



CITY OF EVANSTON

BIKE PLAN UPDATE

JULY 2014
FINAL PLAN UPDATE

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Cover photo: *Bike The Ridge, September 19, 2013. City of Evanston.*

Church Street Protected Bike Lane, City of Evanston.

Table of Contents

1. Introduction	1
2. Goal and Objectives	2
3. Current Conditions Analysis	3
3.1 Bicycle Facilities	3
3.2 Surrounding Network	6
3.3 Plans, Policies and Programs	6
3.4 Planned Improvements	7
4. Analysis	8
4.1 Bicycle Ridership	8
4.2 Safety and Security	12
4.3 Level of Traffic Stress	19
4.4 Best in Class	21
5. Standards, Guidelines and Innovations	22
5.1 On-Street Bicycle Facilities	23
5.2 Parking	26
5.3 Bike Share	27
5.4 Signs	28
5.5 Shared Use Path and Bike Trails	29
6. Community Engagement	30
7. Findings	32
8. Project Recommendations	38
8.1 Introduction	38
8.2 Project Corridor Prioritization Strategy	38
8.3 Bicycle Parking Needs	44



Bike the Ridge, Sunday September 29, 2013. City of Evanston



Church Street Two-way Cycle Track, City of Evanston



Church Street Protected Bike Lane, City of Evanston.



Church Street Buffered Bike Lane, City of Evanston.

9. Comfortable Corridors	45
9.1 Chicago Avenue/Hinman Avenue	46
9.2 Howard Street	48
9.3 Asbury Avenue and Green Bay Road/ Poplar Avenue	50
9.4 Maple Avenue/Noyes Street/Avenue Sherman Avenue	52
9.5 Greenleaf Street	54
9.6 Oakton Street/Callan Avenue/ South Boulevard	56
9.7 Sheridan Road and Edgemere Court	58
9.8 Lincoln Street/Harrison Street/ Lincolnwood Drive	60
10. Policy and Program Recommendations	62
10.1 Introduction	62
11. Implementation and Funding Strategy	65
11.1 Introduction	65
11.2 Bicycle Parking	65
11.3 Bicycle Safety and Awareness	65
11.4 Bicycle Marketing and Encouragement	66
11.5 Bicycle Database Implementation	66

List of Figures

Figure 1 - Existing Bicycle Network	4
Figure 2 - Bike Parking, Major Employers and Destinations	5
Figure 3 - Bicycle Count Locations	9
Figure 4 - Bike Crashes 2008-2012	13
Figure 5 - Downtown Sidewalk Riding Citations	17
Figure 6 - Bicycle Theft	18
Figure 7 - Level of Traffic Stress	20
Figure 8 - Roads under IDOT Jurisdiction	22
Figure 9 - Gaps and Barriers	33
Figure 10 - Facilities to Expand or Upgrade	34
Figure 11 - Example Loop Route	36
Figure 12 - Traffic Calming Infrastructure	37
Figure 13 - Proposed Action Strategy Criteria	40
Figure 14 - Corridors Selected For Further Analysis	41
Figure 15 - Bicycle Parking Needs	44

List of Tables

Table 1 - Evanston Bicycle Facilities by Type	3
Table 2 - Major Employers	6
Table 3 - Means of Transportation to Work, Evanston Residents	8
Table 4 - Bicycle Commuting Mode Share, 2011	8
Table 5 - Bicycle Counts	10
Table 6 - Evanston Demographics 1990-2010	11
Table 7 - Bicycle Rider Demographics	11
Table 8 - Crash Summary	12
Table 9 - Bike Crash by Location Type	14
Table 10 - High Crash Corridors 2008-2012	15
Table 11 - High Crash Intersections	15
Table 12 - Bicycle Counts, Sidewalk Riding	16
Table 13 - Streets with Bike Facilities	21
Table 14 - Typical Facility Costs	22
Table 15 - Key Locations	32
Table 16 - Gaps and Barriers	35
Table 17 - Corridors Selected For Further Study	39
Table 18 - Prioritization Summary	42

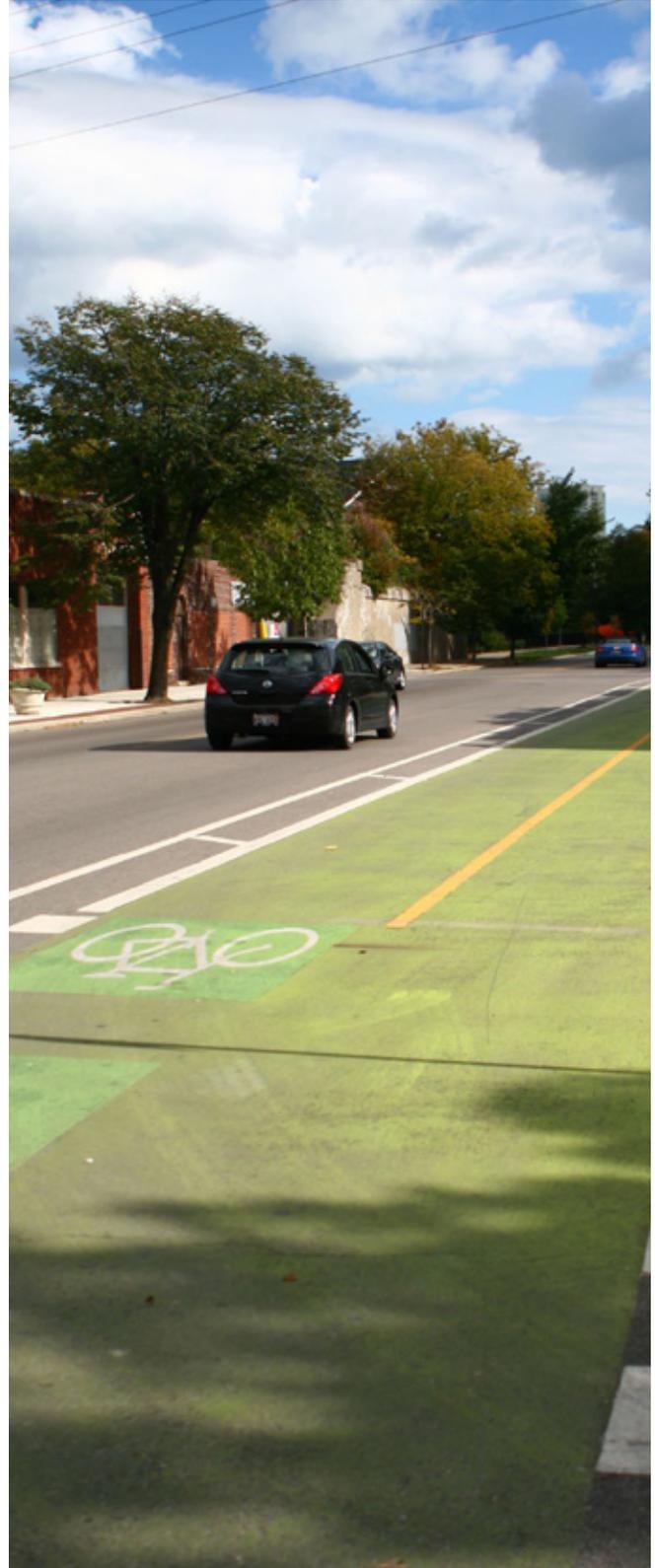
Appendices

A Bicycle Counts

B Community Engagement Summary

1. Introduction

The Evanston Bike Plan Update (Plan Update) is an update to the City of Evanston (City) 2003 Bicycle Plan, which resulted in the installation of 38 miles of bicycle facilities and marked increase in bicycle ridership. This Plan builds on the City's efforts to continue upgrading and expanding the network to make bicycling safer and attract more riders in Evanston. This Plan Update provides recommendations for new projects, policies, and programs that reflect the community's needs and desires to further promote bicycling.



Church Street Two-way Cycle Track, City of Evanston.

2. Goals & Objectives

Goals and objectives for the Plan were taken from the request for proposals, past planning efforts, and community input, and are presented below.

Goals

- Create and maintain functionally appropriate, sustainable, accessible high quality infrastructure and facilities.
- Protect and optimize the City's natural resources and built environment, leading by example through sustainable practices and behaviors.
- Coordinate and influence transportation resources to provide an improved system that is safe, integrated, accessible, responsive, understandable, efficient, and meets the needs of all people.

Objectives

- Improve the bicycle network and enhance the safety of bicyclists.
- Use the latest bicycle standards and guidelines from the Illinois Department of Transportation (IDOT), The American Association of State Highway and Transportation Officials (AASHTO), Federal Highway Administration (FHWA), National Association of City Transportation Officials (NACTO), and other industry best practices.
- Provide the most current bicycle travel research, lessons learned, and best practices for mobility, safety, education, parking, and storage.
- Encourage recreational and commuter bicycle travel to and from transit facilities, employment centers, shopping centers, recreational areas, and learning institutions using the existing street and parks network.
- Develop and maintain a safe, connected bicycle network that supports and encourages bicycling through the use of innovative facilities and designs.
- Guide planning, development, education, awareness and management of existing and future infrastructure and multimodal connections within the City.

- Identify existing barriers, potential future bike infrastructure opportunities as well as upgrades or improvements to existing routes, lanes, and paths, including signage.
- Improve connectivity to the adjacent communities of Chicago, Skokie and Wilmette.

This Plan has been funded through a grant from the Chicago Metropolitan Agency for Planning (CMAP). Local and regional objectives have been considered as part of the planning process. The following objectives from the CMAP GO TO 2040 Plan were of particular focus during this planning process:

- **Livable Communities** – Expanding the bicycle network reduces transportation costs. It also improves livability by creating a greater sense of place. Physical activity such as bicycling is associated with improved health, and innovations in bicycle facilities will help make the transportation network safer and more accommodating to all users.
- **Human Capital** – Bicycle transportation options make Evanston more attractive to employers.
- **Efficient Governance** – The planning process will be transparent, seek public input, and pursue coordinated regional investments. In addition, it will promote regionalism by improving regional bicycle trails and connections to surrounding municipalities.
- **Regional Mobility** – The plan will help to reduce regional and local congestion by promoting an alternative to vehicles.

3. Current Conditions Analysis

3.1 Bicycle Facilities

Evanston has nearly 50 miles of bicycle facilities as shown in **Figure 1 - Existing Bicycle Network** and **Table 1 - Evanston Bicycle Facilities by Type**. 68% of the network is comprised of signed routes. Many community engagement process participants stated that bike routes or shared lanes do not adequately separate automobile and bicycle traffic in Evanston. Definitions for typical bike facilities are provided below:

- **Signed Bike Route** - A roadway with low traffic volumes and speeds designated as a bike route. Signs are added to direct bicyclists; no other treatments are added for bikes.
- **Bike Lane** - A striped lane on the roadway designated for exclusive use by bicycles .
- **Protected Bike Lane** - A bike lane physically separated from automobile travel lanes with bollards and/or parked vehicles.
- **Off-Street Bike Path** - Off-street path shared by bicyclists and pedestrians either walking or running/ jogging.
- **Buffered Bike Lane** - A striped bike lane with a painted buffer separating automobile travel lanes from the bike lane.
- **Cycle Track** - A one-way or two-way facility separated from automobile traffic by a concrete barrier or curb. A cycle track may be used with or without traffic signals for bikes.

Per Evanston City Code , bicycles are permitted on all streets in Evanston unless signs are posted prohibiting bicycles. Currently, bicycles are prohibited on Ridge Avenue from Howard Street to Emerson Street as indicated in **Figure 1**.

Evanston has also installed an extensive amount of parking as shown in **Figure 2 - Bike Parking, Major Destinations**. This map also identifies parks, schools, transit stations, and commercial areas, all of which are generators of bicycling activity. **Table 2 - Major Employers** lists the names and addresses for each major employer shown on the map.

Facility	Length (miles)
Signed Bike Route	32.5
Bike Lane	5.4
Protected Bike Lane	2.0
Off-Street Bike Path	8.1
Total	48
Source: City of Evanston	



Church Street Buffered Bike Lane, City of Evanston

Figure 1. Existing Bicycle Network

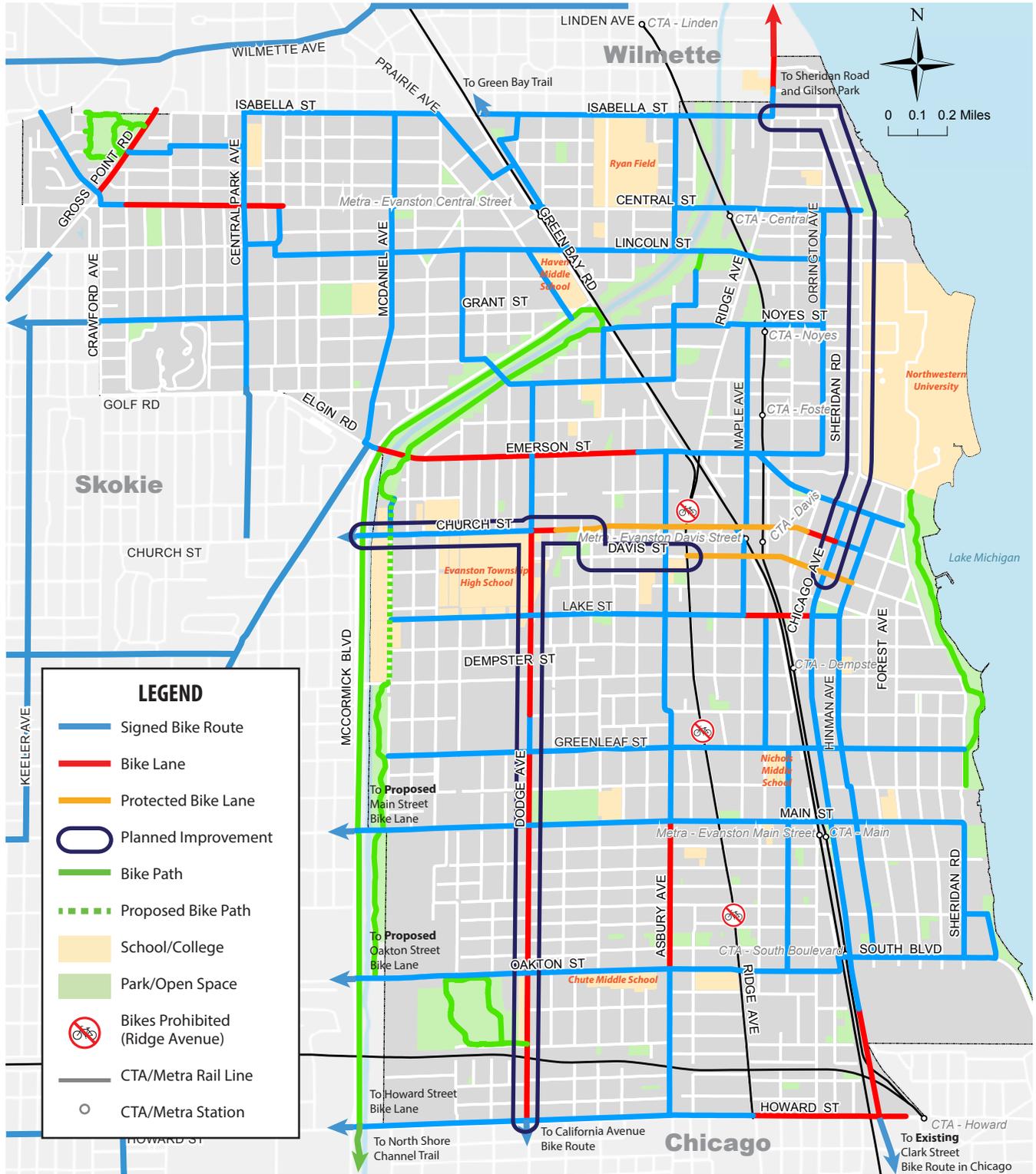
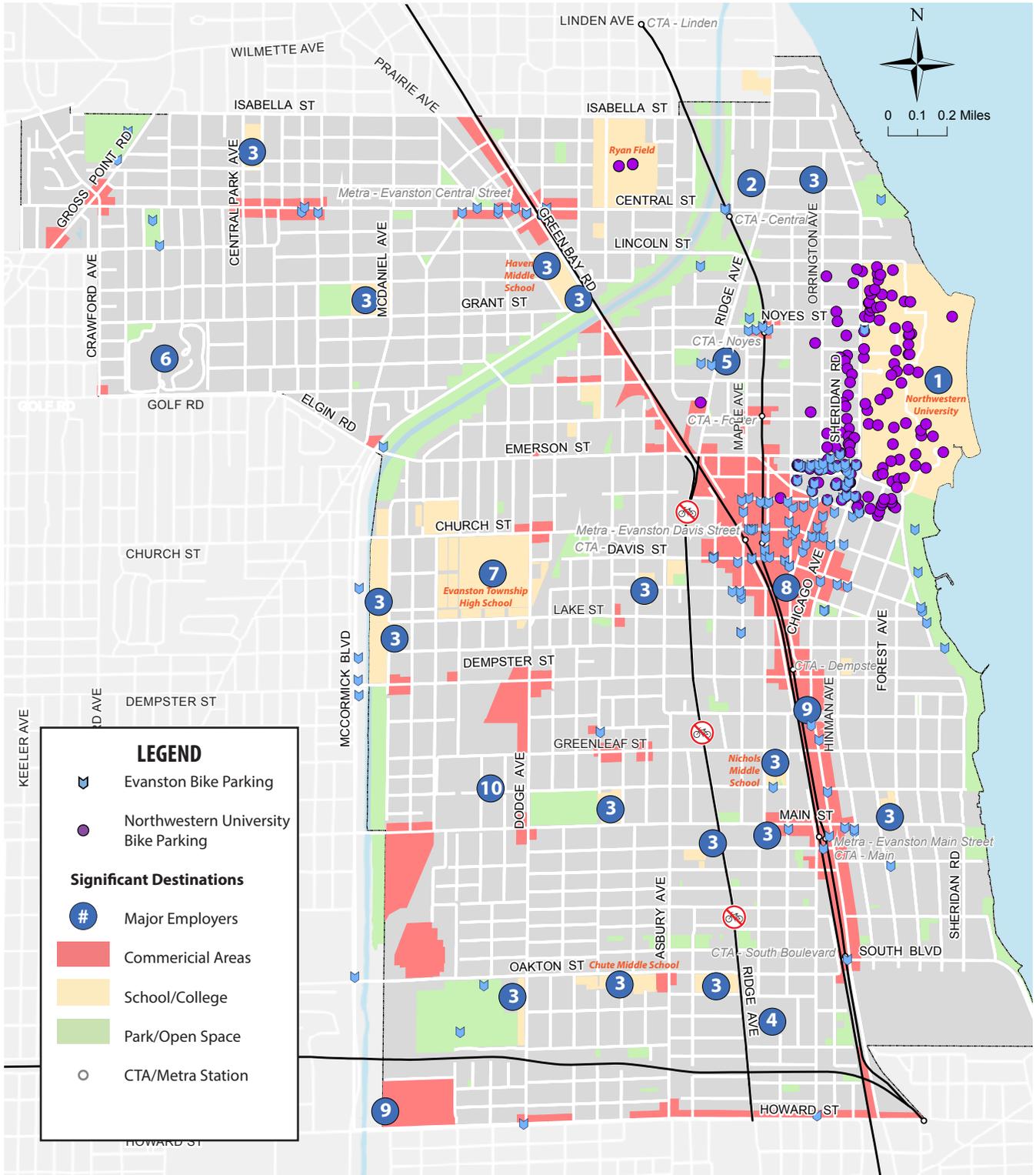


Figure 2. Bike Parking, Major Employers and Destinations



1. Northwestern University	633 Clark Street
2. North Shore Evanston Hospital	2650 Ridge Avenue
3. School District 65 (all locations)	Multiple Locations
4. Resurrection Health Care Saint Francis Hospital	800 Austin Street
5. City of Evanston Civic Center/City Hall	2100 Ridge Avenue
6. Presbyterian Homes	3200 Grant Street
7. Evanston Township High School	1600 Dodge Avenue
8. Rotary International	1560 Sherman Avenue
9. Jewel/Osco (all locations)	Multiple Locations
10. C.E. Neihoff & Company	2021 Lee Street

3.2 Surrounding Network

The bicycle network in Evanston is part of a larger, regional network with connections to on street facilities in neighboring communities and off-street trails in the region. As a member of the Northwest Municipal Conference (NWMC), Evanston seeks to improve connections between municipalities along the North Shore and northwest suburbs of Cook County. Bike plans and maps were reviewed for each of Evanston’s neighbors; Wilmette, Skokie, and Chicago. Existing and proposed bike facilities for these municipalities also are shown in **Figure 1**.

Village of Wilmette

The Village of Wilmette has recently installed bike lanes on Sheridan Road, beginning at the Evanston border proceeding north to 10th Street. Wilmette’s bicycle plan also recommends future connections to Evanston via Poplar Avenue. The Green Bay Trail, a significant regional trail spanning nearly 20 miles, begins in Wilmette.

Village of Skokie

The Village of Skokie, located west of Evanston, plans to connect to Evanston’s bicycle network via proposed bike lanes and signed routes on Howard Street, Oakton Street, Main Street, Church Street, and Grant Street. An existing network of shared-use paths along the North Shore Channel currently connect Evanston and Skokie by bicycle.

City of Chicago

Currently, there are no bike lanes that connect Chicago and Evanston. There are bike routes on Howard Street, Clark Street, and California Avenue.

Regional Connections

The 2010 NWMC Bicycle Plan includes proposed regional connections that link Evanston to the northwest suburbs, and the Des Plaines River corridor through a series of preferred roadway corridors.

3.3 Plans, Policies and Programs

Plans, policies and programs in Evanston were reviewed as they relate to the Bike Plan Update. Plans that were reviewed include:

- *Evanston Comprehensive Plan (2000)*
- *Evanston Bicycle System Improvement Plan (2002)*
- *Evanston Strategic Plan (2006)*
- *Evanston Multi-Modal Plan (2009)*

These plans were reviewed to determine the status of implementation with respect to bicycling. Within these, the following recommendations remain key considerations during the planning process:

- Improve and expand off-street bike facilities
- Improve and expand on-street bike facilities
- Expand bike parking
- Develop a bike share program

Bike Parking

In 2008, the City of Evanston worked with the Active Transportation Alliance to identify needs for additional bicycle parking. The Evanston Bicycle Parking Report recommended the addition of bike parking at Chicago Transit Authority (CTA) stations, Metra stations, in and commercial areas (See **Figure 2**). The Active Transportation Alliance report included preliminary guidelines for installation.

Bike Safety Education

Bicycle safety education is provided to the community by the City of Evanston Police Department, the Department of Public Works, and the Evanston Bicycle Club.

Bike Crash Review

The City of Evanston reviews crash data on an annual basis to identify areas of concern with regard to crashes involving bicyclists.

Bike Counts

Bike counts are conducted by the Department of Public Works on as-needed basis or as part of a bicycle improvement project. Additional bike counts were conducted at 20 locations in Evanston as part of this Bike Plan Update. Bike count data are discussed in **Section 4**.

Bike Theft

The City of Evanston Police Department collects data on reported bike thefts. A review of bike theft data is provided in **Section 4**.

Bike Registration

The Evanston Police Department encourages the registration of bicycles owned by Evanston residents to assist in retrieval of stolen bikes.

Operation of Bicycles

Title 10, Chapter 9 of the Evanston Code of Ordinances addresses bicycling. Code Section 10-9-4 permits bicycles to be ridden on all City streets except where signs are posted prohibiting bicycling. Additionally, bicyclists “shall be granted all the rights and be subject to all the duties applicable to the operator of a vehicle by the laws of this state except as to special regulations in this chapter and those provisions which by their nature have no application.”

Code Sections 10-9-4 and 10-9-7 provide that bicyclists operating or riding bicycles in any alley in the City are not intended users of the alley, and, they assume the risk of operating/riding their bicycles in any City alley. The City shall have no duty to upgrade and maintain alleys for purposes of bicyclists operating bicycles in alleys.

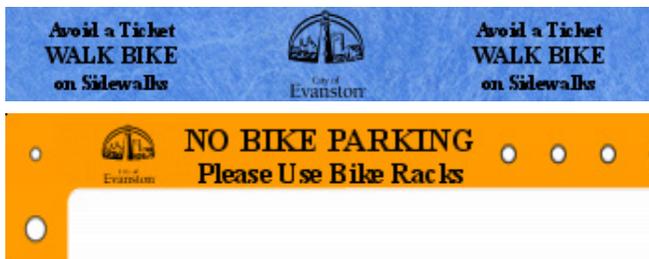
Sidewalk Riding

Section 10-9-4-C of the Code prohibits the riding of bicycles on sidewalks in business districts. As part of this ordinance, the City prepared an educational campaign flyer (shown to the right) to highlight this law. An analysis of sidewalk riding counts and citations is provided in **Section 4**.

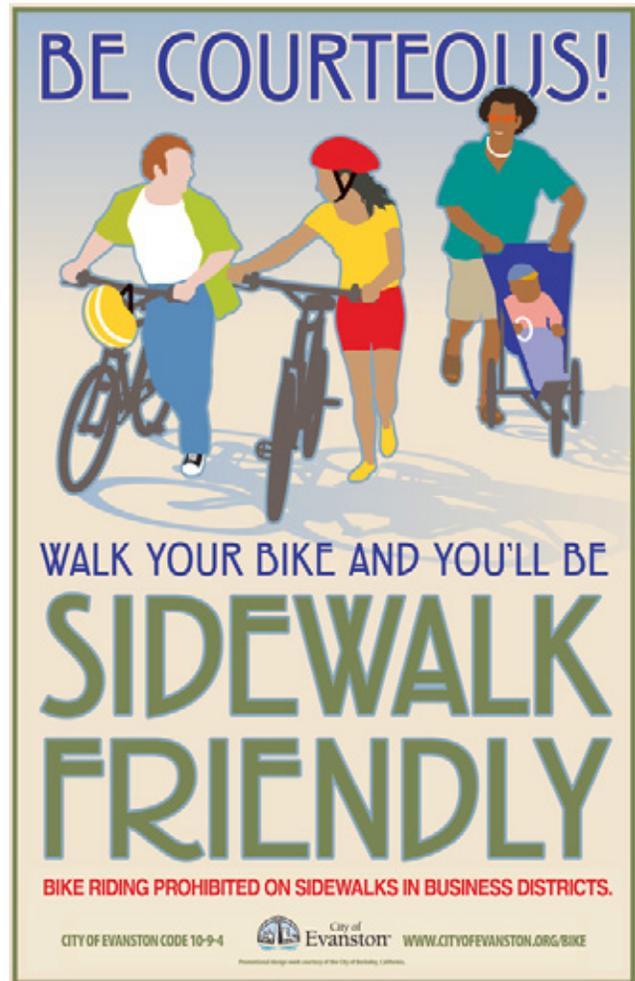
3.4 Planned Improvements

The City of Evanston identified five corridors for new or improved bike facilities to be installed in 2014 and 2015. These corridors are identified in **Figure 1 - Existing Bicycle Network**.

- Dodge Avenue, from Howard Street to Church Street
- Sheridan Road, from Chicago Avenue to Isabella Street
- Davis Street, from Ridge Avenue to Mason Park and Church Street
- Church Street, from McCormick Boulevard to Dodge Avenue
- Chicago Avenue, from Davis Street to Sheridan Road



Example of Sidewalk Riding and Bike Parking Warning Tags Used in Evanston.



City of Evanston Sidewalk Riding Flyer.

4. Analysis

This section provides an analysis of current bicycle conditions in Evanston to help determine where improvements are needed to improve bicycle facilities and programs, and policies.

