

**Libertyville**  
*spirit of independence*

# VILLAGE OF LIBERTYVILLE

# **Bicycle Plan**

APRIL 2023



# ACKNOWLEDGEMENTS

A special thank you to the Libertyville community members and stakeholders who helped make this bicycle plan possible:

- Trustee Pete Garrity, Libertyville Bicycle Commission
- Commissioner Elliott Hillback, Bicycle Advisory Commission, Chair
- Commissioner Ken Glick, Bicycle Advisory Commission
- Commissioner Dave Sallmann, Libertyville Bicycle Commission
- Commissioner Michelle Thompson, Libertyville Bicycle Commission
- Commissioner Vince Amyot, Libertyville Bicycle Commission
- Commissioner Robin Kollman, Libertyville Bicycle Commission
- Kelly Amidei, Village Administrator, Village of Libertyville
- Harrison Meyer, Senior Project Engineer, Village of Libertyville
- Laura Ditanto, Assistant Public Works Director, Village of Libertyville
- Matt Goze, Deputy Police Chief, Village of Libertyville
- Civiltech Engineering, Inc.





# TABLE OF CONTENTS

Introduction.....	3
Public Engagement.....	6
Existing Conditions.....	6
Network Recommendations.....	23
Implementation.....	36



## PLAN OVERVIEW

The pursuit of this Bicycle Plan will work to achieve the vision and goals set forth in the Village's Comprehensive Plan. The vision and goals in the Comprehensive Plan are listed in Chapter 2: Existing Conditions.

The Comprehensive Plan serves as the road map for adopting new policies and initiatives that achieve land use and development goals and in coordinating the efforts and involvement of Village departments and other stakeholder partners in planning efforts. In addition, the Comprehensive Plan assists the Village Board of Trustees in making well-informed decisions regarding land use and capital improvements — decisions that can have long-lasting impacts on how Libertyville develops in the future. Just as important, the Comprehensive Plan can help communicate the community's aspirations and goals to private sector investors, local institutions, businesses, and residents. From a practical standpoint, a Comprehensive Plan serves as the playbook for local planners and government officials in understanding the appropriate types of development and land uses in the Village, realizing that each new development creates a lasting impact on the Village's design and economic well-being.

In addition, community leaders and residents have goals for bicycling in the Village and those goals are incorporated into this plan.





## VILLAGE BICYCLE GOALS & VISION

### Vision Statement:

*The Village of Libertyville commits to building a safe and accessible bicycle system to enable cyclists of all ages and abilities to have safe access to the amenities, schools, businesses, and services within the Village. To this end, the Village commits to augmenting the recommendations contained in the Bicycle Plan which the Village believes will benefit current and future cyclists and educate the public about the benefits of cycling.*

### Goals:

- Provide a connected and accessible trail system that makes bicycling a safe and enjoyable mode of transportation and form of recreation in the Village and meets the needs of all ages and abilities.
- Coordinate with surrounding municipalities, regional governing bodies, Lake County Forest Preserve District, and Lake County DOT to provide connections with bicycle routes and bike paths.
- Seek grant funding for bicycle-related projects such as Safe Routes to School.
- Pursue public-private partnerships in the planning and implementation of bikeway and trail projects.
- Maintain a sustainable and dedicated source of bikeway funding in the Village budget.
- Provide access and bicycle support facilities to transit stations and transit hubs.
- Establish routine maintenance program that encourages citizens to report maintenance issues that impact bicyclist safety.

- Implement an “Adopt-a-Trail” program as a way to assist the Village with maintaining bike paths.
- Encourage large employers to provide secure bicycle facilities and racks and promote their efforts.
- Continue to organize and increase participation in the Community Bike Ride and other events that promote bicycling in the community.
- Continue positive reinforcement of safe bicycling behavior by rewarding bicyclists with coupons and other incentives to continue safe riding habits (“caught being good”).
- Educate bicyclists and motorists to share the road safely.
- Increase helmet use among bicyclists.
- Increase the use of reflective clothing during low light hours among bicyclists.



