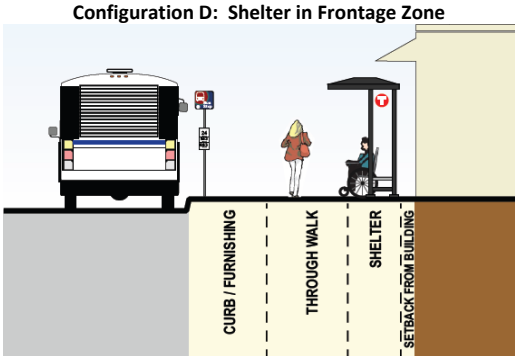
Configuration C: Shelter on Private Property or Behind Sidewalk



	Curb/ Furnishing	Through Walk	Frontage	Shelter	Total
Recommended Minimum	*See Figure 10-7*				
Acceptable Minimum	*See Figure 10-7*				
Acceptable Existing Condition	3.0′	5.0′	1.0′	-	**9.0′**

Benefits of this configuration: Accommodates a full-size shelter in with less width than Configurations A & B. Shelter setback from curb gives buses flexibility to stop behind queued vehicle to board/alight passengers. **Note:** 9′ is the recommended minimum width for the Accessible Front Door Zone. ***

Configuration D: Shelter in Frontage Zone



	Curb / Furnishing	Through Walk	Frontage		
			Shelter*	Setback from Building	Total
D1-Standard Shelter					
Recommended Minimum	6.0′	6.0′	5.0′	1.0′	**18.0′**
Acceptable Minimum	4.0′	5.0′	5.0′	1.0′	**15.0′**
D2-Narrow Shelter					
Recommended Minimum	6.0′	6.0′	4.0′	1.0′	**17.0′**
Acceptable Minimum	4.0′	5.0′	4.0′	1.0′	**14.0′**
Acceptable Existing Condition	1.5′	4.0′**	4.0′	1.0′	**10.5′**

Benefits of this configuration: Shelter setback from curb gives buses flexibility to stop behind queued vehicle to board/alight passengers.

* These dimensions assume a standard shelter width of 5.0′ and a functional narrow shelter width of 4.0′ (to accommodate the depth of a wheelchair, although the footing of a narrow shelter may be narrower than 4.0′).

** A 4.0′ Through Walk Zone with a narrow shelter is acceptable in existing constrained conditions if the footing of the shelter is 3.0′ or narrower, allowing an additional 1.0′ for the Through Walk Zone when the shelter is empty

*** It should be noted that while the current requirement for the Accessible Front Door Zone is a 5x8′ clear area, the U.S. Access Board is planning to change that requirement to a 4x9′ clear area. Therefore, it is desirable to provide a minimum 5x9′ clear area.

10.4.3.2 Benches

Where a bench is used at a transit stop, the bench must be placed outside of the clear zones identified in section 10.4.2. A minimum 36x48" clear zone must be provided on at least one side of the bench for a wheelchair user to sit. Benches should not be used in addition to bus shelters unless transit passenger volumes warrant additional seating, as unneeded benches can block the Back Door Zone and clutter the bus stop. Benches with advertising panels must be designed and placed at the bus stop to serve waiting transit passengers, not simply to provide a surface for advertising.

There are 3 basic placement options for benches, as shown in Figure 10-32:

- Configuration E: Street-Facing Bench in the Furnishing Zone
- Configuration F: Bench in Frontage Zone
- Configuration G: Bench behind Sidewalk or on Private Property

10.4.4 Other Street Furniture and Utilities

10.4.4.1 Trash Receptacles

Trash receptacles are an important component of a bus stop because they serve waiting transit passengers and help to keep the bus stop clean. Trash receptacles must be placed outside of the clear zones identified in section 10.4.2. The ideal location for trash receptacles is in the Corner Public Use Zone at near-side bus stops or in the Planting/Furnishing Zone within the bus stop no parking zone, but beyond the Back Door Zone, as shown in Figure 10-30. Trash receptacles may also be placed in the shelter/bench zone shown in Figure 10-30, provided they do not block access to the shelter or bench, do not block advertising panels on shelters, and are in a location where they may be serviced. Many trash receptacles in Minneapolis are serviced automatically by garbage trucks that lift them from the sidewalk, remove the trash, and place them back on the sidewalk; these receptacles may require more sidewalk space than manually-serviced receptacles. Trash receptacles may be placed in the Frontage Zone if they are manually-serviced and do not block the Through Walk Zone.

10.4.4.2 Street Lights and Utilities

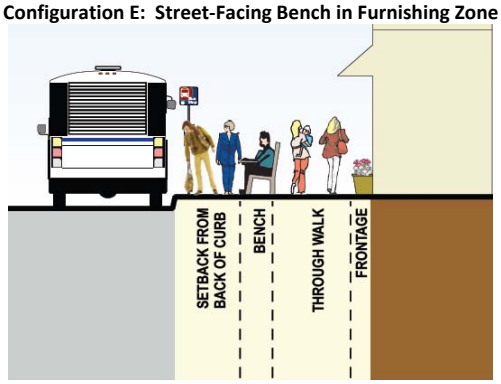
Street lights, utility boxes, manholes and other public and private utilities and infrastructure must be placed outside of the clear zones identified in section 10.4.2 and in a location that does not interfere with the placement of bus shelters or benches within the Shelter/Bench zone. *See also section 10.2.5.*

10.4.4.3 Other Street Furniture

Bus stops should have adequate space for trees, newspaper boxes, bicycle racks, and other street furnishings. These elements must be placed outside of the clear zones identified in section 10.4.2. The ideal location for these furnishings is in Planting/Furnishing Zone within the bus stop no parking zone, but beyond the Back Door Zone. Furnishings may also be located to a limited extent in the Frontage Zone, as shown in Figure 10-30.

Figure 10-32: Bus Bench Placement Options

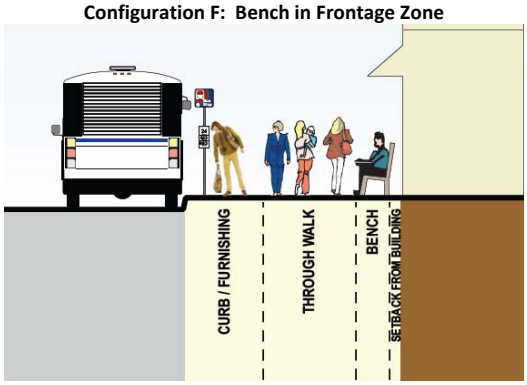
Configuration E: Street-Facing Bench in Furnishing Zone



	Curb/ Furnishing				
	Setback from Face of Curb	Bench*	Through Walk	Frontage	Total
Recommended Minimum	5.0′	2.5′	6.0′	1.5′	**15.0′**
Acceptable Minimum	4.0′	2.5′	5.0′	1.0′	**12.5′**
Acceptable Existing Condition with Protected Curb Lane *	2.5′	2.5′	5.0′	1.0′	**11.0′**

Note: If the curb traffic lane at the bus stop is a parking lane or bike lane, the setback from face of curb may be narrowed to 2.5′ in existing constrained conditions if reconstruction is not possible.

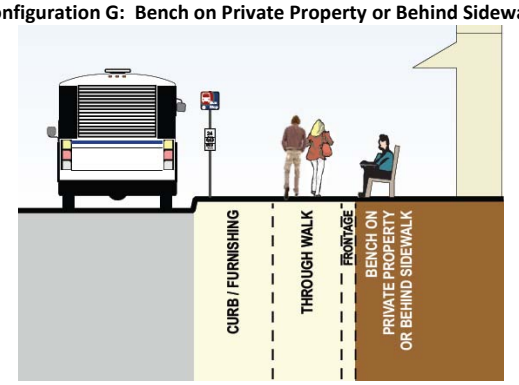
Configuration F: Bench in Frontage Zone



	Curb / Furnishing	Through Walk	Frontage		
			Bench*	Setback from Building	Total
Recommended Minimum	6.0′	7.0′	2.5′	1.0′	**16.5′**
Acceptable Minimum	4.0′	6.0′	2.5′	1.0′	**13.5′**
Acceptable Existing Condition	1.5′	5.0′	2.5′	1.0′	**10.0′**

Note: These Through Walk Zone dimensions assume a seated person on the bench will encroach 1.0′ into the Through Walk Zone.

Configuration G: Bench on Private Property or Behind Sidewalk



	Curb/ Furnishing	Through Walk	Frontage	Bench	Total
Recommended Minimum	*See Figure 10-7*				
Acceptable Minimum	*See Figure 10-7*				
Acceptable Existing Condition	3.0′	5.0′	1.0′	-	**9.0′**

Note: 9 feet is the minimum recommended width required for the Accessible Front Door Zone.**

* Note: These dimensions assume a standard bench depth of 2.5′.

** It should be noted that while the current requirement for the Accessible Front Door Zone is a 5x8′ clear area, the U.S. Access Board is planning to change that requirement to a 4x9′ clear area. Therefore, it is desirable to provide a minimum 5x9′ clear area.

10.4.5 Solutions for Existing Constrained Conditions

There are existing bus stops in Minneapolis that do not meet these bus stop design guidelines. Examples include bus stops where the shelter blocks the back door of the bus, or a full size shelter is placed in the Through Walk Zone, or the Accessible Front Door Zone is provided through the inside of the shelter without a back panel.

When there are opportunities to reconstruct these bus stops, such as with street reconstruction projects or major redevelopment opportunities, the recommended widths and placement of elements in these bus stop design guidelines should be followed. When it is not possible to meet all of the recommendations in these guidelines because of the location of utilities, street lights, driveways, or other constraints, the design of bus stops should meet the following criteria (in order of priority):

1. Provide an Accessible Front Door Zone and accessible Through Walk Zone as described in sections 10.4.2.1 and 10.4.2.2.
2. Provide a clear Back Door Zone as described in section 10.4.2.3.
3. Provide seating and/or shelter for waiting transit passengers, as well as space for a trash receptacle, as passenger volumes warrant.
4. Accommodate expected levels of transit passengers and expected levels of pedestrian activity relative to the physical space provided for each.
5. Integrate trees and other street furniture into the right-of-way or adjacent properties, as feasible.

10.5 STREET CROSSINGS

Pedestrians have a right to safe, accessible and convenient street crossings. Street crossings that are not designed with pedestrian needs in mind often result in unsafe pedestrian or driver behavior and discourage people from walking.

10.5.1 Legal Crosswalk Definition

Whether marked or unmarked, legal crosswalks exist at all legs of all intersections where sidewalks normally exist, including T-intersections, except where closed by ordinance and appropriately signed. Legal crosswalks also exist at marked midblock crossings. Minnesota state statute defines a legal crosswalk as:

> (1) that portion of a roadway ordinarily included with the prolongation or connection of the lateral lines of sidewalks at intersections; (2) any portion of a roadway distinctly indicated for pedestrian crossing by lines or other markings on the surface. [6]

At legal crosswalks, motorists are required to stop for pedestrians who have entered the crosswalk. Pedestrians are also permitted to cross the street between intersections, provided they yield right of way to vehicles and they do not cross between adjacent intersections with traffic signals.[7]

10.5.2 Elements of Safe, Accessible and Convenient Crossings

Good pedestrian street crossing design is characterized by:

- Appropriate frequency of crossing opportunities.
- Minimal exposure to vehicles.
- Minimal out of direction travel.
- Minimal delay to pedestrians waiting to cross the street.
- Sufficient signal time and traffic gaps for pedestrians to cross the street.
- Good visibility between drivers and pedestrians (see section 10.3.1.2).
- Clear driver expectations of where and when pedestrians will cross the street.
- Clear pedestrian expectations of where and when it is safe to cross the street

10.5.2.1 Frequency of Crossing Opportunities

Pedestrians should have safe, accessible and convenient crossing opportunities at reasonable distances. Pedestrians will cross the street where it is convenient and generally will not travel out of direction. What constitutes a reasonable distance between crossing opportunities depends on the context of land uses and pedestrian activity along a street. However, in general, pedestrian street crossing opportunities should at approximately the same spacing as the street grid in the surrounding neighborhood.

To ensure that there are safe crossing opportunities at reasonable distances, some crosswalks will warrant pavement markings and/or other treatments (see section 10.5.3), and midblock crossings may be appropriate in some situations (see section 10.5.8.1).

[6] Minnesota State Statutes, Chapter 169.01.

[7] Minnesota State Statutes, Chapter 169.21.

10.5.2.2 Pedestrian Delay

Minimizing pedestrian delay in crossing the street increases pedestrian convenience and reduces the likelihood that pedestrians will cross the street in an unsafe manner. Pedestrian delay may be minimized by maintaining short signal cycles at signalized intersections (see section 10.5.5.1) and by ensuring that pedestrians have sufficient frequency and length of gaps in traffic at uncontrolled intersections.

10.5.2.3 Crossing Distance

Short street crossings improve pedestrian safety and convenience. Pedestrian crossing distance should be minimized to the greatest extent possible. AASHTO states:

> Short crosswalks help pedestrians cross streets. Excessive crossing distances increase the pedestrian exposure time, increase the potential of vehicle-pedestrian conflict, and add to vehicle delay. Pedestrian comfort and safety when crossing wide intersections is an essential component of pedestrian facility design. At signalized intersections, reducing the distance pedestrians need to cross an intersection can usually improve the signal timing of the intersection. Where the pedestrian crossing time is the controlling factor, reducing the distance needed for a pedestrian to cross a main street permits the green time for the major street traffic to be increased proportionally. Thus, under certain conditions, reducing the arterial street throat width on an intersection approach may actually increase the capacity of the street.[8]

Short crossing distances may be achieved through:

- curb extensions (see section 10.3.5)
- median refuge islands (see section 10.5.6)
- realignment of crosswalk at offset or diagonal intersections
- vehicle and parking lane widths (see section 5.3)
- number of vehicle lanes (see section 2.2.10.2)

10.5.2.4 Visibility

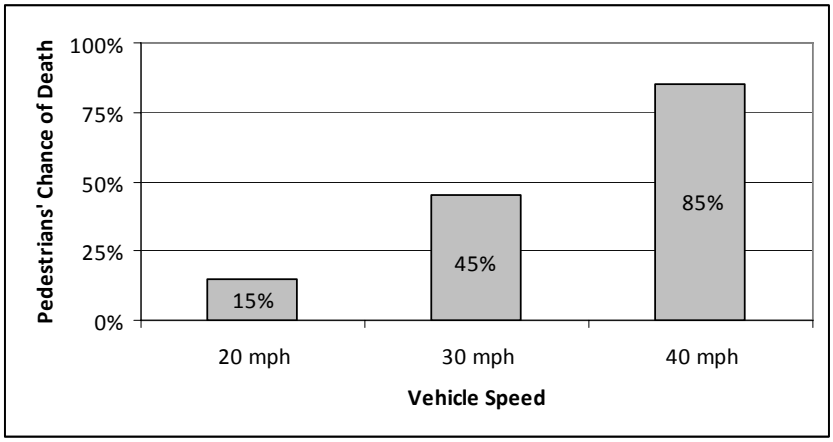
Pedestrians need to be visible to vehicle drivers approaching within the roadway. At the same time, pedestrians need to be able to see those same vehicles. With typical intersections that include parking along the roadway, pedestrians standing on the curb are often obscured from a vehicle driver's view. *See section 10.3.1.2 Visibility at Corners for more information.*

10.5.2.5 Managing Vehicle Speeds

Motor vehicle speeds have a huge impact on pedestrian safety, such that the likelihood of serious injury or death rises significantly with each speed increment, as shown in Figure 10-33. Faster vehicle speeds make it much more difficult for pedestrians to judge safe gaps in traffic for crossing. Thus, it is paramount that streets should be designed and operated with speed management in mind. Most streets in Minneapolis have posted speed of 30 mph. *Refer to section 4.4 for more information on roadway design and operating speeds.*

[8] Source: Guide for the Planning, Design, and Operation of Pedestrian Facilities, AASHTO

Figure 10-33: Pedestrians' Chance of Death if Hit by Motor Vehicle



Source: Killing Speed and Saving Lives, UK Department of Transportation.

10.5.3 Crosswalk Markings

10.5.3.1 Purpose

The purpose of crosswalk markings is to:

- Indicate to pedestrians preferred crossing locations.
- Alert road users of likely pedestrian crossing locations.
- Legally designate midblock crosswalks.

In addition, crosswalks markings also help to:

- Prevent vehicular traffic from blocking the pedestrian path when stopping for a stop sign or red light.
- Align pedestrians to cross in the crosswalk, not the parallel traffic lane.
- Remind turning drivers of potential conflicts with pedestrians.

10.5.3.2 Location

Crosswalk markings are a basic tool for directing pedestrians safely across the street and warning drivers of pedestrian crossings. It is not necessary or practical to mark all legal crosswalks. Many crosswalks, particularly on local residential streets, are safe without crosswalk markings. Crosswalk markings need to be maintained, and it is important to balance the maintenance costs with the benefits that crosswalk markings provide.

The decision about where to mark crosswalks should be based upon sound engineering judgment. In general, marked crosswalks and other safety treatments should be prioritized at locations where pedestrians are vulnerable to conflicts with vehicles due to:

- High pedestrian and vehicular volumes, such as in business districts, major bus stops, universities
- Vulnerable populations such as children, senior citizens, people with disabilities, or hospital patients
- Difficult roadway conditions for pedestrians to cross, such as wide crossing distances, high traffic speeds, complex intersection geometry

Marked crosswalks are one form of pedestrian safety enhancement. In general, they may be safely used alone at traffic signal and stop sign controlled intersections. However, in many cases, at uncontrolled intersections, crosswalk markings should be used in combination with other treatments because they may not alone provide a safe crossing.[9] In these situations, additional treatments (e.g., curb extensions, raised crossing islands, traffic signals, roadway narrowing, enhanced overhead lighting, traffic calming measures) should be employed to create a safe crossing.

Minneapolis' current policy is to *always* mark crosswalks at the following types of locations:

- Signalized intersections
- Designated midblock crosswalks
- School patrolled crossings

10.5.3.3 Design

Crosswalk markings must be visible to both the pedestrian and the driver. In general, pedestrians can see crosswalk markings much more easily than drivers because they are closer to the intersection and approaching it at a different angle. For drivers, longitudinal markings are more highly visible than the two transverse lines (see Figure 10-34). Transverse and longitudinal styles are typically used in Minneapolis.

- **Standard (Transverse) Crosswalk Markings -** A standard crosswalk consists of two transverse (parallel) lines, each 6 inches in width and striped 15 feet apart in downtown and activity centers and 10 feet in other locations. To improve visibility of transverse markings, a 12-inch line width can be used instead of a 6-inch line width.
- **High-visibility (Longitudinal) Crosswalk Markings** - A high-visibility crosswalk consists of longitudinal lines striped parallel to the direction of traffic. The longitudinal lines should be between 12 and 24 inches in width and spaced 12 to 60 inches apart. The markings may be striped to avoid the wheel paths of vehicles, reducing maintenance needs (see Figure 10-35). The longitudinal lines may be used alone or in addition to transverse lines, thus creating a ladder-style crossing.

At marked crosswalks, curb ramps and other sloped areas should be wholly contained within the crosswalk makings, excluding any flared sides. The crosswalk lines should extend the full length of the crossing.

Longitudinal markings should be used where there is a need to alert drivers to unexpected pedestrian crossings, to alert drivers to particularly vulnerable pedestrian users, or to channelize pedestrians to a preferred crossing location. They may be appropriate at the following locations:

[9] A 1995 study by the UNC Highway Safety Research Center on the safety of marked crosswalks at uncontrolled intersections found that crosswalks markings should not be used alone without additional treatments at the following types of uncontrolled intersections:

Where the speed limit exceeds 40 miles per hour.

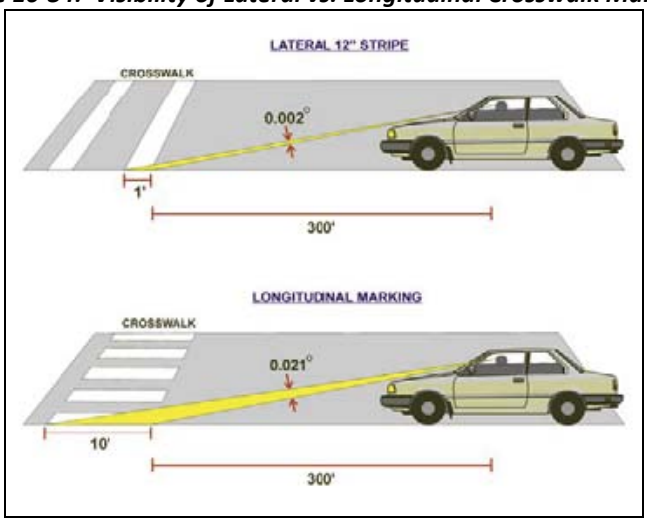
On a roadway with four or more lanes without a raised median or crossing island that has (or will soon have) an ADT of 12,000 or greater.

On a roadway with four or more lanes with a raised median or crossing island that has (or soon will have) an ADT of 15,000 or greater.

- Mid-block crosswalks, including mid-block trail crossings
- Uncontrolled intersections where crosswalk markings are needed
- Selected school patrolled crossings where there is a need to provide additional driver awareness of pedestrians or to channelize pedestrians to a particular crossing leg
- Intersections with complex geometry or unusual signal operations where there may be a need to direct pedestrians to preferred crossing locations or alert drivers of significant vehicular-pedestrian conflicts
- Marked crosswalks on higher speed roadways (40 mph or greater)

Longitudinal markings require more pavement marking material than transverse markings, and as a result have higher installation costs. Staggered spacing on longitudinal markings to avoid vehicle wheel paths can, however, reduce maintenance costs (see Figure 10-35).

Figure 10-34: Visibility of Lateral vs. Longitudinal Crosswalk Markings



Source: Guide for the Planning, Design, and Operation of Pedestrian Facilities, AASHTO

Figure 10-35: Staggered Spacing of Longitudinal Crosswalk Markings

10.5.3.4 Crosswalk Materials

Options for crosswalk marking materials include latex paint, epoxy, inlay tape and thermoplastic. Although initially more costly than paint, both inlay tape and thermoplastic provide better performance over the life of the crosswalk markings. Inlay tape is recommended for new and resurfaced pavement, while thermoplastic may be a better option on rougher pavement surfaces. Both inlay tape and

thermoplastic are more visible and less slippery than paint when wet. Most crosswalks in Minneapolis are currently marked with latex paint once every other year; reflective roadway tape and thermoplastic materials have been used in selective locations.

10.5.3.5 Textured and Colored Pavement Crosswalks

Colored and textured crosswalk design treatments are sometimes used to enhance the streetscape. While textured and color pavement treatments may improve the quality of the urban design and can help to create an environment that attracts more pedestrians, it does not typically improve pedestrian safety. Often textured and colored pavement is not as visible to drivers as to pedestrians. When colored pavement is used, crosswalks should be supplemented with white lines to establish the legal crosswalk and increase visibility. Another way to increase visibility is to imbed a crosswalk within paving of a contrasting color.

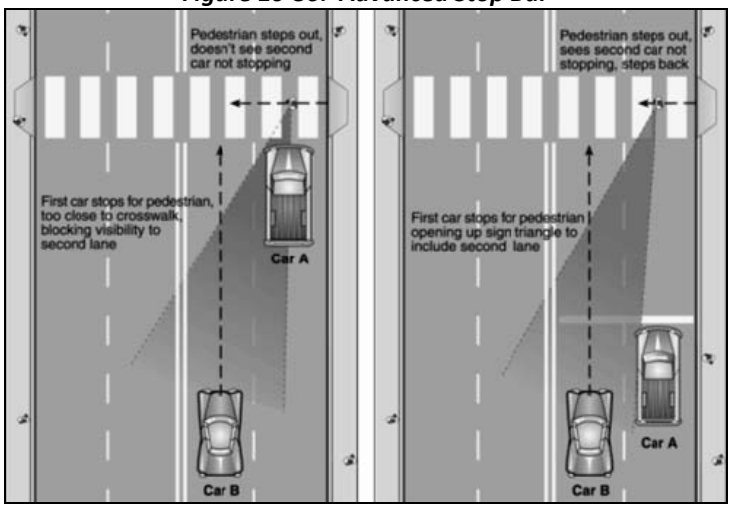
In addition, care should be taken to ensure that the material used in these crosswalks is smooth, non-slip, and viable. Some textured crosswalks can be uncomfortable to cross in wheelchairs, painful to pedestrians with sensitive (such as spinal) injuries, and frustrating to those using canes, high heels, rolling luggage, or grocery carts. Avoid using a paving system that may shift and/or settle or that includes a high degree of jarring or vibration on wheelchair wheels.

See also section 10.2.7.1 on sidewalk surface design.

10.5.3.6 Advance Stop Bar Markings and Locations

Multi-lane roadways present a unique threat to pedestrians crossing, as vehicles in one lane can block the visibility of a motorist traveling in the adjacent lane. The law dictates that vehicles must stop to pedestrians in a crosswalk. Placing a stop bar 20 to 50 feet ahead of the crosswalk improves visibility for both the motorist and the pedestrian. Striping a line before the crosswalk also gives an extra indication to the driver that it is their responsibility to stop. This measure is illustrated in Figure 10-36. This application is appropriate at any crossing on multilane roadways or designated midblock crosswalks.

Figure 10-36: Advanced Stop Bar



10.5.4 Signs

Pedestrian crossing signs alert drivers that there are pedestrians in the area and remind them that automobiles must stop for pedestrians in the crosswalk. Pedestrian crossing signs are especially

important at school crossings, mid-block crossings, and unsignalized locations with high pedestrian volume.

10.5.4.1 Standard Signs

Pedestrian signs should be placed according to MMUTCD standards. The pedestrian crossing standard, with an arrow pointing down to the crosswalk, is generally easily understood by the public (see Figure 10-37). Primary location for pedestrian crossing signs should be in advance of crosswalk and the supplemental location should be at the crosswalk. Pedestrian signs in school zones should follow the City of Minneapolis School Pedestrian Safety Toolbox.

Figure 10-37: MMUTCD Pedestrian crossing sign

10.5.4.2 Supplemental Signs

Supplemental post mounted signs can improve visibility of crosswalks. Overhead signs can be used to draw attention to the presence of a crosswalk and can also be supplemented by flashing beacons. Various design options are available, ranging from static signs to flashing lights that activate when a pedestrian pushes a button at the curb.

Another way to draw attention to a crosswalk and educate the motorist at the same time is to place a paddle board or removable sign directly in the crosswalk, as shown in Figure 10-38. The sign states the law and draws attention to the crosswalk directly. This tool is often used at downtown activity center locations with many pedestrian generators and near schools. In-street signs increase rates of vehicles yielding to pedestrians, especially on slow-speed streets. They should not be used on high-speed, multi-lane roadways.

Figure 10-38: Removable In-Street Pedestrian Crossing Sign

10.5.5 Signals

There are approximately 800 traffic signals in Minneapolis, nearly all of which have pedestrian signal heads. Pedestrian signals direct pedestrian traffic by communicating when pedestrians are supposed to cross the street. Pedestrian signal heads should be installed at all signalized intersections where there are pedestrian crossings.

10.5.5.1 Cycle Lengths / Pedestrian Delay

Longer signal cycles (simply, the overall time a motorist has to wait for the next 'green light') create more delay for pedestrians waiting to cross the street and can lead to impatient pedestrians crossing against the signal. Therefore, signal cycles and pedestrian delay in high pedestrian areas should be kept to the minimum needed to accommodate pedestrian crossing intervals and vehicular demand.

10.5.5.2 Crossing Interval / Crossing Time

The proposed 2009 MUTCD will require that signal timing for the pedestrian clearance time be based on a pedestrian crossing speed of 3.5 feet per second, and the total Walk plus Flashing Don't Walk time be based on 3.0 feet per second. Most signals in Minneapolis currently meet this standard, and it should be used in all future signal timings.

10.5.5.3 Countdown Timers

The countdown timer (see Figure 10-39) shows the number of seconds remaining until the steady "upraised hand" signal is shown. Countdown signals benefit pedestrians by allowing them to anticipate when the traffic light will change. Pedestrians can use this information to decide if they have enough time to cross the street and judge whether or not to enter the intersection.

Countdown timers are standard in all new signal installations in Minneapolis (as of 2008), and the proposed 2009 MUTCD will require that all signalized intersections use countdown signals where pedestrian crosswalks exist.

Figure 10-39: Pedestrian Countdown Timer

10.5.5.4 Pedestrian Detection / Push Buttons

Pedestrian traffic signals operate in three modes:

- *Pre-timed signals* - Pre-timed signals do not require pedestrian push buttons because the pedestrians are given a walk signal for every legal crossing every cycle. This type of signal is common in downtown. Approximately two-thirds of Minneapolis signals operate in this mode.
- *Semi-actuated signals* - These signals require pedestrian activation for crossing the major street and no pedestrian activation for crossing the minor street. Both the traffic Green signal and "WALK" signal phases are ON for the major street when no other movement requests are detected. The pedestrian is required to push the button to activate the "WALK" signal to cross the major street. These signals tend to be at intersections where streets are unequal in volume and are primarily done as an effort to maximize the efficiency of vehicular movements. Approximately one-third of Minneapolis signals operate in this mode.
- *Fully-actuated signals* – Fully-actuated signals have pedestrian activation for all legal crossings. The traffic green signal phase is on for the major street when no other movement requests are detected. The pedestrian is required to push the button to activate the "WALK" signal to cross all streets. Less than two percent of Minneapolis signals operate in this mode.

With any actuated signal, pedestrians must be detected through pushing a button. In most actuated situations, the WALK signal occurs with the parallel green signal at the next signal cycle, resulting in a delay for pedestrians of up to one minute after pushing the button. This can cause frustration for pedestrians who don't know if the push button is working and if the signal system has received the pedestrian's call. When actuated signals are used, it is essential that push buttons be convenient to use and well-maintained. They should clearly display the direction of crossing, have a large button, and be placed in accessible location (see section 10.3.4 and Figure 10-40). It is also desirable that push buttons have a visual indication that the button has been pushed.

There are also a variety of new technologies for detecting pedestrians through activating infrared, digital cameras or other types of detectors.

Figure 10-40: Pedestrian Signal Call Button

10.5.5.5 Accessible Pedestrian Signals

Accessible pedestrian signals (APS) provide the information in the WALK and DON'T WALK visual indications in standard pedestrian signals to blind and low vision pedestrians through audible and vibro-tactile indications of the WALK interval. The audible indication of the WALK interval is provided by tone or speech message. Pedestrian signal devices provide tactile and visual signs on the face of the device or its housing or mounting to indicate crosswalk direction for the crosswalk served by that pedestrian signal. Signs include a tactile arrow aligned parallel to the crosswalk direction. APS may also provide street name information in audible format.

Installation of APS should follow the City's APS evaluation criteria presented to City Council in the draft APS transition plan (2009), under which all traffic signals will be evaluated and prioritized for APS installation over a 10 year period.

See also Section 10.3.4 on locating pedestrian signal call buttons.

10.5.5.6 Flashing Warning Beacons and Half Signals

Flashing warning lights can give a pedestrian crosswalk more visibility to motorists. These are located adjacent to, or in advance of, the crosswalk and accompany pedestrian crossing signs. They are generally push-button activated. These should be used where pedestrian traffic is intermittent and no other traffic control is present.

Half signals are located at street-arterial intersections. They are pedestrian-actuated signals that stop arterial traffic only, leaving the lower volume street unsignalized. The signal is only activated when pedestrians are present.

Other advanced signal types, such as HAWK signals[10], are in the MUTCD 'experimental' category and may be available for installation on a case-by-case basis.

[10] The pedestrian beacon, or HAWK signal, is currently in experimental use by the FHWA and is proposed for approval in the 2009 MUTCD. These signals are pedestrian actuated and are appropriate at otherwise unsignalized crossings. The HAWK signal has three signal lights, two red lights side by side over a red light. When not activated, the lights are not illuminated. When a pedestrian activates the signal via a push button, the signal begins flashing yellow and then solid yellow, advising drivers to prepare to stop. The signal switches to a solid red for drivers and shows the pedestrian a "Walk" indication. Finally, the red lights flash alternately indicating that motorists may proceed when safe, after coming to a full stop. Meanwhile the pedestrian is shown a flashing "Don't Walk" and countdown signal.

10.5.5.7 Leading Pedestrian Intervals

A 'Leading Pedestrian Interval'[11] displays a two to four second WALK signal in advance of the vehicular Green indication, so that vehicles have an all-red interval. This interval follows an all-red clearance phase. This signal phase allows pedestrians to establish a presence in the intersection and reduces vehicle pedestrian conflicts. It can be particularly effective where there are turning vehicle conflicts with pedestrians.

10.5.6 Pedestrian Refuge and Median Islands

Adding a pedestrian refuge island or median island in the center of a roadway can provide a safe place for pedestrians to wait for a gap in traffic, where they are removed from vehicles. Pedestrian refuge islands are particularly useful at unsignalized crossings or at signals with wide crossings where a pedestrian has a difficult time making it across the whole intersection during one walk phase Refuge islands create a safer crossing by shortening crossing distances and simplifying the crossing. Refuge islands should not be used to justify a signal timing that does not allow pedestrians to cross in one signal cycle.

10.5.6.1 Center Median Islands

The design of center median islands should account for the following:

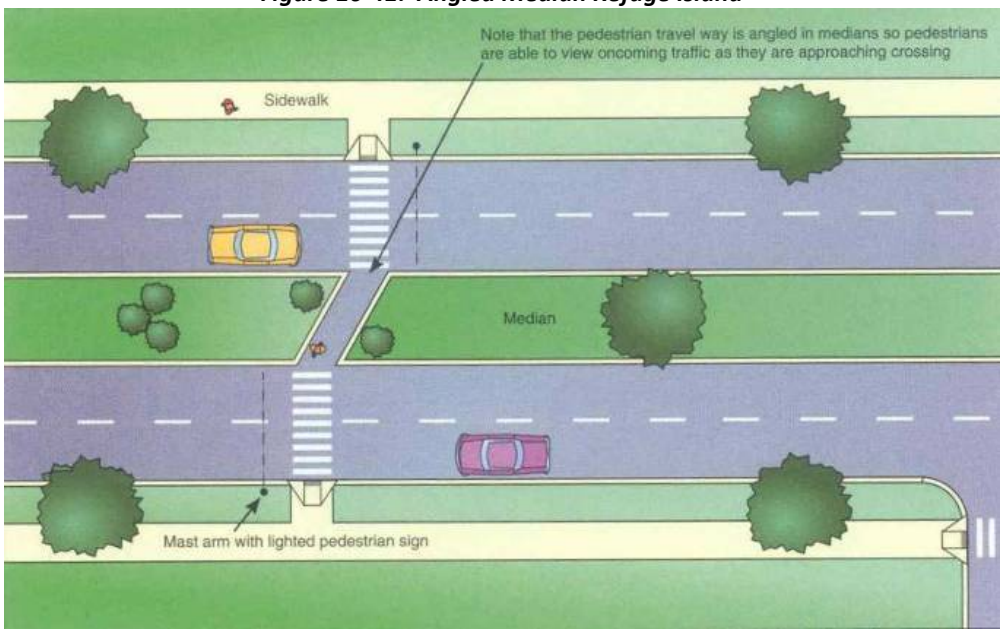
- **Location** - AASHTO recommends that medians should be considered where the crossing distance exceeds 60 feet (roughly 5 lanes), but can be used at intersections with shorter crossing distances with a recognized need.
- **Width -** 6 feet or wider
- **Accessibility -** Center medians should be designed in accordance with requirements of the ADA and PROWAG at crossings to ensure that the refuge island does not act as an obstruction to crossing the roadway.
- **Alignment** - An angled or staggered cut-through on pedestrian refuge (see Figure 10-41) benefits pedestrian safety by "steering" pedestrians so they face oncoming traffic as they move across the island. To improve wayfinding for pedestrians with visual impairments, the ends of the cuts should be aligned with the crosswalks (and fitted with a detectable warning strip).
- **Snow Clearance** – Pedestrian refuge islands require additional snow clearance responsibilities for the City, unlike snow clearance of sidewalks, which is the responsibility of adjacent property owners.
- **Other Considerations -** At unsignalized and/or mid-block locations, refuge islands may be supplemented with other treatments such as crosswalk markings, signs, or signals to allow a safer crossing.