4.1 Bicycle Ridership

Bicycle riding in Evanston has increased as shown in **Table 3 - Means of Transportation to Work, Evanston Residents**. U.S. Census data show that the share of Evanston residents using bicycles as their primary means of getting to work has grown since 1990. Evanston residents have the highest rate of biking to work in northeastern Illinois as shown in **Table 4 - Bicycle Commuting Mode Share, 2011**. Evanston's mode share of 2.5% is higher than the City of Chicago, Cook County, and the Chicago Metropolitan region. This is due in large part to the many bicyclists within the Northwestern University student and faculty population in Evanston.

To obtain a more detailed understanding of bicycling in Evanston, bicycle traffic counts were conducted at 20 intersections in October 2013. Where possible, these counts were compared to counts taken in 2001 and are shown in **Table 5 - Bicycle Counts**. A map of these locations is shown

in **Figure 3 - Bicycle Count Locations**. Bicycle count data and diagrams are provided in the **Appendix A - Bicycle Count Data**.

In addition to counts to determine bicycling traffic, demographic data on Evanston residents was collected and reviewed. **Table 6 - Evanston Demographics** shows the makeup of the resident population by race and ethnicity. Between 2000 and 2010, the population of Evanston increased slightly. This included an increase in minorities and seniors.

Table 7 - Bicycle Rider Demographic shows the share of minority, senior, and children bicyclists that were observed during the bike counts. Bike count volunteers were requested to determine this at the time that bike volumes were collected. The table shows that minorities, seniors and children represent significant segments of the bicycle-riding population in Evanston. Accommodating the needs of these groups is an important consideration when considering potential bicycle facility improvements.

Year	Mode						Total:
	Drive Alone	Transit	Bicycle	Walk	Work at home	Other means	
1990	23,428 59%	8,186 21%	615 2%	5,412 14%	1,659 4%	297 1%	39,597
2000	23,216 62%	6,787 18%	630 2%	4,388 12%	2,294 6%	340 1%	37,655
2010	18,236 51%	6,855 19%	843 2%	6,009 17%	3,393 9%	416 1%	35,752
Change '90-'00	-0.9%	-17%	2%	-19%	38%	15%	
Change '00-'10	-10%	6%	46%	-3%	10%	-6%	

Source: U.S. Census Bureau

	Evanston	Chicago	Cook County	Metro Region
Total Commuters	36,227	1,199,278	2,322,252	4,323,102
Bicycle Commuters	918	16,790	20,900	25,939
% Bicycle Commuters	2.5%	1.4%	0.9%	0.6%

Source: U.S. Census Bureau

Figure 3. Bicycle Count Locations



Table 5 - Bicycle Counts										
#	Intersection	September 2001			October 2013			2001-2013 Change		
		Wkdy 7-9 a	Wkdy 4-6 p	Sat 12-2 p	Wkdy 7-9 a	Wkdy 3-5 p	Sat 12-2 p	Wkdy 7-9 a	Wkdy 4-6 p	Sat 12-2 p
1	Asbury & Oakton				58	45	57			
2	Benson & Davis	31	78	64	26	98	57	-16%	26%	-11%
3	Central Park & Central	4	15	22	17	35	31	325%	133%	41%
4	Chicago & Church				97	187	167			
5	Chicago & Howard				52	84	47			
6	Chicago & Main	48	81	78	91	94	104	90%	16%	33%
7	Chicago & Sheridan	116	334	114	276	407	288	138%	22%	153%
8	Chicago & South	38	56	49	98	89	125	158%	59%	155%
9	Crawford & Gross Point				17	17	13			
10	Dodge & Church	34	75	47	29	55	62	-15%	-27%	32%
11	Dodge & Oakton	18	32	45	51	47	70	183%	47%	56%
12	Hinman & Greenleaf				41	30	121			
13	Lakefront Path at Davis	42	95	104	89	112	73	112%	18%	-30%
14	McCormick & Golf/Emerson (West)	20	19	77	60	41	55	200%	116%	-29%
15	McCormick Path & Emerson (East)	33	33	77	12	9	12	-64%	-73%	-84%
16	Prairie & Lincoln				28	38	39			
17	Sheridan & Lincoln	23	138	111	51	72	106	122%	-48%	-5%
18	Sheridan & Sheridan Square	31	83	85	66	62	129	113%	-25%	52%
19	Sherman & Church	42	123	109	76	149	243	81%	21%	123%
20	Sherman & Greenleaf				62	79	58			
June & July 2013 City of Evanston Counts										
		Wkdy 9-11a	Wkdy 2-4p	Wkdy 8:30-11:30a	Wkdy 12:45-3:45p	Fri 5-8 p	Sat 9a-12p	Sun 1-4p		
21	Chicago & Church			297	246	339	406	355		
22	Chicago & Clark			314	234					
23	Judson & Church					123	268	166		
24	Sheridan & Church					447	649	499		
25	Judson & Davis					100	250	139		
26	Hinman & Church			278	167					
27	Hinman & Davis			244	159					
28	Asbury & Church	103	124							
29	Asbury & Davis	88	62							
30	Oak & Church	177	67							
31	Maple & Davis	149	124							

Source: City of Evanston. Note: Totals were derived from counts conducted on Weekdays from 7-9 am, 3-5 pm, and on Saturday from 12-2 pm.

	1990		2000		2010	
Total Population	73,233		74,239		74,486	
White	50,260	69%	48,429	65%	48,872	66%
Black	16,749	23%	16,704	23%	13,474	18%
American Indian and Alaska Native			140	0%	175	0%
Asian	3,535	5%	4,524	6%	6,416	9%
Native Hawaiian & Other Pacific Islander			64	0%	16	0%
Hispanic	2,689	4%	4,539	6%	6,739	9%
Some Other Race			2,116	3%	2,687	4%
Two or More Races			2,262	3%	2,846	4%
Median Age	31.9		32.5		34.3	

Source: U.S. Census Bureau

Location	Total	% Minority	% Children	% Senior
1 Asbury & Oakton	160	42%	35%	6%
2 Benson & Davis	181	16%	12%	7%
3 Central Park & Central	83	10%	28%	12%
4 Chicago & Church	451	29%	3%	11%
5 Chicago & Howard	183	28%	15%	8%
6 Chicago & Main	289	17%	14%	4%
7 Chicago & Sheridan	971	32%	1%	1%
8 Chicago & South	310	22%	4%	5%
9 Crawford & Gross Point	47	9%	10%	0%
10 Dodge & Church	146	43%	34%	13%
11 Dodge & Oakton	168	37%	31%	6%
12 Hinman & Greenleaf	192	18%	19%	7%
13 Lakefront Path & Davis	274	20%	11%	19%
14 McCormick & Golf/Emerson (WEST)	156	20%	39%	6%
15 McCormick Path & Emerson (EAST)	33	31%	27%	6%
16 Prairie & Lincoln	105	37%	16%	2%
17 Sheridan & Lincoln	229	6%	6%	13%
18 Sheridan & Sheridan Square	257	15%	4%	11%
19 Sherman & Church	468	14%	3%	8%
20 Sherman & Greenleaf	199	22%	20%	14%

Source: City of Evanston
 Note: Totals were derived from counts conducted during three time periods: Weekdays from 7-9 am and 3-5 pm, and on Saturday from 12 p.m. and 2 p.m. Bike count volunteers identified minority, child, and senior status of approaching bicyclists during the bike counts.

4.2 Safety and Security

Data were analyzed to identify safety and security issues with bicycling in Evanston. Data analysis included bicycle crash data, bicycling on sidewalk riding citations, and bicycle thefts.

Crashes

Vehicle crash data for the years 2008 - 2012 were provided by the City of Evanston and the Illinois Department of Transportation (IDOT). Crash data are shown in **Table 8– Crash Summary**. A map of crashes is shown in **Figure 4 - Bicycle Crashes**. Crashes were reviewed by injury type and severity to identify where safety is a major concern. The definitions of these crash injury categories types are provided below (Source: IDOT).

Fatal crash - A crash that results in the death of one or more persons.

“A” Injury - Any injury, other than a fatal injury, which prevents the injured person from walking, driving, or normally continuing the activities he/she was capable of performing before the injury occurred. This includes severe lacerations, broken limbs, skull or chest injuries, and abdominal injuries.

“B” Injury - Any injury, other than a fatal or “A” injury, which is evident to observers at the scene of the crash. This includes lump on head, abrasions, bruises, and minor lacerations.

“C” Injury - Any injury reported or claimed which is not contained in an A or B injury. This includes momentary unconsciousness, claims of injuries not evident, limping, complaint of pain, nausea, hysteria.

PD (Property Damage, No Injury) - Any crash that does not involve an injury but produces more than \$1,500 to any one person’s property when all drivers involved in the crash are insured. If any driver does not have insurance, the threshold is \$500. (This change in threshold became effective January 1, 2009).

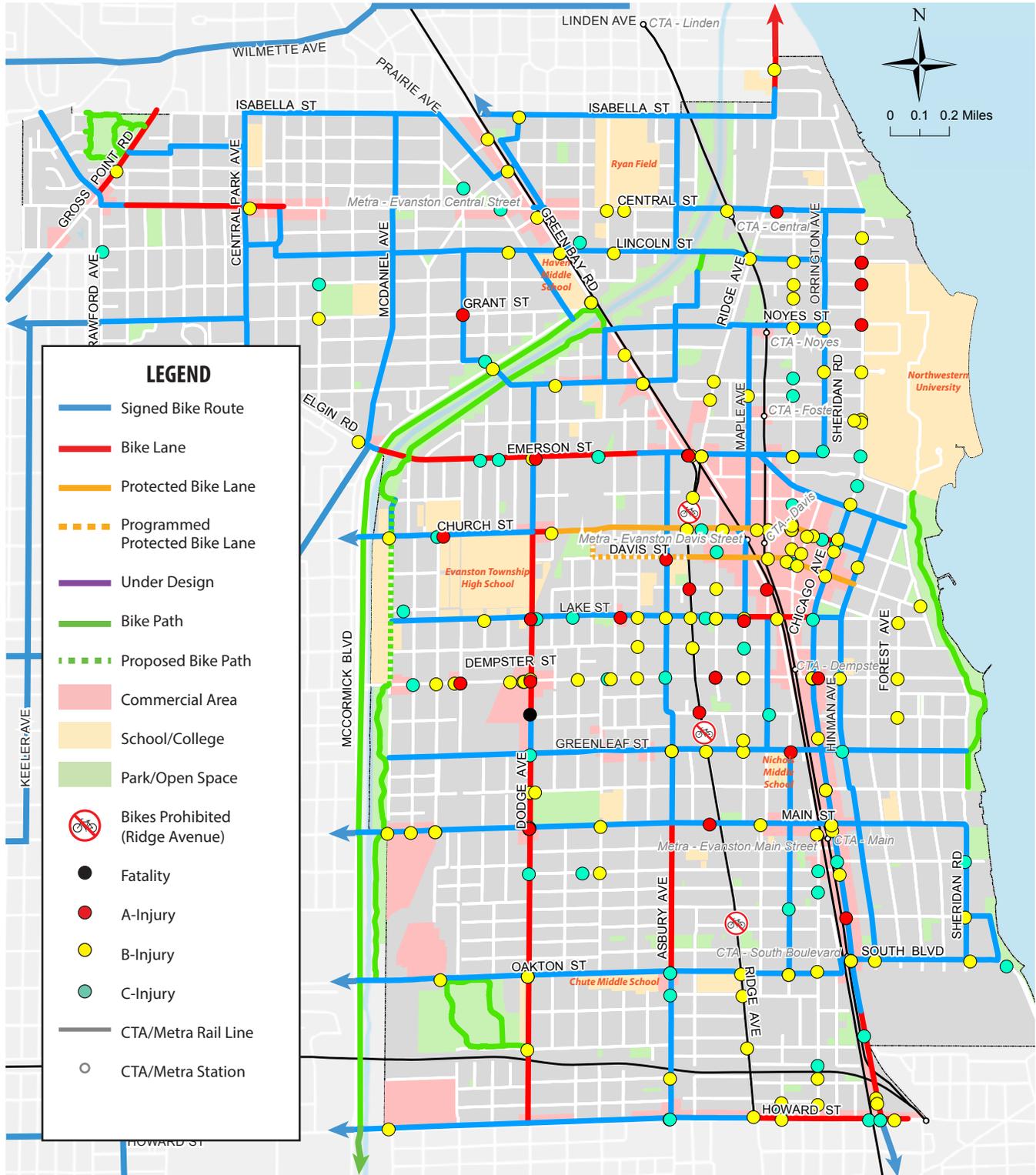
	2008	2009	2010	2011	2012	Total
Bicyclist	60	49	47	44	53	253
Fatal	0	0	0	1	0	1
A-Injury	6	4	2	1	10	23
B-Injury	36	32	28	27	27	150
C-Injury	13	12	16	15	12	68
Property Damage Only	5	1	1	0	4	11

Source: Illinois Department of Transportation, Division of Traffic Safety
 Note: PD = Property Damage, No Injury



Source: Chicago Tribune

Figure 4. Bike Crashes (2008 - 2012)



All automobile crashes, and crashes involving bicyclists have decreased between 2008 and 2012. Pedestrian crashes remained relatively constant. During this same time period, bike counts showed an increase in bicycling. This suggests that crash rates may be decreasing with respect to bicycling.

Table 9 - Bicycle Crash by Location Type shows the number of crashes by location type, which includes intersections, mid-block locations, and whether a bike route or bike lane was present at the location of the crash. This table shows that bike crashes on roadways without bike facilities are more severe than on roadways with bike facilities.

Currently, Evanston’s bike lanes terminate at intersections to provide space for left-turn and right-turn lanes, and crash

data show that more crashes occur at intersections than at mid-block locations in Evanston. Crashes also are reported on Church and Davis Streets where the protected bike lanes were installed. However, nearly all crashes shown on Church and Davis Streets occurred before the installation of protected bike lanes in 2012. Data for 2012 and 2013 should be reviewed when it becomes available.

These data highlight the need for additional bike facilities that provide increased separation from automobiles. **Table 10 – High Crash Corridors** shows road segments where the crash rate (number of crashes per mile) is the highest for bike crashes. **Table 11 - High Crash Intersections** shows the intersections with the most bike crashes in Evanston.

Table 9 - Bike Crashes By Location Type					
	Intersection	Mid-Block			
		Total	Bike Lane	Bike Route	No Bike Facility
Fatal	0	1	1	0	0
A-Injury	13	10	1	5	4
B-Injury	99	51	8	15	28
C-Injury	44	24	8	4	12
PD	6	5	0	1	4
Total	162	91	18	25	48

Source: Illinois Department of Transportation, Division of Traffic Safety
 Note: PD = Property Damage, No Injury



Bike the Ridge, Sunday September 29, 2013. City of Evanston

Table 10 - High Crash Corridors 2008 -2012

Street	Segment Limits	Total Crashes	Crash Type					Segment Length (mi.)	Crash Rate*
			Fatal	A	B	C	PD		
Church	Asbury to Hinman	16	0	0	12	4	0	0.7	23.6
Dempster	McDaniel to Forest	28	0	4	17	6	1	1.7	16.2
Sherman	Davis to Central	18	0	0	12	5	1	1.3	13.6
Chicago	Howard to Sheridan	28	0	1	16	9	2	2.2	12.5
Sheridan	Central to University	11	0	3	6	1	1	0.9	12.3
Lake	McDaniel to Forest	18	0	3	9	5	1	1.7	10.5
Emerson	Leland to Orrington	13	0	2	6	5	0	1.4	9.4
Davis	Asbury to Hinman	6	0	1	4	1	0	0.6	9.3
Ridge	Howard to Emerson	21	0	3	15	1	2	2.5	8.4
Dodge	Simspon to Howard	20	1	3	9	7	0	2.6	7.8

*Crash Rate = Total Crashes / Segment Length (Rounded to nearest 0.10)
 Source: Illinois Department of Transportation, Division of Traffic Safety
 Note: PD = Property Damage, No Injury

Table 11 - High Crash Intersections

Intersection	Fatal	A-Injury	B-Injury	C-Injury	PD	Total Crashes
Dodge & Main	0	1	2	2	0	5
Sherman & Church	0	0	5	0	0	5
Chicago & South	0	0	3	0	1	4
Green Bay & Emerson	0	1	2	0	0	3
Ridge & Emerson	0	0	2	1	0	3
Asbury & Greenleaf	0	0	2	1	0	3
Dodge & Oakton	0	0	2	1	0	3
Pitner & Main	0	0	2	0	1	3
Dodge & Emerson	0	1	1	0	0	2
Maple & Lake	0	1	1	0	0	2
Dodge & Dempster	0	1	1	0	0	2
Hartley & Dempster	0	1	1	0	0	2
Sheridan & Lincoln	0	1	1	0	0	2

Source: Illinois Department of Transportation, Division of Traffic Safety
 Note: PD = Property Damage, No Injury

Bicycle Riding on Sidewalks

During the bike counts, data was collected on whether the bicyclist was traveling on the street, in a bike lane (if present), or on the sidewalk. **Table 12 - Bicycle Counts, Sidewalk Riding**, shows the number of bicyclists observed at each count location and a percent of total bike traffic counted at each location. As the table shows, as many as half of all bicyclists at some count locations were observed riding on the sidewalk. This may be due to a number of factors including a lack of bicycle facilities that make bicyclists feel safe and comfortable, a lack of awareness about where it is most appropriate to bicycle, or a lack of knowledge of existing laws.

Per Evanston Municipal Code, Section 10-9-4, “No bicycle riding on sidewalks is permitted in the central business

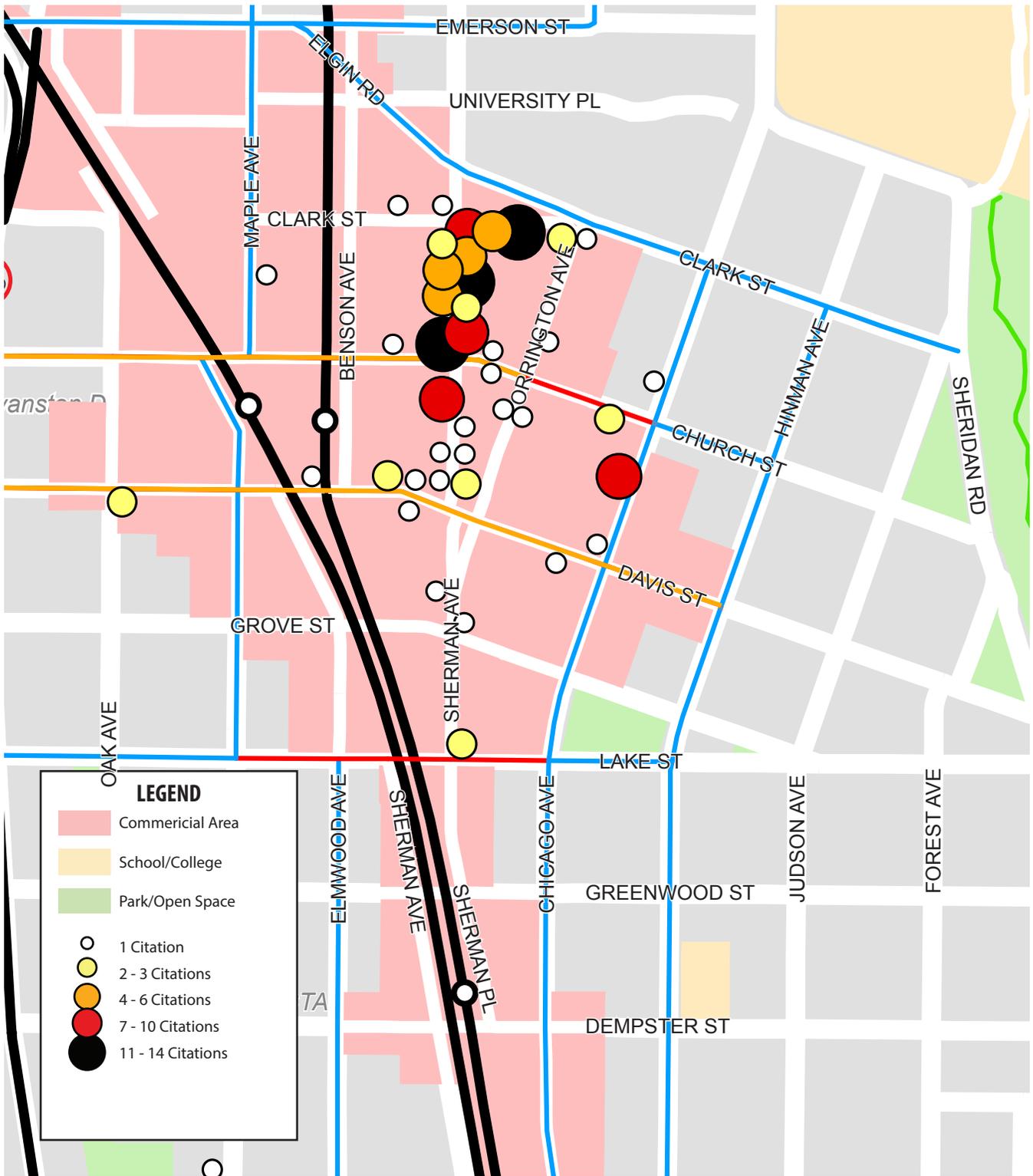
district designated as D1, D2 and D3 districts in the proposed Evanston zoning ordinance or in any other district where signs prohibiting sidewalk riding are posted. When riding on sidewalks where permitted, such person shall yield the right-of-way to any pedestrian, shall give an audible signal before overtaking and passing such pedestrian, and shall have the bicycle under control at all times.”

Figure 5 - Sidewalk Riding Citations illustrates where citations have been issued for violation of this ordinance. Community engagement participants indicated that sidewalk riding is a problem in the downtown, but that this is especially problematic because many of the downtown streets where this problem occurs do not have bike lanes. One-way streets sometimes can encourage sidewalk riding or wrong-way riding, as some bicyclists will avoid circuitous routes on one-way streets.

Table 12 - Bicycle Counts, Sidewalk Riding				
Bicycle Count Location		Bicyclists on Sidewalk	% Of Total Bike Traffic	Is Sidewalk Riding Prohibited Here?
1	Asbury & Oakton	92	58%	No
2	Benson & Davis	50	28%	Yes
3	Central Park & Central	27	33%	No
4	Chicago & Church	124	27%	Yes
5	Chicago & Howard	61	33%	Yes
6	Chicago & Main	34	12%	No
7	Chicago & Sheridan	693	71%	No, but congested
8	Chicago & South	46	15%	No
9	Crawford & Gross Point	12	26%	No
10	Dodge & Church	88	55%	No
11	Dodge & Oakton	87	52%	No
12	Hinman & Greenleaf	18	9%	No
13	Lakefront Path & Davis	5	2%	No
14	McCormick & Golf/Emerson (West)	56	36%	No
15	McCormick Path & Emerson (East)	14	42%	No
16	Prairie & Lincoln	5	5%	No
17	Sheridan & Lincoln	97	42%	No
18	Sheridan & Sheridan Square	45	18%	No
19	Sherman & Church	93	20%	Yes
20	Sherman & Greenleaf	28	14%	No

Source: City of Evanston. Note: Totals were derived from counts conducted during three time periods: Weekdays from 7-9 a.m. and 3-5 p.m., and on Saturday from 12-2 p.m. Sidewalk riding is permitted on all sidewalks in Evanston except those detailed in the Evanston Municipal Code, Section 10-9-4.

Figure 5. Downtown Sidewalk Riding Citations

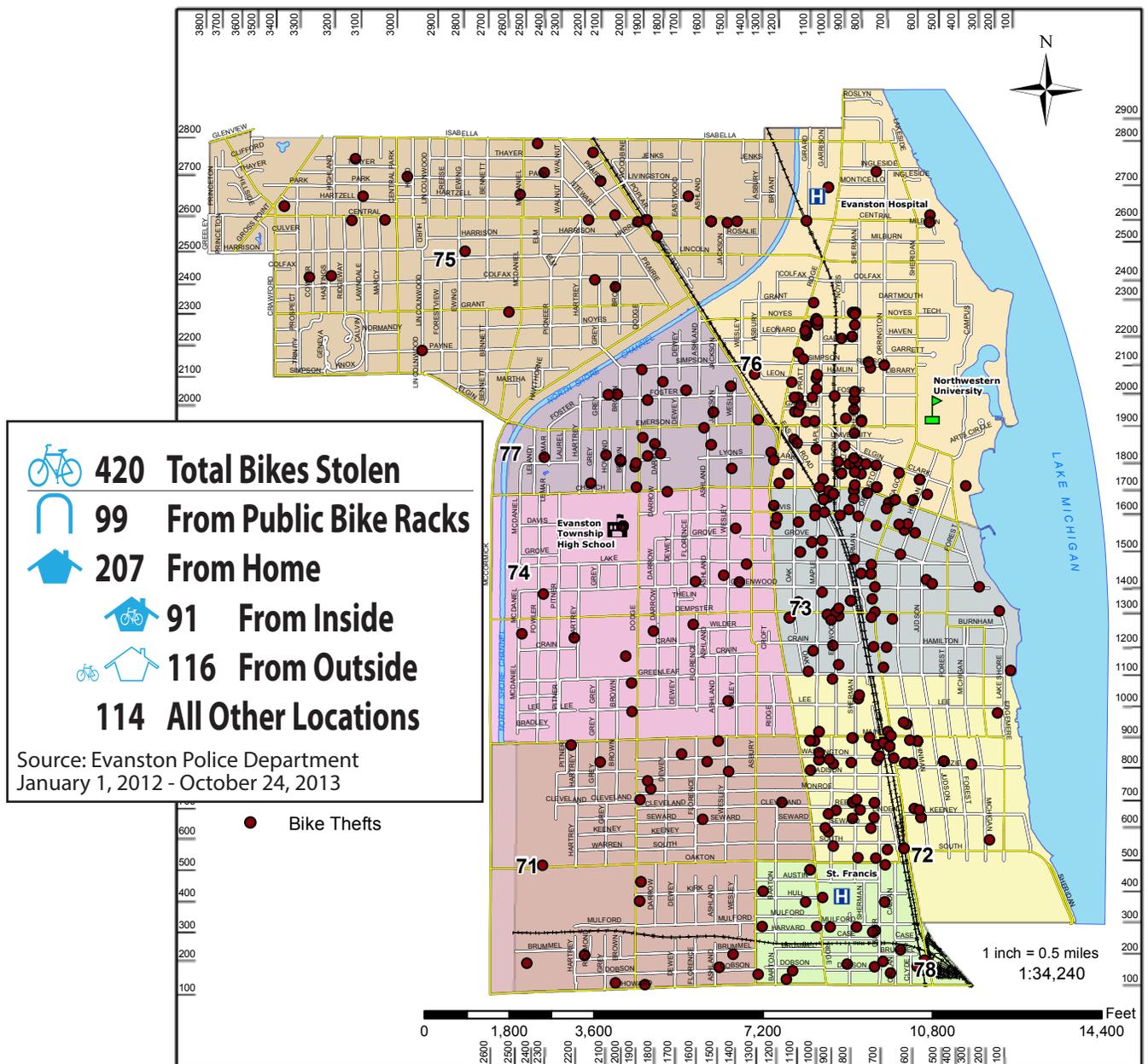


Source: City of Evanston Police Department
 Citations issued between January 1 and September 12, 2013.

Bike Theft

The Evanston Police Department keeps track of bicycle theft reporting, the results of which are illustrated in **Figure 6 – Bicycle Theft**. Bicycle theft data provided by the Police Department indicate that, between January 1, 2012 and October 24, 2013, 420 bikes were reported stolen. Of those, 207 were taken from the home, 99 were stolen from public bike racks and the remaining 114 were taken from other public locations. The Police Department also indicated that many thefts reported involve bikes that were not locked.

