Northwest Municipal Conference

Multimodal Transportation Plan

March 2020

ACKNOWLEDGEMENTS

Plan developed by the Northwest Municipal Conference and the Chicago Metropolitan Agency for Planning.

Members of the project Steering Committee are as follows:
Active Transportation Alliance
Barrington
Chicago Transit Authority
Cook County Department of Transportation and Highways
Des Plaines
Evanston
Forest Preserve District of Cook County
Fox Lake
Glenview
Hoffman Estates
Illinois Department of Transportation
Lake County Department of Transportation
Lincolnwood
Metra
Mount Prospect
Niles
Northbrook
Pace
Ride Illinois
Rolling Meadows
Schaumburg
Streamwood
Wheeling

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DISCLAIMER: The motor vehicle crash data referenced herein was provided by the Illinois Department of Transportation. Any conclusions drawn from analysis of the aforementioned data are the sole responsibility of the data recipient(s). Additionally, for coding years 2015 to present, the Bureau of Data Collection uses the exact latitude/longitude supplied by the investigating law enforcement agency to locate crashes. Therefore, location data may vary in previous years since data prior to 2015 was physically located by bureau personnel.

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INTRODUCTION

NWMC IN NUMBERS

43 member communities

1.2 million people

800,000 jobs

>350 square miles

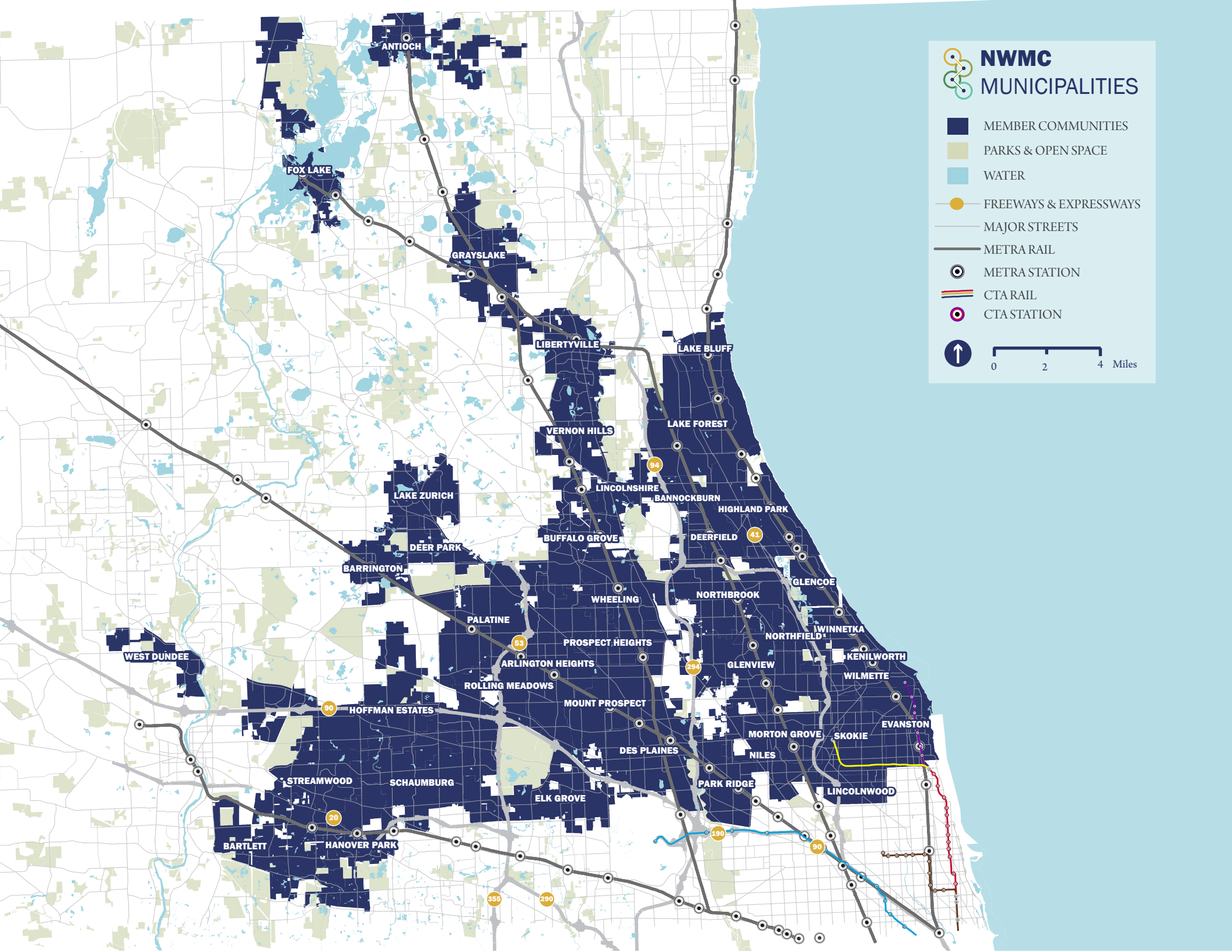
The Northwest Municipal Conference (NWMC) serves more than 1.2million citizens residing in 42 municipalities and 1 township. The membership area covers over 350 square miles in Cook, DuPage, Kane, Lake and McHenry counties. Since its founding, the NWMC has evolved from a small local forum to address specific issues such as securing parking at commuter rail stations. Today, the NWMC is a multi-faceted organization that provides its members not only a platform to address issues of regional concern but also a variety of programs and services designed to strengthen their individual communities.

NWMC MEMBERS

- Antioch
- Arlington Heights
- Bannockburn
- Barrington
- Bartlett
- Buffalo Grove
- Deer Park
- Deerfield
- Des Plaines
- Elk Grove Village
- Evanston
- Fox Lake
- Glencoe
- Glenview
- Grayslake
- Hanover Park
- Highland Park
- Hoffman Estates
- Kenilworth
- Lake Bluff
- Lake Forest
- Lake Zurich
- Libertyville
- Lincolnshire
- Lincolnwood
- Morton Grove
- Mount Prospect
- Niles
- Northbrook
- Northfield
- Northfield Township
- Palatine
- Park Ridge
- Prospect Heights
- Rolling Meadows
- Schaumburg
- Skokie
- Streamwood
- Vernon Hills
- West Dundee*
- Wheeling
- Wilmette
- Winnetka

For more information on NWMC and its member communities, please visit www.nwmc-cog.org.

*Municipality joined the Conference near the end of planning effort and excluded from some analysis.


NWMC
MUNICIPALITIES
MEMBER COMMUNITIES
PARKS & OPEN SPACE
WATER
FREEWAYS & EXPRESSWAYS
MAJOR STREETS
METRA RAIL
METRA STATION
CTA RAIL
CTA STATION
0
2
4
Miles
ANTIOCH
FOX LAKE
GRAYSLAKE
LIBERTYVILLE
LAKE BLUFF
VERNON HILLS
LAKE FOREST
LINCOLNSHIRE
BANNOCKBURN
HIGHLAND PARK
LAKE ZURICH
BUFFALO GROVE
DEERFIELD
DEER PARK
BARRINGTON
GLENCOE
WHEELING
NORTHBROOK
PALATINE
WINNETKA
NORTHFIELD
PROSPECT HEIGHTS
WEST DUNDEE
KENILWORTH
ARLINGTON HEIGHTS
GLENVIEW
WILMETTE
ROLLING MEADOWS
MOUNT PROSPECT
HOFFMAN ESTATES
EVANSTON
MORTON GROVE
SKOKIE
DES PLAINES
NILES
STREAMWOOD
SCHAUMBURG
PARK RIDGE
LINCOLNWOOD
ELK GROVE
BARTLETT
HANOVER PARK
94
41
53
294
90
20
190
90
355
290

NWMC & MULTIMODAL PLANNING

Identify priority bicycle corridors to better connect the region's existing system of trails and create a comprehensive bicycle network that is safe and comfortable for people of all ages and abilities.

Evaluate sidewalks along major roads and surrounding transit stops to identify key gaps.

Analyze the issues that make it difficult for people to walk and bike to CTA, Metra, and Pace stations and identify scalable solutions that can be used throughout the region.

Planning safe and comfortable mobility - for all ages and abilities

The NWMC works to strengthen communities and enhance intergovernmental cooperation amongst its members. While investment in road and transit improvements are major components of the NWMC's strategy to improve mobility in the region, the NWMC also emphasizes the importance of non-motorized transportation options for those traveling within and between communities. An emerging system of bicycle and pedestrian facilities—some connected and others isolated—can be found throughout the area and are maintained by municipalities, forest preserve districts, townships, and county agencies.

There is a growing need to provide a safe, cohesive network of facilities for people walking, biking, and accessing transit throughout the region. Increasing numbers of NWMC residents and workers desire safe access to destinations – from children biking to schools and parks, to senior citizens who are no longer able to drive, to healthy adults tired of sitting in traffic. More people are walking and biking to get around their communities and combining walking and biking with transit to access the wider region. By providing communities with more information and tools for multimodal transportation planning, the NWMC aims to improve mobility across the region while also addressing safety issues, improving environmental and health outcomes, fostering a climate for economic development, and creating a more equitable region.

The NWMC Multimodal Plan builds upon the Conference's previous bicycle plans and expands the focus to include people walking and those who walk or bike to access transit. In addition to analyzing conditions throughout the region, the NWMC Multimodal Plan includes a toolbox of design and policy strategies to improve the experience of people walking, biking, and accessing transit and guidance on how to implement more projects throughout the region.

The NWMC cares about multimodal planning as it affects health, environment, equity, economic development, and safety.

Note: All following statistics are for the NWMC region.

HEALTH

MANY NWMC POPULATIONS DO NOT GET ENOUGH PHYSICAL ACTIVITY, CONTRIBUTING TO GROWING OBESITY RATES (BRFS, 2014)

62% OF THE POPULATION IS OVERWEIGHT AND/OR OBESE

22% OF THE POPULATION DOES NOT GET ENOUGH EXERCISE

ENVIRONMENT

THE NWMC REGION FACES SIGNIFICANT ENVIRONMENTAL CHALLENGES (EPA, 2018).

95th PERCENTILE FOR FINE INHALABLE PARTICLES (PM2.5)

81st PERCENTILE FOR TRAFFIC PROXIMITY (VOLUME OF TRAFFIC AND DISTANCE FROM ROADS)

EQUITY

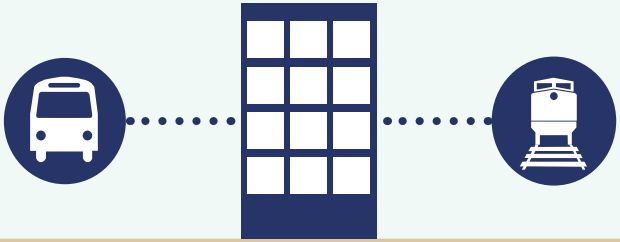
THERE ARE SIGNIFICANT POPULATIONS ACROSS THE NWMC THAT ARE MORE RELIANT ON WALKING, BIKING, AND TRANSIT TO GET AROUND (US CENSUS BUREAU, 2018).

25,000 HOUSEHOLDS WITHOUT ACCESS TO A VEHICLE

39% OF THE POPULATION IS UNDER 18 OR OVER 65 YEARS

ECONOMIC DEVELOPMENT

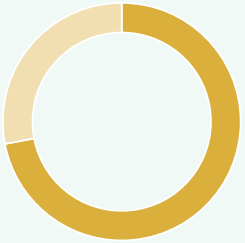
ACCESS TO TRANSIT IS BECOMING INCREASINGLY CRITICAL TO ATTRACT BUSINESS AND TALENT. MORE BUSINESSES ARE LOCATING NEAR TRANSIT TO ACCESS LARGER LABOR POOLS, INCREASE BUSINESS RESILIENCY, AND ATTRACT SPECIFIC CATEGORIES OF EMPLOYERS.



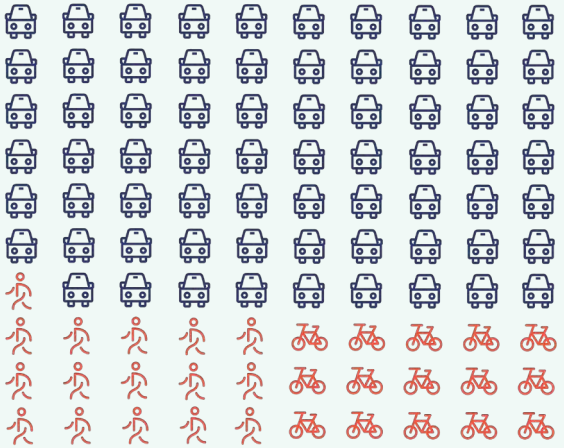
SAFETY

PEOPLE WALKING AND BIKING ARE DISPROPORTIONATELY AFFECTED BY TRAFFIC CRASHES (IDOT, 2018).

494 TRAFFIC CRASHES FROM 2013-2016 WHERE A PERSON WALKING OR BIKING WAS KILLED OR SERIOUSLY INJURED



72% OF CRASHES INVOLVING A PERSON WALKING/BIKING RESULT IN A SERIOUS INJURY OR FATALITY



31% OF ALL FATALITIES INVOLVE A PERSON WALKING OR BIKING

EXISTING CONDITIONS

BICYCLING IN THE NWMC

The NWMC region is served by a number of major trails that form the backbone of the NWMC bicycle system. The four multi-use paths along the Fox River, Des Plaines River, North Branch of the Chicago River and the lakefront collectively travel from the city of Chicago north to the Illinois-Wisconsin border. All of the trails provide a comfortable bicycling experience for people of all ages and abilities and, aside from a few small gaps, are completed.

Many NWMC residents ride a bike regularly. An online survey found that one in three respondents ride a bike to school, work, or to run errands during the summer months. However, despite the high levels in ridership, 74% of respondents would ride more frequently if local roadways were safer or more comfortable.

[Above] The lakefront corridor's Robert McClory Trail. Image source: Sam Schwartz Consulting

FOX RIVER TRAIL

The Fox River Trail follows the Fox River and three former railroads. While the 43-mile trail does not directly intersect with NWMC communities, it serves as an important north-south connector.

DES PLAINES RIVER TRAIL

The 51-mile trail runs along the Des Plaines River from River Grove north to the state border. The multi-use path intersects several counties.

NWMC members: Buffalo Grove, Des Plaines, Libertyville, Lincolnshire, Park Ridge, Prospect Heights, Mt. Prospect, Northfield Township, Vernon Hills, and Wheeling

NORTH BRANCH TRAIL

Beginning in the city of Chicago, the North Branch trail follows the Chicago River north to the Botanic Gardens on the border of Cook and Lake counties. The 24-mile multi-use path is a short distance to the region's lakefront trails.

NWMC members: Glencoe, Glenview, Highland Park, Morton Grove, Niles, Northbrook, Northfield, Skokie, Wilmette, and Winnetka

LAKEFRONT TRAILS

Following near the Lake Michigan shoreline, the lakefront communities have a series of multi-use paths including the North Shore Channel Trail, Green Bay Trail and the Robert McClory Trail. Together, the paths create a unique 45-mile bicycle corridor.

NWMC members: Evanston, Glencoe, Highland Park, Kenilworth, Lake Bluff, Lake Forest, Wilmette, and Winnetka

Major trails act as the backbone for the NWMC bicycle network

PRIORITY CORRIDORS

All of the major trails run north-south, creating a need for east-west facilities to enables NWMC residents and visitors to travel throughout the region. These "priority corridors" serve to link NWMC members to the major trails and destinations along the corridors.

Working with the NWMC Multimodal Plan Steering Committee, a vision for the priority corridors was established:

The priority corridors connect all of the NWMC member communities and provide a safe, comfortable means for people of all ages and abilities to connect to transit, jobs, schools, open space, and major destinations throughout the region.

PREVIOUS BICYCLE PLANS

The NWMC approved its first ever bicycle plan in 1996. That plan was updated in 2007 and most recently in 2010. The goals of the 2010 plan, as set out by the Bicycle and Pedestrian Committee, were to produce a more detailed corridor analysis and an implementation strategy for regional bicycle facilities. Complementing these larger goals are recommendations for preparing local bicycle plans and bicyclist safety, education, and encouragement programs, local and regional bikeway signage, bike facility design, and implementation considerations, as well as grant and other funding opportunities. The plan:

- Identified resources on best practices, policies, programs and funding;
- Focused on east-west connections to build a regional network; and
- Identified 16 priority corridors.

42%

of updated priority corridors completed (136 out of 321 miles)

CLOSEST to completion

Deerfield	(78% complete)
Elk Grove Evanston	(75% complete)
Skokie Valley	(72% complete)

FURTHEST from completion

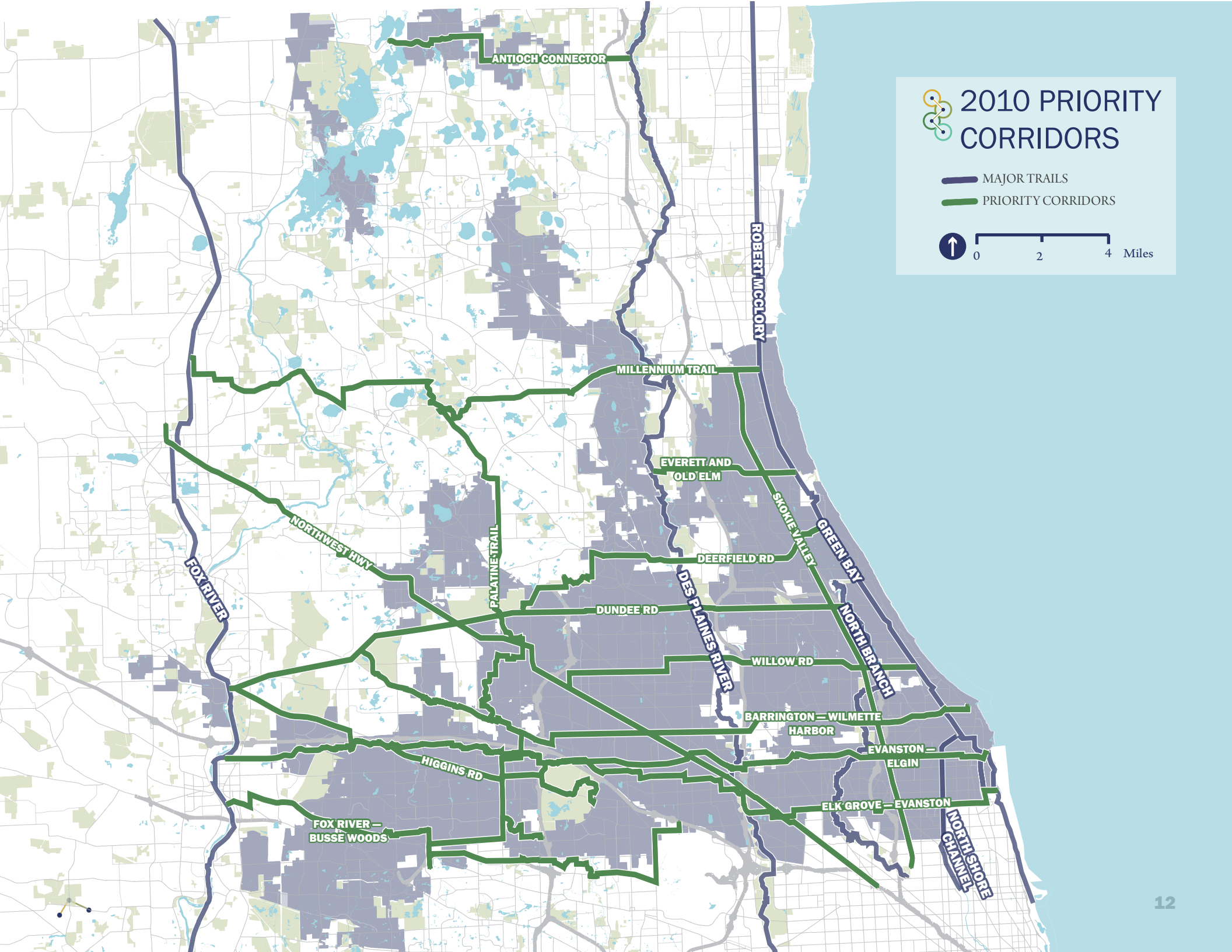
Northwest Hwy	(4% complete)
Willow Rd	(6% complete)
Antioch Connector	(11% complete)

NWMC MULTIMODAL PLAN

This effort serves to update and expand upon the previous bicycle plans, to include considerations for key pedestrian connections, bicycle and pedestrian access to transit service and facilities, and better integrating and connecting all three modes of active transportation. In order to decide between alternative routes and prioritize the corridors, the 2010 Bicycle Plan developed the following rating criteria.

2010 RATING CRITERIA

- Percent of primary corridor:
  - Existing
  - Programmed
  - Planned
  - Future
  - Unknown
- Number of municipalities and number of NWMC members
- New recommendations
- Connectivity to:
  - Regional destinations
  - Trail network
  - Transit
- Directness
- Barriers


2010 PRIORITY CORRIDORS
MAJOR TRAILS
PRIORITY CORRIDORS
0
2
4
Miles
ANTIOCH CONNECTOR
ROBERT MCCLORY
MILLENNIUM TRAIL
EVERETT AND OLD ELM
SKOKIE VALLEY
GREEN BAY
NORTHWEST HWY
FOX RIVER
PALATINE TRAIL
DEERFIELD RD
DES PLAINES RIVER
DUNDEE RD
NORTH BRANCH
WILLOW RD
BARRINGTON — WILMETTE HARBOR
EVANSTON — ELGIN
HIGGINS RD
ELK GROVE — EVANSTON
FOX RIVER — BUSSE WOODS
NORTH SHORE CHANNEL

2020 PRIORITY CORRIDORS

The 2020 priority bicycle corridors, developed as part of the Multimodal Plan process, build off the NWMC's previous work but have also been updated to align with the vision developed for the priority corridors and reflect projects that have been implemented over the previous decade. The NWMC has also experienced some changes in its membership. As a result, five new corridors have been added to the 2020 priority corridors (Barrington Road Bikeway, Fox Lake Connector, Half Day Road Bikeway, Lake Cook Bikeway, and the OCC to Channel Bikeway) and one corridor was removed (Ridgefield Trace Bike Trail). Other corridors have been adjusted where lower-stress routes were feasible or to incorporate new facilities municipalities have constructed. In total, the network of priority bicycle corridors has grown from 321 miles to 385 miles.

48%

of updated priority corridors completed (186 out of 385 miles)

CLOSEST to completion

Deerfield Rd	(78% complete)
Palatine Trail	(76% complete)
Skokie Valley	(72% complete)

FURTHEST from completion

Northwest	(13% complete)
Dundee Rd	(16% complete)
Antioch Connector	(19% complete)

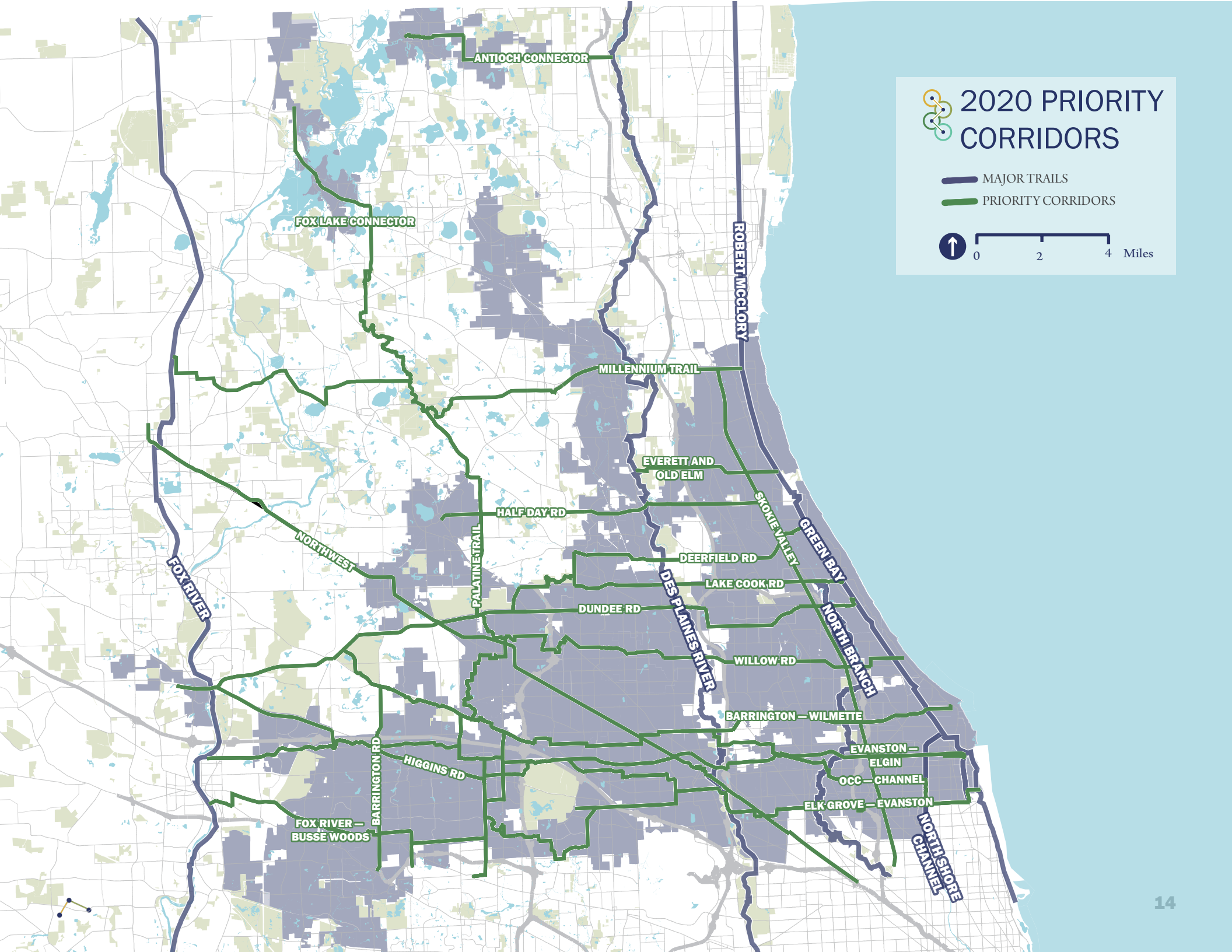
Existing Bicycle Facilities on NWMC Priority Corridors

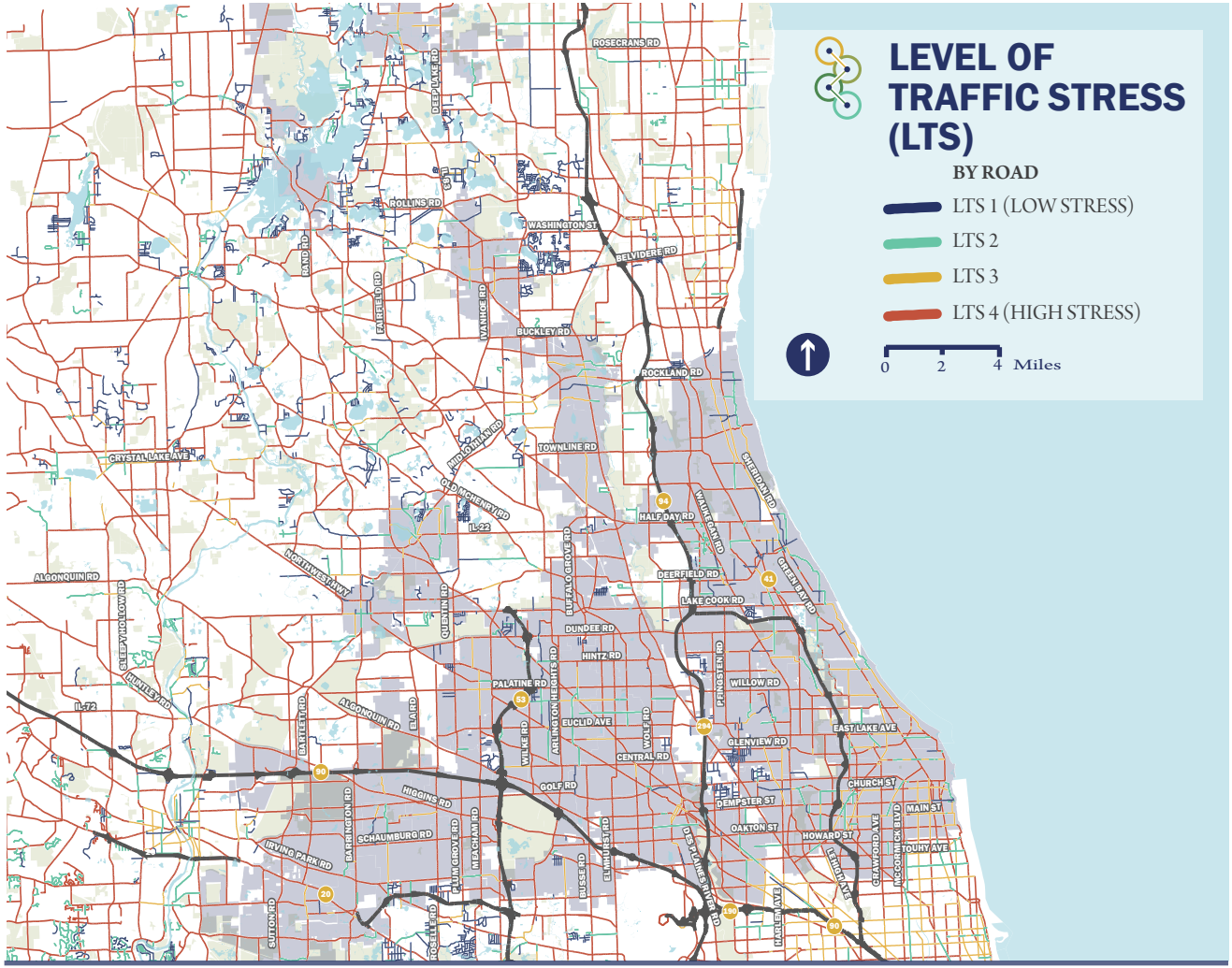
Level of separation

Facility Type	Length (miles)	% of Existing Facilities
Sidepath/Trail	137	73%
Protected Bike Lane	1	1%
Bike Lane	15	8%
Shared Lane	4	2%
Bike Route	29	16%

UPDATED RATING CRITERIA

- Percent of primary corridor:
  - Existing
  - Programmed
  - Planned
  - Future
  - Unknown
- Number of municipalities and number of NWMC members
- New recommendation
- Connectivity to:
  - Regional destinations
  - Trail network
  - Transit
- Directness
- Barriers
- **Level of traffic stress for people biking**
- **Population within half mile**
- **Jobs within half mile**
- **Crashes where a person walking/ biking was seriously injured or killed**


2020 PRIORITY CORRIDORS
MAJOR TRAILS
PRIORITY CORRIDORS
0
2
4
Miles
ANTIOCH CONNECTOR
FOX LAKE CONNECTOR
ROBERT MCCLORY
MILLENNIUM TRAIL
EVERETT AND OLD ELM
HALF DAY RD
SKOKIE VALLEY
GREEN BAY
NORTHWEST
FOX RIVER
PALATINE TRAIL
DEERFIELD RD
DES PLAINES RIVER
LAKE COOK RD
DUNDEE RD
NORTH BRANCH
WILLOW RD
BARRINGTON — WILMETTE
EVANSTON — ELGIN
HIGGINS RD
BARRINGTON RD
OCC — CHANNEL
ELK GROVE — EVANSTON
FOX RIVER — BUSSE WOODS
NORTH SHORE CHANNEL



To continue increasing the number of bicyclists in NWMC communities, bike infrastructure should be safe and comfortable for people of all ages and abilities—not just experienced, confident cyclists. An evaluation of the level of traffic stress (LTS) experienced by people biking (based on the volume of traffic, speed limit, and type of bike facility on a specific street) shows that a majority of streets throughout the region where data was available were rated as high stress. Providing safe, comfortable bicycle facilities that overcome these barriers, including crossing rail, rivers, and expressways, can provide major benefits for the region and the safety of people biking and walking.

75%

75% of major streets* received the **highest stress** rating for people bicycling (LTS 4).

** Where data was available. LTS data only available for 31% of streets.*

USING THE SIDEWALK NETWORK

Walkable Block Length

200-600 feet

1 - 3 minute walk

Average Block Length Surrounding NWMC Priority Transit Stations

1,000 feet

5 minute walk

Sidewalks create the region's pedestrian network.

SIDEWALK ASSESSMENT

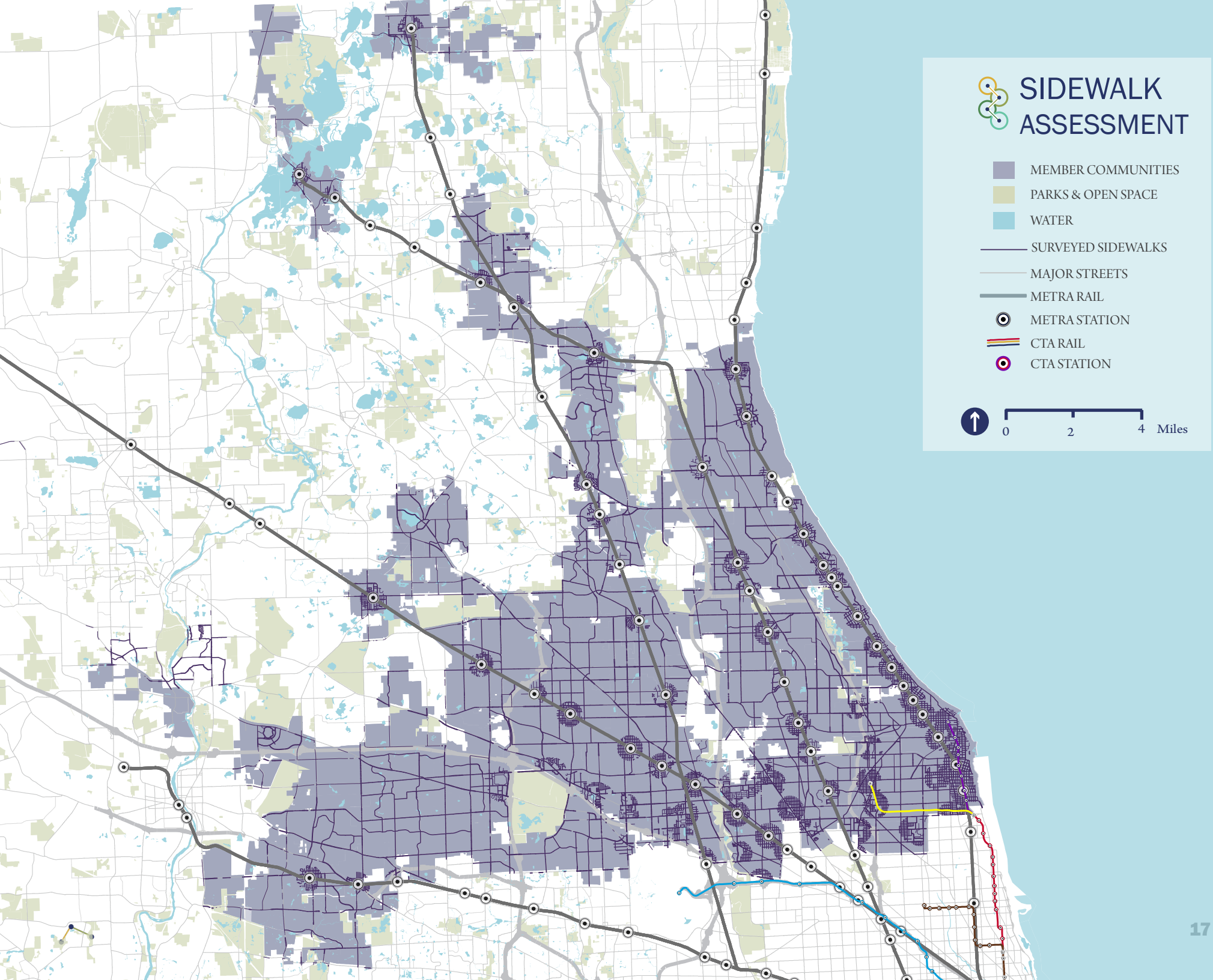
The presence of sidewalks and form of the built environment have a major impact on how likely people are to walk and whether they feel safe and comfortable doing so. One key measurement of walkability in the built environment is the length of street blocks. Shorter blocks give people walking more route choices, opportunities to cross the street, and decrease the distance of trips; longer blocks can force pedestrians to make lengthy detours or cross the street at unmarked locations. While blocks as long as 600-feet may be considered fairly walkable, the average block length surrounding transit stations in the NWMC region is approximately 1,000 feet. Walking throughout the NWMC region, residents and visitors may come across various barriers such as:

- Lack of mid-block crossings
- Lack of wayfinding
- Sidewalk gaps
- Stressful intersections and highway ramp crossings

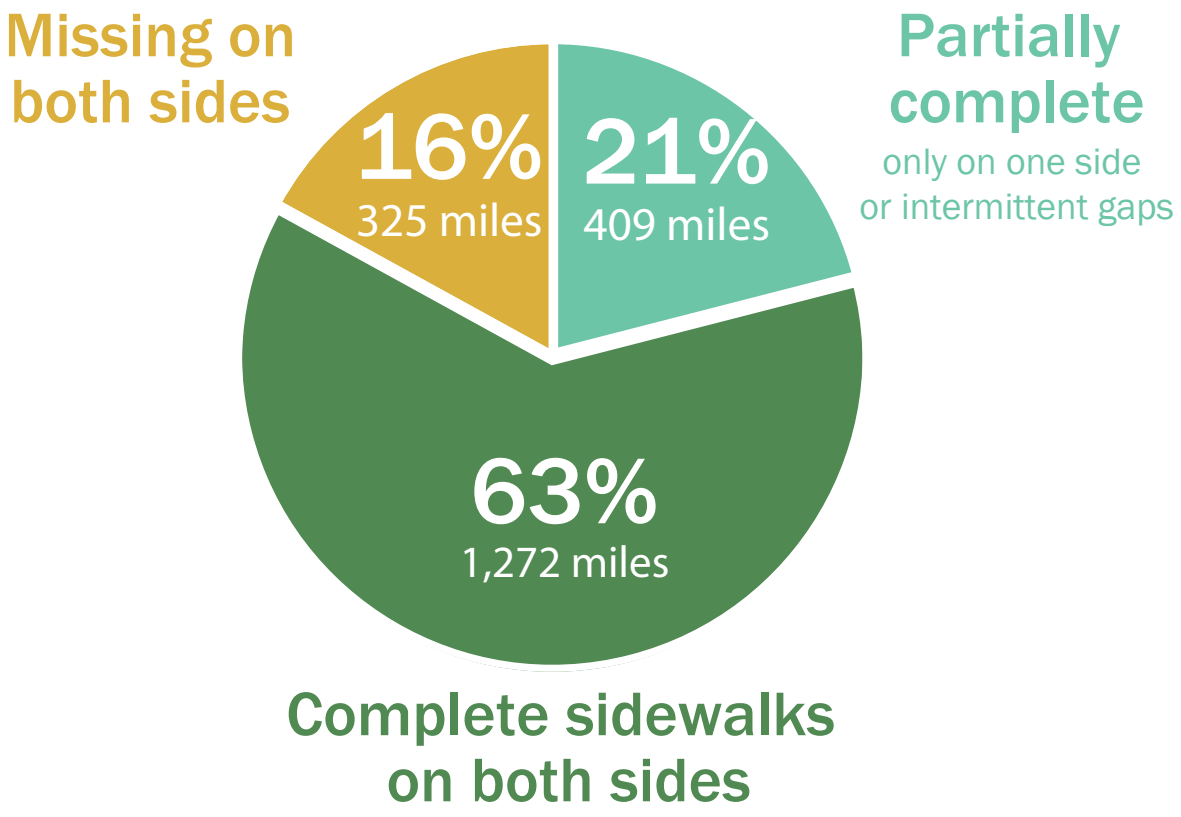
In order to assess the connectivity of sidewalks within the NWMC region, a sidewalk assessment was conducted on more than 2,005 street miles. The survey looked for sidewalk gaps on either side of a street.