It should be noted that planted center medians do not always benefit pedestrians. Planted center medians do not provide a pedestrian refuge at intersections if left turn lanes eliminate the planted center median at intersections, which is a common design. They can take away space from the Planting/Furnishing Zone, which may be more useful to pedestrians in providing space for shade trees along sidewalks, transit shelters, and street furnishings. Planted center medians are also sometimes used to eliminate cross-street access for traffic calming or access management purposes; in these cases,

[11] The City's current central computer system does not accommodate Leading Pedestrian Interval, but planned system upgrades in 2011-2012 may accommodate the feature in the future.

pedestrian access across the center median should be maintained at intersecting streets, as shown in Figure 10-42.

Figure 10-41: Angled Median Refuge Island



Source: Guide for the Planning, Design, and Operation of Pedestrian Facilities, AASHTO

Figure 10-42: Median Refuge Island with Pedestrian Access

Location: Marshall Avenue, St. Paul

10.5.6.2 Channelized Right Turn Lanes

Channelized right turn lanes should not be used in new construction, except where unique street geometry requires them. Where they are required, a well-designed raised corner island can provide a refuge for pedestrians crossing multiple lanes at a complex intersection (See Chapter 5, Figure 5-11 Angle of Dedicated Right-Turn Lane).

If an unsignalized urban right-turn lane is provided, it should be designed for slow speeds (5-10 mph), high pedestrian visibility and clear yield-to-pedestrian signs and markings. Adding pedestrian refuge

islands to a problematic intersection is often a beneficial alternative to redesigning an entire intersection.

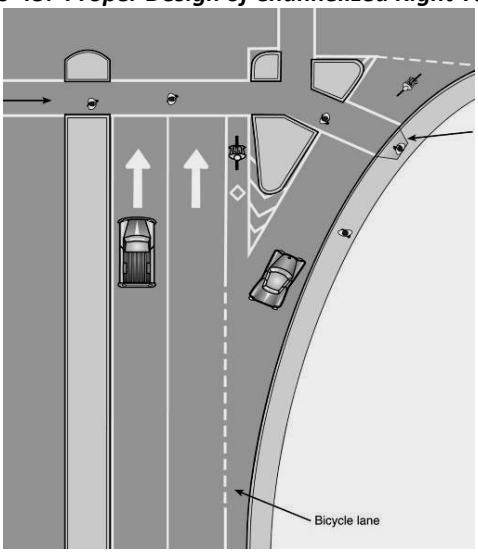
AASHTO recommends that pedestrian crossings to corner islands meet the following criteria:

- The pedestrian crossings should be at 90 degrees across the turn lane and placed where the motorist can easily see the pedestrian crossing ahead.
- Pedestrians and motorists should be able to easily see each other.
- The design should encourage low-vehicle-turning speeds.

Figure 10-43 shows an example of a well-designed right slip turn lane with pedestrian refuge islands.

Underused free right-turn lanes should be removed to provide additional pedestrian space and to reduce both the speed of turning vehicles and pedestrian exposure. Reclaimed space from free right turn lane removal can be developed into space for public plazas or used for street furniture and/or small-scale plantings.

Figure 10-43: Proper Design of Channelized Right Turn Lane



10.5.7 Lighting

Proper lighting has a beneficial effect on the safety level of the pedestrian. Adequate lighting should be provided at both unsignalized and signalized intersections if pedestrians are present during nighttime hours. Lighting should not only highlight the presence of intersection crosswalks, but also mid-block crossings.

See Section 7 for further guidance on City's Lighting Policy.

10.5.8 Unique Types of Crossings

10.5.8.1 Mid-Block

Mid-block crossings may be appropriate for unusually long blocks with pedestrian generators, such as schools, stadiums, museums, office buildings, etc.. These types of crossings generally require special design treatment such as marked crosswalks, raised medians, curb extensions, pedestrian signals and signs to indicate to drivers that pedestrians may cross.

Certain locations such as those with sparse land use, low pedestrian volumes, or poor driver visibility should be avoided as they work against driver expectations and decrease safety for pedestrians.

10.5.8.2 Freeway Ramps

Crossings across freeway ramps can be more dangerous than typical pedestrian crossings. Automobiles exiting from the freeways are traveling at higher speeds and are transitioning from a pedestrian-free environment. Vehicles entering freeways are accelerating and focused on merge maneuvers. Additionally, pedestrians typically have to walk across multiple lanes. Freeway on-ramps and off-ramps in urban areas should be designed as urban intersections where the on-street design speed dictates turning radii. The AASHTO *Guide for the Planning, Design, and Operation of Pedestrian Facilities* provides the following guidance on the intended entrance/exit speed, "Design the exits for 20 mph at ramp-street situations in urban environments" (p.79). Freeway ramps should have clear sight lines.

10.5.8.3 Cul-de-Sacs/Diverters/Closed Streets

Cul-de-sacs, diverters, and closed streets interrupt the street grid. Crossings at these locations should emphasize maintaining the same pedestrian connectivity and accessibility as a standard intersection.

10.5.8.4 Raised Intersections and Raised Crossings

Raised intersections elevate the entire plane of the intersection and crosswalks to three or four inches above the surrounding streets. These intersections slow traffic and increase pedestrian visibility. Properly designed raised intersections are suitable for buses and trucks but should have warning signs for drivers. Raised intersections are appropriate and effective in school zones, urban intersections, business districts and other areas where pedestrian movements are a priority.

Raised crossings are a similar application, but at a midblock crossing. Raised crossings are used selectively throughout the city. This raised height gives pedestrians higher visibility as they cross the street and also acts as a traffic calming device because cars need to slow down as they approach the change in grade. In Minneapolis, raised crossings are used in limited locations such as along the parkway system, where automobile speeds are below 30 mph and there is steady pedestrian traffic due to the parkway trail system. Raised crossings should not be used on collector or arterial streets, bus routes, or any intersection approach with stop signs or signal control devices to reduce speeds. They can occasionally be used at mid-block crossings with appropriate warning signage. Drainage should be considered during design due to the crossing extending curb to curb. Modifications to the design, by providing a French drain at the gutter, can facilitate adequate drainage.

Raised intersections and raised crossings are not currently allowed on Minnesota State Aid Streets.

Figure 10-44: Raised Intersection

Location: Oak Park, Illinois

10.5.8.5 Roundabouts

Roundabouts are increasingly popular for use in place of signals at relatively busy intersections. The primary purpose of roundabouts is to provide motor vehicles with free-flowing mobility at reduced speeds through an intersection.

Research suggests that there may be fewer vehicle-pedestrian conflicts and crashes at properly designed single-lane roundabout intersections versus typical signalized or unsignalized intersections. However, there is some concern that it is difficult for pedestrians with vision impairments to obtain cues concerning gap availability for crossing near roundabouts, particularly at multi-lane roundabouts. Currently underway national research should lead to appropriate solutions in the short term.

10.5.8.6 Grade-Separated Crossings

Grade separated crossings (above via bridge or beneath via underpass) are often located across freeways, parkways, and rail lines, and often represent the only option to cross a significant barrier. These are more expensive than at-grade crossings due to the cost of the structure and/or excavation. The designer should recognize that they often make pedestrians walk farther, which discourages pedestrians from using them at all. To be well designed and functional, grade-separated crossings should pay special attention to accessibility, user comfort and personal safety, including preserving good sight lines.

See also sections 10.6.2.2 and 10.6.2.3 on non-motorized bridges and underpasses.

10.5.8.7 Prohibited Crossings

Prohibited pedestrians crossings are a tool of last resort and should be avoided unless strong safety concern warrants their use.

10.6 OTHER PEDESTRIAN NETWORKS

In addition to the sidewalk system, Minneapolis has other important networks that are key to pedestrian circulation, including the Skyway System and the off-street path system. This section provides the appropriate guidelines for these off-street pedestrian networks.

10.6.1 Skyway System

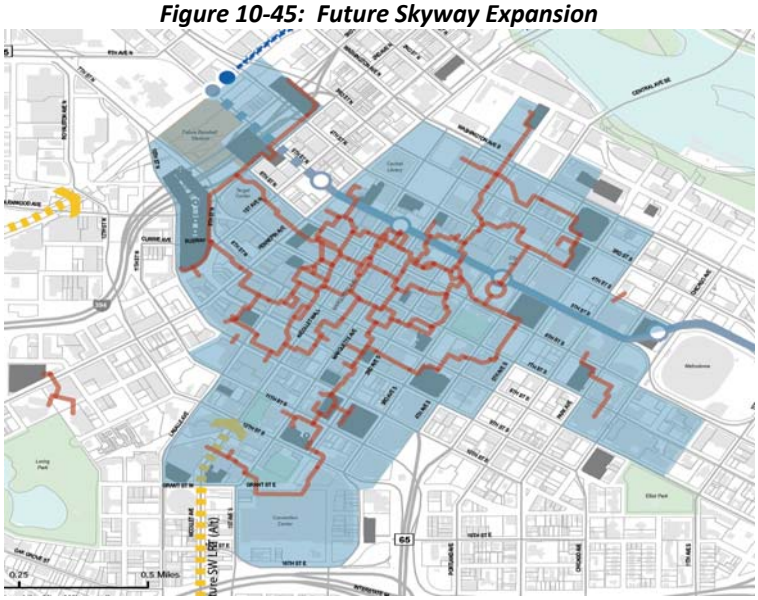
Minneapolis has an extensive downtown Skyway System that provides convenient access between offices, retail, hotels and parking ramps. It has played a key role in maintaining and enhancing the economic health of downtown Minneapolis. However, it also has had the effect of minimizing street-level retail and street-level pedestrian activity. While it provides convenient access for those who use it regularly, it can be confusing and difficult to navigate for those who don't use them regularly.

City Policy directs continued improvement and limited expansion of the Downtown Skyway System. The guidance in this section is based upon the City's 2003 *Downtown East North Loop Master Plan* and the 2007 *Access Minneapolis Downtown Transportation Action Plan*.

10.6.1.1 Appropriate Locations

The existing Skyway System should be completed and expanded within the core of downtown and to other key high-intensity uses, such as the new Ballpark, as shown in Figure 10-45. Limiting Skyway System expansion to this core area facilitates street-level land uses and pedestrian activity in growing residential neighborhoods, while also ensuring that new skyways will have sufficient use for safety and security.

Figure 10-45: Future Skyway Expansion



Source: Access Minneapolis Downtown Transportation Action Plan, 2007.

10.6.1.2 Design and Placement

New skyways should be integrated into building architecture to physically and visually connect the sidewalk with the skyway through the use of highly visible vertical circulation and skyway concourses located along the outside the perimeter of buildings, such as the new Target Store on Nicollet Mall (see Figure 10-46), therefore making the skyway system legible and less confusing for pedestrians, especially visitors to downtown.

Figure 10-46: Highly Visible Vertical Skyway Access

Location: Target Building, Nicollet Mall; Source: Downtown East/North Loop Plan

In addition to providing legible vertical connections between the Skyway System and the sidewalk system within buildings, skyway stair towers at the edges of the Skyway System are also recommended to facilitate convenient access between sidewalks and skyways.

10.6.1.3 Hours of Operation

The standard hours of operation as provided in the Minneapolis Skyway System Standards and Procedures Manual are 6:30am-10:00pm Monday-Friday, 9:30am-8:00pm Saturday, and noon-6:00pm

Sunday. Because the Skyway System is privately owned and has multiple owners, these operating hours are encouraged, but are not mandatory.

10.6.1.4 Wayfinding

The Skyway System has a standard wayfinding signage system, including building signs and system maps. Although voluntary, most building owners have adopted this standard signage, and it is recommended for use in all downtown skyways. The standard wayfinding signage includes signage identifying skyway entries at street level.

10.6.2 Non-Motorized Trails, Bridges, Underpasses and Stairs

Off-street pedestrian facilities have unique design standards. The same design issues that are addressed above for on-street facilities will be covered here in the context of trails, pedestrian bridges, underpasses and stairs.

10.6.2.1 Non-Motorized Trails

Public multi-use trail design shall follow the Mn/DOT Bikeway Facility Design Manual and AASHTO Guidelines. Major features of that guidance include:

- **Width -** A minimum width of 10 feet is required for multi-use bicycle and pedestrian paths. The width for pedestrian-only walkways should follow the guidance in Section 10.2 for the Through Walk Zone, as well as a clear zone on either side of the walkway.
- **Grade** – The cross-slope for trails is the same as for sidewalks: maximum 2%.
- **Surface Material -** Pathways shall be built to meet Mn/DOT Bikeway Facility Design Manual and ADA standards and should be easily maintained over time.
- **Lighting** – Multi-use and pedestrian trails should be adequately lit to provide personal security and safety at street crossings.

10.6.2.2 Non-Motorized Bridges

Minneapolis currently has two-types of non-motorized bridges: freeway/street crossing bridges and creek/water bridges. Though these bridges provide connections, they can be psychological barriers to pedestrians because the spans can be long, which makes pedestrians feel isolated and vulnerable. Bridges should be designed to make pedestrians feel safe and well protected from the elements.

- **Width –** The minimum width should be the width of approaching trail plus 2 feet or 12 feet, whichever is greater.
- **Grade** – The approach of bridges should be a maximum 5% grade.
- **Surface Material –** Non-slip - typically wood or concrete.
- **Lighting** – As necessary for user safety. Users should be able to identify other trail users from a distance and the upcoming trail alignment. Lighting should not create sharp differences in brightness, as this works against effective illumination.

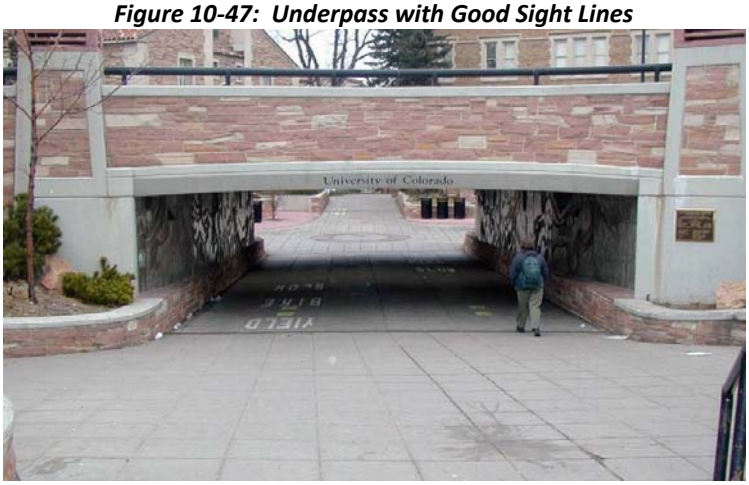
10.6.2.3 Non-Motorized Underpasses

- **Width and Vertical Clearance -** The minimum width should be the width of approaching trail plus 2 feet or 12 feet, whichever is greater. Wider openings and underpass widths are desired

as they create a more inviting space to pass through (see Figure 10-47). Recommended vertical clearance of 10 feet, with 8 feet minimum.

- **Grade –** The approach of bridges should be a maximum 5% grade.
- **Surface Material –** Place trail paving material through the underpass – typically bituminous.
- **Lighting –** As necessary for user safety. Users should be able to identify other trail users from a distance and the upcoming trail alignment. Lighting should be recessed and vandal resistant.

Figure 10-47: Underpass with Good Sight Lines



Location: Boulder, Colorado

10.6.2.4 Stairs

Stairs should be avoided along paths and trails. When unavoidable, an alternative accessible route shall be provided. Handrails shall be provided along stairways per ADA guidelines.

10.7 WAYFINDING

Improving the ease of navigation for pedestrians is an easy way to encourage people to walk and improve the overall pedestrian environment. Orientation signs also significantly improve a tourist's experience in a new environment.

10.7.1 Placement and Orientation

Wayfinding signs should be located where larger numbers of pedestrians who are generally not familiar with an area congregate, such as cultural institutions, convention centers, entertainment districts, sports arenas, transit stations, and major tourist destinations. The wayfinding system should allow users to orient themselves and determine routes and distances to adjacent destinations.

Signs and/or kiosks should be placed not only at the destinations but also at critical wayfinding decision points along a route if other visual cues do provide adequate guidance. Wayfinding should be located at highly visible locations along block faces and should have enough adjacent space for multiple people to view it at once.

Wayfinding elements are best located in the Planting/Furnishing zone where they can be oriented at pedestrian eye level. Wayfinding shall not encroach upon the pedestrian Through Walk Zone, the Clear Corner Zone, or the clear zones at transit stops. No wayfinding elements should be placed so low that they might be obscured by snow banks.

Street signs also provide valuable wayfinding information for pedestrians and should be oriented towards both pedestrians and motorists.

The placement of wayfinding elements should be coordinated with other street furniture.

10.7.2 Wayfinding Design

The wayfinding system should be coordinated system of signs, maps and/or kiosks with a distinct visual appearance that will heighten city identity and allow users to quickly and easily find the wayfinding elements. This will help to make wayfinding information more identifiable citywide, decrease overall production costs, and facilitate map updating, reproduction and installation. Graphic design standards including fonts, colors, and pictographs should be standardized for wayfinding elements citywide and should consider legibility for a majority of the population. Wayfinding elements should be resistant to vandalism and designed for ease of maintenance and updating.

10.7.3 Wayfinding Infrastructure Maintenance

Over time, wayfinding signage and kiosks will become outdated or damaged and will require ongoing maintenance. Currently, there is no dedicated funding source for maintenance of wayfinding signage in Minneapolis. Responsibility for maintenance funding of wayfinding signage must be established before any wayfinding infrastructure is installed.

10.8 SITE PLANNING

While generally not part of the public right-of-way, the development of a site can have a significant impact on the pedestrian environment. The City's Comprehensive Plan policies provide general guidance that supports traditional urban design. This section addresses site design guidance that acknowledges pedestrians and accounts for both their safety and convenience.

10.8.1 Building Facade

Building design, whether it is a storefront, an apartment, a light industrial or an office building, has strong influence on the pedestrian environment, especially those that are located on, or are in close proximity to, the street right-of-way. Well-designed buildings should incorporate pedestrian scaled building materials and elements, such as signs and lighting; promote pedestrian activity by adding visual interest to the street; add to a sense of safety through window opacity; and provide clearly defined principal entrances fronting the street. The City of Minneapolis *Great Streets Façade Design Guide* provides additional guidance on designing and redesigning pedestrian-friendly storefronts.

10.8.2 Human-scale Building Massing, Height and Step-backs

The massing of a building can have a significant impact on pedestrian zone aesthetics and comfort (i.e. generation of wind currents, access to light and shadowing effectsand sunlight). Building mass and height in close proximity to the public right-of-way should be pedestrian scaled. The use of building step-backs in upper floors of taller buildings can lessen negative impacts on allow for additional building height and density without adversely impacting the pedestrian environment.

10.8.3 Building Setback

Building setbacks can alleviate problems associated with limited right-of-way space in constrained conditions by allowing more space for the pedestrian zone. Building setbacks can provide pocket parks along corridors or at corners to allow space for pedestrians to gather and relax.

10.8.4 Building Entrance Location

When designing larger buildings, where the building façade occupies a majority of the block length, consideration should be given to locating the building entrances towards the corner of the block. This will encourage pedestrians to cross at intersections versus mid-block. This is particularly important if a primary destination for building occupants, such as a transit stop or parking lot, is located directly across the street.

10.8.5 Walkways

Site planning can enhance the pedestrian network by providing pedestrian connections through long blocks. Walkways should be located in a manner that facilitates pedestrians' desire lines between the public sidewalk and building entrances and conversely, between building entrances and transit facilities and street crossings. Site planning can also enhance the pedestrian system by providing pedestrian connections through long blocks.

10.8.6 Parking Lots

Screening of parking lots adjacent to the street right-of-way helps define the pedestrian zone while also mitigating less desirable views. Parking lot screening needs to be done in a manner that does not compromise pedestrian sight lines and safety. In addition, parking lots should be located to the rear or interior of the site.

10.8.7 Stormwater Runoff

To the extent possible, stormwater runoff and snow melt from commercial or industrial buildings and parking lots across a public walkway is prohibited by zoning code.

10.9 CLOSURES, SAFETY, AND ACCESSIBILITY IN WORK ZONES

Sidewalk closures and work zone construction can have a negative impact on the pedestrian network connectivity, accessibility and safety. AASHTO advises that there are three considerations for pedestrian safety in work zones:

- *Separate pedestrians from conflicts with work site vehicles, equipment, and operations.*
- *Separate pedestrians from conflicts with mainline traffic moving through or around the work site.*
- *Provide pedestrians with a safe, accessible, and convenient travel path that duplicates, as nearly as possible, the most desirable characteristics of sidewalks or footpaths.*

When a construction or work zone impedes on a pedestrian through way an alternate accessible and safe route must be provided. The alternate route should be provided on the same side of the street to the maximum extent feasible because same-side access does not increase pedestrian exposure and risk of accident consequent upon added street crossings.

When the alternate route is exposed to adjacent construction, excavation drop-offs, traffic, or other hazards, it should be protected with a continuous, stable and rigid barricade or channelizing device. A continuous edge should be provided no more than 6 inches from the ground, and an upper rail should be provided at a minimum of 3 feet above the ground. Support members should not protrude into the Through Walk Zone. Figure 10-48 shows several examples of effective pedestrian facility design in work zones.

Part 6D.01 of the MUTCD requires that alternate and temporary pedestrian routes, including surfaces, pedestrian ramps, and vertical clearance, must be designed according to ADA standards and ultimately should be designed to the equivalent dimensions of the replaced pedestrian route. Chapter 6D of the MMUTCD, *Pedestrian and Worker Safety* is the standard to be followed for all pedestrian paths and detours in work zones. This chapter provides a *Pedestrian Considerations in Temporary Traffic Zones Check List* to ensure accessibility compliance.

Figure 10-48: Examples of Well-Designed Pedestrian Facilities in Work Zones

10.10 REFERENCE PUBLICATIONS

Peer City Pedestrian Plans and Guidelines

- Better Streets Plan, 2008; San Francisco, CA (SF)
- City of Edina Transportation Policy, April 2005, Edina, MN (ETP)
- Creating Livable Streets: Street Design Guidelines for 2040, 2002; Metro Council, OR
- Guidance on Pedestrian Rail Crossing Design, 2007; California Public Utilities Commission
- Kansas City Walkability Plan, 2003; Kansas City, MO
- Planning and Designing for Pedestrians: Model Guidelines for the San Diego Region, 2002; San Diego Association of Governments, CA
- Portland Pedestrian Design Guide, 1998; City of Portland, OR (Portland)
- Oakland Pedestrian Master Plan, 2002; City of Oakland, CA
- Requirements for Openings, Construction and Repair in the Public Way: ADA Standards, 2007; City of Chicago, IL (Chicago ADA Standards)
- Santa Barbara Pedestrian Master Plan, 2006; Santa Barbara, CA (Santa Barbara)
- Street Design Manual, 2002; City of San Diego, CA (San Diego)
- Streetscape Design Manual, 1993; City and County of Denver, CO (Denver)
- Streetscape Guidelines for the City of Chicago Streetscape and Urban Design Program, 2003; City of Chicago, IL (Chicago)
- Seattle Right-of-Way Improvements Manual, 2006; City of Seattle, WA

Internet Resources

- Design for Health Resource Library, 2008; www.designforhealth.net
- National Committee on Uniform Traffic Control Devices, 2008; www.ncutcd.org
- Pedestrian and Bicycle Information Center, 2008; www.walkinginfo.org

National Standards

- A Policy on Geometric Design of Highways and Streets, 5th Edition; American Association of State Highway and Transportation Officials
- Accessible Public Rights-of-Way: Planning and Designing for Alterations, ITE, July 2007; http://www.access-board.gov/prowac/alterations/guide.htm
- Designing for Pedestrian Safety, 2007; Highway Safety Research Center (HSRC)

- Designing Sidewalks and Trails for Access, 2001; Federal Highway Administration (FHWA); http://www.fhwa.dot.gov/environment/sidewalk2/index.htm
- Guide for the Planning, Design, and Operation of Pedestrian Facilities, 2004; American Association of State Highway and Transportation Officials (AASHTO)
- Manual on Uniform Traffic Control Devices, 2003; Federal Highway Administration (MUTCD)
- Revised Draft Guidelines for Accessible Public Rights-of-Way, November 23, 2005, US Access Board; http://www.access-board.gov/prowac/draft.htm

State of Minnesota

- Minnesota Manual on Uniform Traffic Control Devices, 2008; Mn/DOT (MMUTCD)
- Standard Specifications for Construction, 2005; Mn /DOT
- Mn/DOT Bikeway Facility Design Manual, 2007

City of Minneapolis

- City of Minneapolis Accessible Signal Installation Guidelines, 2007; Department of Public Works
- Design Guidelines for Streets and Sidewalks, Access Minneapolis, February 22, 2008; Department of Public Works ; http://www.ci.minneapolis.mn.us/public%2Dworks/trans%2Dplan/DesignGuidelines.asp
- School Pedestrian Safety Toolbox, 2007; Department of Public Works
- Special Provisions for the Construction of Concrete Sidewalks, Curb, Curb and Gutter, Alleys and Drive Approaches, 2007; Department of Public Works
- Traffic Calming for Neighborhoods, 2000; City of Minneapolis

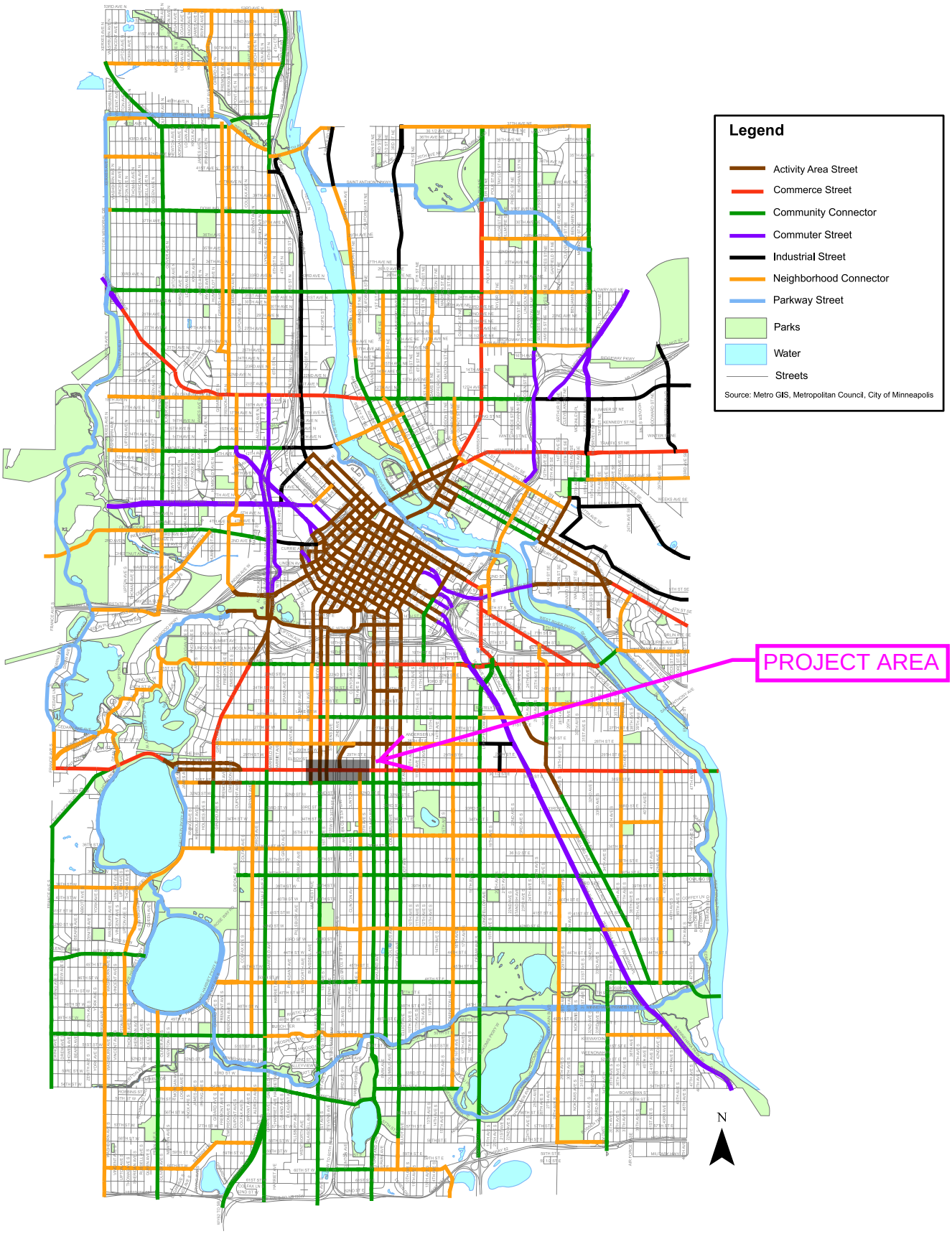


FIGURE 17 - STREET DESIGN TYPES

Table 5 - Street Design Type Characteristics

Proposed Street Types	Description	Equivalent Functional Class	Through Traffic Lanes	Target Operating Speed	Transit	Pedestrian Facilities	Bicycle Facilities[5]	Freight	Connection to Freeway System	Median	Turn Lanes	Curb Parking[6]	Curb Extensions	Driveway Access	Trees and landscaping
Commuter Street	High capacity; carries through traffic, serves longer trips and provides limited access to land uses	Principal or A Minor Arterial	4-6[1]	40 mph	PTN	Yes	Yes (on Parallel paths)[4]	Regional truck routes	Yes	Yes	Yes	No	No	Limited; access from alleys or access lanes	Yes
Commerce Street	Medium capacity; supports retail, service commercial and higher intensity residential land uses on a corridor basis	A and B Minor Arterials	2-4	30 mph	PTN and Local routes	Yes	Yes if in Master Plan	Local truck routes	Yes	Optional	Optional	Yes	Yes	Limited; access from alleys	Yes
Activity Area Street[7]	Medium capacity; provides access to abutting properties in activity centers, growth centers, transit station areas, and neighborhood commercial nodes	A and B Minor Arterials, Collectors, and Locals	2-4	30 mph	PTN and Local routes	Yes	Yes if in Master Plan	Local delivery	Provisional	Optional	Optional	Yes	Yes	Allowable where side or rear not feasible	Yes
Community Connector	Medium capacity; connects neighborhoods together and with commercial corridors and other districts, districts with each other; serves as the main street of a neighborhood commercial node. Some streets have a commuter function that require special frontage design	B Minor Arterials and Collectors	2-3[2]	30 mph	PTN and Local routes	Yes	Yes if in Master Plan	Local truck routes	Provisional	Optional	Optional	Yes	Yes	Allowable where side or rear not feasible	Yes
Neighborhood Connector	Low capacity; connects neighborhoods with each other. Some streets have a commuter function that require special frontage design	Collectors	2	30 mph	PTN and Local routes	Yes	Yes if in Master Plan	Local deliveries	Provisional	Optional	Optional	Yes	Yes	Yes	
Industrial Connector	Low capacity; connects districts with neighborhoods and serves abutting property in single use (industrial/ employment) districts	Collectors	2-3[2]	30 mph	PTN and Local routes	Yes	Yes if in Master Plan	Local truck routes	Provisional	Optional	Optional	Optional	Yes	Yes	Yes
Parkway Street	Low-capacity thoroughfare designed to provide circulation adjacent to and through parkland	Locals	1-2	25 mph	Provisional	Yes	Yes (on Parallel paths)	No	No	Optional	Optional	Recessed in bays	Yes	Optional	Yes
Local Street	Low capacity; serves abutting property in residential neighborhoods or single use (industrial/employment) districts	Locals	1-2[3]	30 mph	Local Routes	Yes	Yes if in Master Plan	Local deliveries	No	No	Optional	Yes	Yes	Yes	Yes
Alley	Property and parking access	Locals	1-2	5 mph	No	No	No	Local deliveries	No	No	No	No	No	Yes	No

Notes

[1] Six lanes is an exception for surface streets in Minneapolis

[2] Three lane streets are two-way streets with one travel lane in each direction and left turn lane (not necessarily continuous)

[3] One lane streets are two-way yield streets with parking on one or both sides and one wide travel lane

[4] Parallel paths - shared bicycle/pedestrian facilities adjacent to streets, but separated by wide planting areas

[5] If in Bicycle Master Plan, bicycle facility should be provided on target street or on a parallel street serving the same travel shed.

[6] Curb extensions should be provided except in conditions where the parking lane is used as a traffic lane during peak periods or space is required at the intersection for a turn lane.

[7] There are many street types and land uses in Activity Areas – actual design characteristics and space allocation must be determined taking into account each street's contextual and modal requirements.

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 activity center and surrounding areas. 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.

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 Mn/DOT or Hennepin County and typically have a highway design and a functional classification of Principal Arterial. Examples are Hiawatha Avenue (Hwy 55) and Olson Memorial Highway (Hwy 55). There are a limited number of commuter streets in Minneapolis outside the freeway system (shown in purple in Figure 17).

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 Mn/DOT or Hennepin County. Examples include Hennepin Avenue (Hennepin County) and Central Avenue (Mn/DOT).

Community Connector Street - A Community Connector street 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 Street - A Neighborhood Connector street is 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 street 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.

Parkway Street - A Parkway Street is a low-capacity street designed to provide circulation adjacent to and through parkland. These streets may be under the jurisdiction of the Park Board or the city. Examples are 45th Avenue North (city street) and Calhoun Parkway (Park Board Parkway). It should be noted that the term "parkway" is only used to name a Park Board street. The parkway street design type includes both Park Board parkways and local streets that are adjacent to or provide circulation through parkland. These streets will not be named as parkways but may have design characteristics that are similar to a Park Board parkway.

It should be noted that a number of parkways in the city have average daily traffic volumes in excess of 5,000 vehicles per day. Because they are often the only way to navigate around and between bodies of

water, these roadways carry higher traffic volumes and serve many different types of trips. Minnehaha Parkway, for example, provides the only continuous east-west connection between the Ford Bridge and Lyndale Avenue except 38th Street and Highway 62. As such, it carries approximately 10,000 vehicles per day and serves multiple trip purposes. While these streets may carry higher traffic volumes, they will continue to be *designed* as parkway streets.

Local Street - A Local Street is a low capacity street that serves abutting property in residential neighborhoods or single use (industrial/employment) districts. These streets are usually under city jurisdiction, but may be private.

Alley - An alley is a shared local street used exclusively for property and parking access. These streets are usually under city jurisdiction, but may be private.

Recommended Actions

The following are actions recommended related to Objective #1:

1.1. **Apply Design Guidelines to All Infrastructure Projects** - The new *Design Guidelines for Streets and Sidewalks* will be used for all infrastructure projects, including new construction, reconstruction and retrofit projects.

1.2. **Apply Design Guidelines to All Development Projects** - Public Works and CPED will continue to work together to use the new *Design Guidelines for Streets and Sidewalks* wherever possible when new developments are proposed.