Figure 6. Bicycle Theft



The figure also shows a cluster of bike thefts at transit stations. Evanston has undertaken some efforts to keep the public informed of the need to lock bicycles. However, additional efforts to prevent thefts may be needed.

Community engagement participants also indicated the need for secure bike parking including indoor parking and bike lockers. Section 5 provides more information on these facilities.

4.3 Level of Traffic Stress

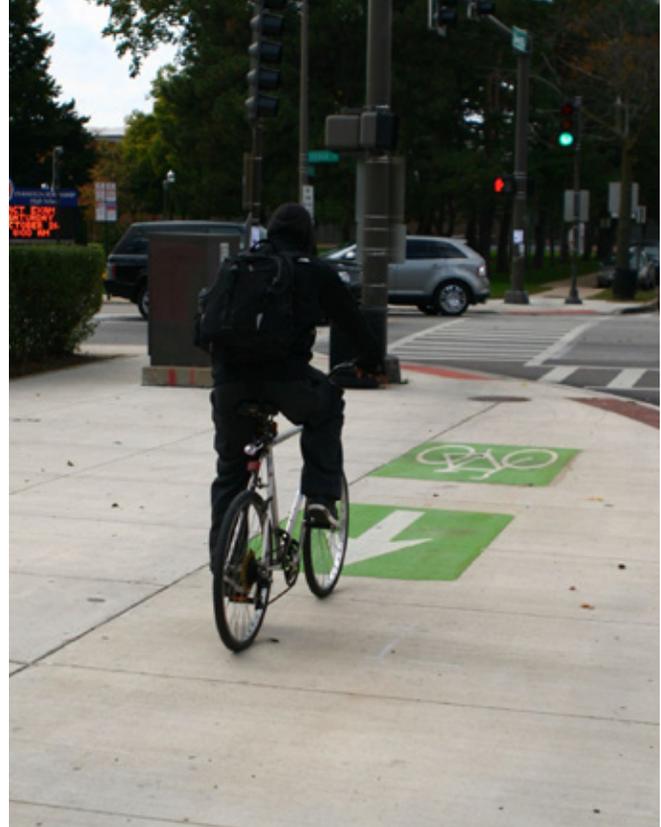
The Mineta Transportation Institute Level of Traffic Stress (LTS) analysis was used to identify which roads were the most stressful for bicycling. LTS is a qualitative assessment of how stressful a roadway would be for bicycling based on the number of travel lanes, width of separation between bicycle and automobile traffic, and posted speed. It is a relatively simple but quick way of assessing existing roads for their suitability for bicycling and to determine where improvements may be needed.

Figure 7 - Level of Traffic Stress shows LTS in Evanston. Local, residential streets, by design, are low-stress. Evanston's major roads, however, create gaps and barriers to bicycling. LTS for the portion of Ridge Avenue where bicycles are prohibited was excluded from the analysis. The most stressful roadway segments are:

1. Dempster Street - McCormick Boulevard to Lake Shore Boulevard
2. Green Bay Road - Emerson Street to Isabella Street
3. Golf Road and Elgin Road - Crawford Avenue to McCormick Boulevard
4. Sheridan Road - Chicago Avenue to Ingleside Place
5. Howard Street - McCormick Boulevard to Kedzie Avenue
6. Oakton Street - McCormick Boulevard to Hartrey Avenue
7. Main Street - McCormick Boulevard to McDaniel Avenue
8. Church Street - McCormick Boulevard to McDaniel Avenue

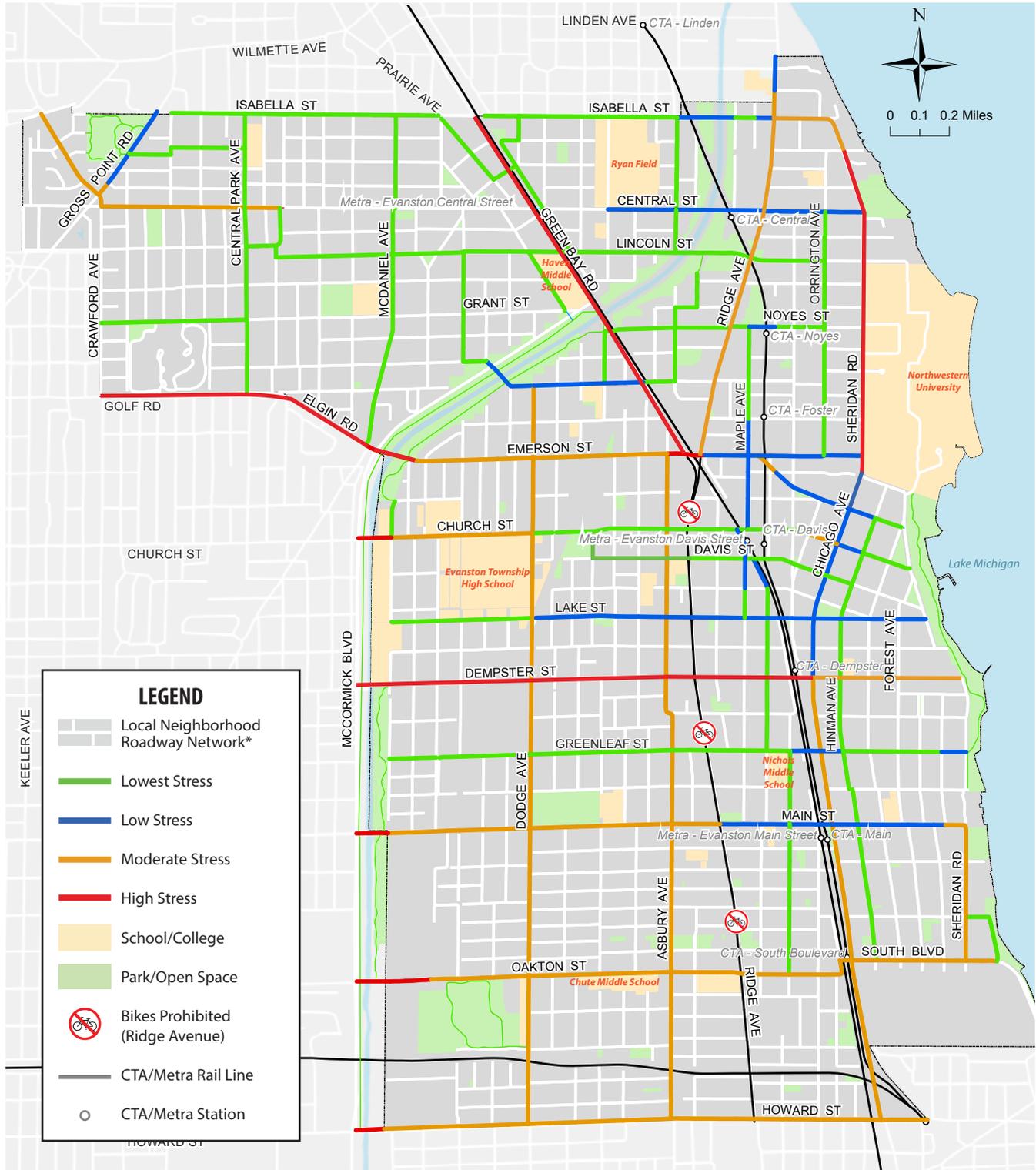


Church Street Buffered Bike Lane, Evanston.



Church Street Two-Way Cycle Track, Evanston.

Figure 7. Level of Traffic Stress



*Streets shown in white were not analyzed to determine level of traffic stress. However, roadways with a total of two or fewer travel lanes and a posted speed of 25 mph or less are expected to have low LTS.

4.4 Best in Class

Bicycle programs in four cities were reviewed to determine how Evanston compares with other highly-regarded bicycle friendly communities. They were selected based on population size, urban development pattern, presence of a college or university populations, and recognition as a gold or platinum Bicycle Friendly Community by LAB. Two of the municipalities also were chosen where snow falls during the winter. The communities and their award levels are:

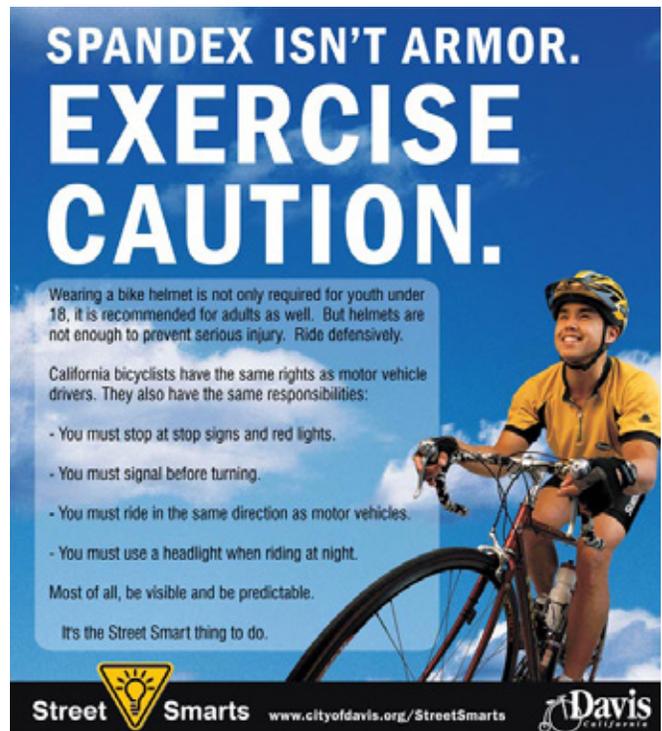
- Davis, California (Platinum)
- Boulder, Colorado (Platinum)
- Cambridge, Massachusetts (Gold)
- Palo Alto, California (Gold)

One of the metrics for determining the level of a Bicycle Friendly Community is the percent of roads within the municipality that have a bike lane or other on-street facility dedicated exclusively to bicyclists. Signed bike routes on shared roadways are not included in the assessment. **Table 13 - Streets with Bike Facilities** shows that Evanston has fewer on-street bike facilities than all four cities.

Evanston was designated as a Silver Bicycle Friendly Community by the League of American Bicyclists (LAB) in 2012, awarding Evanston the highest award level of any community in Illinois and one of only six recognized communities in the state. Since the award designation, Evanston has continued to improve its bicycling network with the construction of protected bike lanes on Church and Davis Streets.

Overall, Evanston does many of the same things that higher rated communities do to encourage and support bicycling. The difference is primarily in the extent to which other cities are accomplishing this. To help Evanston reach gold or platinum status, the following actions were identified:

- Document the amount of time that the Department Public Works staff devotes to bicycle programs and projects.
- Improve the bicycle network for local and regional connections
- Continue to expand bicycle network coverage for on-street facilities.
- Develop additional educational and encouragement programs
- Add more secure bike parking.



Sample Awareness Campaign Materials Prepared by the City of Davis, California.

Table 13 - Streets with Bike Facilities			
Municipality	Roadway Network (miles)	On-Road Bike Facilities (miles)	Percent of Roads With Bike Facilities
Evanston	140	7.4	5.3%
Davis	162	55	34.0%
Boulder	305	49	16.0%
Cambridge	147	21	14.5%
Palo Alto	197	54	27.4%

Source: League of American Bicyclists

5. Standards, Guidelines, & Innovations

Since the preparation of the previous Evanston Bike Plan, new national and state standards and guidelines have been developed. On-street bicycle facilities are increasingly being accepted, and local, state, and national organizations are in the midst of reviewing and updating the standards. The guidelines and standards that affect the bicycle system are presented below.

- Bureau of Local Roads Manual, Illinois Department of Transportation (IDOT)
- Bureau of Design and Environment Manual, IDOT Geometric Design of Highways and Streets, American Association of State Highway and Transportation Officials (AASHTO), 2011
- Guide for the Development of Bicycle Facilities, American Association of State Highway and Transportation Officials, 2012
- Manual on Uniform Traffic Control Devices, U.S. Department of Transportation, Federal Highway Administration, 2009
- Public Rights-Of-Way Accessibility Guidelines (PROWAG) – U.S. Architectural and Transportation Barriers Compliance Board
- Urban Bikeway Design Guide, National Association of City Transportation Officials (NACTO), 2011

In developing bicycle facilities on roadways, jurisdiction can have an important influence on the design. As shown in **Figure 8 - Roads under IDOT Jurisdiction**, some roadways are under the jurisdiction of IDOT. IDOT’s design standards must be met when installing bike facilities on these roads.

The Chicago region has recently emerged as an innovator in bicycle facilities. These innovations have included buffered bicycle lanes, bicycle boulevards, bicycle traffic signals, green lanes, and bike boxes. Evanston has already implemented some of these innovative features and would like to continue to implement newer, more sophisticated bicycle facilities.

In planning for new facilities it is important to consider costs. **Table 14 – Typical Facility Costs** was prepared to provide a planning level understanding of the installed cost of bicycle facilities. Most projects will have constraints and other site considerations that will affect the costs. As with all projects, a more refined engineering analysis will be needed to provide an accurate understanding of a cost of a facility. Actual costs will vary when a project goes to bid for construction. Best practices are provided on the following pages for facilities, signs, and bike parking solutions.

Figure 8. Roads Under IDOT Jurisdiction



Facility	Cost	Unit
Bike Lane	\$40,000 - \$50,000	Mile
Buffered Bike Lane	\$80,000 - \$100,000	Mile
Protected Bike Lane	\$150,000 - \$200,000	Mile
Cycle Track ¹	\$1.0 - 1.5 Million	Mile
Neighborhood ¹ Greenway	\$375,000 - \$425,000	Mile
Signed Route ²	\$200 - \$250	Sign
Typical Bike Rack	\$300 - \$350	Each
Bike Locker	\$1,500 - \$2,000	Each

Source: CDOT 2012, www.bicyclinginfo.org

1. Costs for cycle tracks and neighborhood greenways are dependent on site conditions and proposed design features. Neighborhood greenway elements may include curb bump outs, traffic circles, signs, and pavement markings.

2. The number of signs will vary based on the number of turns and intersections along a route.

5.1 On-Street Bicycle Facilities

1. Bike Lane

Roadway space dedicated for exclusive use by bicyclists using paint, identified with occasional signs.



Bike lane on a local street in Chicago.

2. Buffered Bike Lane

Roadway space dedicated for exclusive use by bicyclists using paint and a painted buffer on the left (adjacent to traffic) or right (adjacent to the parking lane). Provides greater physical separation than a bike lane.



Buffered Bike lane on Halsted Street in Chicago.



Buffered Bike lane on Clark Street in Chicago.

3. Protected Bike Lane

Bike lanes that includes a barrier in the form of bollards or a row of parked cars to increase the separation of bicyclists from automobile traffic.



Church Street Protected Bike Lane in Evanston.

4. Two-Way Protected Bike Lane

A physically-separated facility that includes bollards and/or a row of parked cars. Used on one-way roads where bike ridership is high or on two-way streets where there is not enough right-of-way width to accommodate protected bike lanes on both sides of the road. Used with or without traffic signals designated specifically for bicyclists.



Two-Way Protected Bike Lane on Dearborn Street in Chicago

5. Neighborhood Greenway

Residential streets where various traffic calming measures are installed to reduce automobile traffic speeds and volumes to create a safe, family-friendly environment for bicycling. The example below includes: a contra-flow bike lane for westbound bicycle traffic, shared-lane markings for eastbound bicycle traffic, permeable bumpouts at intersection that allow water to infiltrate the soil to reduce stormwater runoff, and traffic circles at four-way intersections of local, residential streets.



Berteau Avenue Neighborhood Greenway in Chicago

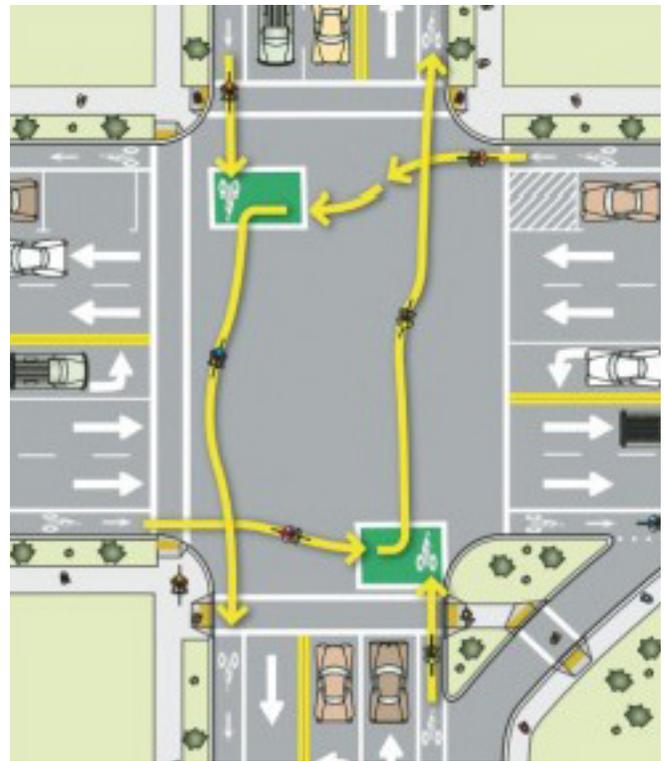


Diagram of Bike Boxes at a Four-Way Intersection. Source: NACTO.

6. Bike Box for Turns

Many bicyclists do not feel comfortable entering a left-turn lane at signalized intersections to make a left turn. A bike box at signalized intersections allows bicyclists to cross one leg of an intersection at a time. This involves pavement markings installed on the far side of an intersection in front of the crosswalk



Bike Box on Dearborn Street in Chicago.

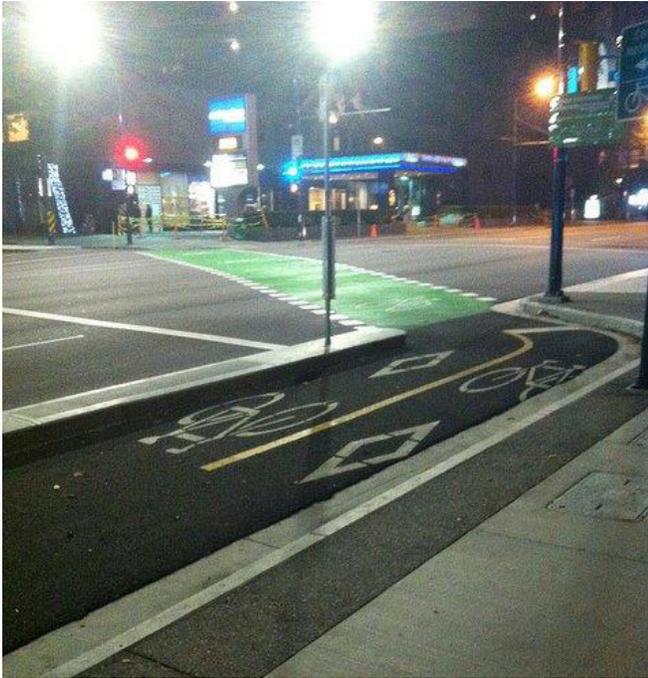
7. Bike Signal

A bike traffic signal assigns turning vehicles and bicycle traffic with their own signal phase, eliminating potential conflicts between turning automobiles and bicyclists. By separating both road users, the bike lane can be extended up to the intersection eliminating the need to mix both bikes and vehicles.



8. Curb-Separated Cycle Track

A curb-separated cycle track separates bicyclists from motor vehicle traffic and pedestrians through the use of a continuous curb.



Curb-Separated Cycle Track in Vancouver, British Columbia.

9. Elevated Cycle Track

The City of Evanston installed a raised cycle track on Davis Street. This cycle track does not include a curb adjacent to the sidewalk.



Raised Cycle Track on Church Street in Evanston.



Cycle Track in Boulder, Colorado.

5.2 Parking

Best practices for bicycle parking were taken from the cities that were reviewed in the best in class analysis, as well as from other cities around the country. The following types of bicycle parking are shown based on their recommended use in Evanston based on land use and other factors.

1. A-Frame Bike Rack

A conventional A-frame bike rack provides parking for two bicycles and typically is placed near the curb. This type of bicycle parking allows for each bicycle to be locked at two places on the frame. Stickers often are affixed to the rack to illustrate proper bike locking procedure to help reduce bike theft. A custom A-frame bike rack is as shown in the image below.

A-frame bicycle parking should be installed in areas where commercial land uses are nearly continuous along a street, and where there is no clearly dominant generator of traffic. This includes neighborhood commercial areas and most streets in downtown Evanston.

2. Post and Loop Rack

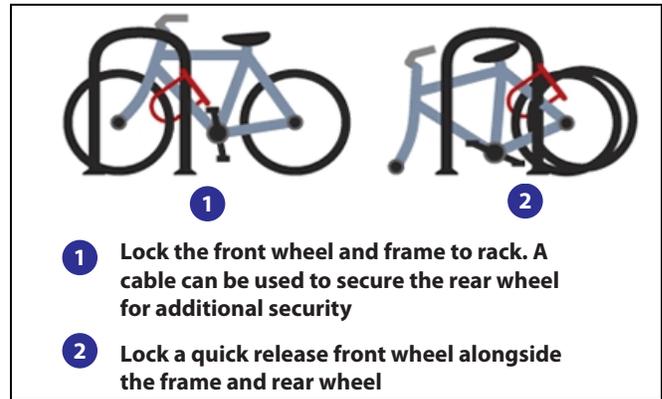
Post and loop racks have a similar style and application as A-frame racks, which also facilitate the two-point locking procedure.

3. Bike Corral

Bike corrals are a series of bike racks on a welded frame. Bike corrals typically are installed on the street and can be installed on a temporary or permanent basis. A bike corral is equal to the length of about one on-street parking space but provides parking for 10 bicycles. Bike corrals should be installed at major destinations such as transit stations, schools, and fitness centers where bicycle parking demand typically would be concentrated.



Bike Parking Along Church Street in Evanston.



Example Diagram Showing Proper Locking Procedures.



Example Post and Loop Rack. Source: Dan Burden.



Bike Corral on Clark Street in Chicago.



Bike Corral at the Evanston Athletic Club in Evanston.

4. Sheltered Bike Parking

Sheltered bike parking shields bicycles from rain and snow. Shelters also make bike parking more visible and can be designed in conjunction with bus shelters and pay-to-park shelters. The images below show versions of sheltered bike parking. Sheltered bike parking should be considered wherever a bike corral or a large amount of bike parking is likely to be concentrated (e.g. transit station).



Bike Shelter on Central Street in Evanston.



University of Michigan Bike Shelter in Ann Arbor, Michigan.



Clybourn Metra Station Bike Shelter in Chicago.

5. Indoor Bike Parking

Indoor bike parking improves security when installed in secure areas or in transit stations where an attendant is present.

Indoor bike parking should be considered anywhere sheltered bike parking is desired but cannot be installed due to cost or space constraints, or anywhere that it is expected that locked bicycles would be unattended for long periods, such as college campuses, hospitals, major employers, and inside parking structures.



Indoor Parking at the CTA Damen Brown Line Station in Chicago.

6. Bike Locker

Bike lockers offer improved security and are a good solution when long-term bike parking is desired. Bike lockers can be rented by the day or month similar to permit parking for automobiles.

Bike lockers should be considered wherever bike corrals, sheltered bike parking, or indoor bike parking is desired and potential users would be willing to rent or purchase secured parking. Examples include transit stations that are at or near the end of a line, in downtown locations where paid automobile parking is the norm, and on college campuses.

In cities in the western U.S., paid bike parking is commonly operated by transit agencies as a means of attracting ridership and improving access to transit at a lower cost than extending transit service or routes into outlying areas.



Bike Locker in Seattle, Washington.

5.3 Bike Share

Bike share programs offer a subscription based payment approach or can be provided by major employers, universities, or transit agencies to provide flexibility between walking, driving and transit. Often marketed

for the simplicity of point-based or one-way trips, bike share services can help provide bicycling as a means of transportation for people who do not ride a bike to work but would benefit from access to a bike for occasional moderate length, one-way trips.

The City has applied for a grant to install bike share stations in Evanston. These will be installed using placement guidelines established by the bike share company as well as input from the City of Evanston and elected officials.



Divvy Bike Share Station in Chicago.

5.4 Signs

1. Directional Sign

Directional signs help direct bicyclists to destinations using the preferred network of bicycle facilities or bicycle-friendly routes. Typical directional signage contains information about distance, destination, and direction.

2. Bike Lane

A bike lane sign is used to identify and alert roadway users of the beginning of a bike lane. This sign also can be placed mid-block in conjunction with parking restriction signage to assist with enforcement to prevent motorists from driving or parking in the bike lane.

3. Begin Right Turn Lane, Yield to Bikes

In Evanston, bike lanes terminate prior to signalized intersection to provide room for left-turn and right-turn lanes. Often times, this confuses motorists and bicyclists who aren't sure how to share the road. This sign clarifies the law by stating that motorists must yield to bicycles entering mixed traffic.

4. Bikes May Use Full Lane

If even more clarification is needed, this sign indicates that

a bicyclist may use the full width of the lane if necessary to operate in mixed traffic. Additionally, white signs are regulatory signs which provide clearer enforcement direction than yellow (warning) signs.

5. Yield To Pedestrians

This sign clarifies the requirement that bicyclists shall yield to pedestrians and typically is placed near intersections where there are high volumes of bicycle and pedestrian traffic, such as a university campus.



1. Typical post-mount directional sign.



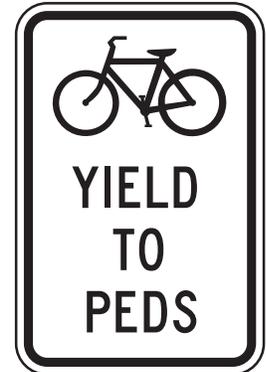
2. Bike Lane sign.



3. Yield to Bikes Sign.



4. Bikes May Use Full Lane sign.



5. Yield to Peds Sign.

5.5 Shared Use Path and Bike Trails

1. Shared Use vs. Separate Path Designation

Shared use paths are facilities designed for use by bicyclists and pedestrians within the same space. This is feasible when the path is at least 10 feet wide to allow for two-directional travel, and enough maneuvering space for bicyclists to pass pedestrians and vice-versa.

However, if a path cannot be at least 10 feet wide, additional considerations should be made to allow for separated bicycle and pedestrian paths, or warning signs and pavement markings to alert trail users to potential conflicts to be expected on paths narrower than 10 feet.

The City maintains the Lakefront Trail as well as several trails along McCormick Boulevard and the North Shore Channel of varying widths, and the City is interested in designating some of these as “bike trails” exclusively to help mitigate potential bicycle and pedestrian conflicts.

Trail markings should be identified at the start of each path to identify whether the trail is shared or for exclusive use by one mode. Additionally, exclusive path designation should be made only when an immediately adjacent facility exists in its entirety along the same corridor; that is, the bike path should be visible from the walking path.



(Left) Painted mile marker located outside the path of travel.
Source: americantrails.org

(Right) In-pavement mile marker medallion.
Source: Town of Wake Forest, North Carolina.

2. Mile Markers

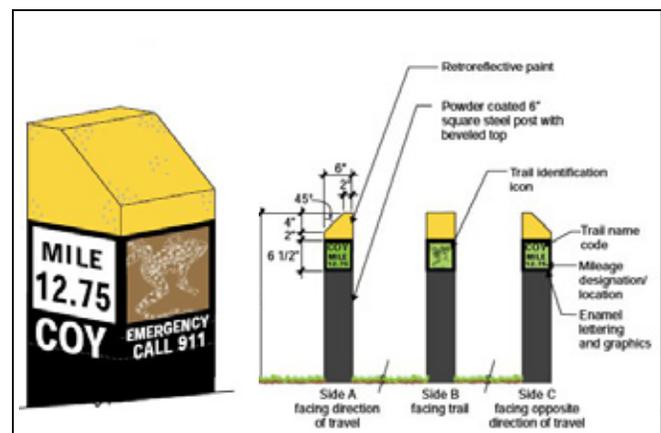
Many trail users like to know the distance they are traveling while on a trail, and mile markers have added benefits in assisting with emergency response situations when the trail is in a remote location and not located close to the roadway network.