All roads designated as collectors and arterials within NWMC communities were surveyed. The survey also assessed all roads within a half-mile of:

- CTA Stations
- Metra Stations
- High Priority Pace Bus Stops (stops in the top 5% of daily boardings and Pulse routes)


SIDEWALK ASSESSMENT
MEMBER COMMUNITIES
PARKS & OPEN SPACE
WATER
SURVEYED SIDEWALKS
MAJOR STREETS
METRA RAIL
METRA STATION
CTA RAIL
CTA STATION
0
2
4
Miles

Sidewalk Status for NWMC Region



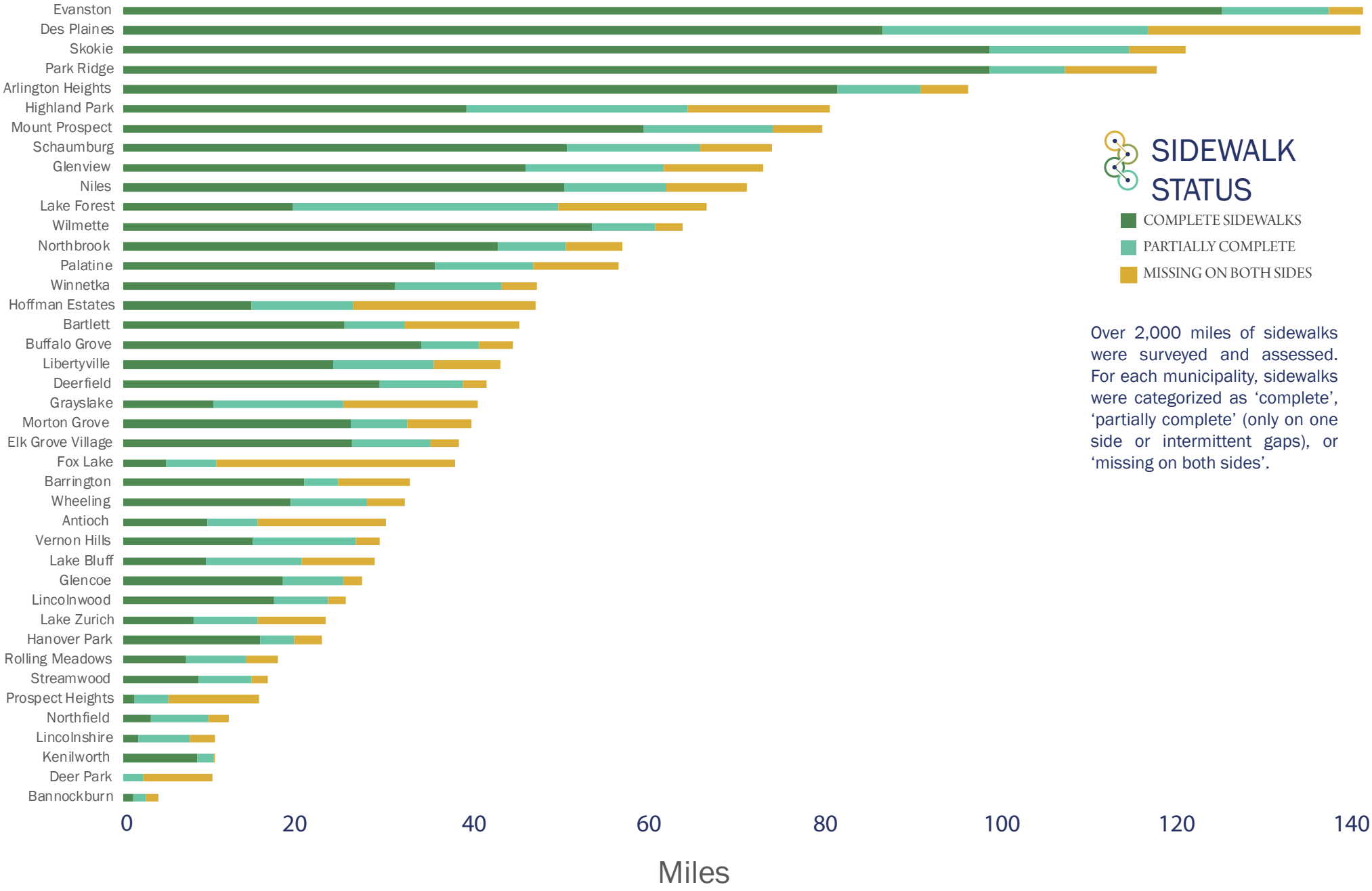
Nearly two-thirds of the streets surveyed across the NWMC had sidewalks complete on both sides of the street. However, over a third of the surveyed streets have sidewalks missing on one or both sides of the street. The lack of a complete sidewalk network inhibits NWMC residents and visitors from walking in their communities, to transit stops, and to other key destinations. Sidewalks not only create a connected pedestrian network, but also an accessible network. A patchy sidewalk network makes it difficult for people particularly with wheelchairs, walking aids, or strollers to navigate a thoroughfare. In addition to sidewalk gaps, the condition of sidewalks, presence of driveways and curbcuts, and safe crossings should also be community concerns for a connected pedestrian network.

[Below] No sidewalk connection to bus shelter, Golf Rd in Schaumburg

[Below] Sidewalk along arterial, Central Rd in Mount Prospect

Image sources: TranSystems

Miles of Sidewalk Surveyed and Status by Municipality



Over 2,000 miles of sidewalks were surveyed and assessed. For each municipality, sidewalks were categorized as ‘complete’, ‘partially complete’ (only on one side or intermittent gaps), or ‘missing on both sides’.

DIFFERENT PEDESTRIAN FACILITIES ACROSS THE REGION

Across the NWMC, the pedestrian realm varies significantly, from narrow sidewalks on busy arterials to residential sidewalks with wide parkways. The width and separation of a sidewalk from traffic, and the speed and volume of that traffic, impacts pedestrian comfort.

SIDEWALK WITH DECORATED BUFFER

Decorative pavers serve as a buffer between the sidewalk and the roadway. The sidewalk widens out to allow for street furniture and mailboxes without interfering with an accessible path of travel.

Davis Street, east of Fountain Square [Evanston]

SIDEWALK ALONG COMPLETE STREET IN COMMERCIAL DISTRICT

The application of Skokie's Complete Streets policy is apparent in this stretch of Main Street. Sidewalks in the commercial district are of adequate width, and the bike lanes and painted crosswalks are very visible.

Main Street, looking west towards Crawford Avenue [Skokie]

Lake Cook Road west of US41 [Northbrook]

SIDEWALK ENDS AT EXPRESSWAY

The sidewalk along Lake Cook Road abruptly ends as it approaches the crossing of US 41. The sidewalk then continues on the other side of the interchange. The "start and stop" of sidewalks is typical around entrance ramps and crossing of expressways.

NO SIDEWALK ALONG COMMERCIAL BUILDINGS

No sidewalk is present in front of the commercial properties along Touhy Avenue between Cicero Avenue and Kilpatrick Avenue. Pedestrians need to walk through the parking lots located in front of the buildings. A sidewalk is present east of Kilpatrick Avenue.

Touhy Avenue looking east from Keating Avenue [Lincolnwood]

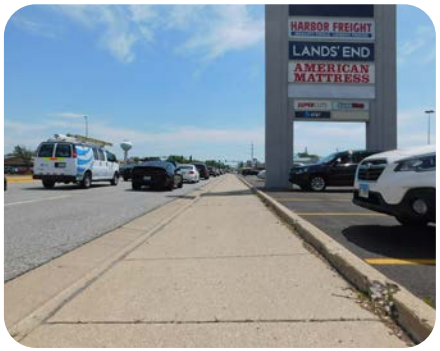
NO SIDEWALK ALONG ROAD WITH PARKING

No sidewalks are present on this stretch of Sheridan Road. The North Shore Congregation is located to the east and the Lake Shore County Club is located on the west side. Overflow or employee parking is seen in the picture, causing pedestrians to walk along the shoulder of the street. Sidewalks are present to the south along the east side of Sheridan.

Sheridan Road, north of North Shore Congregation on the 1100 block of Sheridan [Glencoe]

SIDEWALK WITH NO BUFFER ON HIGH-VOLUME STREET

Although the sidewalk is of adequate width, the lack of buffer between the sidewalk and Dempster Street, a high traffic volume street, leads to an unpleasant pedestrian experience.



Dempster Street west of Harlem Avenue [Niles]

MULTIMODAL PATH

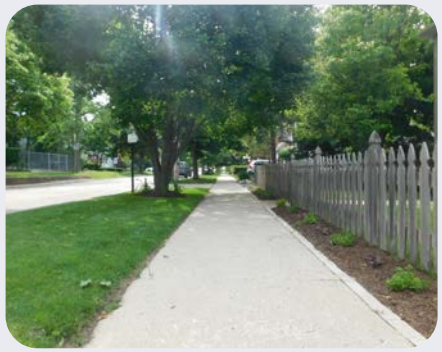
A multimodal path is provided in lieu of a sidewalk in many areas of Schaumburg allowing for both pedestrian and bicycle access.

Roosevelt Boulevard south of Golf Road [Schaumburg]

Crain Street west of Cumberland [Park Ridge]

NO SIDEWALKS ON LOW-VOLUME RESIDENTIAL STREET

Although a low volume residential street, the lack of sidewalks in this neighborhood requires children to ride their bicycles or play in the street.



Lake Street west of Hough Street [Barrington]

RESIDENTIAL SIDEWALK WITH LANDSCAPED PARKWAY

The sidewalk in this residential area is of adequate width and buffered from the street by a landscaped parkway.

DESIRE PATH

The desire path indicates there is pedestrian foot traffic along the side of the road. Although the immediate area is not developed, there are residential areas and offices close by.

Rand Road, northwest of Golf Road [Des Plaines]

SIDEWALK ON ONE-SIDE OF THE ROAD

Sidewalks are present on the north side of Golf Road, but not on the south side along the Ned Brown Forest Preserves. A multimodal path meanders in the forest preserve. Marked crosswalks across Golf Road lead to a Pace bus stop which has a concrete sidewalk pad and shelter.

Gold Road west of Gallagher Way [Rolling Meadows]

Image sources: TranSystems

ZONING ORDINANCES

Sidewalk ordinances vary by municipality. Each municipality within the NWMC was inventoried to understand what requirements they have either in their zoning ordinance or their municipal codes for the installation of sidewalks. Sidewalk ordinances are not consistent among communities and fall in range from restrictive to lax with only a few ordinances in place requiring the exact placement of sidewalks. Many member municipalities did not appear to have any regulations on sidewalk requirements.

Examples of ordinances that dictate sidewalk width and sidewalk location:

» *Sidewalks shall be the width of five and one-third feet… and shall be constructed in public streets with the edge farthest from the center line of the street parallel to and twenty inches from the boundary line of the street [**Evanston**].*

» *Sidewalks should be hereby established on both sides of all accepted streets and avenues of the City [**Morton Grove**]; sidewalks shall be located on both sides of a public street [**Rolling Meadows, Wilmette**].*

» *Width of sidewalk shall be a minimum of 4 feet or wider to match existing sidewalk [**Fox Lake**].*

» *Pedestrian sidewalks, not less than 5 feet in width, shall be incorporated into the site plan and are required: 1) along all sides of a lot that abut a public street and 2) along all sides of a building visible from a public right-of-way or accessible from an off-street parking area. The Zoning Officer may otherwise determine that additional landscaping is preferred in lieu of a sidewalk not abutting a public street [**Lincolnwood**].*

Other communities have specified different sidewalk widths based on the type of streets, zoning district, or area of the city. For example, Lake Zurich's ordinance stipulates that major streets should have an 8-foot wide sidewalk on one side and 5-foot on the other. In Mount Prospect, sidewalk in the business district need to be 7-feet wide. In Hoffman Estates, sidewalks requires a minimum of 5-feet in width and calls for additional width in commercial areas, in the vicinity of transit stops or where groups of pedestrians may cross a street.

Some communities include waivers in their ordinances in certain situations where the development is rural in nature or does not contribute to network connectivity. If the sidewalk is not constructed, often a community will require that the applicant for the development must pay into a dedicated municipal fund for future sidewalk improvements, as is the case in Skokie and Wheeling.

Subdivision requirements in some zoning codes require sidewalks for specific types of development. Barrington states that for planned developments, the developer needs to submit a complete sidewalk plan or pedestrian access and circulation plan. In Northbrook, the ordinance states that a townhouse development needs to be connected by a system of sidewalks. For Arlington Heights, before a building permit is issued, the owner of the lot or tract shall agree to install sidewalks on the side of all streets.

Other communities put in an aspirational goal in their ordinances. The Grayslake ordinance states that the circulation system shall provide connected pedestrian and bicycle routes (especially off-street bicycle or multi-use paths or bicycle lanes on the streets), and promote safe and efficient mobility.

Even if the ordinance did not require the construction of sidewalks, many of the codes contained provisions prohibiting the blocking of sidewalks and allowed for the use of sidewalks for sidewalk cafes.

BICYCLING & WALKING TO TRANSIT

NWMC Region Transit

CTA	Metra	Pace
2 rail lines	5 rail lines	73 routes*
10 stations	46 stops	1 Pace Pulse route^
>13,000 average weekday riders	>33,000 average weekday AM boardings	>22,500 average daily boardings

** Includes express routes*

^ Plus 1 in planning, 3 mid-term projects, and 8 long-term projects

How Metra Riders Access Stations

WALK

Hubbard Woods (72%)
Main St. (71%)
Indian Hill (62%)
Kenilworth (59%)
Davis St. Evanston (59%)

BIKE

Kenilworth (11%)
Central St. (9%)
Hubbard Woods (8%)
Wilmette (7%)
Prospect Heights (6%)

DROP OFF

Washington St. Grayslake (25%)
Libertyville (23%)
Wheeling (21%)
Prairie View (20%)
Antioch & Bartlett (19%)

DRIVE ALONE

Prairie Crossing (78%)
Lake Forest (77%)
Prairie Crossing / Libertyville (77%)
Schaumburg (75%)
Glen of North Glenview (75%)

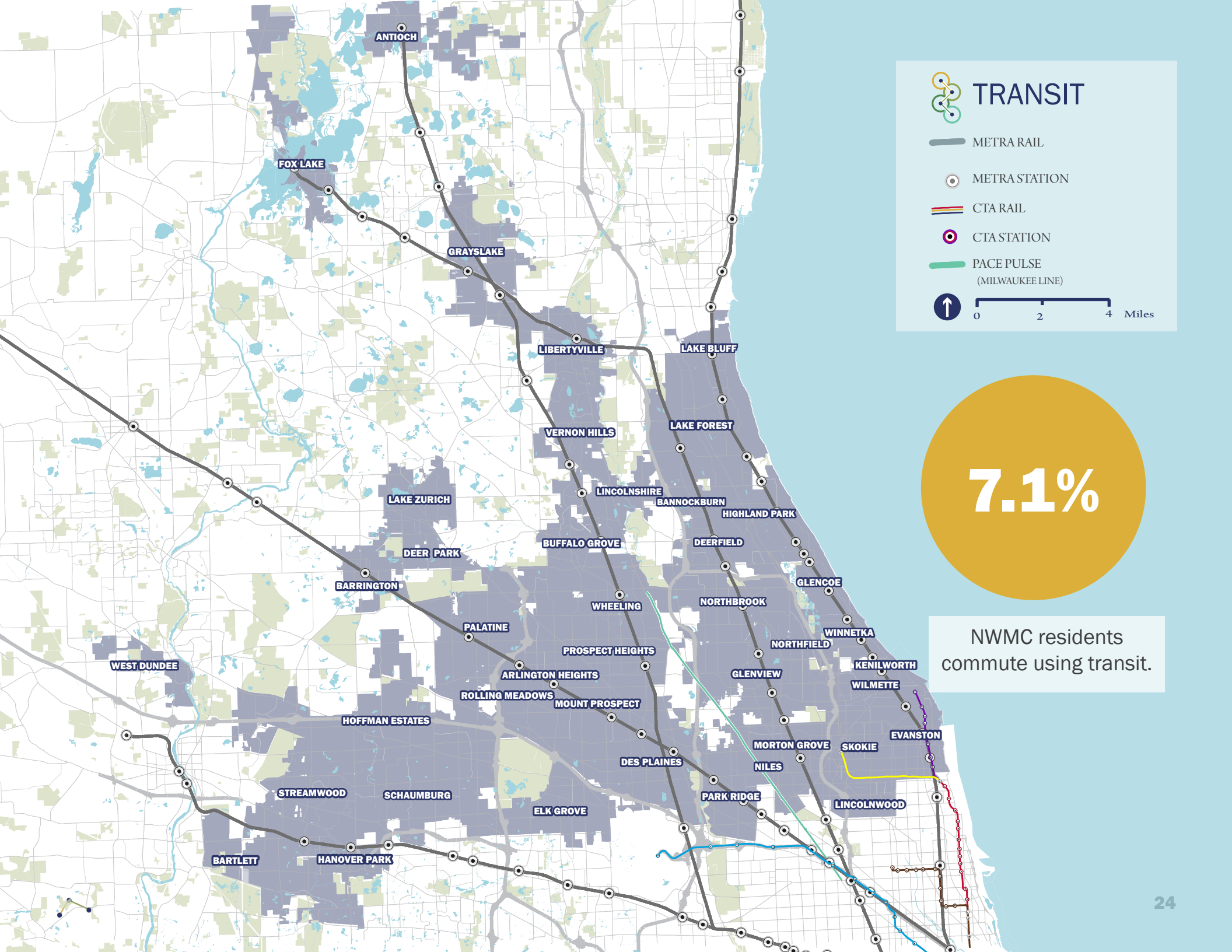
Residents, workers, and visitors in the NWMC region have access to an expansive transit system with CTA, Metra, and Pace. While the CTA Yellow and Purple rail lines and several bus lines reach communities bordering the city of Chicago, five Metra lines and 73 Pace routes serve the entire NWMC region.

In order to improve connections to transit throughout the region, it is important to understand how riders access their respective stations. In looking at Metra ridership data, driving alone is currently the predominant mode of transportation in connecting to rail transit. At 30 NWMC region Metra stations, over half of the riders drive alone to access the stations.

While driving is a predominant mode, active transportation, particularly walking, is a main mode of transportation to access several Metra stations.

Below are the top five stations using active transportation (walking or biking):

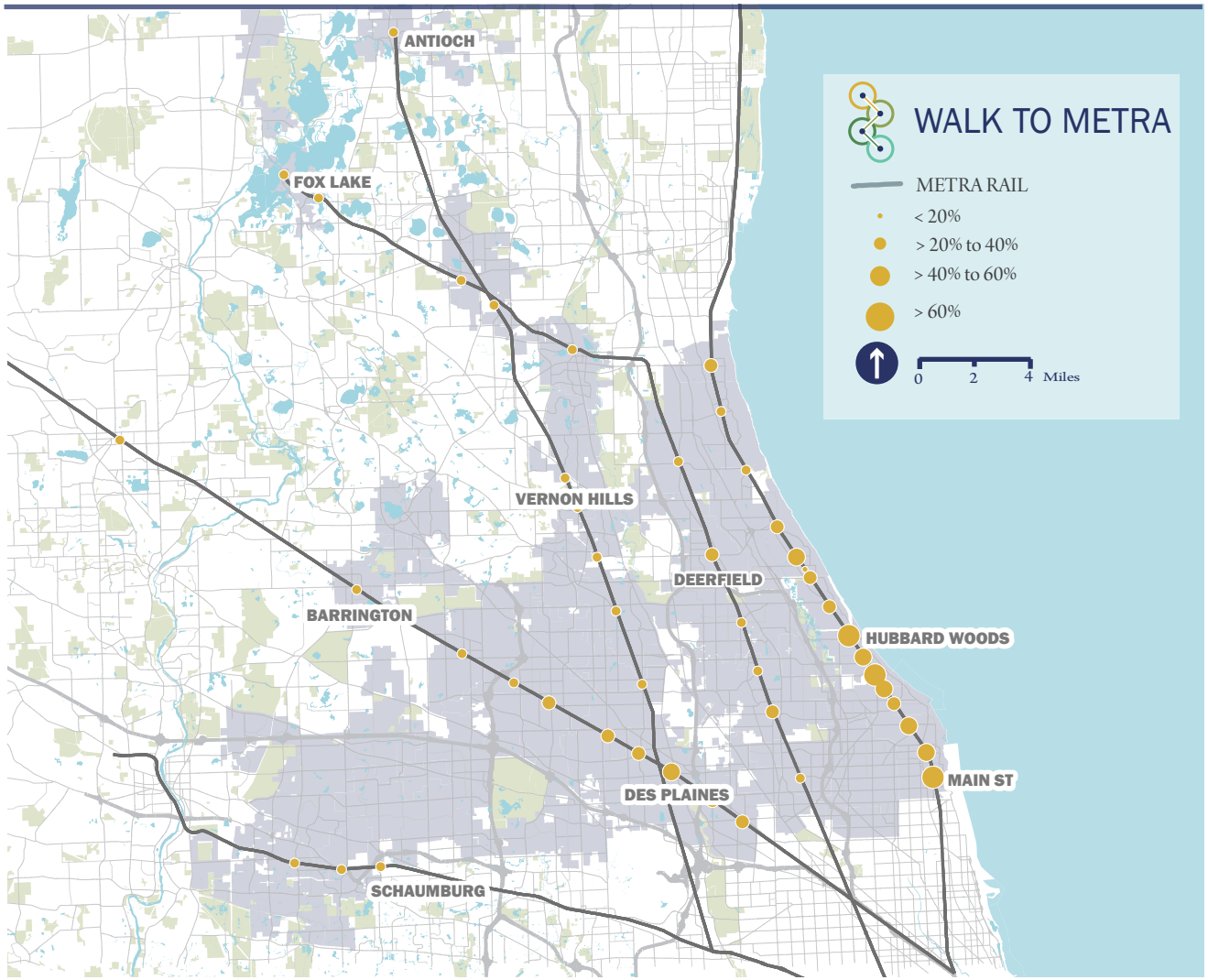
1. Hubbard Woods (80%)
2. Main St Evanston (76%)
3. Kenilworth (70%)
4. Indian Hill (63%)
5. Davis St Evanston (62%)



7.1%

NWMC residents commute using transit.

People access Metra stations through various modes of travel. Throughout the NWMC region, many Metra riders access stations via walking. At nine stations, predominantly along the Union Pacific North line, more than 40% of riders access the stations via walking. In order to continue to support walking to access transit, it is important that sidewalks and crossings are present, accessible, and safe. Barriers, such as a lack of sidewalks, may inhibit people from walking to/from transit. Similarly, the lack of bicycle facilities, such as protected bike lanes or bike racks, may prevent people from riding their bicycles to transit. For example, while all NWMC region Metra stations have bicycle racks, many stations only offer spaces for two bicycles.

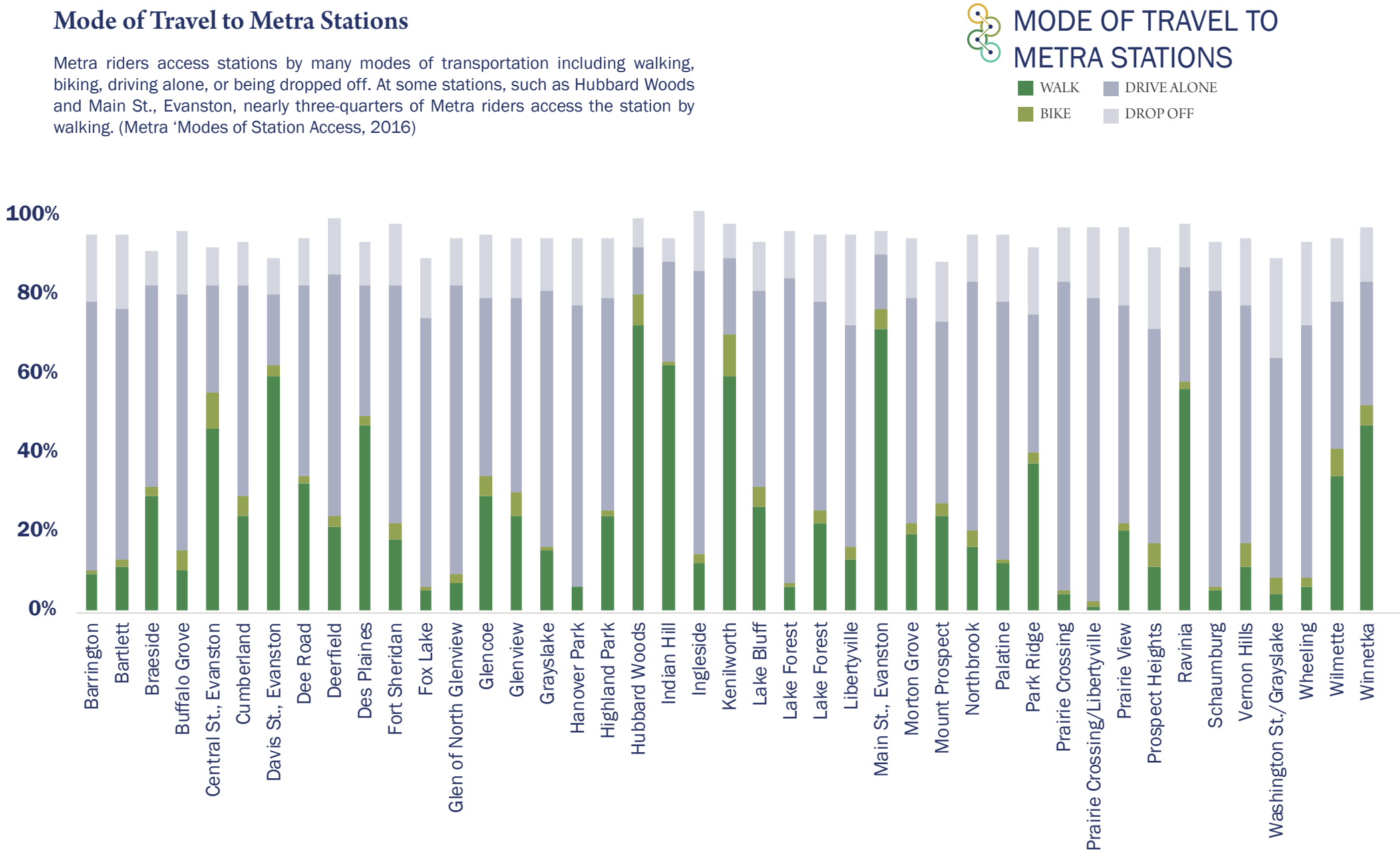


All Metra stations in the NWMC have bike parking ranging from two to over 70 available spaces.

[Above] Bicycle parking at Wilmette Metra station. Image source: Metra

Mode of Travel to Metra Stations

Metra riders access stations by many modes of transportation including walking, biking, driving alone, or being dropped off. At some stations, such as Hubbard Woods and Main St., Evanston, nearly three-quarters of Metra riders access the station by walking. (Metra 'Modes of Station Access, 2016)



110 **people walking** were killed or seriously injured in traffic crashes within a half-mile of a priority transit stop, about a 10-minute walking distance
(IDOT: 2013-2016)

150 **people biking** were killed or seriously injured in traffic crashes within 1.5 miles of a priority transit stop, about a ten minute biking distance
(IDOT: 2013-2016)

93%

of crashes where people walking or biking were killed or seriously injured occurred on roads with more than two lanes

96%

of crashes where people walking or biking were killed or seriously injured occurred on roads with a speed limit of 30 MPH or greater

CRASH DATA

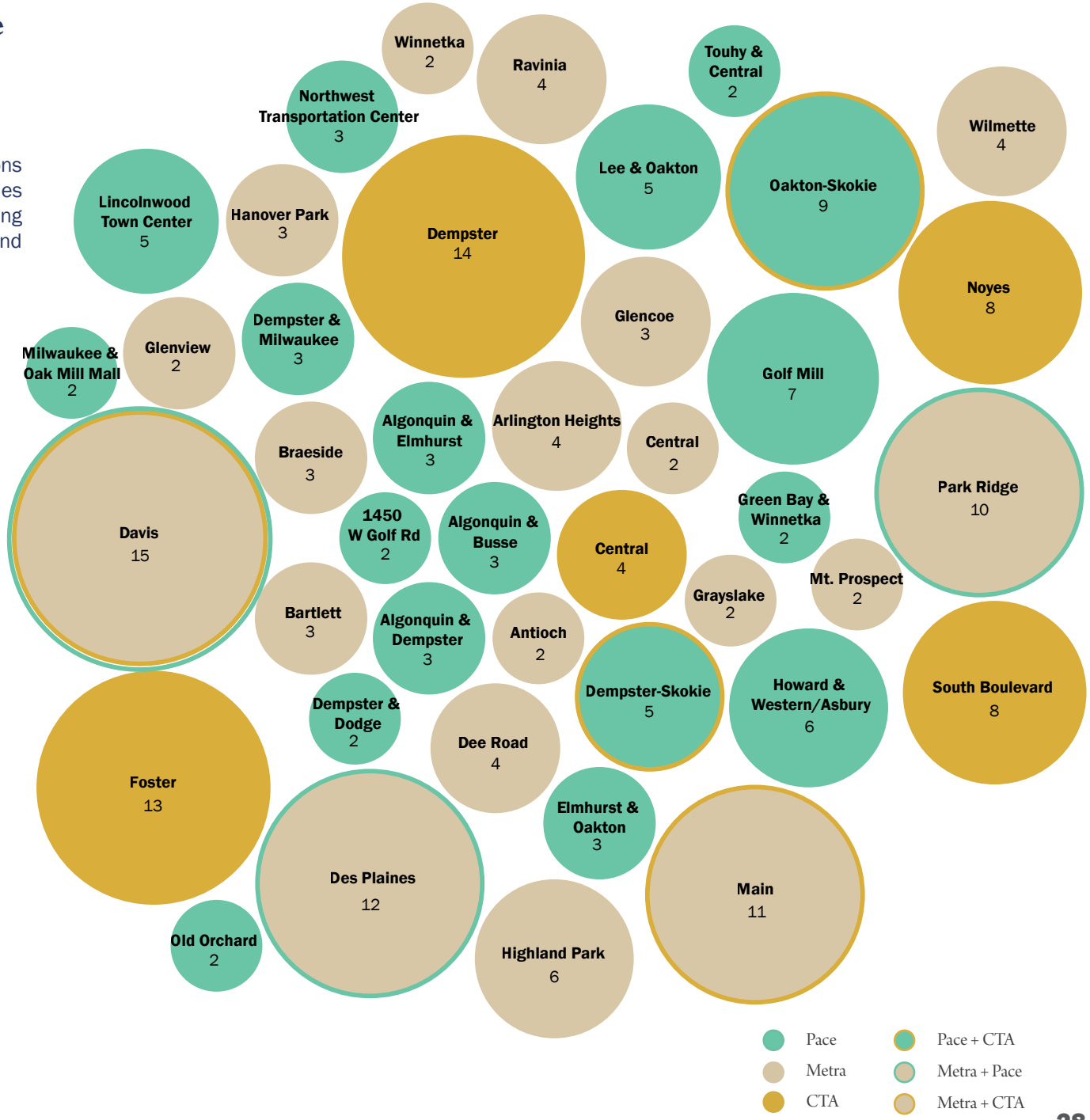
Between 2013 and 2016, more than 250 people walking or biking were killed or seriously injured near a Metra station, CTA station, or high priority Pace stop (within 0.5 miles for people walking or 1.5 miles for people biking).

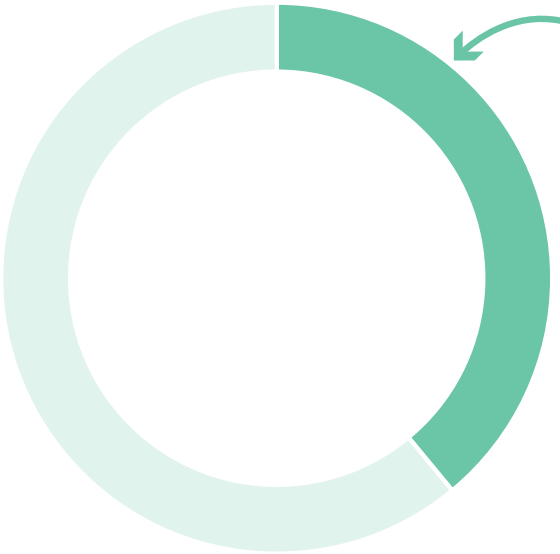
All of the CTA Purple and Yellow Line stations had multiple crashes and many of the stations with the most crashes are located in the densest portions of the NWMC region. Similarly, many of the stations with the most crashes are in areas with higher levels of walking and biking in comparison to other NWMC communities. For example, nearly half of the Metra riders at the Des Plaines Metra stop (49%) access the station via active transportation.

Nearly all of the crashes where people walking or biking were killed or seriously injured occurred on roads with a speed of 30 MPH or greater or on roads with more than two lanes. In order to promote bicycling and walking to connect to transit, safety and comfort must be a top priority. Changes must be made in order to eliminate pedestrian and bicycle crashes, such as implemented or improved sidewalks, safe intersection crossings, bicycle facilities, and reduced vehicle travel speeds.

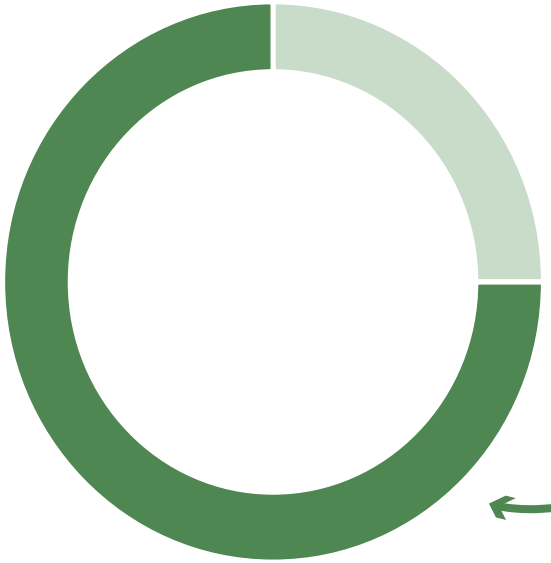
Transit Stations with Multiple People Walking or Biking Killed or Seriously Injured

Fourty-two CTA, Metra, or priority Pace stations within the NWMC region had multiple crashes within a half-mile where a person walking or biking was killed or seriously injured between 2013 and 2016. (IDOT: 2013 - 2016)





39%
of NWMC residents live within 0.5 miles, about a **10-minute walk,** of a rail or high-priority bus stop.