1.3. **Resolve Inconsistencies Between Design Guidelines and State-Aid Standards**- Public Works will work with partner agencies to resolve any existing inconsistencies between the city's design guidelines and current state-aid standards.

1.4. **Modify Streets to Meet Design Typology Over Time** - When opportunities arise over time, changes will be made to address situations where street design or space allocation is not consistent with the street's designated street design typology. This may result in decreases in the number of lanes or changes in how intersections are operated and/or designed. In such cases, Public Works will evaluate the street to determine what changes can realistically be made to bring the street's function and design more in line with its land use context and multi-modal uses and needs.

Objective 2: Ensure that all streets in the city are safe, convenient and comfortable for walking

The city has recently prepared a Pedestrian Master Plan, with input from the Pedestrian Advisory Committee, which addresses many issues related to the walkability of the city. The Pedestrian Master Plan is currently in draft form and is expected to be adopted by City Council in summer 2009. Go to www.ci.minneapolis.mn.us/pedestrian for more details about the Pedestrian Master Plan.

Recommended Actions

Detailed information regarding proposed improvements for pedestrians is provided in the Pedestrian Master Plan. The goals and objectives of the Pedestrian Master Plan are shown in Figure 18. This information may be updated and the final pedestrian facility recommendations will be provided in the Pedestrian Master Plan.

2.1. **Implement the Pedestrian Master Plan** - Actions proposed in the Pedestrian Master Plan should be implemented as funding is available and integrated into other street and infrastructure projects as opportunities arise.

5-4	Provide incentives for walking, biking and transit use	Public Works	CPED; TMO; Metro Transit				X	X	Ambassador program
OBJECTIVE 6: OPTIMIZE THE USE, SAFETY AND LIFE OF THE STREET SYSTEM									
6-1A	Implement projects as funded for 2009 in the CIP - I-35W & Lake Street Interchange Phase IV - Chicago Ave (8th St S to 28th St S) - 3RD Ave N. - 2nd Ave N. - 1st Ave N. two-way conversion - Hennepin Ave two-way conversion - Cottage Park traffic calming	Public Works	Henn Co; Mn/DOT	X					
6-1B	Implement future year CIP projects if funding is available and approved by CLIC - Snelling Ave extension - Franklin/Cedar/Minnehaha improvements - TH 121/Lyndale Ave - Winter St NE - Nicollet Ave (31st St E to 40th St E) - Fremont Ave S Bridge - Camden Bridge rehab. - St. Anthony Bridge over BNSF - 10th Ave SE Bridge rehab.	Public Works	Henn Co, Mn/DOT		X			x	
6-2	Maintain infrastructure in good condition to maximize the life of existing facilities	Public Works	Hennepin County; Mn/DOT	X	X	X		X	
6-2A	Implement resurfacing projects funded for 2009 in CIP - Oak Hill area (west half) - North Fuller area (Phase 2) - Nicollet Ave – 58th -61st St E - Bloomington Ave – 54rh E – Minnehaha Pkwy E - Thomas Ave N – Dowling to 42nd Ave N - 38th St E – Nicollet – Chicago (provisional) - Broadway St NE – Stinson to Industrial (provisional)	Public Works		X					

City of Minneapolis
5320 Weekly Volume Report - Mon 06/20/2011 - Sun 06/26/2011

Location ID:	5320	**Type:**	SPOT
Located On:	Lake St W	**BETWEEN:**	Blaisdell Av S AND Nicollet Av S
Direction	2-WAY		
Community:	Whittier	**Period:**	Mon 06/20/2011 - Sun 06/26/2011
AADT:	20235		

Start Time	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Avg
12:00 AM			337	344				341
1:00 AM			216	318				267
2:00 AM			135	164				150
3:00 AM			105	121				113
4:00 AM			121	127				124
5:00 AM			223	219				221
6:00 AM			546	567				557
7:00 AM			938	1039				989
8:00 AM			1051	1080				1066
9:00 AM			968	1007				988
10:00 AM			962	1012				987
11:00 AM		1223	1252					1238
12:00 PM		1389	1428					1409
1:00 PM		1391	1448					1420
2:00 PM		1407	1519					1463
3:00 PM		1596	1584					1590
4:00 PM		1614	1747					1681
5:00 PM		1666	1697					1682
6:00 PM		1419	1499					1459
7:00 PM		1216	1276					1246
8:00 PM		1195	1077					1136
9:00 PM		1042	1016					1029
10:00 PM		765	748					757
11:00 PM		538	565					552
Total	**0**	**16461**	**22458**	**5998**	**0**	**0**	**0**	
24HrTotal			22063	22854				22459
AM Pk Hr			11:00					
AM Peak			1252					1252
PM Pk Hr			4:00					
PM Peak			1747					1747
% Peak Hr			7.78%					8.00%
% Peak Hr			7.55%	7.64%				7.60%

Hennepin County

Department of Public Works
Transportation Planning Division
Traffic Movement Study

CSAH 3 & Nicollet Ave
Turning Movement Study
Tuesday, Sept 27th, 2011
AM, MID-DAY, & PM

File Name : STDY 3580
Site Code : 3580____
Start Date : 9/27/2011
Page No : 1

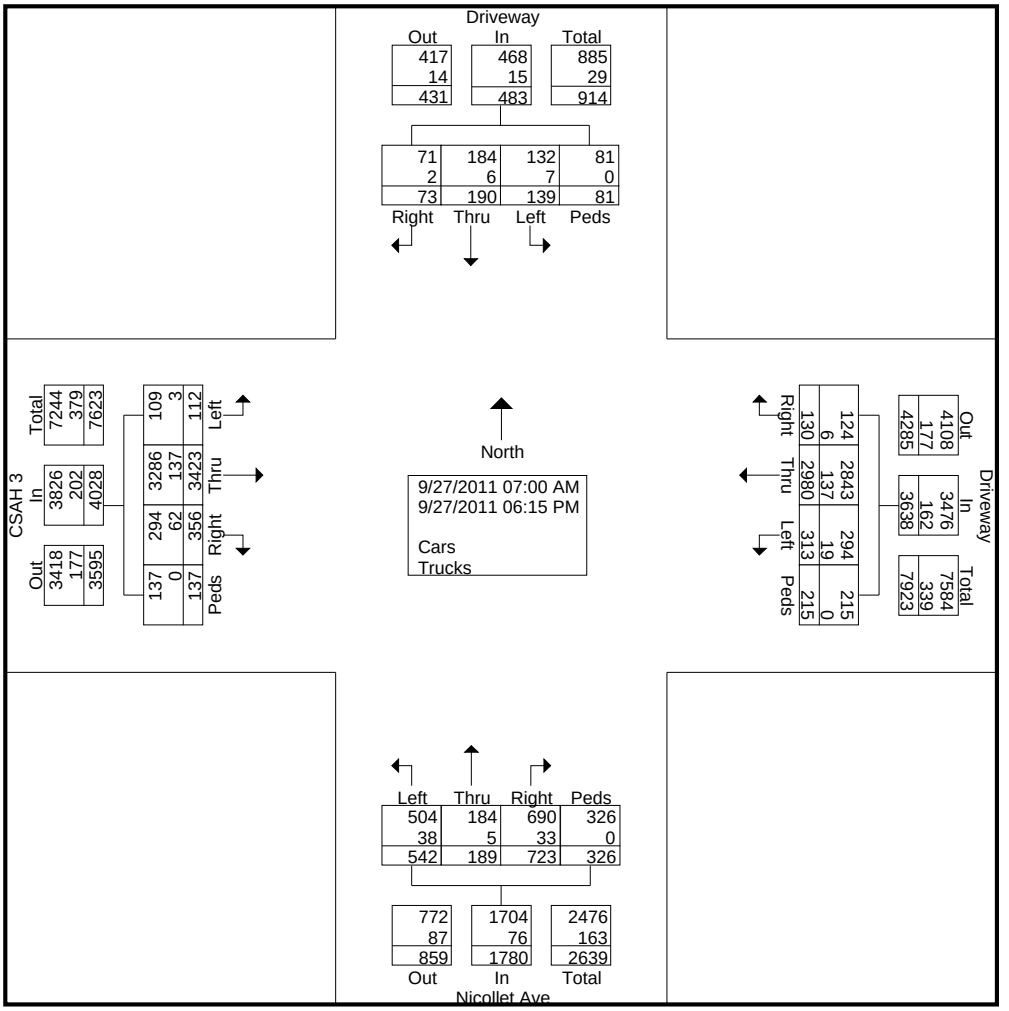
Groups Printed- Cars - Trucks

	Driveway Southbound					Driveway Westbound					Nicollet Ave Northbound					CSAH 3 Eastbound					
Start Time	Right	Thru	Left	Bikes	App. Total	Right	Thru	Left	Bikes	App. Total	Right	Thru	Left	Bikes	App. Total	Right	Thru	Left	Bikes	App. Total	Int. Total
07:00 AM	1	0	1	0	2	0	58	8	1	67	10	3	7	2	22	7	100	0	2	109	200
07:15 AM	0	2	1	0	3	2	63	2	1	68	9	3	14	3	29	7	141	2	3	153	253
07:30 AM	0	1	3	0	4	0	73	5	3	81	21	6	20	4	51	8	161	1	6	176	312
07:45 AM	0	1	2	1	4	3	66	4	1	74	17	3	15	1	36	4	185	2	2	193	307
Total	1	4	7	1	13	5	260	19	6	290	57	15	56	10	138	26	587	5	13	631	1072
08:00 AM	0	2	1	1	4	2	94	5	6	107	25	6	21	4	56	11	142	0	3	156	323
08:15 AM	0	6	6	0	12	2	92	13	1	108	23	3	10	3	39	7	152	3	3	165	324
08:30 AM	0	2	3	2	7	3	96	5	4	108	22	4	10	4	40	9	170	1	4	184	339
08:45 AM	2	4	7	0	13	4	102	11	6	123	27	5	21	6	59	11	128	6	2	147	342
Total	2	14	17	3	36	11	384	34	17	446	97	18	62	17	194	38	592	10	12	652	1328
BREAK																					
11:30 AM	2	13	7	5	27	5	129	16	13	163	40	9	21	15	85	21	134	7	8	170	445
11:45 AM	3	10	5	3	21	7	108	17	11	143	30	13	21	11	75	17	137	4	2	160	399
Total	5	23	12	8	48	12	237	33	24	306	70	22	42	26	160	38	271	11	10	330	844
12:00 PM	7	10	6	7	30	13	111	17	9	150	30	7	31	14	82	21	121	5	6	153	415
12:15 PM	2	9	7	3	21	6	115	17	4	142	43	11	27	11	92	21	143	6	9	179	434
12:30 PM	4	8	2	0	14	9	127	18	13	167	44	5	25	10	84	25	145	5	4	179	444
12:45 PM	5	7	6	2	20	12	102	17	16	147	35	6	28	16	85	13	148	5	5	171	423
Total	18	34	21	12	85	40	455	69	42	606	152	29	111	51	343	80	557	21	24	682	1716
01:00 PM	2	10	6	7	25	6	120	15	19	160	33	6	32	17	88	18	119	5	8	150	423
01:15 PM	1	9	5	3	18	5	118	13	7	143	37	6	29	15	87	13	148	6	7	174	422
BREAK																					
Total	3	19	11	10	43	11	238	28	26	303	70	12	61	32	175	31	267	11	15	324	845
BREAK																					
04:30 PM	2	14	11	2	29	9	179	22	11	221	36	14	24	24	98	18	136	8	7	169	517
04:45 PM	7	21	14	7	49	6	183	24	6	219	33	9	25	21	88	22	134	11	8	175	531
Total	9	35	25	9	78	15	362	46	17	440	69	23	49	45	186	40	270	19	15	344	1048
05:00 PM	2	7	11	8	28	5	209	17	13	244	34	18	27	20	99	14	166	5	12	197	568
05:15 PM	5	7	4	5	21	5	213	11	10	239	31	10	25	28	94	15	175	6	5	201	555
05:30 PM	7	13	3	8	31	9	178	12	11	210	42	11	29	30	112	26	143	6	10	185	538
05:45 PM	10	13	12	7	42	5	165	15	16	201	42	7	27	16	92	18	135	6	8	167	502
Total	24	40	30	28	122	24	765	55	50	894	149	46	108	94	397	73	619	23	35	750	2163
06:00 PM	7	14	8	6	35	4	144	20	15	183	29	11	24	28	92	15	138	4	4	161	471
06:15 PM	4	7	8	4	23	8	135	9	18	170	30	13	29	23	95	15	122	8	9	154	442
Grand Total	73	190	139	81	483	130	2980	313	215	3638	723	189	542	326	1780	356	3423	112	137	4028	9929
Apprch %	15.1	39.3	28.8	16.8		3.6	81.9	8.6	5.9		40.6	10.6	30.4	18.3		8.8	85	2.8	3.4		
Total %	0.7	1.9	1.4	0.8	4.9	1.3	30	3.2	2.2	36.6	7.3	1.9	5.5	3.3	17.9	3.6	34.5	1.1	1.4	40.6	
Cars	71	184	132	81	468	124	2843	294	215	3476	690	184	504	326	1704	294	3286	109	137	3826	9474
% Cars	97.3	96.8	95	100	96.9	95.4	95.4	93.9	100	95.5	95.4	97.4	93	100	95.7	82.6	96	97.3	100	95	95.4
Trucks	2	6	7	0	15	6	137	19	0	162	33	5	38	0	76	62	137	3	0	202	455
% Trucks	2.7	3.2	5	0	3.1	4.6	4.6	6.1	0	4.5	4.6	2.6	7	0	4.3	17.4	4	2.7	0	5	4.6

Hennepin County

Department of Public Works
Transportation Planning Division
Traffic Movement Study

File Name : STDY 3580
Site Code : 3580____
Start Date : 9/27/2011
Page No : 2

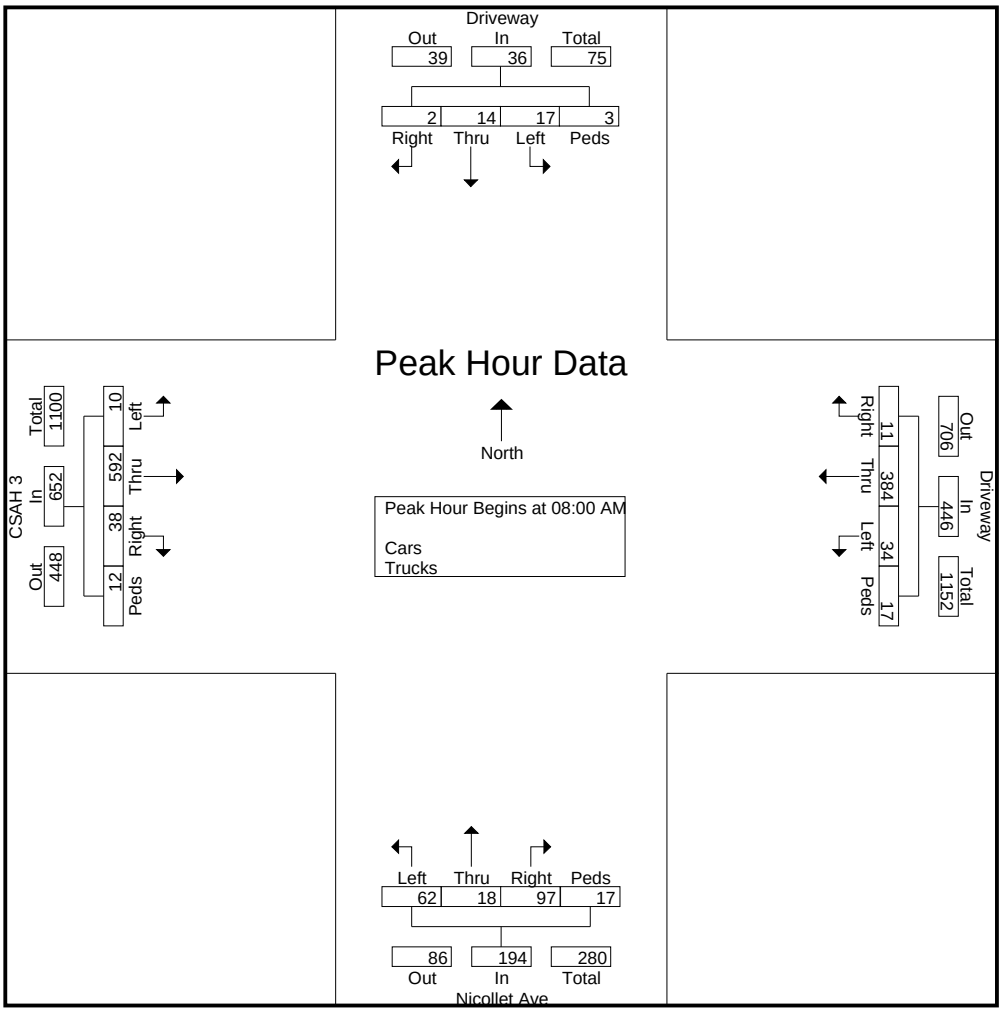


Hennepin County

Department of Public Works
Transportation Planning Division
Traffic Movement Study

File Name : STDY 3580
Site Code : 3580____
Start Date : 9/27/2011
Page No : 3

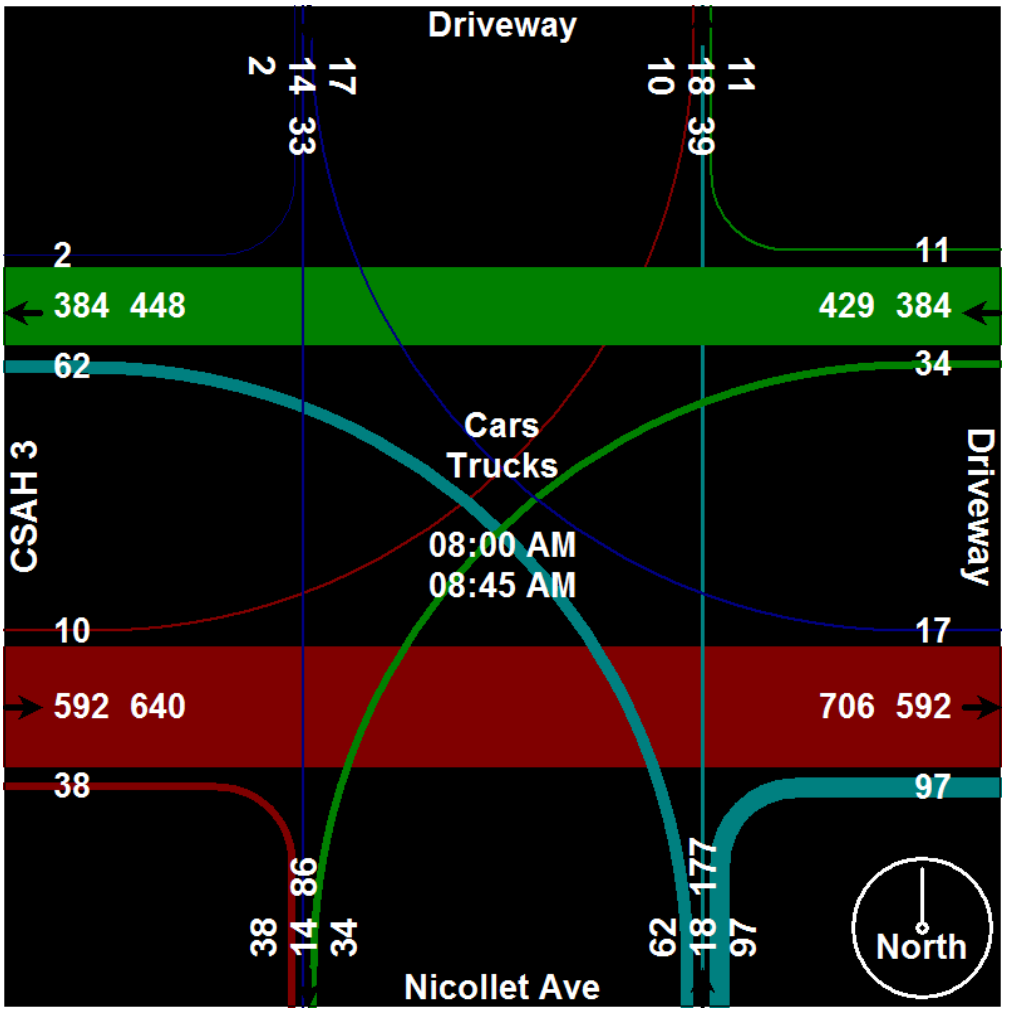
	Driveway Southbound					Driveway Westbound					Nicollet Ave Northbound					CSAH 3 Eastbound					
Start Time	Right	Thru	Left	Bikes	App. Total	Right	Thru	Left	Bikes	App. Total	Right	Thru	Left	Bikes	App. Total	Right	Thru	Left	Bikes	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	0	2	1	1	4	2	94	5	**6**	107	25	**6**	**21**	4	56	**11**	142	0	3	156	323
08:15 AM	0	**6**	6	0	12	2	92	**13**	1	108	23	3	10	3	39	7	152	3	3	165	324
08:30 AM	0	2	3	**2**	7	3	96	5	4	108	22	4	10	4	40	9	**170**	1	**4**	**184**	339
08:45 AM	**2**	4	**7**	0	**13**	**4**	**102**	11	6	**123**	**27**	5	21	**6**	**59**	11	128	**6**	2	147	**342**
Total Volume	2	14	17	3	36	11	384	34	17	446	97	18	62	17	194	38	592	10	12	652	1328
% App. Total	5.6	38.9	47.2	8.3		2.5	86.1	7.6	3.8		50	9.3	32	8.8		5.8	90.8	1.5	1.8		
PHF	.250	.583	.607	.375	.692	.688	.941	.654	.708	.907	.898	.750	.738	.708	.822	.864	.871	.417	.750	.886	.971



Hennepin County

Department of Public Works
Transportation Planning Division
Traffic Movement Study

File Name : STDY 3580
Site Code : 3580____
Start Date : 9/27/2011
Page No : 4

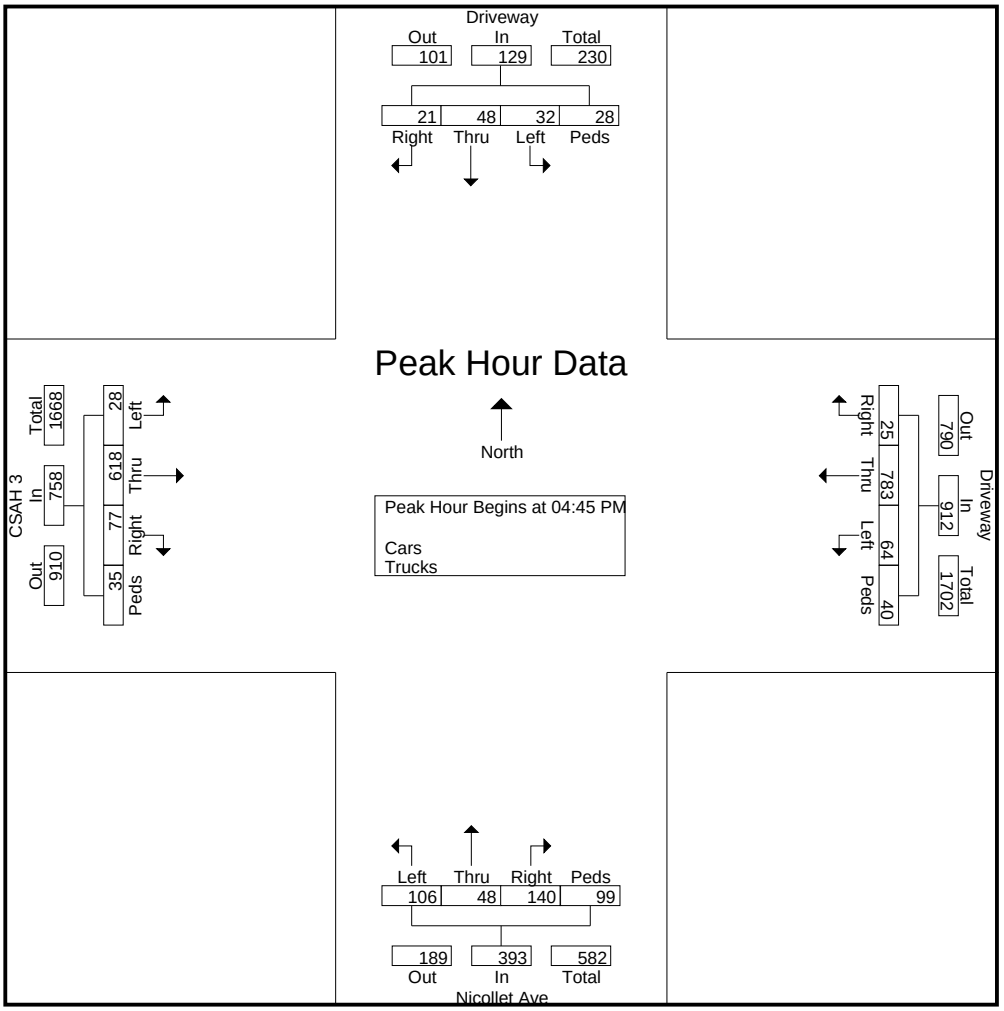


Hennepin County

Department of Public Works
Transportation Planning Division
Traffic Movement Study

File Name : STDY 3580
Site Code : 3580____
Start Date : 9/27/2011
Page No : 5

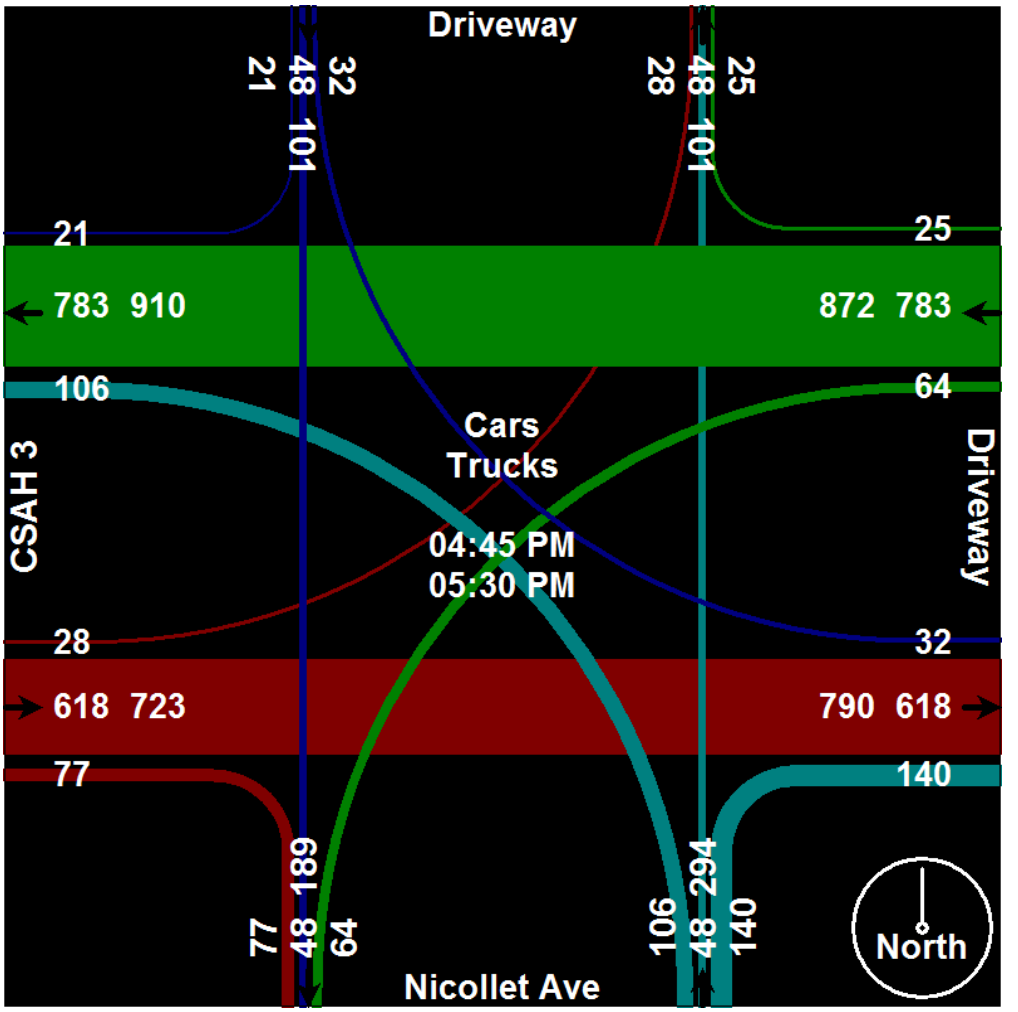
	Driveway Southbound					Driveway Westbound					Nicollet Ave Northbound					CSAH 3 Eastbound					
Start Time	Right	Thru	Left	Bikes	App. Total	Right	Thru	Left	Bikes	App. Total	Right	Thru	Left	Bikes	App. Total	Right	Thru	Left	Bikes	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 06:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	**7**	**21**	**14**	7	**49**	6	183	**24**	6	219	33	9	25	21	88	22	134	**11**	8	175	531
05:00 PM	2	7	11	**8**	28	5	209	17	**13**	**244**	34	**18**	27	20	99	14	166	5	**12**	197	**568**
05:15 PM	5	7	4	5	21	5	**213**	11	10	239	31	10	25	28	94	15	**175**	6	5	**201**	555
05:30 PM	7	13	3	8	31	**9**	178	12	11	210	**42**	11	**29**	**30**	**112**	**26**	143	6	10	185	538
Total Volume	21	48	32	28	129	25	783	64	40	912	140	48	106	99	393	77	618	28	35	758	2192
% App. Total	16.3	37.2	24.8	21.7		2.7	85.9	7	4.4		35.6	12.2	27	25.2		10.2	81.5	3.7	4.6		
PHF	.750	.571	.571	.875	.658	.694	.919	.667	.769	.934	.833	.667	.914	.825	.877	.740	.883	.636	.729	.943	.965



Hennepin County

Department of Public Works
Transportation Planning Division
Traffic Movement Study

File Name : STDY 3580
Site Code : 3580____
Start Date : 9/27/2011
Page No : 6



HENNEPIN COUNTY
TRANSPORTATION PLANNING DIVISION

CLASS COUNT DATA
CSAH 3 E. OF I-35W

Site: 03
Monday, 10/20/2014 11:00 AM -
Thursday, 10/23/2014 11:00 AM

Classification Grand Totals

Hourly Averages

WB.

Interval Start	Total	Motor Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axle Double	5 Axle Double	>6 Axle Double	<6 Axle Multi	6 Axle Multi	>6 Axle Multi	Tailgating
12:00 AM	131.7	0.3	111.0	15.3	1.7	2.3	0.0	0.0	0.7	0.3	0.0	0.0	0.0	0.0	0.0
1:00 AM	99.7	0.7	82.7	10.7	3.0	1.3	0.7	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0
2:00 AM	66.3	0.3	52.7	11.0	0.7	1.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0
3:00 AM	44.0	0.0	34.0	7.0	0.7	2.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0
4:00 AM	71.0	0.3	49.7	14.0	2.7	1.7	0.7	0.0	0.7	1.3	0.0	0.0	0.0	0.0	0.0
5:00 AM	173.0	0.7	136.7	20.0	8.7	1.7	1.0	0.0	3.3	1.0	0.0	0.0	0.0	0.0	0.0
6:00 AM	403.3	3.3	305.7	43.0	25.3	9.3	3.0	0.3	12.0	0.3	0.0	1.0	0.0	0.0	0.0
7:00 AM	567.0	4.7	430.0	59.7	39.3	11.3	1.7	0.0	18.7	0.3	0.0	1.3	0.0	0.0	0.0
8:00 AM	606.3	5.3	447.7	71.3	43.3	13.0	1.7	0.3	18.7	2.7	0.0	1.7	0.0	0.7	0.0
9:00 AM	505.7	3.0	357.7	74.3	33.0	15.7	2.3	0.7	17.0	1.7	0.0	0.0	0.0	0.3	0.0
10:00 AM	526.7	4.3	374.3	84.0	29.0	14.0	1.0	0.0	17.3	0.3	0.0	2.3	0.0	0.0	0.0
11:00 AM	590.7	4.7	436.0	73.7	32.0	17.3	0.3	0.3	21.7	2.0	0.0	2.7	0.0	0.0	0.0
12:00 PM	631.7	7.7	437.3	87.0	44.0	16.3	2.3	0.0	33.3	0.7	0.0	2.7	0.0	0.3	0.0
1:00 PM	621.7	4.7	459.0	73.3	37.3	11.3	3.3	0.7	24.7	2.7	0.0	4.0	0.3	0.3	0.0
2:00 PM	627.3	5.7	440.3	88.3	41.7	13.7	1.7	0.3	30.0	1.7	0.0	3.3	0.0	0.7	0.0
3:00 PM	550.0	8.3	370.7	73.7	46.0	6.7	2.3	1.0	35.3	1.7	0.0	3.0	0.0	1.3	0.0
4:00 PM	586.0	8.0	409.7	65.0	52.3	12.0	1.3	0.0	27.0	1.7	0.0	6.3	0.3	2.3	0.0
5:00 PM	601.0	7.0	412.3	76.3	48.3	11.7	0.7	0.7	35.3	0.7	0.0	6.0	0.0	2.0	0.0
6:00 PM	556.0	6.0	404.0	59.7	39.3	9.0	1.0	0.0	31.0	1.0	0.0	3.7	0.3	1.0	0.0
7:00 PM	524.0	5.0	410.7	61.7	21.7	5.7	0.3	0.0	16.3	1.3	0.0	1.3	0.0	0.0	0.0
8:00 PM	426.7	2.0	345.7	44.7	18.3	6.3	0.3	0.0	8.7	0.0	0.0	0.7	0.0	0.0	0.0
9:00 PM	346.3	1.7	285.3	34.3	14.0	3.7	0.3	0.0	5.7	0.0	0.3	1.0	0.0	0.0	0.0
10:00 PM	279.3	1.3	226.0	27.0	14.0	3.3	0.7	0.0	6.0	0.7	0.0	0.0	0.0	0.3	0.0
11:00 PM	207.0	1.7	169.0	23.3	7.3	2.3	0.0	0.0	3.0	0.3	0.0	0.0	0.0	0.0	0.0
Daily Average	9742.3	86.7	7188.0	1198.3	603.7	192.7	26.7	4.3	367.7	22.7	0.3	41.0	1.0	9.3	0.0

Study Grand Totals

	Total	Motor Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axle Double	5 Axle Double	>6 Axle Double	<6 Axle Multi	6 Axle Multi	>6 Axle Multi	Tailgating
WB.	29227	260	21564	3595	1811	578	80	13	1103	68	1	123	3	28	0
		0.9 %	73.8 %	12.3 %	6.2 %	2.0 %	0.3 %	0.0 %	3.8 %	0.2 %	0.0 %	0.4 %	0.0 %	0.1 %	0.0 %

WESTBOUND ONLY - SUM OF THE DAILY AVERAGE OF CLASSES 4 THROUGH 13 = 1,271

EASTBOUND ONLY - SUM OF THE DAILY AVERAGE OF CLASSES 4 THROUGH 13 = 1,384

DAILY TOTAL OF HEAVY COMMERCIAL VEHICLES = *2,655*

HENNEPIN COUNTY
TRANSPORTATION PLANNING DIVISION

CLASS COUNT DATA
CSAH 3 W. OF I-35W

Site: 07
Monday, 10/20/2014 11:00 AM -
Thursday, 10/23/2014 11:00 AM

Classification Grand Totals

Hourly Averages

EB.