Mile markers can be applied to trails in the form of wooden posts, metal signs on posts, pavement markings, or in-pavement embedded markers.

Posted signs are recommended in areas where the trail is not located close to the roadway or in nature walks trails are not likely to be plowed in the winter.

However, if trails are plowed in the winter or can be seen from the roadway network, pavement markings can provide the same benefit as mile marker posts without contributing as much to visual clutter caused by signs.

Mile marker pavement markings can be applied as latex paint or thermoplastic paint applied to the trail surface. To extend the life of pavement markings, it is recommended that the marker be placed in a location where it won't be worn down by trail users over time. Other styles of in-pavement markers include stamped or embedded trail markers, which cost more than paint but last longer and can be reinserted in the pavement during trail resurfacing.



Reflective post trail marker for emergency response in remote areas.
Source: San Jose, California.

6. Community Engagement

Public and stakeholder engagement activities were undertaken to gather input during the planning process. These activities are summarized below. Reports prepared for community engagement activities and outcomes are found in **Appendix B – Community Engagement Summary and Results**.

Steering Committee

A committee was formed to provide project guidance, review the findings, and assist with prioritizing action strategies. The Committee was composed of residents, stakeholder representatives, and City staff. Steering Committee members assisted with promoting community participation during the planning process.

Advisory Committee

An advisory committee of elected officials and City staff was formed to review the Plan. This committee will review the Plan prior to its presentation to the Evanston City Council.

Website

The City created a web page for the Plan on its website at cityofevanston.org/bikeability. The website was used to post the project schedule, information about the planning process, meetings, and a link to a Community Remarks page.

Online and Tablet Survey #1

An online survey was prepared that collected feedback from community members that may not tend to participate in a conventional community engagement process. The survey was made available at Bike the Ridge and other Evanston events via tablet computers to allow residents and visitors to answer questions about bicycling and bicycle facilities in Evanston. The tablet format allowed the City to go directly to community members to seek their input. The results of the online survey are discussed in the findings.

Bike the Ridge

The City of Evanston had a tent at the Bike the Ridge event to help promote the kickoff of the planning process for the Bike Plan Update. Bike the Ridge is an annual event where Ridge Avenue is closed to automobile traffic for a few hours on Sunday. During this time, Evanston residents and visitors are permitted to bicycle on Ridge Avenue in a comfortable, traffic-free environment. At the booth, participants were invited to complete the online survey and mark up bike maps of Evanston to identify issues or bike facility upgrades that are needed. A summary table of comments is provided in **Appendix B - Community Engagement Reports**. The results of this input are incorporated in **Section 7 - Findings**.



Bike The Ridge in Evanston.

Public Workshops

An initial public workshop was conducted on Saturday October 26, 2013 at the Evanston High School. The workshop involved a brief explanation of the planning effort followed by three concurrent sessions to discuss and comment on various aspects of bicycling in Evanston. Session topics included:

- Existing conditions, issues, and safety concerns
- Comfortable corridors and connections
- Bicycle and motorist education, safety, and awareness
- Bicycle parking and bike sharing systems
- Funding and constraints

The workshop helped to identify problem locations and discuss solutions. The results of this input are provided in the findings.

A second public workshop was conducted on Saturday, May 3 at the Rotary International Headquarters. Participants viewed planning level design concepts for improving comfortable corridors and were invited to vote on their preferences for each. A PowerPoint presentation was given and a discussion was held about possible bike parking infrastructure, and policy questions. Policy questions were aimed at gauging support for:

- Installing awareness signage on comfortable corridors
- Further refinements to sidewalk bicycling restrictions
- Restricting bicycling on stressful roadways

Online Survey #2

Following the second public workshop, a second online survey was released to allow the general public to weigh in on the comfortable corridors, as well as the policy questions

and questions about bicycle restrictions on stressful roadways. The second online survey also asked rules of the road questions related to bicycling. Survey results are provided in Appendix B.

Community Remarks™

Community Remarks is an online mapping tool that was developed to allow the public to identify locations where bicycling issues are present and where improvements are needed. In addition, Community Remarks allowed users to discuss their comments in a discussion board format that allowed for more dialogue as opposed to one-way communication.

These comments were downloaded compared to comments collected through the online survey, the Bike the Ridge comments, and through comments collected at the first public workshop.

Community Remarks comments were grouped into three categories: where bike parking is needed, where there are challenges or issues with respect to bicycling, and where bike improvements are needed. 150 comments were collected, many of which also generated a discussion thread that involved multiple participants. These are shown the figures on the right.

Comments collected through these methods helped identify the gaps and barriers that were selected for further study. These are described in greater detail in **Section 7 - Findings** and analyzed in **Section 8 - Action Strategies**.

Appendix B - Community Engagement Reports.



COMMUNITY REMARKS®
Put your idea on the map

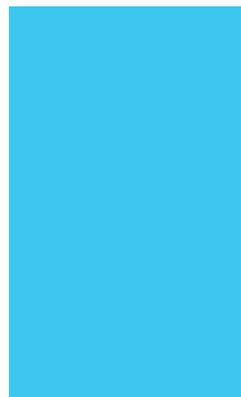
Bike Parking



Problem Areas



Improvements Needed



7. Findings

The following findings are the result of the current conditions assessment and community engagement activities. These findings provide the basis for developing action strategies

1. Crashes involving bicyclists are more severe on Evanston roads that do not have bike lanes than on roads with bike lanes. More bike crashes occur at intersections than mid-block. Improvements are needed to reduce speeding and conflicts between bicyclists, motorists, and pedestrians.
2. High crash intersections, high crash corridors, and high stress roadways were identified as key locations in Evanston where improvements are most needed. They are listed in **Table 15 - Key Locations**.
3. Existing bicycle facilities provide a good network in Evanston. However, some gaps limit Evanston's potential to be more bicycle-friendly. More clearly defined bicycle facilities, signals, and signs are needed to help bicyclists travel through intersections and across bridges. **Figure 9 - Gaps and Barriers** shows the location of these gaps identified through the citizen engagement process. **Table 16 - Gaps and Barriers** briefly describes each gap or barrier.

Once reviewed, these gaps and barriers were further refined to identify what type of improvement would be needed to eliminate the gap or barrier. These needs also were compared to work currently underway by the City. A more specific map, which identifies each type of improvements in context with other planned and programmed improvements, is shown in **Figure 10 - Requests to Expand or Upgrade (Community Remarks)**.

4. U.S. Census Data and bicycle traffic counts conducted in Evanston have shown that bicycling has increased significantly since the installation of bike lanes in Evanston.
5. Existing "Share the Road" signs in Evanston are unclear to many motorists and bicyclists. They do not explicitly state where bicyclists may use the full travel lane. More specific guidance is needed to identify when bicyclists may use full lane and where motorists must yield to bicyclists.

Table 15 - Key Locations	
High Crash Intersections	
1. Dodge & Main	2. Pitner & Main
3. Sherman & Church	4. Dodge & Emerson
5. Chicago & South	6. Maple & Lake
7. Green Bay & Emerson	8. Dodge & Dempster
9. Ridge & Emerson	10. Hartrey & Dempster
11. Asbury & Greenleaf	12. Sheridan & Lincoln
13. Dodge & Oakton	
High Crash Corridors	
1. Church Street - Asbury to Hinman	
2. Dempster Street - McDaniel to Forest	
3. Sherman Avenue - Davis to Central	
4. Chicago Avenue - Howard to Sheridan	
5. Sheridan Road - Central to University	
6. Lake Street - McDaniel to Forest	
7. Emerson Street - Leland to Orrington	
8. Davis Street - Asbury to Hinman	
9. Ridge Avenue - Howard to Emerson	
10. Dodge Avenue - Simpson to Howard	
High Traffic Stress Corridors	
1. Dempster - McCormick to Lake Shore	
2. Green Bay - Emerson to Isabella	
3. Golf and Elgin - Crawford to McCormick	
4. Sheridan - Chicago to Ingleside	
5. Howard - McCormick to Kedzie	
6. Oakton - McCormick to Hartrey	
7. Main - McCormick to McDaniel	
8. Church - McCormick to McDaniel	

Figure 9 - Gaps and Barriers

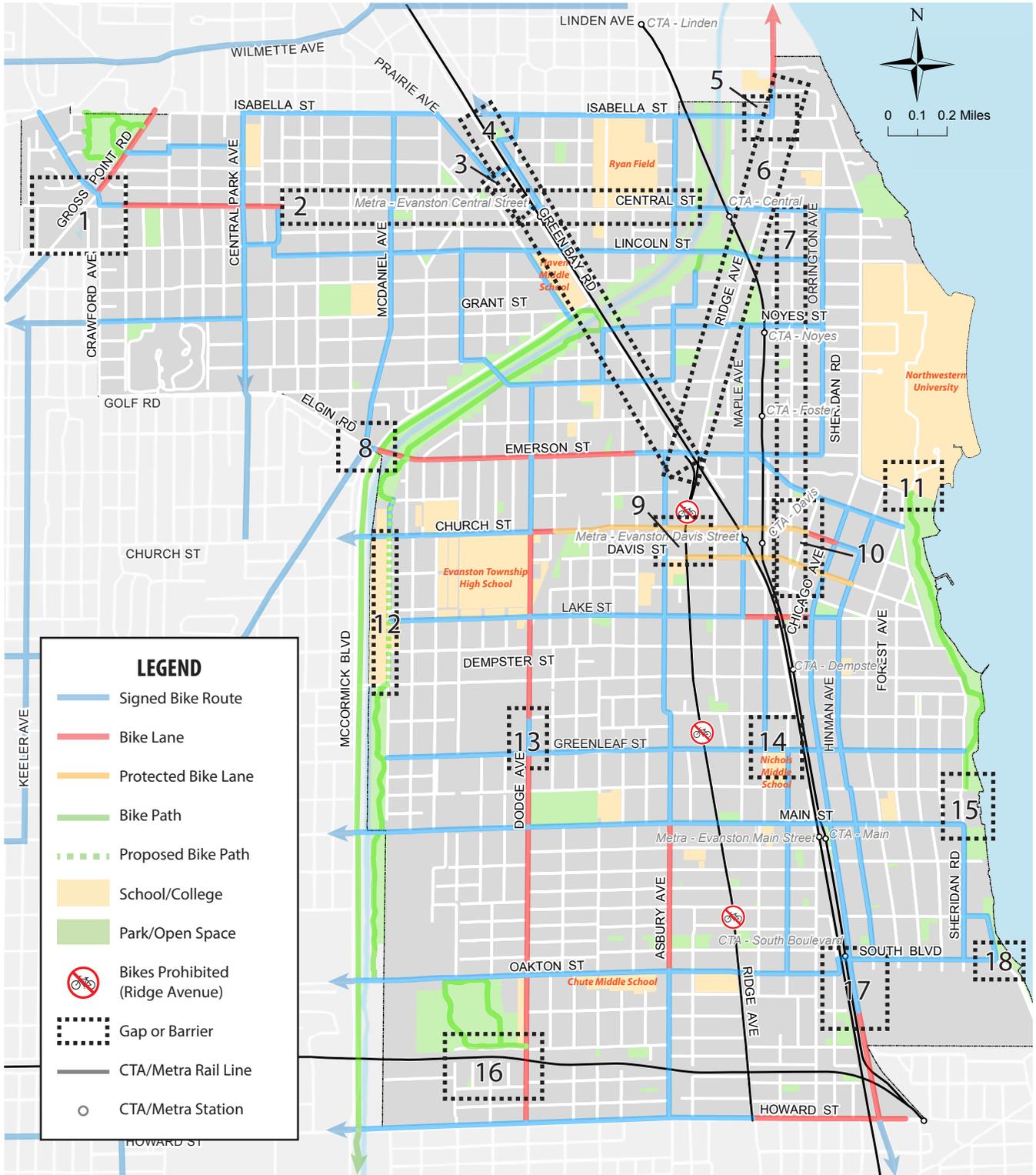


Figure 10. Requests to Expand or Upgrade (Community Remarks)

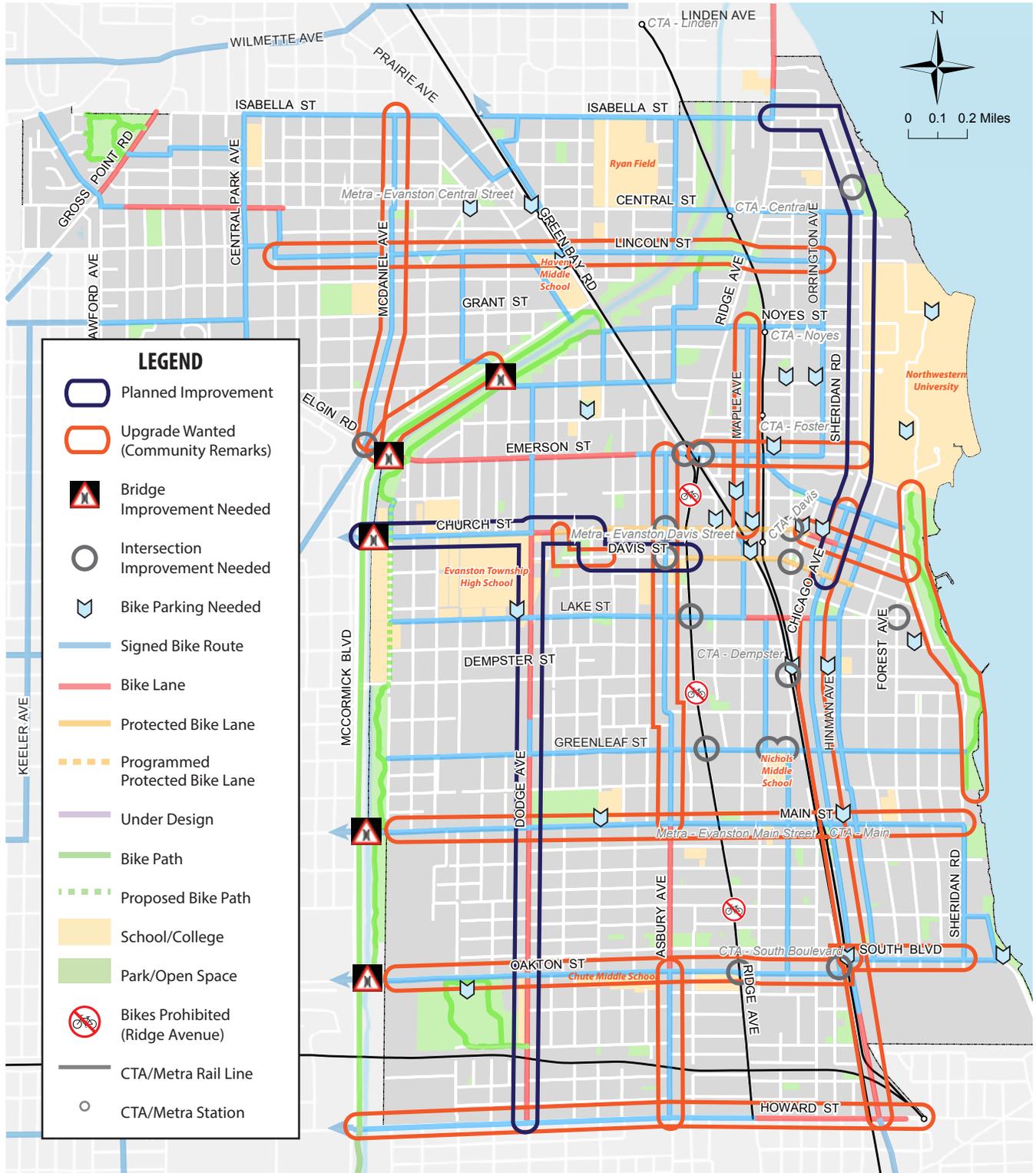
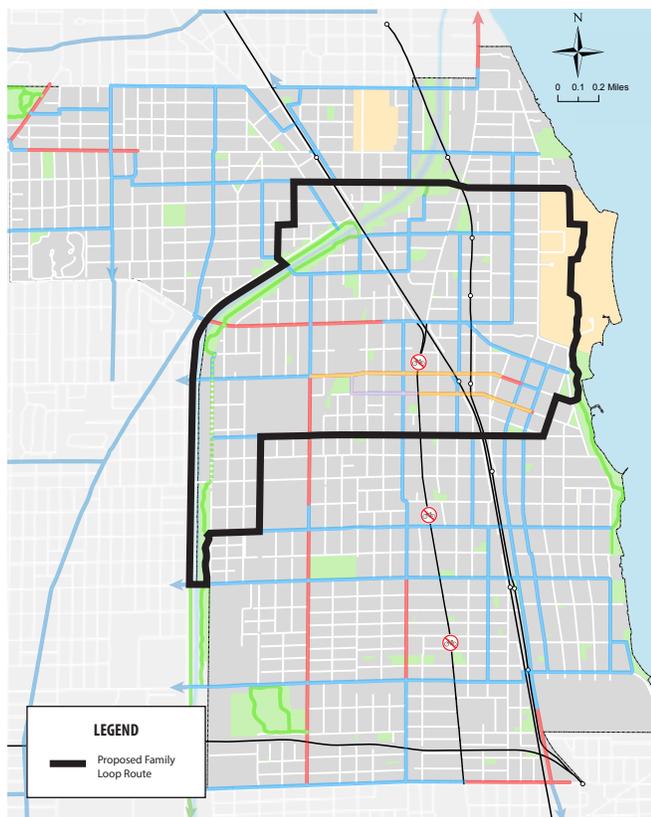


Table 16 - Gaps and Barriers		
Number	Location	Gap or Barrier Description
1	Gross Point Road	Bike lane non existent on a portion of Gross Point Road
2	Central Street	Central Street is a major destination but there are no bicycle facilities
3	Prairie Avenue	There are no bicycle facilities connecting to Haven Middle School
4	Green Bay Road	This is a major corridor, but there are no continuous bicycle facilities
5	Ridge & Isabella	Difficult left turn for bicyclists heading to Wilmette
6	Ridge Avenue (north)	This is a major north-south corridor but there are no facilities for bicyclists.
7	Sherman	Sherman is a major north-south corridor and lacks bicycle facilities
8	McCormick & Elgin	Difficult Intersection
9	Ridge & Davis/Church	Crossing Ridge Avenue on a bicycle is difficult at this intersection
10	Sherman & Davis/Church	Conflicts occur here between bicyclists and turning motorists
11	Lakefront Path/Northwestern	There is a lack of guidance when the Lakefront Path ends
12	McDaniel Avenue	There is a gap in the Channel paths here
13	Dodge & Greenleaf	The bike lanes disappear for a block at this location on Dodge Avenue
14	Sherman/Elmwood/Main	This intersection is a difficult crossing for bicyclists
15	Lakefront Path and Sheridan	The Sheridan Road route and path connections are unclear at Edgemere Court
16	Hartrey to James Park	The Hartrey Avenue to James Park connection is difficult to find
17	Chicago Avenue	Bike lanes end when Chicago Avenue narrows at this location
18	Sheridan & South	A bicycle connection on South Boulevard to the City of Chicago is lacking

6. Riding bicyclists on sidewalks is prohibited in business districts per ordinance 10-9-4. Areas where sidewalk riding is prohibited are not easily identifiable due to a lack of signs or sidewalk pavement markings. Citations are most frequently issued on streets without bike facilities. Regulatory signs were not found in areas affected by ordinance 10-9-4.
7. Community engagement participants stated that low-speed, low-volume neighborhood streets are more comfortable and desirable than faster, busier streets in Evanston. Additionally, participants support the use of protected bicycle facilities that provide more separation from traffic than conventional bike lanes.
8. High quality, off-street bike paths separated from automobile traffic are located on the lakefront and on the City’s western boundary. However, gaps and barriers in the network limit access these facilities. Family-friendly bike boulevards or loop routes are needed to connect to these paths.

An example of a loop route that was developed for family rides as part of the North Shore Century Ride is shown in **Figure 11 - Example Loop Route**. This type of route was well received as it helps to connect

Figure 11. Example Loop Route



existing paths and provide east-west connectivity. In many ways, minor traffic calming improvements to low-speed residential streets can help create neighborhood greenways that are attractive to bicyclists of different ages and abilities. The City currently uses various techniques to calm traffic in Evanston, as shown in **Figure 12 - Traffic Calming Infrastructure**.

9. Bicycling data collected in Evanston show that most bicyclists travel on-street with traffic. However, wrong-way riding, adult bicyclists on sidewalks; and failure to obey signs or traffic signals is a safety concern. Continued education and enforcement is needed to improve bicyclist safety.
10. Traffic law compliance is a continued concern for bicyclists, motorists, and pedestrians.
11. Bicycle safety education is provided in grade schools and elementary school. Education and awareness campaigns need to be expanded to include high school, university, and adult bicyclists in Evanston.
12. Bike parking can be found throughout business districts, transit stations, and at other major destinations. Demand for bike parking continues to grow. Areas with the greatest demand include: downtown, transit stations, library (northwest Evanston), and Central Street.
13. Bike theft is an ongoing concern in Evanston. More theft-prevention education and secure bike parking are needed to help eliminate bike theft.
14. Improvements are needed to connect Evanston’s bicycle network to Chicago, Skokie, and Wilmette.

Figure 12. Traffic Calming Infrastructure



8. Project Recommendations

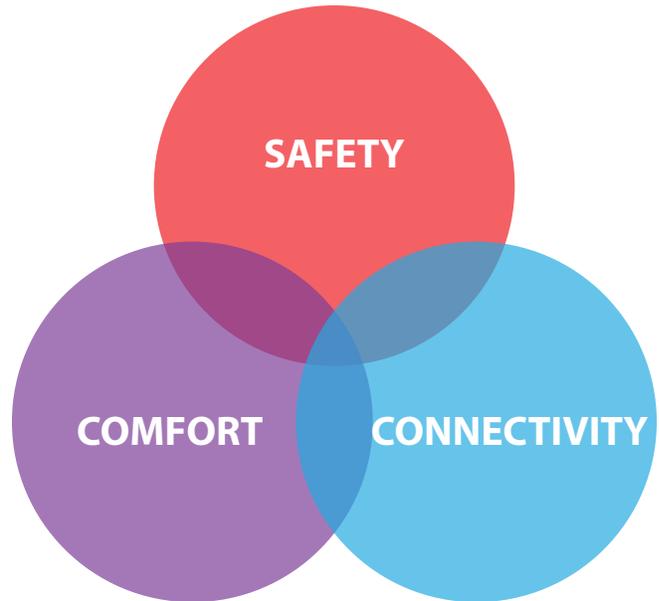
8.1 Introduction

The current conditions analysis and community engagement process resulted in identifying corridors for bicycle improvements (projects), programs that the City should develop or expand, and policies that the City should adopt to further integrate the implementation of bicycle improvements in Evanston.

Due to the large number of corridors that were identified, a prioritization strategy was developed in order to identify those corridors that demonstrated the greatest need for improvement.

8.2 Project Corridor Prioritization Strategy

The prioritization strategy involved three themes; safety, comfort, and connectivity.



Safety

- Bicycle crashes per mile – Bicycle crashes were evaluated and normalized on a per mile basis in order to identify the frequency with which bicycle crashes occur on Evanston roads. Crashes rates were normalized and assigned a score between 0 and 1 based on their distribution.
- High crash corridors – High crash corridors were identified using crash data from the City of Evanston and the Illinois Department of Transportation. Project corridors located along a high crash corridor were assigned a value equal to the sum of all high crash corridor rates. Resulting scores were normalized and assigned a score between 0 and 1 based on their distribution.
- Downtown sidewalk bicycling citations – Citations issued to bicyclists riding on sidewalks where it is prohibited were used to identify areas where bicyclist and pedestrian safety is a major concern. A high concentration of sidewalk riding citations issued in Downtown Evanston indicates a lack of bicycle facilities could be preventing bicyclists from feeling safe bicycling in the roadway. Project corridors that travel through this area were assigned a score of one point.

Comfort

- Bike routes on high-stress roadways – Signed bike routes on high-stress roadways were identified as corridors that needed improvements to make them more comfortable, as stated by many community engagement participants. Corridors were assigned a score of one point if they included an existing signed bike route on a high-stress roadway and a half point if they included a medium-stress roadway. Level of Traffic Stress (LTS) analysis (**Section 4.3**) evaluated roadways with signed bike routes, and was mapped in **Figure 1**.

Connectivity

- Regional corridors – The Northwest Municipal Conference (NWMC) 2010 Bikeways Plan identifies several corridors recommended to promote regional connectivity. These are identified on **Figure 13 – Proposed Action Strategy Criteria**. Proposed project corridors that coincide with these regional corridors were assigned one point for being consistent with the regional corridors identified in the NWMC 2010 Bikeways Plan.
- Major destinations – Major destinations are indicators of where bicyclists want to go. The online survey results were used to develop a point scale based on the number of responses for each of the six most commonly listed destinations shown below, which comprised 80% of total survey responses. Values were calculated based on the number of destinations shown below that were accessible from each corridor. Values were normalized and corridors were assigned a score between 0 and 1 based on their distribution.

Figure 13 – Proposed Action Strategy Criteria shows where the prioritization criteria apply. **Table 17 – Corridors Selected for Further Analysis**. The top three ranked corridors were identified by the City of Evanston as already under consideration for planned bicycle facilities from previous planning efforts and were skipped to allow the planning process to consider additional corridors for future consideration. **Figure 14 - Corridors Selected for Further Analysis** show the 8 corridors that were selected. **Table 18 - Prioritization Summary** shows the scores of all corridors that were identified for prioritization.