75%
of NWMC residents live within 1.5 miles, about a **10-minute bike,** of a rail or high-priority bus stop.

Making it easier for people to combine bicycling and transit in the NWMC offers numerous positive benefits: improving access to jobs and schools, enabling more active lifestyles, and reducing household transportation costs. For example, 39% of residents in the NWMC region live within a half-mile, typically about a 10-minute walk, of a rail or high-frequency bus stop; however, 75% of residents live within 1.5 miles, typically about a 10-minute bicycle ride, of a rail or high-frequency bus stop. As nearly half (46%) of jobs within the NWMC region are within a half-mile of a rail station or a high-frequency bus stop, combining bicycling and transit would provide more opportunities for traveling to and from work.

Providing high-quality bicycle facilities that connect to transit is the most important step in making it easier for people to combine bicycling and transit. With this in mind, connectivity to transit is included in the criteria for identifying the NWMC priority bicycle corridors. In addition to building high-quality bicycle facilities that connect to transit, a number of additional strategies can make it easier for people to combine bicycling and transit, such as targeted safety improvements or interventions at conflict points, wayfinding, bicycle access through parking lots, and bicycle parking.

WHAT WE HEARD

COMMUNITY ENGAGEMENT SUMMARY

A robust community engagement strategy was developed to gather insights from stakeholders across NWMC's membership area. The strategy involved developing a project brand, website, and a social media strategy, and the engagement of residents through community workshops. A full synopsis of the community engagement can be found in the **Appendix.**

A project website—www.NWMCMultimodalPlan.org—was created which features information about the plan, project goals, timeline, study area, and more. The website was updated throughout the process to include different ways to get involved in the plan, share ideas, and download/review plan documents.

Project Website Homepage

ONLINE ENGAGEMENT

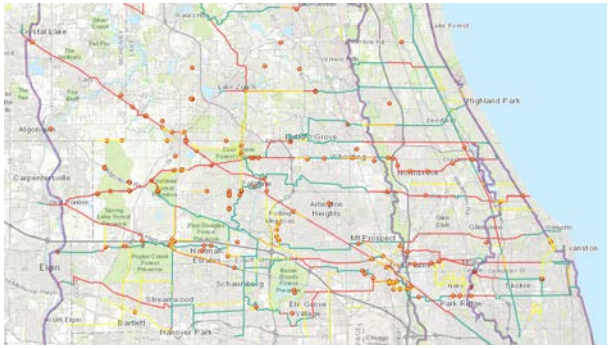
Given the geography of NWMC communities, the project engagement plan featured extensive online engagement to reach the widest array of residents possible. Two online surveys were developed to help understand the habits and preferences of area residents.

The first survey focused on how people get around. The second online survey asked area residents—what kind of bicyclist are you? The survey also explored the different types of bike facilities that area cyclists prefer.

In addition to the online surveys, an interactive web map was developed to highlight and gain feedback on the priority bicycle corridors. The project website encouraged visitors to add to the linked web map, where they could draw desired segments and comment about specific streets that are dangerous for pedestrians and cyclists. The web map received dozens of comments and suggestions for new segments.

A network of municipal marketing and communications contacts throughout NWMC communities helped to distribute both surveys. These plan ambassadors used social media and newsletter graphics developed by the planning team to spread the word about the project and ways to get involved.

A sample of project branded social media posts



Comments (red dots) and additional segments (yellow lines) on the priority bicycle corridor web map

"Of considerable concern are routes suitable for cyclists to cross Milwaukee Avenue, the Des Plaines River, and the Tri State Tollway when traveling East-West without having to detour North-South more than 1 mile."

- Comment from interactive web map

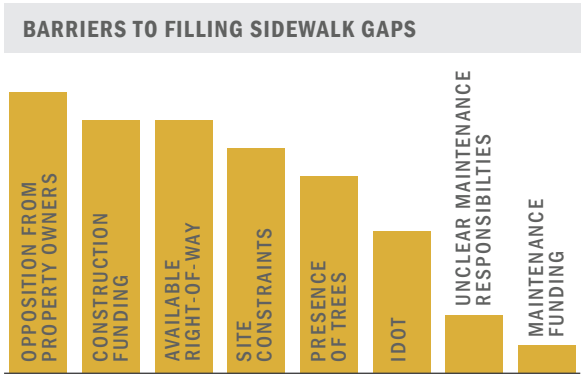
Photos from the NWMC Member Open House at Oakton Community College

OPEN HOUSES AND POP-UP WORKSHOPS

Given the many communities included in the NWMC region, the planning team hosted four project related events across the region. A NWMC Member Open House was held on November 19, 2019 at Oakton Community College in Des Plaines to get feedback on plan elements from municipal planners and engineers. In addition, three Pop-up Workshops were held.

- Pop-up 1: Hoffman Estates Public Works Open House on Saturday, November 2
- Pop-up 2: Deerfield Winter Celebration on Friday, December 6
- Pop-up 3: Morton Grove Indoor Farmers Market on Saturday, December 7

The conversations, written comments and feedback received at these events were instrumental to the planning team in identifying issues and creating an implementation guide that serves area residents.



Results from the NWMC Member Open House

Photos from the Pop-up Workshop at the Hoffman Estates Public Works Open House

STEERING COMMITTEE

The planning process was guided by a steering committee that advised NWMC, Chicago Metropolitan Agency for Planning (CMAP), and the consultant team on all elements of the plan. The committee members represented municipalities that serve on the NWMC Bicycle and Pedestrian Committee, as well as agencies and organizations with interest in the region's transportation system: Illinois Department of Transportation (IDOT), Cook County, Lake County, Forest Preserve District of Cook County, Pace Suburban Bus, Metra, Chicago Transit Authority, Active Transportation Alliance, and Ride Illinois.

Throughout the planning process, the steering committee met approximately once every two months during regularly scheduled NWMC Bicycle and Pedestrian Committee meetings to provide direction on project milestones and comment on interim deliverables.

A sample slide from a Steering Committee Presentation

IMPROVING MULTIMODAL CONNECTIONS

STREET DESIGN TOOLBOX

Across the NWMC region, streets take on a myriad of roles and functions—from corridors that get people to school and goods to businesses, to local streets where we visit with neighbors. Throughout the planning process, community members and stakeholders expressed how a lack of safe places to walk and bike, the speed of traffic, and challenges crossing wide streets impede their mobility and make it difficult to walk and bike to access transit or other daily needs.

The tools included in the **Multimodal Street Design Toolbox** are mostly engineering or physical interventions to make streets safer for all users, with a particular emphasis on people walking and biking. The Toolbox also includes design strategies to make walking, biking, and taking transit more comfortable and enjoyable. The intent of the toolbox is to present ideas for consideration. Each individual tool and combination of tools will require further assessment and factors outside of the information presented will need to be considered. A series of concept designs illustrate how tools can be combined and applied to improve multimodal outcomes.

The tools included in the **Multimodal Programs & Policy Toolbox** are focused on ensuring that as communities within the NWMC develop, they grow in ways that support walking, biking and accessing transit. These tools cover smart policies that institutionalize processes supporting multimodal transportation. The tools also cover programs that address multimodal education, encouragement, and enforcement.

HOW TO USE THE STREET DESIGN TOOLS

Each tool includes a description and information on the cost, timeline, and location for implementing the tool. Additionally, certain tools include an indication that there is an opportunity to implement the tool quickly and at a low-cost using temporary materials like paint, planters, and flexible delineators. This style of quick, low-cost implementation (often called tactical urbanism) is ideal for pilot testing new tools to gather data and user feedback, or for responding to urgent issues.

Cost

Planning level unit cost estimates were determined for each tool and are denoted by dollars signs. The ranges shown in the table are associated with per lane mile, per intersection, or per instance costs.

$ Less than $10,000

$$ $10,000 to $100,000

$$$ $100,000 to $1 million

$$$$ Greater than $1 million

Timeline

The timeline reflects the time for design and construction for the tool.

Limited engineering design and construction time required

Some engineering design and a construction season required

Long-term planning necessary with comprehensive design and approvals required. Construction requires more than one season or must be coordinated as part of another project.

Location

Each tool specifies whether it is intended for use on minor, major, or all streets.

Street Design Tools

Tools for Traffic Calming

- Narrow Lanes
- Chicanes
- Narrow Curb-to-Curb Width
- Remove Slip Lanes
- Shared Street
- Medians
- Speed Tables
- Diverters
- Hardened Centerline
- Reduced Curb Radius
- Slow-Turn
- Movement Restrictions
- No Turn on Red Restrictions
- Mini Traffic Circle
- Speed Feedback Signs
- Signal Timing
- One-Way to Two-Way Conversion
- On-Street Parking
- Access Management
- Road Diet

Tools for Walking & Crossing the Street

- Wide and Continuous Sidewalks
- ADA Curb Ramps
- Grid Connectivity
- In-Street Pedestrian Crosswalk Sign
- High-Visibility Crosswalks
- Mid-Block Crossings
- Curb Extensions
- Refuge Island
- Daylight Intersections
- Raised Crossing
- Raised Intersection
- Rectangular Rapid Flashing Beacon
- Pedestrian Hybrid Beacon
- Pedestrian Countdown Timers
- Automated Pedestrian Detection
- Signal Timing and Phasing
- Simplified Intersections

Tools for Biking

- Shared Lane Marking
- Bike Boulevard
- Advisory Bike Lanes
- Striped/ Painted Bicycle Lanes
- Buffered Bicycle Lanes
- Contra-Flow Bike Lanes on One-Way Streets
- Raised Cycle Track
- Protected Bicycle Lanes/ Cycle Tracks
- Off-Street Shared Use Path
- Wayfinding
- Bike Boxes
- Automated Cyclist Detection
- Bicycle Signals
- Two-Stage Turning Queue Box
- Bike Intersection Striping
- Protected Intersections
- Conflict Markings
- Bike/Pedestrian Wayfinding / Markings
- Vehicle Warning /Marking
- Signalization
- Rectangular Rapid Flashing Beacon
- Pedestrian Hybrid Beacon

Tools for Walking & Biking to Transit

- Transit Stop Siting
- Basic Bus Stop Amenities
- Enhanced Lighting
- Additional Bus Stop Amenities
- Mid-block Crossing and Transit Access
- Station and Parking Lot Design
- Bicycle Channels (At Stairs)
- Bus/Bicycle Conflict Treatment
- Bicycle Racks on Buses
- Bike Parking (with Examples)

Tools for Placemaking

- Street Trees
- Human-Scaled Lighting
- Street Furniture
- Gateway Treatments
- Painted or Textured Intersections
- Parklets
- Green Alley
- Reclaimed Plazas

Tools for Loading/ Unloading Freight

- Designated Loading Zones
- Designated Passenger Loading Zones
- Flex Zones
- Electronic Signage
- Recessed Stop Bar

Tools for Traffic Calming

NARROW LANES

Vehicle speeds are influenced by how fast a driver feels they can safely travel. Narrower travel lanes require greater caution to maintain the lane and avoid conflicts, and may lead to lower vehicle speeds and improved safety.

COST $$$

TIMELINE

LOCATION **ALL STREETS**

NARROW CURB-TO-CURB WIDTH

Curb-to-curb width can impact vehicle speeds, particularly on multi-lane streets or streets with parking lanes but very little parking use. For instance, a street with five narrow lanes still results in an overall wide curb-to-curb width and can create an open visual for drivers, encouraging faster speeds. Reducing the total number of lanes or adding features within the travel way can reduce this width.

COST $$$

TIMELINE

LOCATION **ALL STREETS**

COST $$$

TIMELINE

LOCATION **MINOR STREETS**

SHORT-TERM, LOW-COST IMPLEMENTATION OPPORTUNITY

CHICANES

Chicanes feature offset curb extensions on alternating sides of a street. Chicanes force drivers to navigate streets in a non-linear fashion, requiring slower speeds and more attention. Chicanes can be created temporarily with paint and bollards or more permanently with curb bump-outs.

COST $$$

TIMELINE

LOCATION **ALL STREETS**

SHORT-TERM, LOW-COST IMPLEMENTATION OPPORTUNITY

REMOVE SLIP LANES

Slip turn lanes allow vehicles to make right-hand turns at high speeds, resulting in dangerous conditions for crossing pedestrians. Removing slip lanes requires all vehicles to make a full stop at the intersection. In the short-term, slip lanes can be closed using planters, flexible delineators, paint, and other materials and the former slip lane can be repurposed for public space. Additional evaluation can identify and assess the implications of slip lane removal.

Image Sources: Narrow Lanes [Sam Schwartz Consulting]; Narrow Curb-to-Curb Width [Car Free America]; Chicanes [LA DOT Bike Blog]; Remove Slip Lanes [Twitter - Mike Lydon]

SHARED STREET

Shared streets are spaces that prioritize pedestrians throughout the right of way, but still allow bicycle, vehicle, and loading access. Shared streets can be used either in residential or commercial settings. Many shared streets consist of a continuous, flush surface across the entire roadway width with textured pavement or unique materials to reinforce pedestrian priority.

COST $$$

TIMELINE ■■■

LOCATION **MINOR STREETS**

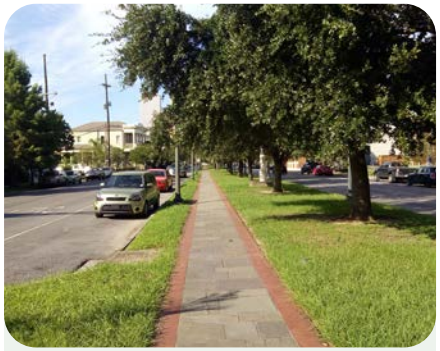
SPEED TABLES

Speed tables are flat-topped traffic control devices. Speed tables are typically installed in the middle of a block and require vehicles to slow to avoid driver discomfort or vehicle damage. As opposed to speed humps, speed tables are designed so that the driver experiences a slight elevation change but both wheel axels can rest on the table. This helps prevent damage to longer vehicles like fire trucks and buses.

COST $$$

TIMELINE ■■■

LOCATION **MINOR STREETS**



COST $$$

TIMELINE ■■■

LOCATION **MAJOR STREETS**

*SHORT-TERM, LOW-COST IMPLEMENTATION OPPORTUNITY

MEDIANS

Medians reduce curb-to-curb width and create a narrower field of vision—resulting in more cautious driving behavior and lower speeds. They also provide separation between vehicles traveling in opposite directions, which can reduce head-on collisions. Medians can span the entire length of a block or can target priority areas, such as pedestrian crossings. Medians also offer an opportunity to incorporate landscaping and trees in the middle of the right-of-way, which can reduce the imposing nature of multi-lane roadways by dividing their visual appearance.

COST $$$

TIMELINE ■■■

LOCATION **MINOR STREETS**

*SHORT-TERM, LOW-COST IMPLEMENTATION OPPORTUNITY

DIVERTER

A diverter blocks through vehicular movement along a street but allows bicycles and pedestrians to continue traveling through. Diverters are usually built at intersections, requiring vehicles to turn left or right. Diverters help disrupt lengthy vehicle straightaways that can lead to high speeds and can also redirect non-local vehicular traffic to create low-stress walking and biking routes. Because traffic is diverted, an assessment of resulting traffic flow may be necessary.

Image Sources: Shared Street [Sam Schwartz Consulting]; Medians [Sam Schwartz Consulting]; Speed Tables [North Hampton MA]; Diverter [FHWA Safety USDOT]

HARDENED CENTERLINE

Hardened centerlines are typically created by installing low plastic barriers and flexible delineators on top of centerlines at intersections. They discourage left-turning vehicles from crossing over the center line of the receiving street, forcing a tighter and slower turn.

COST $$$

TIMELINE

LOCATION **MAJOR STREETS**

SLOW-TURN WEDGE

A slow-turn wedge uses paint, low plastic barriers and plastic flexible delineators to create a tighter turn radius. Slow-turn wedges are an appropriate short-term solution before permanent curb work can be completed or can be a long-term solution that allows emergency vehicles, buses and garbage trucks to still make a turn.

COST $$$

TIMELINE

LOCATION **MAJOR STREETS**

COST $$$

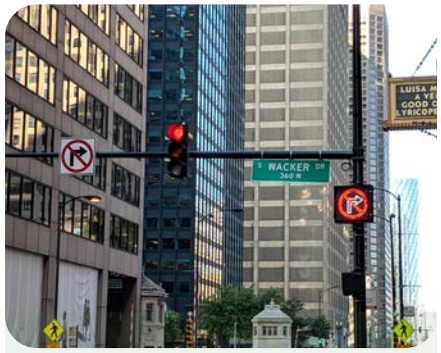
TIMELINE

LOCATION **ALL STREETS**

**SHORT-TERM, LOW-COST IMPLEMENTATION OPPORTUNITY*

REDUCED CURB RADIUS

Curb radii significantly impact turning vehicle speeds. Small curb radii require drivers to slow significantly before making their turn. A slow turn provides more reaction time to detect pedestrians and requires a shorter stopping distance, making it easier to avoid a crash. Pedestrians are particularly vulnerable around turning vehicles because of blind spots; therefore, slowing a vehicle's turning speed can yield safety benefits. Permanent changes require reconstructing the curb, but changes can be made immediately using low-cost materials. Larger-turning vehicles may require wider turn angles.



COST $$$

TIMELINE

LOCATION **ALL STREETS**

MOVEMENT RESTRICTIONS

Restrictions that prevent particular vehicle movements at an intersection can be used to reduce key pedestrian conflicts. Restrictions can also calm traffic by eliminating some portions of cut-through traffic. Due to restricted movements, an assessment of resulting traffic flow may be necessary.

Image Sources: Hardened Centerline [Sam Schwartz Consulting]; Reduced Curb Radius [Sam Schwartz Consulting]; Slow-Turn Wedge [nyc.gov]; Movement Restrictions [Sam Schwartz Consulting]

NO TURN ON RED RESTRICTIONS

No Turn on Red Restrictions prohibit turning vehicles from making right turns at a red light. Turning vehicles present a danger for people walking due to blind spots created by vehicle frames and the need for the driver to pay attention to multiple directions at once. Restricting right-on-red actions by drivers is one way to reduce a particularly dangerous form of this conflict. Restrictions can vary by time of day.

COST $$$

TIMELINE

LOCATION **MAJOR STREETS**

SPEED FEEDBACK SIGNS

When appropriately complemented with police enforcement, Speed Feedback Signs can be an effective, low-cost method for reducing speeds at a specific location and are most effective for a limited time period.

COST $$$

TIMELINE

LOCATION **ALL STREETS**

COST $$$

TIMELINE

LOCATION **MINOR STREETS**

MINI TRAFFIC CIRCLE

Mini traffic circles are built in the direct center of an intersection and act as an impediment to direct linear vehicle travel, forcing the driver to slow in order to move around the circle.

COST $$$

TIMELINE

LOCATION **MAJOR STREETS**

SIGNAL TIMING

Traffic signals along a stretch of road should be timed for the desired vehicle speed. For example, if a road has a speed limit of 25 mph but the signal timing requires cars to travel 30 mph in order to make every green light, drivers are incentivized to travel at 30 mph. Proper signal timing can reinforce posted traffic speeds and increase safety.

Image Sources: No Turn on Red Restrictions [Sam Schwartz Consulting]; Mini Traffic Circle [Sam Schwartz Consulting]; Speed Feedback Signs [Stinson Owl Lite]; Signal Timing [Sam Schwartz Consulting]

ONE-WAY TO TWO-WAY CONVERSION

Converting one-way streets to two-way streets introduces a new element of caution. Oncoming traffic in the opposite lane requires drivers in both directions to be more cautious, thus leading to decreased speed. Conversions can also reduce excess lane capacity which acts to calm traffic.

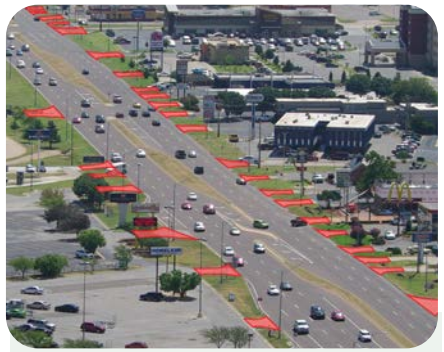
COST **$$$**

TIMELINE ■■■

LOCATION **ALL STREETS**

ACCESS MANAGEMENT

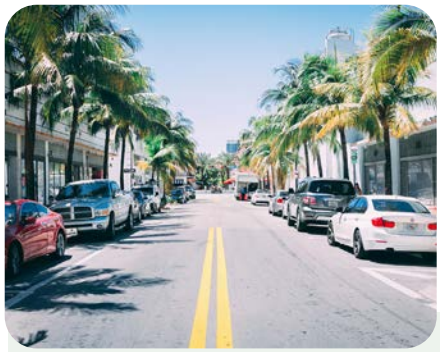
Driveway access interrupts sidewalk continuity and introduces pedestrian-vehicular conflict points. Access management as a policy controls the location, spacing and design of driveways. Good access management practices limit the presence of driveways, particularly redundant ones, to maintain safety.



COST **$$$**

TIMELINE ■■■

LOCATION **MAJOR STREETS**



COST **$$$**

TIMELINE ■■■

LOCATION **ALL STREETS**

ON-STREET PARKING

On-street parking helps reduce effective curb-to-curb widths, provides a form of separation between the travel way and sidewalk, and requires drivers to be more alert. These factors can lead to safer driving speeds and increase comfort and safety for people walking. Time restrictions can vary by time of day.

COST **$$$**

TIMELINE ■■■

LOCATION **MAJOR STREETS**

**SHORT-TERM, LOW-COST IMPLEMENTATION OPPORTUNITY*

ROAD DIET

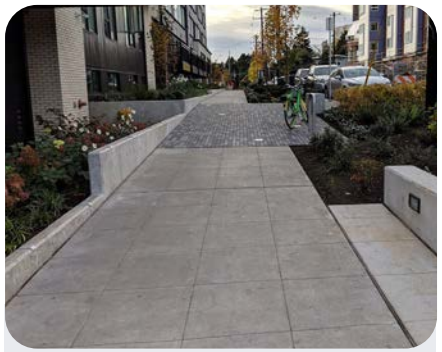
A road diet reduces the overall number and/or size of travel lanes on a street and repurposes that space for other uses, such as bicycle facilities, dedicated transit facilities, or public space. Road diets have demonstrated safety benefits, often reducing travel speeds and making it easier and safer for people walking to cross the street. Because most road diets include a center left turn lane, these benefits can often be achieved with minimal impact on vehicle travel times. Road diets may require additional analysis.

Image Sources: One-Way to Two-Way Conversion [Community and Economic, University of North Carolina Chapel Hill]; On-Street Parking [Matt Alaniz]; Access Management [Design OKC]; Road Diet [FHWA]

Tools for Walking & Crossing the Street

WIDE AND CONTINUOUS SIDEWALKS

Sidewalks should be a minimum 5-feet wide and ideally at least 6-feet. When sidewalks are immediately adjacent to the curb, width should increase to a minimum of 8-feet to accommodate street lights, seating and separation from vehicle traffic. A sidewalk immediately adjacent to the curb with street trees should measure at least 10-feet wide to accommodate the 5-foot width needed for tree planters to ensure healthy trees. Sidewalks are only as good as the network they exist within. Connected, continuous sidewalks on both sides of a street ensure maximum pedestrian accessibility. Even a small sidewalk gap can negate significant accessibility benefits.



COST **$$$**

TIMELINE ■■■

LOCATION **ALL STREETS**

ADA CURB RAMPS

ADA curb ramps are required by law at crossings to allow users with mobility limitations to safely and comfortably cross. These curb ramps also benefit sidewalk users with strollers and people wheeling objects.

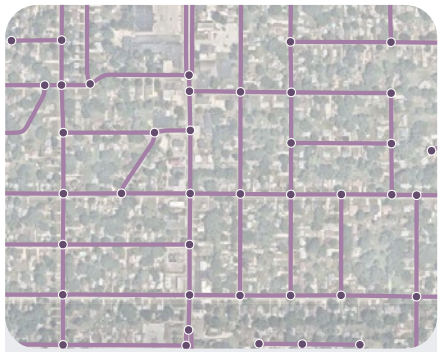
COST **$$**$

TIMELINE ■■

LOCATION **ALL STREETS**

GRID CONNECTIVITY

A well-connected street network with short blocks following a grid pattern benefits all street users, especially people walking and biking. Grid connectivity and shorter block lengths give people walking and bicycling more route choices, more and safer opportunities to cross the street, and decrease the overall distance of trips. Together, these factors make it easier for people to walk or bike to more destinations, and make walking or biking more viable choices for everyday life. In addition to redesigning the street network, grid connectivity can be improved by creating paths that provide more direct connections for people walking and biking, potentially outside the existing street network.



COST **$$$$**

TIMELINE ■■■

LOCATION **ALL STREETS**

Image Sources: Wide and Continuous Sidewalks [Seattle DOT]; ADA Curb Ramps [Sam Schwartz Consulting]; Grid Connectivity [Sam Schwartz Consulting]

IN-STREET PEDESTRIAN CROSSWALK SIGN

In-street pedestrian crosswalk signs are temporary or permanent signs placed in the street, adjacent to crosswalks, to alert motorists to the presence of pedestrians. In-street pedestrian crosswalk signs have proven more effective than signs outside of the curb-to-curb, particularly because an obstacle in the road can increase motorist caution, increase awareness of a crossing and decrease speed as a result. Creating a gateway of in-street signs has proven particularly effective at increasing motorist yielding.

COST **$**$$

TIMELINE ■□□

LOCATION **ALL STREETS**

COMMUNITY SPOTLIGHT: STREAMWOOD

A **signalized midblock crossing** on Park Avenue in Streamwood affords pedestrians a safe cross location between Poplar Creek Public Library and parking.

HIGH-VISIBILITY CROSSWALKS

High visibility crosswalks are more visible to drivers than standard parallel crosswalk lines, alerting them to the presence of pedestrians. Continental crosswalks feature wide painted bars in line with traffic flow and create more visible crosswalk markings. Similarly, zebra crossings display the wide painted bars at a diagonal and ladder markings include a striped boundary around parallel wide painted bars. Crosswalks need to be repainted when the paint wears off in order to maintain the high-visibility nature.

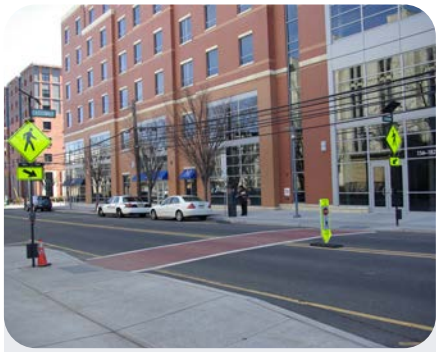
COST **$**$$

TIMELINE ■□□

LOCATION **ALL STREETS**

MID-BLOCK CROSSINGS

Mid-block crossings are those that occur outside of an intersection. They are appropriate along long blocks or blocks with high pedestrian activity. Mid-block crossings enhance pedestrian networks and increase accessibility. Mid-block crossings can benefit from curb-extensions and should feature parking restrictions within 20-25 feet of the crossing to ensure motorist visibility of pedestrians and pedestrian visibility of vehicles. Pedestrian warning lights may help increase motorist awareness; crosswalk markings are required.



COST **$$**$

TIMELINE ■□□

LOCATION **MAJOR STREETS**

Image Sources: In-Street Pedestrian Crosswalk Sign [Sam Schwartz Consulting]; Community Spotlight [Google Maps]; High-Visibility Crosswalks [NACTO]; Midblock Crossings [Sam Schwartz Consulting]

CURB EXTENSIONS

A curb extension (bump-out) extends the sidewalk and aligns pedestrians with a parking lane. Curb extensions often occur at corners but can be implemented mid-block too. Curb extensions reduce crossing distances, slow turning vehicles, and improve pedestrian visibility.
In permanent form, curb extensions require rebuilding the curb and sidewalk. However, curb extensions can be extremely effective with much less construction and cost. Paint, bollards and planters can create an immediate but effective curb extension.

COST **$$**$

TIMELINE

LOCATION **ALL STREETS**

**SHORT-TERM, LOW-COST IMPLEMENTATION OPPORTUNITY*

REFUGE ISLAND

A refuge island is a protected space in the middle of the street to help people walking safely cross the street. Long pedestrian crossings across wide streets decrease pedestrian safety, by increasing their exposure to motor vehicles, and comfort. In circumstances where wide streets will persist, refuge islands can make long crossing distances safer by providing a safe waiting space for people walking and increasing driver attention. Refuge islands can be installed at signalized and non-signalized locations. At signalized locations, pedestrians should still be given enough time to safely cross the entirety of the street in one signal cycle.

COST **$$**$

TIMELINE

LOCATION **MAJOR STREETS**

COST **$**$$

TIMELINE

LOCATION **ALL STREETS**

DAYLIGHT INTERSECTIONS

Daylight intersections create clear, visible sight lines between people driving and people crossing a street, often by removing barriers near a crosswalk or intersection. Daylighting usually restricts parking within 20-25 feet of crossing to ensure proper pedestrian sightlines and clears the intersection of unnecessary signage.

Image Sources: Curb Extensions [USDOT]; Refuge Island [NADPTC]; Daylight Intersections [Sam Schwartz Consulting]

RAISED CROSSING

A raised crossing maintains the level of the sidewalk through the intersection or mid-block crossing. Raised crossings create a safe, slow-speed crossing at intersections or midblock crossings with low to moderate traffic volumes. Like speed humps and other vertical speed control elements, they reinforce slow speeds and encourage motorists to yield to pedestrians at the crosswalk. Unlike warning lights, vertical speed control elements force motorists to slow or risk damaging their vehicle, resulting in much more effective yielding rates. Raised crossings may require reconfiguring current drainage engineering.

COST $$$

TIMELINE

LOCATION **MINOR STREETS**

RAISED INTERSECTION

Raised intersections raise the entire area of an intersection, including crossings, to the level of the sidewalk. This vertical shift signals to motorists that they are approaching an area they should treat with caution, gives pedestrians more visibility and forces motorists to slow down or risk damaging their vehicles. Raised intersections may benefit from flexible delineators at corners in high-traffic areas to prevent vehicles from using the sidewalk to facilitate turning. Raised intersections may require reconfiguring current drainage engineering.

COST $$$

TIMELINE

LOCATION **ALL STREETS**

Image Sources: Raised Crossing [pedbikesafe.org]; Raised Intersection [Traffic Calming USA]

RECTANGULAR RAPID FLASHING BEACON (RRFB)

Rectangular Rapid Flashing Beacons (RRFB) are user-activated warning lights. Bicyclists and pedestrians push a button to activate the warning lights before attempting to cross the roadway. The unique flashing pattern of the RRFBs have been shown to induce vehicle yielding at a much higher rate than traditional warning lights. Care should be taken to ensure that the button used to activate the RRFB is easy to reach for a bicyclist without dismounting the bicycle, children, and for people in wheelchairs. Roadway geometry should be taken into consideration.

COST **$**$$

TIMELINE ■□□

LOCATION **MAJOR STREETS**

COST **$$$**

TIMELINE ■■■

LOCATION **MAJOR STREETS**

PEDESTRIAN HYBRID BEACON

Pedestrian hybrid beacons are overhead, pedestrian-activated signals placed at uncontrolled, marked crosswalks that, when activated, stop motor vehicle traffic and allow pedestrians and/or people biking to safely cross the roadway. Pedestrian hybrid beacons are often installed at locations where pedestrians need to cross the street and vehicle speeds and/or volumes are high, but traffic signal warrants are not met.

Image Sources: RRFB [Sam Schwartz Consulting]; Pedestrian Hybrid Beacon [FHWA.dot.gov]

IDOT POLICY GUIDANCE

In March 2019, IDOT released new policy guidance for the evaluation and design of pedestrian crossings at uncontrolled locations. The policy uses average daily traffic (ADT), speed, and lane configuration to provide guidance on selecting appropriate treatments at crossings, ranging from signage to Rectangular Rapid Flashing Beacon (RRFB) to standard signalization or Pedestrian Hybrid Beacons.

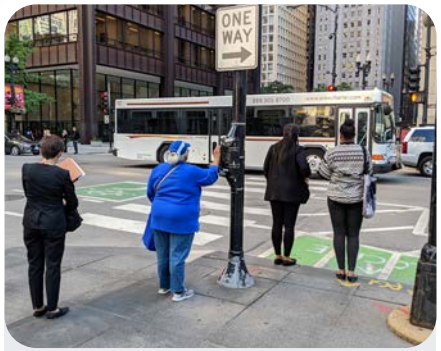
PEDESTRIAN COUNT-DOWN TIMERS

Pedestrian countdown timers are traffic signals that indicate how much time pedestrians have to complete a crossing. This can reduce pedestrian anxiety and prevent pedestrians unexpectedly caught in the middle of traffic when their signal phase ends. Pedestrian countdown timers and walk signals operate automatically and do not require a pedestrian 'push' button.

COST $$$

TIMELINE

LOCATION **ALL STREETS**



COST $$$

TIMELINE

LOCATION **MAJOR STREETS**

AUTOMATED PEDESTRIAN DETECTION

Automated pedestrian detection is a sensor embedded in or positioned above the pavement that automatically recognizes when a pedestrian is present and triggers the pedestrian signal at the next phase. At signalized intersections when pedestrian crossings are not frequent enough to warrant fixed-time pedestrian signal phases, manual pedestrian activation can be difficult or onerous (especially for pedestrians with limited mobility). Automated pedestrian detection eliminates these issues.

SIGNAL TIMING AND PHASING

Leading Pedestrian Intervals (LPI) are signals that allow pedestrians to start crossing the street before vehicular traffic in the same direction is given the green light. The walk signal is lit before the vehicle signal, giving pedestrians a head-start on crossing the street, which improves visibility and reinforces the need for drivers to yield.

A Lagging Left Turn phase holds left-turning cars until through traffic has passed; the left turn phase comes after through traffic. This signal phasing removes potential pedestrian conflict with turning vehicles by isolating their phases.

Signals should allow adequate crossing time for pedestrians and an adequate clearance interval based upon a maximum walking speed of 3.5 feet per second. In areas where there is a heavy concentration of children or elderly, a lower speed (typically 3.0 feet per second) should be used in determining pedestrian clearance time.

COST $$$

TIMELINE

LOCATION **MAJOR STREETS**

Image Sources: Pedestrian Countdown Timer [Sam Schwartz Consulting]; Automated Pedestrian Detection [Sam Schwartz Consulting]; Signal Phasing and Timing [Sam Schwartz Consulting]

SIMPLIFIED INTERSECTIONS

Simplified intersections eliminate excessive or confusing intersection legs, with intersecting streets as close to perpendicular as possible. Complex intersections feature more than two streets crossing at the same point, streets crossing at offset points or streets crossing at odd angles. These intersections often feature wide turning radii (which increase vehicle speeds), excessive pavement (which increases pedestrian crossing distances) and an excessive number of pedestrian crossings required to reach the other side of the street. Simplifying intersections decrease pedestrian crossing distances, reduces the number of pedestrian crossings, slows vehicles and increases public space.

Paint, flexible delineators and planters can simplify intersections effectively in the short-term and at low cost. If proven successful, these tactics can inform long-term, permanent reconstruction.

COST **$$**$

TIMELINE ■■□

LOCATION **ALL STREETS**

Image Sources: Simplified Intersections [Site Design]

Tools for Biking: Bike Facilities

SHARED LANE MARKINGS

Shared lane markings, also known as sharrows, signify to vehicles and bicyclists that bicycles can share the lane and indicate the proper riding position for people biking. Sharrows are not a robust safety tool and are to be used on very low-volume streets, but sharrows can help raise driver awareness and designate a preferred route for bicyclists. Roadway configuration should be taken into consideration.

COST $$$

TIMELINE

LOCATION MINOR STREETS

ADVISORY BIKE LANES

Advisory bicycle lanes indicate space for bicycle travel and two-way vehicle travel on narrow roads that would otherwise be a shared roadway. They use dashed roadway striping to create a single center lane dedicated to vehicle travel in both directions and edge lanes that give priority to bicyclists. When two oncoming vehicles need to pass, they can cross over into the bicycle-priority space after yielding to bicyclists. Advisory bike lanes are appropriate only on low-volume streets.

COST $$$

TIMELINE

LOCATION MINOR STREETS

COST $$$

TIMELINE

LOCATION MINOR STREETS

BIKE BOULEVARD

Bicycle boulevards are low-volume neighborhood streets designed and designated to give people biking travel priority. Using pavement markings, signs, and speed and volume management measures, bicycle boulevards discourage vehicular through trips creating a safe and comfortable bicycling environment for people of all ages and abilities.