Interval Start	Total	Motor Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axle Double	5 Axle Double	>6 Axle Double	<6 Axle Multi	6 Axle Multi	>6 Axle Multi	Tailgating
12:00 AM	126.0	0.7	103.3	17.0	2.0	1.3	0.3	0.0	1.0	0.0	0.0	0.3	0.0	0.0	0.0
1:00 AM	78.7	0.3	62.7	11.3	1.3	2.0	0.3	0.0	0.3	0.0	0.0	0.3	0.0	0.0	0.0
2:00 AM	57.3	0.0	44.3	9.0	1.3	0.3	0.3	0.0	0.7	1.0	0.0	0.3	0.0	0.0	0.0
3:00 AM	41.7	0.0	32.0	7.3	0.0	1.3	0.7	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4:00 AM	55.0	0.0	40.0	13.3	1.0	0.0	0.3	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0
5:00 AM	110.0	0.3	81.0	18.7	3.3	1.3	2.3	0.7	2.0	0.3	0.0	0.0	0.0	0.0	0.0
6:00 AM	244.0	3.7	161.3	47.0	14.0	5.7	1.7	0.0	8.0	1.7	0.0	0.7	0.3	0.0	0.0
7:00 AM	353.3	1.7	238.7	63.3	20.7	7.3	2.0	0.7	13.0	1.3	0.0	3.7	0.0	1.0	0.0
8:00 AM	427.3	4.0	281.3	71.7	26.0	13.0	2.0	0.3	19.3	1.3	0.3	5.3	0.3	2.3	0.0
9:00 AM	433.0	3.7	276.3	81.0	29.7	10.0	1.0	0.0	19.7	2.3	1.3	6.0	0.0	2.0	0.0
10:00 AM	439.0	3.0	271.0	77.0	30.3	13.7	1.3	0.7	26.3	1.7	0.0	11.3	0.0	2.3	0.3
11:00 AM	489.7	4.3	316.3	82.7	34.7	10.7	1.7	0.3	27.0	0.3	0.0	9.3	0.0	2.3	0.0
12:00 PM	541.0	6.7	346.0	89.0	42.0	8.7	0.3	1.0	30.3	1.3	0.3	11.7	0.3	3.3	0.0
1:00 PM	511.7	4.0	323.7	85.0	35.0	9.3	1.3	0.3	38.3	2.3	0.0	10.0	0.7	1.7	0.0
2:00 PM	536.3	5.7	359.0	72.7	43.7	10.3	3.3	0.7	26.0	2.0	0.3	9.7	0.3	2.7	0.0
3:00 PM	567.7	3.3	386.3	84.0	39.7	7.7	1.0	0.3	27.3	3.3	0.3	11.0	0.0	3.3	0.0
4:00 PM	621.3	8.3	415.7	83.0	45.3	5.3	0.7	0.7	40.3	2.0	0.0	13.0	1.7	5.3	0.0
5:00 PM	577.3	7.0	373.7	66.0	56.0	6.3	1.3	0.3	41.7	1.0	0.7	17.0	0.3	6.0	0.0
6:00 PM	560.3	7.7	376.0	65.7	46.7	6.7	1.3	0.3	35.3	2.3	0.0	15.0	0.3	3.0	0.0
7:00 PM	492.0	7.0	348.7	63.7	34.3	3.0	1.0	1.0	19.7	1.3	0.3	9.0	0.7	2.3	0.0
8:00 PM	449.3	5.7	328.3	55.3	24.7	5.0	1.3	0.3	20.0	1.3	0.0	6.0	0.3	1.0	0.0
9:00 PM	374.7	3.3	282.7	47.3	16.0	2.0	0.3	0.0	17.3	0.7	0.3	3.3	0.0	1.3	0.0
10:00 PM	262.3	2.0	203.0	34.3	9.0	2.0	0.0	0.7	7.7	0.7	0.0	2.7	0.0	0.3	0.0
11:00 PM	193.3	1.7	159.0	18.7	6.3	2.3	0.0	0.0	4.3	0.0	0.0	1.0	0.0	0.0	0.0
Daily Average	8542.3	84.0	5810.3	1264.0	563.0	135.3	26.0	8.7	425.7	28.7	4.0	146.7	5.3	40.3	0.3

Study Grand Totals

	Total	Motor Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axle Double	5 Axle Double	>6 Axle Double	<6 Axle Multi	6 Axle Multi	>6 Axle Multi	Tailgating
EB.	25627	252	17431	3792	1689	406	78	26	1277	86	12	440	16	121	1
		1.0 %	68.0 %	14.8 %	6.6 %	1.6 %	0.3 %	0.1 %	5.0 %	0.3 %	0.0 %	1.7 %	0.1 %	0.5 %	0.0 %

I FEEL IT NECESSARY TO MENTION WE HAVE SOME VEHILES MAKING LANE CHANGES AT THIS SITE ON THE HOSES AND SO IT IS VERY POSSIBLE THIS MAY GIVE US A SMALL PERCENTAGE OF SOME FALSE READINGS.

Robert P. Farniok

CSAH 3 (Lake Street) From Blaisdell ave to 1st Avenue 2011 -2013- created on 11-04-2014 by rile1che

Crash data is managed by the Mn/DOT Office of Traffic, Safety, and Operations.

																								PERSON1								PERSON2							
Rd Num	Mile Pt	CO	CITY	DOW	MONTH	DAY	YEAR	TIME	SEV	NUM_KILLED	NUM_VEH	JUNC	SL	TYPE	DIAG	LOC1	TCD	LIT	WTHR1	WTHR2	SURF	CHAR	DESGN	ACC_NUM	VTYPE	DIR	ACT	FAC1	FAC2	PHYS	AGE	SEX	VTYPE	DIR	ACT	FAC1	FAC2	PHYS	AGE	SEX
1		2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39
3		27	2585	6-Fri	8	2	2013	1200	C	0	2	0	0	1	0	0	0	0	0	0	0	0	132470081	1	3	1	0	0	0	31	F	1	0	0	0	0	0	35	M
3		27	2585	2-Mon	2	27	2012	1020	C	0	2	0	30	1	0	0	1	1	1	0	1	0	0	120930031	1	3	1	0	0	0	64	F	3	1	1	0	0	0	42	M
3		27	2585	1-Sun	1	8	2012	1430	N	0	2	0	0	1	0	0	0	0	0	0	0	0	120540124	1	0	0	0	0	0	53	M	1	0	0	0	0	0	79	M
3		27	2585	6-Fri	5	6	2011	0745	N	0	2	0	0	90	0	0	0	0	0	0	0	0	111590054	3	0	0	0	0	0	37	M	1	0	0	0	0	0	29	F
3		27	2585	7-Sat	8	3	2013	9998	N	0	2	0	0	1	0	0	0	0	0	0	1	0	0	132480053	1	0	1	0	0	0	44	F	1	1	6	0	0	0	24	M
3		27	2585	5-Thu	12	26	2013	2030	B	0	2	0	30	1	1	0	98	3	1	0	1	0	0	140280226	1	7	1	0	0	0	39	M	4	7	1	0	0	0	902	Z
3		27	2585	3-Tue	9	6	2011	1540	B	0	2	0	30	10	1	0	1	1	1	0	1	0	0	112690179	1	7	1	0	0	0	899	F	1	7	11	0	0	0	39	M
3		27	2585	2-Mon	5	28	2012	1600	B	0	4	0	30	1	1	0	1	1	1	0	1	0	0	121850078	1	8	11	0	0	0	24	M	1	7	1	0	0	0	18	F
3		27	2585	4-Wed	5	2	2012	1434	C	0	2	7	30	1	1	1	1	1	1	0	1	1	5	121230114	1	3	11	1	1	1	23	F	1	3	1	9	0	90	75	M
3		27	2585	5-Thu	4	18	2013	1550	C	0	2	4	30	1	1	1	1	1	2	4	4	1	5	131080160	1	3	1	15	0	99	901	M	3	3	11	1	0	1	28	F
3		27	2585	6-Fri	4	22	2011	1730	N	0	2	0	25	1	1	0	1	3	3	0	2	0	0	111220111	1	5	11	0	0	0	29	M	1	5	11	0	0	0	28	F
3		27	2585	3-Tue	6	5	2012	1657	N	0	3	4	30	1	1	1	1	1	1	0	1	1	5	121570159	31	3	10	15	0	1	36	M	3	3	11	1	0	1	22	M
3		27	2585	3-Tue	11	22	2011	1730	N	0	2	0	30	1	1	0	98	4	1	0	1	0	0	113630073	3	7	11	0	0	0	56	M	1	7	1	0	0	0	900	Z
3		27	2585	6-Fri	2	22	2013	2325	N	0	2	1	30	1	1	1	98	4	1	0	2	1	5	130570247	1	7	1	18	15	2	58	M	3	7	1	1	0	1	30	M
3		27	2585	4-Wed	12	21	2011	2100	N	0	2	0	30	1	1	0	98	4	1	0	1	0	0	120370077	1	7	1	0	0	0	52	M	1	7	11	0	0	0	32	F
3		27	2585	5-Thu	9	22	2011	1040	N	0	2	8	30	1	1	1	98	1	2	0	1	1	9	112650114	3	7	6	1	0	1	54	F	3	7	5	4	0	99	899	Z
3		27	2585	7-Sat	2	23	2013	1220	N	0	2	2	30	1	1	1	1	4	90	0	1	1	5	130870163	3	3	1	3	18	2	30	M	2	3	11	1	1	1	55	M
3		27	2585	6-Fri	3	16	2012	1330	N	0	2	1	30	1	1	1	98	1	1	0	1	1	5	120760073	1	3	11	1	0	1	24	F	1	3	1	15	4	99	900	Z
3		27	2585	2-Mon	2	25	2013	1210	N	0	2	4	30	1	1	1	1	1	1	2	1	1	5	130560067	1	3	11	1	0	1	27	F	3	3	9	9	15	1	43	M
3		27	2585	2-Mon	12	5	2011	1300	N	0	2	90	10	2	1	7	98	1	1	1	1	1	90	120210093	1	7	17	11	0	99	34	M								
3		27	2585	1-Sun	4	1	2012	1700	N	0	2	0	0	1	1	0	1	1	1	0	1	0	0	121240033	4	3	1	0	0	0	41	F	3	3	11	0	0	0	27	M
3		27	2585	1-Sun	2	17	2013	2230	N	0	2	8	40	1	1	1	98	4	2	0	5	1	4	130480112	6	5	1	1	0	1	27	M	1	3	17	18	0	2	51	M
3		27	2585	7-Sat	3	12	2011	1100	N	0	3	2	30	1	1	1	1	1	1	1	5	1	5	110710082	1	1	1	3	3	1	25	M	1	1	1	1	1	1	31	M
3		27	2585	7-Sat	11	3	2012	1948	C	0	2	4	30	1	2	1	1	4	1	1	1	1	4	123080124	1	1	1	1	1	1	52	M	4	1	6	8	1	1	47	F
3		27	2585	6-Fri	10	14	2011	1017	N	0	2	1	30	1	2	1	1	1	1	1	1	1	5	112870099	1	3	1	8	1	98	23	M	8	3	1	1	1	1	47	M
3		27	2585	7-Sat	12	1	2012	1704	N	0	2	1	30	1	2	1	98	4	2	0	2	1	4	123360096	1	5	6	10	0	1	38	F	1	5	1	1	0	1	24	F
3		27	2585	6-Fri	1	25	2013	1249	N	0	2	4	30	1	2	1	1	1	1	0	1	1	4	130250097	1	5	6	8	10	1	49	F	8	5	1	1	0	1	24	M
3		27	2585	1-Sun	2	17	2013	9998	N	0	2	0	30	1	2	0	1	4	1	0	1	0	0	130790100	1	3	1	0	0	0	31	M	1	3	14	0	0	0	58	M
3		27	2585	1-Sun	6	23	2013	0025	N	0	2	1	30	2	2	2	98	4	2	0	1	1	4	131740024	2	5	53	99	0	99	901	M								
3		27	2585	6-Fri	3	30	2012	1620	N	0	2	1	30	1	2	1	98	1	2	0	1	1	5	120900117	8	7	57	1	0	1	32	M	1	7	1	3	8	99	900	Z
3		27	2585	4-Wed	4	6	2011	0915	N	0	2	4	30	2	2	1	1	1	1	1	1	1	5	110960095	31	3	1	1	1	1	61	M								
3		27	2585	6-Fri	8	9	2013	0815	N	0	2	0	30	1	2	0	98	1	1	0	1	0	0	132540066	2	7	1	0	0	0	63	M	2	7	14	0	0	0	32	M
3		27	2585	2-Mon	8	6	2012	1019	N	0	2	4	30	1	2	1	1	1	1	0	1	1	5	122190058	1	7	14	12	0	1	23	M	1	7	1	1	0	1	25	F
3		27	2585	4-Wed	7	20	2011	1315	N	0	2	4	30	1	2	1	1	1	1	0	1	1	5	112010086	4	3	1	1	0	99	899	Z	1	3	1	1	0	1	25	M
3		27	2585	4-Wed	9	21	2011	1650	N	0	2	4	30	1	2	1	1	1	2	0	1	1	4	112640244	1	1	1	1	0	1	39	M	1	1	1	21	0	9	47	M
3		27	2585	3-Tue	11	1	2011	1648	N	0	2	4	30	1	2	1	1	1	2	0	1	1	5	113050203	1	2	6	1	0	1	51	F	1	2	6	7	0	1	43	M
3		27	2585	7-Sat	1	28	2012	1452	N	0	2	0	0	1	2	0	1	1	1	0	1	0	0	120670077	3	1	6	0	0	0	19	F	1	1	1	0	0	0	30	F
3		27	2585	4-Wed	4	25	2012	1150	N	0	2	90	30	1	2	1	1	1	1	0	1	1	4	121160081	1	8	14	8	0	1	56	F	4	1	1	1	0	1	49	M
3		27	2585	5-Thu	6	21	2012	1441	N	0	2	4	30	1	2	1	1	1	1	0	1	1	4	121730087	3	1	14	21	21	1	66	M	1	1	1	1	1	1	53	F
3		27	2585	4-Wed	9	18	2013	1416	N	0	2	1	30	1	2	1	1	1	2	2	1	1	4	132610139	3	1	14	8	8	1	25	M	1	1	1	1	1	1	24	M
3		27	2585	3-Tue	5	7	2013	1010	N	0	2	7	30	2	2	1	1	1	1	2	1	1	4	131270083	8	98	11	1	1	1	28	F	35	1	5	1	1	1	64	M
3		27	2585	4-Wed	11	2	2011	2124	C	0	2	0	30	1	3	0	1	4	1	0	1	0	0	113410067	2	1	1	0	0	0	24	F	1	7	6	0	0	0	63	M
3		27	2585	6-Fri	6	21	2013	1440	N	0	2	4	30	1	3	1	1	1	1	0	1	1	4	131720097	4	3	6	10	0	1	39	F	1	5	1	1	0	1	24	F
3		27	2585	1-Sun	12	9	2012	1715	N	0	2	0	25	1	3	0	98	3	4	0	3	0	0	130110103	3	5	1	0	0	0	49	M	99	3	6	0	0	0	901	M
3		27	2585	2-Mon	4	18	2011	0820	N	0	1	1	30	24	4	1	98	1	2	0	1	1	5	111080065	1	3	13	1	0	1	53	M								
3		27	2585	1-Sun	12	29	2013	1256	N	0	1	7	30	22	4	2	1	1	1	0	1	1	4	133630063	1	5	2	8	0	99	902	Z								
3		27	2585	3-Tue	4	12	2011	1840	B	0	2	0	30	1	5	0	1	1	1	0	1	0	0	111030151	3	7	90	0	0	0	37	F								
3		27	2585	5-Thu	6	7	2012	1115	B	0	2	4	30	1	5	1	1	1	1	2	1	1	5	121590085	1	5	1	1	0	1	72	M	2	7	1	5	16	1	27	M
3		27	2585	2-Mon	9	16	2013	0945	B	0	1	4	30	7	5	1	1	1	1	0	1	1	4	132590053	3	3	5	2	0	1	33	F	51	98	35	1	0	98	56	F
3		27	2585	5-Thu	4	14	2011	2211	B	0	1	4	30	7	5	1	1	4	3	2	2	1	5	111050136	3	1	6	2	0	1	26	F	51	7	35	1	0	1	41	M
3		27	2585	1-Sun	7	3	2011	0027	C	0	1	4	30	6	5	1	1	3	1	0	1	1	4	111860099	53	3	6	2	0	1	20	M	1	3	6	1	0	1	43	M
3		27	2585	6-Fri	1	6	2012	1755	C	0	1	7	30	6	5	1	1	4	2	0	1	1	5	120060143	1	5	1	1	0	1	37	F	53	3	33	5	0	1	19	M
3		27	2585	2-Mon	7	16	2012	0025	C	0	1	4	30	6	5	1	1	4	1	0	1	1	5	121980005	3	3	1	15	0	1	31	M	53	98	1	1	0	3	900	M
3		27	2585	7-Sat	3	23	2013	1911	C	0	2	4	30	1	5	1	1	3	1	1	1	1	4	130820124	1	3	1	1	1	0	29	M	1	5	1	5	2	1	56	M
3		27	2585	2-Mon	9	23	2013	1840	C	0	3	4	30	1	5	1	1	1	1	1	1	1	4	132660155	1	7	1	5	21	1	41	M	1	5	1	1	1	1	37	F
3		27	2585	4-Wed	1	19	2011	2350	C	0	2	0	30	1	5	0	1	4	1	0	1	0	0	110540102	1	0	0	0	0	0	899	Z	2	0	1	0	0	0	61	M
3		27	2585	5-Thu	6	30	2011	1305	C	0	2	4	30	1	5	1	1	1	1	0	1	1	5	111810160	1	1	1	1	0	1	40	F	1	3	1	5	0	1	45	M
3		27	2585	2-Mon	7	4	2011	0254	C	0	2	4	30	1	5	1	1	4	1	0	1	1	90	111850013	1	3	37	2	0	99	899	Z	6	1	1	1	0	1	33	M
3		27	2585	1-Sun	7	24	2011	0657	C	0	2	4	30	1	5	1	1	1	2	0	1	1	5	112050128	1	1	1	1	0	1	25	F	3	3	1	5	0	1	25	M
3		27	2585	5-Thu	8	4	2011	1730	C	0	2	4	30	1	5	1	1	1	1	1	1	1	5	112160221	2	3	1	5	0	1	28	M	4	1	1	1	0	1	54	M
3		27	2585	6-Fri	12	9	2011	0828	C	0	2	4	30	1	5	1	1	1	1	0	1	1	5	113490220	1	3	1	2	5	1	23	M	1	1	1	1	0	1	38	F
3		27	2585	7-Sat	8	25	2012	0331	C	0	2	4	30	1	5	1	1	4	1	1	1	1	5	122380008	3	1	1	18	2	2	23	F	3	3	1	1	0	0	36	F
3		27	2585	5-Thu	10	31	2013	1300	C	0	2	7	35	1	5	1	1	1	2	0	1	1	5	133040111	1	1	1	1	0	1	23	F	1	7	1	1	0	1	25	M
3		27	2585	7-Sat	12	7	2013	1313	C	0	2	4	30	1	5	1	1	1	1	0	1	1	5	133410219	1	1	1	1	0	1	33	F	1	3	1	5	0	1	35	M
3		27	2585	6-Fri	3	9	2012	1450	C	0	2	0	30	1	5	0	1	1	1	0	1	0	0	121020065	1	1	9	0	0	0	31	F	1	3	1	0	0	0	900	Z
3		27	2585	2-Mon	8	20	2012	1036	C	0	2	0	30	1	5	0	1	1	1	0	1	0	0	122690094	1	3	1	0	0	0	61	F	1	1	1	0	0	0	41	M
3		27	2585	6-Fri	12	6	2013	1430	N	0	2	4	30	1	5	1	1	1	1	0	2	1	5	133400268	1	5	1	99	0	1	45	F	1	3	1	99	0	1	40	F
3		27	2585	4-Wed	3	23	2011	1605	N	0	2	4	30	1	5	1	1	1	2	0	2	1	5	110820349	3	3	1	1	0	1	48	M	1	5	6	10	0	1	30	F
3		27	2585	6-Fri	7	1	2011	1525	N	0	2	4	30	1	5	1	1	1	1	0	1	1	5	111820111	1	5	6	33	0	1	37	F	2	3	1	1	0	1	61	M
3		27	2585	1-Sun	2	27	2011	1100	N	0	2	7	30	1	5	1	1	1	2	2	2	1	90	110580108	1	7	1	1	1	1	62	M	1	1	1	1	1	1	37	F
3		27	2585	2-Mon	2	6	2012	1415	N	0	2	4	30	1	5	1	1	1	1	0	1	1	4	120370116	1	3	1	5	0	1	18	M	1	1	1	1	0	1	29	M
3		27	2585	3-Tue	1	10	2012	1100	N	0	2	0	30	1	5	0	1	1	1	0	1	0	0	120540170	1	3	1	0	0	0	20	M	1	1	1	0	0	0	29	M
3		27	2585	2-Mon	11	12	2012	1654	N	0	2	4	30	1	5	1	1	4	2	0	1	1	5	123170204	1	1	1	15	0	99	901	X	1	7	1	1	0	1	28	F
3		27	2585	6-Fri	6	21	2013	0300	N	0	2	7	30	1	5	1	1	4	3	0	2	1	5	131720014	1	3	1	18	0	2	47	M	3	5	1	90	0	1	57	F
3		27	2585	6-Fri	12	27	2013	1455	N	0	2	4	30	1	5	1	1	1	1	0	2	1	5	133640022	1	2	6	2	0	99	902	Z	1	6	14	8	0	1	18	F
3		27	2585	1-Sun	10	6	2013	1540	C	0	1	4	30	7	6	1	1	1	3	3	2	1	5	132790107	1	2	3	2	15	1	25	M	51	98	31	1	1	1	57	M
3		27	2585	3-Tue	9	27	2011	0030	N	0	2	4	30	1	6	1	1	4	1	0	1	1	4	112700039	1	98	5	18	0	2	899	M	1	5	1	1	0	1	40	M
3		27	2585	3-Tue	6	25	2013	0610	N	0	1	4	30	22	7	1	1	1	2	1	1	1	5	131760023	1	6	6	18	15	2	46	M								
3		27	2585	5-Thu	11	21	2013	0045	N	0	1	4	30	26	7	4	1	4	2	0	1	1	4	133250005	1	1	6	10	0	3	33	F								
3		27	2585	5-Thu	12	27	2012	0741	N	0	2	4	30	1	8	1	1	1	1	0	1	1	4	123620035	2	7	1	5	0	1	43	M	1	5	1	1	0	1	32	M
3		27	2585	4-Wed	10	16	2013	1600	B	0	1	4	30	7	9	1	1	1	1	0	1	1	4	132890147	2	1	1	1	0	99	901	Z	51	7	32	18	17	2	49	F
3		27	2585	4-Wed	3	9	2011	1418	N	0	2	4	30	1	9	1	98	1	2	2	2	1	5	110680175	4	3	1	1	1	1	41	M	1	7	1	8	0	99	899	Z
3		27	2585	6-Fri	8	31	2012	1200	N	0	2	1	30	1	9	1	98	1	1	0	1	1	8	122440087	3	5	6	15	0	1	34	M	1	1	6	1	0	1	45	M

CSAH 3 (Lake Street) From Blaisdell ave to 1st Avenue 2011 -2013- created on 11-04-2014 by rile1che

		Crash data is managed by the Mn/DOT Office of Traffic, Safety, and Operations.																						PERSON1								PERSON2							
Rd Num	Mile Pt	CO	CITY	DOW	MONTH	DAY	YEAR	TIME	SEV	NUM_KILLED	NUM_VEH	JUNC	SL	TYPE	DIAG	LOC1	TCD	LIT	WTHR1	WTHR2	SURF	CHAR	DESGN	ACC_NUM	VTYPE	DIR	ACT	FAC1	FAC2	PHYS	AGE	SEX	VTYPE	DIR	ACT	FAC1	FAC2	PHYS	AGE	SEX
3		27	2585	3-Tue	1	25	2011	0930	N	0	2	0	30	1	9	0	1	1	2	0	2	0	0	110610048	3	1	1	0	0	0	60	M	99	0	1	0	0	0	30	M
3		2-Mon7-Sa	2585	6	7	20	2012	2328	N	0	2	4	30	1	90	1	1	4	1	1	1	01	5	122E00E	2	5	17	11	0	99	900	Z	1	5	12	90	0	1	28	F
3		27	2585	7-Sat	12	10	2011	1721	C	0	1	4	30	7	90	1	1	4	1	0	1	1	4	113440122	1	5	1	1	0	1	73	M	54	99	32	2	0	1	42	M
3		27	2585	1-Sun	4	1	2012	1400	C	0	2	4	30	1	90	1	1	1	1	0	2	1	4	120920055	1	3	5	10	0	1	81	M	3	1	11	1	0	1	900	Z
3		27	2585	2-Mon	11	28	2011	1209	N	0	2	2	30	1	90	1	1	1	1	1	1	1	5	113620078	1	7	1	2	2	1	26	F	1	5	1	1	1	1	66	F
3		27	2585	6-Fri	11	16	2012	1312	N	0	4	4	30	1	90	1	1	1	1	1	1	1	4	123210089	4	8	6	10	21	1	64	M	2	1	1	1	1	1	52	M
3		27	2585	4-Wed	11	9	2011	2221	N	0	2	1	30	2	90	1	98	4	1	1	1	1	4	113150062	3	5	17	11	11	99	899	X								
3		27	2585	4-Wed	11	13	2013	1400	N	0	3	7	35	1	98	1	1	1	1	1	1	1	4	133180064	1	7	1	5	0	99	902	Z	1	1	1	1	0	1	50	F
3		27	2585	1-Sun	9	25	2011	1510	C	0	2	4	30	1	99	1	1	1	2	0	1	1	5	112680130	3	3	6	99	0	1	27	M	1	3	1	99	0	1	24	F
Total Crashes																								92																

CSAH 3 (Lake Street) from MUN 1686 (3rd Avenue) to MUN 1589 (5th Avenue) 2011 - 2013 - created on 11-04-2014 by rile1che

Crash data is managed by the Mn/DOT Office of Traffic, Safety, and Operations.