Table 17 - Corridors Selected For Further Analysis					
Corridor	Limits	Safety	Comfort	Connectivity	Total
Chicago Avenue/Hinman Avenue	Howard Street to Grove Street	1.32	0.5	3.00	4.82
Howard Street	McCormick Boulevard to Chicago Avenue	1.37	0.0	2.15	3.52
Asbury Avenue and Green Bay Road/Poplar Avenue	Church Street to Isabella Street	0.67	0.0	1.79	2.46
Maple Avenue/Noyes Street/Sherman Avenue	Davis Street to Central Street	0.41	0.0	1.02	1.43
Greenleaf Street	Maple Avenue to Lakefront Path	0.41	0.0	0.94	1.35
Oakton Street/Callan Avenue/South Boulevard	McCormick Boulevard to Chicago City Boundary	0.54	0.0	0.81	1.35
Sheridan Road and Edgemere Court	South Boulevard to Lee Street	0.00	0.8	1.00	1.80
Lincoln Street/Harrison Street/Lincolnwood Drive	Central Street to Sheridan Road	0.28	0.0	0.00	0.28

Figure 13. Proposed Action Strategy Criteria

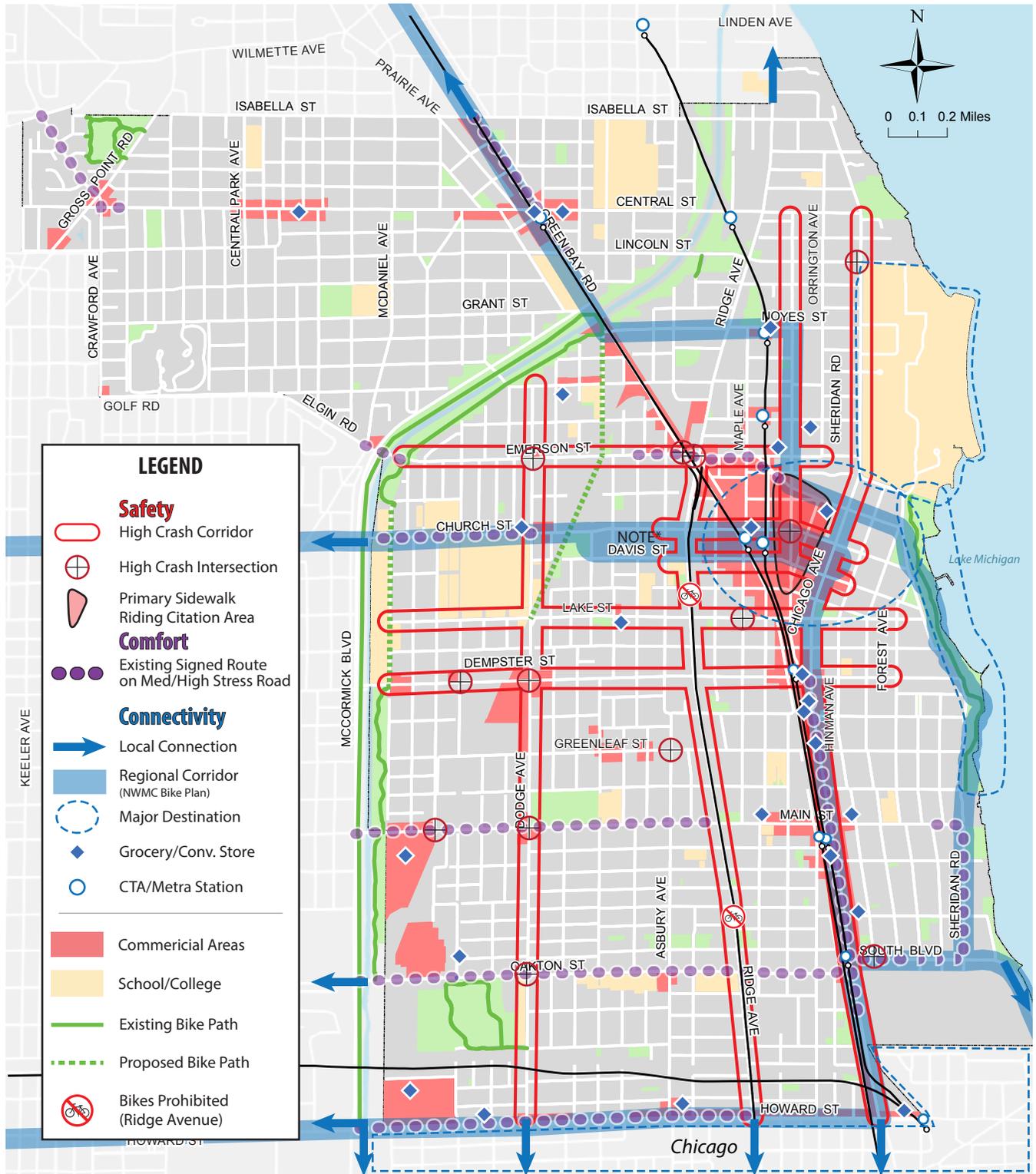


Figure 14. Corridors Selected for Further Analysis

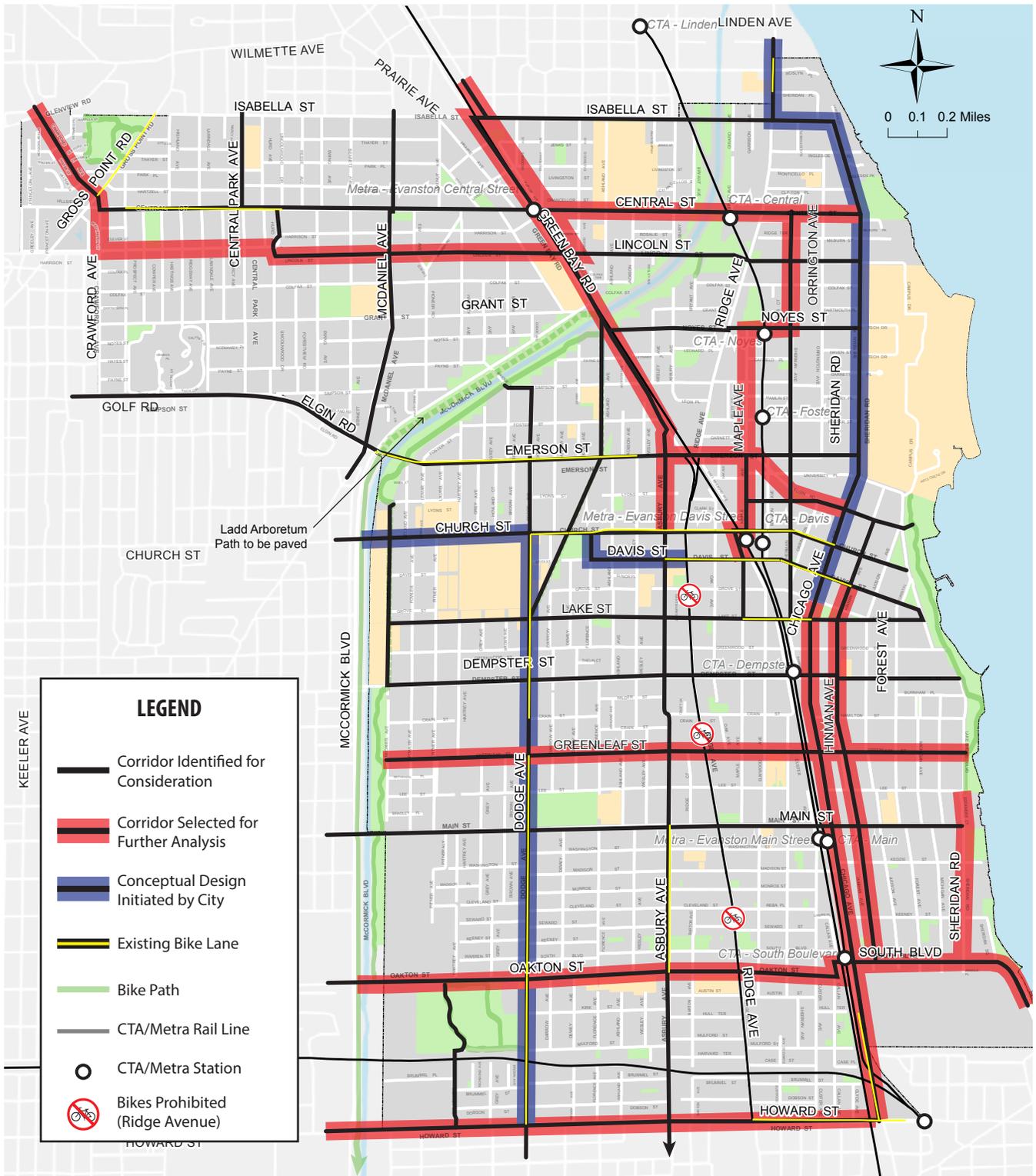


Table 18. Prioritization Summary		
Proposed Project Corridor Corridor		Limits
1	Church Street (already under consideration by City of Evanston)	McCormick Boulevard to Dodge Avenue
2	Sheridan Road/Chicago Avenue (already under consideration)	Lake Street to Wilmette Village boundary
3	Davis Street (already under consideration)	Florence Avenue to Ridge Avenue
4	Chicago Avenue/Hinman Avenue	Howard Street to Grove Street
5	Lake Street	McDaniel Avenue to Sheridan Road
6	Golf Road/ Elgin Road/ Emerson Street	Crawford Avenue to Sheridan Road
7	Dempster Street	McCormick Boulevard to Sheridan Road
8	Howard Street	McCormick Boulevard to Chicago Avenue
9	Dodge Avenue	Howard Street to Church Street
10	Asbury Avenue and Green Bay Road/Poplar Avenue	Church Street to Isabella Street
11	Sherman Avenue	Lake Street to Central Street
12	Main Street	McCormick Boulevard to Sheridan Road
13	Maple Avenue/ Noyes Street/Sherman Avenue	Davis Street to Central Street
14	Greenleaf Street	McCormick Boulevard to Lake Front Path
15	Oakton Street/ Callan Avenue/ South Boulevard	McCormick Boulevard to Chicago City boundary
16	Sheridan Road and Edgemere Court	South Boulevard to Lee Street
17	Hinman Avenue	South Boulevard to Grove Street
18	Central Street	Green Bay Road to Sherman Avenue
19	Noyes Street	Green Bay Road to Sheridan Road
20	Isabella Street	Green Bay Road to Sheridan Road
21	Lincoln Street/Harrison Street/Lincolnwood Drive	Central Street to Sheridan Road
22	Crawford Avenue / Central Street/ Lincolnwood Avenue	Old Glenview Road to Lincoln Street
23	Ashland Avenue/ Former Railroad Right-of-Way	Dodge Avenue to Noyes Street
24	Central Park Avenue	Central Street to Isabella Street
25	James Park Path / Hartrey Avenue	Howard Street to Oakton Street
26	McDaniel Avenue	Elgin Road to Isabella Street
27	School Campus Path	Dempster Street to Lyons Street

CITY OF EVANSTON BIKE PLAN UPDATE

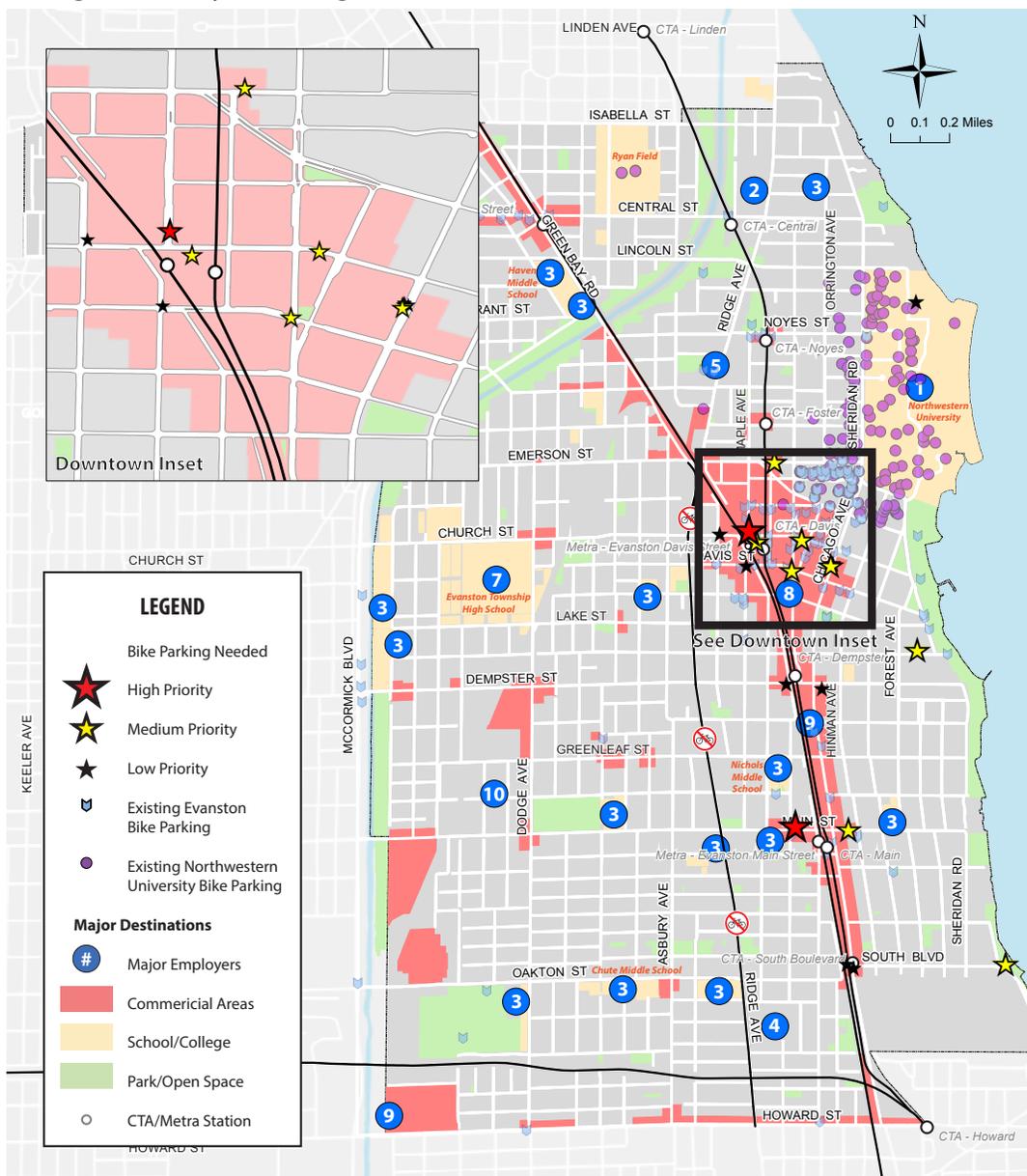
Corridor	Safety			Comfort	Connectivity		Total Points (Max. 7.0)	Corridors Selected For Further Study
	Bike Crash Rate Score (Max. 1.0)	High Crash Corridor Score (Max. 1.0)	Sidewalk Riding Citations (Max. 1.0)	Level of Traffic Stress Score (Max. 1.0)	Major Destination Score (Max. 2.0)	Regional Connectivity Score (Max. 1.0)		
1	0.97	1.00	1	1	1.96	1.00	6.93	
2	0.78	0.87	1	1	1.68	1.00	6.32	
3	0.72	0.33	1	0.5	1.51	1.00	5.05	
4	0.90	0.42	0	0.5	2.00	1.00	4.81	X
5	0.85	0.44	1	0.5	1.75	0.00	4.53	
6	0.47	0.61	0	1	1.92	0.00	3.99	
7	1.00	0.71	0	1	1.26	0.00	3.97	
8	0.37	0.00	1	0	1.15	1.00	3.52	X
9	0.61	0.69	0	1	0.98	0.00	3.29	
10	0.46	0.21	0	0	1.79	0.00	2.46	X
11	0.89	0.00	0	0	1.51	0.00	2.40	
12	0.45	0.28	0	0.5	1.15	0.00	2.38	
13	0.34	0.07	0	0	1.02	0.00	1.43	X
14	0.31	0.10	0	0	0.94	0.00	1.36	X
15	0.44	0.10	0	0	0.81	0.00	1.36	X
16	0.00	0.00	0	0	0.80	1.00	1.80	X
17	0.27	0.00	0	0	0.97	0.00	1.24	
18	0.22	0.00	0	0	0.87	0.00	1.09	
19	0.35	0.00	0	0	0.49	0.00	0.85	
20	0.05	0.00	0	0	0.38	0.00	0.42	
21	0.28	0.00	0	0	0.00	0.00	0.28	X
22	0.09	0.00	0	0	0.00	0.00	0.09	
23	0.00	0.00	0	0	0.00	0.00	0.00	
24	0.00	0.00	0	0	0.00	0.00	0.00	
25	0.00	0.00	0	0	0.00	0.00	0.00	
26	0.00	0.00	0	0	0.00	0.00	0.00	
27	0.00	0.00	0	0	0.00	0.00	0.00	

8.3 Bicycle Parking Needs

Locations that need bike parking have been studied several times by the City, and yield similar results each time: demand for bicycle parking is high at every transit station, major employer, school, commercial area, and recreation destination in Evanston. Using Community Remarks, participants reiterated this need as shown below in **Figure 15 - Bicycle Parking Needs**. The needs identified below are consistent with needs identified in reports prepared previously by the City of Evanston and the Active Transportation Alliance. The City currently installs bike parking in accordance with these identified priorities.

Section 5 provides guidelines for the placement of different types of bicycle parking based on land use. **Section 9** provides recommendations on how to increase the pace at which bicycle parking is provided, as well as identifying methods for requesting and funding bicycle parking improvements.

Figure 15 - Bicycle Parking Needs



9. Comfortable Corridors

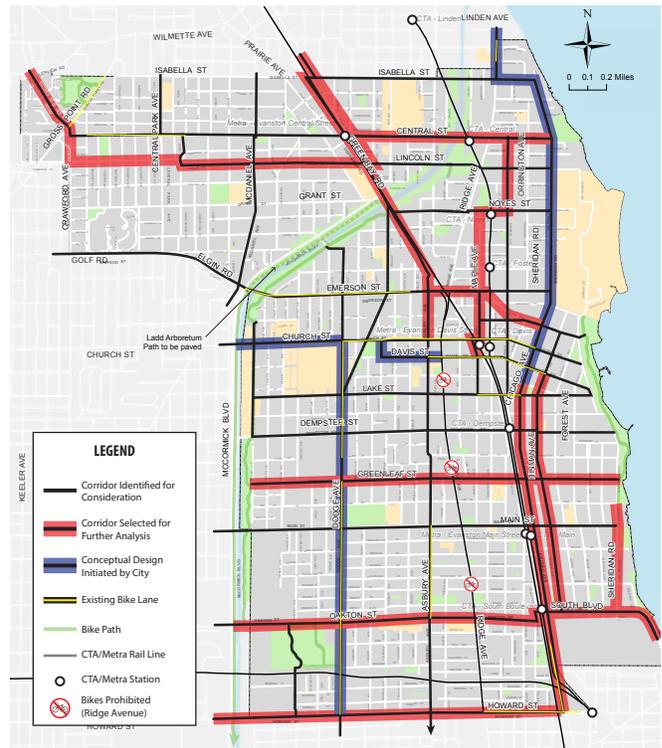
This section provides preliminary concepts for developing comfortable corridors for bicycling in Evanston. During the community engagement process, eight corridors were identified that consist of several streets which currently lack facilities to encourage bicycling for those who currently do not feel comfortable in on-street bicycling conditions.

Two concepts were developed for each corridor. Each concept shows the existing roadway, a diagram of proposed changes, cross sections, and photographic examples.

Advantages and disadvantages are provided for each concept to help explain the various tradeoffs that would be expected regarding travel lanes, on-street parking, and other considerations.

The corridors that were selected for consideration are:

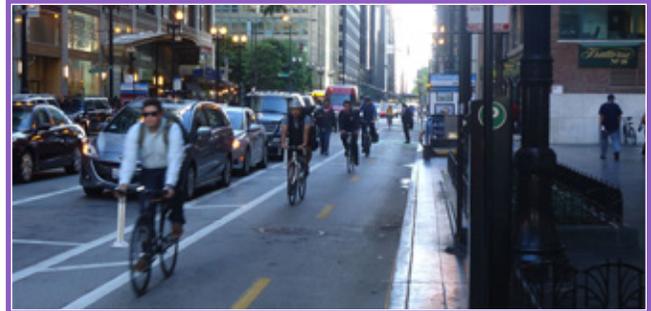
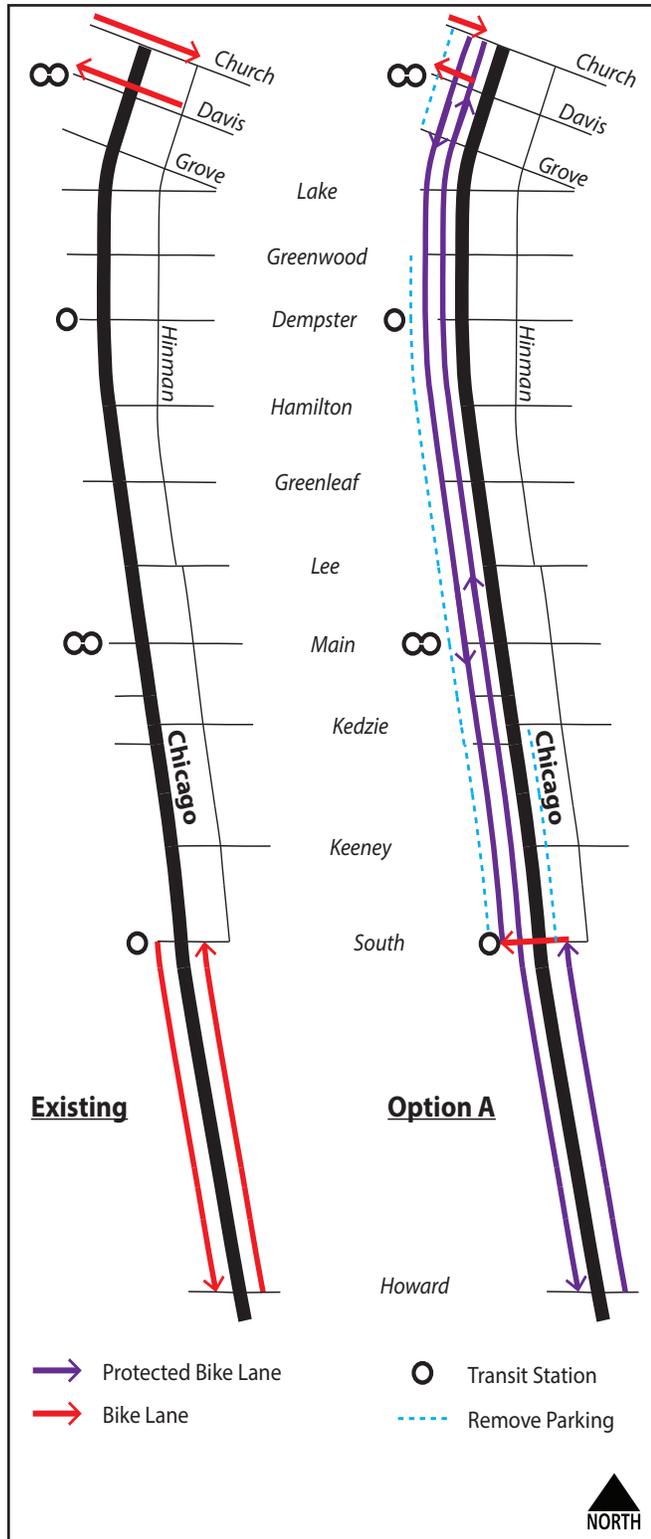
1. Chicago Avenue/Hinman Avenue
2. Howard Street
3. Asbury Avenue and Green Bay Road/Poplar Avenue
4. Maple Avenue/Noyes Street/Sherman Avenue
5. Greenleaf Street
6. Oakton Street/Callan Avenue/South Boulevard
7. Sheridan Road and Edgemere Court
8. Lincoln Street/Harrison Street/Lincolnwood Drive



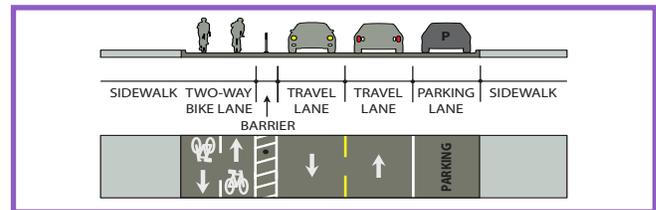
9.1 Chicago Avenue/Hinman Avenue - Option A

Preferred Concept: Two-way protected bike lane on the west side of Chicago Avenue.

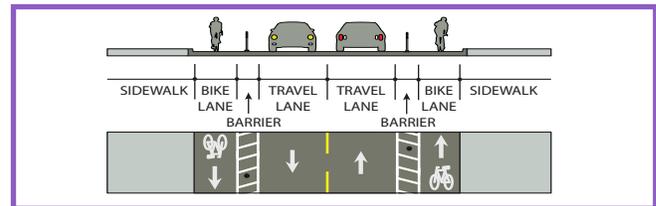
Roadway Diagram



Dearborn St. two-way protected bike lane, Chicago. Image, CDOT.



Church St. to South Blvd.



South Blvd. to Howard St.

Advantages

- Two-Way travel on Chicago Ave.
- Low-stress bicycle facility appeals to all ages and abilities

Disadvantages

- Parking removed along east side of Chicago Ave. (South to Kedzie)
- Parking removal at some driveways

Roadway Changes

- Remove a single southbound travel lane from South Blvd. to Howard St.
- Remaining parking restricted within 30' of intersections

Cost

- \$200,000 mile x 1.87 miles = \$374,000

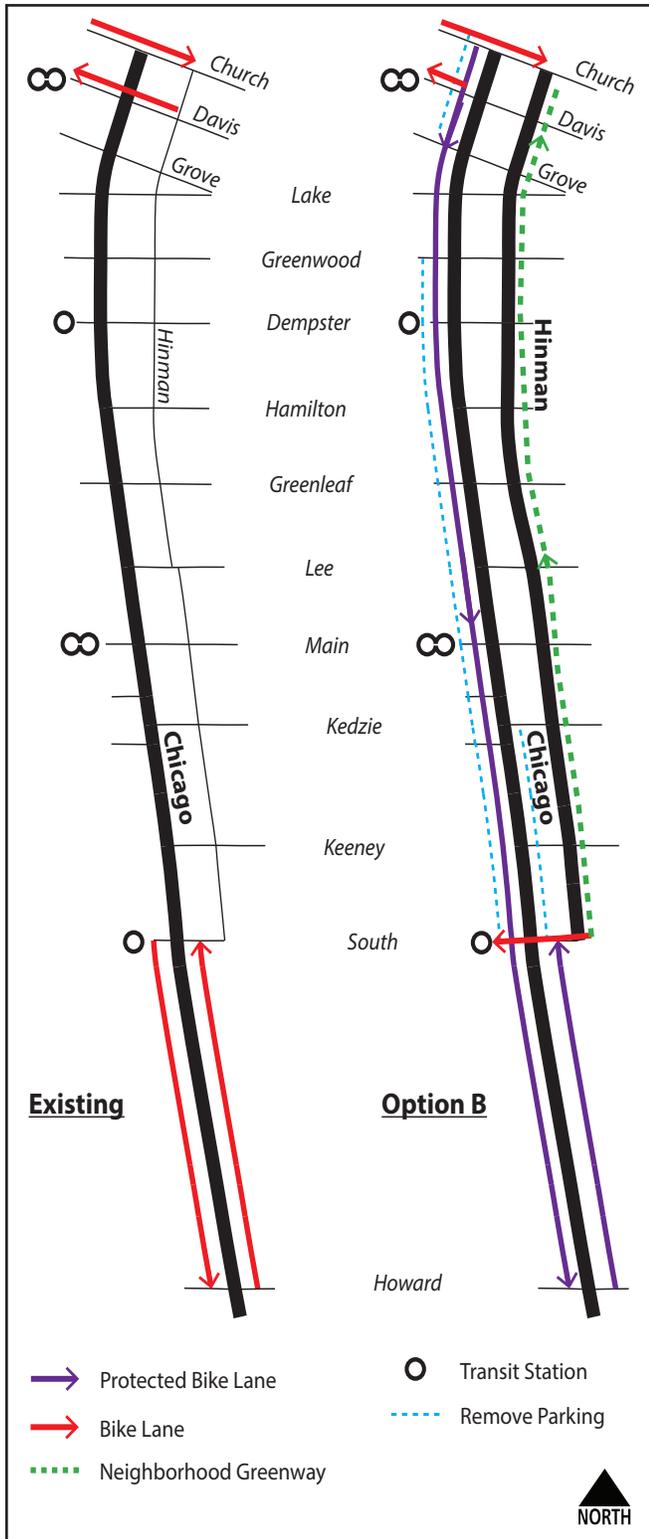
Additional Considerations

- Parking utilization data needed
- Replacement of on-street commercial parking recommended
- Intersection improvements needed at South Blvd. and at Church St. to connect to bike lanes

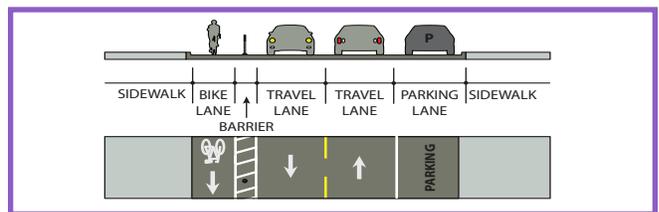
9.1 Chicago Avenue/Hinman Avenue - Option B

Alternative Concept: Protected bike lane on Chicago Avenue and Neighborhood Greenway on Hinman Avenue.