COST $$$

TIMELINE

LOCATION MINOR STREETS

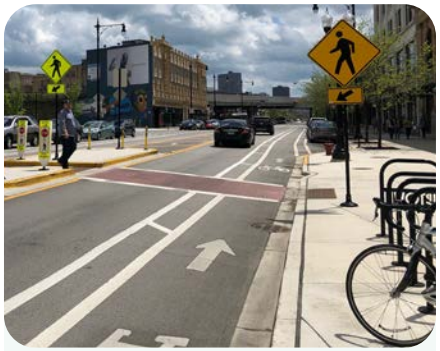
STRIPED/ PAINTED BICYCLE LANES

Striped and painted bicycle lanes demarcate right-of-way that is specifically designated for people biking. The addition of green paint can draw additional attention to the bicycle lane or specific conflict points. Because striped/painted bicycle lanes do not provide physical separation between vehicles and people biking, they are most appropriate on streets with low to moderate travel speeds and volumes.

Image Sources: Shared Lane Markings [Sam Schwartz Consulting]; Bike Boulevard [Sam Schwartz Consulting]; Advisory Bike Lane [Streets.MN]; Striped/Painted Bicycle Lanes [Sam Schwartz Consulting]

BUFFERED BICYCLE LANES

Buffered bicycle lanes provide buffer space on one or both sides of the bicycle lane to create greater separation between bicyclists and passing vehicles and/or on-street parking. While buffered bicycle lanes provide more separation between people biking and vehicles than standard painted bicycle lanes, they are still most appropriate on streets with low to moderate travel speeds and volumes.



COST $$$

TIMELINE

LOCATION **ALL STREETS**

COST $$$

TIMELINE

LOCATION **MAJOR STREETS**

RAISED CYCLE TRACK

Raised cycle tracks are located at sidewalk level, vertically separated from vehicular travel lanes. Separation between cyclists and pedestrians can be achieved through planters or landscaping. When raised cycle tracks run adjacent to sidewalks, distinct materials or surface colors are used, as well as a buffer, in order to maintain separation between people walking and biking. Paint and signals are implemented at points where vehicular or pedestrian traffic crosses the cycle track (intersections, driveways, etc.).

COST $$$

TIMELINE

LOCATION **ALL STREETS**

*SHORT-TERM, LOW-COST IMPLEMENTATION OPPORTUNITY

CONTRA-FLOW BIKE LANES ON ONE-WAY STREETS

Contra-flow bike lanes provide two-way bicycle travel on one-way streets. Protective elements, such as curbs or flexible delineators, are necessary to ensure oncoming vehicles do not cross over into bicycle lanes. One-way streets with high rates of two-way bicycle flow indicate a need for legalized two-way bicycle travel. Contra-flow bicycle lanes are most appropriate on streets with very few driveways or other turning conflicts across the bicycle facility. Contra-flow lanes may require bicycle and turn signals.

COST $$$

TIMELINE

LOCATION **MAJOR STREETS**

*SHORT-TERM, LOW-COST IMPLEMENTATION OPPORTUNITY

PROTECTED BICYCLE LANES/CYCLE TRACKS

Protected bicycle lanes, or cycle tracks, run at street level but are physically separated from vehicular travel lanes. Separation can be achieved through a variety of treatments, including: a) flexible delineators or bollards; b) parking lanes; c) curbs or concrete medians; or d) planters with landscaping. Protected lanes prevent vehicles from entering bicycle facilities. Special attention should be given to designing areas where protected lanes intersect with vehicular or pedestrian traffic.

Image Sources: Buffered Lanes [Sam Schwartz Consulting]; Contra-Flow Bike Lanes on a One-Way Street [Gerald Fittipaldi]; Raised Cycle Track [Sam Schwartz Consulting]; Protected Lanes [Sam Schwartz Consulting].

OFF-STREET, SHARED USE PATH

An off-street, shared use path is a bicycle and pedestrian facility that is physically separated from vehicular traffic by an open space or barrier and can be either within the street right-of-way or within an independent right-of-way. Off-street shared-use paths work well for corridors not well served by the on-street bikeway network as well as for sections within the network that facilitate long-distance commuting. Off-street paths are also recommended for corridors with high vehicle speeds and/or volumes.

On paths with high levels of activity, it may become necessary to provide differentiated spaces for people walking and biking to maintain safety and comfort.

COST $$$

TIMELINE ■■■

LOCATION **MAJOR STREETS**

WAYFINDING

Wayfinding helps bicyclists understand the safest travel routes as well as the best routes to specific destinations. Wayfinding can: a) confirm the rider is on a designated route; b) indicate a turn to stay on a route or reach a destination; and c) display a decision list for multiple different routes or destinations.

COST $$$

TIMELINE ■

LOCATION **ALL STREETS**

Image Sources: Off-Street Shared Use Path [Sam Schwartz Consulting]; Wayfinding [Sam Schwartz Consulting]

Tools for Biking: Intersection Treatments

COST $$$

TIMELINE

LOCATION **ALL STREETS**

BIKE BOXES

A bike box is a designated area between the vehicle stop bar and the crosswalk, marked or painted to give bicyclists a safe space to stop at an intersection. Bike boxes bring visibility to bicyclists at intersections and give bicyclists a jump on the next green light to help prevent collisions with turning vehicles.

AUTOMATED CYCLIST DETECTION

Automatic cyclist detectors are sensors that can be embedded in the pavement at signalized crossing to automatically detect the presence of a cyclist. These detectors can trigger a bicycle-only signal or trigger a normal signal phase. The detectors should be marked on the pavement so that bicyclists know where they need to stop to trigger the signal.

COST $$$

TIMELINE

LOCATION **MAJOR STREETS**

BICYCLE SIGNALS

Bicycle signals are bicycle-specific traffic signals installed at signalized intersections to indicate when people biking can enter an intersection and restricts conflicting vehicles. At most intersections, bicyclists will be required to follow vehicular signals. However, bicycle-specific signals may improve a particularly busy or dangerous intersections.

Bicycle-specific signals look like standard traffic signals, but typically feature a cut-out shape of a bicycle in front of the light, similar to pedestrian signals with the silhouette of a person or hand. These signals may be used to give bicyclists a leading start on vehicular traffic, stop bicycles while vehicles are given turning permissions, or signal bicycle-specific permissions in a situation such as a contra-flow bicycle lane that goes against one-way vehicle traffic. Bicycle-specific signals can also be used as redundant signals to clarify permissions in particularly complicated or busy intersections.

COST $$$

TIMELINE

LOCATION **MAJOR STREETS**

Image Sources: Bike Boxes [Gerald Fittipaldi]; Automated Cyclist Detection[City of Phoenix]; Bike Signals [Green Lane Project]

TWO-STAGE TURN-QUEUE BOX

Two-stage turn queue boxes provide a safer way for bicyclists to make a left-turn on multi-lane signalized streets. In a two-stage turn, a person biking crosses into the intersection where they are provided a space to wait and turn their bicycle 90 degrees so that they can then proceed straight when the street they just crossed receives a green light.

COST $$$

TIMELINE

LOCATION **MAJOR STREETS**

PROTECTED INTERSECTIONS

Protected intersections separate people biking from motor vehicle traffic by setting back the bikeway from turning cars and using corner islands to encourage slower turns. Protected intersections improve visibility of people biking and create clearer expectations for all users' behavior through the use of signs, paint, and pavement markings.

COST $$$

TIMELINE

LOCATION **MAJOR STREETS**

COST $$$

TIMELINE

LOCATION **ALL STREETS**

BIKE INTERSECTION STRIPING

Bicyclists crossing at intersections are especially vulnerable to drivers making turns. Bicycle intersection striping demarcates space for people biking through intersections. Paint and prominent striping let drivers know they are crossing the bicycle right-of-way and must yield when making turns. Similar to crosswalks, striping through an intersection guides bicyclists along an intended path. White dashed markings are typically used and can be supplemented by green paint to increase visibility and draw attention to potential conflicts.

CONFLICT MARKINGS

Conflict markings can be applied at driveways and other curb cuts to alert drivers to the presence of bicyclists. Dashed green paint is typically used to draw attention to potential conflicts.

COST $$$

TIMELINE

LOCATION **ALL STREETS**

Image Sources: Two-Stage Turn-Queue Box [SFMTA]; Bike Intersection Striping [Sam Schwartz Consulting]; Protected Intersections [Sam Schwartz Consulting]; Conflict Markings [Sam Schwartz Consulting]

Tools for Biking: Trail Crossings

BIKE/PEDESTRIAN WARNING / MARKINGS

Bicycle/pedestrian warning and markings alert trail users to upcoming vehicular traffic. Light rumble strips can be used to further alert bicyclists.

COST $$$

TIMELINE

LOCATION **ALL STREETS**

SIGNALIZATION

Traditional signalized intersections create gaps in traffic flow and allow pedestrians to cross the street. Traffic signals are appropriate at locations where pedestrians would otherwise experience excessive delay or safety issues. The installation of traffic signals is governed by Warrants in the Manual on Uniform Traffic Control Devices (MUTCD) and are generally based on the number of pedestrians and vehicles crossing the intersection, among other conditions.

COST $$$

TIMELINE

LOCATION **MAJOR STREETS**

COST $$$

TIMELINE

LOCATION **MAJOR STREETS**

VEHICLE WARNING / MARKINGS

Vehicle warning and markings alert motorists when they are approaching crossings with off-street paths. Signage may also provide additional bicycle awareness, such as "State Law: 3 Feet Min to Pass Bicycles" for bicycles on roadways.

RECTANGULAR RAPID FLASHING BEACONS (RRFB)

Refer to page 44.

COST $$$

TIMELINE

LOCATION **MAJOR STREETS**

PEDESTRIAN HYBRID BEACON

Refer to page 44.

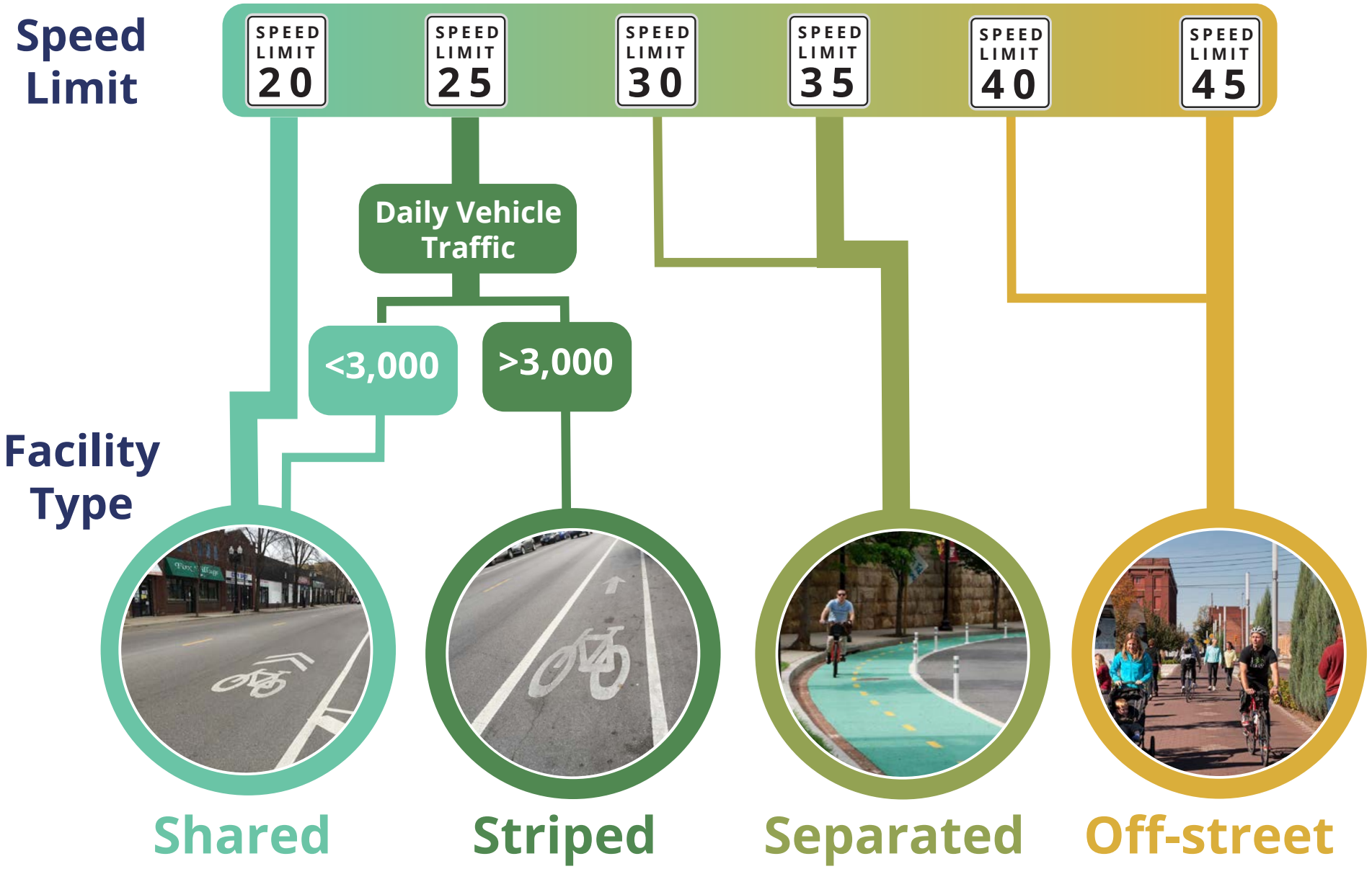
COST $$$

TIMELINE

LOCATION **MAJOR STREETS**

Image Sources: Bike/Pedestrian Warning /Markings [Sam Schwartz Consulting]; Vehicle Warning /Markings [Reston Now]; Signalization [Wikimedia]

Tools for Biking: Facility Selection Guidance



The above criteria are adapted from the National Association of City Transportation Officials' Contextual Guidance for All Ages and Abilities Bikeways.

Tools for Walking & Biking to Transit

TRANSIT STOP SITING

Locating transit stops near trip generators reduces the distance between those generators (e.g., housing or employment centers) and the transit service. Minimizing the distance users must walk or bike to the service makes active modes more attractive and improves safety. When stops are located near intersections, all legs should be marked with high visibility crosswalks. When stops are located midblock, the need for a midblock crossing should be evaluated.

COST $$$

TIMELINE

LOCATION **ALL STREETS**

ENHANCED LIGHTING

Enhanced lighting provides additional lighting where it is insufficient or nonexistent. Enhanced lighting should be installed at transit stops and along paths that lead from nearby destinations to the stop.

COST $$$

TIMELINE

LOCATION **ALL STREETS**

BASIC BUS STOP AMENITIES

A proper transit shelter includes good lighting, protection from the elements, and seating. Including these features means transit users do not have to wait for the bus in the rain or snow and can be protected from the wind and sun. When properly designed, transit shelters can also enhance safety.

COST $$$

TIMELINE

LOCATION **ALL STREETS**

ADDITIONAL BUS STOP AMENITIES

At bus stops with high ridership, additional amenities, such as real-time arrival information and bike parking, can improve the transit user's experience.

COST $$$

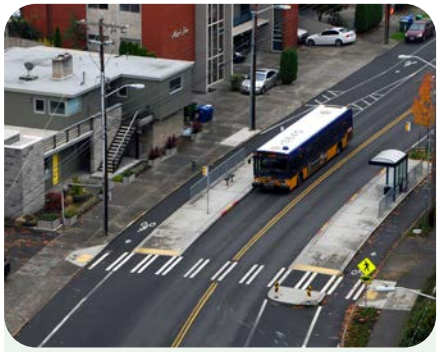
TIMELINE

LOCATION **ALL STREETS**

Image Sources: Transit Stop Siting [People for Bikes]; Basic Bus Stop Amenities [Sam Schwartz Consulting]; Enhanced Lighting [iLight Technologies]; Additional Bus Stop Amenities [Sam Schwartz Consulting]

MID-BLOCK CROSSINGS AND TRANSIT ACCESS

In situations where transit stops cannot be located near intersections and/or existing crosswalks, a mid-block crossing should be established. This is especially important for high-ridership transit. If passengers are frequently crossing at non-marked points, this should serve as an indication that a mid-block crosswalk is needed. Neckdowns, overhead , pavement markings and warning lights can all help alert drivers to a mid-block crossing.



COST $$$

TIMELINE

LOCATION **ALL STREETS**

BICYCLE CHANNELS (AT STAIRS)

Bicycle channels are wheel ramps adjacent to stairs that can help bicyclists more safely transport bikes up and down stairs. Bicycle channels should not be positioned too close to the railing. Bike channels are particularly appropriate at rail stations.

COST $$$

TIMELINE

LOCATION **TRANSIT**

COST $$$$

TIMELINE

LOCATION **TRANSIT**

**SHORT-TERM, LOW-COST IMPLEMENTATION OPPORTUNITY*

STATION AND PARKING LOT DESIGN

Station and parking lot design should foster safe and direct connections between the surrounding street network, parking, curbside, and the station for people walking and biking. Continuous sidewalk connections should be provided between the public right-of-way to the station or platform. If surrounding streets include bicycle facilities, these should be continued through the parking lot to the station or platform. Additional elements like high visibility crosswalks and lighting are also necessary to make it easy and safe for people to walk or bike to transit.

COST $$$

TIMELINE

LOCATION **ALL STREETS**

BUS/ BICYCLE CONFLICT TREATMENT

Bicycle lanes often share space with bus stops. One option to reduce the chance of a bicycle-bus collision and keep bicycle traffic moving is to bend the bicycle lane behind the bus stop waiting area. In this condition, the bicycle lane should either run at the level of the sidewalk or be maintained at street-level and a raised pedestrian crossing be provided to give transit riders an accessible path across the bicycle lane. Special attention must be paid to ensuring there is enough space for ADA clearance.

Image Sources: Mid-Block Crossings [City of Seattle]; Station and Parking Lot Design [National Center for Transit]; Bicycle Channels [City of Seattle]; Bus/Bike Conflict[Sam Schwartz Consulting]

BICYCLE RACKS ON BUSES

Including bicycle racks on all buses makes it feasible for transit users to bike to the bus and to their final destination. This is especially valuable when users origin or destination is outside walking distance from the nearest stop. CTA and Pace both provide bicycle racks on buses to assist riders with their last-mile connections.

COST $$$

TIMELINE

LOCATION **TRANSIT**

BIKE PARKING

One of the most common obstacles for cyclists is a lack of bike parking at their destination. At the most basic level, bike parking encourages people to ride. It also provides for an orderly streetscape and is good for inviting patronage of businesses. For bike parking design, an ideal bike rack provides two points of contact with the bicycle.

COST $$$

TIMELINE

LOCATION **TRANSIT**

COMMUNITY SPOTLIGHT: ARLINGTON HEIGHTS

Covered bike parking (with solar panels) protects bicycles from the elements at the downtown Arlington Heights Metra station.

Image Sources: Bike Racks on Buses [CTA]; Bike Parking [Sam Schwartz Consulting]; Community Spotlight [Metra]

TYPES OF BIKE PARKING:

BIKE RACKS

Bike racks accommodate short-term parking in convenient and visible locations.

BIKE CORRAL

Bike corrals accommodate many bicycles at once and often replace an on-street vehicle parking space.

COVERED BIKE PARKING

Covered, or sheltered, bike parking offers outdoor bicycles more protection from the elements than uncovered racks.

HIGH-CAPACITY BIKE RACKS

High capacity bike racks are typically vertical systems for longer term parking that reduce the area needed to store bikes.

BIKE LOCKERS

Bike lockers provide an enclosed, weather-protected and secured long-term parking space for each individual bike.

BIKE ROOMS

Bike rooms provide a maximum degree of weather protection, security, and comfort.

Image Sources: Clockwise from top left [Sam Schwartz Consulting; Sam Schwartz Consulting; Metra; Sam Schwartz Consulting; Metro Transit; City of Chicago]

Tools for Placemaking

STREET TREES

Street trees are trees planted within the right-of-way, either adjacent to sidewalks or in landscape medians. They provide comfort, safety, shelter and joy, all qualities that draw more people to a space and contribute to a higher quality of life. Street trees have the added benefit of confining perceived street width, slowing drivers. Street trees also provide numerous ecosystem services. They sequester carbon, mitigate the urban heat island effect, manage and filter rain and stormwater, and much more.

COST $$

TIMELINE

LOCATION **ALL STREETS**

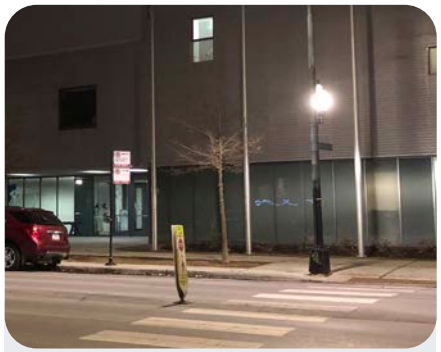
STREET FURNITURE

Street furniture includes benches, tables, and other items that provide a place for pedestrians to sit and rest, eat, or have a conversation. Street furniture signals that a sidewalk is not just a travel corridor but a public space. Street furniture also adds more visual activity to the street right-of-way, positively cautioning and slowing drivers.

COST $

TIMELINE

LOCATION **ALL STREETS**



COST $$$

TIMELINE

LOCATION **ALL STREETS**

HUMAN-SCALED LIGHTING

Human-scaled lighting consists of street lights that are placed closer to the ground for the purpose of lighting pedestrian spaces. Lighting is critical for creating safe and inviting spaces, and human-scaled lighting makes it easier to see people walking. Human-scaled lighting helps improve the pedestrian environment by providing a sense of enclosure, similar to the comforts of a tree canopy, and reinforces the space as pedestrian-friendly.

COST $$$

TIMELINE

LOCATION **MAJOR STREETS**

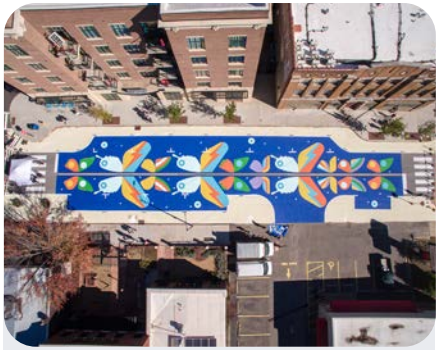
GATEWAY TREATMENTS

A gateway treatment uses architectural features beside or over the roadway and/or sidewalks to signal entrance into a specific neighborhood or business district and indicate a destination.

Image Sources: Street Trees [Sam Schwartz Consulting]; Human-Scaled Lighting [Sam Schwartz Consulting]; Street Furniture [Sam Schwartz Consulting]; Gateway Treatments [Shutterstock]

PAINTED OR TEXTURED INTERSECTIONS

Painted or textured intersections creatively bring color and vibrancy to the intersection with a large-scale painting or textured material. Painted and textured intersections can slow vehicles by introducing unexpected variety, add interesting visual appeal to roadways, and create a sense of community.



COST $$$

TIMELINE

LOCATION **ALL STREETS**

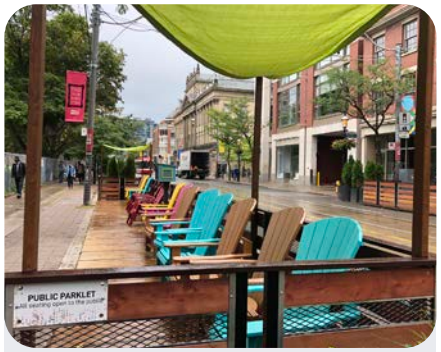
GREEN ALLEY

Green alleys are a stormwater management tool that transform low-traffic service spaces into usable public space. Green alleys use pervious paving, sustainable materials, effective drainage, plantings, seating and enhanced lighting to create a space for people to walk, socialize and play. All the while, service functions are maintained. Careful attention must be paid to ensuring safety where alleys intersect with other streets or pathways at blind corners.

COST $$$

TIMELINE

LOCATION **MINOR STREETS**



COST $$$

TIMELINE

LOCATION **MAJOR STREETS**

PARKLETS

Parklets are temporary public spaces that are constructed in an underused part of the right-of-way, typically a parking space, transforming vehicular space into public space for people. Platforms are built on the street to bring the parklet up to sidewalk level. Parklets can be used for play, art, relaxing, or to provide space to socialize and eat. In addition to providing more space and amenities for people, parklets introduce more visual activity to the street, positively cautioning and slowing drivers.

COST $$$

TIMELINE

LOCATION **ALL STREETS**

**SHORT-TERM, LOW-COST IMPLEMENTATION OPPORTUNITY*

RECLAIMED PLAZAS

Plazas are designed as enhanced gathering spaces within larger areas of pedestrian rights-of-way. Plazas feature enhanced surface paving, furniture, lighting, plantings, and other amenities. Plazas do not need to be large to be meaningful and can be developed by reclaiming space formerly dedicated to vehicular travel. Streamlining complex intersections and tightening turning radii can reveal new plaza spaces. While creating a permanent plaza likely requires construction work, they can be created in the short-term using planters, paint, flexible delineators, and other low-cost materials.

Image Sources: Painted Intersection [Street Plans]; Parklets [Sam Schwartz Consulting]; Green Alley [Sierra Club]; Reclaimed Plaza [Sam Schwartz Consulting]

Tools for Loading/ Unloading Freight

DESIGNATED LOADING ZONES

Designated loading zones are curbside spaces that are marked for commercial loading. The rise of online shopping has been followed by a rise in curbside delivery demand. Designated loading zones provide an opportunity to better accommodate deliveries in a way that decreases chaos and increases safety by preventing dangerous behaviors such as double parking and parking in crosswalks and bicycle lanes. Loading zones are also good candidates for a flex zone whose use shifts throughout the day.

COST $$$

TIMELINE

LOCATION **ALL STREETS**

COST $$$

TIMELINE

LOCATION **ALL STREETS**

FLEX ZONES

Flex zones allow curb uses to change throughout the day, the week or the year. Designated flex zones, for instance, may serve as freight delivery in the morning, food stand space in the afternoon and ride-hailing drop-off spots at night.

DESIGNATED PASSENGER LOADING ZONES

Designated passenger loading zones are curbside spaces that are marked for passenger loading. Ride-hailing services like Lyft and Uber are increasing the number of passengers being picked up and dropped off at the curb. But with limited curb space, these services are blocking bike lanes, stopping unexpectedly and illegally double parking. Designated pick-up and drop-off zones can help reduce this dangerous activity. Designating passenger loading zones requires ride-hailing and other passenger car services to only pick up and drop off in specific spaces, either using signs or by using geofencing technology.

COST $$$

TIMELINE

LOCATION **ALL STREETS**

Image Sources: Designated Loading Zones [Sam Schwartz Consulting]; Flex Zones [Sam Schwartz Consulting]; Designated Passenger Loading [Las Olas Boulevard]

ELECTRONIC SIGNAGE

Electronic signage presents automated, real-time information about flexible curb use. This electronic signage may hang over lanes or may come in the form of smaller, street-side signs. Improving LED technology makes this more realistic and affordable.

COST $$$

TIMELINE

LOCATION **ALL STREETS**

RECESSED STOP BAR

Some intersections accommodating frequent truck turns may require additional space for maneuvering. As an alternate to widening an intersection or increasing corner radii—which increases pedestrian crossing distances—a recessed stop bar may help provide the necessary space for truck turns. Signage may help increase motorist awareness.

COST $$$

TIMELINE

LOCATION **MAJOR STREETS**

Image Sources: Electronic [TCS Traffic]; Recessed Stop Bar [NACTO]

INTERSECTION INVESTIGATION

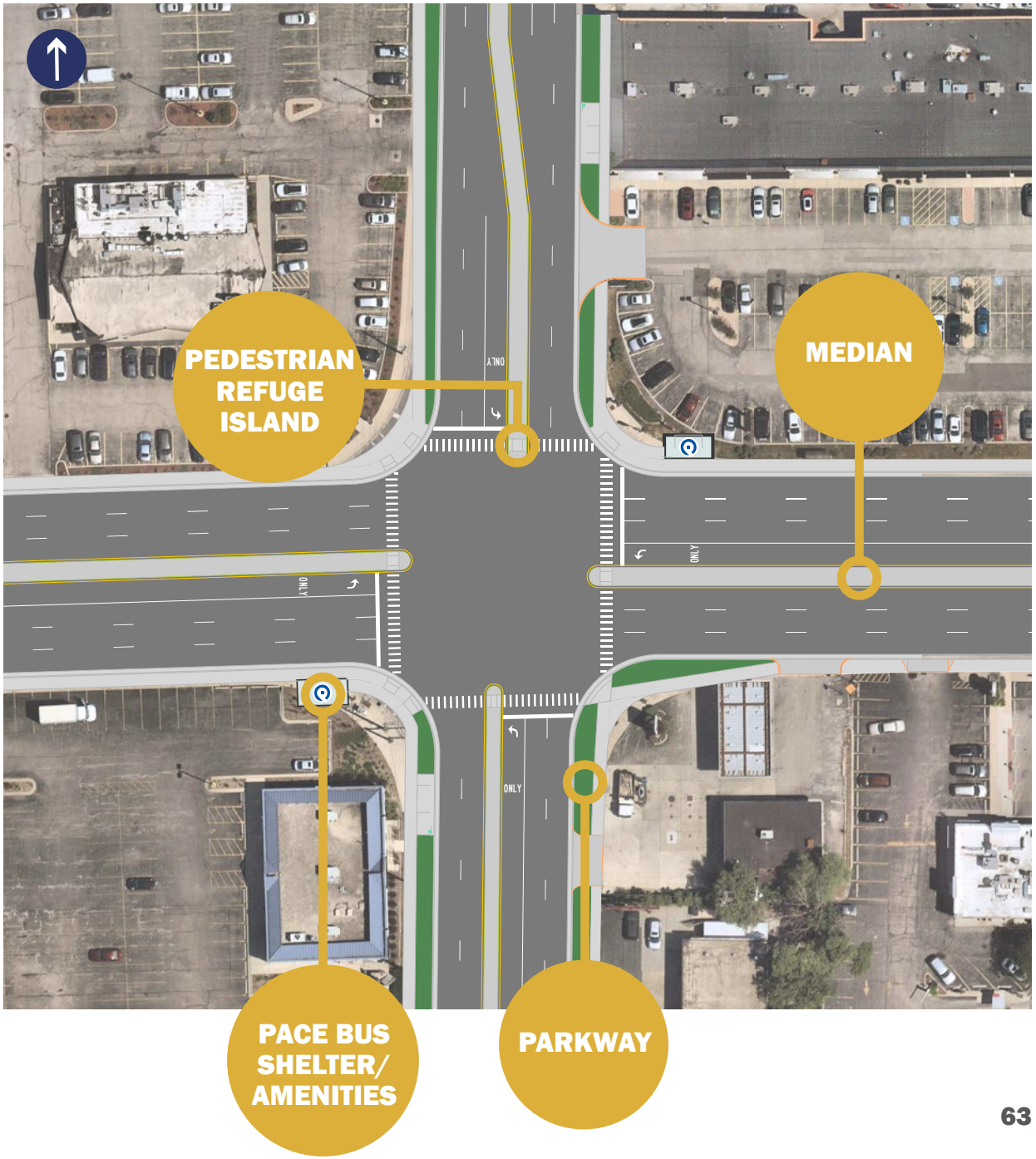
The tools described in the NWMC street design toolbox will often be applied in tandem to address existing issues and improve conditions for people walking and biking. The three examples on the following pages illustrate how multiple tools can be combined to enhance safety and create a holistic solution.

INTERSECTION AT MAJOR STREETS

Example: *Harlem Avenue & Dempster Street*

When major streets meet at an intersection with a traffic signal, it is critical that the intersection be designed so that people walking can safely and easily cross the street. Major intersections can often be intimidating for people walking due the number of lanes to cross and turning traffic. Yet, signalized intersections provide a more controlled location for crossings and accessing transit. Ensure signalized intersection designs use the following tools:

- Small corner radius
- Limited turn lanes
- High-visibility crosswalks
- Parkway separation
- Bus pads and shelters
- Curb ramps
- Ample corner sidewalk
- Access drive consolidation

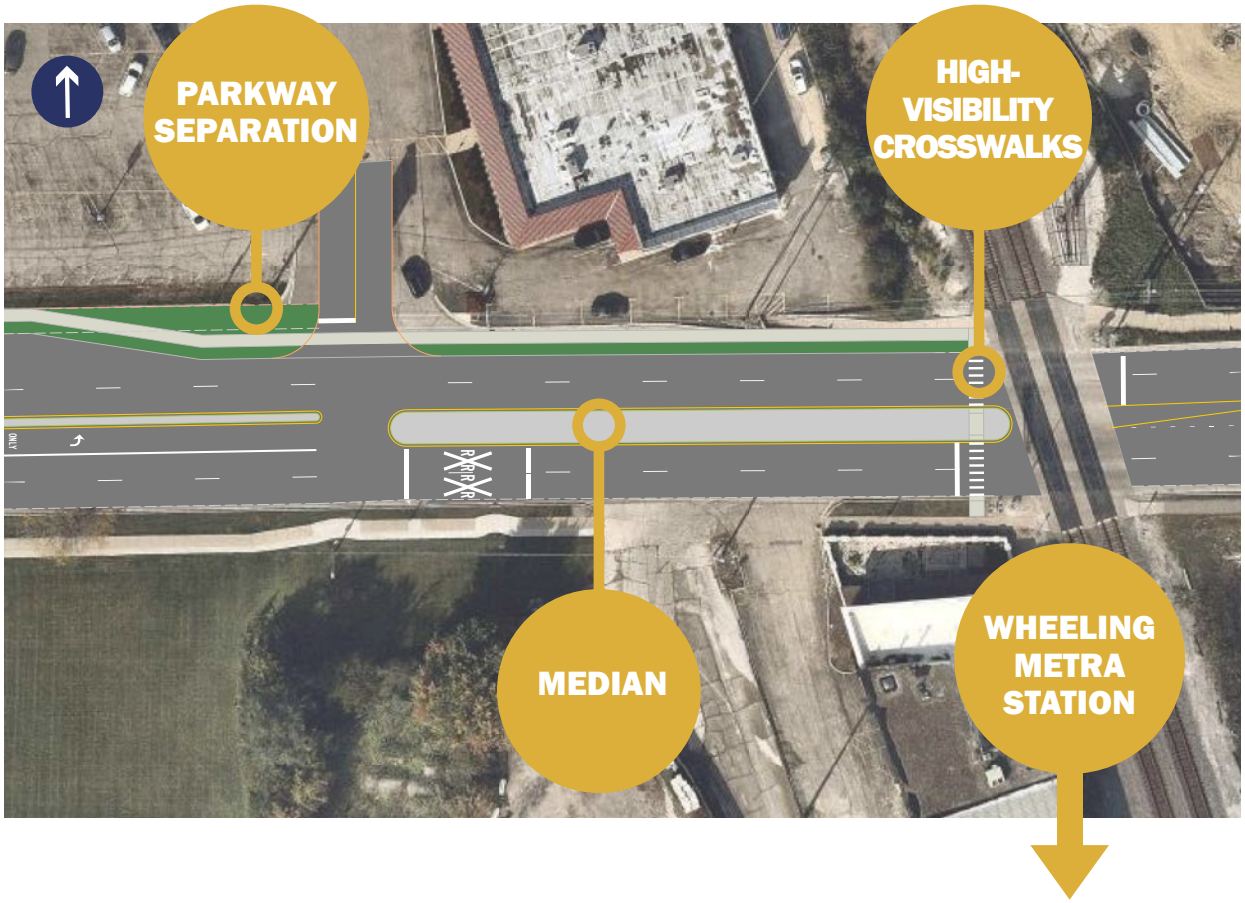


MID-BLOCK CROSSING AT MAJOR STREETS

Example: *Dundee Road at Railroad Tracks*

Mid-block crossings can be installed to provide more frequent crossing opportunities where there are long distances between intersections and limited traffic control. Pedestrian destinations, like transit stations, are particularly appropriate locations for mid-block crossings. There are a wide variety of tools to apply at mid-block crossings, depending on traffic volumes, lane configuration, and travel speed. IDOT provides guidance on adequate treatments, though many locations—like this one adjacent to train tracks—rely on site-specific design.