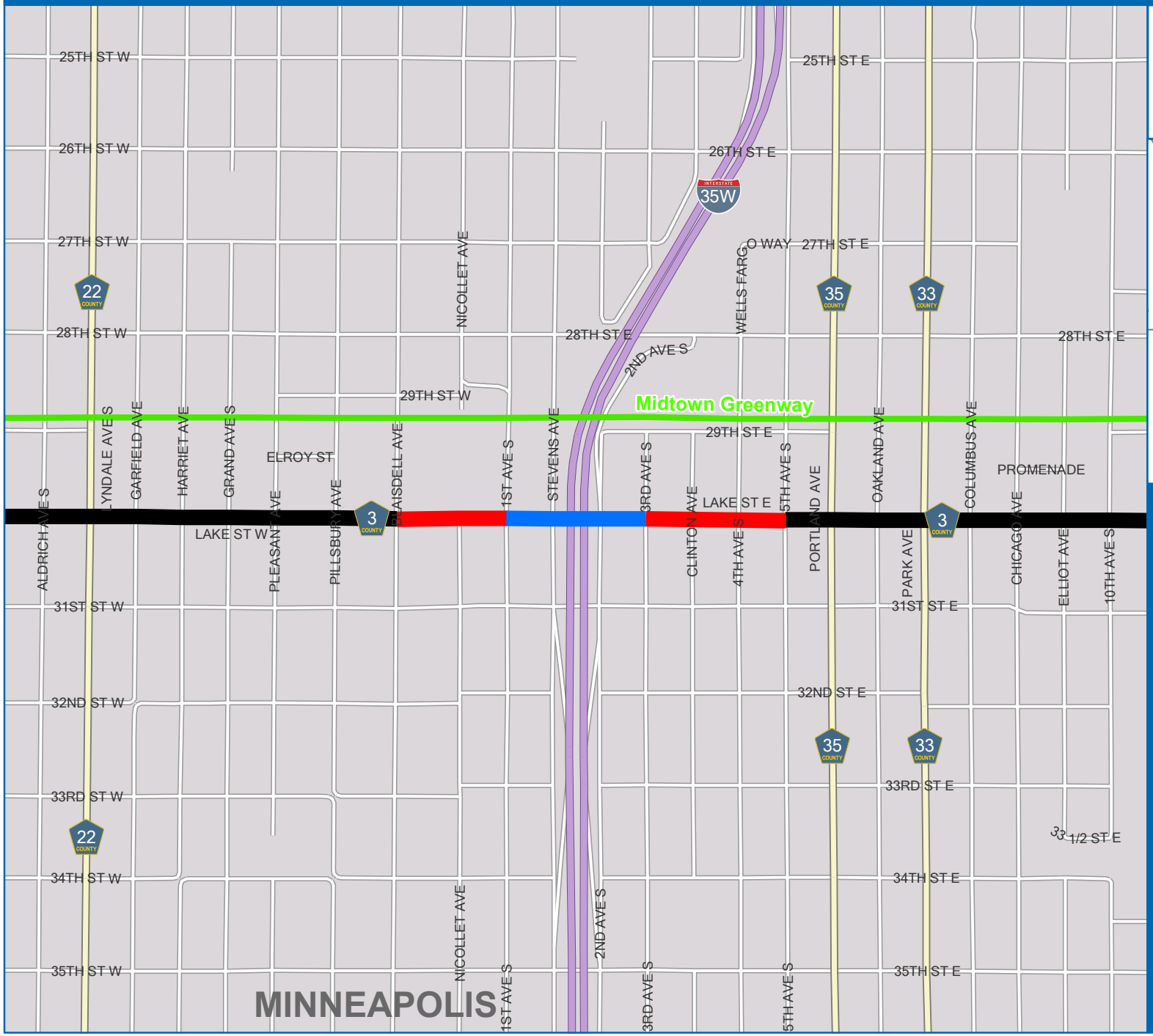
																								PERSON1								PERSON2							
Rd Num	Mile Pt	CO	CITY	DOW	MONTH	DAY	YEAR	TIME	SEV	NUM_KILLED	NUM_VEH	JUNC	SL	TYPE	DIAG	LOC1	TCD	LIT	WTHR1	WTHR2	SURF	CHAR	DESGN	ACC_NUM	VTYPE	DIR	ACT	FAC1	FAC2	PHYS	AGE	SEX	VTYPE	DIR	ACT	FAC1	FAC2	PHYS	AGE	SEX
3		27	2585	4-Wed	1	2	2013	1350	N	0	2	0	30	1	0	0	90	1	4	0	3	0	0	130360132	99	1	6	0	0	0	57	M	1	3	1	0	0	0	27	F
3		27	2585	5-Thu	2	24	2011	1115	B	0	3	7	30	1	1	1	1	1	1	1	1	1	5	110550174	1	7	14	7	3	1	21	M	4	7	10	1	0	1	36	M
3		27	2585	6-Fri	6	3	2011	1230	C	0	3	4	30	1	1	1	1	1	2	3	1	1	5	111540150	1	7	1	99	99	1	17	F	1	7	1	1	1	1	47	F
3		27	2585	7-Sat	10	22	2011	1547	C	0	2	4	30	1	1	1	1	1	1	1	1	1	5	112950174	1	7	1	99	99	1	899	M	1	7	11	1	1	98	50	M
3		27	2585	1-Sun	5	12	2013	2333	C	0	3	4	30	1	1	1	1	4	1	0	1	1	5	131330004	1	7	1	15	0	1	73	M	1	0	1	1	0	1	24	M
3		27	2585	1-Sun	10	6	2013	1840	C	0	2	4	30	1	1	1	1	1	2	3	2	1	5	132790132	3	3	11	1	0	98	34	F	1	3	1	8	15	98	901	Z
3		27	2585	6-Fri	8	10	2012	2000	C	0	2	0	0	1	1	0	98	1	1	0	1	0	0	122570047	1	7	1	0	0	0	40	F	1	7	1	0	0	0	900	F
3		27	2585	6-Fri	7	19	2013	1715	C	0	2	4	35	1	1	1	4	1	1	0	1	1	5	132000140	3	7	1	1	0	1	55	F	2	7	1	99	0	99	36	M
3		27	2585	4-Wed	10	30	2013	1118	C	0	2	4	30	1	1	1	98	1	3	0	2	1	5	133030091	4	3	1	1	0	1	34	M	1	3	1	1	0	1	31	M
3		27	2585	4-Wed	10	17	2012	2203	C	0	3	4	30	1	1	1	4	4	1	0	1	1	5	122910226	3	7	1	15	16	1	36	F	3	7	11	1	0	1	25	F
3		27	2585	5-Thu	1	3	2013	1232	C	0	2	1	40	2	1	1	1	1	1	1	2	1	5	130030132	8	3	11	1	1	99	52	M	1	3	1	15	8	99	25	M
3		27	2585	7-Sat	6	30	2012	1445	C	0	2	4	30	1	1	1	4	1	1	0	1	1	5	121820091	3	7	1	15	4	1	33	M	1	7	11	1	0	1	33	M
3		27	2585	5-Thu	5	26	2011	0530	N	0	2	0	35	1	1	0	1	1	1	0	1	0	0	111790186	1	0	1	0	0	0	24	F	1	7	9	0	0	0	78	F
3		27	2585	2-Mon	7	4	2011	0325	N	0	3	4	30	1	1	1	1	4	1	0	1	1	5	111850009	2	7	1	99	0	98	899	Z	1	0	1	0	0	1	20	M
3		27	2585	3-Tue	6	21	2011	1215	N	0	3	7	30	1	1	1	1	1	1	2	1	1	5	111720202	4	7	1	2	0	1	34	M	1	7	11	1	0	1	42	M
3		27	2585	5-Thu	5	3	2012	1235	N	0	3	1	30	1	1	1	98	1	1	0	1	1	5	121240068	1	7	10	21	2	1	51	F	4	7	11	1	0	99	900	Z
3		27	2585	5-Thu	6	14	2012	1540	N	0	3	1	30	1	1	1	98	1	2	3	2	1	5	121660101	31	7	10	2	0	1	59	M	1	7	11	1	0	1	39	M
3		27	2585	3-Tue	6	21	2011	1840	N	0	2	4	30	1	1	1	4	1	1	0	1	1	5	111720311	1	3	1	4	0	1	29	M	3	3	1	1	0	1	38	M
3		27	2585	6-Fri	11	1	2013	1447	N	0	2	4	30	1	1	1	1	1	1	2	1	1	5	133050144	1	7	11	1	0	1	37	M	4	7	1	15	0	99	49	M
3		27	2585	7-Sat	2	26	2011	0730	N	0	3	0	0	1	1	0	1	4	1	0	5	0	0	110880099	1	5	10	0	0	0	29	F	99	0	0	0	0	0	899	Z
3		27	2585	5-Thu	9	15	2011	2151	N	0	2	7	30	1	1	1	1	4	2	0	1	1	5	112590007	1	3	1	18	0	3	21	M	3	3	10	1	1	1	23	F
3		27	2585	4-Wed	12	4	2013	0300	N	0	2	4	30	1	1	1	1	4	4	0	3	1	5	133380028	1	7	1	99	0	99	902	Z	1	7	1	1	0	1	55	M
3		27	2585	2-Mon	6	11	2012	1330	N	0	3	7	30	1	1	1	1	1	1	2	1	1	5	121630110	1	7	1	2	21	1	17	Z	1	7	11	1	0	1	29	M
3		27	2585	4-Wed	6	15	2011	1720	N	0	2	7	25	1	1	1	4	1	1	0	1	1	8	111690178	1	1	10	4	15	1	22	M	1	1	11	1	0	1	31	M
3		27	2585	5-Thu	8	29	2013	0930	C	0	2	1	30	1	2	1	1	1	1	2	1	1	5	132410067	1	7	1	1	0	1	31	F	1	7	14	2	0	1	20	M
3		27	2585	3-Tue	1	24	2012	1914	C	0	1	1	30	7	2	1	98	4	2	0	5	1	8	120240192	3	1	1	2	0	1	40	M	51	7	33	2	0	1	11	M
3		27	2585	4-Wed	3	23	2011	1616	N	0	2	1	35	1	2	1	98	1	1	0	2	1	5	110840199	1	7	1	1	0	1	28	F	1	7	14	8	16	1	17	M
3		27	2585	5-Thu	11	17	2011	0845	N	0	2	0	35	1	2	0	98	1	1	0	1	0	0	113500068	1	7	1	0	0	0	38	F	99	7	14	0	0	0	900	M
3		27	2585	6-Fri	4	12	2013	1722	N	0	3	1	30	2	2	1	98	1	4	2	2	1	5	131020275	1	3	1	18	0	2	29	F								
3		27	2585	3-Tue	10	30	2012	1405	N	0	2	1	30	1	2	1	98	1	1	1	1	1	5	123040087	1	7	14	8	1	99	900	M	1	7	1	1	1	1	29	M
3		27	2585	1-Sun	11	11	2012	1802	N	0	2	1	30	1	2	1	98	4	1	0	1	1	5	123160115	4	3	14	2	0	1	45	M	3	3	1	1	0	1	28	M
3		27	2585	6-Fri	3	9	2012	1145	N	0	2	1	30	2	2	1	98	1	1	0	1	1	5	120690051	4	3	12	2	0	99	900	Z								
3		27	2585	7-Sat	9	15	2012	0900	N	0	2	7	30	1	3	1	1	1	1	1	1	1	5	122590033	3	7	6	2	5	1	45	M	1	3	1	1	1	1	49	M
3		27	2585	5-Thu	7	25	2013	1503	N	0	2	4	30	1	3	1	4	1	2	0	1	1	5	132060132	1	3	1	1	0	1	39	M	4	1	6	8	16	1	28	F
3		27	2585	7-Sat	2	2	2013	1552	N	0	2	4	30	1	3	1	1	1	1	0	1	1	5	130340042	1	3	1	1	0	1	23	F	4	5	6	2	0	1	33	F
3		27	2585	4-Wed	3	27	2013	1716	N	0	2	4	30	1	3	1	4	1	1	0	1	1	5	130900083	1	1	6	1	0	0	38	F	1	7	1	1	0	0	58	F
3		27	2585	2-Mon	6	25	2012	1927	B	0	6	4	30	1	5	1	4	1	1	0	1	1	8	121770210	1	3	1	1	0	1	52	F	3	3	1	1	0	1	47	M
3		27	2585	6-Fri	5	6	2011	1549	B	0	2	4	30	1	5	1	4	1	1	0	1	1	5	111260154	1	7	1	1	0	1	45	F	1	1	1	2	0	98	22	M
3		27	2585	3-Tue	1	4	2011	1733	C	0	2	4	35	1	5	1	98	3	2	0	4	1	5	110040330	1	5	6	99	99	99	899	Z	1	3	1	1	0	1	20	M
3		27	2585	6-Fri	7	15	2011	1525	C	0	2	4	30	1	5	1	1	1	2	2	2	1	5	111960110	1	3	1	5	0	1	26	M	4	5	1	1	1	1	81	M
3		27	2585	1-Sun	4	22	2012	1214	C	0	2	4	30	1	5	1	4	1	1	2	1	1	5	121130040	1	3	90	90	0	1	33	M	4	1	9	1	0	1	38	M
3		27	2585	2-Mon	1	21	2013	1425	C	0	3	4	30	1	5	1	4	1	1	1	1	1	5	130210071	1	1	1	2	0	1	24	M	1	3	1	1	1	1	28	F
3		27	2585	7-Sat	6	1	2013	1215	C	0	3	4	30	1	5	1	4	1	1	1	1	1	5	131520060	1	3	1	1	1	1	29	F	1	7	6	2	0	1	28	F
3		27	2585	4-Wed	8	14	2013	0835	C	0	1	4	30	7	5	1	1	1	1	1	1	1	8	132260041	1	1	1	1	1	1	28	F	51	7	32	5	0	1	15	F
3		27	2585	4-Wed	3	28	2012	1755	C	0	3	4	30	1	5	1	4	1	1	0	1	1	5	120880156	1	7	1	1	0	1	26	F	3	1	1	2	0	1	44	F
3		27	2585	7-Sat	3	19	2011	1401	N	0	2	4	30	1	5	1	1	1	1	0	1	1	5	110780070	1	1	1	99	0	1	24	M	1	7	1	99	0	1	62	F
3		27	2585	4-Wed	1	5	2011	1657	N	0	2	4	30	1	5	1	1	4	2	4	2	1	5	110050267	1	5	1	1	0	1	30	M	1	3	1	5	0	99	23	M
3		27	2585	6-Fri	4	8	2011	1045	N	0	2	4	30	1	5	1	4	1	1	0	1	1	5	110980051	1	3	1	1	0	1	26	M	3	1	1	33	0	1	31	M
3		27	2585	1-Sun	8	28	2011	0845	N	0	2	4	30	1	5	1	4	1	1	1	1	1	5	112400048	1	3	1	1	1	99	899	Z	1	1	1	1	1	1	26	F
3		27	2585	3-Tue	9	20	2011	0755	N	0	2	4	30	1	5	1	4	1	2	3	2	1	5	112630092	1	1	1	2	2	1	17	M	1	3	1	1	1	1	55	F
3		27	2585	4-Wed	9	25	2013	1720	N	0	3	4	30	1	5	1	4	1	1	0	1	1	8	132680170	4	3	1	0	0	1	20	M	4	1	11	1	0	1	31	M
3		27	2585	7-Sat	2	5	2011	1000	N	0	2	4	30	1	5	1	1	1	2	0	2	1	5	110360080	1	7	1	1	0	1	22	M	1	1	1	1	0	1	45	M
3		27	2585	4-Wed	2	6	2013	1900	N	0	2	4	30	1	5	1	1	4	2	90	4	1	5	130370255	4	3	32	2	16	1	35	M	1	5	1	1	1	1	26	F
3		27	2585	6-Fri	12	6	2013	0945	N	0	2	0	30	1	5	0	1	1	1	0	5	0	0	140090215	1	3	10	0	0	0	41	M	1	1	1	0	0	0	25	F
3		27	2585	3-Tue	11	13	2012	1541	N	0	5	7	30	1	5	1	4	1	2	0	1	1	5	123180130	3	3	1	1	0	1	29	M	1	5	6	2	0	1	35	M
3		27	2585	7-Sat	3	5	2011	1315	N	0	2	1	30	1	5	1	98	1	1	1	1	1	8	110640080	1	3	9	2	0	1	22	M	3	5	1	1	1	1	36	M
3		27	2585	6-Fri	8	30	2013	2150	C	0	0	4	30	6	6	1	4	4	1	1	1	1	8	132430008	53	98	56	2	0	98	27	M								
3		27	2585	2-Mon	2	11	2013	1545	C	0	1	4	30	22	7	4	1	1	2	2	4	1	8	130420161	1	1	1	1	1	1	35	M								
3		27	2585	7-Sat	3	19	2011	1520	C	0	1	1	30	7	8	1	98	1	1	1	1	1	90	110830022	1	5	1	1	1	1	67	M	51	98	39	0	0	98	6	M
3		27	2585	5-Thu	10	17	2013	2011	C	0	1	4	35	7	8	1	1	4	3	0	2	1	5	133010238	4	7	6	61	0	1	17	M	51	5	31	1	0	3	39	M
3		27	2585	5-Thu	8	11	2011	1625	C	0	1	7	30	6	9	1	4	1	1	1	1	1	8	112230146	1	5	1	2	3	99	899	Z	53	98	0	0	0	98	31	M
3		27	2585	6-Fri	7	26	2013	1840	B	0	1	8	30	6	90	90	98	1	2	99	1	1	5	132070153	1	5	17	11	90	99	901	M	53	98	90	1	1	1	17	M
3		27	2585	2-Mon	2	11	2013	1231	C	0	1	7	30	7	90	1	1	1	2	0	3	1	3	130420163	4	7	6	2	0	1	39	F	51	98	31	1	0	1	21	M
3		27	2585	7-Sat	2	23	2013	1530	N	0	2	1	30	1	90	1	98	1	1	1	1	1	5	130540087	3	7	1	1	1	1	47	F	1	7	14	8	0	1	21	F
3		27	2585	2-Mon	4	16	2012	1215	N	0	2	4	30	1	90	1	4	1	2	2	1	1	8	121070111	1	5	6	1	1	1	56	F	1	1	1	1	1	1	34	M
3		27	2585	4-Wed	7	25	2012	2115	N	0	2	4	30	1	90	1	98	4	1	1	1	1	90	122070196	1	3	1	1	1	1	26	F	3	7	1	2	2	1	33	M
3		27	2585	3-Tue	2	22	2011	0545	N	0	2	0	30	1	90	0	90	1	1	0	4	0	0	110830097	1	3	1	0	0	0	29	F	1	1	33	0	0	0	899	F
3		27	2585	7-Sat	7	30	2011	1535	N	0	2	1	30	1	90	1	98	1	1	0	1	1	5	112110115	1	7	1	1	0	1	34	M	1	7	90	2	0	1	32	M
3		27	2585	2-Mon	5	9	2011	1730	B	0	2	7	25	1	98	1	1	1	1	0	1	1	5	111290119	3	1	1	1	0	1	45	M	1	3	1	15	20	1	20	F
3		27	2585	2-Mon	1	24	2011	1330	C	0	2	7	30	1	99	1	4	1	2	2	2	1	5	110240272	1	1	9	2	1	1	36	M	1	7	1	1	1	1	56	F
Total Crashes																								70																

Project Location Map - CSAH 3 (Lake Street) Reconstruction

From Blaisdell Ave to 1st Ave S & From 3rd Ave S to 5th Ave S

▶ Transportation

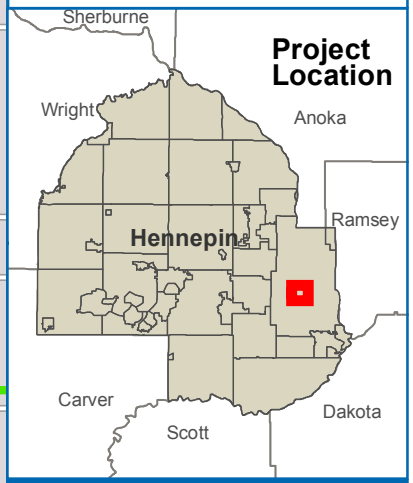
Hennepin County Public Works



I-35W Transit/Access Project

CSAH 3 (Lake St) Reconstruction

Completed Reconstruction Projects



Produced by Hennepin County Public Works Transportation Department.

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Hennepin County
Public Works

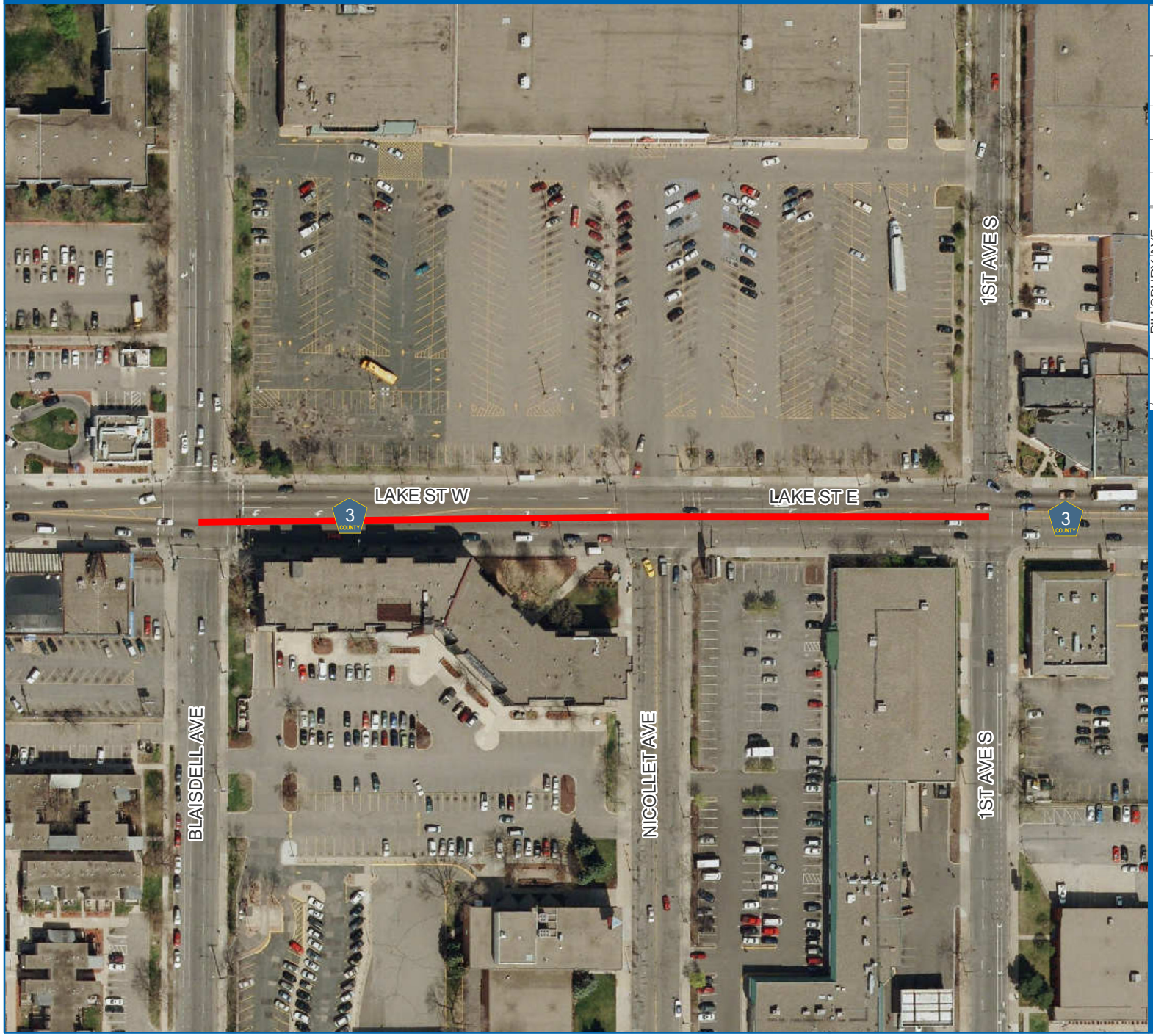
0 600 1,200
Feet

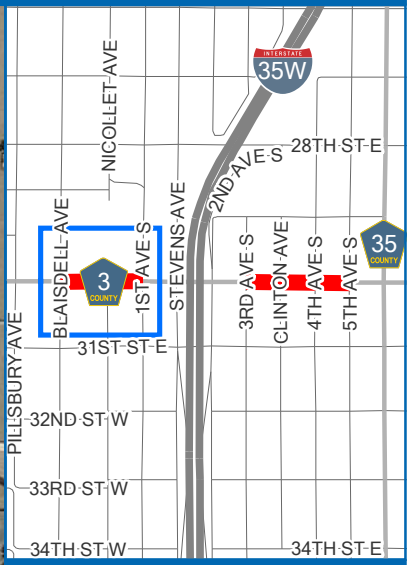
Aerial Maps - CSAH 3 (Lake Street) Reconstruction

From Blaisdell Ave to 1st Ave S & From 3rd Ave S 5th Ave S

▶ Transportation

Hennepin County Public Works





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Published: 11/14/2014

Hennepin County
Public Works

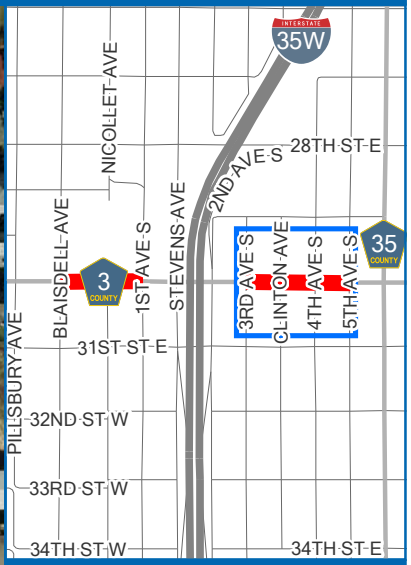
0 70 140
Feet

Aerial Maps - CSAH 3 (Lake Street) Reconstruction

From Blaisdell Ave to 1st Ave S & From 3rd Ave S 5th Ave S

▶ Transportation

Hennepin County Public Works



Produced by Hennepin County Public Works Transportation Department.

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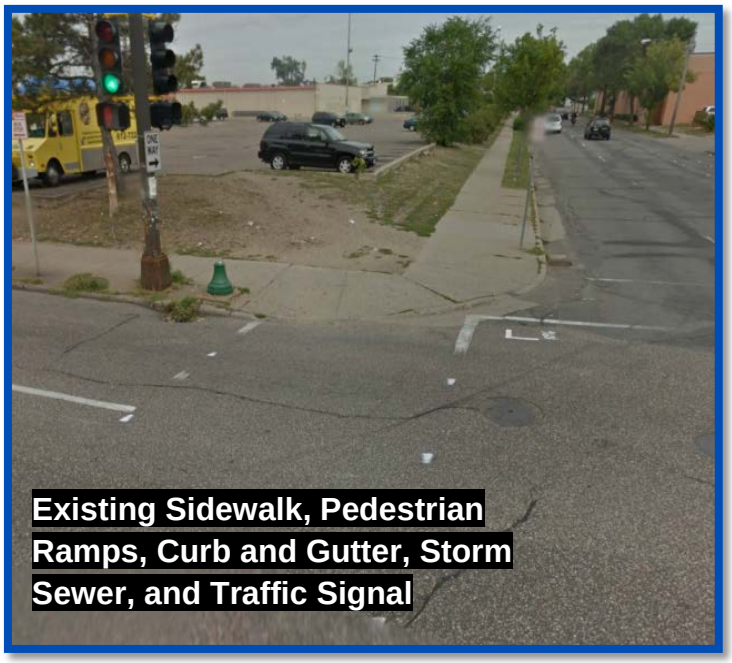
Published: 11/14/2014

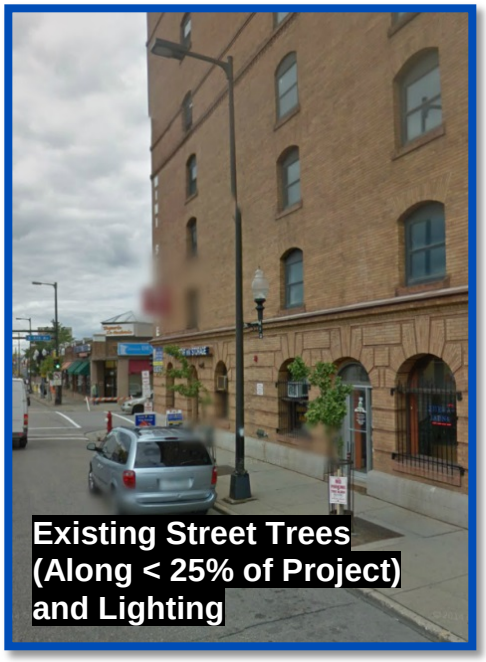
Hennepin

Hennepin County
Public Works

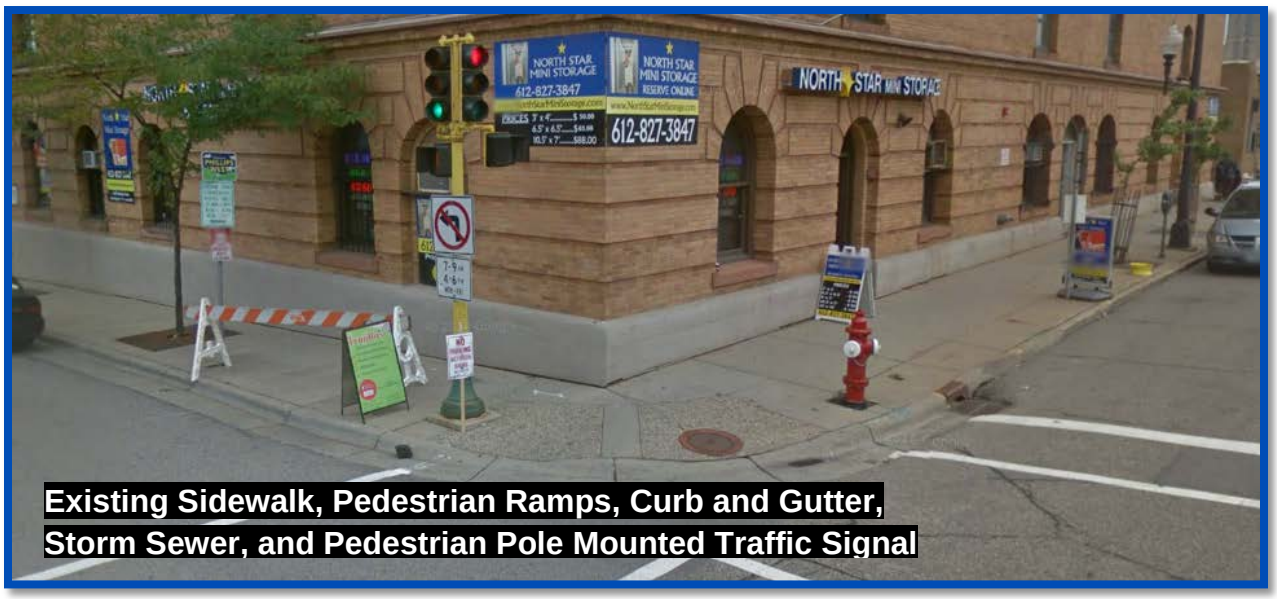
0 70 140
Feet



Existing Sidewalk, Pedestrian Ramps, Curb and Gutter, Storm Sewer, and Traffic Signal

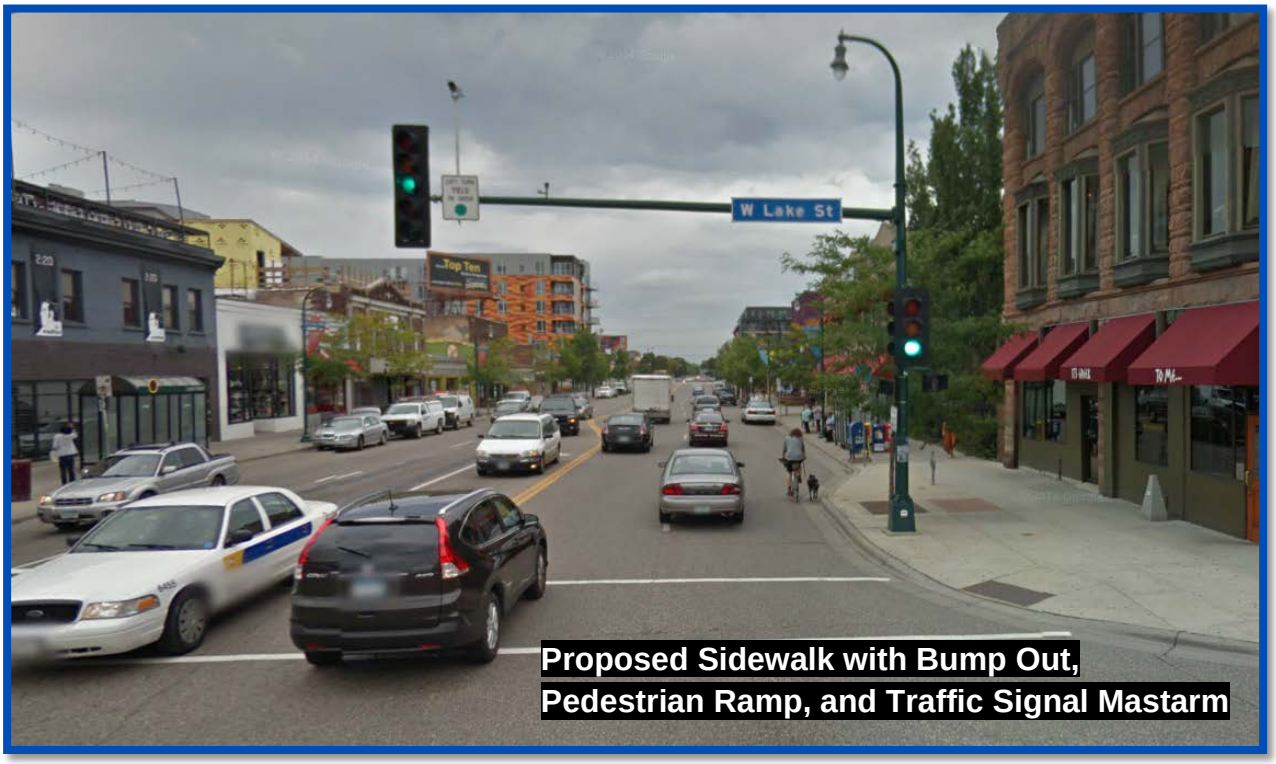


Existing Street Trees (Along < 25% of Project) and Lighting

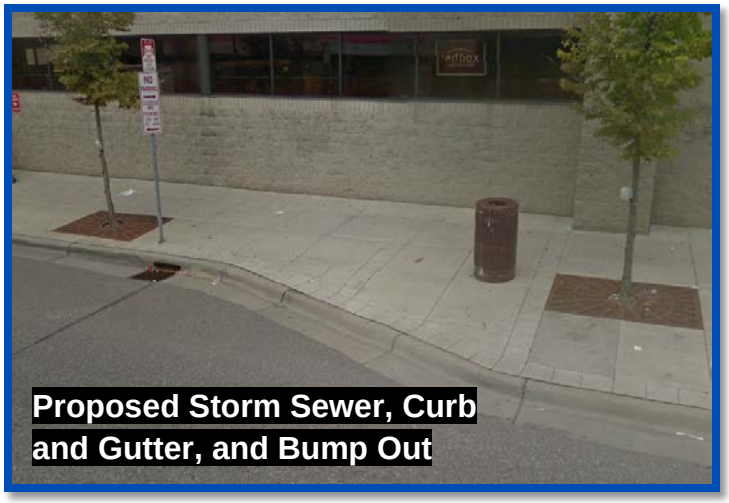


Existing Sidewalk, Pedestrian Ramps, Curb and Gutter, Storm Sewer, and Pedestrian Pole Mounted Traffic Signal

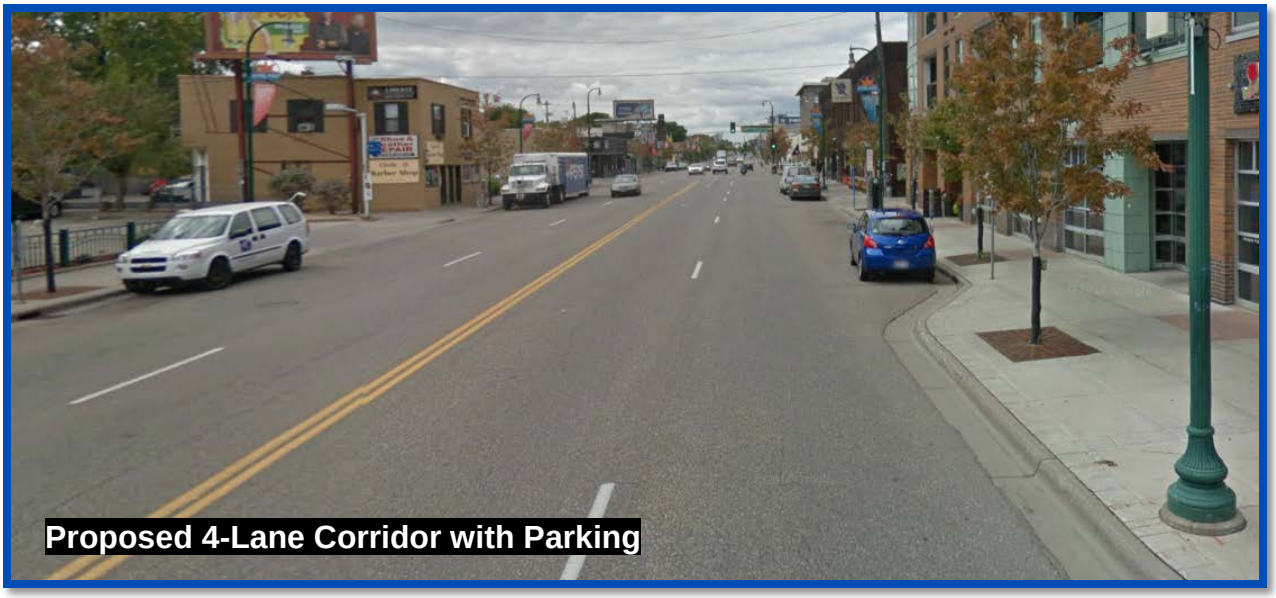
Existing Roadway Geometry and Traffic Signal System



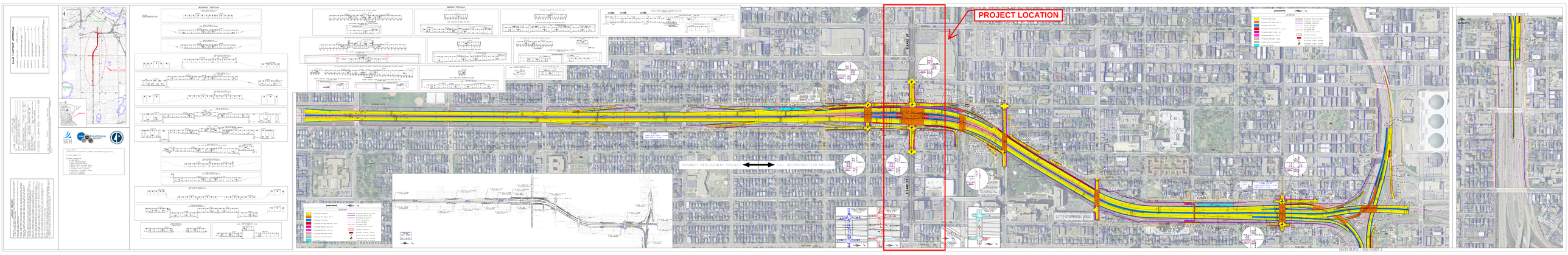
Proposed Sidewalk with Bump Out, Pedestrian Ramp, and Traffic Signal Mastarm



Proposed Storm Sewer, Curb and Gutter, and Bump Out

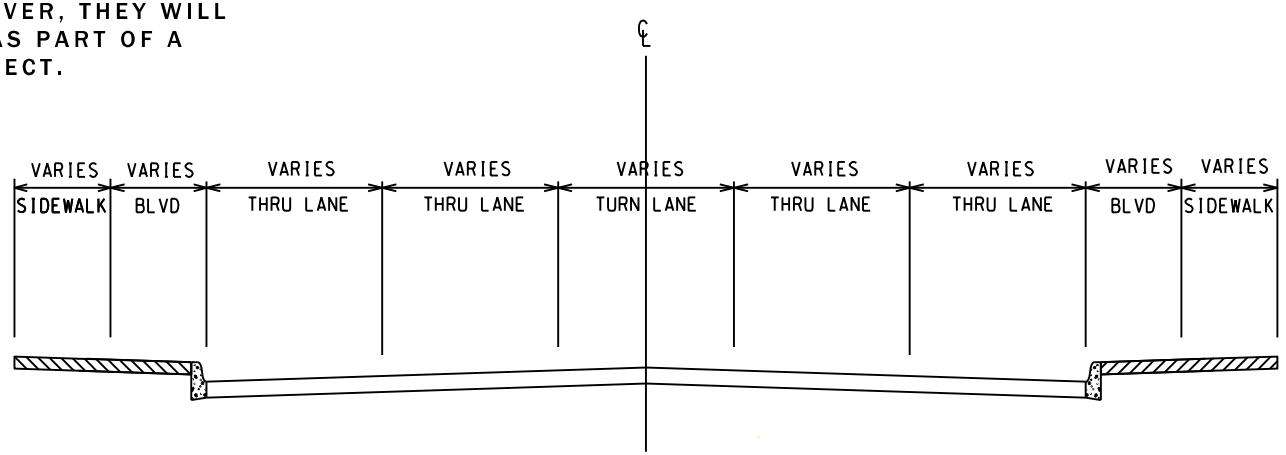


Proposed 4-Lane Corridor with Parking

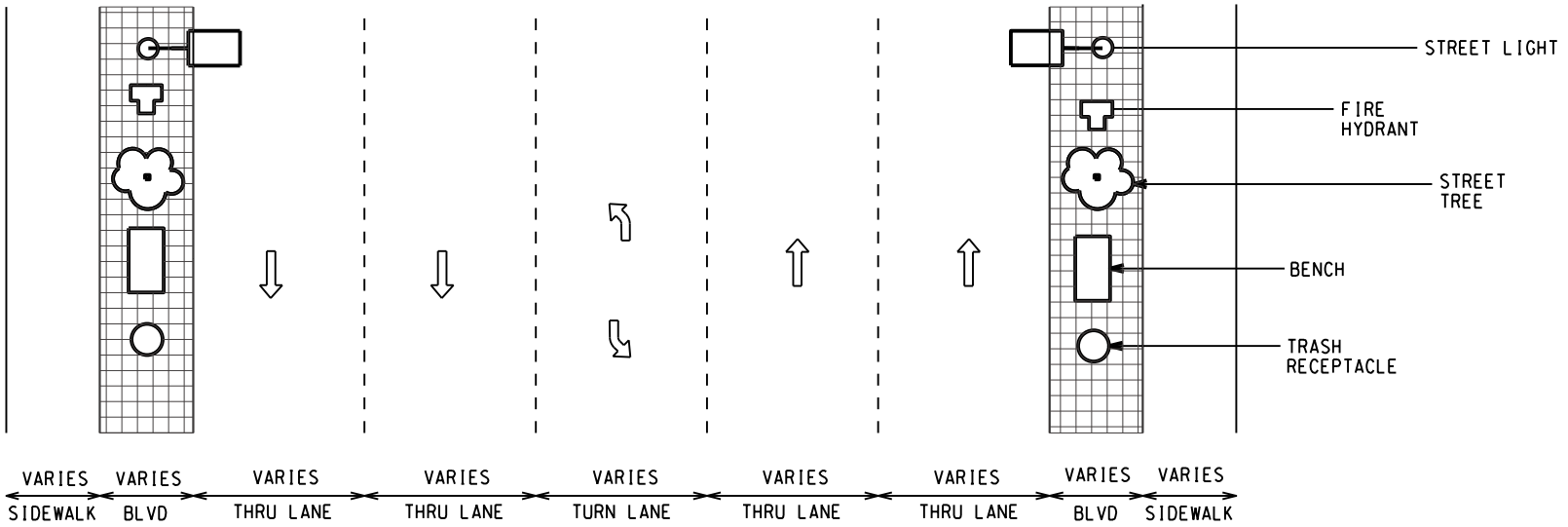

LEVEL 3 LAYOUT APPROVAL
PROJECT LOCATION
PAVEMENT REPLACEMENT PROJECT
FULL RECONSTRUCTION PROJECT
ROADWAY TYPICALS
MEDIAN TYPICALS
LEGEND
MATCHLINE - INSET 1
MATCHLINE - INSET 1

NOTE: STREETSCAPING ELEMENTS SUCH AS TREES, LIGHTING AND BENCHES ARE NOT PART OF THIS PROJECT. HOWEVER, THEY WILL BE INSTALLED AS PART OF A SEPARATE PROJECT.