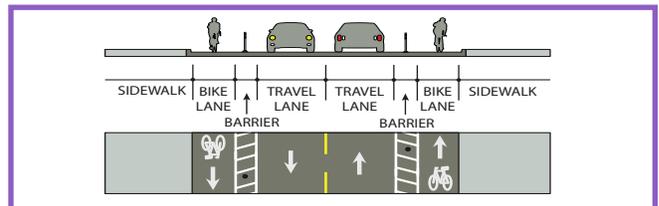
Roadway Diagram



Berteau Avenue Neighborhood Greenway, Chicago. Image CDOT



Church St. to South Blvd. (Chicago Ave.)



South Blvd. to Howard St. (Chicago Ave.)

Roadway Changes

- Create neighborhood greenway and install traffic calming elements on Hinman Ave.
- Intersection improvement needed at South Blvd. and Hinman Ave.
- Removal of some parking on Hinman Avenue near intersections

Issues

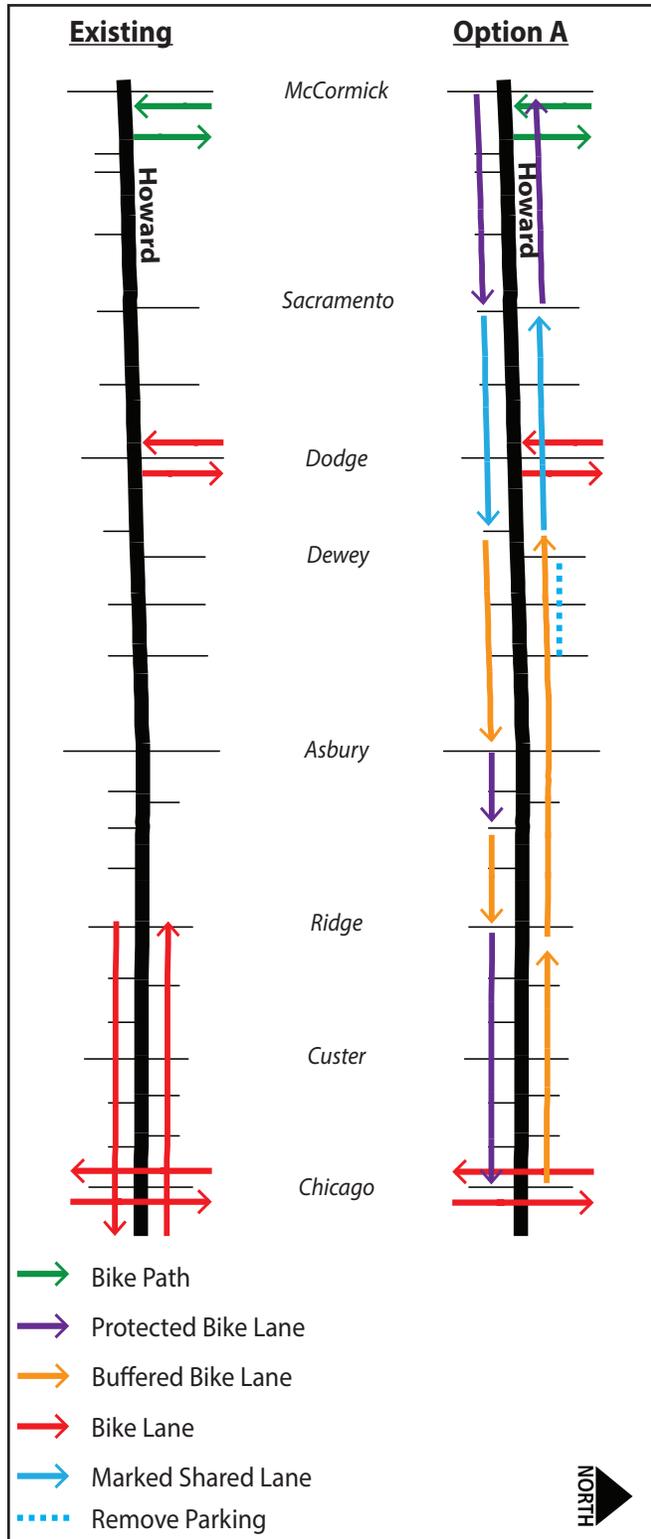
- Split facility less intuitive to bicyclists
- Route deviation requires left turns for bicyclists traveling in both directions on South Blvd.

Field Data	Chicago Avenue	Hinman Avenue
Cross Section	2-way, 3 lanes (Howard to South) 2-way, 2 lanes (South to Church) with on-street parking	2-way, 2 lanes with on-street parking
Street Width	36' to 38' (Howard to Kedzie) 46' to 51' (Kedzie to Church)	31' to 41'
Edge Width	7' to 17'	15' to 32'
Posted Speed	30 miles per hour	15-25 miles per hour
Land Use	Neighborhood commercial Some downtown business district Some residential	Residential Some neighborhood commercial
Average Daily Traffic	17,000	3,000-5,000

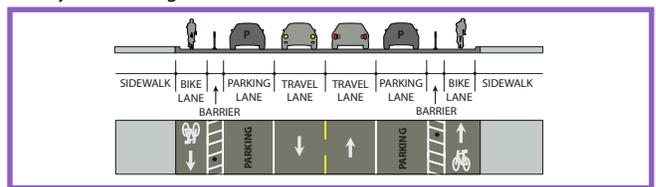
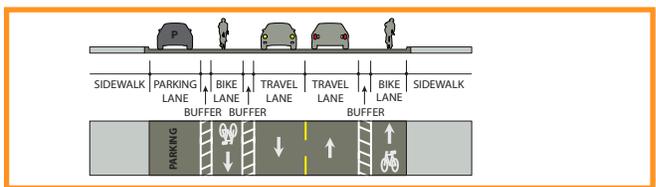
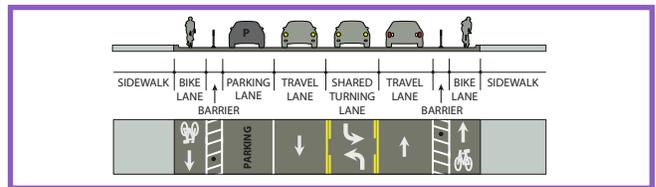
9.2 Howard Street - Option A

Preferred Concept: Protected, buffered and marked shared bike lanes on Howard Street.

Roadway Diagram



Milwaukee Ave. protected bike lane, Chicago. Image, CDOT.



Ridge Ave. to Chicago Ave.

Advantages

- Connection to North Shore Channel Trail
- Improved route to neighborhood commercial districts

Disadvantages

- Removal of parking between Dewey Ave. and Ashland Ave.
- High volume of driveways located along corridor

Roadway Changes

- Removal of parking between Dewey Ave. and Ashland Ave.
- Installation of a two-way left turn lane (road diet)
- Shift parking away from curb to accommodate a protected bike lane

Cost

- \$200,000 mile x 1.8 miles = \$360,000

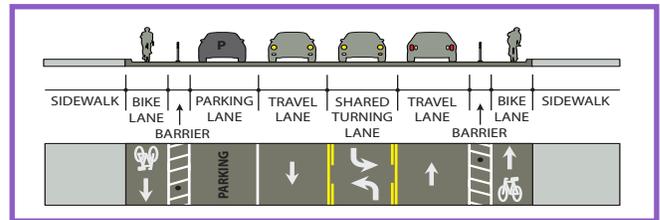
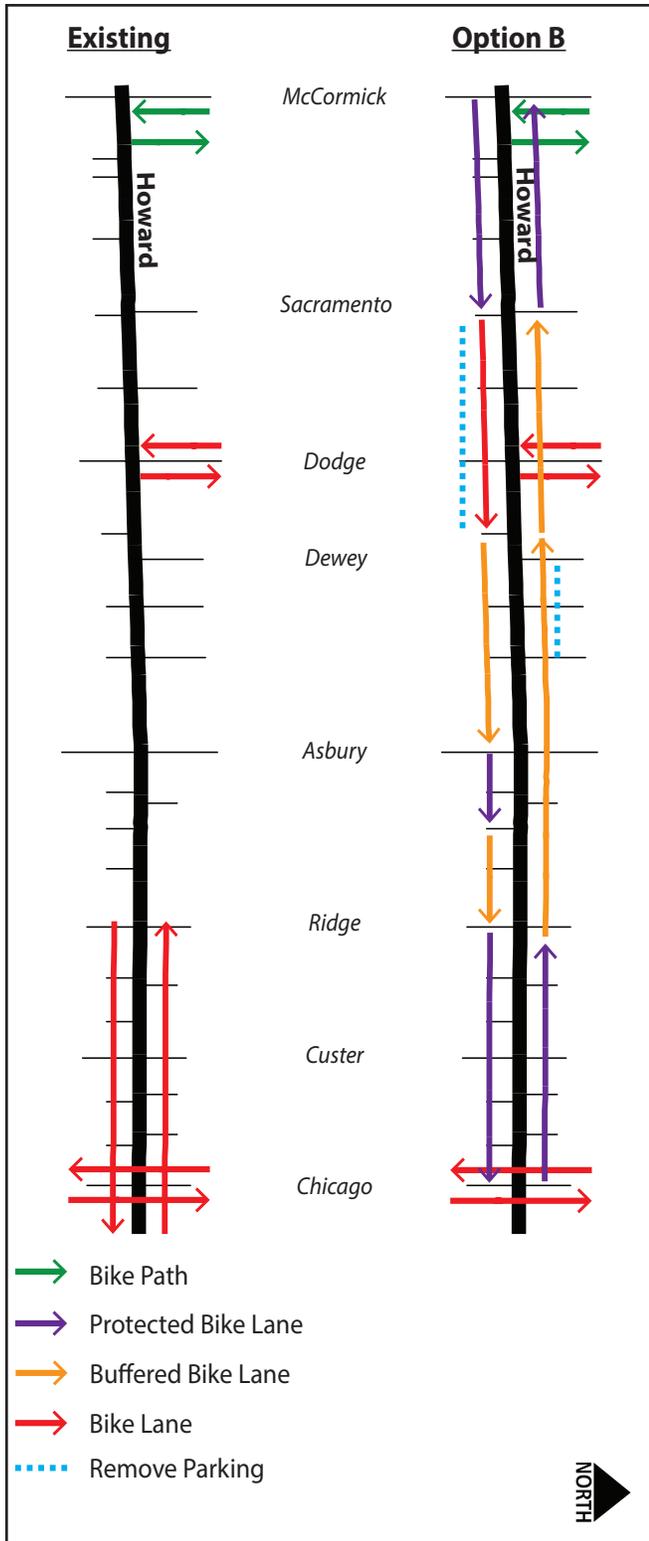
Additional Considerations

- Road diet to remove vehicle travel lanes McCormick Blvd. to Sacramento Ave.
- Coordination with the City of Chicago needed
- Intersection treatment needed for North Shore Channel Trail connection

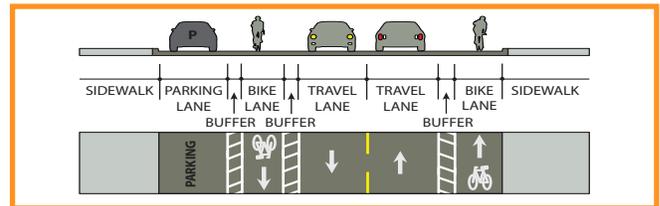
9.2 Howard Street - Option B

Alternative Concept: Protected and buffered bike lanes on Howard Street.

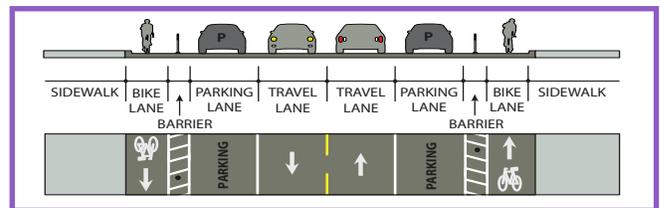
Roadway Diagram



McCormick Blvd. to Sacramento Ave.



Dewey Ave. to Ridge Ave.



Ridge Ave. to Chicago Ave.

Roadway Changes

- Bike lanes added in place of shared lane marking

Issues

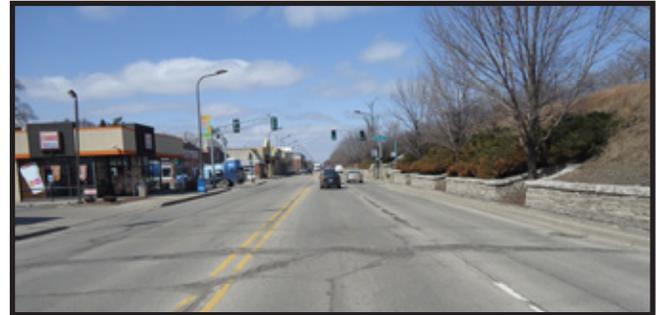
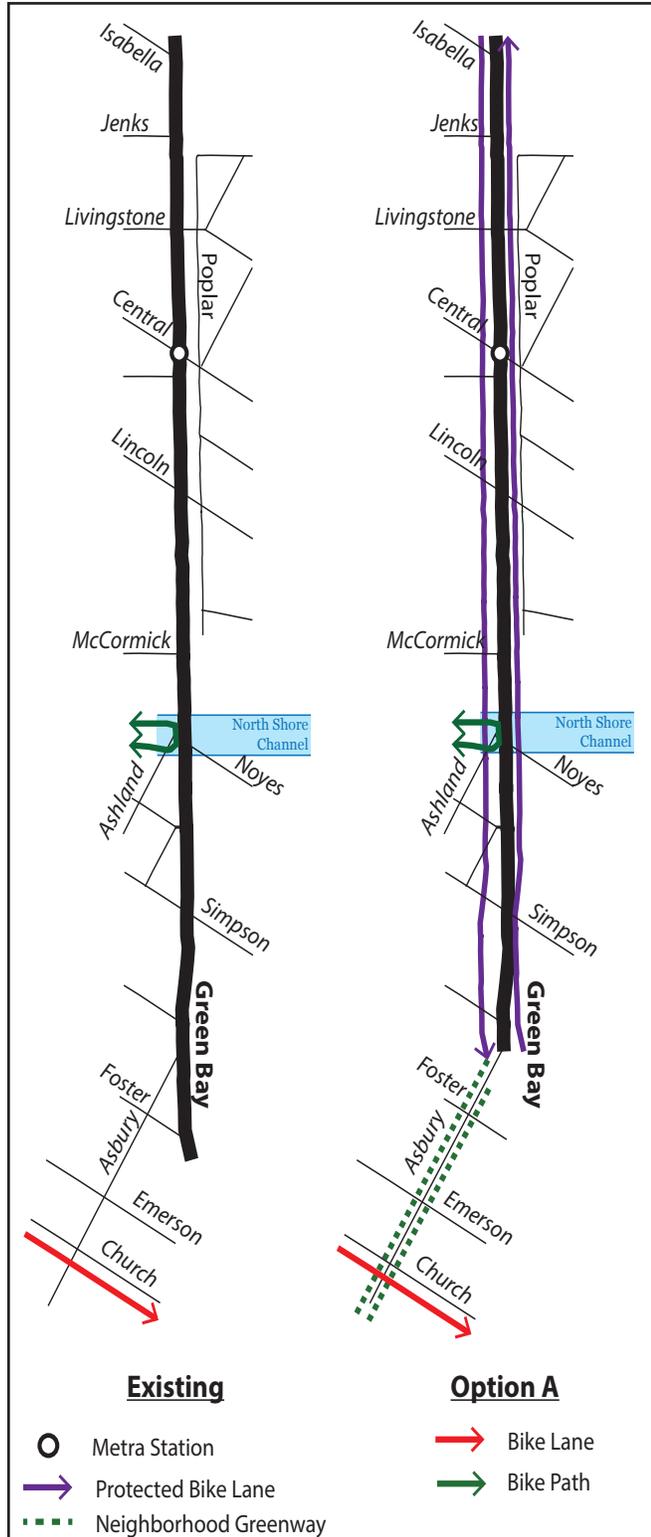
- Requires removal of more parking
- Parking utilization data needed
- Road diet, McCormick Blvd. to Sacramento Ave.
- Traffic study needed

Field Data	Howard Street
Cross Section	2-way, 2 lanes with on-street parking on both sides and in some instances only on one side.
Street Width	42' to 52' (varies between 42,48' and 52')
Edge Width	6' to 12'
Posted Speed	30 miles per hour
Land Use	Primarily neighborhood commercial Some downtown district, residential
Average Daily Traffic	20,000

9.3 Asbury Avenue and Green Bay Road/Poplar Avenue - Option A

Preferred Concept: Protected bike lane on Green Bay Road and Neighborhood Greenway on Asbury Street.

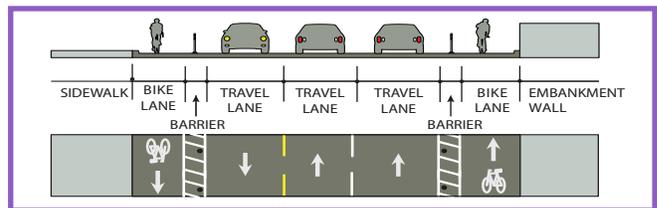
Roadway Diagram



Green Bay Rd. and Livingston St.



Vincennes Ave. protected bike lane, Chicago. Image, CDOT



Isabella St. to Asbury St.

Advantages

- Minimizes conflict between bicyclists, pedestrians, trucks, and buses
- No parking along the corridor
- Wide road width throughout corridor

Disadvantages

- High truck volume
- Vehicles speeding
- Automobile destination corridor (Hertz, Pep Boys, etc.)

Roadway Changes

- Road Diet implementation to remove a single southbound travel lane from Emerson St. to Isabella St

Cost

- \$200,000 mile x 1.35 miles = \$270,000

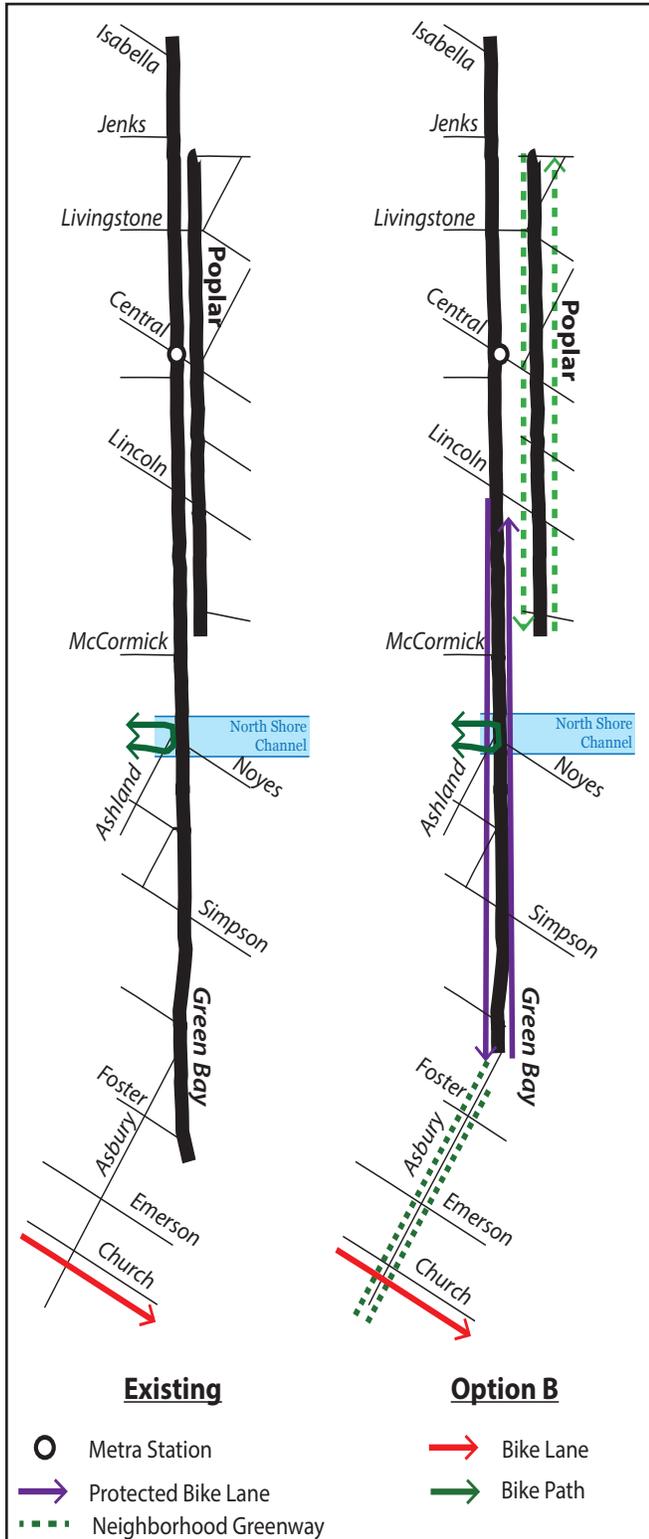
Additional Considerations

- Connection to North Shore Channel Trail at Ashland Ave. / Noyes St.
- Restrict truck access to Green Bay Rd.

9.3 Asbury Avenue and Green Bay Road/Poplar Avenue - Option B

Alternative Concept: Protected bike lane on Green Bay Road and Neighborhood Greenway on Poplar Avenue and Asbury Street.

Roadway Diagram



Poplar Ave. near Central St. Metra Station



Berteau Avenue Neighborhood Greenway, Chicago. Image CDOT

Roadway Changes

- Change parking configuration
- Eliminate parking on east side of street
- Intersection treatment needed at major streets to facilitate safe crossings

Issues

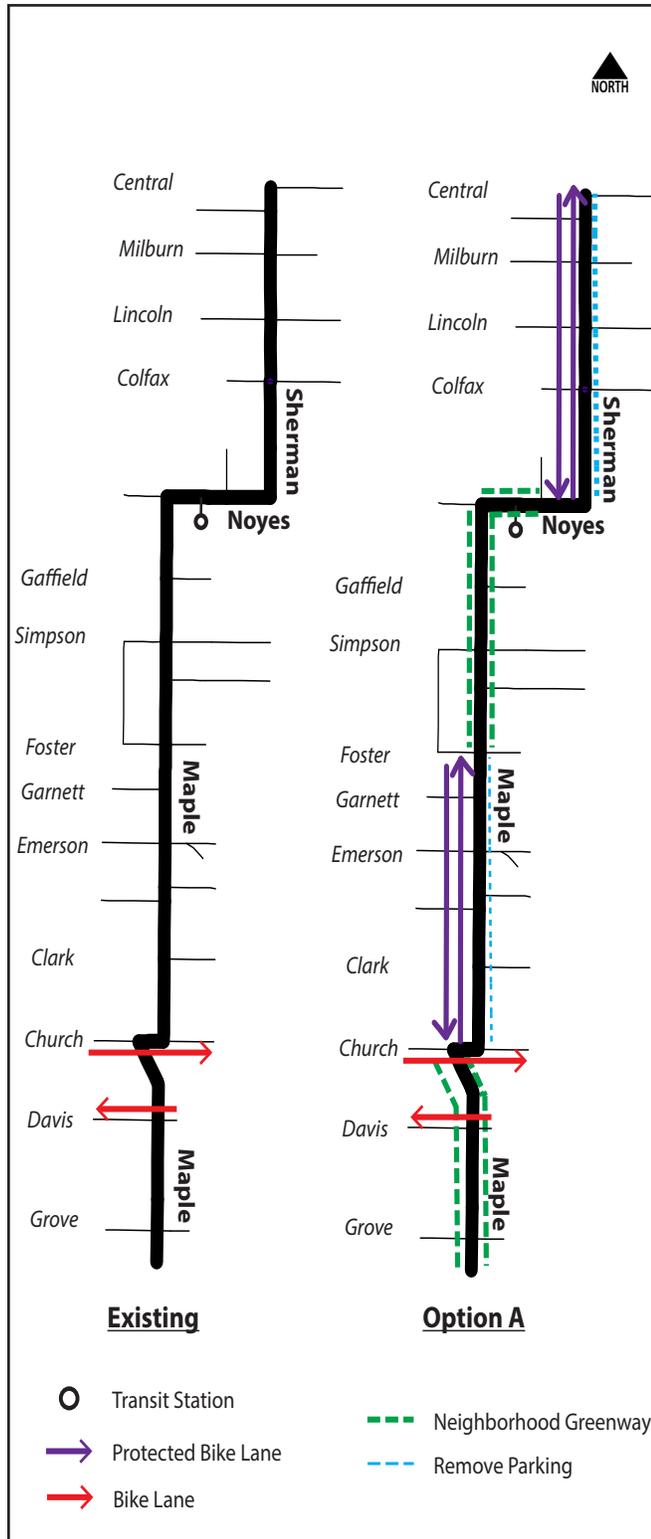
- High parking demand along Poplar Ave. for transit users
- Difficult to access to Poplar Ave.
- Concrete removal needed on west side of the street
- Poplar Ave. ends at Livingston St., becomes alley

Field Data	Green Bay Road	Poplar Avenue
Cross Section	2-way, 4 lanes (Emerson to Isabella)	2-way, 2 lanes with on-street parking
Street Width	50'-65'	40'
Edge Width	5' to 9'	20' to 22' on east side of street
Posted Speed	30 miles per hour	25 miles per hour
Land Use	Primarily neighborhood commercial Some residential Some business district	Residential Transit (Metra Line)
Average Daily Traffic	16,000	Unknown, most likely less than 5,000

9.4 Maple Avenue/Noyes Street/Sherman Avenue - Option A

Preferred Concept: Two-way protected bike lanes on the west side of Sherman Avenue and Maple Avenue and Neighborhood Greenway on Maple Avenue and Noyes Street.

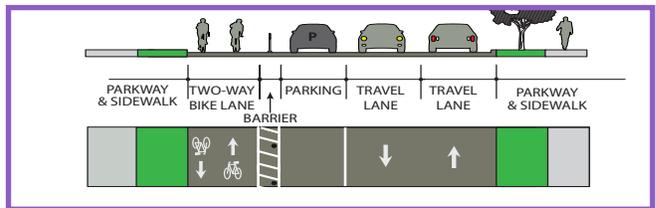
Roadway Diagram



Maple Ave. and Garnett Pl.



Two-way protected bike lane, Image, Angie Schmitt. usa.streetsblog.org



Central to Noyes St. (Sherman Ave.) and Foster to Church St. (Maple Ave.)