- Pedestrian refuge island
- High-visibility crosswalks
- Curb ramps
- Pedestrian warning signage
- Parkway separation

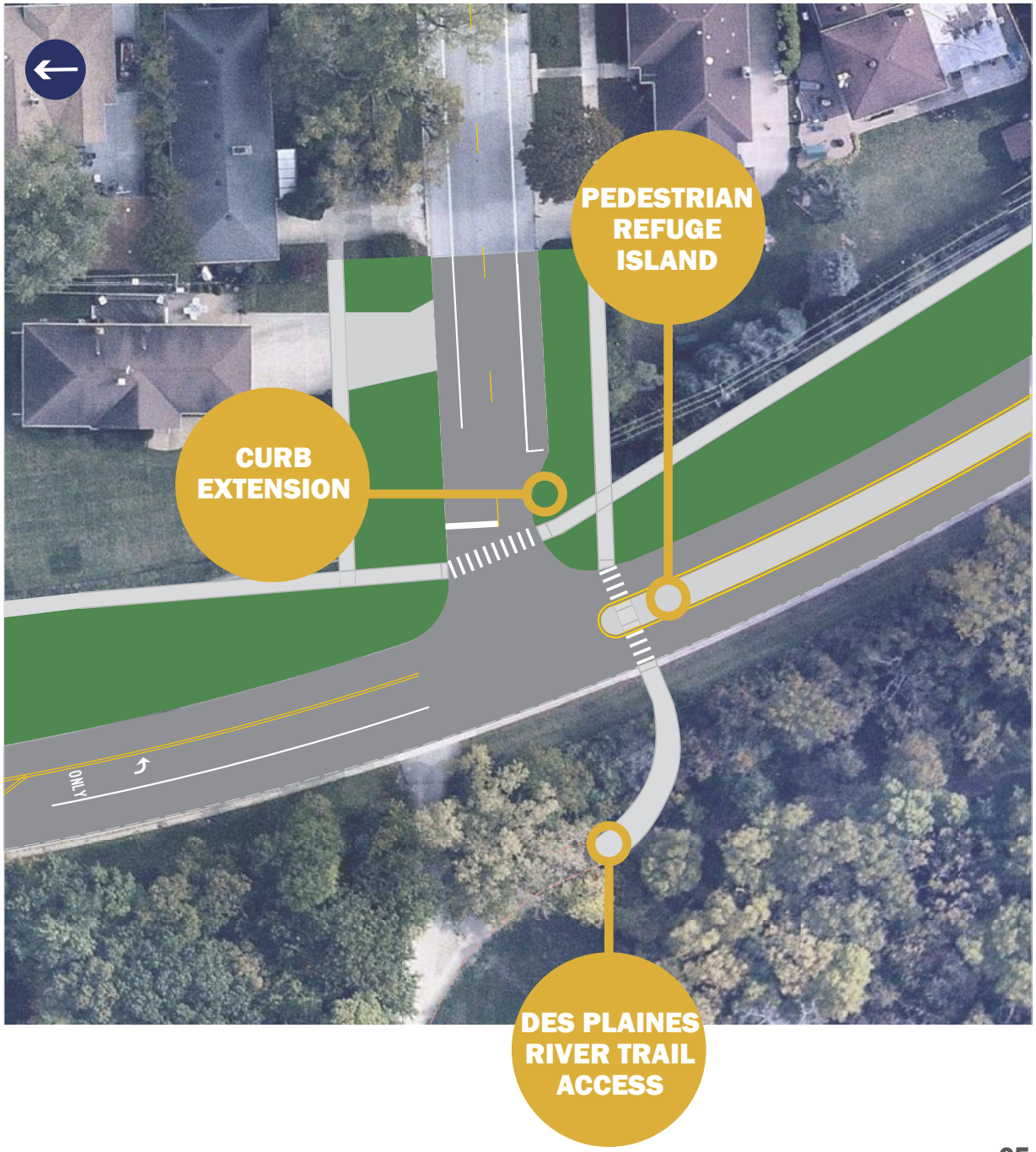


UNCONTROLLED INTERSECTION

Example: *Talcott Road/Riverside Drive at Sibley Street*

At locations where people walking and biking frequently cross a street but there is not a traffic signal or stop sign, extra steps should be taken to create a safe crossing. Tools that reduce crossing distances, improve visibility, and alert drivers are all applicable in these situations.

- High-visibility crosswalks
- Curb extensions and ramps
- Pedestrian refuge island
- Advanced warning signage
- Parkway separation



PROGRAMS & POLICIES TOOLBOX

Crafting smart policies is critical for advancing sustainable, long-term change and institutionalizing processes that support multimodal transportation; a Complete Streets policy is a strong starting point that demonstrates a commitment to safe and accessible multi-modal transportation. Equity for all users is the cornerstone of complete streets, with the primary goal to create a network of streets that are easy to navigate for all including people walking, biking, taking transit, and driving, regardless of age, race, ethnicity, income, or ability. Complete Streets policies are tailored to each community, governing how streets are designed, constructed, operated, and maintained. The National Complete Streets Coalition (NCSC) provides national guidance on Complete Streets policies.

Other policies and programs complement a Complete Street policy and provide guidance on specific aspects of transportation to best support walking, biking and accessing transit.

The following NWMC communities have adopted a Complete Streets policy (as of February 2020):

- Arlington Heights
- Des Plaines
- Evanston
- Highland Park
- Hoffman Estates
- Palatine
- Skokie
- Wilmette

NCSC COMPLETE STREET POLICY GUIDANCE

A successful Complete Streets Policy will:

- *State the vision and intent of the policy, which must include the purpose and what led to the development of a complete streets policy, as well as the specific outcomes that the policy seeks to address.*
- *Identify the diversity of transportation modes in the community.*
- *Broadly identify vulnerable user groups in the community and how the policy will encourage equity through transportation. A successful policy will explicitly require projects and phases to be inclusive of all modes and users.*
- *Identify any exceptions to the policy that will be allowed, and that align with those recommended by the NCSC. The policy must also state a process for evaluating exceptions, who will approve exceptions, and the public notification process.*
- *Requires private developments to comply with the complete streets policy and collaboration between inter-agency departments.*
- *Reference best practices for design such as American Association of State Highway and Transportation Officials (AASHTO), Manual on Uniform Traffic Control Devices (MUTCD), and National Association of City Transportation Officials (NACTO), as well as any regionally specific resources.*
- *Address how varying land uses, and changes to land use policies will comply with and support the goals of complete streets as identified in the policy.*
- *Specify performance measures for evaluating success after implementation. These measures can be quantitative, but should include some qualitative measures that address community and improved quality of life.*
- *Address how equity will be evaluated through project selection and provide project selection criteria.*
- *Outline specific implementation steps and identify decision-making guidelines, design policies, workshops and training for staff, oversight, and a community engagement plan.*

Programs & Policies Tools

Walking & Biking

» Vision Zero
» Sidewalk Requirements
» Bike Network Planning
» Bike & Scooter Share

Transit

» Transit-Oriented Development
» Transit-Supportive Infrastructure

Traffic Calming

» Speed Limit
» Target Speed

Parking

» Off-Street Parking Requirements
» Bike Parking Ordinance

Design

» Site Design
» Universal Design
» Access Management

Coordination

» Safe Routes to School
» Enforcement
» Educational Programming & Encouragement

Programs & Policies

WALKING & BIKING

VISION ZERO

Traffic crashes are not "accidents," in that they are preventable and we, as a society, have the tools to prevent them. That is the premise of the growing movement of Vision Zero, the quest to eliminate all fatalities and serious injuries caused by traffic crashes. Cities across the country have Vision Zero policies and programs that convene departments and advocates to work together to identify goals and develop policies, initiatives, and projects to meet those goals.

SIDEWALK REQUIREMENTS

Sidewalk policies should establish a minimum sidewalk width of 5-feet in most locations and specify wider sidewalks for areas with more pedestrians, such as commercial corridors . Sidewalks to schools and parks may also be wider and benefit from a minimum buffer between the sidewalk and street.

BIKE NETWORK PLANNING

Communities should place a high priority on developing a bike plan which builds off of the regional NWMC bike corridors and CMAP's Northeastern Illinois Regional Greenways and Trails Plan (RGTP). Development of the network should consider neighboring community bike networks and transit as a destination. Coordination between local plans and broader regional efforts, like the NWMC Priority Bicycle Corridors and CMAP's RGTP, is important and can increase a community's opportunity for funding.

BIKE & SCOOTER SHARE

Shared bike and/or scooter programs provide a fleet of bicycles or scooters for individuals to rent for short-term rides. Bike/scooter share programs can be administered by a municipality, operated as a partnership between municipalities and non-profits or private companies, or can be wholly owned and operated by private companies. Traditional bike share programs included physical stations where users checked out, returned, and paid for bikes; however, advances in mobile technology, payment systems, and navigation tools have enabled new programs and services that no longer require stations. Both bike and scooter share programs can offer an alternative to driving for short trips and provide first/last mile connections to transit, but communities need to proactively craft policies and permit systems that regulate the use of shared bikes and scooters. Issues around where vehicles are parked and ensuring everyone can access these services should be considered and addressed before these programs are implemented.

[Below] Scooter share in Chicago.

Image Source: Sam Schwartz Consulting

TRANSIT

TRANSIT-ORIENTED DEVELOPMENT

Transit-oriented development policies encourage development that locates residential and commercial development in close proximity to transit stations and other key destinations. This can be accomplished through Transit-Oriented Development (TOD) zoning designations with increased incentives for development near transit stations.

TRANSIT-SUPPORTIVE INFRASTRUCTURE

Sidewalks are the basic starting point to ensure bicycle and pedestrian access to transit, yet it may take more to make accessing transit appealing on arterial roads. Pace has written Transit Supportive Guidelines that describe ways to increase passenger comfort and convenience. Municipalities should work towards ensuring that all bus stops in the community meet Pace's guidelines.

Pace's Transit Supportive Guidelines

TRAFFIC CALMING

SPEED LIMIT

Communities are examining speed limits on streets they control due to the recognition that pedestrian safety decreases drastically as speed increases. Exemplary cities have reduced speed limits to 20 MPH on local streets and 25 MPH on major streets. Other countermeasures or targeted enforcement may be needed if the street is designed for higher speeds.

TARGET SPEED

Target speed policies mandate that streets be designed for an appropriate speed given the surrounding context ,rather than simply designing a street to maintain existing operating speeds - which may be too fast for safe walking and bicycling.

PARKING

OFF-STREET PARKING REQUIREMENTS

Off-street parking is a key factor in site design and overall walkability. Minimum parking requirements can inadvertently discourage walking and biking by supplying more parking than needed. Communities may consider eliminating the use of parking requirements to allow the market to determine the appropriate amount of parking and adjust to changes in transportation habits and technology. A phased approach may start by allowing for parking reductions through shared parking and other means, followed by elimination of off-street parking requirements for small development and/or within the downtown core, and ultimately working toward the elimination of all requirements.

BIKE PARKING ORDINANCE

Bike parking ordinances require that bike parking be made available with new developments. Stronger ordinances incorporate good design standards by accommodating short- and long-term use and incentivizing the replacement of vehicle space bike parking spaces.

DESIGN

SITE DESIGN

Municipal zoning and subdivision ordinances can ensure development sites support walking, biking, and transit access by requiring continuous sidewalk connections between the public sidewalk and building entries. Placemaking tools discussed in the toolbox can encourage walking and general pedestrian activity between the street and building.

UNIVERSAL DESIGN

Universal design refers to transportation facilities and services that accommodate the widest range of potential users, including people with mobility and visual impairments and other special needs. Designs that promote universal access are comprehensive and accommodate the widest range of potential users, which benefits everyone.

ACCESS MANAGEMENT

Access management policies impose minimum spacing of driveways. Every driveway introduces a conflict point between pedestrians and vehicles and an opportunity for a crash. In addition to safety concerns, driveways often interrupt the flow of travel, making the route less comfortable. Requiring complementary properties to consolidate and share driveways when feasible will minimize interruption to the sidewalk network. Access should be reviewed as part of the development review. Proper access design prioritizes the pedestrian by maintaining the sidewalk level across the driveway.

COORDINATION

SAFE ROUTES TO SCHOOL

The Safe Routes Partnership and National Center for Safe Routes to School assists communities in encouraging school-aged children to walk and bike safely to school. Both websites provide helpful case studies, trainings, and other resources that communities can use to develop walking maps, or initiate groups, programs, and events. Municipalities should partner with school districts to develop school travel plans and support school crossing guards where determined necessary.

ENFORCEMENT

Communities should discourage unsafe driving and enforce safe travel and traffic laws, in conjunction with other tools outlined in this toolbox. Officers should be trained to enforce the Illinois State law that requires motorists to stop for pedestrians in crosswalks. Other enforcement tactics to consider include:

- **Targeted Education.** Targeted education focuses on specific behaviors that are a safety concern and complements enforcement efforts with education. Police officers can disseminate informational materials and media coverage can help publicize the enforcement efforts. Often, the enforcement does not result in ticketing, but instead focuses on the educational value of addressing specific behaviors.
- **Safety Zones & Automated Enforcement.** Some communities identify safety zones around schools and parks and use enhanced signage and automated safety cameras to identify and ticket motorists who are exceeding the speed limit.

EDUCATIONAL PROGRAMMING & ENCOURAGEMENT

Walking or biking more is a significant behavior change for many individuals. For these behavior changes to last, ongoing support is needed. Under the direction of or in partnership with municipalities, organizations like law enforcement, park districts, school districts, business associations, and advocacy groups can support educational programming. For example, a school or the police department might lead a youth-focused bike safety campaign or a local healthcare employer might lead a campaign on the health benefits of active transportation. Social media is also an excellent platform for marketing and building awareness around topics like complete streets education, safe speeds, or stopping for pedestrians in crosswalks.

Municipalities have endless opportunities to inform the community about walking, biking and transit service, and encourage and market active transportation through means such as:

- Bike maps
- Pedestrian route maps
- Improvement updates
- Bike Ambassador programs
- Bike light giveaways
- Bike Pit Stop events
- Bike valet at events
- Community bike rides
- Bike to Work competitions
- Open streets events

TOOLBOX RESOURCES

The following resources helped inform the Multimodal Street Design Toolbox and Multimodal Programs & Policies Toolbox. The resources may further support planning efforts.

STREET DESIGN TOOLBOX RESOURCES

Complete Streets Toolkit
Provided by Chicago Metropolitan Agency for Planning (CMAP) in collaboration with Active Transportation Alliance and the National Complete Streets Coalition
https://www.cmap.illinois.gov/programs/local-ordinances-toolkits/complete-streets

Designing Walkable Urban Thoroughfares: A Context Sensitive Approach
Provided by Congress for New Urbanism (CNU) and Institute of Transportation Engineers (ITE)
https://www.ite.org/pub/?id=e1cff43c%2D2354%2Dd714%2D51d9%2Dd82b39d4dbad
or https://www.cnu.org/our-projects/cnu-ite-manual

Don't Give Up at the Intersection: Designing All Ages and Abilities Bicycle Crossings
Provided by National Association for City Transportation Officials (NACTO)
nacto.org/saferintersections

Urban Street Design Guide
Provided by National Association for City Transportation Officials (NACTO)
https://nacto.org/publication/urban-street-design-guide/

Urban Bikeway Design Guide
Provided by NACTO
https://nacto.org/publication/urban-bikeway-design-guide/

Chicago Streets for Cycling 2020
Provided by City of Chicago
https://www.chicago.gov/content/dam/city/depts/cdot/bike/general/ChicagoStreetsforCycling2020.pdf

Guide for the Development of Bicycle Facilities
Provided by American Association of State Highway and Transportation Officials (AASHTO)
https://nacto.org/wp-content/uploads/2015/04/AASHTO_Bicycle-Facilities-Guide_2012-toc.pdf

Curbside Management Practitioners Guide
Provided by ITE
https://www.ite.org/pub/?id=C75A6B8B-E210-5EB3-F4A6-A2FDDA8AE4AA

Transit Street Design Guide
Provided by NACTO
https://nacto.org/publication/transit-street-design-guide/

Transit Supportive Guidelines
Provided by Pace
http://www.pacebus.com/guidelines/index.asp

Road Diet Informational Guide
Provided by Federal Highway Administration (FHWA)
https://safety.fhwa.dot.gov/road_diets/resources/pdf/fhwasa17021.pdf

Traffic Calming Measures
Provided by ITE
https://www.ite.org/technical-resources/traffic-calming/traffic-calming-measures/

Traffic Calming ePrimer
Provided by FHWA
https://safety.fhwa.dot.gov/speedmgt/traffic_calm.cfm

PROGRAMS & POLICIES TOOLBOX RESOURCES

Elements of a Complete Streets Policy
Provided by National Complete Streets Coalition (NCSC) and Smart Growth America
https://smartgrowthamerica.org/resources/elements-complete-streets-policy/

What is Vision Zero?
Provided by Vision Zero
https://visionzeronetwork.org/

Safe Routes to School
Provided by Safe Routes Partnership
https://www.saferoutespartnership.org/safe-routes-school

Safe Routes
Provided by National Center for Safe Routes to School
http://www.saferoutesinfo.org/

Transit Supportive Guidelines
Provided by Pace
http://www.pacebus.com/guidelines/index.asp

IMPLEMENTATION

Building a transportation system that is safe, comfortable, and easy to use for people walking, biking, and using transit will require a concerted effort by NWMC and member municipalities to design, fund, and build projects that address the needs of all modes of transportation. Summary pages and cost estimates were developed for each bike corridor and sidewalk gaps were prioritized to provide guidance on where to focus limited funds. The implementation section also includes information on project development, maintenance, and funding opportunities, as well as potential partners for various initiatives that can support community efforts.

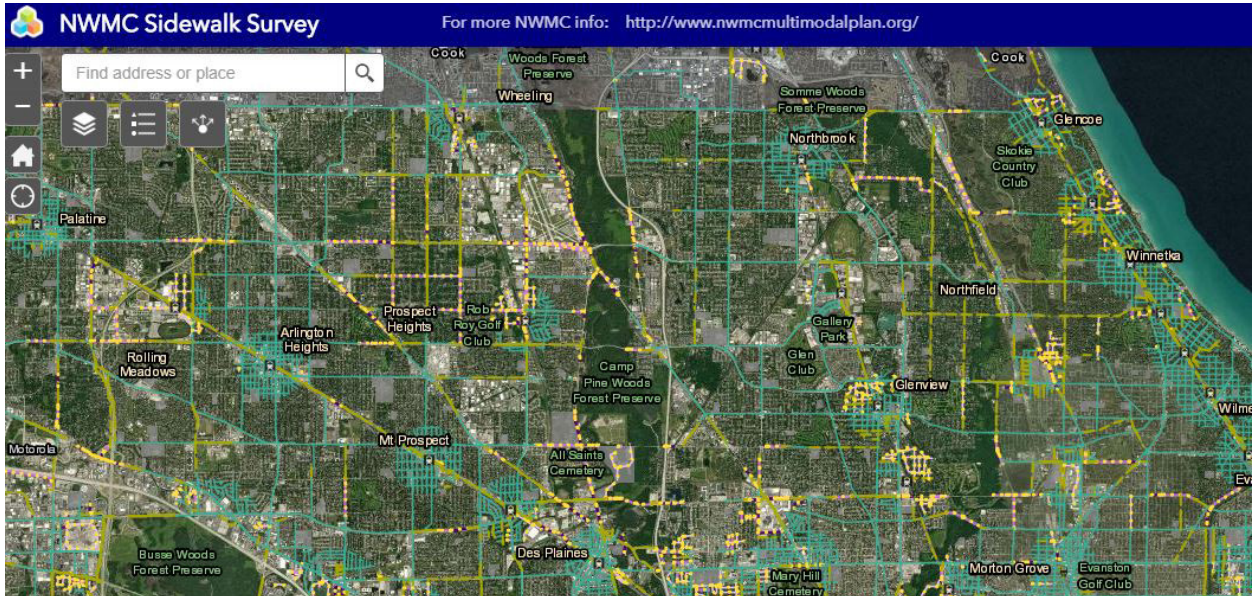
ONLINE RESOURCES

Clear priorities for which projects should be addressed first can help make an overwhelming problem more approachable and provide guidance on where to focus limited funds. Online maps with information about the priority bicycle corridors and sidewalk gaps are available for communities to reference and incorporate into future work.

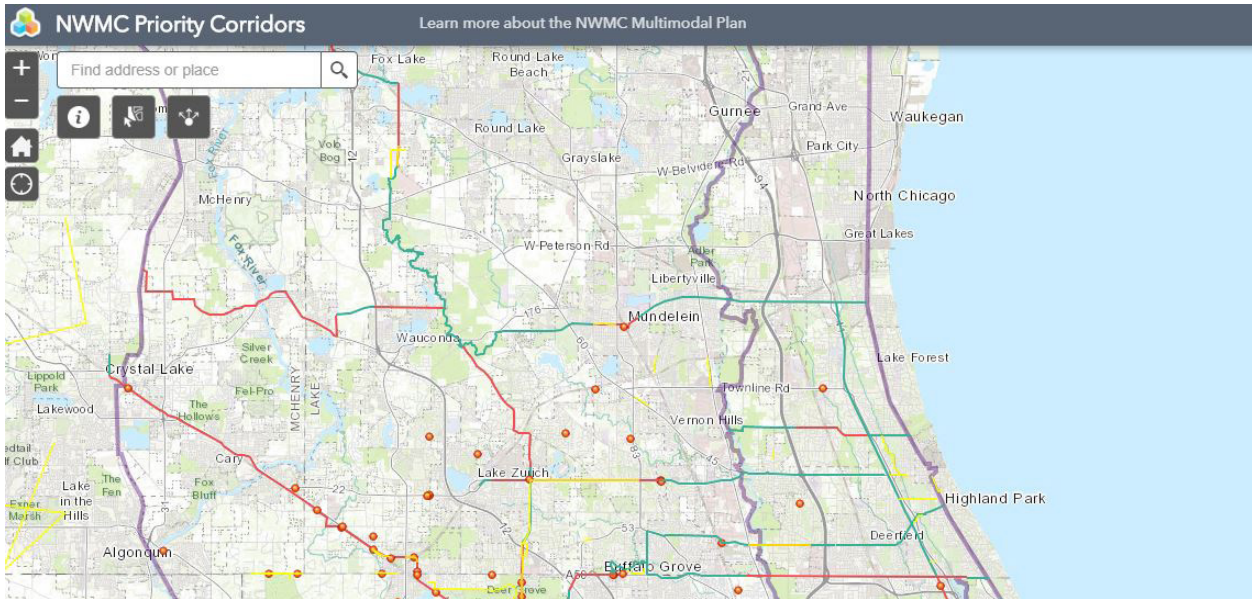
Link to **Sidewalk Survey** map*: arcg.is/1LWPne
Link to **Priority Corridors** map*: arcg.is/0XvDjf

* Updated February 2020

Online Sidewalk Survey Map



Online Priority Corridors Map



SNAPSHOT OF PRIORITY BICYCLE CORRIDORS

Implementation of the priority bicycle corridors will rely on local initiative and regional coordination. NWMC will work with its member municipalities and other partners to further the completion of gaps in the corridors. NWMC will lead the effort in tracking progress on the corridors and reporting out corridor completion. For each bike corridor, the following one-page snapshots were developed to assist in planning and funding improvements. The corridors include:

- Antioch Connector
- Barrington-Wilmette Bikeway
- Barrington Road Bikeway
- Deerfield Road Bikeway
- Dundee Road Bikeway
- Elk Grove - Evanston Bikeway
- Evanston - Elgin Bikeway
- Everett and Old Elm Bikeway
- Fox Lake Connector
- Fox River-Busse Woods Bikeway
- Half Day Road Bikeway
- Higgins Road Bikeway
- Lake Cook Bikeway
- Millennium Trail
- Northwest Bikeway
- OCC to Channel Bikeway
- Palatine Trail
- Skokie Valley Trail
- Willow Road Bikeway

PRIORITY CORRIDOR EVALUATION CRITERIA

Connectivity to regional destinations

Major destinations (education, parks, and shopping)within a quarter mile of the corridor - *'HIGH' indicates a strong degree of connectivity to destinations.*

Connectivity to trail network

Intersecting regional trails - *'HIGH' indicates the corridor intersects several or all regional trails.*

Connectivity to transit

Metra stations, CTA stations, and/or Pace routes within a quarter mile of the corridor - *'HIGH' indicates a strong degree of connectivity to nearby transit.*

Route Directness

The ratio of route distance to straight line distance for trail end points- *'HIGH' indicates a more direct route.*

Major Barriers

Intersecting barriers including highways, railroads, or rivers. *'HIGH' indicates the corridor intersects several barriers.*

Level of traffic stress for people biking

The stress for a person biking which considers the number of travel lanes, traffic volume, speed limit, and bike facility (if present) - *'HIGH' indicates the highest stress and discomfort.*

Population within half mile

Census block group population intersecting the corridor. *'HIGH' indicates a denser community living near the corridor.*

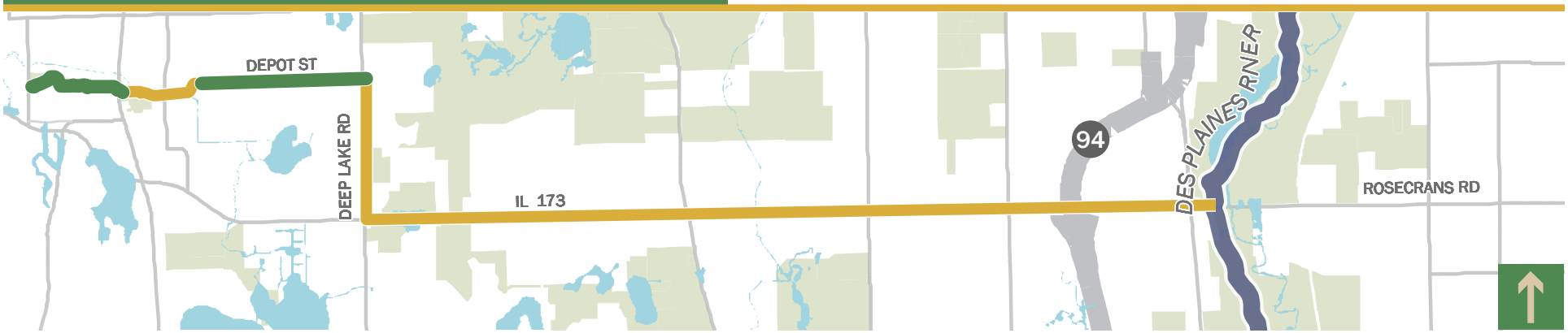
Jobs within half mile

The sum of jobs within half-mile of the corridor. *'HIGH' indicates a denser number of jobs near the corridor.*

Crashes where a person walking/ biking was seriously injured or killed

Severe injuries (Injury A) and fatalities within a half mile of corridor. *'HIGH' indicates a stronger number of injury or fatality-causing crashes.*

Antioch Connector



Priority Corridor - Existing | Priority Corridor - Nonexisting | Regional Trail | Other Priority Corridor

EXISTING RECOMMENDATION • 9.6 MILES TOTAL DISTANCE • 20% EXISTING • 80% PLANNED

NWMC COMMUNITIES CROSSED:

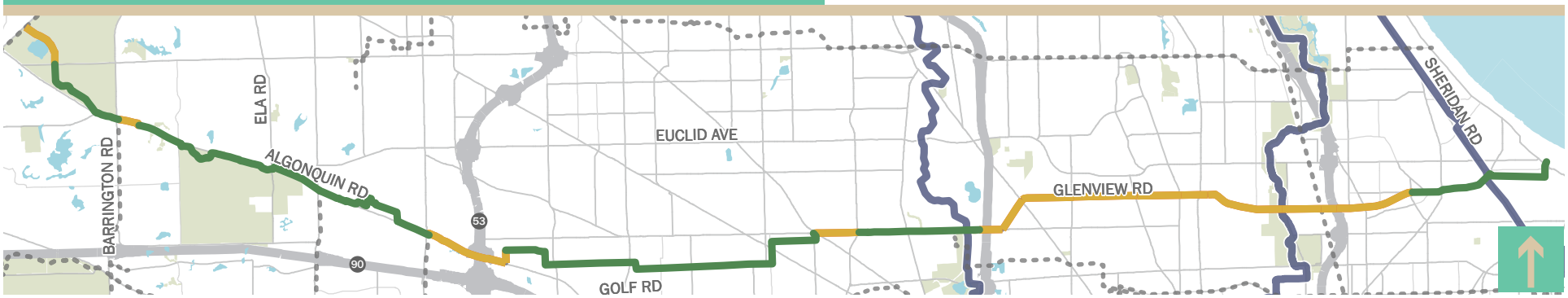
» Antioch

The **ANTIOCH CONNECTOR** travels through Wadsworth, Old Mill Creek, and Antioch. The corridor links the Des Plaines River Trail and the Antioch Metra station in the village's downtown. A notable barrier along the route that impedes its development is the crossing of I-94.

EVALUATION CRITERIA:

Connectivity to regional destinations	**LOW**
Connectivity to trail network	**LOW**
Connectivity to transit	**LOW**
Route directness	**MEDIUM**
Major barriers	**MEDIUM**
Level of traffic stress for cyclists	**HIGH**
Population within a half mile	**LOW** *(8,716)*
Jobs within a half mile	**LOW** *(3,310)*
Crashes where a pedestrian/cyclist was seriously injured/killed	**LOW** *(4)*

Barrington-Wilmette Bikeway



Priority Corridor - Existing | Priority Corridor - Nonexisting | Regional Trail | Other Priority Corridor

EXISTING RECOMMENDATION • 28.4 MILES TOTAL DISTANCE • 65% EXISTING • 30% PLANNED

NWMC COMMUNITIES CROSSED:

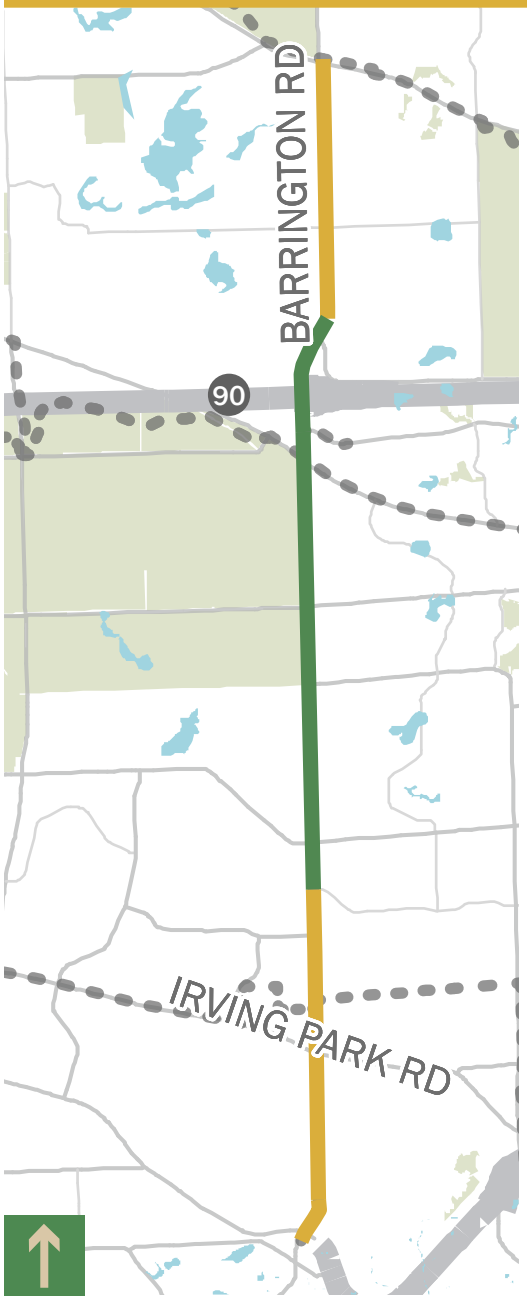
- Schaumburg
- Rolling Meadows
- Arlington Heights
- Mount Prospect
- Des Plaines
- Wilmette

The **BARRINGTON - WILMETTE BIKEWAY** provides an east-west route through several NWMC communities and priority corridors. The route connects to the Robert McClory Trail, North Branch Trail, and Des Plaines River Trail. The route must cross a number of major barriers, including three interstates. Additionally, safety issues have resulted in approximately an average of six crashes a year where a pedestrian/cyclist was seriously injured/killed.

EVALUATION CRITERIA:

Connectivity to regional destinations	**MEDIUM**
Connectivity to trail network	**HIGH**
Connectivity to transit	**HIGH**
Route directness	**MEDIUM**
Major barriers	**HIGH**
Level of traffic stress for cyclists	**HIGH**
Population within a half mile	**HIGH** *(81,563)*
Jobs within a half mile	**MEDIUM** *(45,897)*
Crashes where a pedestrian/cyclist was seriously injured/killed	**HIGH** *(24)*

Barrington Road Bikeway



The **BARRINGTON ROAD BIKEWAY** is a north-south route that follows Barrington Road. The bikeway connects to other priority corridors, Barrington-Wilmette Bikeway, Higgins Road Bikeway and Evanston-Elgin Bikeway, near the Janura Forest Preserve.

- Priority Corridor - Existing
- Priority Corridor - Nonexisting
- Regional Trail
- Other Priority Corridor

NEW RECOMMENDATION

•

7.6 MILES TOTAL DISTANCE

•

48% EXISTING

•

52% PLANNED

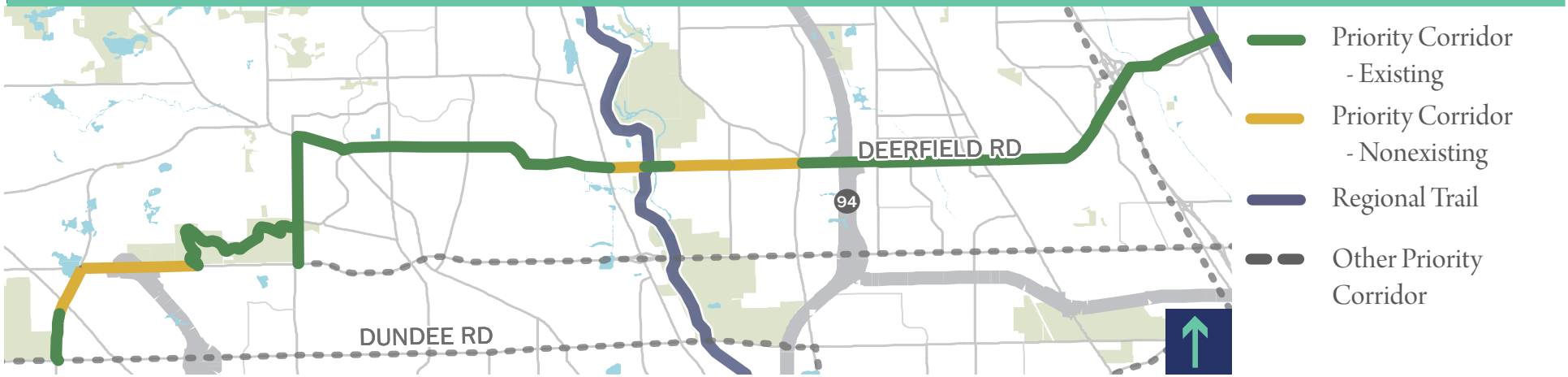
NWMC COMMUNITIES CROSSED:

- Hoffman Estates
- Streamwood
- Schaumburg
- Hanover Park

EVALUATION CRITERIA:

Connectivity to regional destinations	**LOW**
Connectivity to trail network	**LOW**
Connectivity to transit	**LOW**
Route directness	**HIGH**
Major barriers	**LOW**
Level of traffic stress for cyclists	**HIGH**
Population within a half mile	**LOW** *(19,385)*
Jobs within a half mile	**LOW** *(17,231)*
Crashes where a pedestrian/cyclist was seriously injured/killed	**MEDIUM** *(10)*

Deerfield Road Bikeway



EXISTING RECOMMENDATION • 15.9 MILES TOTAL DISTANCE • 78% EXISTING • 22% PLANNED

NWMC COMMUNITIES CROSSED:

- Highland Park
- Deerfield
- Buffalo Grove

The **DEERFIELD ROAD BIKEWAY** is nearly three-quarters complete and connects multiple NWMC communities. The route provides an east-west connection from the Robert McClory Trail to the Des Plaines River Trail and passes multiple Metra stations. One of the major barriers, crossing I-94 and I-294, has already been addressed.

EVALUATION CRITERIA:

Connectivity to regional destinations	**MEDIUM**
Connectivity to trail network	**MEDIUM**
Connectivity to transit	**MEDIUM**
Route directness	**MEDIUM**
Major barriers	**MEDIUM**
Level of traffic stress for cyclists	**HIGH**
Population within a half mile	**MEDIUM** *(47,003)*
Jobs within a half mile	**MEDIUM** *(37,956)*
Crashes where a pedestrian/cyclist was seriously injured/killed	**LOW** *(8)*

Dundee Road Bikeway

Priority Corridor - Existing | Priority Corridor - Nonexisting | Regional Trail | Other Priority Corridor

CHANGES TO AN EXISTING RECOMMENDATION • 29.9 MILES TOTAL DISTANCE • 16% EXISTING • 20% PLANNED

NWMC COMMUNITIES CROSSED:

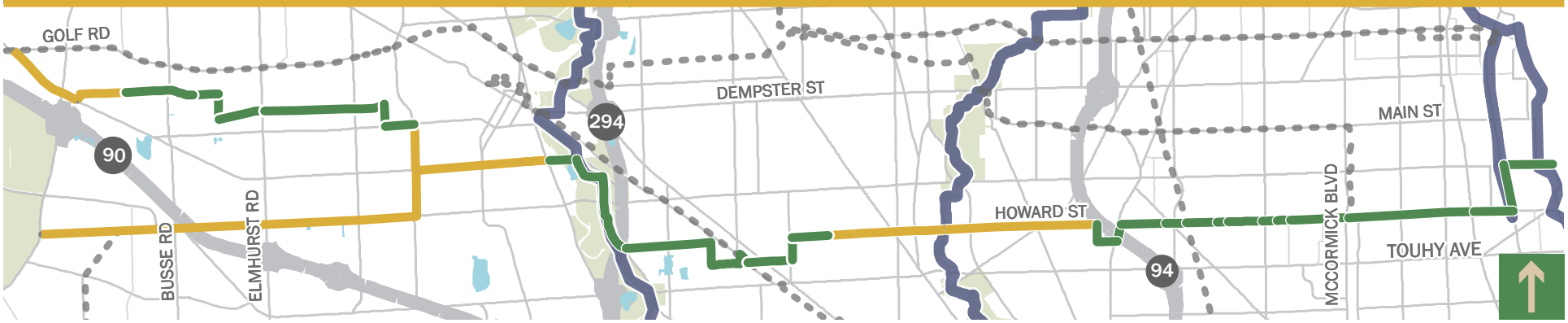
- Glencoe
- Northbrook
- Wheeling
- Arlington Heights
- Palatine
- Barrington
- West Dundee

The **DUNDEE ROAD BIKEWAY** is a nearly 30-mile east-west route that crosses a number of NWMC communities. The route intersects all four regional trails, as well as several NWMC priority corridors. The bikeway encounters many barriers including crossing the Des Plaines River, Illinois 53, and I-294. Safety issues have resulted in approximately six crashes each year where a pedestrian/cyclist was seriously injured/killed.