PROPOSED TYPICAL SECTION



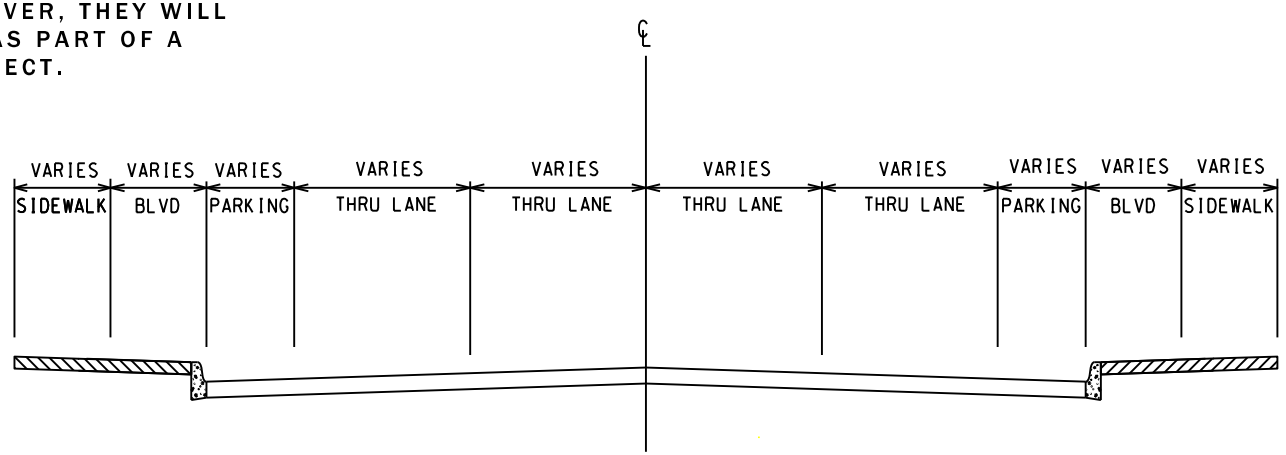
PROPOSED LAYOUT PLAN



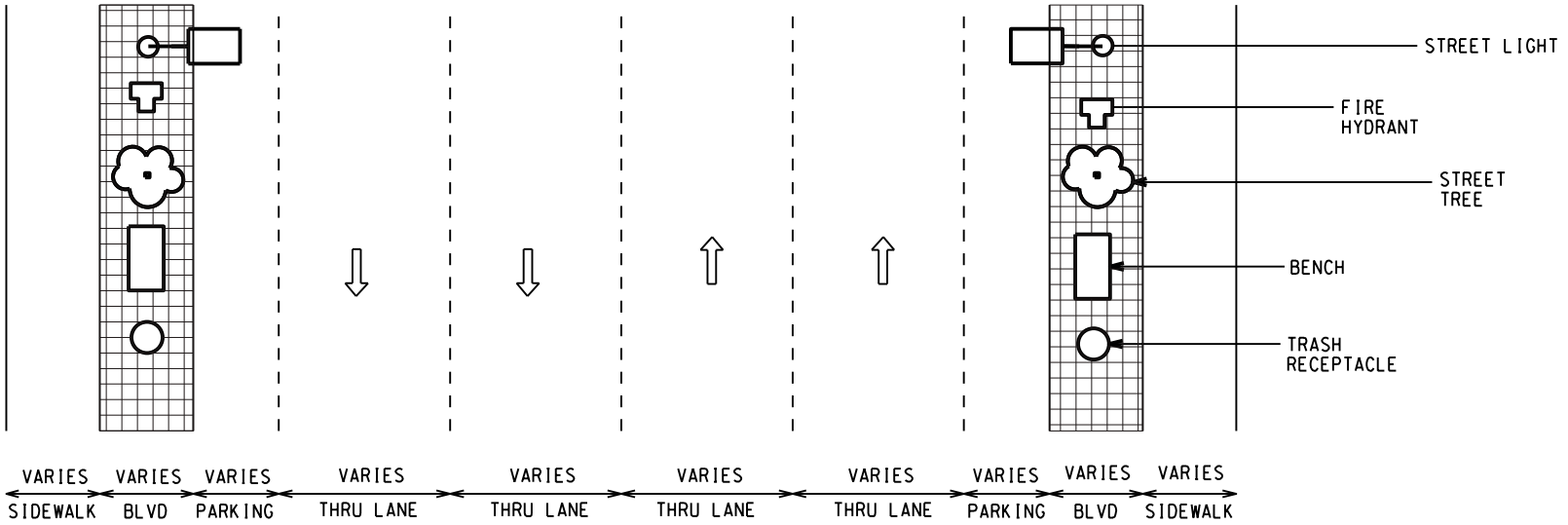
Hennepin	HENNEPIN COUNTY	TYPICAL SECTION - INTERSECTION WITH LEFT TURN LANES
		CSAH 3 (LAKE STREET) RECONSTRUCTION

NOTE: STREETSCAPING ELEMENTS SUCH AS TREES, LIGHTING AND BENCHES ARE NOT PART OF THIS PROJECT. HOWEVER, THEY WILL BE INSTALLED AS PART OF A SEPARATE PROJECT.

PROPOSED TYPICAL SECTION



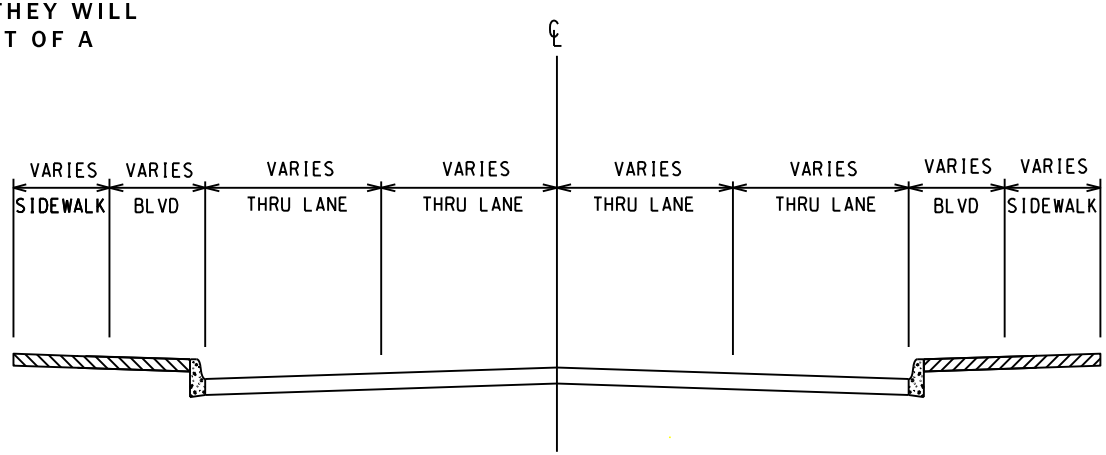
PROPOSED LAYOUT PLAN



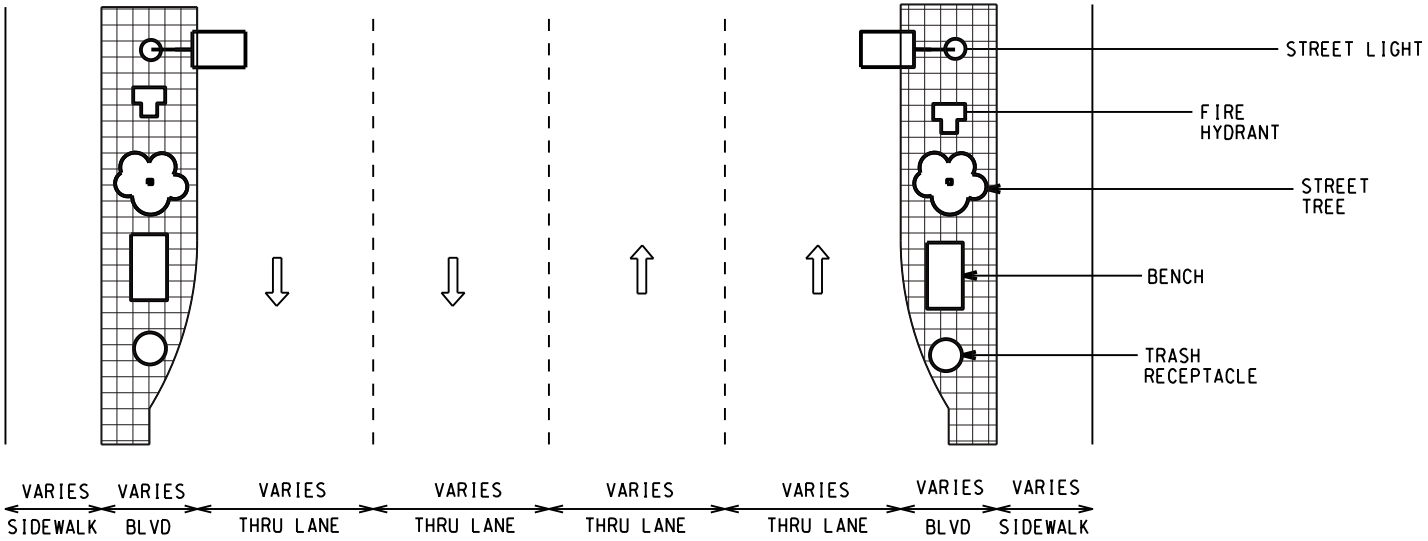
Hennepin	HENNEPIN COUNTY	TYPICAL SECTION - MID-BLOCK WITH PARKING
		CSAH 3 (LAKE STREET) RECONSTRUCTION

NOTE: STREETSCAPING ELEMENTS SUCH AS TREES, LIGHTING AND BENCHES ARE NOT PART OF THIS PROJECT. HOWEVER, THEY WILL BE INSTALLED AS PART OF A SEPARATE PROJECT.

PROPOSED TYPICAL SECTION



PROPOSED LAYOUT PLAN



Hennepin	HENNEPIN COUNTY	TYPICAL SECTION - INTERSECTION WITH BUMP OUTS
		CSAH 3 (LAKE STREET) RECONSTRUCTION

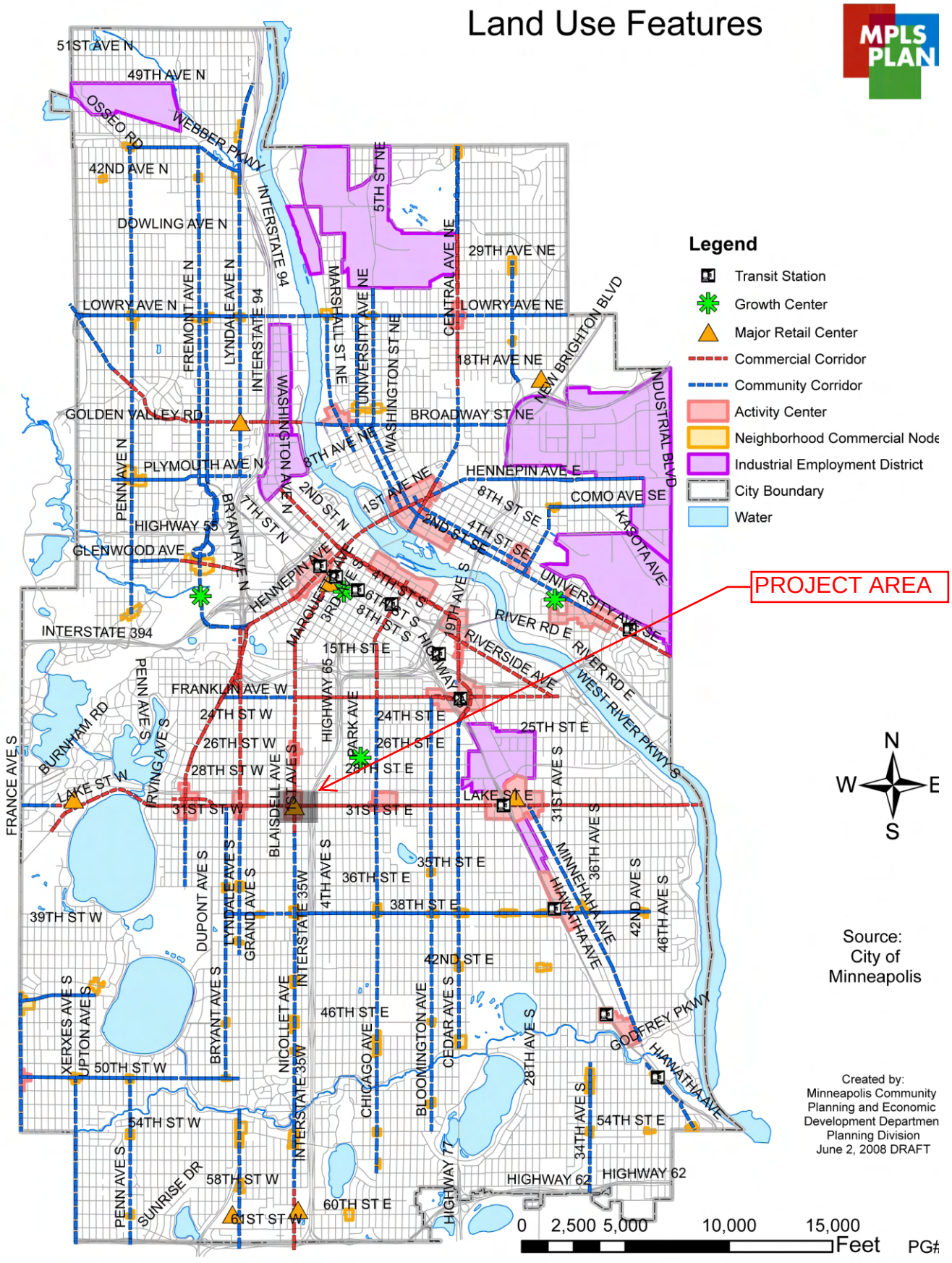


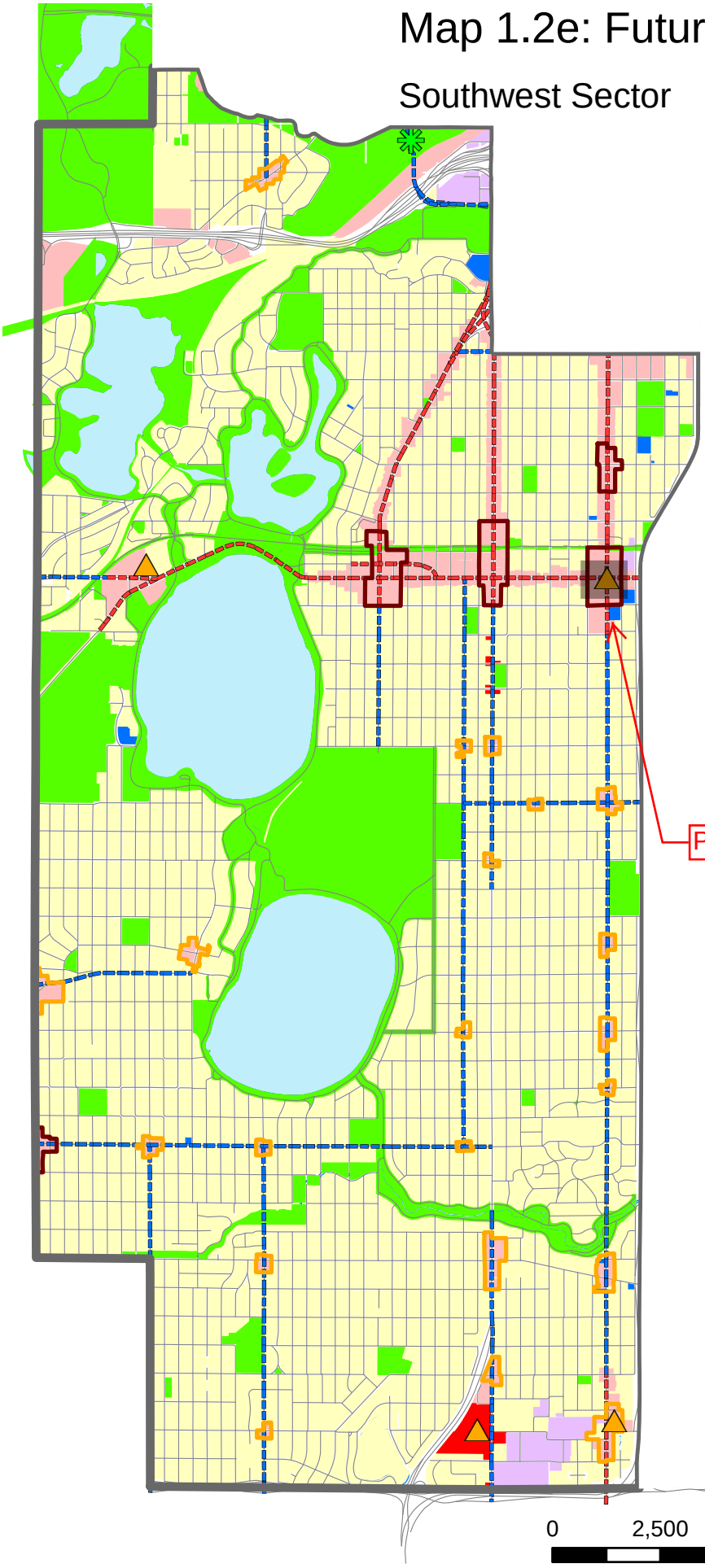
FIGURE 6 - LAND USE FEATURES

Map 1.2d: Future Land Use

South Sector

Map 1.2e: Future Land Use

Southwest Sector



Legend

- Transit Station
- Growth Center
- Major Retail Center
- Activity Center
- Neighborhood Commercial Node
- Industrial Employment District
- Commercial Corridor
- Community Corridor
- Urban Neighborhood
- Mixed Use
- Commercial
- Public and Institutional
- Transitional Industrial
- Industrial
- Parks and Open Space
- Water

Urban neighborhood contains a range of residential densities, with a limited amount of other uses appropriate in a residential setting.

For more details on categories, see narrative in land use chapter.

N
W E
S

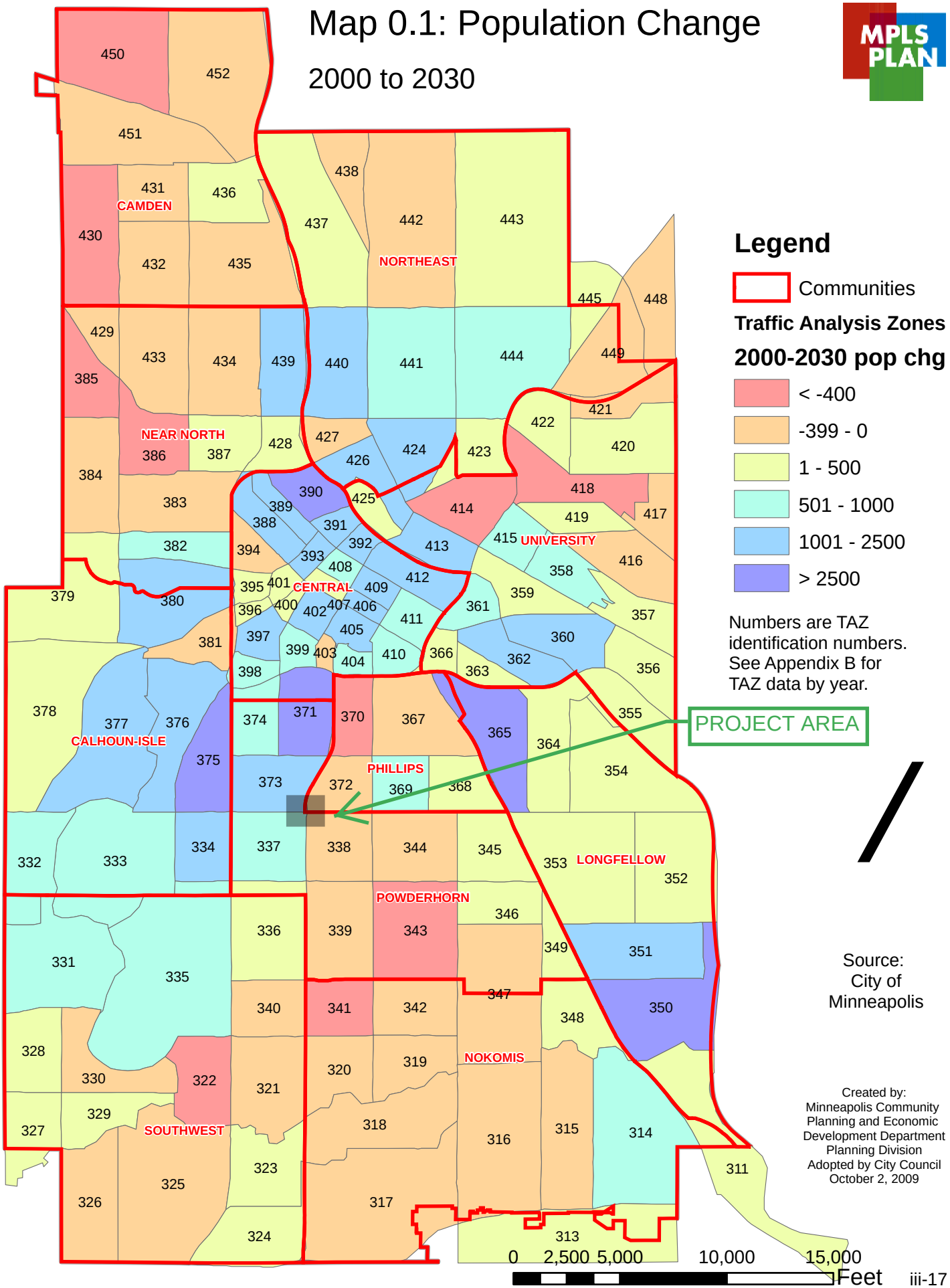
Source: City of Minneapolis

Created by:
Minneapolis Community Planning and Economic Development Department
Planning Division
Adopted by City Council
October 2, 2009

0 2,500 5,000 10,000 Feet

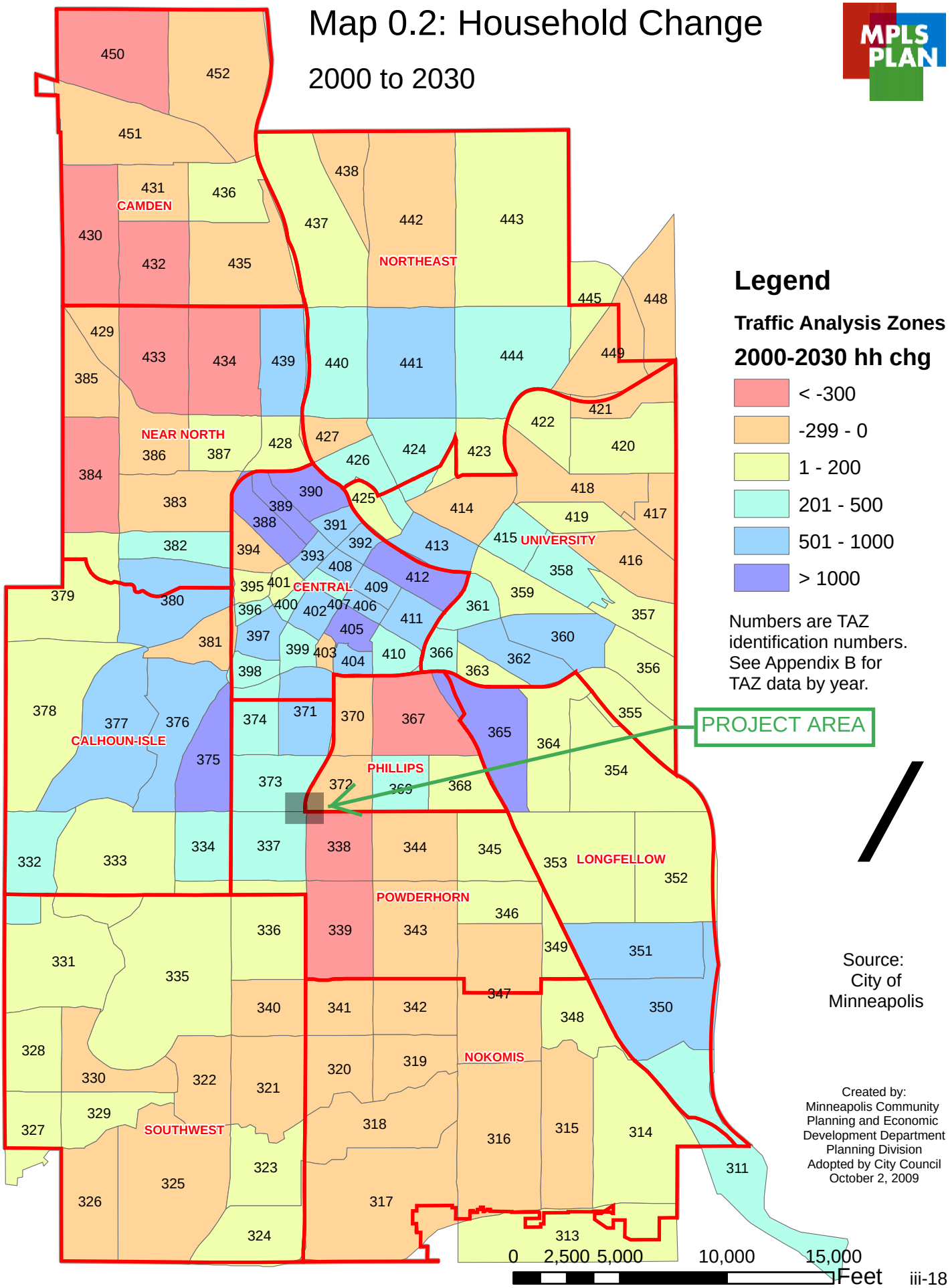
Map 0.1: Population Change

2000 to 2030



Map 0.2: Household Change

2000 to 2030



Legend

Traffic Analysis Zones

2000-2030 hh chg

- < -300
- -299 - 0
- 1 - 200
- 201 - 500
- 501 - 1000
- > 1000

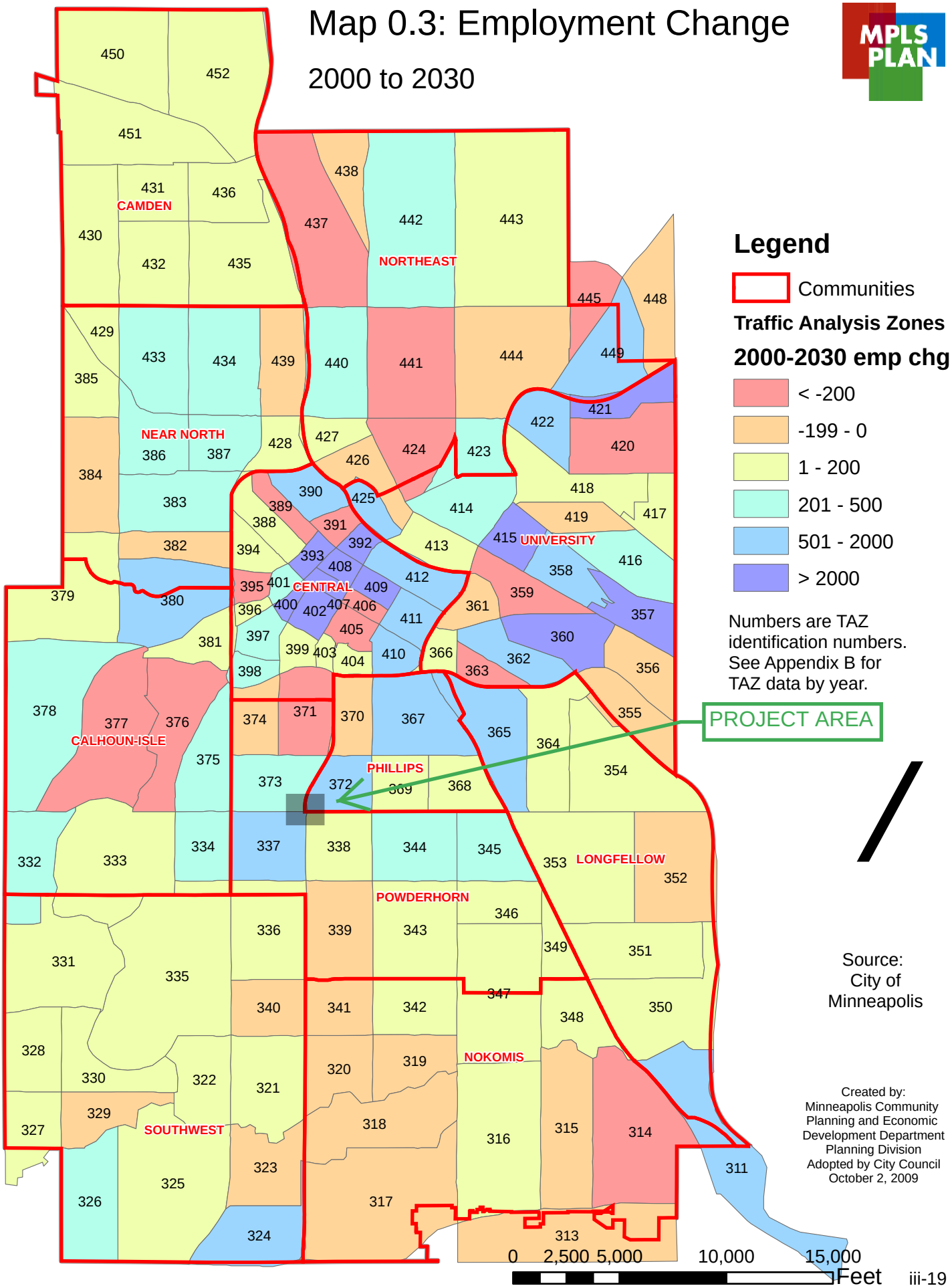
Numbers are TAZ identification numbers. See Appendix B for TAZ data by year.

Source: City of Minneapolis

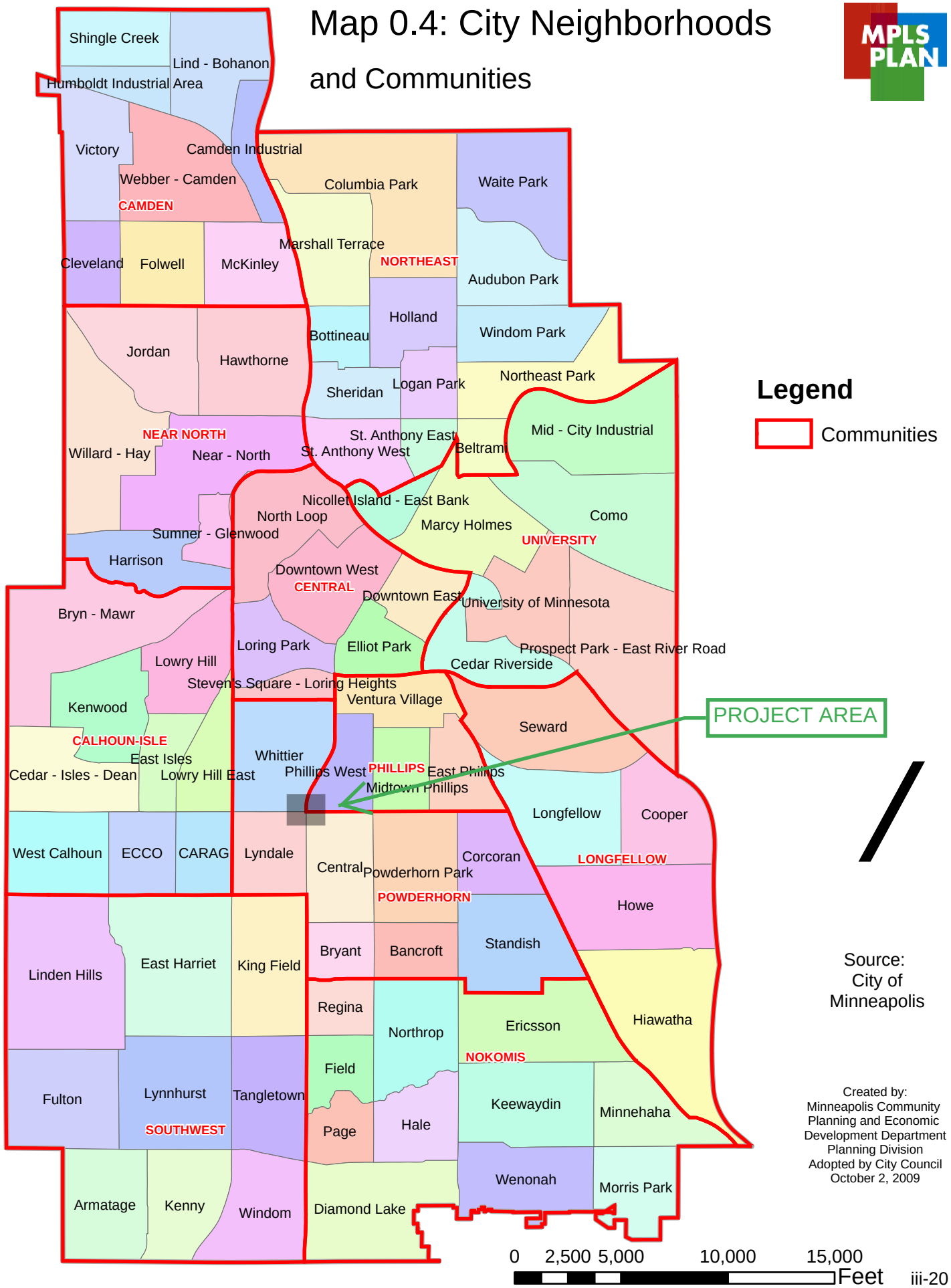
Created by:
Minneapolis Community Planning and Economic Development Department
Planning Division
Adopted by City Council
October 2, 2009