Advantages

- Within parking lane, door opens into buffer zone instead of bike lane
- Connection to Purple Line at Noyes St.
- Improved route to business district
- Reduction of vehicle and cyclist conflict

Disadvantages

- Existing bus route on Maple Ave.
- High volume of driveways located along corridor
- Parking restrictions needed at driveways for visibility
- High parking demand

Roadway Changes

- Removal of parking between Central St. and Noyes St.
- Removal of parking between Foster St. and Church St.
- Shift parking away from curb to accommodate a buffered bike lane

Cost

- \$200,000 mile x 1.4 miles = \$280,000

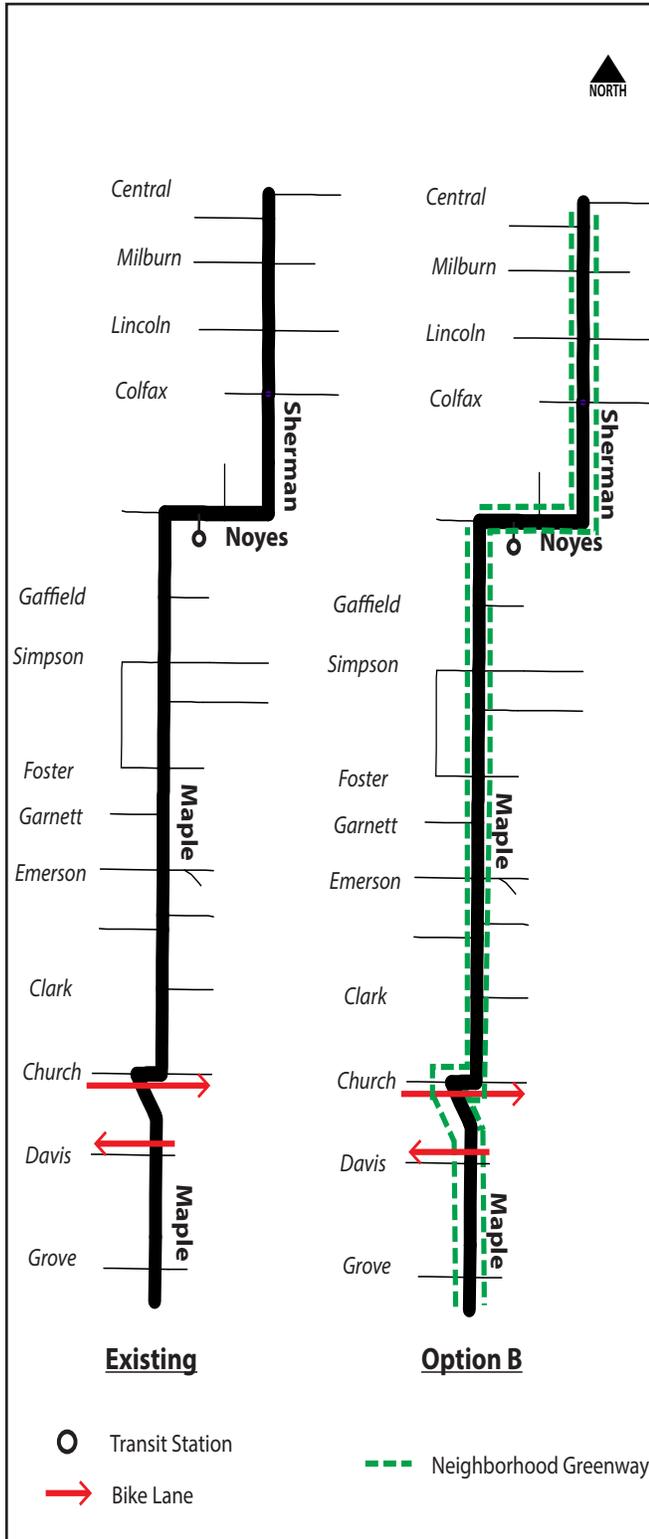
Additional Considerations

- Reconfigure bus route on Maple Ave. to reduce conflicts
- Bike queuing area needed at Church St. and Maple St.
- Parking utilization data needed
- Replacement of on-street parking needed

9.4 Maple Avenue/Noyes Street/Sherman Avenue - Option B

Alternative Concept: Neighborhood Greenway on Sherman Avenue, Maple Avenue, and Noyes Street.

Roadway Diagram



Berteau Avenue Neighborhood Greenway, Chicago. Image CDOT

Roadway Changes

- Significant levels of traffic calming needed

Issues

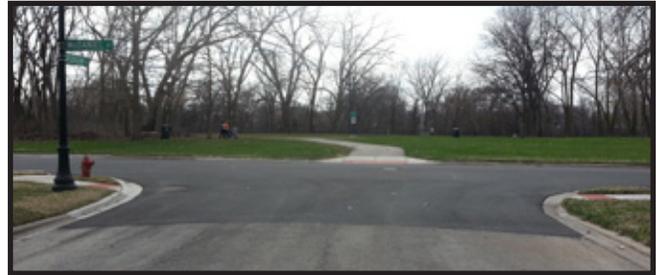
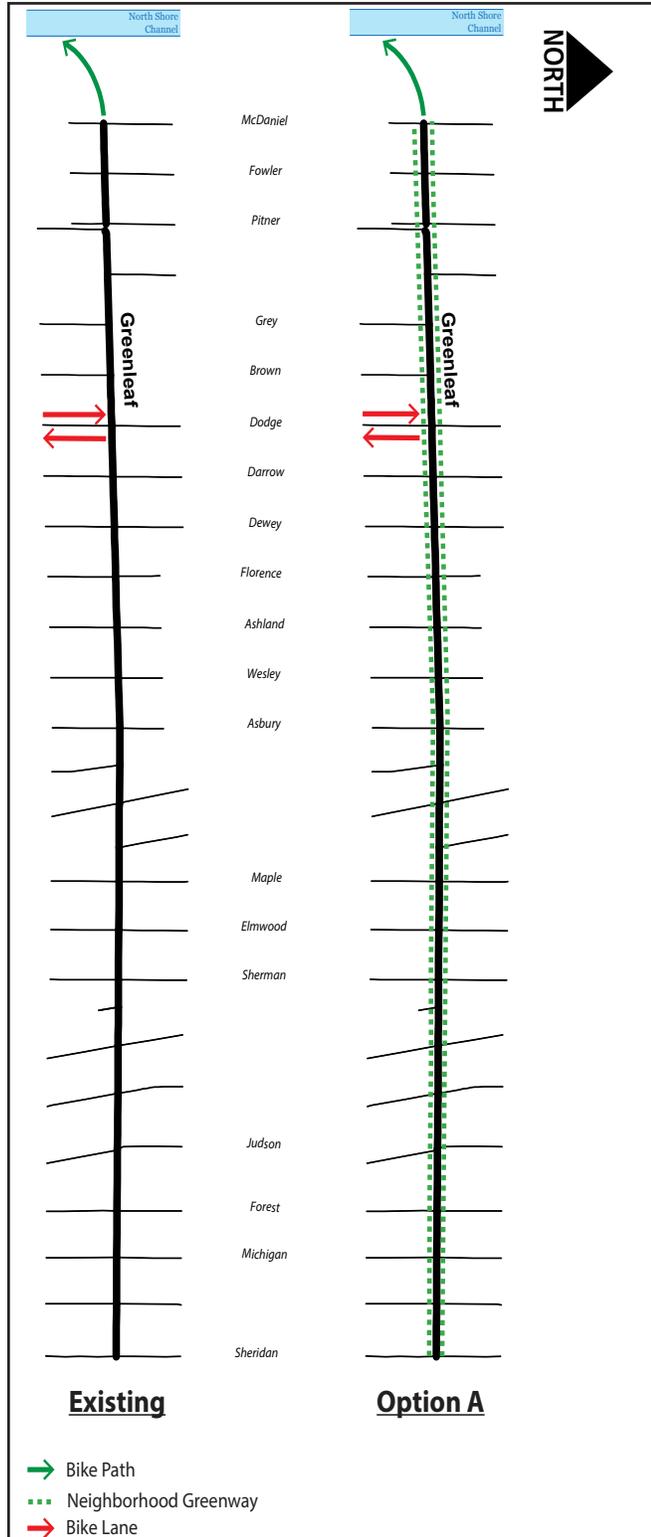
- Traffic studies needed
- Parking utilization needed

Field Data	Maple Avenue/Noyes Street/Sherman Avenue
Cross Section	2-way, 2 lanes with on-street parking on both sides and in some instances only one side
Street Width	36' to 52' (varies between 42', 48', and 52')
Edge Width	5' to 21'
Posted Speed	25 miles per hour
Land Use	Primarily residential Some business district
Average Daily Traffic	Unknown, most likely less than 5,000

9.5 Greenleaf Street - Option A

Preferred Concept: Neighborhood Greenway on Greenleaf Street.

Roadway Diagram



Greenleaf St. and McDaniel Ave. (North Shore Trail Entrance)



Greenleaf St. and Elmwood Ave.



Berteau Avenue Neighborhood Greenway, Chicago. Image CDOT

Advantages

- Low-stress bicycle facility appeals to all ages and abilities
- Connection to North Shore Channel Trail
- Existing traffic circles at Ashland Ave. and Florence Ave. intersections
- Existing bike cut through at Pitner Ave
- Priority given to travel along Greenleaf St
- Improved route to schools and commercial businesses

Disadvantages

- High volume of driveways located along corridor
- Potential high cost

Roadway Changes

- Removal of stop signs along Greenleaf Street to prioritize traffic on Neighborhood Greenway

Cost

- \$425,000 mile x 1.9 miles = \$807,500

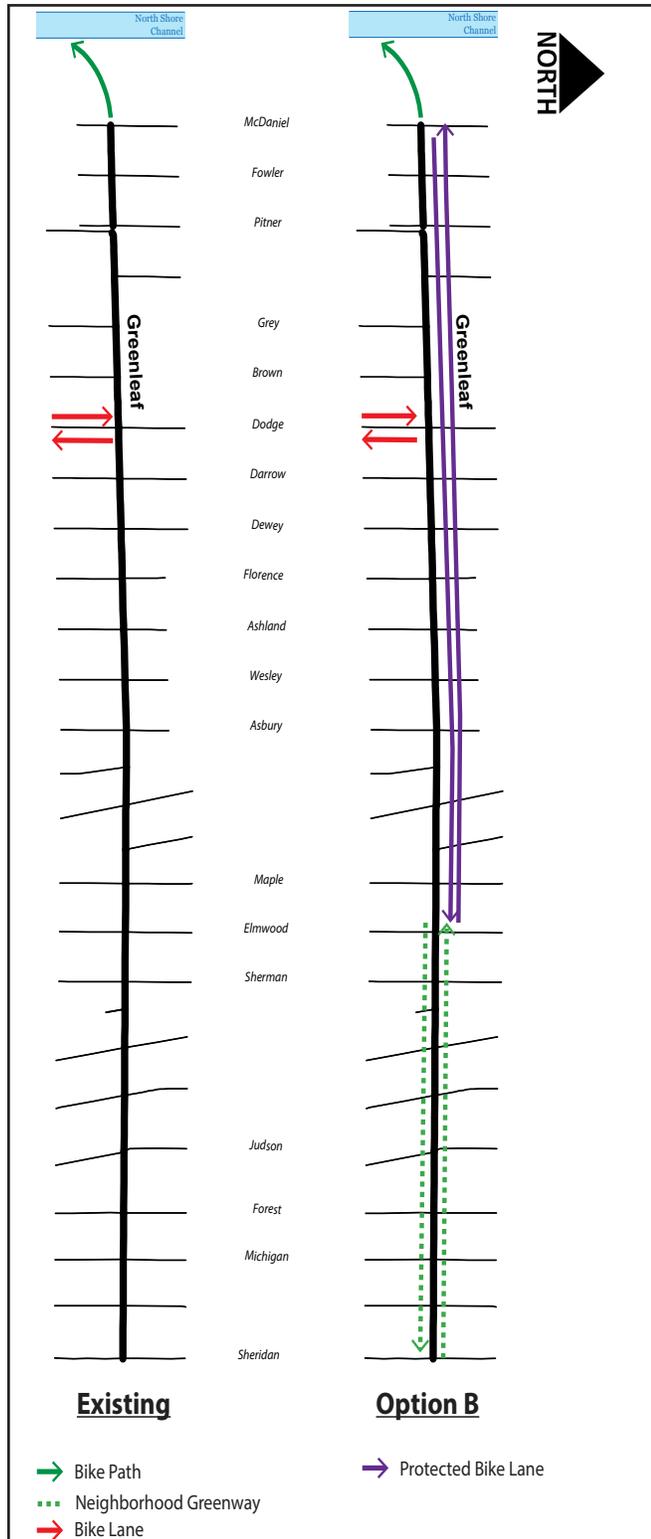
Additional Considerations

- Widen bike cut through at Pitner Ave.
- Traffic diverters at crossing streets (analysis needed)

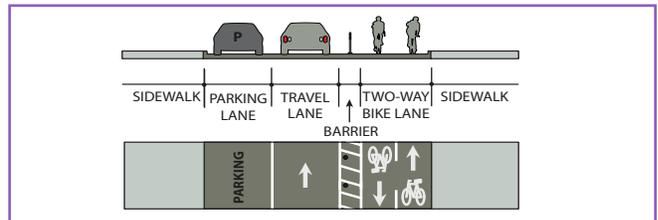
9.5 Greenleaf Street - Option B

Alternative Concept: Two-way protected bike lane and Neighborhood Greenway on Greenleaf Street.

Roadway Diagram



Two-way protected bike lane, Image, Angie Schmitt. usa.streetsblog.org



McDaniel Ave. to Elmwood Ave.

Roadway Changes

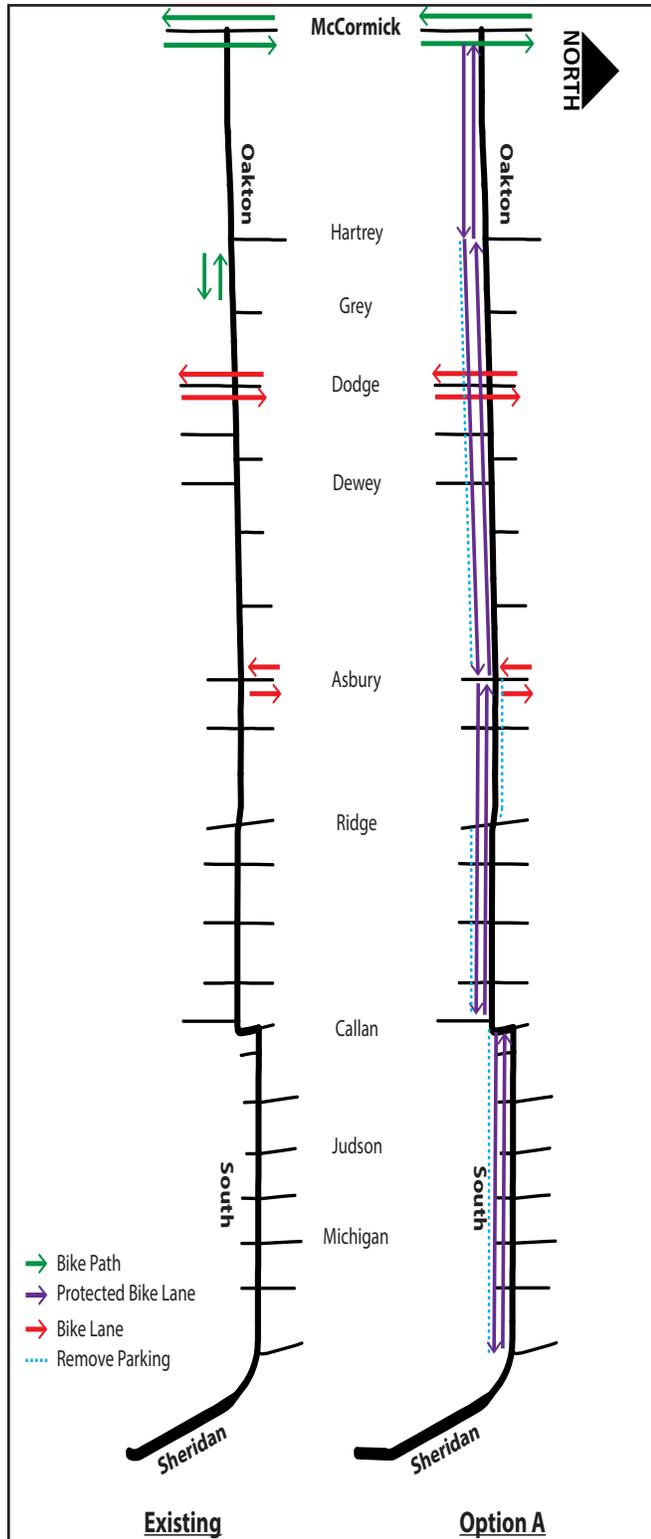
- Greenleaf St. converted to one-way eastbound from McDaniel Ave. to Elmwood Ave.
- Lee St. converted to one-way westbound

Field Data	Greenleaf Street
Cross Section	2-way, 2 lanes with on-street parking on both sides and in some instances only on one side.
Street Width	30' to 32'
Edge Width	9' to 17'
Posted Speed	25 miles per hour
Land Use	Primarily residential, some schools along corridor, some churches, some commercial business
Average Daily Traffic	Unknown, most likely less than 5,000

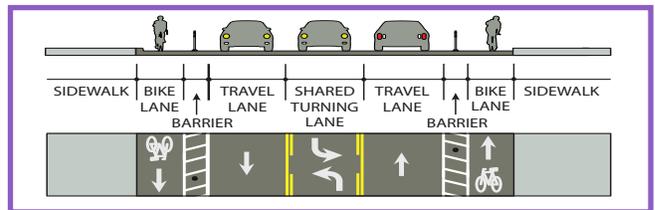
9.6 Oakton Street/Callan Avenue/South Boulevard - Option A

Preferred Concept: Two-way protected bike lanes on the west side of Oakton Street and South Boulevard.

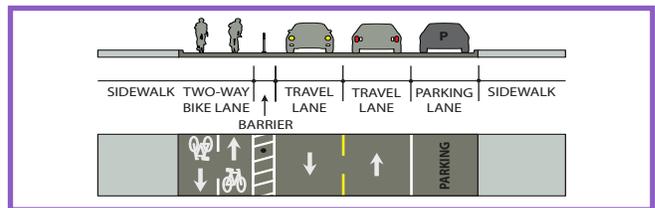
Roadway Diagram



Dearborn St. two-way protected bike lane, Chicago. Image, CDOT.



McCormick Blvd. to Hartrey Ave.



Oakton St. (McCormick to Callan) and South Blvd. (Callan to Sheridan)

Advantages

- Low-stress bicycle facility appeals to all ages and abilities
- Connection to North Shore Channel Trail.
- Connection to CTA Station.
- Improved route to neighborhood schools.
- Reduction of vehicle and cyclist interactions.
- Bicycle traffic concentrated on one side of the street, making behavior and movements more apparent.

Disadvantages

- Parking removal needed to allow for fully separated bicycle facility.
- High demand for on-street parking.
- High volume driveways located along corridor.

Roadway Changes

- Removal of parking needed along Oakton St. to sustain two-way bicycle facility.
- Installation of a two-way left turn lane (road diet) from McCormick Blvd. to Hartrey Ave.

Cost

- \$200,000 mile x 2.2 miles = \$440,000

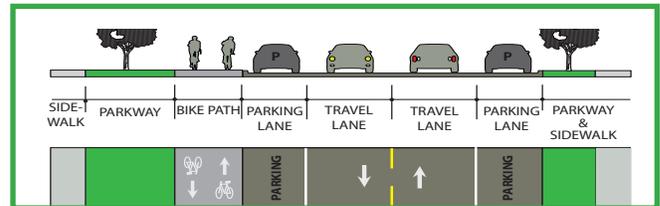
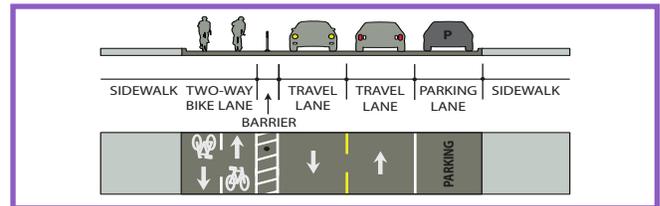
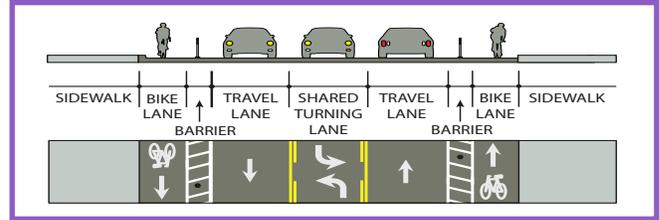
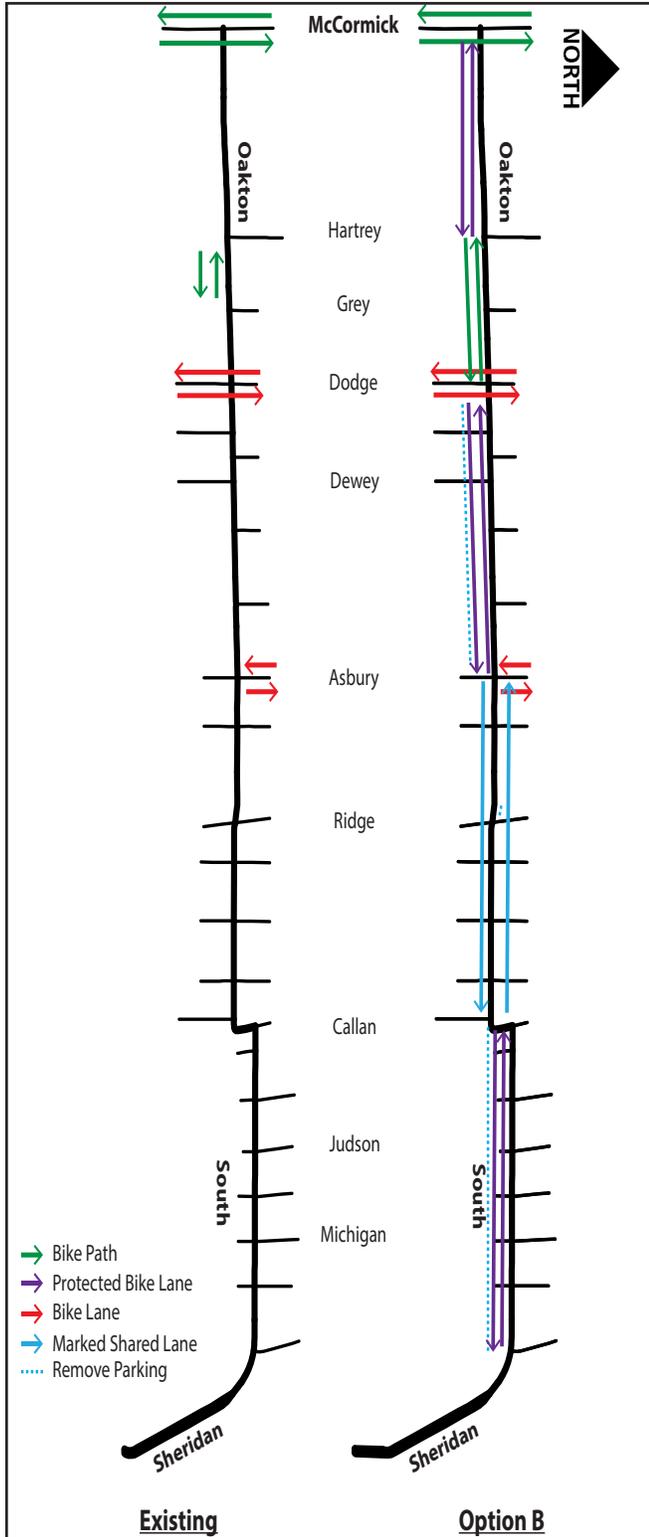
Additional Considerations

- Road diet to remove of a vehicle travel lane for east and west directions from McCormick Blvd. to Hartrey Ave.
- Intersection treatment for North Shore Channel Trail connection.
- Parking utilization data needed.
- Replacement of on-street parking needed.

9.6 Oakton Street/Callan Avenue/South Boulevard - Option B

Alternative Concept: Two-way protected bike lanes on the west side of Oakton Street and South Boulevard and a bike path and marked shared lanes on Oakton Street.

Roadway Diagram



Roadway Changes

- Combination of protected bike lanes, bike paths and marked shared lanes.

Issues

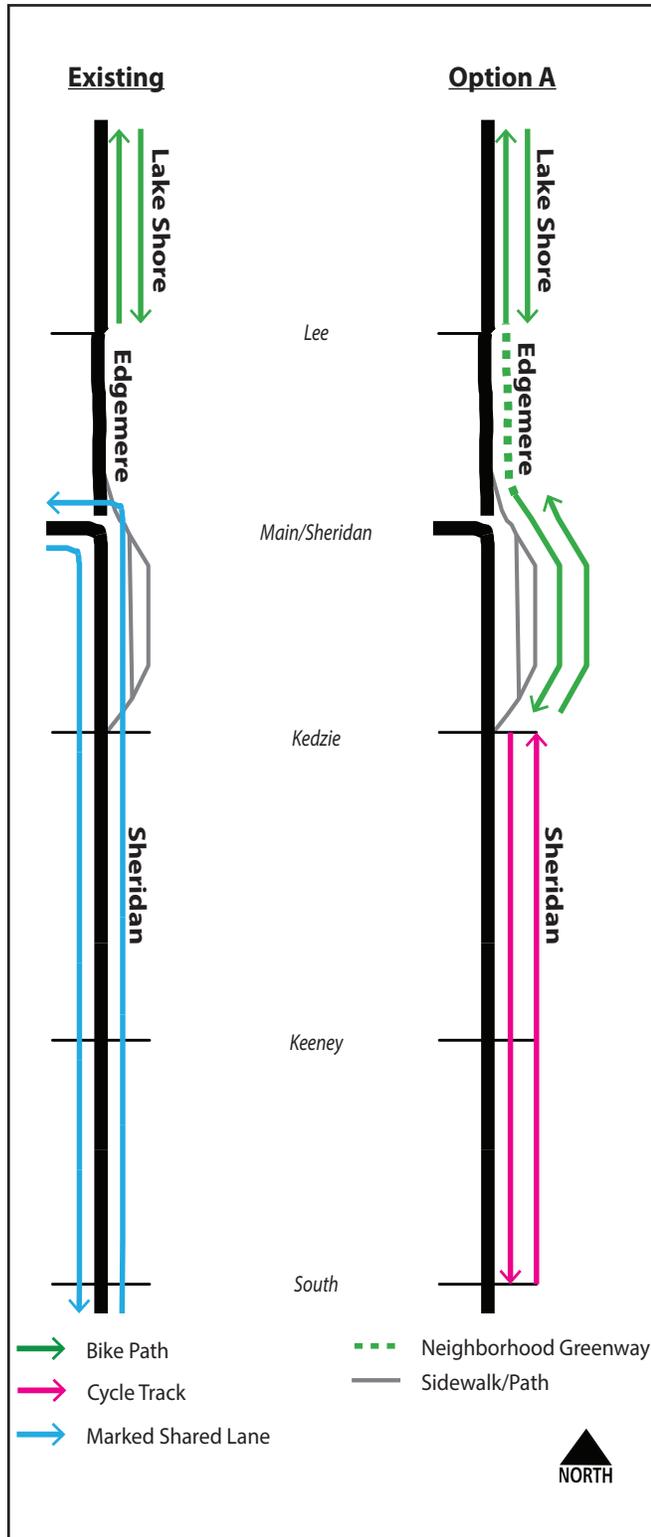
- Difficult transitions for bicyclists from changing facility types.
- Low quality facility from Asbury to Callan.
- Extension of existing bicycle path needed to Dodge.
- Parking utilization data needed

Field Data	Oakton Street/Callan Avenue/South Boulevard
Cross Section	2-way, 2 lanes with on-street parking on both sides and in some instances only on one side.
Street Width	24' to 54'
Edge Width	8' to 24'
Posted Speed	25 miles per hour
Land Use	Primarily residential, some surrounding parks, some schools, some commercial and business
Average Daily Traffic	18,000

9.7 Sheridan Road and Edgemere Court - Option A

Preferred Concept: Raised two-way protected bike lane and bike path on east side of Sheridan Road and a Neighborhood Greenway on Edgemere Court.

Roadway Diagram



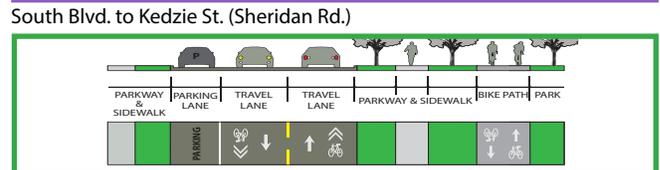
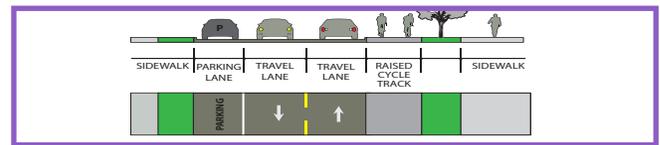
Existing bike path and sidewalk along Sheridan Rd. Image, TYLIN



Bike path and sidewalk, Michael Hicks. Flickr.com/photos/mulad



Raised Cycle Track, Montreal QC.