EVALUATION CRITERIA:

Connectivity to regional destinations	**HIGH**
Connectivity to trail network	**HIGH**
Connectivity to transit	**MEDIUM**
Route directness	**HIGH**
Major barriers	**HIGH**
Level of traffic stress for cyclists	**HIGH**
Population within a half mile	**HIGH** *(80,414)*
Jobs within a half mile	**MEDIUM** *(42,198)*
Crashes where a pedestrian/cyclist was seriously injured/killed	**HIGH** *(24)*

Elk Grove - Evanston Bikeway



Priority Corridor - Existing | Priority Corridor - Nonexisting | Regional Trail | Other Priority Corridor

CHANGES TO EXISTING RECOMMENDATION • 27.4 MILES TOTAL DISTANCE • 58% EXISTING • 42% PLANNED

NWMC COMMUNITIES CROSSED:

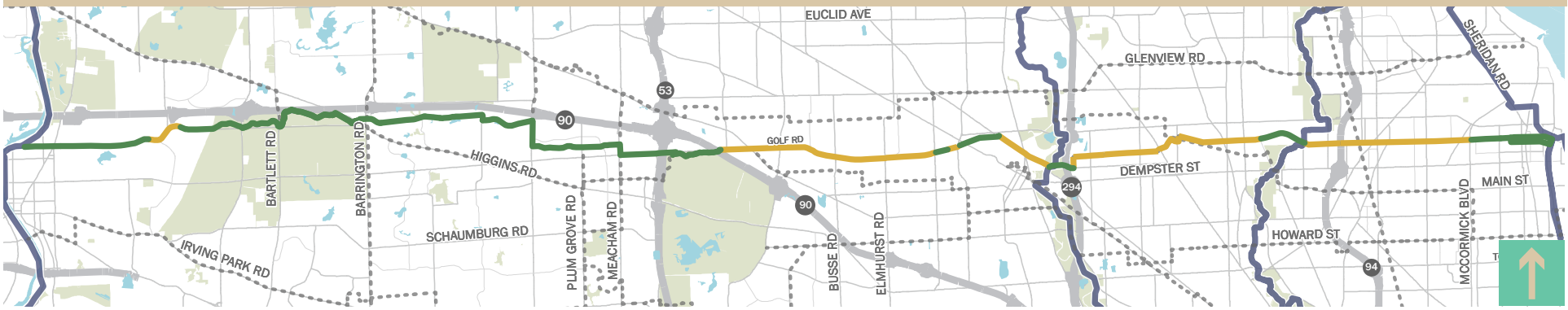
- Evanston
- Skokie
- Niles
- Park Ridge
- Des Plaines
- Elk Grove
- Mount Prospect
- Arlington Heights
- Rolling Meadows

The **ELK GROVE - EVANSTON BIKEWAY** is an east-west route that crosses several regional trails and forest preserves including Algonquin Woods and Busse Woods. It is one of the few priority corridors that connects to the CTA system and provides outstanding access to jobs, with more than 100,000 jobs within a half-mile of the route. Safety issues include crossing three interstates.

EVALUATION CRITERIA:

Connectivity to regional destinations	**MEDIUM**
Connectivity to trail network	**HIGH**
Connectivity to transit	**HIGH**
Route directness	**LOW**
Major barriers	**MEDIUM**
Level of traffic stress for cyclists	**HIGH**
Population within a half mile	**HIGH** *(65,479)*
Jobs within a half mile	**HIGH** *(105,290)*
Crashes where a pedestrian/cyclist was seriously injured/killed	**HIGH** *(79)*

Evanston - Elgin Bikeway



Priority Corridor - Existing | Priority Corridor - Nonexisting | Regional Trail | Other Priority Corridor

EXISTING RECOMMENDATION • 35.1 MILES TOTAL DISTANCE • 57% EXISTING • 11% PLANNED

NWMC COMMUNITIES CROSSED:

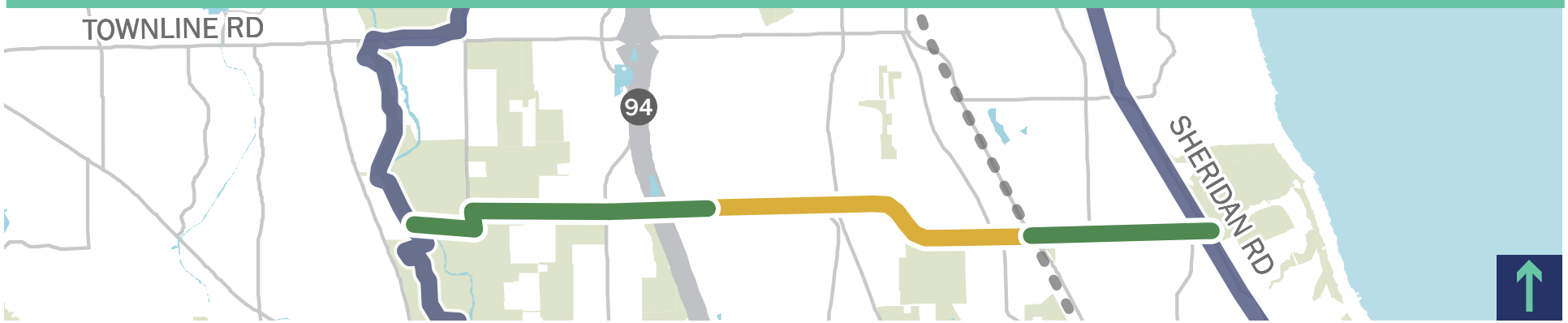
- Evanston
- Skokie
- Morton Grove
- Niles
- Des Plaines
- Mount Prospect
- Arlington Heights
- Rolling Meadows
- Schaumburg
- Hoffman Estates

The **EVANSTON - ELGIN BIKEWAY** is one of the longest priority corridors. It crosses numerous NWMC communities and all four regional trails. In addition to linking several priority corridors, the route has good access to jobs, forest preserves, and more than 75,000 residents live along the bikeway. The route faces several barriers including crossing I-94, I-294, and I-290. Safety issues have resulted in nearly 20 crashes each year where a pedestrian/cyclist was seriously injured/killed.

EVALUATION CRITERIA:

Connectivity to regional destinations	**HIGH**
Connectivity to trail network	**HIGH**
Connectivity to transit	**HIGH**
Route directness	**MEDIUM**
Major barriers	**HIGH**
Level of traffic stress for cyclists	**HIGH**
Population within a half mile	**HIGH** *(76,341)*
Jobs within a half mile	**HIGH** *(116,787)*
Crashes where a pedestrian/cyclist was seriously injured/killed	**HIGH** *(78)*

Everett and Old Elm Bikeway



Priority Corridor - Existing | Priority Corridor - Nonexisting | Regional Trail | Other Priority Corridor

EXISTING RECOMMENDATION • 6.1 MILES TOTAL DISTANCE • 59% EXISTING • 41% PLANNED

NWMC COMMUNITIES CROSSED:

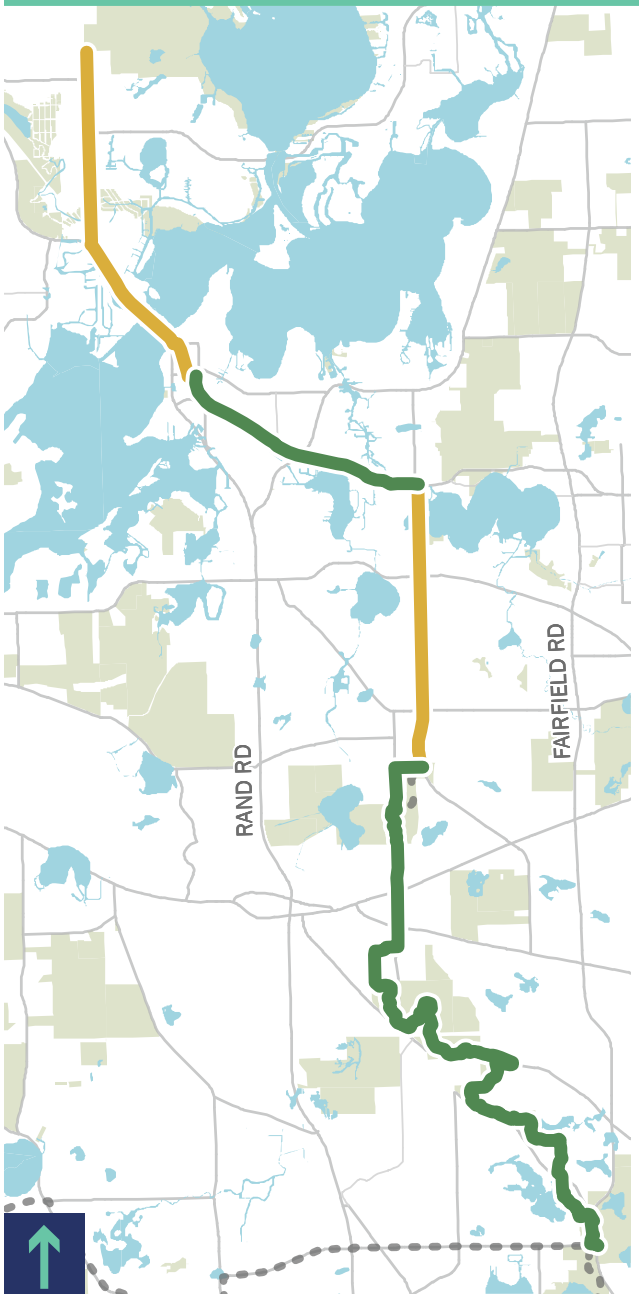
- Highland Park
- Lake Forest
- Lincolnshire

The **EVERETT AND OLD ELM BIKEWAY** is a short, yet important east-west route that connects the Robert McClory trail to the Des Plaines River corridor. The route also crosses the Skokie Valley Trail. Bikeway barriers include crossing Skokie Hwy (US 41).

EVALUATION CRITERIA:

Connectivity to regional destinations	**LOW**
Connectivity to trail network	**MEDIUM**
Connectivity to transit	**LOW**
Route directness	**HIGH**
Major barriers	**LOW**
Level of traffic stress for cyclists	**HIGH**
Population within a half mile	**LOW** *(17,967)*
Jobs within a half mile	**LOW** *(3,535)*
Crashes where a pedestrian/cyclist was seriously injured/killed	**LOW** *(2)*

Fox Lake Connector



The **FOX LAKE CONNECTOR** is a north-south route that connects Fox Lake to the Millennium Trail. It serves as an important route to Fox Lake as it is the only priority corridor connecting the NWMC community to other corridors. The route ends at the Chain O'Lakes State Park.

NEW RECOMMENDATION

•

17.2 MILES TOTAL DISTANCE

•

61% EXISTING

•

39% PLANNED

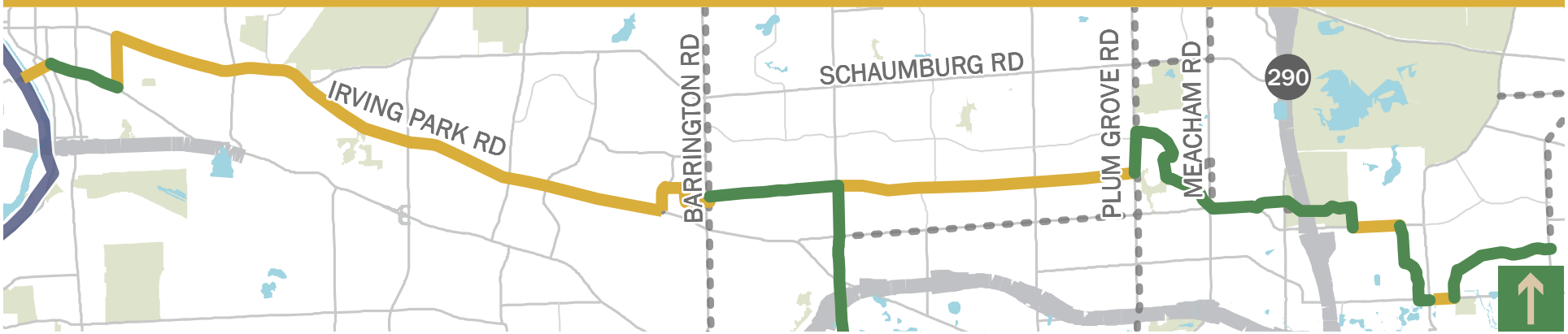
NWMC COMMUNITIES CROSSED:

» Fox Lake

EVALUATION CRITERIA:

Connectivity to regional destinations	**LOW**
Connectivity to trail network	**LOW**
Connectivity to transit	**LOW**
Route directness	**MEDIUM**
Major barriers	**MEDIUM**
Level of traffic stress for cyclists	**HIGH**
Population within a half mile	**LOW** *(17,967)*
Jobs within a half mile	**LOW** *(3,535)*
Crashes where a pedestrian/cyclist was seriously injured/killed	**LOW** *(2)*

Fox River - Busse Woods Bikeway



Priority Corridor - Existing | Priority Corridor - Nonexisting | Regional Trail | Other Priority Corridor

NEW RECOMMENDATION • 22.5 MILES TOTAL DISTANCE • 41% EXISTING • 34% PLANNED

NWMC COMMUNITIES CROSSED:

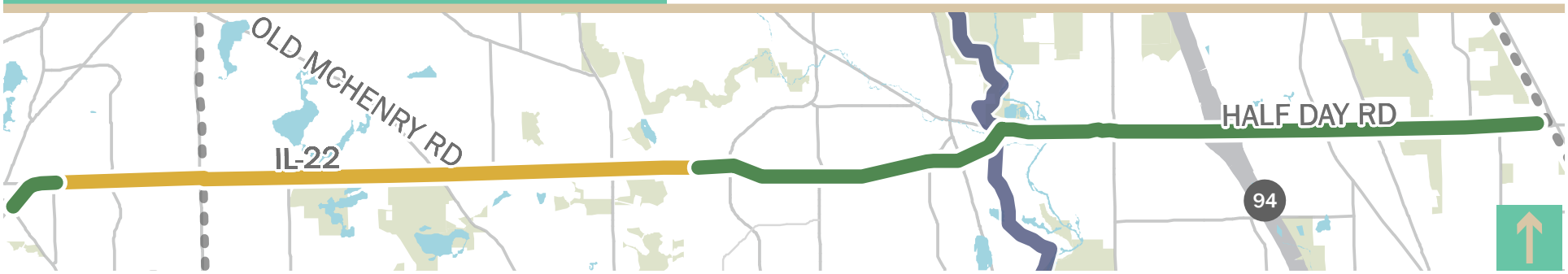
- Elk Grove
- Schaumburg
- Hanover Park
- Streamwood

The **FOX RIVER-BUSSE WOODS BIKEWAY** links two major recreational destinations and connects multiple NWMC Communities. There are currently no bike facilities along the western section of the route on Irving Park Road, but there is an opportunity to link existing bike facilities in Schaumburg to the Fox River Trail. One of the major barriers along the route, crossing I-290, has already been addressed. Safety issues, though, have resulted in an average of five crashes per year where a pedestrian/cyclist was seriously injured/killed.

EVALUATION CRITERIA:

Connectivity to regional destinations	**LOW**
Connectivity to trail network	**LOW**
Connectivity to transit	**MEDIUM**
Route directness	**MEDIUM**
Major barriers	**MEDIUM**
Level of traffic stress for cyclists	**HIGH**
Population within a half mile	**HIGH** *(62,901)*
Jobs within a half mile	**HIGH** *(53,080)*
Crashes where a pedestrian/cyclist was seriously injured/killed	**HIGH** *(20)*

Half Day Road Bikeway



Priority Corridor - Existing | Priority Corridor - Nonexisting | Regional Trail | Other Priority Corridor

NEW RECOMMENDATION • 13.2 MILES TOTAL DISTANCE • 59% EXISTING • 41% PLANNED

NWMC COMMUNITIES CROSSED:

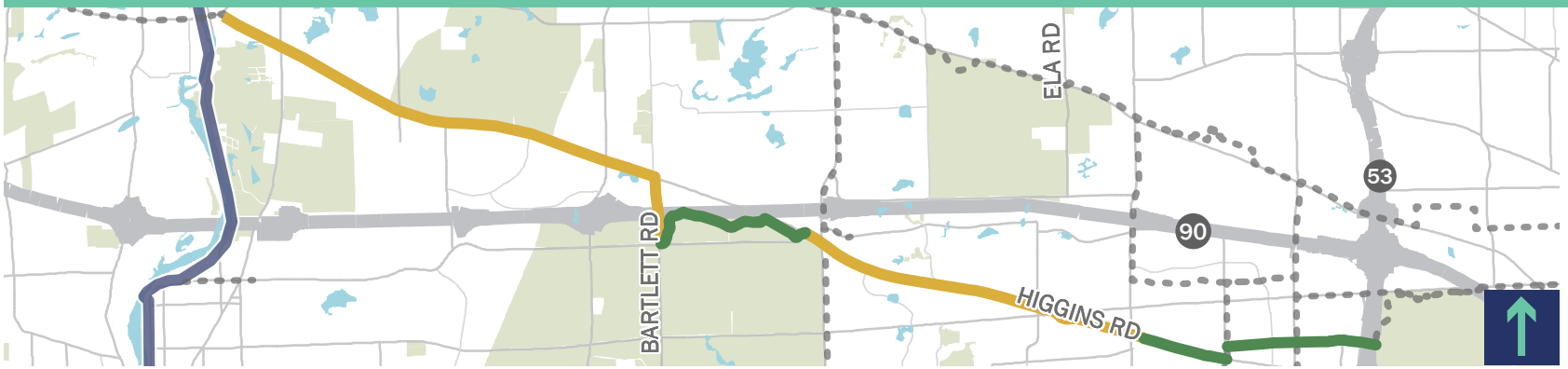
- Highland Park
- Bannockburn
- Lincolnshire
- Buffalo Grove
- Lake Zurich

The **HALF DAY ROAD BIKEWAY** travels east-west from the Skokie Valley Trail to the Palatine Trail. Over half the route has already been constructed, including a pedestrian and bicycle bridge over the Des Plaines River. The remaining portions of the route are included in Lake County's 2040 Non-Motorized Plan.

EVALUATION CRITERIA:

Connectivity to regional destinations	**LOW**
Connectivity to trail network	**LOW**
Connectivity to transit	**LOW**
Route directness	**HIGH**
Major barriers	**MEDIUM**
Level of traffic stress for cyclists	**HIGH**
Population within a half mile	**MEDIUM** *(23,565)*
Jobs within a half mile	**LOW** *(24,115)*
Crashes where a pedestrian/cyclist was seriously injured/killed	**LOW** *(3)*

Higgins Road Bikeway



Priority Corridor - Existing | Priority Corridor - Nonexisting | Regional Trail | Other Priority Corridor

EXISTING RECOMMENDATION • 14.6 MILES TOTAL DISTANCE • 32% EXISTING • 39% PLANNED

NWMC COMMUNITIES CROSSED:

» Schaumburg

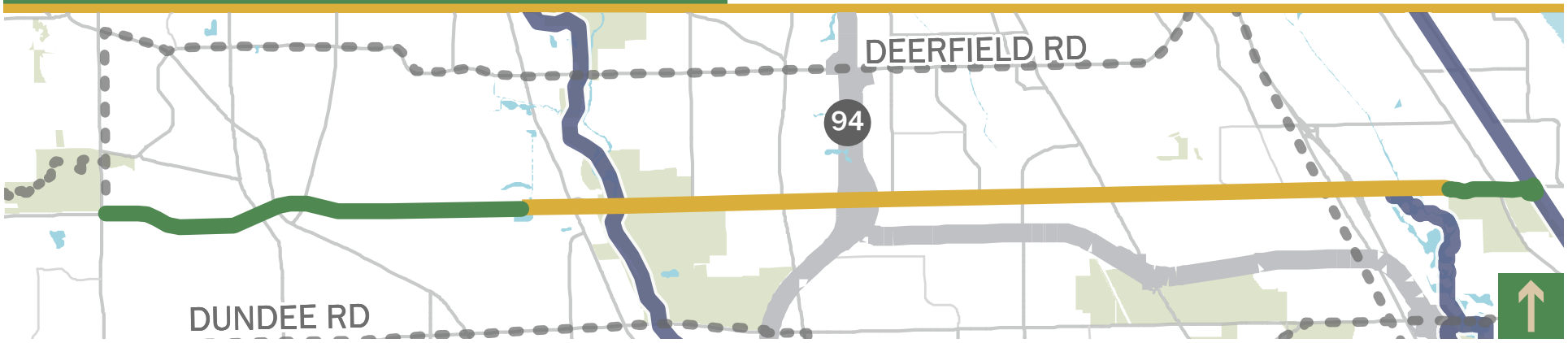
» Hoffman Estates

The **HIGGINS ROAD BIKEWAY** follows along Higgins Road from Busse Woods through the Janura Forest Preserve to the Fox River. The route crosses multiple north-south priority corridors including the Barrington Road Bikeway and the Palatine Trail. An existing connection underneath I-290 already exists and the route skirts by I-90.

EVALUATION CRITERIA:

Connectivity to regional destinations	**MEDIUM**
Connectivity to trail network	**LOW**
Connectivity to transit	**HIGH**
Route directness	**HIGH**
Major barriers	**LOW**
Level of traffic stress for cyclists	**HIGH**
Population within a half mile	**MEDIUM** *(28,498)*
Jobs within a half mile	**HIGH** *(56,630)*
Crashes where a pedestrian/cyclist was seriously injured/killed	**MEDIUM** *(12)*

Lake Cook Bikeway



Priority Corridor - Existing | Priority Corridor - Nonexisting | Regional Trail | Other Priority Corridor

NEW RECOMMENDATION • 11.1 MILES TOTAL DISTANCE • 36% EXISTING • 64% PLANNED

NWMC COMMUNITIES CROSSED:

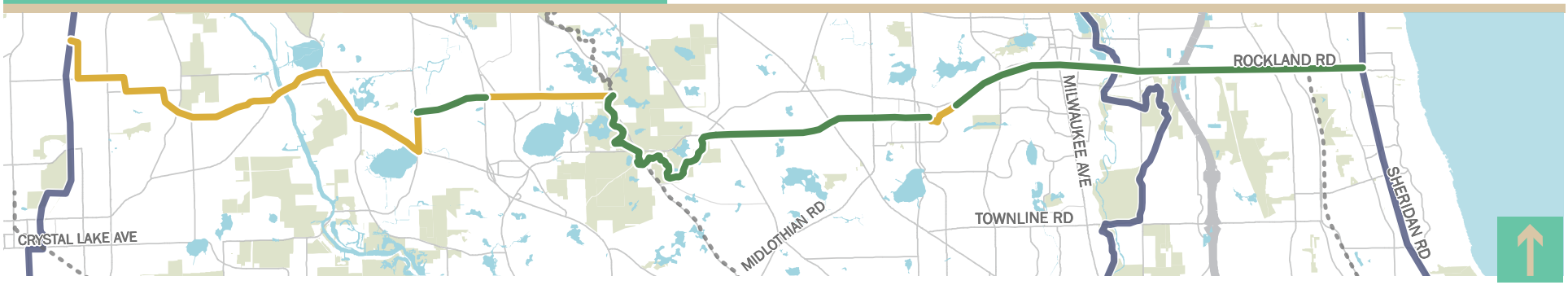
- Glencoe
- Highland Park
- Northbrook
- Deerfield
- Buffalo Grove

The **LAKE COOK BIKEWAY** extends from Robert McClory Trail to the Buffalo Creek Forest Preserve where it meets the Deerfield Road Bikeway. The route crosses the North Branch Trail as well as the Des Plaines River Trail. Barriers include crossing the Des Plaines River, Milwaukee Avenue, and I-94.

EVALUATION CRITERIA:

Connectivity to regional destinations	**MEDIUM**
Connectivity to trail network	**HIGH**
Connectivity to transit	**MEDIUM**
Route directness	**HIGH**
Major barriers	**MEDIUM**
Level of traffic stress for cyclists	**HIGH**
Population within a half mile	**MEDIUM** *(40,077)*
Jobs within a half mile	**MEDIUM** *(35,525)*
Crashes where a pedestrian/cyclist was seriously injured/killed	**MEDIUM** *(11)*

Millennium Trail



Priority Corridor - Existing | Priority Corridor - Nonexisting | Regional Trail | Other Priority Corridor

CHANGES TO AN EXISTING RECOMMENDATION • 28.8 MILES TOTAL DISTANCE • 58% EXISTING • 25% PLANNED

NWMC COMMUNITIES CROSSED:

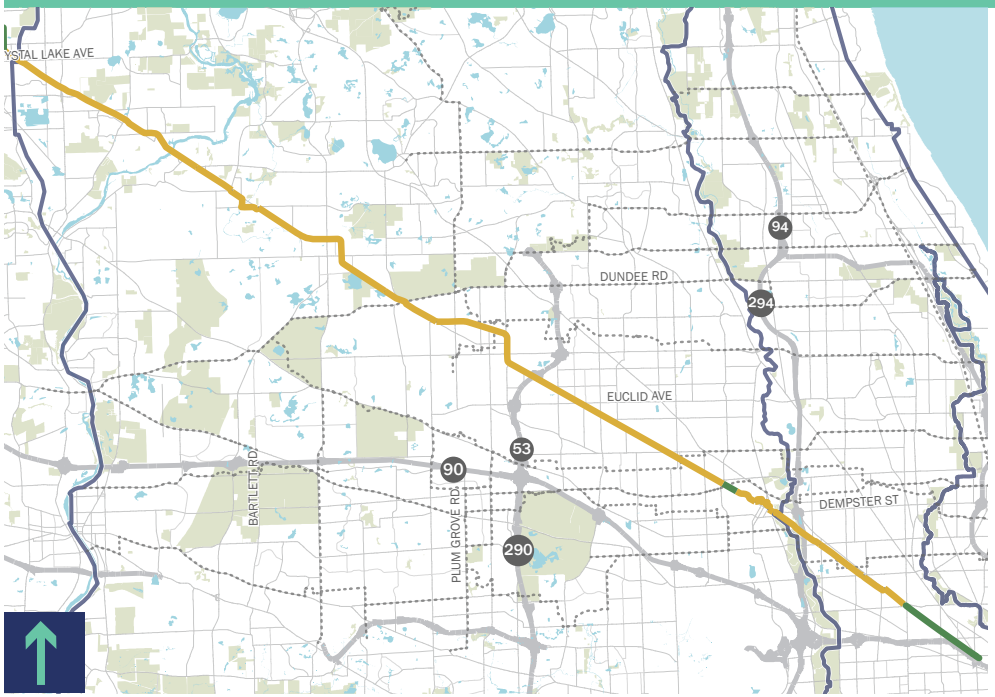
- Lake Bluff
- Libertyville

The **MILLENNIUM TRAIL** is an east-west corridor in Lake County that connects to several regional trails. While the western portion does not travel through any NWMC communities, it remains an important connection to the Fox Lake Connector, as well as other priority corridors. More than 50,000 residents live along the trail, and one of the major barriers, crossing I-94, has already been addressed.

EVALUATION CRITERIA:

Connectivity to regional destinations	**LOW**
Connectivity to trail network	**HIGH**
Connectivity to transit	**LOW**
Route directness	**LOW**
Major barriers	**HIGH**
Level of traffic stress for cyclists	**HIGH**
Population within a half mile	**HIGH** *(50,563)*
Jobs within a half mile	**LOW** *(21,120)*
Crashes where a pedestrian/cyclist was seriously injured/killed	**LOW** *(6)*

Northwest Bikeway



Priority Corridor - Existing

Priority Corridor - Nonexisting

Regional Trail

Other Priority Corridor

The **NORTHWEST BIKEWAY**, the longest priority corridor, follows Northwest Highway between the Fox Lake connector and the city of Chicago. The route crosses several municipalities and numerous priority corridors including the Dundee Road Bikeway and Barrington-Wilmette Bikeway. The route follows much of the Metra Union Pacific Northwest line and provides excellent connectivity to transit. The Northwest Highway Bike Facility Plan examined several alternative corridor designs.

EXISTING RECOMMENDATION

36.8 MILES TOTAL DISTANCE

13% EXISTING

34% PLANNED

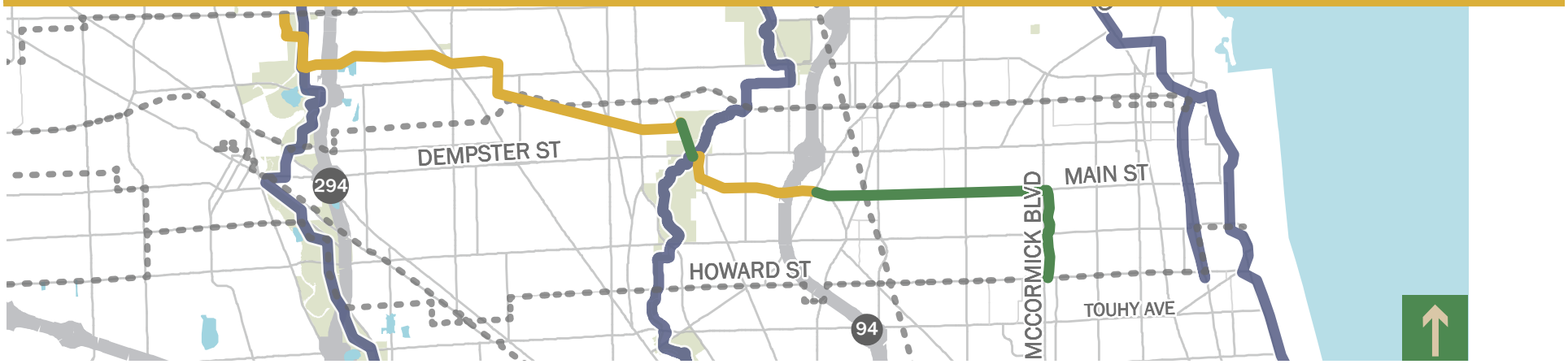
NWMC COMMUNITIES CROSSED:

- Park Ridge
- Des Plaines
- Mount Prospect
- Arlington Heights
- Rolling Meadows
- Palatine
- Barrington

EVALUATION CRITERIA:

Connectivity to regional destinations	**MEDIUM**
Connectivity to trail network	**MEDIUM**
Connectivity to transit	**HIGH**
Route directness	**LOW**
Major barriers	**HIGH**
Level of traffic stress for cyclists	**HIGH**
Population within a half mile	**HIGH** *(94,107)*
Jobs within a half mile	**HIGH** *(87,151)*
Crashes where a pedestrian/cyclist was seriously injured/killed	**HIGH** *(58)*

OCC to Channel Bikeway



Priority Corridor - Existing | Priority Corridor - Nonexisting | Regional Trail | Other Priority Corridor

NEW RECOMMENDATION • 11.3 MILES TOTAL DISTANCE • 36% EXISTING • 0% PLANNED

NWMC COMMUNITIES CROSSED:

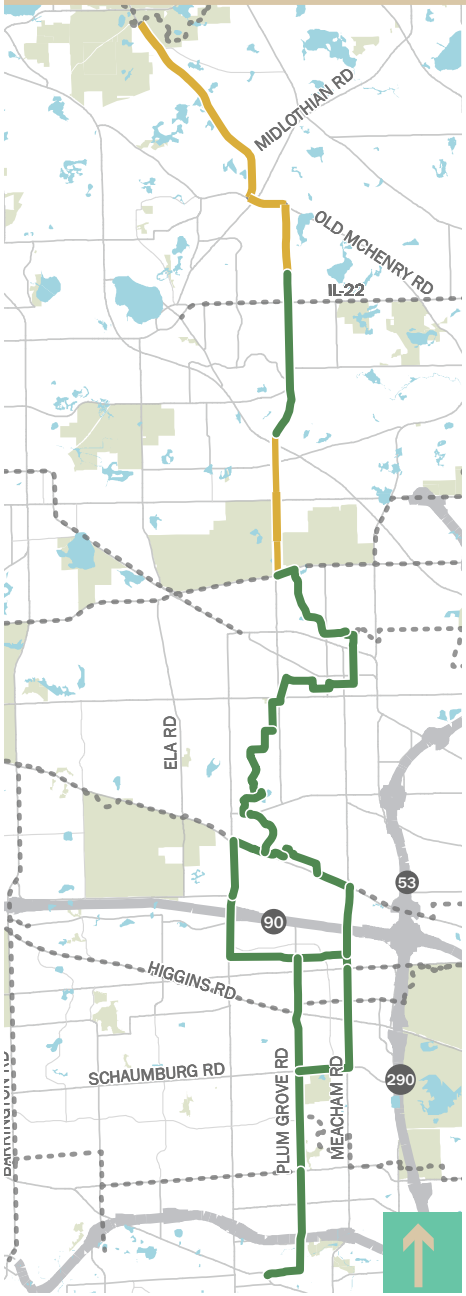
- Skokie
- Morton Grove
- Niles
- Des Plaines

The **OCC TO CHANNEL BIKEWAY** uses an existing utility right-of-way and existing bike facilities to connect Oakton Community College (OCC) in Des Plaines to Evanston. The use of utility right-of-way would provide a low-stress route separated from traffic. Additionally, safety issues have resulted in an average of nearly ten crashes a year where a pedestrian/cyclist was seriously injured/killed.

EVALUATION CRITERIA:

Connectivity to regional destinations	**MEDIUM**
Connectivity to trail network	**MEDIUM**
Connectivity to transit	**MEDIUM**
Route directness	**MEDIUM**
Major barriers	**MEDIUM**
Level of traffic stress for cyclists	**MEDIUM**
Population within a half mile	**MEDIUM** *(35,952)*
Jobs within a half mile	**MEDIUM** *(27,105)*
Crashes where a pedestrian/cyclist was seriously injured/killed	**HIGH** *(38)*

Palatine Trail



The **PALATINE TRAIL** is a north-south route that crosses numerous municipalities and intersects nearly half of the priority corridors. The route connects large numbers of residents and jobs and nearly two-thirds of the trail is complete. The existing trail already crosses over I-90, one of the major barriers along the route.

- Priority Corridor - Existing
- Priority Corridor - Nonexisting
- Regional Trail
- Other Priority Corridor

CHANGES TO AN EXISTING RECOMMENDATION

29.1 MILES TOTAL DISTANCE

76% EXISTING

24% PLANNED

NWMC COMMUNITIES CROSSED:

- Schaumburg
- Elk Grove
- Hoffman Estates
- Palatine
- Deer Park
- Lake Zurich

EVALUATION CRITERIA:

Connectivity to regional destinations	**MEDIUM**
Connectivity to trail network	**LOW**
Connectivity to transit	**MEDIUM**
Route directness	**LOW**
Major barriers	**MEDIUM**
Level of traffic stress for cyclists	**HIGH**
Population within a half mile	**HIGH** *(71,489)*
Jobs within a half mile	**HIGH** *(70,680)*
Crashes where a pedestrian/cyclist was seriously injured/killed	**LOW** *(9)*

Skokie Valley Trail

The **SKOKIE VALLEY TRAIL** is an important corridor connecting Lake County to the City of Chicago. The trail uses utility and former railroad right-of-ways and provides an off-street, low-stress route for people of all ages and abilities. Much of the initial planning and engineering for gaps along the trail has already been completed.