# CHAPTER 1

## Public Engagement





## OVERVIEW

### Goals

The Village had a goal of reaching the public and key stakeholders to identify biking issues, challenges, concerns, and priorities community members face throughout the roadway network.

### Key Findings

Several themes emerged from engaging with the public about the plan, which included:

- Building on existing bike trails
- Creating safe routes to key destinations
- Improving safety and accessibility

### How People Engaged with the Plan

Community members provided vital input to help shape the creation of the final bike network. The main outlet to provide comments was through an online interactive map. Community members were invited to place dots on an online interactive map to identify challenging intersections, bike route improvements and needs, and potential bike rack locations.

### How People Stayed Informed

The Village shared the opportunities for input via their Village media outlets, such as their website and Facebook page. The project online input opportunity also appeared in the Daily Herald.

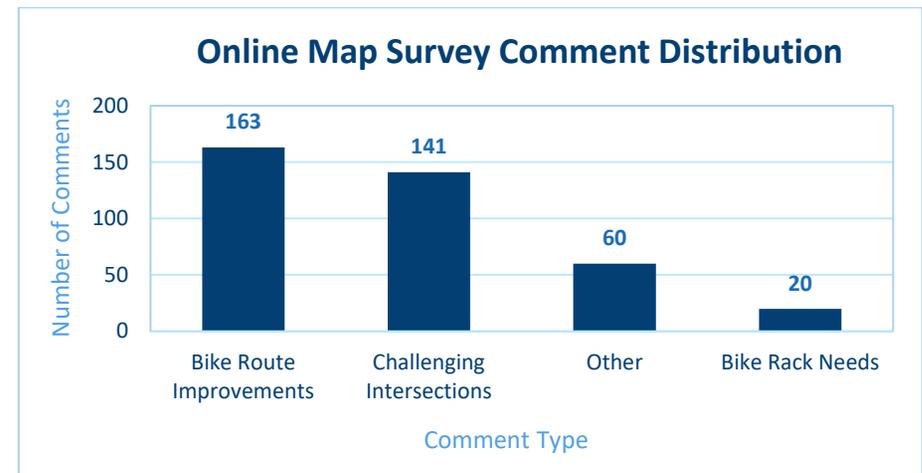
## ONLINE INTERACTIVE MAP

The online map activity informed the project team of Village-wide barriers and opportunities to improve biking. Community members were asked to identify improvements and challenges via an online Wikimap survey (*see results mapped on the next page*).

Community members placed dots to identify the following:

- Challenging Intersections
- Bike Route Improvements
- Bike Rack Needs
- Other Comments

The online survey map was visited by over 800 unique users and received a total of 384 responses.





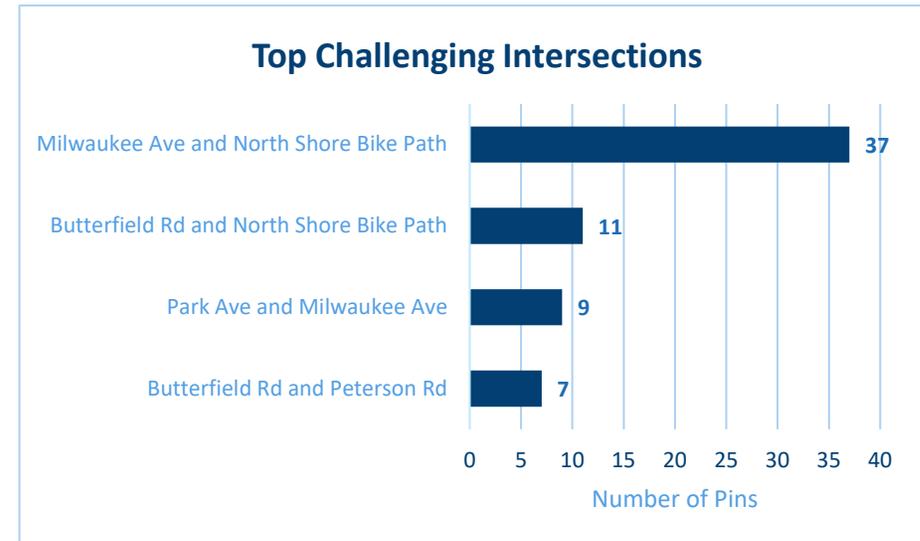
## Challenging Intersections

Community members placed 141 dots identifying challenging intersections. Overall, the community-identified challenging intersections are dispersed throughout Libertyville. However, **the top three roadways indicated as having challenging intersections included Park Avenue, Milwaukee Avenue, and Butterfield Road.** Below is a list of the intersections identified along these three routes:

- Park Avenue
  - Milwaukee Avenue, Dymond Road, Dawes Street, Brainerd Avenue/Garfield Avenue, Stewart Avenue, 4<sup>th</sup> Street
- Milwaukee Avenue
  - Adler Drive, Artaius Parkway, North Shore Bike Path, Rockland Road, Golf Road
- Butterfield Road
  - Peterson Road, Park Avenue, North Shore Bike Path, Crane Boulevard

Other challenging intersections identified include crossings around parks in Libertyville including crossings near Butler Lake Park along Winchester Road and Lake Street and crossings along Milwaukee Avenue near Adler Park.

Residents had the option to provide more detail about the challenging crossings they identified. **The top four concerns that residents commented on included: difficult uncontrolled crossings, high speed routes, lack of curb ramps, and the desire for more separation of bicyclists and pedestrians from traffic.** These concerns were equally noted throughout Libertyville.





### ***Bike Route Improvements***

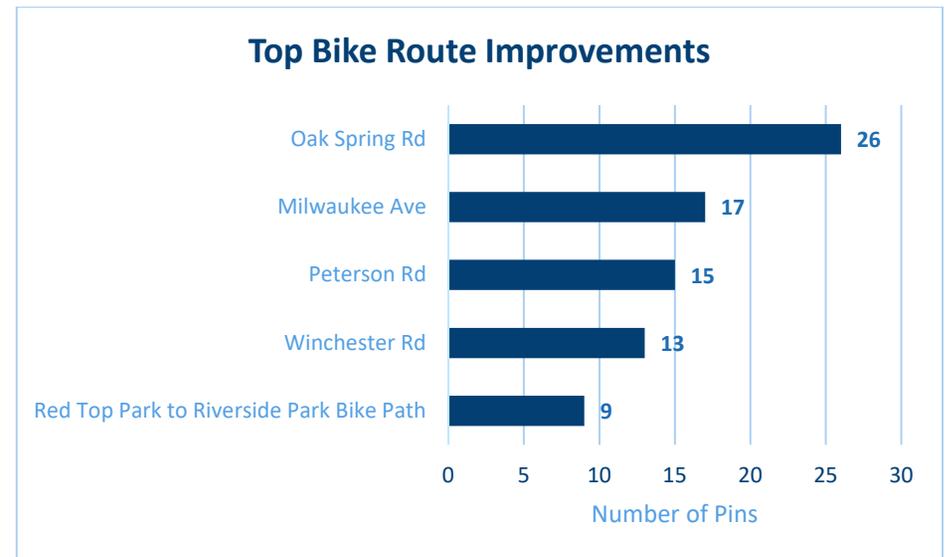
Community members placed 163 dots identifying locations for potential bike improvements. Residents identified routes that they consider important additions to the bike network and highlighted locations where connections to existing bike paths could be made. **The top three potential bike routes that residents reacted most positively to improving included Peterson Road/Buckley Road, Oak Spring Road, and Winchester Road.** Several residents noted that adding these routes would greatly improve connectivity to the downtown area.

Several residents also noted that **Dawes Street and Rockland Road are frequented by students** because there are several schools and parks along these routes. Residents noted that these routes are important to the overall bike network and that safety should be prioritized.

**Many residents also suggested a bike path connecting Red Top Park and Riverside Park along the Libertyville Golf Course.** Several residents suggested a bike path connecting Winchester Road and the Metra Station for commuters. In addition, community residents suggested making improvements at connections between on-street bike routes and off-street bike trails, including connections at Hawthorn Melody Park, Riverside Park, Adler Memorial Park, and Butler Lake Park.