Main St. to Kedzie St. (Sheridan Rd.)

Advantages

- Uses existing side path
- New connection to the Lake Front Trail
- No trucks on Sheridan Rd.

Disadvantages

- Cost of widening the existing side path
- Avoid mature trees
- Street must be widened to accommodate raised protected bike lane
- High number of driveways along east side of street

Roadway Changes

- Existing travel lanes are narrowed 2 ft. and 4 ft. taken from parkway

Cost

- Side path: \$300,000/mile x 0.1 miles = \$30,000
- Raised protected bike lane: \$1,000,000 mile x 0.32 miles = \$320,000

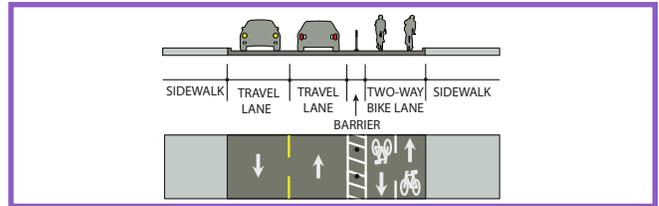
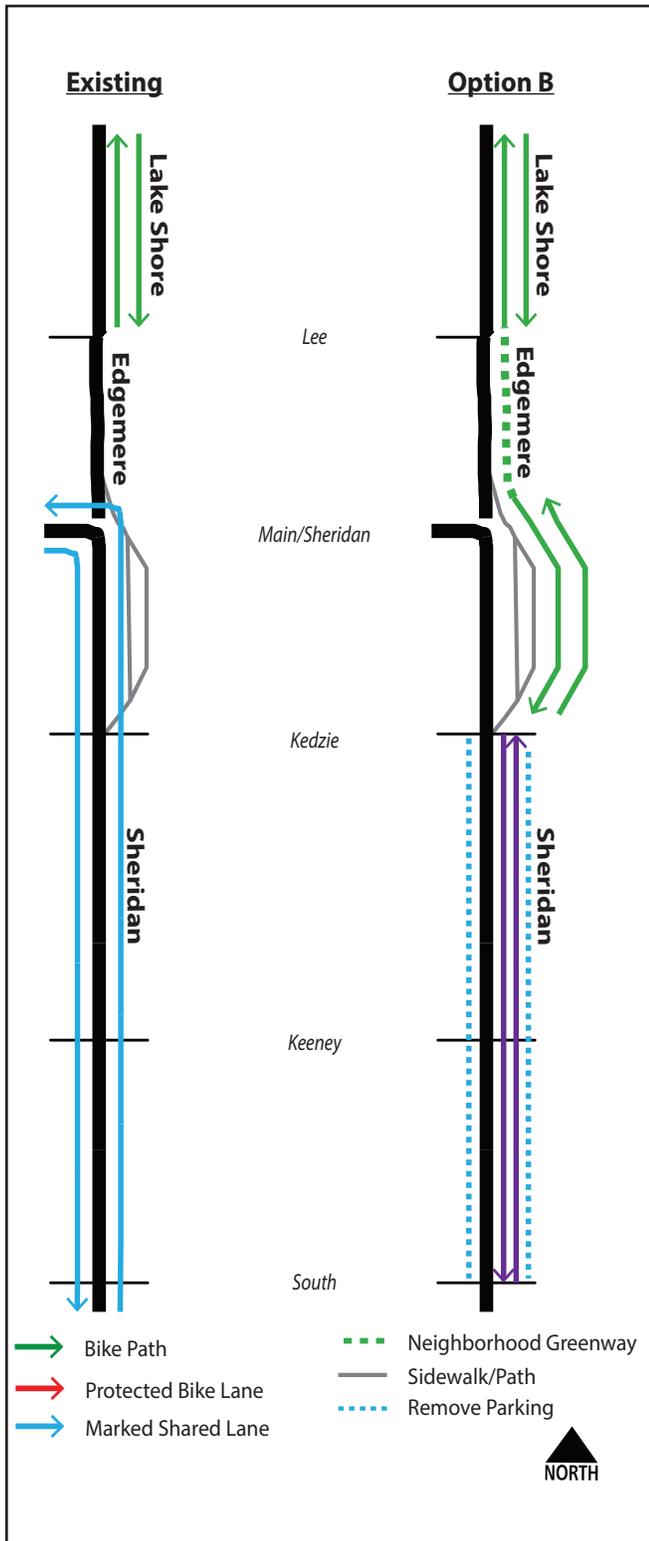
Additional Considerations

- Access to Edgemere Ct. would need to be widened
- Signs and pavement markings needed
- Additional trees needed for median

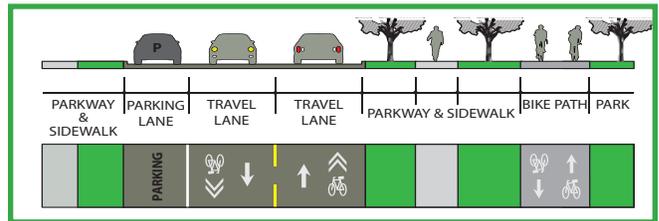
9.7 Sheridan Road and Edgemere Court - Option B

Alternative Concept: Two-way protected bike lane and bike path on east side of Sheridan Road and a Neighborhood Greenway on Edgemere Court.

Roadway Diagram



South Blvd. to Kedzie St. (Sheridan Rd.)



Main St. to Kedzie St. (Sheridan Rd.)

Roadway Changes

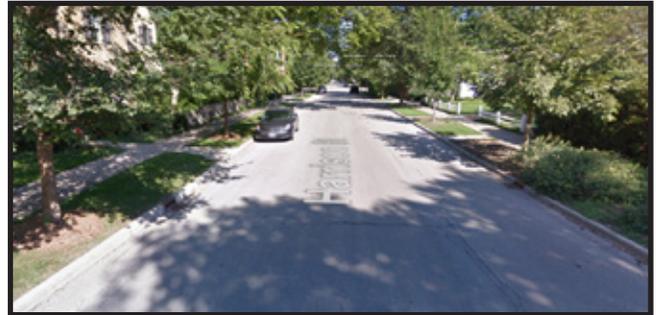
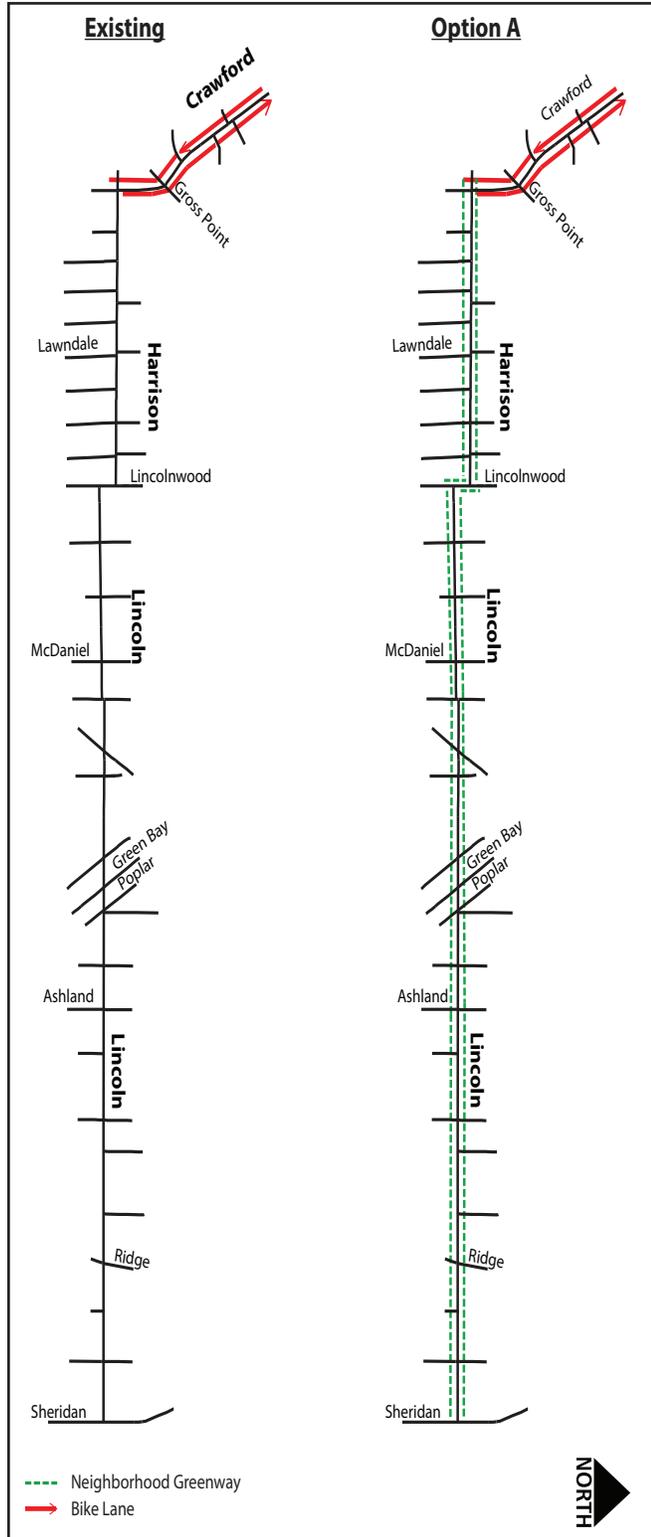
- Remove parking
- Two-way protected bike lane on east side of Sheridan Rd.
- Reconfigure curb extensions

Field Data	Sheridan Road and Edgemere Court
Cross Section	2-way, 2 lanes with on-street parking on west side 2 off-street paths east of roadway. One paved, one gravel.
Street Width	35'
Edge Width	19' to 21' from South Blvd. to Kedzie St. Two 5' sidewalks/paths on the east side of Sheridan Rd.
Posted Speed	30 miles per hour 15 miles per hour speed zone approaching curve
Land Use	Residential with open space/park
Average Daily Traffic	17,000

9.8 Lincoln Street/Harrison Street/Lincolnwood Drive - Option A

Preferred Concept: Neighborhood Greenway on Harrison Street and Lincoln Street.

Roadway Diagram



Harrison St.



Berteau Avenue Neighborhood Greenway, Chicago. Image, CDOT.

Advantages

- Traffic Calming requires minimal changes to Harrison and Lincoln

Disadvantages

- Automobile through traffic limited

Cost

- \$425,000 per mile x 2.64 miles => \$1 million

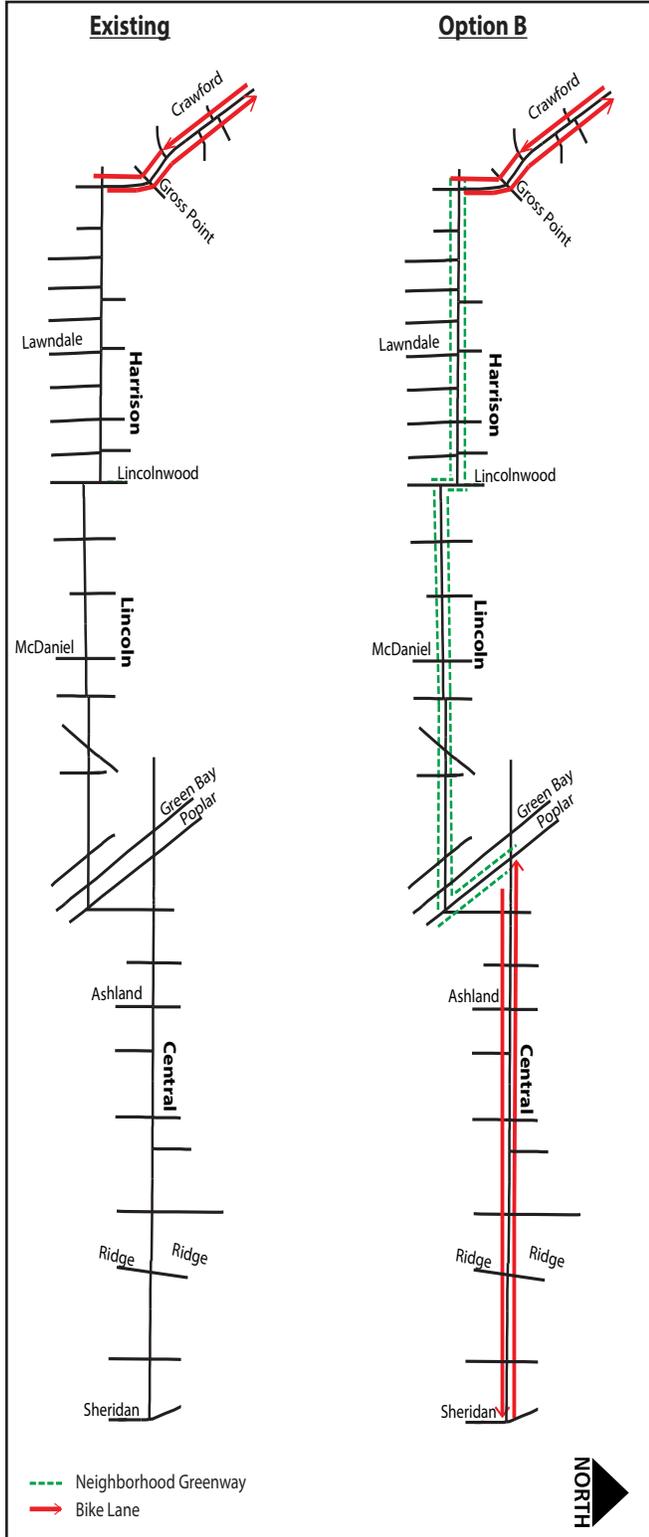
Additional Considerations

- Parking utilization data needed along Neighborhood Greenway

9.8 Lincoln Street/Harrison Street/Lincolnwood Drive - Option B

Alternative Concept: Side path (Lincolnwood to Green Bay) + Neighborhood Greenway (Poplar to Sheridan)

Roadway Diagram



Central St. and Ashland Ave.

Roadway Changes

- Bike Lanes added to Crawford Ave.
- Harrison and Lincoln converted to Neighborhood Greenway

Issues

- Needed

Field Data	Lincoln Street	Harrison Street
Cross Section	2-way, 2- lanes	2-way, 2- lanes with on-street parking on both sides
Street Width	25'	29'
Edge Width	34'	9' to 15'
Posted Speed	Needed	25mph
Land Use	Residential with open space/park School at Green Bay Road	Residential with open space/park
Average Daily Traffic	xxx	xxx

10. Policy and Program Recommendations

10.1 Introduction

The following policy and program recommendations were developed through the community engagement process, and discussions with the Steering Committee, Advisory Committee, and City of Evanston staff.

Recommendation #1 Bicycle Parking Program

1A. Incorporate bicycle parking into bicycle and roadway projects.

The City should incorporate bicycle parking as part of all roadway projects, and install bicycle parking infrastructure based on design and installation guidelines (See **Section 5**).

Currently, the City installs bicycle parking as part of streetscape projects and major road reconstruction. This practice should continue, and additional considerations should be made to retrofit existing streets with bicycle parking upon request. The bicycle parking installation program outlined in the next section addresses this.

1B. Add additional bicycle parking along all bicycle routes in Evanston.

The City should install and upgrade bicycle parking infrastructure along the City's signed bicycle routes, bike lanes, and bike paths in Evanston. These should be focused on major destinations, including major employers, transit stations, and recreation destinations.

Bicycle parking was reviewed as part of the corridor analysis phase in order to identify opportunities for new or improved bicycle parking facilities.

Bicycle parking should be installed in accordance with design guidelines (**Section 5**) which identify land use and other factors to help identify the most appropriate style of bicycle parking infrastructure.

1C. Expand City Web Page to create a one-stop location for all bicycle transportation-related information in Evanston.

The City of Evanston currently has a bicycle transportation web page and should further develop it to contain all ordinances, programs, and activities related to bicycling.

For example, the City of Portland has a web page dedicated to the bicycle parking infrastructure it owns and maintains, a list of programs and policies related to bicycle

transportation, and design guidelines.

Current Web Page

www.cityofevanston.org/sustainability/transportation/biking/

Best Practice

www.portlandoregon.gov/transportation/article/481836

1D. Develop a mechanism for bicycle parking requests.

The City should implement a program to enable residents, property and business owners to request bicycle parking in publicly-owned areas in Evanston.

The City of Evanston 311 system provides a mechanism for implementing this type of program. An example of this program can be seen at the City of Chicago 311 website, which currently offers this program.

Current Web Page

www.cityofevanston.org/311-service/index/

Best Practices

City of Chicago

www.chicagobikes.org/bikeparking/

1E. Revise ordinances to include bicycle parking requirements.

The City should update the Evanston City Code Section 6-16-2-11 to include requirements for bicycle parking as a condition of development¹.

Flexibility should be permitted in the off-street automobile parking requirements to facilitate a partial substitution of high-quality bicycle parking such as bike lockers or indoor bicycle parking in lieu of off-street automobile parking. Also, bicycle parking could be added in lieu of automobile parking especially near transit stations.

1F. Implement public-private partnerships as a means of funding bicycle parking.

The cost of installing bicycle parking could be shared between property owners and the City, or may be funded

¹ Section 6-16-2-11. Bicycle Parking Facilities: "New public, hospital, university or college buildings, and shopping centers shall provide bicycle parking facilities if required by the Site Plan and Appearance Review Committee."

through public-private partnerships. Bicycle parking requests should be reviewed in context of existing bicycle parking facilities nearby, as well as upcoming development projects that may provide opportunities for coordination to help offset installation costs.

Recommendation #2 Safety, Security, and Awareness Program

2A. Develop a bicycle security and theft prevention campaign.

The safety and security campaign should be targeted to bicyclists of all ages but should emphasize proper locking procedure for bicycles in public areas, at home, and among age groups for which bicycle ownership is high, including college students.

Since the majority of bicycles reported stolen in Evanston are taken from the home, a key component of the program should be to educate bicyclists about keeping their bicycle locked up even when at home. This campaign would involve coordination with the Evanston Police Department.

The City of Evanston's bicycle safety website is a best practice with regard to bicycle-related safety information currently developed by and for the City.

The University of California Davis, also is considered a best practice for its bicycle program web page.

Current Web Site
City of Evanston
www.cityofevanston.org/sustainability/transportation/biking/bike-safety/

Best Practice
University of California, Davis
taps.ucdavis.edu/bicycle

2B. Continue the Safe Routes to School program.

The City should continue its commitment to improving Safe Routes to School and coordinate bicycle improvements with school officials.

2C. Develop a safety awareness program to reduce unsafe bicycling and driving habits.

After a lack of adequate infrastructure for bicycling, the citizen engagement process revealed that unsafe driving and bicycling habits were of most concern in Evanston. The City should develop a safety and awareness program to help educate all roadway users of proper habits, procedures, and etiquette.

The target audience for this program should be all roadway users, and materials developed within this program should emphasize addressing the challenges identified from the online survey, including:

- Increase awareness of proper riding procedures
- Increase awareness of proper shared lane and three-foot passing rules
- Reduce wrong-way bicycling
- Reduce sidewalk riding where prohibited
- Reduce number of bicyclists that ignore or are unaware of existing traffic laws
- Reduce distracted driving by motorists

The program should include frequent and repeated media and community engagement campaign activities and press releases that target each different group of roadway users.

Campaign materials that are developed should be published and posted where they can be seen by roadway users in a variety of environments, such as through advertisements on CTA and Pace buses that operate in Evanston, benches, bumper stickers, in shopping districts, and on the City's website. The release of press releases and campaign materials should coincide with major holidays as well as the beginning and end of the school year.

Cities that were reviewed during the Best in Class Analysis are good examples of cities with bicycle safety and awareness programs, including the University of California at Davis and Boulder Colorado.

Best Practice
University of California, Davis
taps.ucdavis.edu/bicycle/education/safety

Boulder, Colorado
bouldercolorado.gov/goboulder/bike-safety

2D. Conduct annual traffic crash and incident review to identify key locations for bicycle improvements.

The City should consider conducting a more thorough analysis of the contributing factors to crashes involving bicyclists and motorists in an ongoing effort to improve

roadway safety.

During the course of the planning analysis, many community members inquired how crash data compared to exposure data, or if before-and-after studies could be conducted to improve transportation network safety for all roadway users. Unfortunately, this information was not available and obtaining it was beyond the scope of the Evanston Bicycle Plan Update. However, as improvements are completed, the City should conduct studies to review crash data to identify crash trends following implementation.

“Ferndale Moves,” a data portal operated by the City of Ferndale, Michigan is considered a best practice for its interactive map of bicycle crashes.

Best Practice
Ferndale, Michigan
ferndalemoves.com/analysis/pedestrian-crashes/

Recommendation #3 Marketing and Encouragement Representative

The City currently hosts events to encourage and support bicycling. These should continue, and the City should work to identify a primary staff or stakeholder for the role of Bike Ambassador. This person would be responsible for coordinating bicycle encouragement and education activities in Evanston.

The Ambassador should work with the Evanston Bicycle Club and the Active Transportation Alliance in order to assist with community engagement activities and to develop campaign materials specific to Evanston.

Marketing materials that are developed as part of this campaign should emphasize the current strides that Evanston has made to encourage and support bicycling. The Ambassador should coordinate with the Evanston departments of Public Works, Environment, Community and Economic Development, Health, and Police.

New and upcoming bicycle projects should continue to be accompanied by press events and informational materials that outline the improvements and benefits that are expected to accrue to all roadway users. Special events should continue to be held that showcase recently completed projects and provide Evanston residents and visitors with opportunities to bicycle in low-stress environments.

The City of Chicago has Bike Ambassadors who are employed through the Active Transportation Alliance.

Best Practice:
 City of Chicago
chicagocompletestreets.org/your-safety/education-encouragement/ambassadors/

Recommendation #4 Bicycle Database

Currently, the City collects bike count data once or twice a year at a variety of locations around Evanston. However, the demand for bike traffic data is outpacing the City’s ability to collect it. The City should expand the scope of this program and keep bike count data in a centralized location and sorted by date.

The traffic count forms that were used for this Bike Plan Update were provided to the City as a first step toward implementing this program. This data can be used to identify where bicycle improvements would provide the most benefit to existing and potential bicyclists in Evanston, and can be used to focus marketing and encouragement efforts in areas to help encourage increases in ridership.

11. Implementation and Funding Strategy

11.1 Introduction

Implementation of policy and program recommendations involves Evanston City staff time and coordination with stakeholder groups, elected officials, and ongoing citizen engagement.

In addition, construction of additional bicycle facilities will require further planning, as well as design and construction.

Currently, the City implements one to two major bicycle projects in a year. The objective of this implementation strategy is to grow the program as grant funding obtained, allowing the City to implement projects, policies, and programs with outside funding. Through the use of outside funds, the City can grow or shrink the program as needed without relying primarily on local funds.

The following funding sources are presented based on their ability to provide funding for infrastructure projects, policies, or programs.

11.2 Bicycle Parking

The installation of bicycle parking should be achieved primarily through public private partnerships. The most direct application of this is by making bicycle parking a condition of development. The City should remain flexible when working with developers to ensure that bicycle parking solutions draw from the best practices in **Section 5** and are evaluated on a project-by-project basis.

In Downtown Evanston, bike parking should be installed as a condition of development. Storefront bike parking racks, bike corrals at major destinations, and in-building bicycle parking should be provided. The use of automobile parking structures owned by the city provides flexibility downtown.

Outside of the downtown, Evanston should be permitted to work with developers to provide bicycle parking in lieu of off-street automobile parking or as an offset for other development incentives. These incentives should be negotiated on a project-by-project basis, as well.

At transit stations, on City property, and at major destinations, relying on the private sector to provide bicycle parking is not feasible. In these instances, the City should apply for funding to install bicycle parking directly. The following funding programs are recommended:

- **Congestion Mitigation and Air Quality Improvement Program (CMAQ).** Grant funds from this program are available to Evanston in accordance with the Clean Air Act and Moving Ahead for Progress in the 21st Century (MAP-21). The Evanston Bike Plan Update provides documentation for Evanston's continued commitment to reducing congestion and improving air quality by diversifying transportation options in Evanston. The application period for year 2014-2018 funding has closed and will reopen when the year 2019-2022 application period opens.
- **Surface Transportation Program (STP).** STP funds are a major source for transportation spending. Adding bicycle improvements on top of roadway resurfacing or reconstruction projects is among the most cost-effective way to add bicycle facilities.
- **Transportation Alternatives Program (TAP).** The transportation alternatives program is a funding program that sets aside 2% of the total amount of the Highway Trust Fund for highways each year to be spent towards bicycle and pedestrian projects. Source: fhwa.dot.gov/map21/guidance/guidetap.cfm
- **Tax Increment Financing (TIF) Funding.** TIF funds often are used for streetscape improvements, and bicycle parking is recommended as a standard feature that should be included in these projects. TIF funds also can be used for strategic installation of bicycle parking.
- **Tourism Attraction Development (TAP) Grant Program.** Funded by the Illinois Department of Commerce and Economic Opportunity (DCEO), this program provides 50/50 match funding to assist counties, municipalities, and other organizations in the development of tourist attractions in Illinois.

11.3 Bicycle Safety and Awareness

Implementing the bicycle safety and security program involves the City of Evanston, the Evanston Police Department, and several public stakeholders. The following funding programs are recommended:

- **Injury Prevention Program.** The Illinois Department of Transportation (IDOT) provides funding to municipalities and school districts for the purposes of providing educational presentations aimed at reducing injuries sustained in traffic crashes. The City of Evanston

is eligible to apply for the purposes of implementing the bicycle safety awareness campaign, or to include bicycle safety awareness campaign educational components in an overall transportation safety and awareness campaign.

- **Sustained Traffic Enforcement Program (STEP).** This program facilitates increased enforcement related to reducing impaired and distracted driving, and provides funding for police departments through hire back enforcement. Recipients of these grant funds must provide enforcement detail during major holidays. Bicycle safety education components - those targeted to motorists, drivers, and pedestrians - should be included in enforcement campaigns funded by STEP.
- **Safe Routes to School (SRTS) Program.** Evanston already participates in the SRTS program, which provides infrastructure funding as well as education and assistance in programs related to encouraging bicycling to school. Pavement markings, signs, increased presence of crossing guards, and coordination with schools to develop “walking or bicycling school buses” can be funded through SRTS. Funding can cover 100% of a project or program and requires no local match.

11.4 Bicycle Marketing and Encouragement

Marketing and encouragement activities should be coordinated by the Bike Ambassador.

The marketing and encouragement representative should be responsible for developing marketing materials. This consists primarily of press releases and information to post to the City’s web page. The Evanston Bicycle Club and other stakeholders also should be considered partners in the development and distribution of marketing and encouragement messages.

Printed marketing material or advertising on CTA and Pace buses should be considered on a case-by-case basis or should be combined with safety and awareness campaign messages as part of the IDOT Injury Prevention Program.

11.5 Bicycle Database Implementation

The Bicycle Database should be developed in-house by City staff working on the bicycle program. The City employs interns on a seasonal basis to collect traffic data around the City, including bicycle and automobile data. The City should continue to compile this data into a database and pursue development of an online, map-based tool for improved

access to the data. Google Maps provides this free service online, and allows the City to upload and modify its data as it is collected.

11.6 Bicycle Facility Implementation

The City of Evanston plans to implement one or two new bicycle facilities each year. An emphasis should be placed on developing the comfortable corridors identified in Section 9 to benefit existing and potential bicyclists.