- Priority Corridor - Existing
- Priority Corridor - Nonexisting
- Regional Trail
- Other Priority Corridor

EXISTING RECOMMENDATION

21.8 MILES TOTAL DISTANCE

72% EXISTING

14% PLANNED

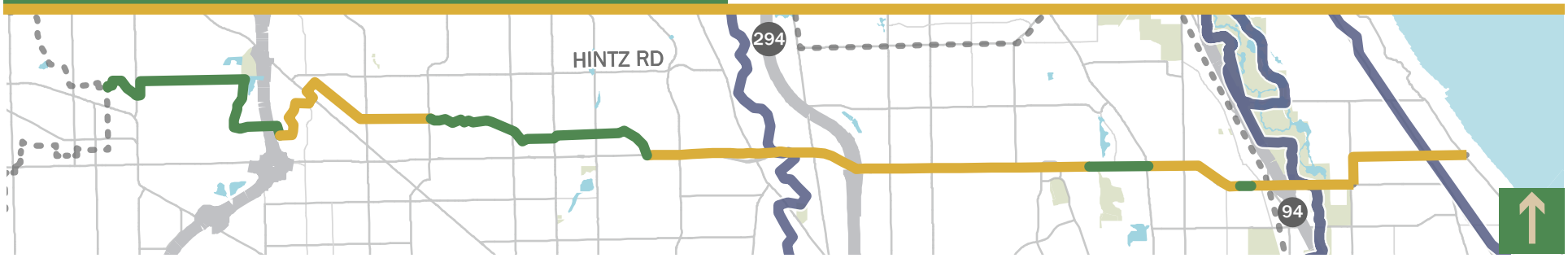
NWMC COMMUNITIES CROSSED:

- Lincolnwood
- Skokie
- Glenview
- Wilmette
- Northfield
- Northbrook
- Highland Park
- Lake Forest
- Lake Bluff

EVALUATION CRITERIA:

Connectivity to regional destinations	**MEDIUM**
Connectivity to trail network	**LOW**
Connectivity to transit	**HIGH**
Route directness	**HIGH**
Major barriers	**MEDIUM**
Level of traffic stress for cyclists	**HIGH**
Population within a half mile	**MEDIUM** *(39,528)*
Jobs within a half mile	**HIGH** *(50,893)*
Crashes where a pedestrian/cyclist was seriously injured/killed	**HIGH** *(40)*

Willow Road Bikeway



Priority Corridor - Existing | Priority Corridor - Nonexisting | Regional Trail | Other Priority Corridor

CHANGES TO AN EXISTING RECOMMENDATION • 19.0 MILES TOTAL DISTANCE • 30% EXISTING • 14% PLANNED

NWMC COMMUNITIES CROSSED:

- Winnetka
- Northfield
- Glenview
- Mount Prospect
- Wheeling
- Prospect Heights

The **WILLOW ROAD BIKEWAY** provides an east-west connection in northern Cook County. The route crosses the Robert McClory Trail, North Branch Trail, and Des Plaines River Trail. The existing western portions of the route are mainly off-street. Bikeway barriers include crossing I-294 and I-94.

EVALUATION CRITERIA:

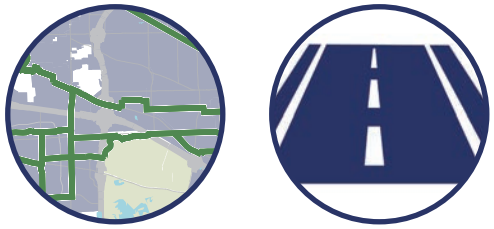
Connectivity to regional destinations	**MEDIUM**
Connectivity to trail network	**MEDIUM**
Connectivity to transit	**MEDIUM**
Route directness	**MEDIUM**
Major barriers	**MEDIUM**
Level of traffic stress for cyclists	**HIGH**
Population within a half mile	**MEDIUM** *(39,426)*
Jobs within a half mile	**MEDIUM** *(44,014)*
Crashes where a pedestrian/cyclist was seriously injured/killed	**MEDIUM** *(11)*

PRIORITY BICYCLE CORRIDOR COST ESTIMATES

The priority corridor cost estimate accounts for the total length of the corridor and the length missing. The total bike facility cost considers the segment type such as bike lane, bike route, side path, or trail, and the respective paving, striping, and signage costs.

The total barrier costs include improvements at rail crossings and highway ramp junctions along the corridors. Barrier improvements may include expanding sidewalks, bike markings, improving intersections, or adding crosswalks and/or signage. The high cost estimates are mainly the result of the need to create more space for people walking and biking on bridges, crossing highways, and/or the need to realign on/off ramps to improve safety.

WHAT DOES $33.4 MILLION BUY?



WITH $33.4 MILLION, WE COULD BUILD ALL OF THE NWMC PRIORITY BICYCLE CORRIDORS *OR* 8 MORE MILES OF ROADWAY.

Cost Estimates

PRIORITY CORRIDOR	TOTAL LENGTH	LENGTH MISSING	TOTAL BIKE FACILITY COST	TOTAL BARRIER COST
Antioch Connector	9.6 (miles)	7.7 (miles)	$1,300,000	$1,100,000
Barrington - Wimette Bikeway	28.4	11.1	$2,000,000	$2,200,000
Barrington Road Bikeway	7.6	4.0	$500,00	$2,200,000
Deerfield Road Bikeway	15.8	3.5	$600,000	$3,300,000
Dundee Road Bikeway	29.9	25.1	$4,700,000	$3,900,000
Elk Grove - Evanston Bikeway	27.4	11.2	$1,200,000	$600,000
Evanston - Elgin Bikeway	35.1	14.4	$2,900,000	$10,000
Everett and Old Elm Bikeway	6.1	2.5	$400,000	$6,000
Fox Lake Connector	17.2	6.7	$1,100,000	$5,000
Fox River - Busse Woods Bikeway	22.5	13.3	$1,600,000	$1,100,000
Half Day Road Bikeway	13.2	5.4	$200,000	$2,200,000
Higgins Road Bikeway	14.6	9.9	$1,800,000	$2,200,000
Lake Cook Bikeway	11.1	7.1	$1,300,000	$6,600,000
Millennium Trail	28.8	12.1	$2,300,000	$1,100,000
Northwest Bikeway	36.8	32.2	$6,000,000	$7,200,000
OCC to Channel Trail	11.3	7.2	$1,200,000	$10,000
Palatine Trail	29.1	7.1	$1,500,000	$3,000
Skokie Valley Trail	21.8	6.1	$1,100,000	
Willow Road Bikeway	19.0	12.3	$1,700,000	$4,425,440
	385	**199**	**$33,400,000**	**$38,300,000**

Priority Corridors by Municipality (1/2)

MUNICIPALITY	Antioch Connector	Barrington - Wimette Bikeway	Barrington Road Bikeway	Deerfield Road Bikeway	Dundee Road Bikeway	Elk Grove - Evanston Bikeway	Evanston - Elgin Bikeway	Everett and Old Elm Bikeway	Fox Lake Connector	Fox River - Busse Woods Bikeway	Half Day Road Bikeway	Higgins Road Bikeway	Lake Cook Bikeway	Millennium Trail	Northwest Bikeway	OCC to Channel Trail	Palatine Trail	Skokie Valley Trail	Willow Road Bikeway
	PRIORITY CORRIDOR																		
Antioch	✓																		
Arlington Heights		✓			✓	✓	✓								✓				
Bannockburn											✓								
Barrington					✓										✓				
Bartlett																			
Buffalo Grove				✓							✓		✓						
Deer Park																	✓		
Deerfield				✓									✓						
Des Plaines		✓				✓	✓								✓	✓			
Elk Grove Village						✓			✓								✓		
Evanston						✓	✓												
Fox Lake								✓											
Glencoe					✓								✓						
Glenview																		✓	✓
Grayslake																			
Hanover Park			✓						✓										
Highland Park				✓				✓			✓		✓					✓	
Hoffman Estates			✓				✓					✓					✓		
Kenilworth																			
Lake Bluff														✓				✓	
Lake Forest								✓										✓	
Lake Zurich											✓						✓		

Priority Corridors by Municipality (2/2)

MUNICIPALITY	Antioch Connector	Barrington - Wimette Bikeway	Barrington Road Bikeway	Deerfield Road Bikeway	Dundee Road Bikeway	Elk Grove - Evanston Bikeway	Evanston - Elgin Bikeway	Everett and Old Elm Bikeway	Fox Lake Connector	Fox River - Busse Woods Bikeway	Half Day Road Bikeway	Higgins Road Bikeway	Lake Cook Bikeway	Millennium Trail	Northwest Bikeway	OCC to Channel Trail	Palatine Trail	Skokie Valley Trail	Willow Road Bikeway
	PRIORITY CORRIDOR																		
Libertyville													✓						
Lincolnshire								✓			✓								
Lincolnwood																		✓	
Morton Grove							✓								✓				
Mount Prospect		✓				✓	✓							✓					✓
Niles						✓	✓								✓				
Northbrook					✓								✓					✓	
Northfield																		✓	✓
Palatine					✓									✓			✓		
Park Ridge						✓								✓					
Prospect Heights																			✓
Rolling Meadows		✓				✓	✓							✓					
Schaumburg		✓	✓				✓		✓		✓					✓			
Skokie						✓	✓								✓			✓	
Streamwood			✓						✓										
Vernon Hills																			
West Dundee					✓														
Wheeling					✓														✓
Wilmette		✓																✓	
Winnetka																			✓

SIDEWALK GAP PRIORITIZATION

To help NWMC communities focus their resources on the most impactful gaps in the sidewalk network, the 324.8 miles of streets analyzed with sidewalks missing on both sides of the street were prioritized into three tiers.

Gap Prioritization Methodology

CRITERIA	WEIGHTING
Proximity to schools	2x
Proximity to transit	2x
Within mixed use/ commercial area	1x
Within job center	1x
Street classification	1x

Tier 1 (short-term)
Tier 2 (mid-term)
Tier 3 (long-term)

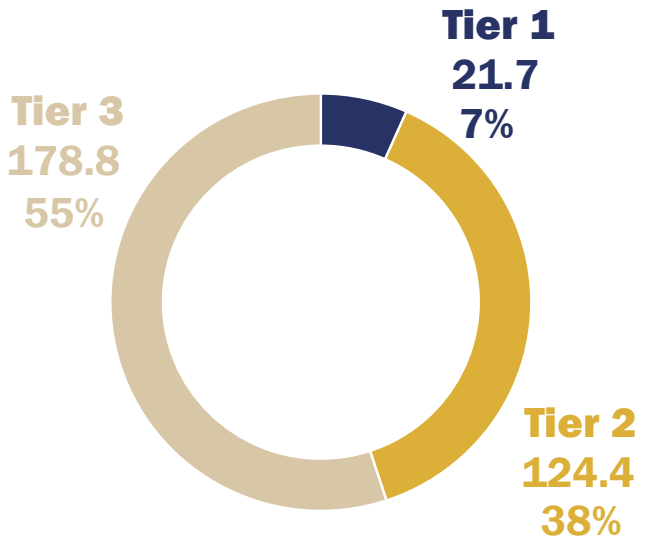
Sidewalk gaps near schools and transit were given the highest need score to enable more children to safely walk to school and more people throughout the region to walk to transit. Sidewalk gaps within mixed use and commercial areas and job centers, along with busier street classifications, were also given high need scores. Over 20 miles of sidewalk gaps are identified as Tier 1 — the highest priority.

Filling these critical gaps would provide significant benefits for residents throughout the region and help create a more connected network for people walking. NWMC communities should first focus resources on these Tier 1 gaps, which will enable more people to walk to school, the bus or train, their jobs, or the store.

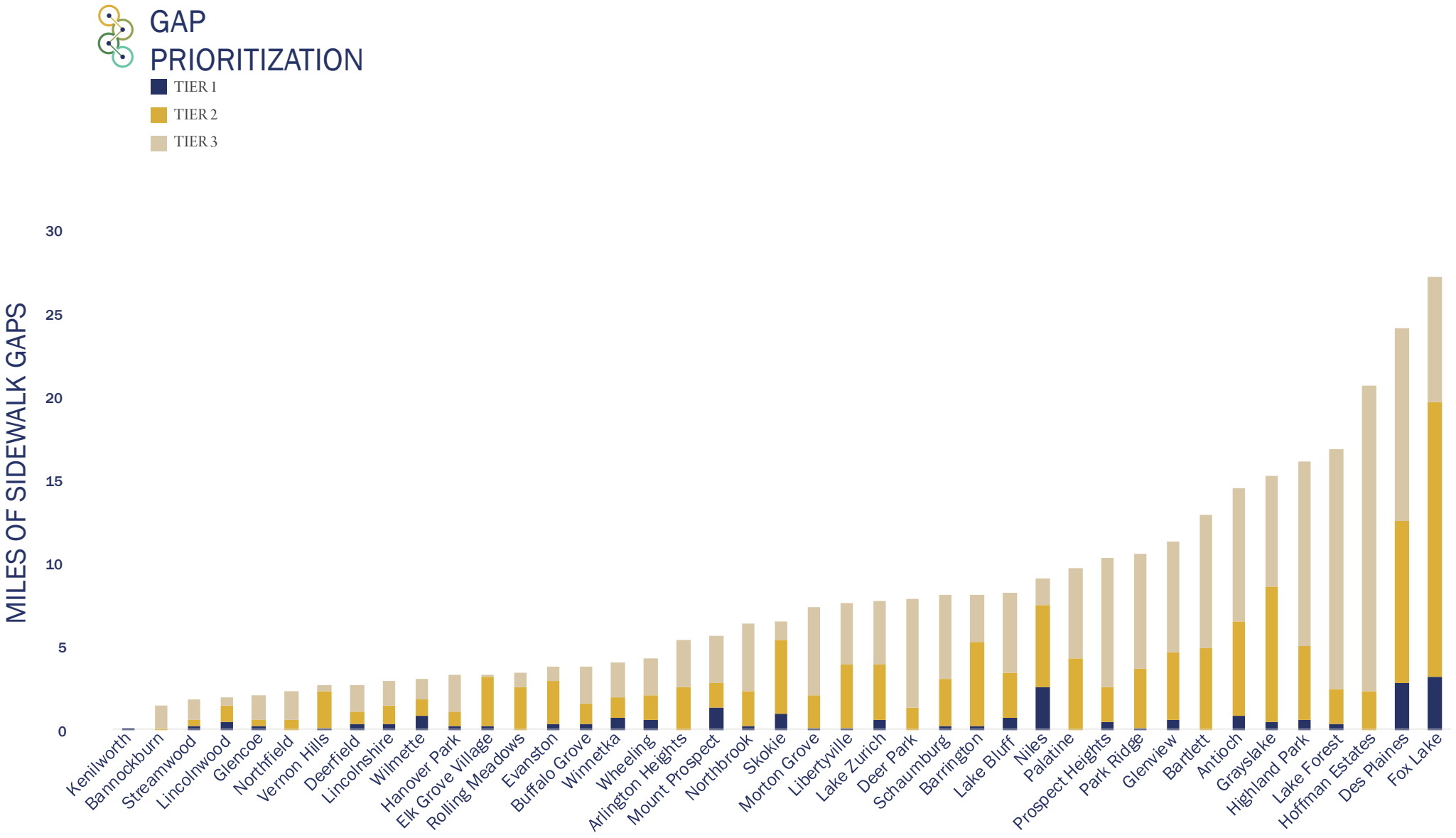
To create a more connected sidewalk network, NWMC communities will also need to address Tier 2 gaps. Although these segments are a lower priority than the Tier 1 gaps, they are still critical to ensuring people walking and people using wheelchairs, strollers, or other walking aids are able to safely navigate their communities. While all NWMC communities should be aiming to build out a fully connected, accessible sidewalk network, Tier 3 gaps are the lowest priority, as they are typically located in areas with lower levels of pedestrian activity or on local streets that serve fewer people.

Based on these gap prioritizations, communities may establish a policy goal for the numbers of miles or budget spent each year to complete sidewalk gaps. Funding could come from general funds, a Tax Increment Financing (TIF) districts, and through contributions from developer fees.

Sidewalk Gap Prioritization Tiers (by miles)



Sidewalk Gap Prioritization by Municipality



Sidewalk Gap Prioritization by Municipality (miles)

MUNICIPALITY	TIER 1 (miles)	TIER 2 (miles)	TIER 3 (miles)	TOTAL GAPS (miles)
Antioch	0.8	5.7	8.1	14.6
Arlington Heights	0.0	2.6	2.9	5.4
Bannockburn	0.0	0.1	1.4	1.5
Barrington	0.3	5.0	2.9	8.2
Bartlett	0.0	4.9	8.1	12.9
Buffalo Grove	0.3	1.2	2.3	3.8
Deer Park	0.0	1.3	6.5	7.8
Deerfield	0.4	0.7	1.7	2.7
Des Plaines	2.8	9.7	11.6	24.1
Elk Grove Village	0.3	2.9	0.2	3.3
Evanston	0.3	2.6	0.9	3.8
Fox Lake	3.2	16.4	7.5	27.2
Glencoe	0.3	0.3	1.5	2.1
Glenview	0.6	4.1	6.6	11.3
Grayslake	0.5	8.1	6.7	15.3
Hanover Park	0.2	0.9	2.1	3.3
Highland Park	0.5	4.5	11.1	16.2
Hoffman Estates	0.0	2.3	18.3	20.7
Kenilworth	0.0	0.0	0.0	0.0
Lake Bluff	0.8	2.6	4.9	8.3
Lake Forest	0.3	2.1	14.4	16.8
Lake Zurich	0.6	3.3	3.8	7.7
Libertyville	0.1	3.9	3.7	7.6
Lincolnshire	0.4	1.1	1.4	2.9
Lincolnwood	0.5	1.0	0.5	2.0
Morton Grove	0.1	2.0	5.3	7.4
Mount Prospect	1.4	1.4	2.8	5.6
Niles	2.6	4.9	1.7	9.1
Northbrook	0.3	2.1	4.1	6.4
Northfield	0.0	0.6	1.8	2.4
Palatine	0.0	4.3	5.4	9.7
Park Ridge	0.1	3.5	6.9	10.5
Prospect Heights	0.5	2.1	7.7	10.3
Rolling Meadows	0.0	2.6	0.8	3.5
Schaumburg	0.3	2.8	5.0	8.1
Skokie	0.9	4.5	1.1	6.5
Streamwood	0.2	0.4	1.2	1.8
Vernon Hills	0.1	2.2	0.4	2.7
Wheeling	0.5	1.5	2.2	4.3
Wilmette	0.8	1.0	1.3	3.1
Winnetka	0.7	1.2	2.1	4.0
TOTAL	**21.7**	**124.4**	**178.8**	**324.8**

PROJECT DEVELOPMENT

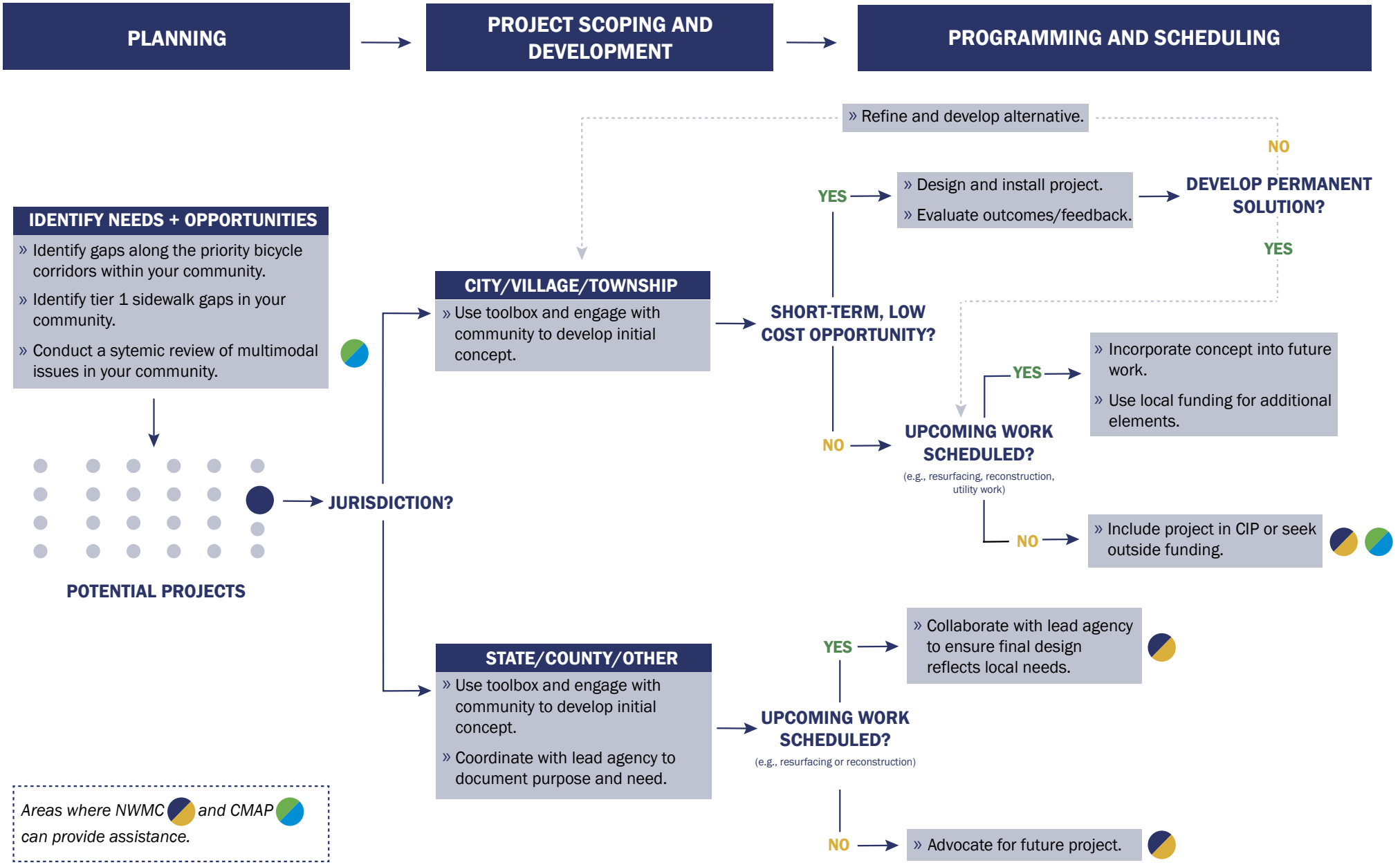
NWMC communities should identify portions of the priority bicycle corridors that fall within their boundaries and have not been constructed using the online map or data held by NWMC and the Tier 1 sidewalk gaps within their community (reference table on the previous page, online map, or data held by NWMC).

Many communities within the NWMC have completed bicycle or pedestrian plans that systematically identified issues throughout the community. For those that have not done so (or completed their planning efforts more than three years ago), communities should analyze crash data (available from IDOT website) and engage with the community to identify needed improvements for people walking, biking, or accessing transit. CMAP offers technical assistance for these types of efforts through its Local Technical Assistance program.

For issues that fall under the local community's jurisdiction, staff should utilize the toolbox, in conjunction with community engagement and the necessary technical analysis, to develop initial concepts to address the identified issue. Staff should also determine whether there is an opportunity to test a concept using short-term, low-cost implementation strategies. It also critical that communities check for opportunities to coordinate projects with already scheduled work, such as street repaving, reconstruction, or utility work. Coordinating multimodal improvements with other work can reduce overall costs, limit the disruption experienced by the public, and get projects built faster. For projects where no upcoming work is scheduled, staff should determine whether there is any opportunity to fund the projects locally (e.g., through a municipal capital improvement program) or if outside funding is the best avenue. Funding opportunities in the **Appendix** identifies a number of potential funding sources communities can leverage.

For issues that fall outside the local community's jurisdiction (e.g., streets controlled by IDOT, the county, or paths on forest preserve land), communities will need to advocate and collaborate to see improvements implemented. In these instances, identifying scheduled projects, and the timeline and process for developing those projects, is crucial. Schedules of future work from IDOT, Cook County, DuPage County, Kane County, Lake County, and McHenry County are all available online. Even when a community does not have direct control over a location with a known issue, they can still utilize the toolbox and engage with the local community to identify their preferred concept and then work with the lead agency to incorporate those elements into the final design. The NWMC can assist in collaboration efforts and emphasize the regional benefits local projects can entail.

Project Development Diagram



PARTNERSHIPS

The NWMC, with the breadth of its membership and its focus on regional cooperation, plays an active role in developing partnerships amongst its members, other municipalities, and government agencies. These partnerships are critical for gaining funding and implementing projects that improve walking, biking and accessing transit, including implementation of CMAP's ONTO 2050 Plan. NWMC, on behalf of its membership, lends support for projects with regional significance. NWMC and the individual municipalities also work closely with many planning partners to advocate and fund project implementation.

IMPLEMENTATION ACTIVITY	LEAD	PARTNERS
Complete priority bicycle corridors	NWMC, member communities	IDOT, County Departments of Transportation (DOTs), Metropolitan Water Reclamation District of Greater Chicago (MWRD), Utilities, Railroads, Active Trans, Ride Illinois
Integrate priority bicycle corridors into municipal plans	Member communities	NWMC, CMAP, Active Transportation Alliance, Ride Illinois
Fill Tier 1 sidewalk gaps	Member communities	NWMC, IDOT, County DOTs, School districts, Forest Preserves
Address major pedestrian crossing barriers	Member communities	NWMC, IDOT, County DOTs, School districts
Connections to priority transit stations	Member communities, Pace, Metra, CTA	NWMC, IDOT, County DOTs
Securing grant funding for design & construction of key projects	NWMC, member communities	CMAP, IDOT
Regional bicycle signage	NWMC	Forest Preserves, County DOTs, member communities

MAINTENANCE

The routine maintenance of sidewalks and bike facilities is critical to creating a comfortable environment for people biking, walking, and, in particular, those with a disability or accessing transit. Maintenance refers not only to repairing damage caused to a sidewalk by tree roots, for example, or ensuring that sidewalks remain as level as possible, but also that alternative routes are provided during construction and that snow and ice are cleared in the winter. One of the major issues NWMC communities experience around maintenance is unclear responsibilities and jurisdictional questions.

PROGRAMMED MAINTENANCE

Several NWMC communities have developed robust maintenance programs that incorporate sidewalks, bicycle facilities, and trails. A regular inspection process must be combined with a robust system for documenting and tracking needs. Designating a sufficient maintenance budget that devotes the necessary funds for walking and biking is also critical. Schaumburg conducts a village-wide sidewalk and trail inspection every 3 years and has a line item in its capital plan for maintenance.

Annually, Hoffman Estates visually inspects sidewalks included in its street assessment program and any maintenance needs are programmed through its road improvement fund which has a sidewalk/sidepath section.

Communities should develop sidewalk inspection and maintenance criteria, including:

- Displacement/heaving
- Changes in grade/drop offs
- Cross-slopes
- Vertical clearances
- Maximum running grades
- Minimum clear width

MAINTENANCE REQUESTS

In many NWMC communities, maintenance needs are largely based on community requests and complaints. Usually requests come through 311 or to Public Works departments. Every community should have an online method for learning about problems. Yet, while responding to citizen requests is important, there are inherent equity challenges in solely using a request-based system. Incorporating requests into a larger prioritization process can lead to more equitable outcomes.

For people walking or biking on trails and the priority bicycle corridors, it can often be unclear who to report maintenance issues.

POLICY SPOTLIGHT

SCHAUMBURG

BIKE PATH INSPECTION

Schaumburg uses intern staff hours to conduct a village-wide bike path and trail inspection every year. Traveling by bike, personnel photograph and assess the routes, classifying the condition of segments.

- *Excellent & Good,* no action or resealed
- *Fair,* needs to be repaved
- *Poor,* needs reconstruction

The Village updates its GIS database with inspection data and then prioritizes segments in need of maintenance. Funding is then allocated through the annual capital plan. Immediate concerns are addressed as soon as possible.

Pedestrians and cyclists tend to be particularly sensitive to maintenance problems.

CONSTRUCTION ZONES

Municipalities can adopt rules and regulations requiring safe pedestrian and bicycle access through construction zones, minimizing the inconvenience for people walking and biking. A checklist with this information is a helpful tool to communicate rules and enable enforcement. IDOT has standards for sidewalk and crosswalk diversions, as does the MUTCD and ADA guidelines.

WINTER MAINTENANCE

The following are strategies employed by NWMC communities and cities around the country to improve winter walking and bicycling.

» **Snow removal ordinance.** Snow removal ordinances establishes the time frame for snow removal, the clear path width that must be maintained (ideally 5-feet), and fines for non-compliance.

» **Enforcing compliance.** While most communities have snow removal ordinances in place, enforcement varies greatly. It may include a follow-up inspection and, if the sidewalk remains non-compliant, a work order can be issued to a contractor to clear the sidewalk and the property owner is billed for the service in addition to the applicable penalties.

» **Municipal-Led Snow Removal.** Communities across the NWMC provide a range of snow removal service, from clearing sidewalks city-wide to only certain districts, segments, transit stations, or even corners. Wilmette provides a comprehensive program that includes sidewalks on residential streets. Northbrook and Glenview clear snow on arterial streets.

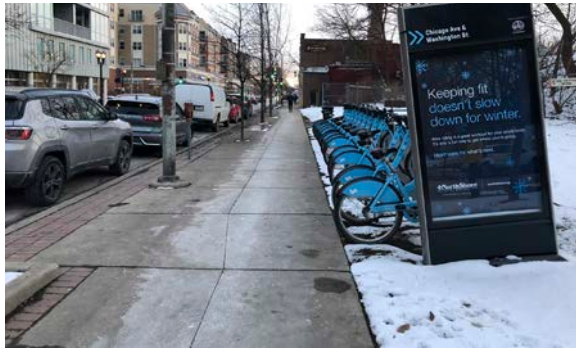
» **Winter Pedestrian Priority Network.** Communities should consider prioritizing and targeting investments for enhanced winter maintenance in areas with high pedestrian demand. Enhanced winter maintenance options may include proactive compliance inspections and municipal-led snow removal.

» **Winter Bicycle Priority Network.** Designating a regional winter bicycle priority network would allow cyclists to have an expectation of which and how quickly facilities will be cleared of snow and ice after a snowstorm.

» **Winter Maintenance Awareness Campaign.** Communities should encourage residents to shovel their sidewalks and generally provide more sidewalk snow clearing information to the public via newsletters, a web page, and social media accounts.

» **Assistance Programs.** In communities where property owners are responsible for snow clearance, older adults and people with disabilities can struggle to comply with regulations. Communities should consider developing formal programs that provide assistance to these individuals. Mount Prospect has a volunteer program that pairs high school students with older adults and others that cannot shovel.

» **Map "Orphan" Segments.** Many sidewalk segments throughout a community do not have clear maintenance responsibilities. Establishing a process for cataloging these segments is the first step in bringing attention to the discussion and communicating how they impact people walking and biking. Des Plaines has used intern staff to identify approximately 15 miles of sidewalk with no clear maintenance responsibility.



[Above] A cleared sidewalk near Main Street Metra Station in Evanston.

POLICY SPOTLIGHT

WILMETTE

VILLAGE-LED SIDEWALK SNOW REMOVAL

The Village has a long-standing program to clear snow and ice from sidewalks in the community. Prioritization of the sidewalk network falls to three tiers, and it is assumed that any snowfall less than 2 inches remains the responsibility of the adjacent property owner.

Tier 1:

Business & Commuter routes (16 miles) are the first sidewalks plowed and salted and the operation occurs simultaneously with the arterial roadways. Commuter sidewalk routes are typically completed by 6:00 a.m. and the business sidewalk routes completed by 8:00 a.m.

Tier 2:

Priority sidewalks to schools (30 miles) are plowed after 2 inches of accumulation, when school is in session. If a sidewalk is plowed, it is also salted.

Tier 3:

All residential sidewalks are plowed after 4 inches of accumulation. Salting does not occur on residential sidewalks. This operation is completed within 48-72 hours after the storm has ended.

Quick Facts:

- Wheeled machines for lighter snow
- 3 track machines for heavier, wet snow
- Average 35+ inches/year
- 23-24 snow events for salting
- 7-8 events for plowing
- 3-4 events trigger residential streets

Lessons:

- Residents sometimes get to their sidewalks before they plow
- Equipment is expensive and labor costs are getting more expensive
- Additional cost to do residential streets is not significant
- Creates additional maintenance to seed parkways due to damage
- Village has a goal of reducing chlorides

FUNDING OPPORTUNITIES

Federal, state, regional, county, and private organizations provide funding for sidewalk, bike facilities, and access to transit projects and programs. The table on the next page summarizes the applicability of various funding sources to projects and planning efforts proposed in this plan, while detailed descriptions of the grant funding sources are presented in alphabetical order in the **Appendix**.

OTHER STRATEGIES TO FUND BICYCLE, PEDESTRIAN, AND ACCESS TO TRANSIT PROJECTS

It is important for local communities to work with their city councils or village boards to allocate local resources for planning, engineering studies, and specific projects. Outside agencies are often more willing to fund projects that are already underway on local initiative and with local resources. The following are potential sources of local funding:

- Community Development Tax Increment Financing (TIF) Zone
- Special Service Areas
- Business Improvement Districts
- General revenues
- Bike registration fees
- Advanced Transportation Districts and development ordinances with impact fees
- Setting aside a portion of vehicle registration fees
- Designating a percentage of Surface Transportation Program (STP) funds for bike facility construction and maintenance
- Contribution of community group or advocacy organization time and labor

	FUNDING SOURCE	ADMINISTRATOR	BIKE FACILITIES	SIDEWALK	ACCESS TO TRANSIT	PLANNING
	Community Development Block Grants	Cook County, larger municipalities	◐	●	◐	●
	Congestion Mitigation and Air Quality Improvement (CMAQ)	Chicago Metropolitan Agency for Planning (CMAP)	●	◐	●	○
	Enhanced Mobility of Seniors and Individuals with Disabilities (5310)	Regional Transportation Authority (RTA)	○	●	●	○
	Urbanized Area Formula Program (5307/5311)	Illinois Department of Transportation (IDOT)	●	◐	●	○
	Highway Safety Improvement Program (HSIP)	IDOT	●	◐	◐	○
	Illinois Bicycle Path Grant Program (IBP)	Illinois Department of Natural Resources (IDNR)	●	◐	◐	○
	Illinois Transportation Enhancement Program (ITEP)	IDOT	●	●	●	●
	Invest in Cook	Cook County, Department of Transportation and Highways (DOTH)	●	●	●	●
	Motor Fuel Tax (MFT)	IDOT, RTA, Local	●	●	●	●
	Recreational Trails Program (RTP)	IDNR	●	○	○	○
	Safe Routes to School (SRTS)	IDOT	●	●	◐	●
	Surface Transportation Program - Local (STP-L)	Council of Mayors	◐	○	◐	○
	Transportation Alternatives Program (TAP-L)	CMAP	●	●	●	○
Private	Grants	Projects for Public Space	◐	◐	◐	●
Private	People for Bikes	Bikes Belong	●	○	◐	◐
Private	Made to Move	Blue Moves LLC	●	●	●	●
Private	Various Grants	Rails to Trails Conservancy	●	◐	○	◐

● Yes ◐ Maybe ○ No

FUNDING RESOURCES

The following resources helped inform the funding table and descriptions. The resources may further support planning efforts.

Funding Resource

Provided by *Northwest Municipal Conference*
https://www.nwmc-cog.org/Transportation/Funding-Resources.aspx

Funding Sources

Provided by *Chicago Metropolitan Agency for Planning (CMAP)*
https://www.cmap.illinois.gov/mobility/walking-and-bicycling/funding-sources

Municipal Funding Opportunities for Transit-Oriented Development

Provided by *Regional Transportation Authority (RTA)*
https://www.rtachicago.org/sites/default/files/documents/plansandprograms/landusetod/Grant%20Opportunities%20(06-2019).pdf

Get Funded: Tips for A New Era of Placemaking Philanthropy

Provided by *Project for Public Spaces*
https://www.pps.org/article/get-funded-tips-for-a-new-era-of-placemaking-philanthropy

APPENDIX

COMMUNITY ENGAGEMENT SUMMARY

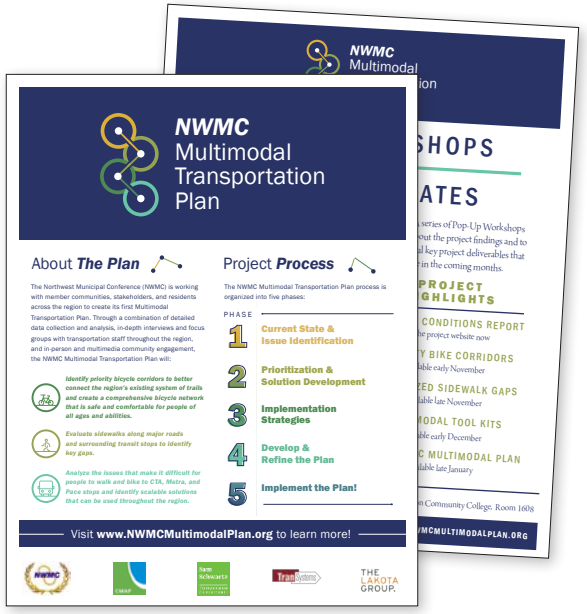
A robust community engagement strategy was developed to gather insights from stakeholders across NWMC's membership area. The strategy involved developing a project brand, website, and a social media strategy, and the engagement of residents through community workshops.

Strategic partnerships with municipalities and organizations were key in helping to guide the direction of the plan from start to finish. Due to the geographic range of the Conference's membership area—42 municipalities and one township—our team worked strategically with designated community leads to announce the project, updates, opportunities for participation, and events.

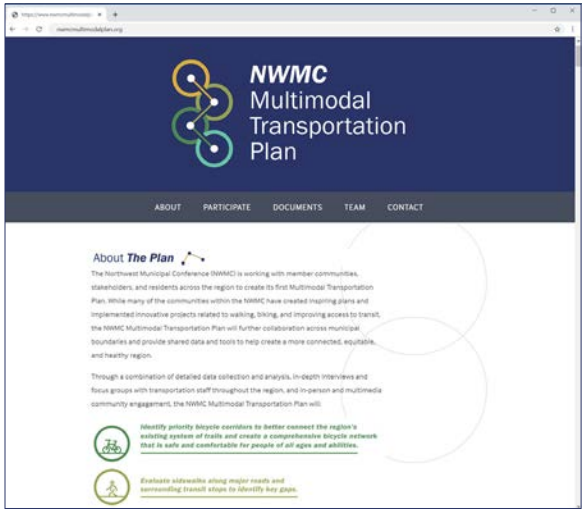
The following summarizes areas of focus for the NWMC Multimodal Transportation Plan's engagement efforts.