Residents had the option to provide specific comments when placing points to indicate bike route improvements. **Most points placed on Butterfield included notes in regards to safety**

**concerns and that current sidewalks are too narrow to accommodate bike traffic.** Additionally, locations along existing bike paths were also identified for improvements, including resurfacing of the path along Butler Lake and improved safety at intersections along the North Shore Bike Path.





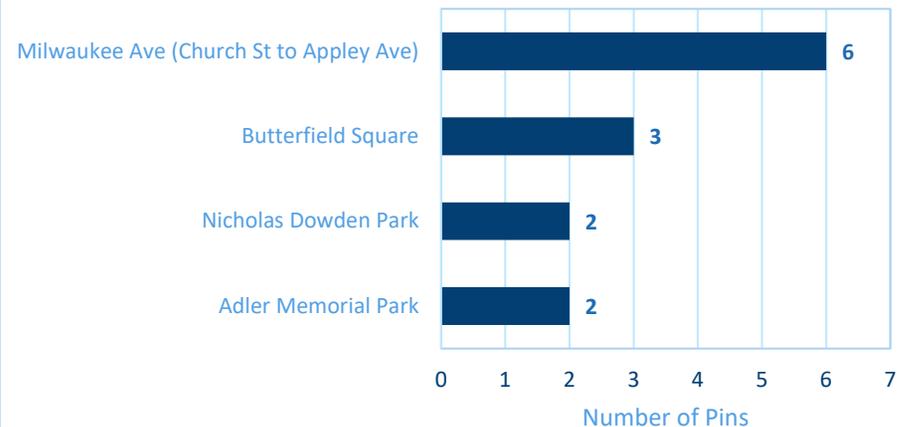
## ***Bike Rack Needs***

Community members identified 20 locations throughout Libertyville where bike racks are needed. **Most of these locations were in the downtown area along Milwaukee Ave,** with comments suggesting a need to accommodate bike travel for both business and leisure. A bike rack was suggested at the Metra Station, as well as bike racks near the shopping areas along Milwaukee Ave from Newberry Ave and Church St. Green spaces along Milwaukee Ave were also identified as possible bike rack locations, including Cook Memorial Library and St. Joseph's Park.

**Other bike rack locations were suggested near parks to accommodate those who bike to green space areas,** including Nicholas Dowden Park, Butler Lake Park, and Adler Park. Additionally, bike racks were suggested along the N Shore Path near a few points of interest, including Libertyville High School, at Milwaukee Avenue, and at the Culver's near Liberty Lake.

One resident suggested adding a bike rack at the Route 137 Bull Creek Trail entrance on Castleton Road to accommodate trail visitors. While this is the only trail entrance that was identified by residents for a bike rack installation, **a common theme that arose through this online mapping survey exercise is a desire to create a more connected bike network.** Therefore, installing bike racks at other trail entrances throughout the bike network can be explored in the future.