Map 0.3: Employment Change

2000 to 2030

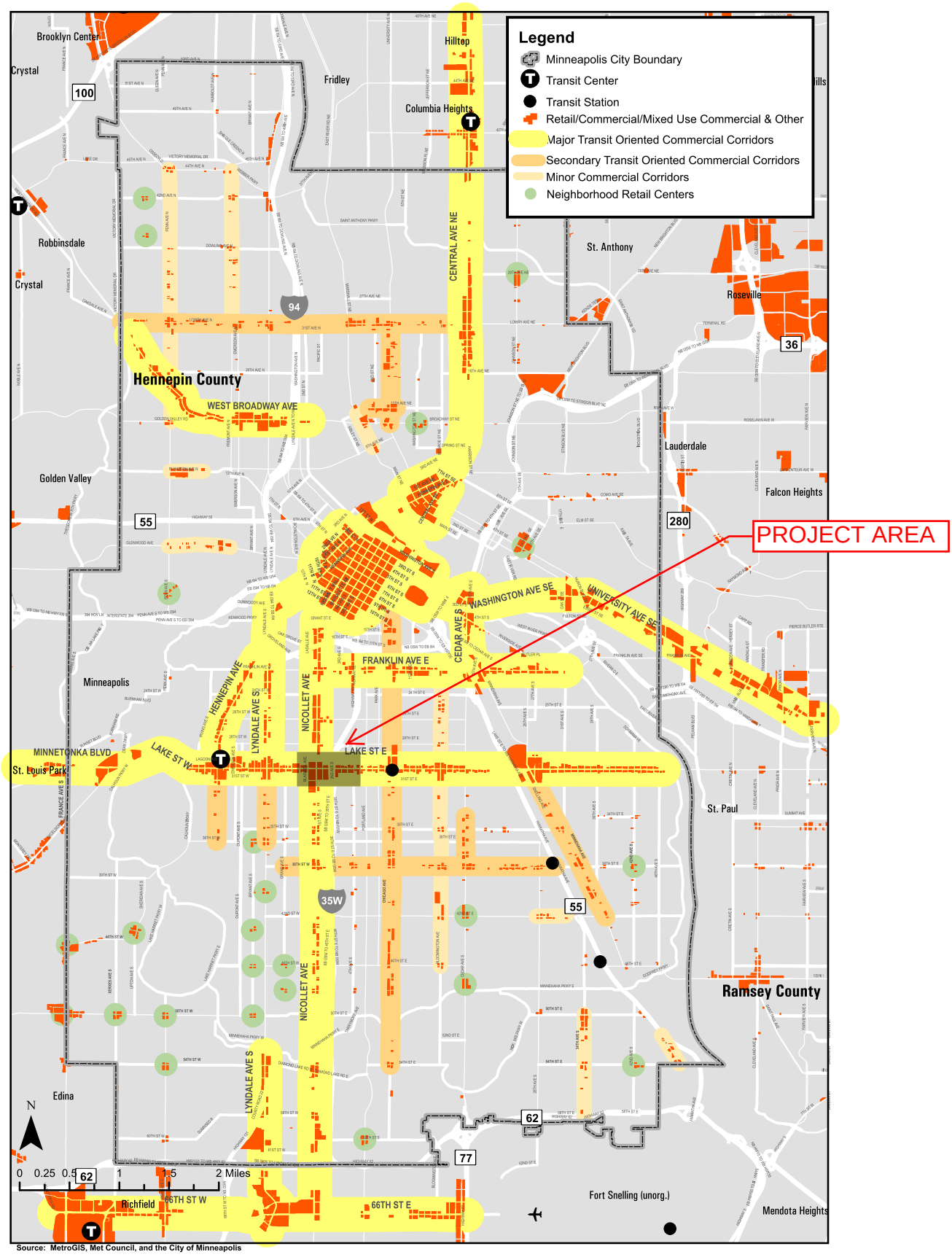


Map 0.4: City Neighborhoods and Communities



Source: City of Minneapolis

Created by:
Minneapolis Community Planning and Economic Development Department
Planning Division
Adopted by City Council
October 2, 2009



Source: MetroGIS, Met Council, and the City of Minneapolis

FIGURE 4 - HISTORIC DEVELOPMENT & TRANSPORTATION PATTERNS

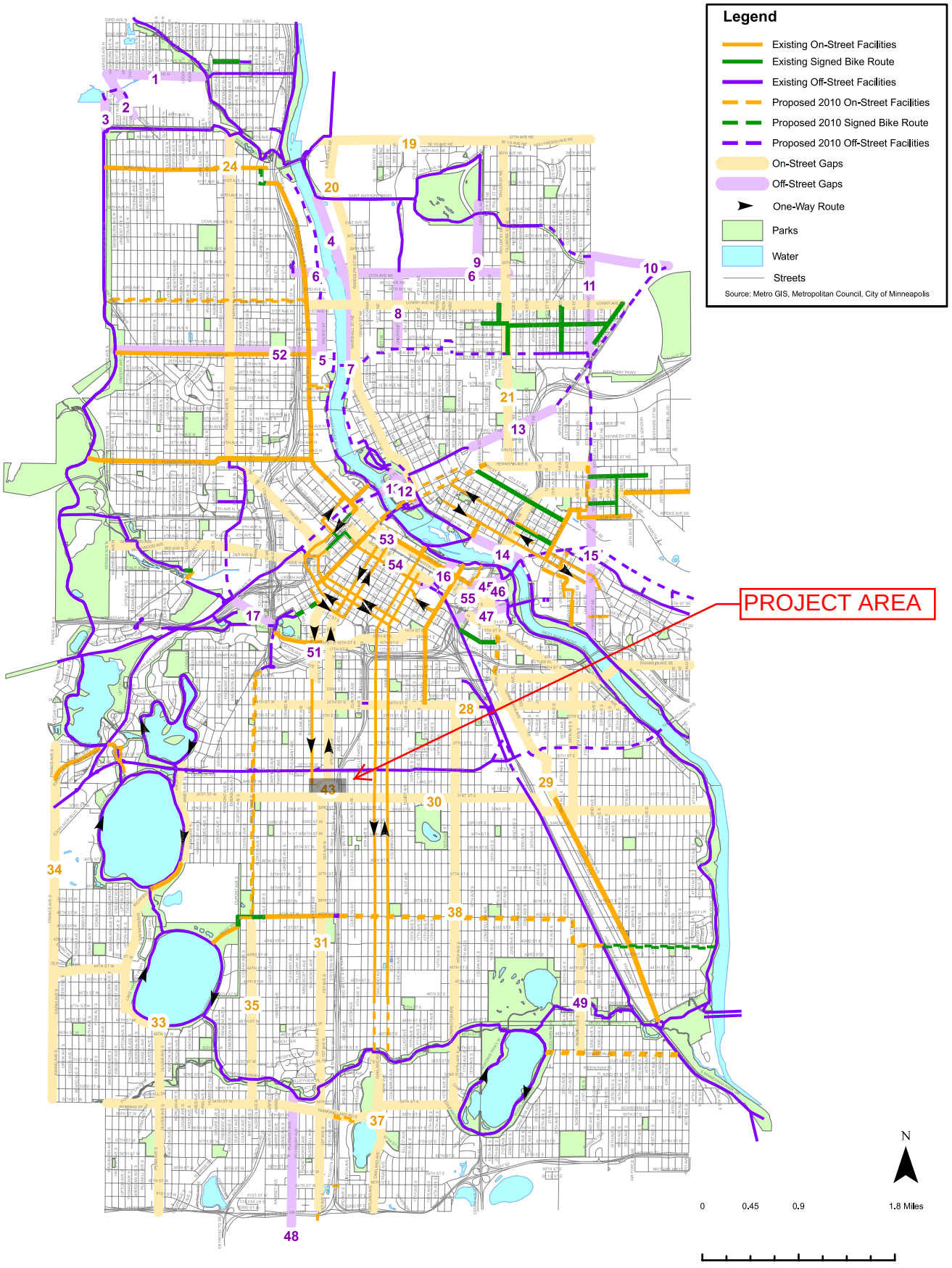
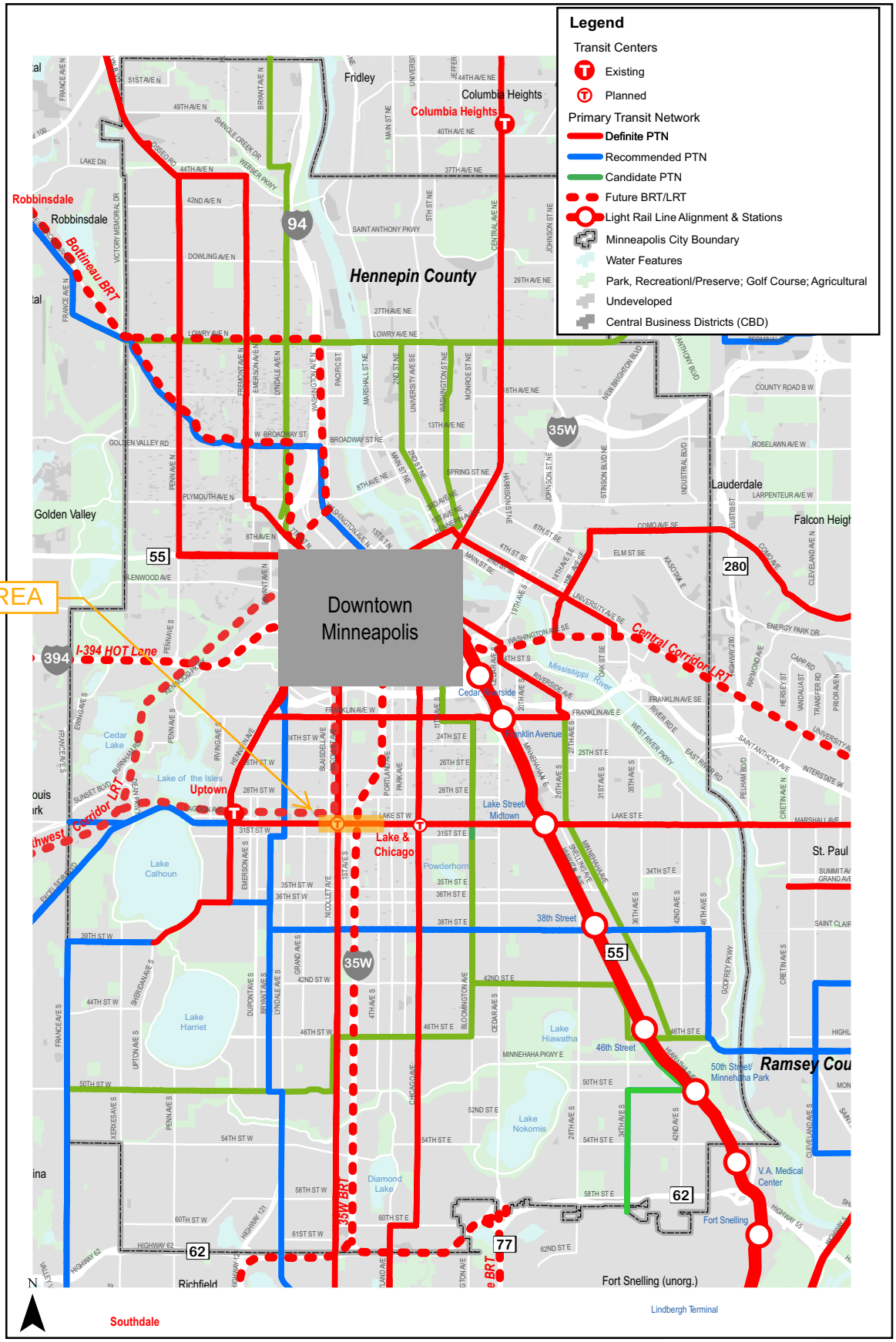


FIGURE 9 - EXISTING BICYCLE FACILITIES



Source: MetroGIS, Met Council, and the City of Minneapolis

FIGURE 20 - PRIMARY TRANSIT NETWORK

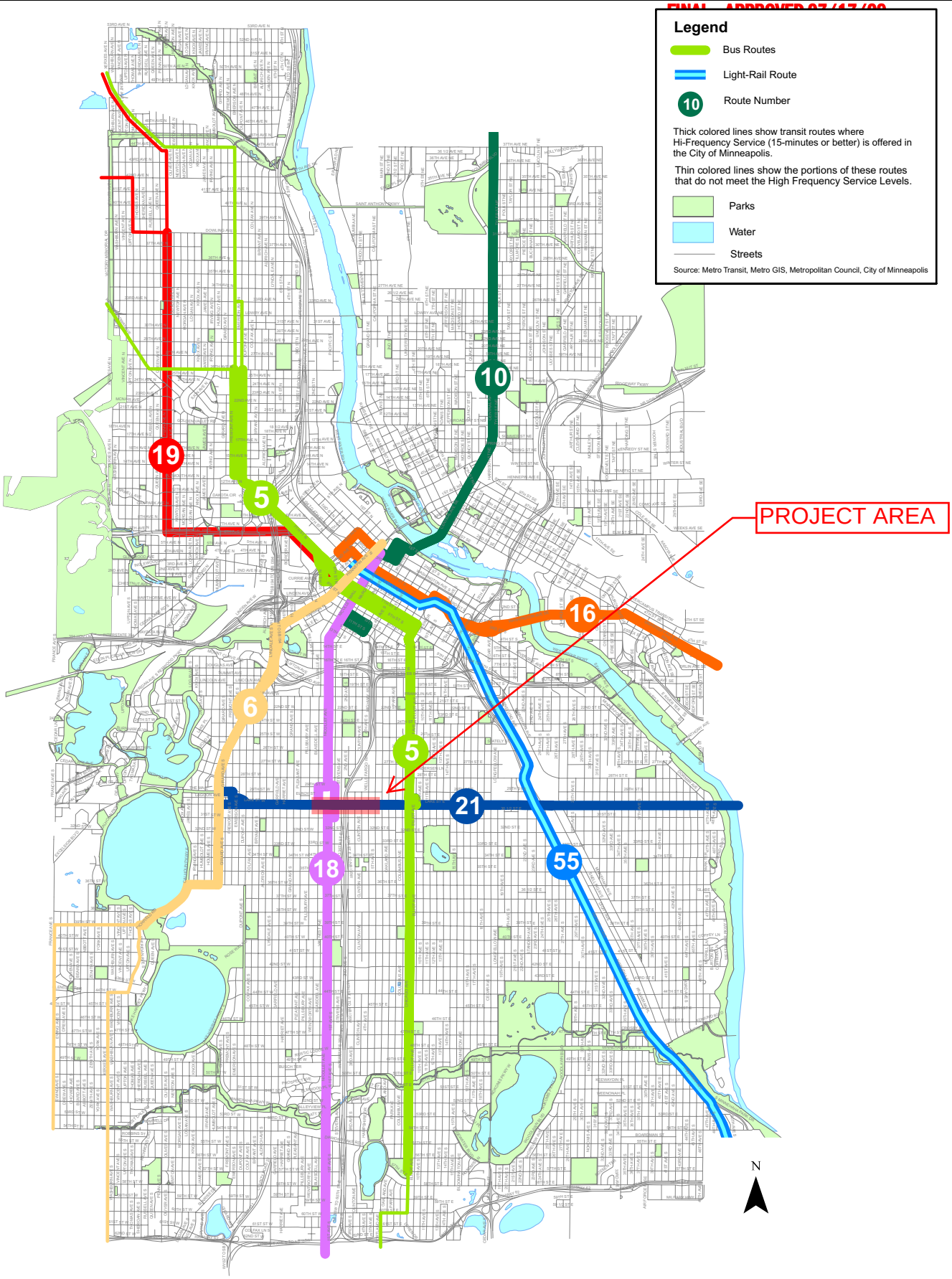
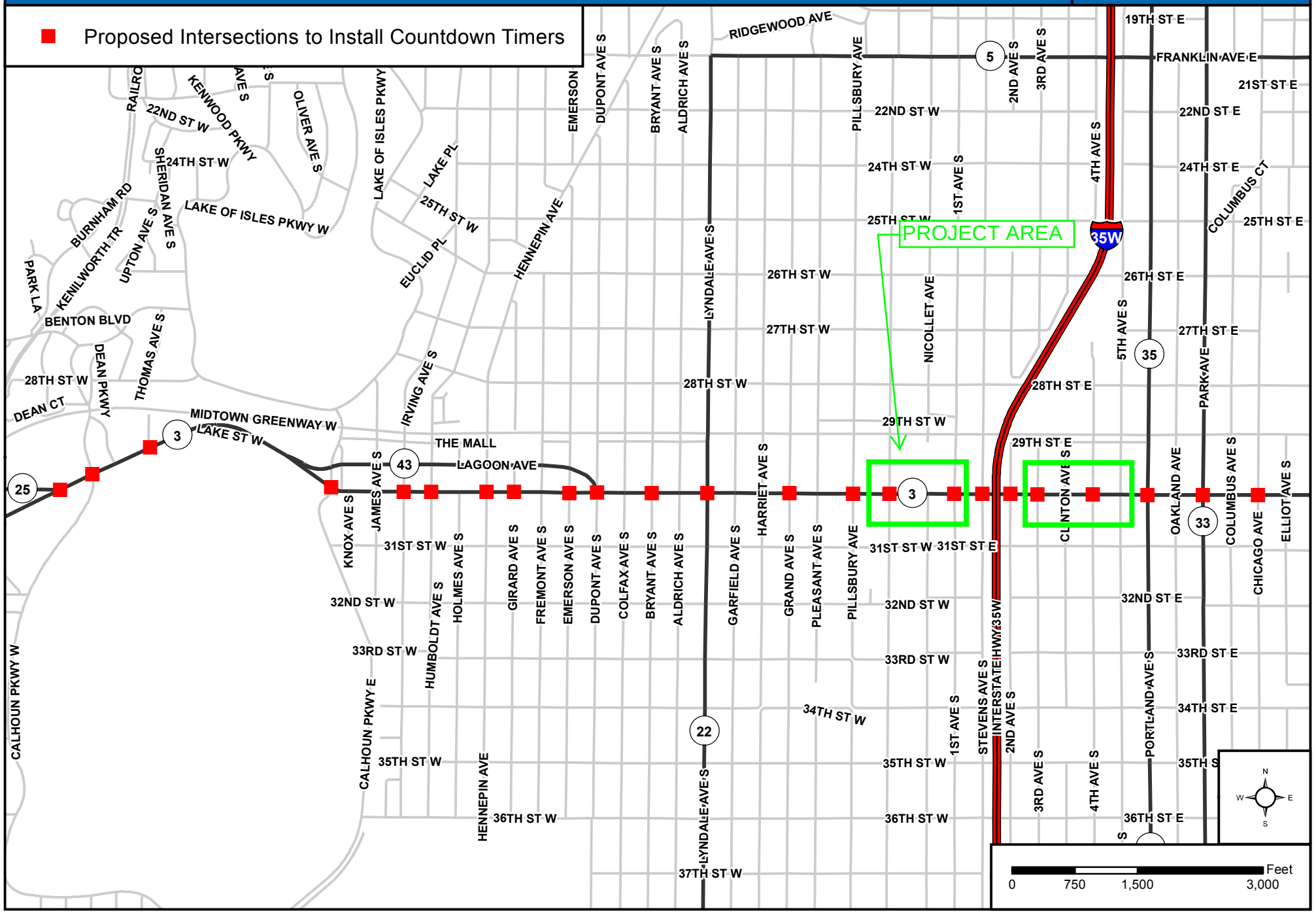


FIGURE 13 - HI-FREQUENCY TRANSIT NETWORK

SP 027-030-036 CSAH 003 (Lake Street) Countdown Timers

From Excelsior Boulevard to Chicago Avenue

Hennepin TRANSPORTATION PLANNING DIVISION

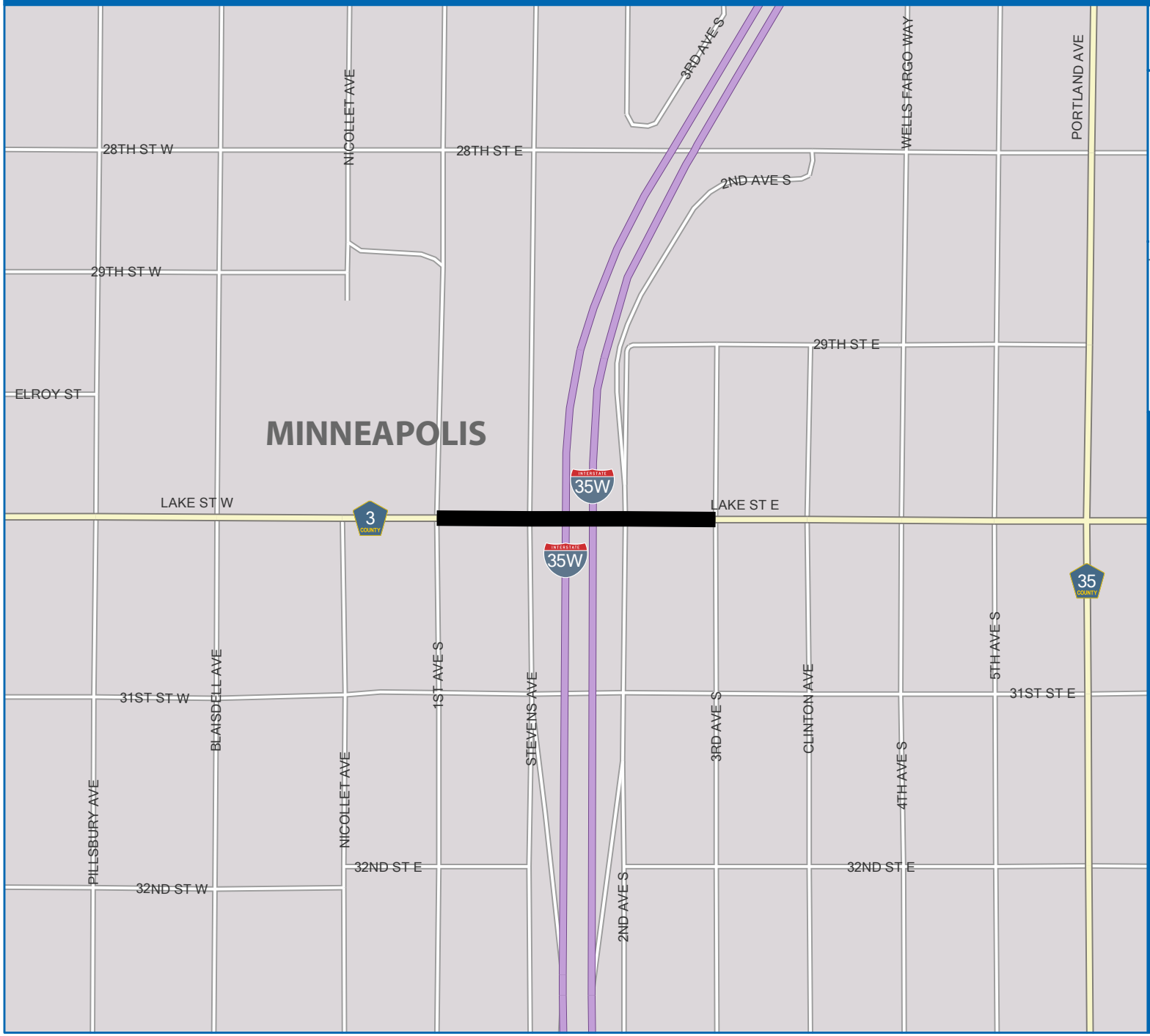


Project Location

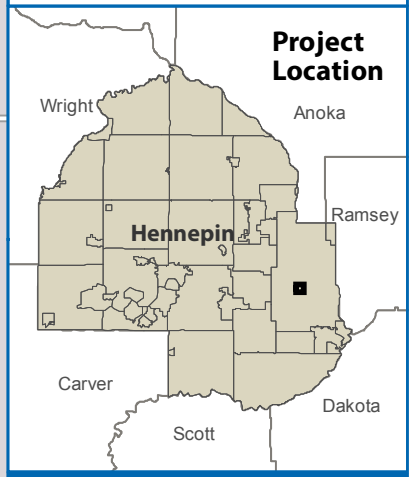
Project Number: 2986401 | CSAH 3 | Minneapolis

▶ Transportation

Hennepin County Public Works



Project Location



Produced by Hennepin County Public Works Transportation Department.

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Published: 9/24/2013

Hennepin County
Public Works

0 0.05 0.1
Miles

HENNEPIN COUNTY
MINNESOTA

2014 CAPITAL BUDGET
AND 2014-2018 CAPITAL IMPROVEMENT PLAN

Major Program: Public Works
Department: Transportation
Building:

Project Name: CSAH 3 - Participate in New Access Between Lake Street (CSAH 3) and I-35W
Project Number: 2986401
Funding Start: 2009 **Funding Complete:** 2015

Description & Location

The project will replace the limited access to/from I-35W at 31st Street East with more complete access at Lake Street (CSAH 3) in Minneapolis. The current limited access at 31st Street East provides only for southbound on-traffic and northbound off-traffic.

Purpose & Justification:

The purpose of the project is to provide better access between I-35W and Lake Street (CSAH 3) and provide transit improvements for the area including a new Orange Line Bus Rapid Transit (BRT) station in the median of I-35W with connections to/from Lake Street, the Midtown Greenway, Nicollet Avenue and I-35W. Better access will improve the socio-economic environment of the area. The area contains several sizable employers.

Project's Effect On Annual Operating Budget

No impact to department staff or annual operating cost.

Notes

The amount budgeted for the project reflects only the county's cost of participation. The $396,000 in Other Funding is municipal funds.

Cost Breakdown	Total
Land Acquisition	
Construction	
Consulting	$7,320,000
Furnishings/Equipment	
Contingency	
TOTAL	$7,320,000

Funding Source	Previous Appropriations	2014 Estimate	2015 Estimate	2016 Estimate	2017 Estimate	2018 Estimate	Beyond 2018 Estimate	TOTAL
Property tax	$40,000		$40,000					$80,000
Bonding								
Federal	$4,400,000							$4,400,000
State	$2,444,000							$2,444,000
Enterprise income								
Other	$396,000							$396,000
TOTAL	$7,280,000		$40,000					$7,320,000

CITY OF MINNEAPOLIS

CAPITAL IMPROVEMENT PROJECTS
2014 CONSTRUCTION
PROPOSED: 2015 - 2019 CAPITAL PLAN

N

MINNEAPOLIS DEPARTMENT OF PUBLIC WORKS

May 15, 2014

SUBJECT TO CHANGE

LEGEND

- BIK20 BIKE
- SWK01 SIDEWALK
- BR101 BRIDGE
- PV001 PARKWAY
- PV006 PAVING
- PV056 RESURFACING
- PV061 HIGH VOLUME RESURFACING
- PV074 CSAH
- TR008 TRAFFIC
- SW004 CSO
- SW011 TUNNEL
- SA001 SANITARY SEWER
- SA036 I & I REMOVAL
- WTR12 WATER

2015 SIDEWALK REPAIR UNDER PENN & PENN EAST

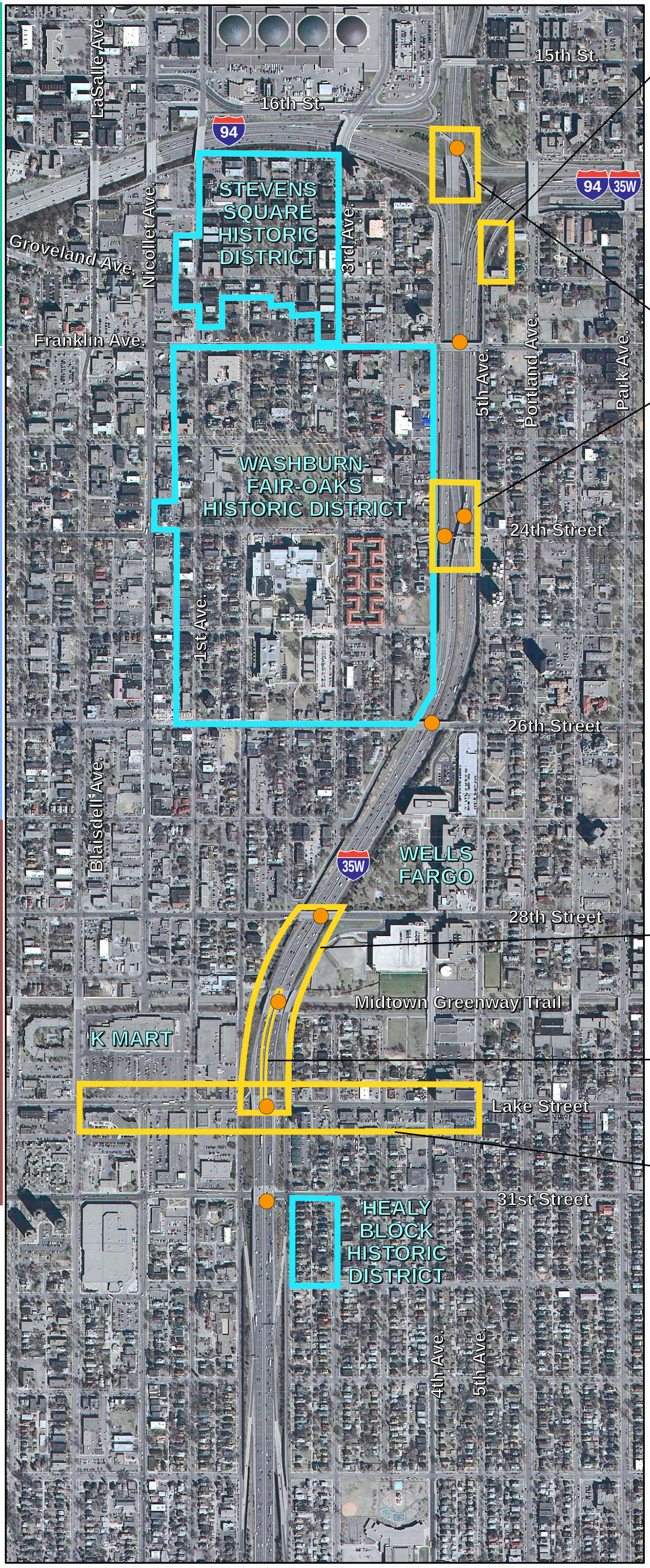
	ID	PROJECT NAME	2014	2015	2016	2017	2018	2019
BIKE	BIK20	Hiawatha LRT Trail Lighting						
	BIK20	Bluff St Bike Trail						
MISC	SWK01	Defective Hazardous Sidewalks/Complete Gaps Citywide	2014	2015	2016	2017	2018	
	PV072	Pedestrian Improvement Project (see Paving section below)						
			2014	2015	2016	2017	2018	2019
BRIDGE	BR101	Major Bridge Repair & Rehabilitation (4210 2013 = Bridge Number / Year)						
	BR106	1st Ave S over HCRRA						
	BR110	St Anthony Parkway Bridge (North Town Bridge) & California St						
	BR111	10th Ave SE Bridge Arch Rehabilitation						
	BR116	Bridge 9 Improvements						
	BR117	1st St N Bridge over Bassett's Creek (Storm Sewer Project)						
	BR123	28th Ave S over Minnehaha Creek						
	BR126	40th St Pedestrian/Bicycle Bridge						
	BR127	Nicollet Ave over Minnehaha Creek						
	BR130	7th Street Ramp Bridge over 35W						
			2014	2015	2016	2017	2018	2019
PAVING	PV001	Parkway Paving (Parkway Paving / Parkway Sealcoating) PAVE / SEALCOAT	P 2014 S 2014	P 2015 S 2015	P 2016 S 2016	P 2017 S 2017	P 2018 S 2018	P Future S Future
	PV006	Alley Renovation 2014 2015 - 2019						
	PV019	6th Ave N (5th St N to dead end north of Washington Ave N)						
	PV027	Hennepin/Lyndale (Groveland to EB Ramp north of Dunwoody Blvd)						
	PV054	8th St S, Hennepin Ave to Chicago Ave						
	PV056	Asphalt Pavement Resurfacing Program						
	PV059	Major Pavement Maintenance (Sealcoating) 2014						
	PV061	High Volume Reconditioning						
	PV063	Unpaved Alley Construction (Not on Map)						
	PV067	Nawadaha Blvd & Minnehaha Ave						
	PV068	LaSalle Ave (Grant to 8th St S)						
	PV069	Penn Ave S (north of 54th St W to 50th St W)						
	PV070	15th Ave S & 4th St S Reconstruction						
	PV072	Pedestrian Improvement Project						
	PV073	26th Ave N (W Broadway to Lyndale Ave N)						
	PV074	CSAH & MnDOT Cooperative Projects						
	PV076	38th St E, Hiawatha to Minnehaha						
	PV080	18th Ave NE, Monroe St NE to Johnson St NE						
	PV083	Minnehaha Ave, 24th St E to 26th Ave S (Expanded Program)						
	PV084	54th St W, Penn Ave S to Lyndale Ave S						
	PV086	26th Ave N - Wirth to Broadway and Lyndale to River						
	PV087	34th Ave S - 54th St E to Minnehaha Pkwy (Expanded Program)						
	PV094	4th St SE - 25th Ave SE to 29th Ave SE						
	PV095	4th St N & S, 2nd Ave N to 4th Ave S						
	PV096	42nd Ave N, Xerxes Ave N to Lyndale Ave N						
	PV097	18th Ave NE Trail Gap						
	PV098	Hiawatha Trail Gap, 28th St E to 32nd St E						
	PV099	26th St & 28th St Buffered Bike Lanes (Hiawatha to 35W)						
	PV101	29th St W from Fremont to Lyndale						
	PV103	61st St W, Lyndale Ave S to Nicollet Ave S						
	PV104	ADA Ramp Replacement Program (2014 projects shown on map)						
	PV00R	Reimbursable Paving Projects (Not on Map)						
			2014	2015	2016	2017	2018	2019
TRAFFIC	TR008	Parkway Street Light Replacement Citywide						
	TR010	Traffic Management Systems						
	TR011	City Street Light Renovation Citywide						
	TR021	Traffic Signals Shown on map as:						
	TR022	Traffic & Safety Improvements (2014 Projects on Map)						
	TR024	Pedestrian Level Lighting (Not on Map)						
	TR025	Sign Replacement (Not on Map)						
	TR00R	Reimbursable Transportation Projects Citywide						
			2014	2015	2016	2017	2018	2019
STORM DRAIN	SW004	Implementation of US EPA Storm Water Regulations Citywide						
	SW005	1 Combined Sewer Overflow Improvements						
	SW011	Storm Drains & Tunnels Rehabilitation Program						
	SW018	Flood Areas 29 & 30 - Fulton Neighborhood						
	SW032	I-35W Storm Tunnel Reconstruction (New Tunnel Segment)						
	SW033	Flood Area 22 - Sibley Field Holding Pond						
	SW034	Flood Area 21 - Bloomington Holding Pond						
	SW039	Flood Mitigation w/Alternative Storm water Management (Not on Map)						
	SW99R	Reimbursable Sanitary Sewer Projects						
			2014	2015	2016	2017	2018	2019
SANITARY	SA001	Sanitary Sewer and Tunnel Rehabilitation Citywide						
	SA036	Infiltration & Inflow Removal Program						
	SA99R	Reimbursable Sanitary Sewer Projects (not on map)						
			2014	2015	2016	2017	2018	2019
WATER	WTR12	Water Distribution Improvements (not on map) Citywide						
	WTR18	Hiawatha Water Maintenance Facility (not on map) Citywide						
	WTR23	Treatment Infrastructure Improvements (not on map) Citywide						
	WTR24	Fridley Filter Rehabilitation (not on map)						
	WTR25	Ground Water Supply (not on map)						
	WTR26	Recarbonation System Replacement (not on map)						
	WTR27	Meter Replacement Program (not on map)						
	WTR28	Ultrafiltration Module Replacement (not on map)						
	WTR0R	Reimbursable Water main Projects (not on map) Citywide						

Project Area Segments

I-94 Segment

I-35W North Segment

I-35W South Segment



New Ramp Bridge – The 5th Avenue entrance to NB I-35W requires a new ramp bridge over the new system connection to EB I-94.

Replacement of 2 Freeway System Bridges — The bridges indicated below are nearly 45 years old and are both structurally and functionally deficient. Both bridges also carry significant traffic and are priorities for replacement and reconfiguration.

- **I-94 WB Flyover from I-35W NB** – This flyover is commonly congested and is the site of frequent crashes.
- **I-35W SB Braid Bridge and 24th St. Pedestrian Bridge** – Replacement of the Braid Bridge is expected to interact with possible replacement of the 24th St. pedestrian bridge, which is above the Braid Bridge.

(Bridge replacements are proposed at locations denoted with " ● .")

New Lake St. and 28th St. Access –

- To NB I-35W from Lake St.
- To Lake St. from SB I-35W
- To 28th St. from NB I-35W

Area under consideration for new BRT station location – BRT station implementation must provide pedestrians with connections to both Lake St. and the Midtown Greenway.

Lake St. Improvements from Blaisdell Ave. to 5th Ave. – Design must include an effective connection from Lake St., which runs beneath I-35W, to the planned freeway-level BRT station.