PROJECT BRAND & WEBSITE

Early in the process, a logo and brand for the project was developed. The logo features four circles connected at the centers—communicating both various modes traveling in unison and the array of communities collaborating to move projects forward. The brand was rolled out via the project website—www.NWMCMultimodalPlan.org—which features information about the plan, project goals, timeline, study area, and more. The website was updated throughout the process to include different ways to get involved in the plan, share ideas, and download/review plan documents. Project info sheets and update fliers were produced and distributed to the Steering Committee and NWMC member communities to share the word about the project. All of these branded materials helped to bring visual consistency and recognition to the project throughout the process.



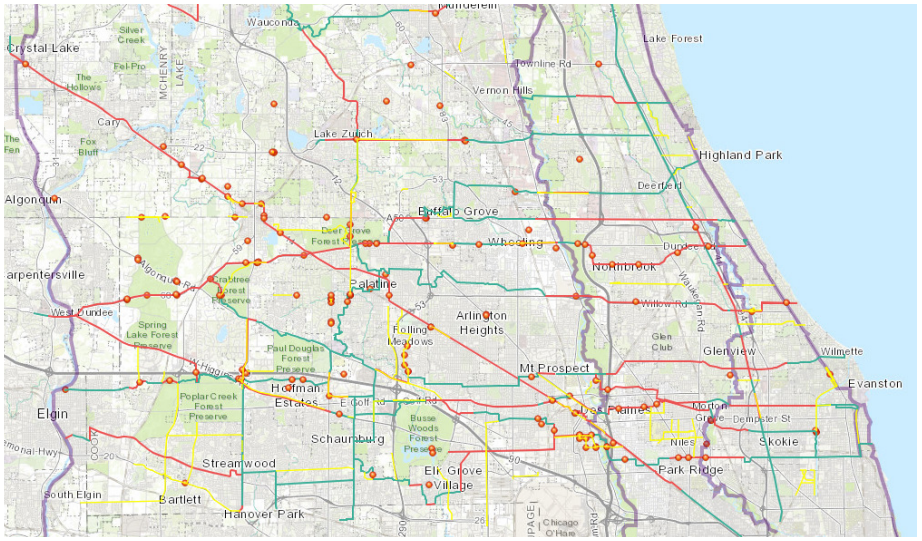
Project Info Sheet and Update Fliers



Project Website Homepage

ONLINE ENGAGEMENT

Given the geography of NWMC communities, the project engagement plan featured extensive online engagement to reach the widest array of residents possible. Two online surveys were developed to help understand the habits and preferences of area residents. The first survey focused on how people get around, and



Comments (red dots) and additional segments (yellow lines) on the priority bicycle corridor web map

identifying the barriers to traveling by walking, biking and transit. Over 550 peopled responded to the survey, representing over 50 communities. The results of this survey are illustrated to the right. The survey found that 32% of respondents walk, bike, or take transit to get to work or school daily. One out of three respondents walk or bike to reach transit. A majority of respondents—53%—walk or bike at least a few times a week. Barriers to walking included a lack of destinations and safe street crossings, while a lack of safe places to ride on the street and the speed of traffic were identified as barriers to biking. Respondents indicated that the distance to and from transit stops is a main barrier to transit.

The second online survey asked area residents—what kind of bicyclist are you? The survey found that the average NWMC rider could be described as "Enthused and Confident." As outlined on the graphic on the following page, 60% of respondents ride a bike for exercise at least once a week during the summer months. One in three respondents ride a bike to school, work, or to run errands. Despite these high levels of ridership, 74% of respondents would ride more frequently if local roadways were safer and more comfortable.

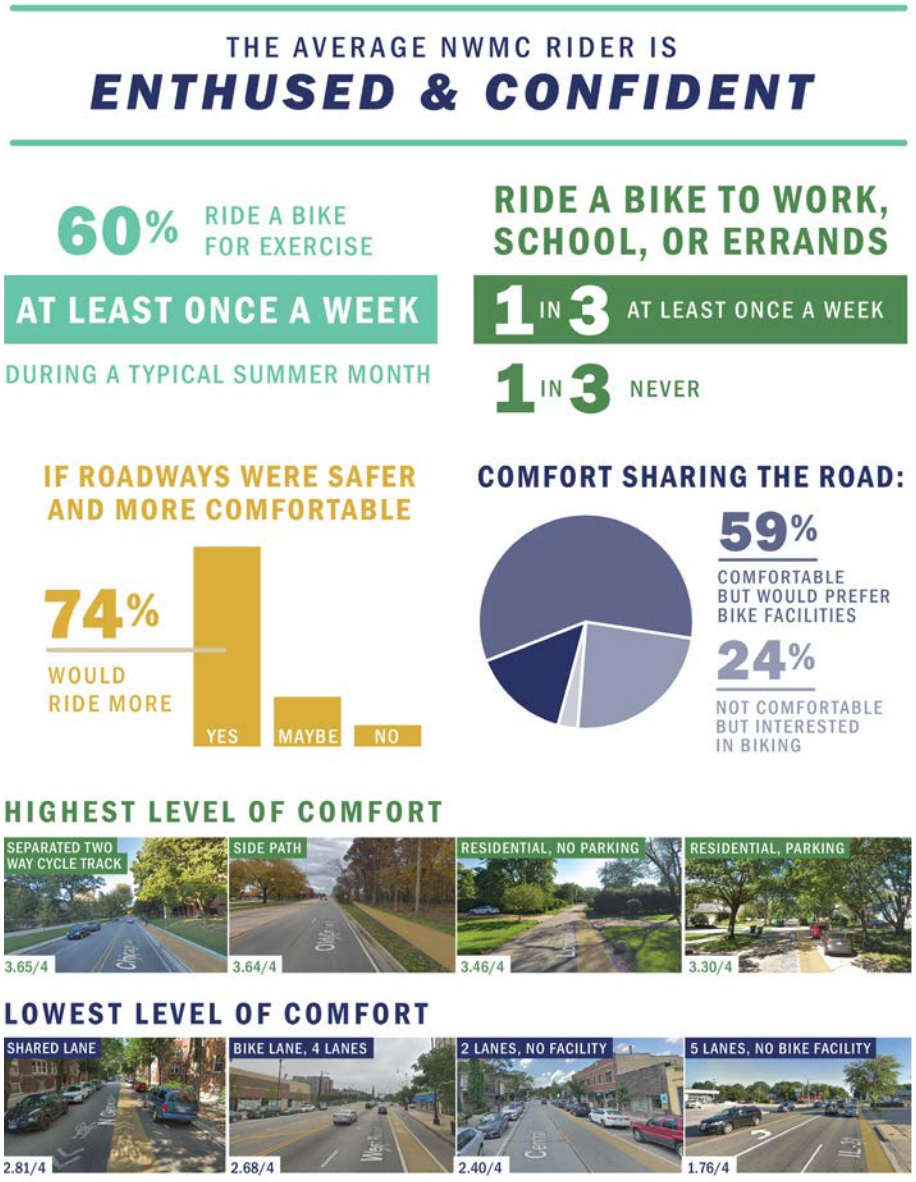
The survey also explored the different types of bike facilities that area cyclists

prefer. The bike facility that ranked highest in comfort level was a separated two-way cycle track, followed by a side path. Residential side streets also ranked highly. These preferences show that area residents prefer to either be on a bike facility that is off the street, or on a street with lower traffic speeds. Unsurprisingly, non-residential streets without bike facilities received the lowest level of comfort rankings. Unprotected bike lanes on busy streets and shared lanes also received low rankings. These results of both surveys provided the planning team an understanding of the solutions and recommendations needed to increase multimodal transportation in the region.

In addition to the online surveys, an interactive web map was developed to highlight and gain feedback on the priority bicycle corridors. The project website encouraged visitors to add to the linked web map, where they could draw desired segments and comment about specific streets that are dangerous for pedestrians and cyclists. The web map received dozens of comments and suggestions for new segments. Comments include locations of signals that need improvements, areas that are dangerous for cyclists and pedestrians, and recommendations for alternative bike routes. Comments were analyzed and priority corridors were modified where appropriate.

A network of municipal marketing and communications contacts throughout NWMC communities helped to distribute both surveys. These plan ambassadors used social media and newsletter graphics developed by the planning team to spread the word about the project and ways to get involved. A sampling of branded social media graphics developed to promote the project and encourage involvement are highlighted below.

A sample of project branded social media posts



Survey Two Results

"Of considerable concern are routes suitable for cyclists to cross Milwaukee Avenue, the Des Plaines River, and the Tri State Tollway when traveling East-West without having to detour North-South more than 1 mile."

- Comment from interactive web map

Photos from the NWMC Member Open House at Oakton Community College

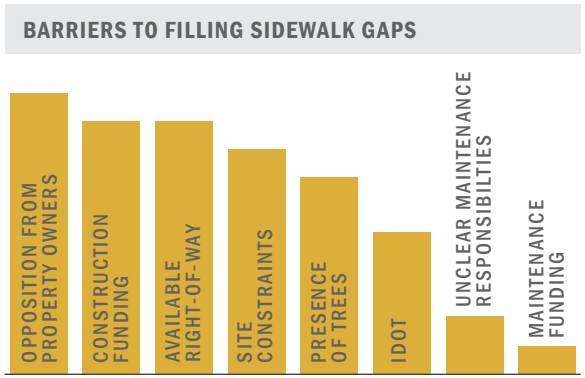
OPEN HOUSES AND POP-UP WORKSHOPS

Given the many communities included in the NWMC region, the planning team hosted four project related events across the region. A NWMC Member Open House was held on November 19, 2019 at Oakton Community College in Des Plaines to get feedback on plan elements from municipal planners and engineers. In addition, three Pop-up Workshops were held. A list of dozens of events throughout the study area were compiled to identify events that would be ideal for Pop-ups. Events were evaluated based on attendance levels, family-friendliness, as well as how broad of an audience the event typically attracts. With these factors in mind, as well as the goal of providing geographic diversity, three events were chosen for Pop-ups:

- Pop-up 1: Hoffman Estates Public Works Open House on Saturday, November 2
- Pop-up 2: Deerfield Winter Celebration on Friday, December 6
- Pop-up 3: Morton Grove Indoor Farmers Market on Saturday, December 7

The NWMC Member Open House was organized into three main stations—Bicycling, Walking, and Access to Transit. Each station included an overview of the improvements needed for each mode, the tools to implement these changes, and potential funding sources. The Bicycling station featured a large map of the priority bicycle corridors, along with smaller sheets for each corridor that planners could take with them to review. At the Walking station, attendees were asked what stops their community from constructing new sidewalks. The most common response was opposition from property owners, followed by construction funding and available right-of-ways. The rankings of all barriers are outlined to the right.

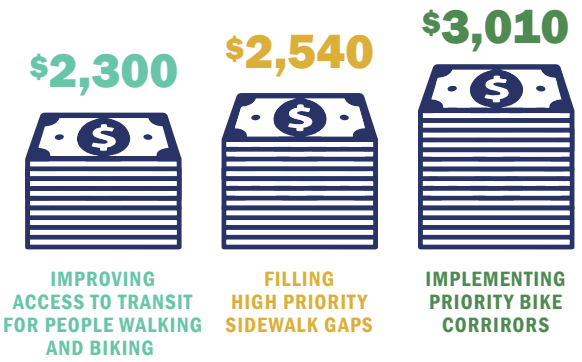
The event also included a priority voting exercise and a trip distances exercise. The Pop-up Workshops included these exercises as well—the results highlighted are the cumulative results from all four events.



Results from the NWMC Member Open House

Photos from the Pop-up Workshop at the Hoffman Estates Public Works Open House

HOW WOULD YOU ALLOCATE RESOURCES BETWEEN THESE MULTIMODAL PRIORITIES?



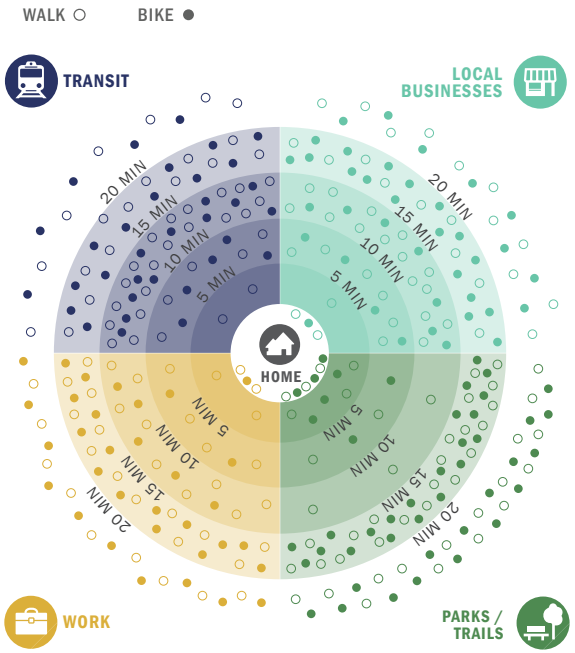
Photos from the Pop-up Workshops at the Deerfield Winter Celebration and the Morton Grove Indoor Farmers Market

The priority voting exercise gave attendees $100 "Multimodal Dollars" in increments of ten. Attendees were asked to allocate these dollars between the three plan areas, organized into large glass jars—improving access to transit for people walking and biking, filling high priority sidewalk gaps, and implementing priority bicycle corridors. Some attendees put all their dollars into a single jar, while others divided their dollars equally. The final tally results show that implementing the priority bicycle corridors is the highest priority for area stakeholders, with a total of $3,010 "Multimodal Dollars" allocated to that investment area. The next highest investment area was filling high priority sidewalk gaps, with $2,540 "Multimodal Dollars" allocated. Overall, the difference between the three areas was fairly minimal, indicating that all three areas are a priority for NWMC communities.

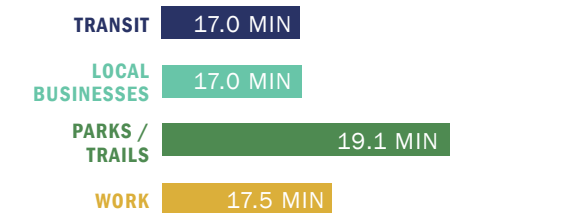
The trip distances exercise asked attendees how far they would travel from their home to transit, work, local businesses, and parks/trails by bike and on foot. Though the results show a wide range of responses, the common theme is that area residents would walk and bike between 15-20 minutes to most destinations. Overall, attendees indicated being willing to bike longer than the they would walk, and they are willing to travel further to access parks/trails than most other destinations.

The conversations, written comments and feedback received at these events were instrumental to the planning team in creating an implementation guide that serves area residents.

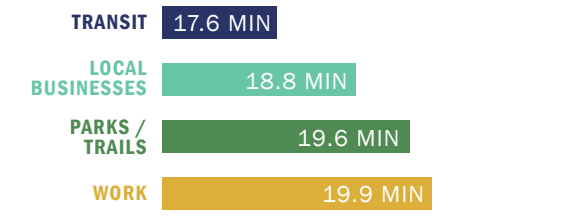
HOW FAR WOULD YOU WALK OR BIKE TO ACCESS LOCAL DESITNATIONS?



AVERAGE WALK DISTANCES

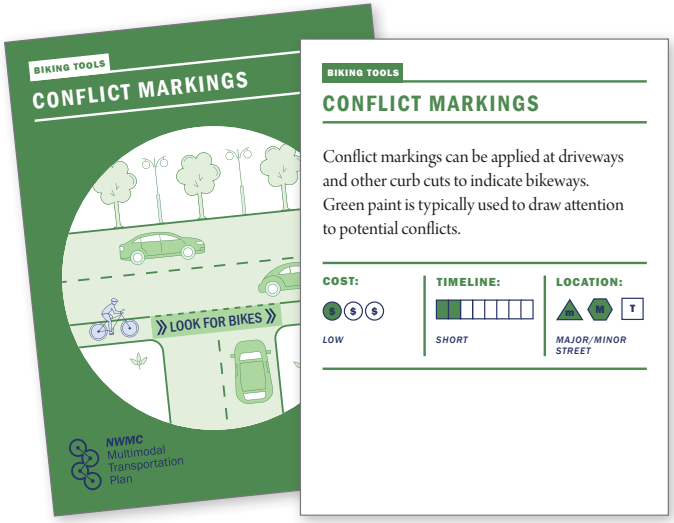


AVERAGE BIKE DISTANCES



MULTIMODAL TOOLKITS

A set of Multimodal Toolkit cards were developed to help area planners and residents better understand the various tools available to improve multimodal connectivity. The toolkit includes cards for biking tools, walking tools, and access to transit tools. Each card features a custom illustration, description of the tool, relative cost of the tool, timeline to implement, and location where the tool may be appropriate. The card sets were designed to be graphic and visually appealing, so that they can be passed around municipal offices or shared among friends and bike clubs. The Multimodal Toolkits were distributed at the NWMC Member Open House, as well as the three Pop-up Workshops.



A sample card from the Multimodal Toolkit

STEERING COMMITTEE

The planning process was guided by a steering committee that advised NWMC, CMAP, and the consultant team on what should be included in the vision. The committee members represented municipalities that serve on the NWMC Bicycle and Pedestrian Committee, as well as agencies and organizations with interest in the region's transportation infrastructure: IDOT, Cook County, Lake County, Forest Preserve District of Cook County, Pace Suburban Bus, Metra, Chicago Transit Authority, Active Transportation Alliance, and Ride Illinois.

Throughout the planning process, the steering committee met approximately once every two months during regularly scheduled NWMC Bicycle and Pedestrian Committee meetings to provide direction on project milestones and comment on interim deliverables.

[Above] Photos from the NWMC Member Open House at Oakton Community College

[Above] A sample of Steering Committee Presentation slides

IDOT POLICY GUIDANCE

Summary of Recommendations for Pedestrian Crossings at Uncontrolled Locations, Two Way Streets Only (IDOT)

Configuration, including turn and parking lanes *	ADT ≤ 9000				9000 < ADT < 15,000				15,000 < ADT < 25,000				25,000 < ADT < 35,000				ADT > 35,000
	Posted Speed or 85th Percentile Speed, mph																
	≤30	35	40	≥ 45	≤30	35	40	≥ 45	≤30	35	40	≥ 45	≤30	35	40	≥ 45	All
2 lanes or 3 with refuge	1	2	4	Site-Specific Design	1	3	4	Site-Specific Design	2	3	4	Site-Specific Design	2	4	4	Site-Specific Design	Site-Specific Design
3 lanes no refuge	1	2	4		1	4	4		3	4	4		4	4	5		
4 lanes with refuge	2	3	4		3	4	4		4	4	4		4	5	5		
6 lanes with refuge	3	4	4		3	4	5		4	4	5		5	5	5		
> 4 lanes no refuge	Site-Specific Design								Site-Specific Design								
4 lanes, refuge not feasible	3	3	5		3	4	5		4	5	5		5	5	5		

Treatment Number	Treatment Detail
1	Four W11-2 Ped Signs, two with W16-9P "Ahead", two with W16-7P Slanted Down Arrow plaques
2	Treatment 1 + Timed or pedestrian actuated warning beacons. Continuously operated beacons are not recommended.
3	Treatment 2 + R1-5b Stop Here for Pedestrians signs at stop bar pavement marking (omit R1-5b for single lane approach)
4	Treatment 1 + Rectangular Rapid Flashing Beacon
5	Standard Traffic Signal or Pedestrian Hybrid Beacon; review IL MUTCD for placement restrictions

Crosswalk Pavement Marking	Application
Parallel lines	Signal controlled intersections, stop controlled legs of intersections
Continental	Uncontrolled intersections, mid-block crossings, uncontrolled legs of intersections
Ladder	Enhanced conspicuity at uncontrolled locations

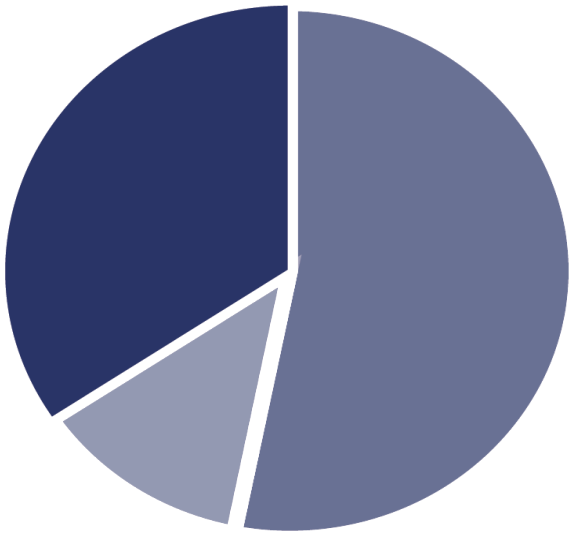
* Refuge is defined as a raised median or other pedestrian safety island

Source: – Summary of Recommendations for Pedestrian Crossings at Uncontrolled Locations, Two Way Streets Only, TRA-23: GUIDELINES FOR PEDESTRIAN CROSSINGS AT UNCONTROLLED LOCATIONS, Illinois Department of Transportation, Departmental Policy

BICYCLE CORRIDOR SIGNAGE

The 2012 North and Northwest Cook County Regional Corridor Bicycle Signage Plan focuses on recommendations to the use of bike signage along and to the NWMC priority corridors. It provides guidance on signage design and placement, as well as destinations. A survey was conducted amongst the Steering Committee to revisit sentiment on signage branding and content.

DO YOU THINK SIGNAGE FOR THE NWMC PRIORITY CORRIDORS SHOULD INCLUDE NWMC BRANDING?



53%

THINK BIKE SIGNAGE SHOULD FOLLOW TYPICAL MUTCD SIGNAGE

34%

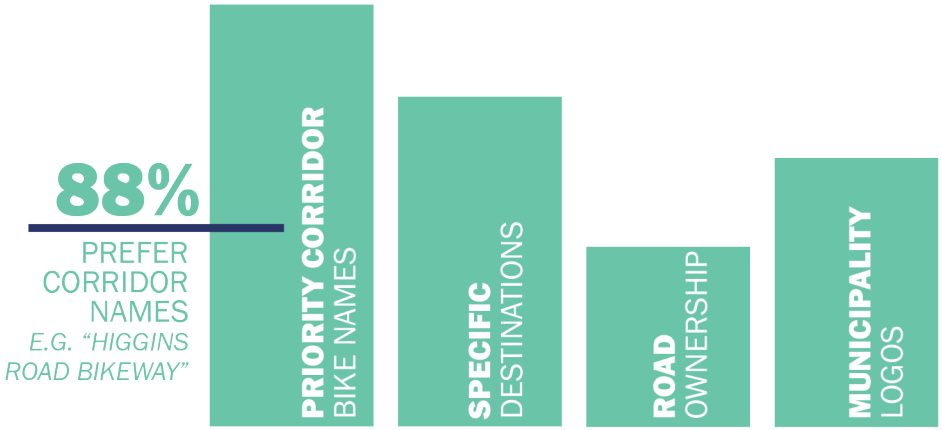
THINK BIKE SIGNAGE SHOULD REFER TO THE NWMC

Image Sources: North and Northwest Cook County Regional Corridor Bicycle Signage Plan Northwest Municipal Conference

Respondents that answered 'Yes' or 'I don't know' on NWMC branding, might like to include the following on the bike signs...

WHAT NWMC-RELATED BRANDING DO YOU THINK SHOULD BE INCLUDED ON THE PRIORITY BICYCLE CORRIDORS SIGNAGE?

DO YOU THINK THE SIGNAGE SHOULD INCLUDE ANY OF THE FOLLOWING?



Existing signage in the NWMC region. Image source: Sam Schwartz Consulting.

"Signage should be as simple and straightforward as possible. We planners and administrators care about jurisdictions and logos, but most cyclists don't."

- Comment from Signage Survey

"Keeping some consistency with the shape and color of the sign can let riders know they are headed in the right direction."

- Comment from Signage Survey

DETAILED FUNDING DESCRIPTIONS

CONGESTION MITIGATION AND AIR QUALITY IMPROVEMENT (CMAQ)

PROGRAM PURPOSE
To improve air quality and reduce traffic congestion in areas that do not meet air quality standards

PROGRAM ADMINISTRATOR
Chicago Metropolitan Agency for Planning (CMAP)

AVAILABLE FUNDING LEVEL
$264.4 million five-year program

ELIGIBLE APPLICANTS
Local, state or regional governments with taxing authority (private or non-profits agencies may apply with a public sponsor)

ELIGIBLE PROJECTS
Bicycle facilities; Access to transit

APPLICATION REQUIREMENTS
Phase I engineering substantially complete

APPLICATION PROCESS AND TIMELINE
Applications accepted biannually (odd years) January through March; projects selected by MPO Policy Committee in October

LOCAL MATCH REQUIREMENT
Minimum 20% non-federal funds

COMMUNITY DEVELOPMENT BLOCK GRANTS

PROGRAM PURPOSE
To fund community development projects in low and moderate income communities

PROGRAM ADMINISTRATOR
Arlington Heights, Des Plaines, Hoffman Estates, Mount Prospect, Palatine, Schaumburg, Skokie, Cook County, Lake County

AVAILABLE FUNDING LEVEL
Varies depending on geography. Note that $115m in CDBG funds come to the region each year, with $78m of those to the City of Chicago. The City has not historically used its funds on infrastructure. Grantees typically use 20 percent of funds on administration and up to 15 percent on public services. CDBG can be used on many things, including planning, public services, and housing.

ELIGIBLE APPLICANTS
Local governments and non-profits, though note that a community cannot apply for County or State CDBG funds if it already receives CDBG funds from HUD locally.

ELIGIBLE PROJECTS
Sidewalk improvements

APPLICATION REQUIREMENTS
Phase I engineering substantially complete

APPLICATION PROCESS AND TIMELINE
The call cycle is annual, though the process, timing, and time-frame for each administrator varies.

LOCAL MATCH REQUIREMENT
Depends on the administrator. May not be required, but match funds may mean a project is more likely to be funded.

ENHANCED MOBILITY OF SENIORS AND INDIVIDUALS WITH DISABILITIES (5310)

PROGRAM PURPOSE
To support transportation services planned, designed, and carried out to meet the special transportation needs of seniors and individuals with disabilities.

PROGRAM ADMINISTRATOR
Regional Transportation Authority (RTA)

AVAILABLE FUNDING LEVEL
$3.5 million (2019)

ELIGIBLE APPLICANTS
Transit agencies, local governments, non-profit organizations

ELIGIBLE PROJECTS
Eligible projects include those that are planned, designed, and carried out to meet the special needs of seniors and individuals with disabilities including building an accessible path to a bus stop, including curb-cuts, sidewalks, accessible pedestrian signals or other accessible features.

APPLICATION REQUIREMENTS
- Coordination aspects of the project should be noted in the project description and evidenced through other appropriate documentation, such as partnership agreements and cooperative operational arrangements
- Applicants are also encouraged to directly consult with the appropriate Service Board(s) on proposed projects that could affect existing transit operations or transit facilities.

APPLICATION PROCESS AND TIMELINE
Irregular call cycle

LOCAL MATCH REQUIREMENT
20% non-federal funds for capital and mobility

URBANIZED AREA FORMULA PROGRAM (5307/5311)

PROGRAM PURPOSE
Section 5307 and 5311 grants to Urbanized Areas for public transportation capital projects

PROGRAM ADMINISTRATOR
IDOT

AVAILABLE FUNDING LEVEL
Formula funds allocated based on population and transit operation data

ELIGIBLE APPLICANTS
State and local governments and public transportation providers

ELIGIBLE PROJECTS
Bicycle routes to transit

APPLICATION REQUIREMENTS
Project must be part of the CMAP planning process-TIP and UWP

APPLICATION PROCESS AND TIMELINE
Application is submitted through IDOT; due November of each year

LOCAL MATCH REQUIREMENT
- 5% non-federal share (5307)
- 20% non-federal share (5311)

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP)

PROGRAM PURPOSE
To fund highway infrastructure safety projects aimed at reducing fatalities and serious injuries

PROGRAM ADMINISTRATOR
IDOT

AVAILABLE FUNDING LEVEL
$15 million annually

ELIGIBLE APPLICANTS
Local or regional governments

ELIGIBLE PROJECTS
Roadway improvements that provide separation between pedestrians and motor vehicles, including medians and pedestrian crossing islands

APPLICATION REQUIREMENTS
- Projects must address goals written in State Highway Safety Plan, be identified through a data-driven process, target an identified safety problem, and contribute to a reduction in fatalities and serious injuries
- The project must contain a location where a fatality or serious injury has occurred in the past and must show a benefit / cost ratio for the improvement of greater than 1.

APPLICATION PROCESS AND TIMELINE
Applications must be submitted by March 1 of each year

LOCAL MATCH REQUIREMENT
Minimum 10% non-federal funds

ILLINOIS BICYCLE PATH GRANT PROGRAM (IBP)

PROGRAM PURPOSE
To assist local units of government with the acquisition, construction, and rehabilitation of public off-road, non-motorized bicycle paths and directly related support facilities

PROGRAM ADMINISTRATOR
Illinois Department of Natural Resources (IDNR)

AVAILABLE FUNDING LEVEL
$12.1 million annually; maximum $200,000 per development project; no maximum for acquisition projects

ELIGIBLE APPLICANTS
Local governments

APPLICATION PROCESS AND TIMELINE
Applications accepted annually January through March

LOCAL MATCH REQUIREMENT
Minimum 50% non-federal funds

ILLINOIS TRANSPORTATION ENHANCEMENT PROGRAM (ITEP)

PROGRAM PURPOSE
To foster cultural, historic, aesthetic and environmental aspects of transportation infrastructure

PROGRAM ADMINISTRATOR
IDOT

AVAILABLE FUNDING LEVEL
$40 million annually; projects may apply for up to $2 million

ELIGIBLE APPLICANTS
Local and regional governments with taxing authority (private or non-profits agencies may apply with a public sponsor)

ELIGIBLE PROJECTS
Bicycle/pedestrian facilities

APPLICATION REQUIREMENTS
- Change in application requirements; Phase I engineering no longer needs to be completed
- At least 25% of funding being directed toward projects in high-need communities

APPLICATION PROCESS AND TIMELINE
Typically, notice of funding opportunity announced annually in the spring; applications accepted October through December. Note that for FY 2020, notice of funding opportunity will be delayed until late summer/early fall.

LOCAL MATCH REQUIREMENT
Determined on a sliding scaled based on community size, median income and total property tax base

INVEST IN COOK

PROGRAM PURPOSE
To fund improvements consistent with the five priorities of Connecting Cook County: prioritize transit and other transportation alternatives; support the region's role as North America's freight capital; promote equal access to opportunities; maintain and modernize what already exists; and increase investments in transportation.

PROGRAM ADMINISTRATOR
Cook County Department of Transportation and Highways (DOTH)

AVAILABLE FUNDING LEVEL
$7 million annually

ELIGIBLE APPLICANTS
Local governments within Cook County

ELIGIBLE PROJECTS
Transit improvements and cycling and pedestrian enhancements

APPLICATION REQUIREMENTS
Projects must be aligned with the goals of Connecting Cook County

APPLICATION PROCESS AND TIMELINE
Notice of funding opportunity announced annually in January; project awards announced in July

LOCAL MATCH REQUIREMENT
Sliding scale based on need

MOTOR FUEL TAX (MFT) AND OTHER LOCAL SOURCES

The Illinois Motor Fuel Tax (MFT) Fund is derived from a tax on the privilege of operating motor vehicles upon public highways and of operating recreational watercraft upon the waters of this State, based on the consumption of motor fuel. The motor fuel taxes that are deposited in the Illinois MFT Fund are: 38.0 cents per gallon gasoline and 45.5 cents per gallon diesel fuel. The DOT allocates these monies according to the provisions outlined in the MFT fund distribution statue, 35 ILCS 505/8 and initiates the process for distribution of motor fuel tax to the counties, townships, and municipalities. Each month a warrant is issued to each municipal treasurer in the amount of the municipality's share of Motor Fuel Tax Fund collected for the preceding month. Monthly distributions are posted on the department's website.

PROGRAM PURPOSE
To improve, maintain, repair or construct local roads and highways and to enhance non-motorized infrastructure

PROGRAM ADMINISTRATOR
IDOT, Regional Transportation Authority (RTA), and local municipalities

AVAILABLE FUNDING LEVEL
$50 million for bicycle and pedestrian improvements to be awarded through the Illinois Transportation Enhancements Program (ITEP)

ELIGIBLE PROJECTS
- Bicycle and pedestrian projects

APPLICATION REQUIREMENTS
- Use of MFT through the ITEP application process
- Applications vary with the other local funding sources

APPLICATION PROCESS AND TIMELINE
For MFT, follow the ITEP schedule

LOCAL MATCH REQUIREMENT
Determined on a sliding scaled based on community size, median income and total property tax base

RECREATIONAL TRAILS PROGRAM (RTP)

PROGRAM PURPOSE
To develop and maintain recreational trails and facilities for both motorized and non-motorized users

PROGRAM ADMINISTRATOR
Illinois Department of Natural Resources (IDNR)

AVAILABLE FUNDING LEVEL
$1.5 million annually; maximum $200,000 per project

ELIGIBLE APPLICANTS
Local, state or regional governments, non-profit organizations, for-profit organizations, small businesses, individuals

ELIGIBLE PROJECTS
- Multi-use trails
- Trail/highway intersection improvements
- Trail-heads

APPLICATION REQUIREMENTS
Phase I engineering substantially complete

APPLICATION PROCESS AND TIMELINE
Applications accepted annually through March 1; awards announced within 180 days of application deadline

LOCAL MATCH REQUIREMENT
Minimum 20% non-federal funds

SAFE ROUTES TO SCHOOL (SRTS)

PROGRAM PURPOSE
To enable children to walk and bike to school through education, encouragement, engineering, enforcement, evaluation and equity

PROGRAM ADMINISTRATOR
IDOT

AVAILABLE FUNDING LEVEL
- $6 million annually
- Infrastructure projects may apply for up to $200,000; minimum is $25,000.
- Non-infrastructure projects may apply for up to $50,000; minimum is $2,500

ELIGIBLE APPLICANTS
Local governments, park districts, school districts, schools

ELIGIBLE PROJECTS

(All projects must be completed within a 2 mile radius of the school)

- Sidewalk improvements
- Traffic calming/speed reduction improvements
- Traffic control devices
- Pedestrian and bicycle crossing improvements
- On and off-street bicycle facilities
- Secure bicycle parking facilities

APPLICATION REQUIREMENTS
- Resolutions of Financial Commitment and Administration and Letters of Support must be obtained for all Safe Routes to School applications in order to be eligible for SRTS funds.
- The group who will be administering the project must apply as the Sponsoring Agency.
- Each applicant must be registered through the Grant Accountability and Transparency Act (GATA)

APPLICATION PROCESS AND TIMELINE
Applications typically accepted in the fall with announcement of awards the following spring

LOCAL MATCH REQUIREMENT
No match required

SURFACE TRANSPORTATION PROGRAM - LOCAL (STP-L)

PROGRAM PURPOSE
To fund transportation projects prioritized by subregional councils

PROGRAM ADMINISTRATOR
North Shore and Northwest Councils of Mayors

AVAILABLE FUNDING LEVEL
Dependent on each council; ranges from $3 million to $12 million annually in the councils

ELIGIBLE APPLICANTS
Local, state or regional governments with taxing authority (private or non-profits agencies may apply with a public sponsor) within the boundaries of each council or Chicago

ELIGIBLE PROJECTS
Project must be on a route classified as a collector or higher that is eligible for federal aid, meaning the route serves a regional purpose and more than a local access function, according to IDOT's road classification. Certain off-road facilities, such as regional trails, are eligible. This is the most broadly eligible and most competitive program. Additional projects include bicycle & pedestrian facilities utilitarian in nature that serve a transportation purpose

Ineligible projects include: sidewalks that are not located along a federal-aid eligible route; multi-use trail/path that serves only a recreational purpose, such as a "loop" trail.

APPLICATION REQUIREMENTS
Dependent on each council

APPLICATION PROCESS AND TIMELINE
Applications accepted biannually (even years) January through March.

LOCAL MATCH REQUIREMENT
Minimum 20% non-federal funds; more for certain project phases or types dependent on each council

TRANSPORTATION ALTERNATIVES PROGRAM (TAP-L)

PROGRAM PURPOSE
To support non-motorized modes of transportation

PROGRAM ADMINISTRATOR
CMAP

AVAILABLE FUNDING LEVEL
$9 million annually; no project maximum

ELIGIBLE APPLICANTS
Local, state or regional governments with taxing authority (private or non-profits agencies may apply with a public sponsor)

ELIGIBLE PROJECTS
- Bicycle and pedestrian facilities
- Focused on completing the Northeastern Illinois Regional Greenways and Trails Plan (RGTP)

APPLICATION REQUIREMENTS
Phase I engineering substantially complete

APPLICATION PROCESS AND TIMELINE
Applications accepted biannually (odd years) January through March

LOCAL MATCH REQUIREMENT
Minimum 20% non-federal funds