LEGEND

- Bridge Replacements Proposed
- Historic Districts
- Major Design Elements

North

0 800 1,600

Approximate scale in feet

EXHIBIT 1
Study Area Map
I-35W-Lake Street Transit/Access Project

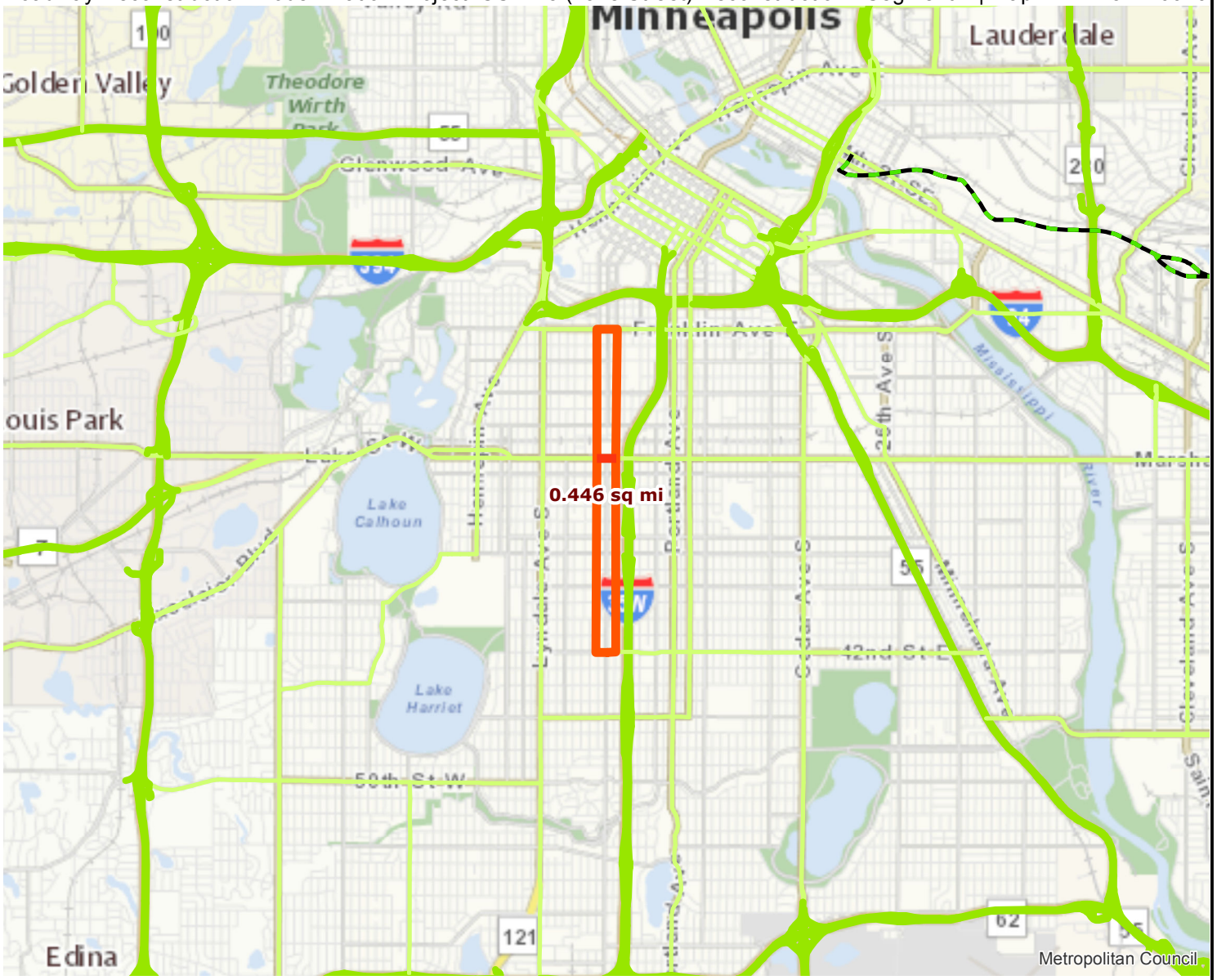
Roadway Area Definition

Roadway Reconstruction/Modernization Project: CSAH 3 (Lake Street) Reconstruction - Segment A | Map ID: 1415127094919

Results

Project Length: 0.147 miles

Project Area: 0.446 sq mi



Project
Project Area
Principal Arterials
A Minor Arterials
Principal Arterials Planned
A Minor Arterials Planned

0 0.75 1.5 3 4.5 6 Miles

Created: 11/4/2014
LandscapeRSA1

For complete disclaimer of accuracy, please visit
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METROPOLITAN COUNCIL

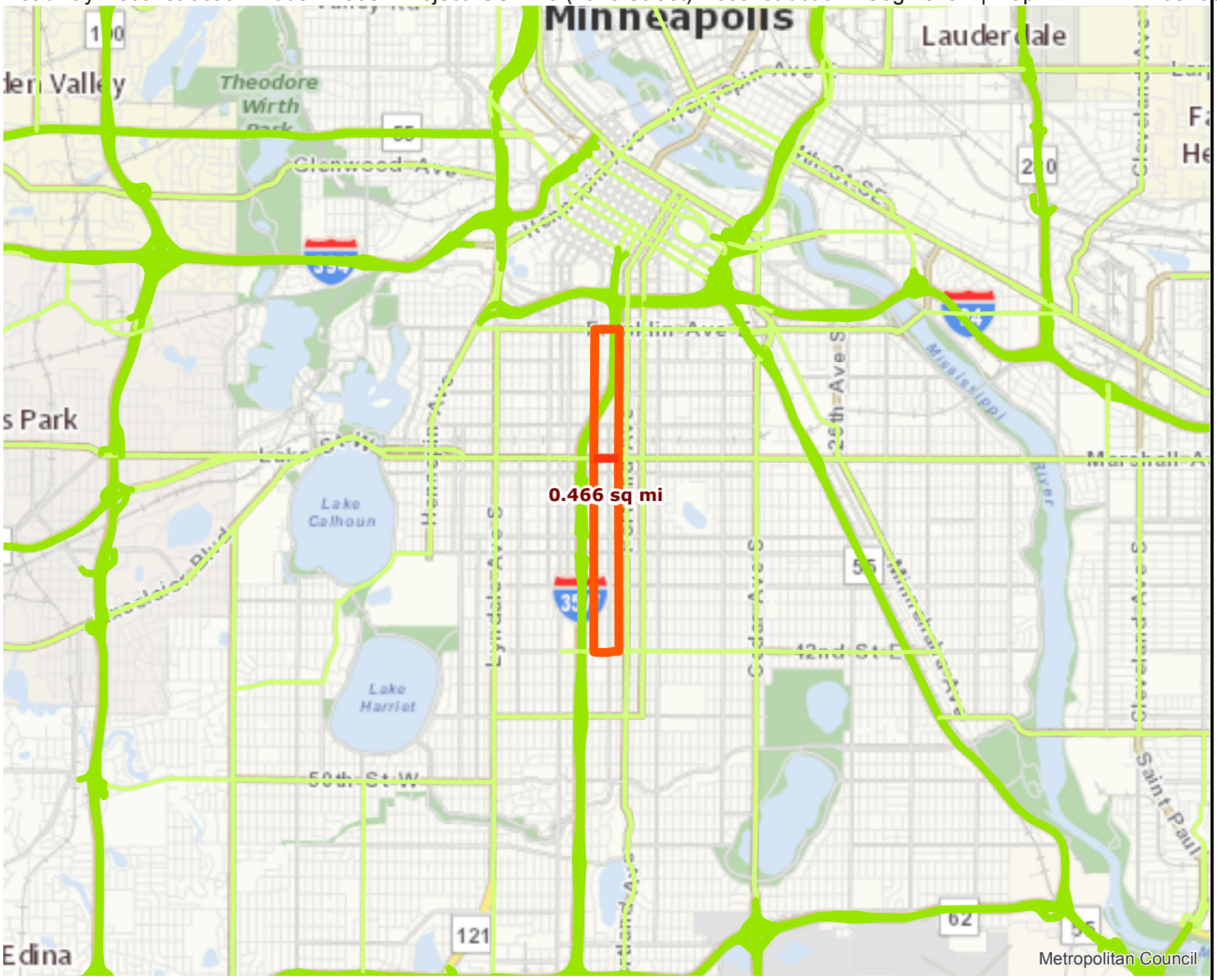
Roadway Area Definition

Roadway Reconstruction/Modernization Project: CSAH 3 (Lake Street) Reconstruction - Segment B | Map ID: 1414421537351

Results

Project Length: 0.188 miles

Project Area: 0.466 sq mi



Project
Project Area
Principal Arterials
Minor Arterials
Principal Planned Arterial
Minor Planned Arterial

0 0.75 1.5 3 4.5 6 Miles

Created: 10/27/2014
LandscapeRSA1

For complete disclaimer of accuracy, please visit
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METROPOLITAN COUNCIL

Regional Economy

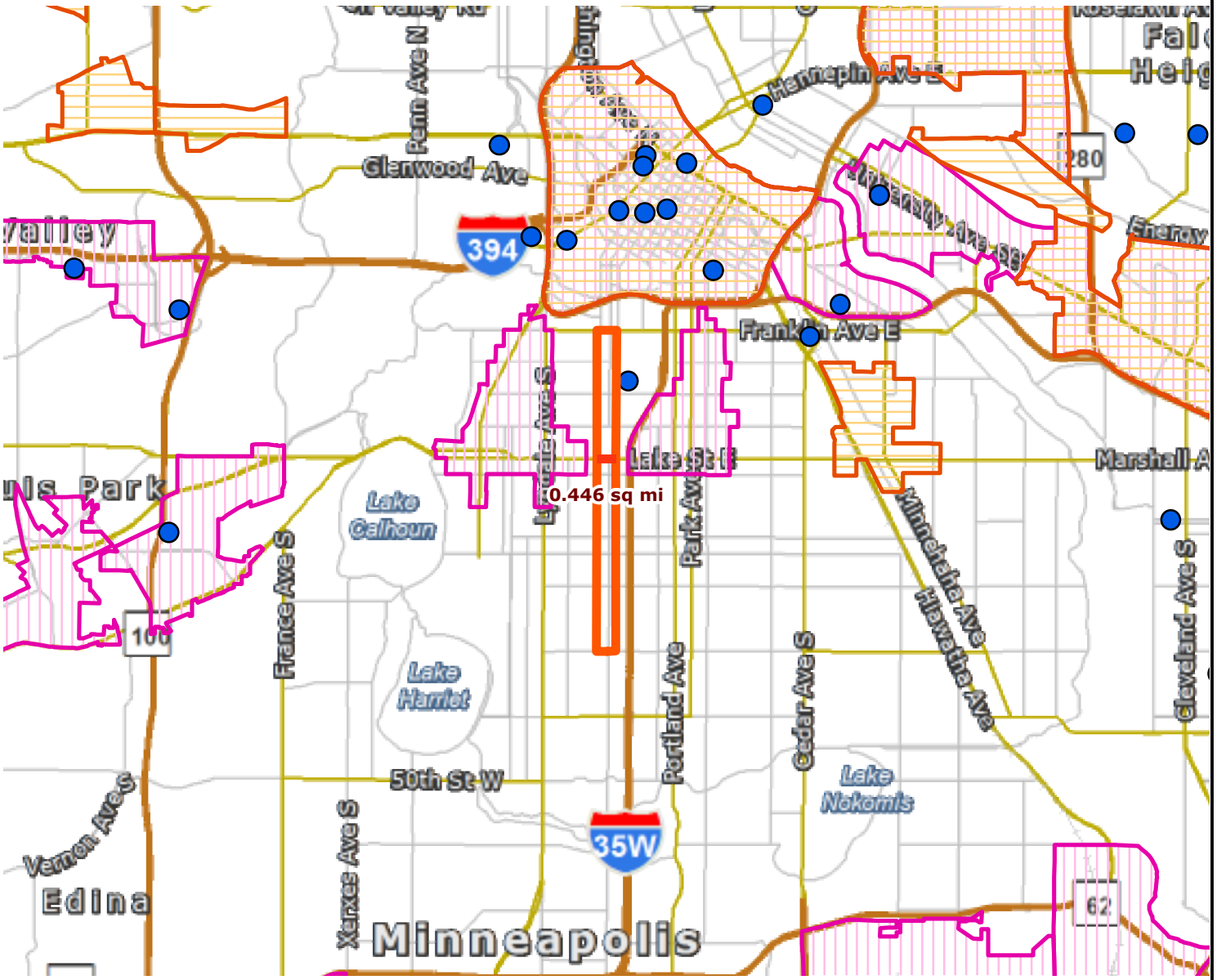
Roadway Reconstruction/Modernization Project: CSAH 3 (Lake Street) Reconstruction - Segment A | Map ID: 1415127094919

Results

Project **WITHIN ONE MI** of area of Job Concentration.

Project **NOT IN** to area of Manufacturing and Distribution.

Project **WITHIN ONE MI** of area of Education Institutions.



Project
Project Area
PostSecondary Education Centers
Manfacturing/Distribution Centers
Job Concentration Centers

0 0.75 1.5 3 4.5 6 Miles

Created: 11/4/2014
LandscapeRSA5

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METROPOLITAN COUNCIL

Regional Economy

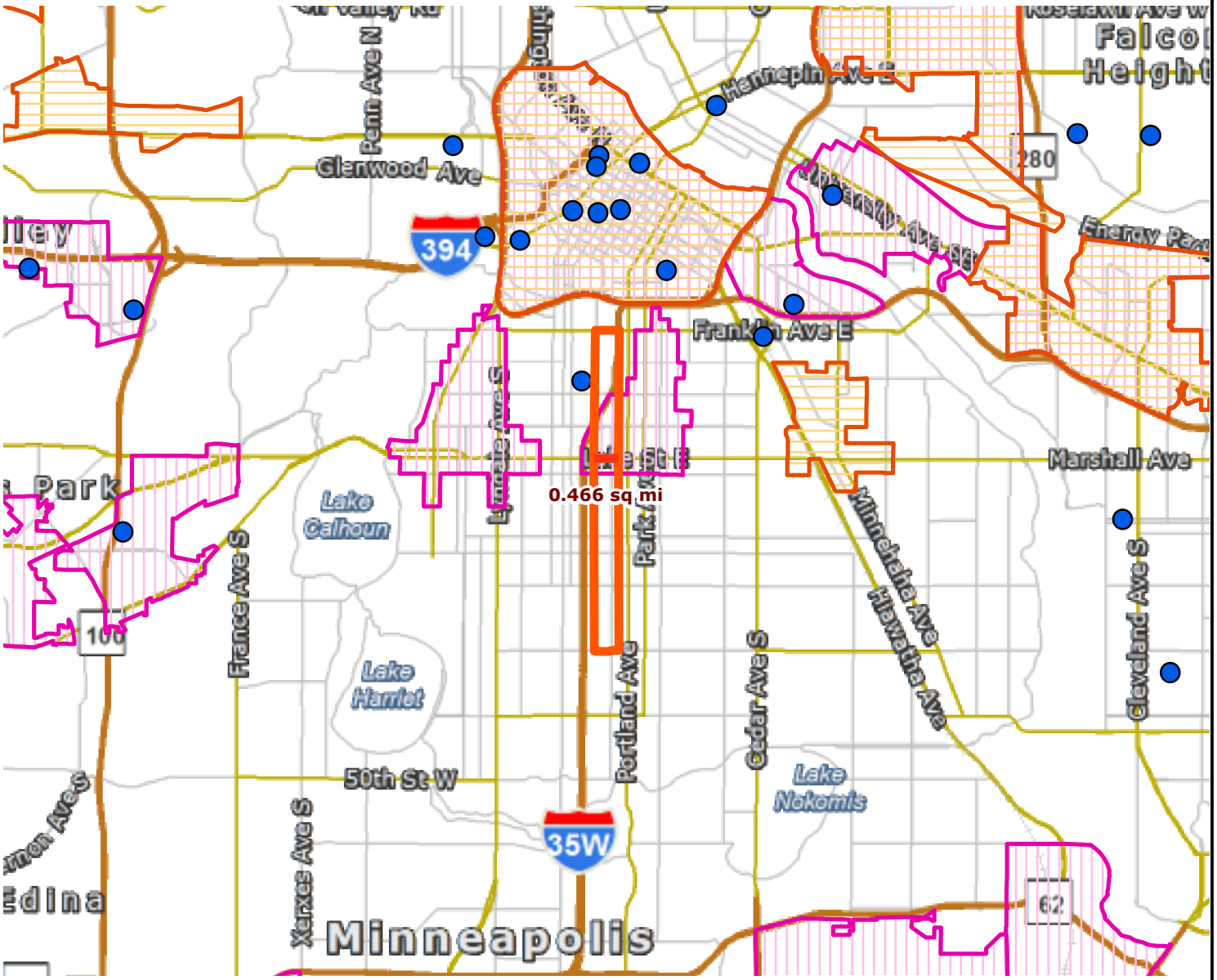
Roadway Reconstruction/Modernization Project: CSAH 3 (Lake Street) Reconstruction - Segment B | Map ID: 1414421537351

Results

Project **IN** area of Job Concentration.

Project **NOT IN** to area of Manufacturing and Distribution.

Project **NOT CONNECTED** to area of Education Institutions.



Project
Project Area
PostSecondary Education Centers
Manfacturing/Distribution Centers
Job Concentration Centers

0 0.75 1.5 3 4.5 6 Miles

Created: 10/27/2014
LandscapeRSA5

For complete disclaimer of accuracy, please visit http://giswebsite.metc.state.mn.us/gissitenew/notice.aspx

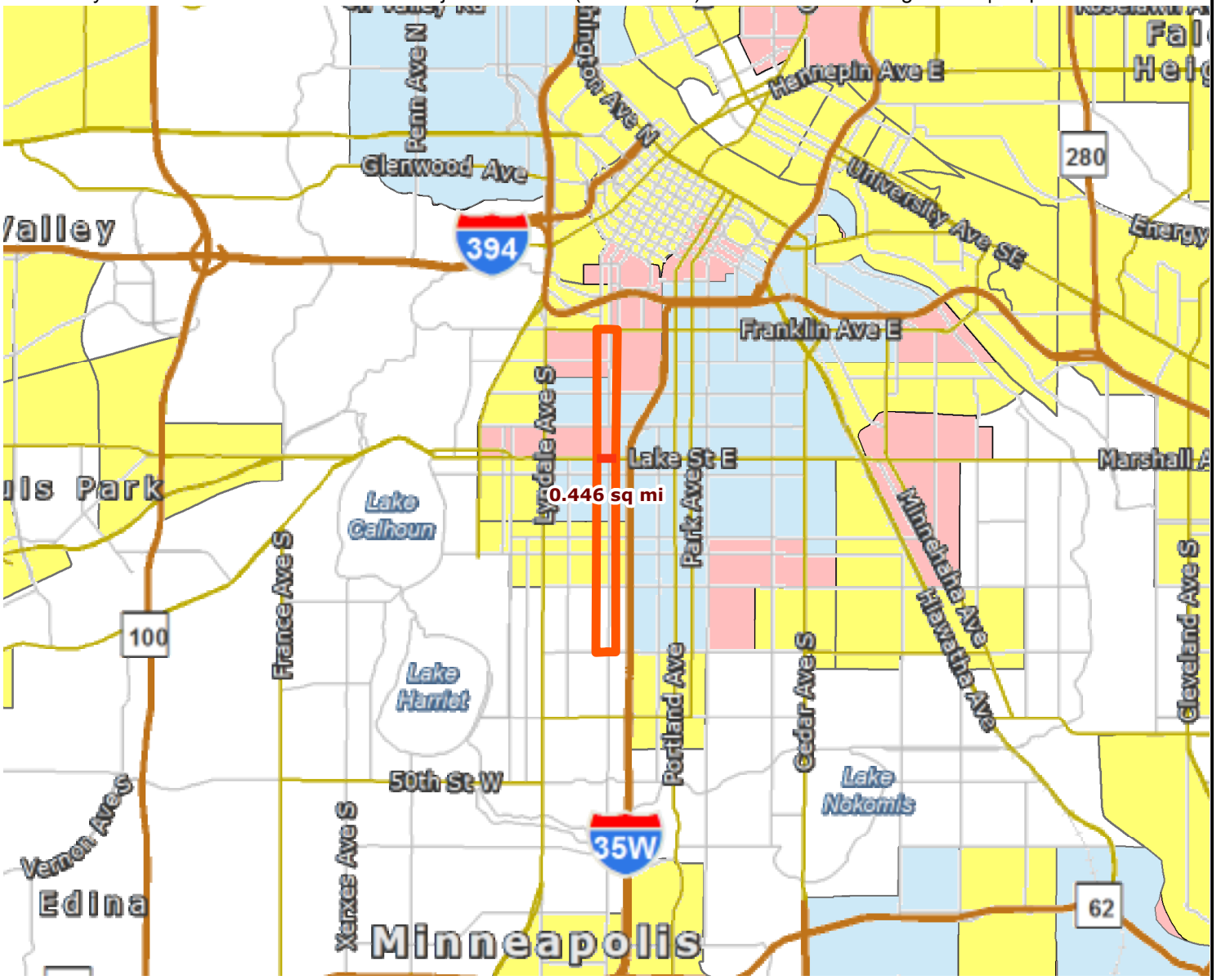
METROPOLITAN COUNCIL

Socio-Economic Conditions

Roadway Reconstruction/Modernization Project: CSAH 3 (Lake Street) Reconstruction - Segment A | Map ID: 1415127094919

Results

Project **IN** a racially concentrated area of poverty.



Project
Project Area
Racially concentrated area of poverty
Concentrated area of poverty
Above reg'l avg conc of race/poverty

0 0.75 1.5 3 4.5 6 Miles

Created: 11/4/2014
LandscapeRSA2

For complete disclaimer of accuracy, please visit http://giswebsite.metc.state.mn.us/gissitenew/notice.aspx

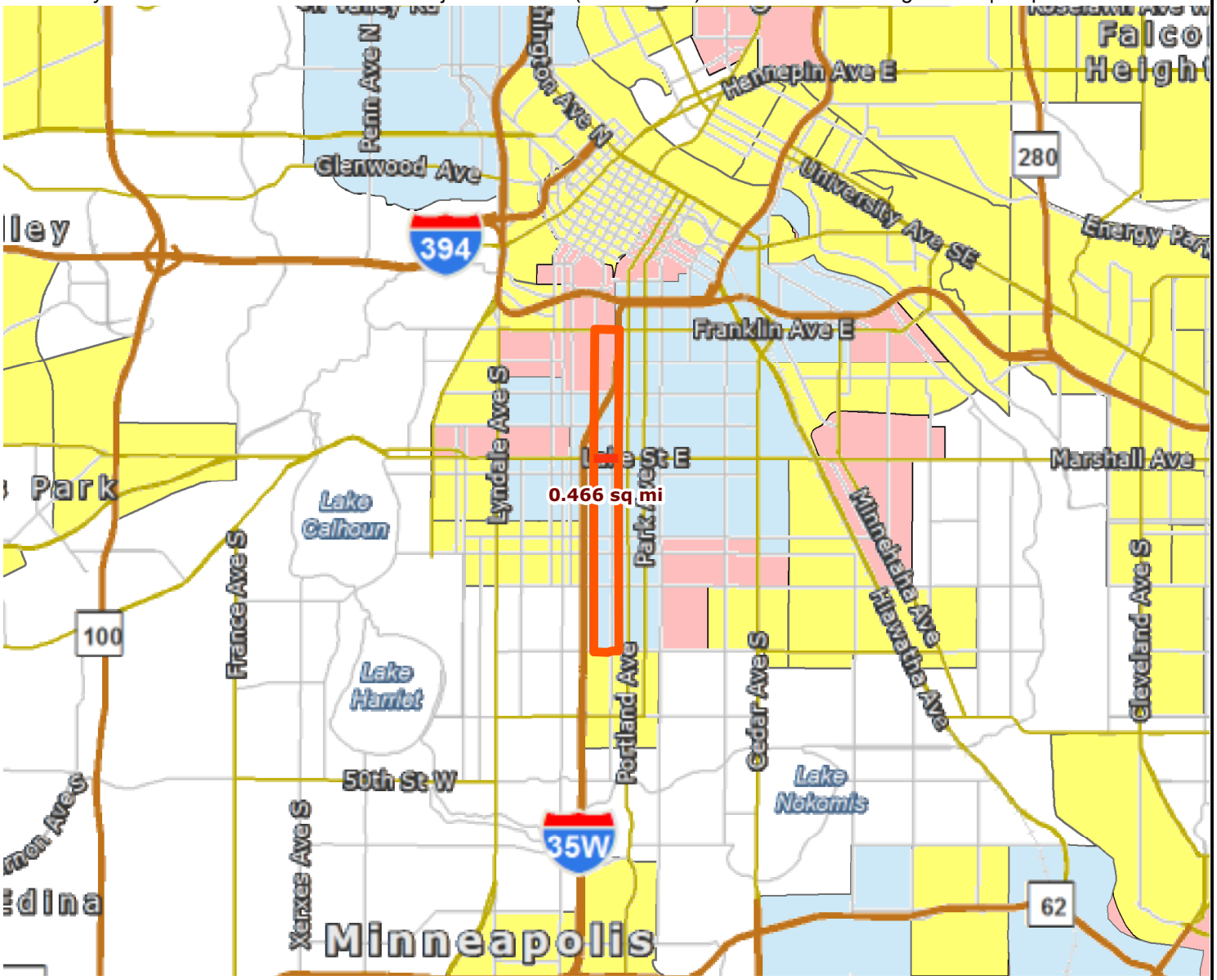
METROPOLITAN COUNCIL

Socio-Economic Conditions

Roadway Reconstruction/Modernization Project: CSAH 3 (Lake Street) Reconstruction - Segment B | Map ID: 1414421537351

Results

Project **IN** a racially concentrated area of poverty.



Project
Project Area
Racially concentrated area of poverty
Concentrated area of poverty
Above reg'l avg conc of race/poverty

0 0.75 1.5 3 4.5 6 Miles

Created: 10/27/2014
LandscapeRSA2

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METROPOLITAN COUNCIL

452: Nicollet Ave. & Lake St.

Direction	All
Volume (vph)	1991
Total Delay / Veh (s/v)	13
CO Emissions (kg)	1.42
NOx Emissions (kg)	0.28
VOC Emissions (kg)	0.33

452: Nicollet Ave. & Lake St.

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Volume (vph)	1991
Total Delay / Veh (s/v)	10
CO Emissions (kg)	1.13
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VOC Emissions (kg)	0.26

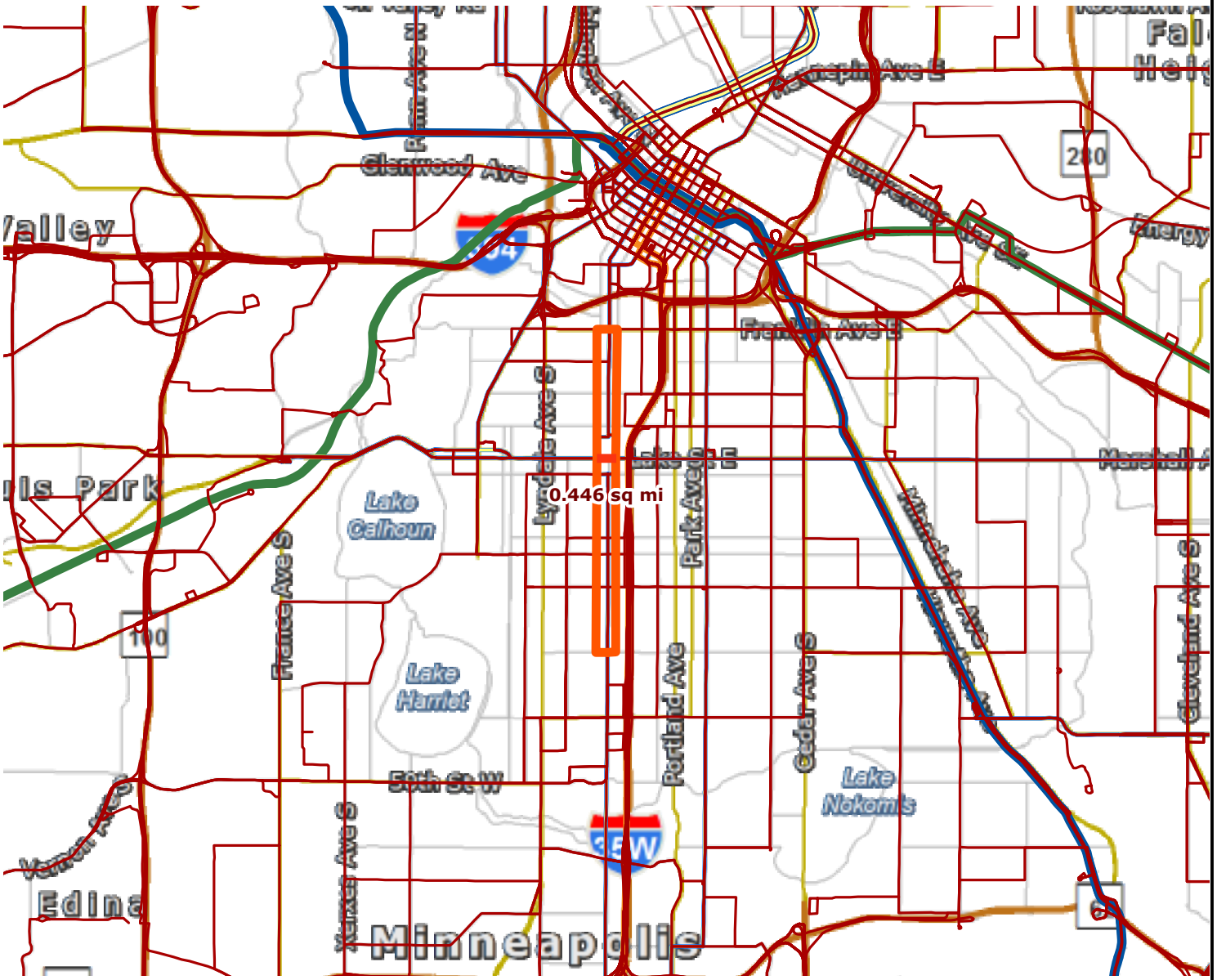
Transit Connections

Roadway Reconstruction/Modernization Project: CSAH 3 (Lake Street) Reconstruction - Segment A | Map ID: 1415127094919

Results

Transit with a Direct Connection to project:
18 21 53 133 135 146 156 460 464 465 467
470 472 475 476 477 478 479 491 492 535 552
553 554 558 568 578 579 597 684 695
*Orange Line
*Lake
*Nicollet

**indicates Planned Alignments*



Project
Project Area
Transit Routes

Transitway
Blue / Green Line
Blue Line
Green Line

Northstar Line

Planned Alignments
Arterial BRT
BRT, Orange Line

Light Rail, Blue Line Extension
Light Rail, Green Line Extension

0 0.75 1.5 3 4.5 6 Miles

Created: 11/4/2014
LandscapeRSA3

For complete disclaimer of accuracy, please visit
http://giswebsite.metc.state.mn.us/gissitenew/notice.aspx

METROPOLITAN COUNCIL

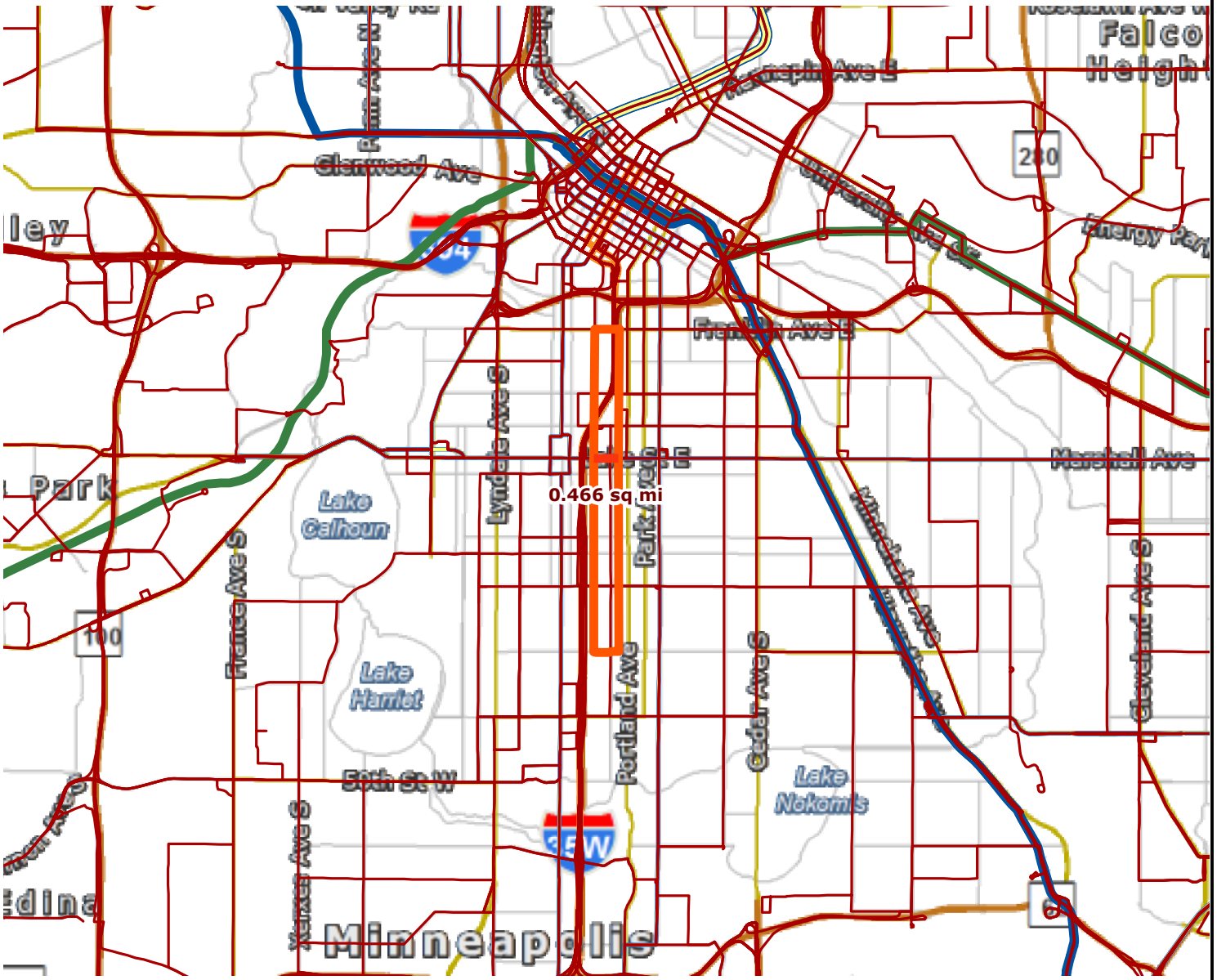
Transit Connections

Roadway Reconstruction/Modernization Project: CSAH 3 (Lake Street) Reconstruction - Segment B | Map ID: 1414421537351

Results

Transit with a Direct Connection to project:
11 21 27 39 53 133 135 146 156 460 464
465 467 470 472 475 476 477 478 479 491 492
535 552 553 554 558 578 579 597 684 695
*Orange Line
*Lake

**indicates Planned Alignments*



Project
Project Area
Transit Routes

Transitway
Blue / Green Line
Blue Line
Green Line

Northstar Line
Planned Alignments
Arterial BRT
BRT, Orange Line

Light Rail, Blue Line Extension
Light Rail, Green Line Extension

0 0.75 1.5 3 4.5 6 Miles

Created: 10/27/2014
LandscapeRSA3

For complete disclaimer of accuracy, please visit
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METROPOLITAN COUNCIL