### **Top Locations in Need of Bike Racks**





### Other Comments

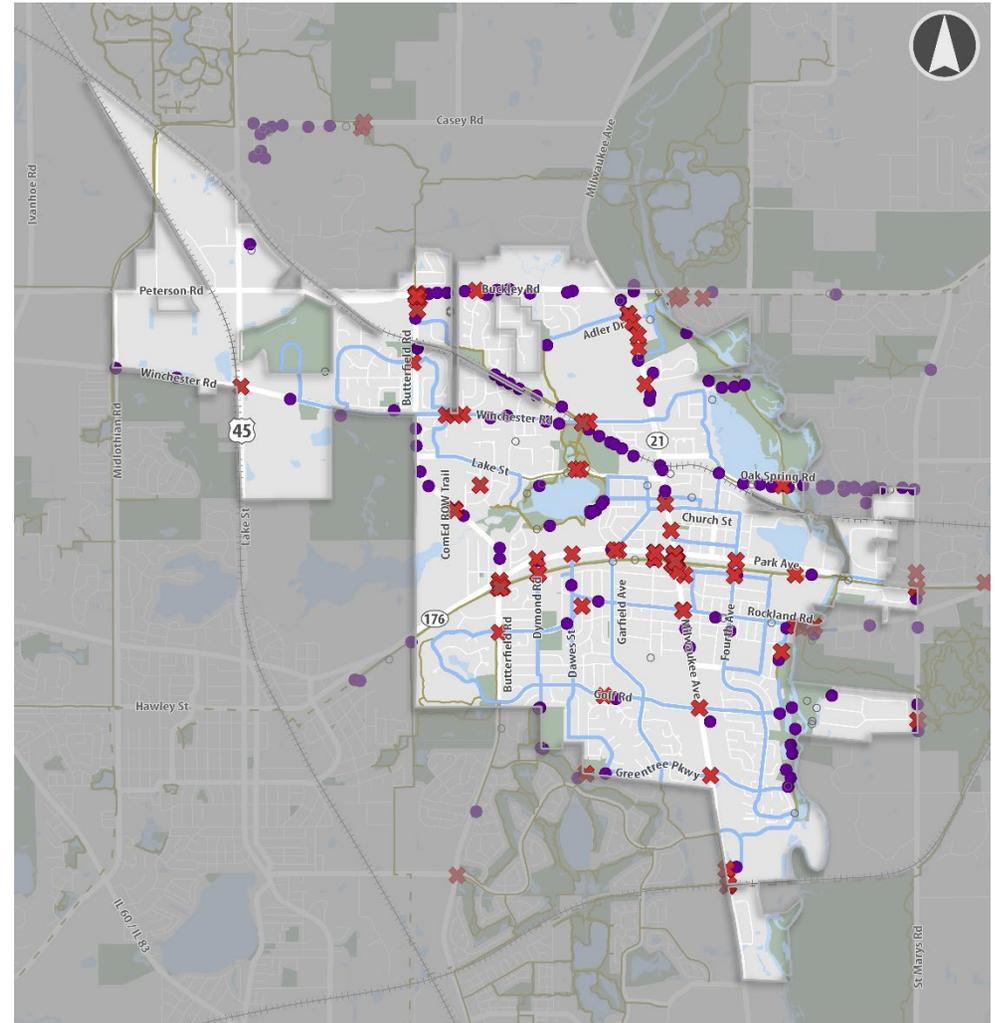
Community members placed 60 comments throughout Libertyville. **Themes that emerged include safety and connectivity.**

Several comments were noted regarding safety, particularly, **several residents were concerned about safer bike crossings at Butterfield Road, Park Avenue, Milwaukee Avenue, and North Shore Bike Path.** (See the Challenging Crossing Comments section above for more on safety concerns.)

Several residents stressed an interest in a well-connected bike network and suggested additional areas for increased connectivity and points of interest. Some of the additional connections suggested include a direct connection to the Metra Station, Advocate Condell Medical Center, Hawthorn Melody Park, Green Tree Park, and a bike path connecting Red Top Park and Riverside Park along the Libertyville Golf Course. (See the Bike Route Improvement section above for more on connectivity.)

**Overall, residents reported positive experiences traveling along the Butler Lake Paths. Residents also identified Rockland Road as a popular route for bicyclists, especially children.**

### Community Input on Barriers and Opportunities



- Libertyville Boundary
- Park or Open Space
- Railroads
- X Difficult or Challenging Crossing
- Bike Network Improvement Needed
- Other Comment
- Existing Village Bike Network
- Existing Trail or Path
- - - Proposed or Planned Trail or Path

# CHAPTER 2

## Existing Conditions





## POLICIES AND PLANS

### Complete Streets

The Village's goal for multi-modal transportation connectivity corresponds with the elements of "Complete Streets" through examining opportunities to increase use of village roadways and the public right-of-way while improving safety throughout the community. The goal of this policy is to allow all transportation users safe and convenient ways to reach their destination regardless of age, ability, or mode. The intent is to ensure that all planning, scoping, design, construction, and construction engineering activities continue to produce safe and accessible transportation network improvements. The Village's commitment to multi-modal transportation through the development of a robust and connected vehicular, pedestrian, bicycle and transit network will be further supported by the Complete Streets policy.

This Complete Streets policy establishes design standards that will be referenced throughout the planning, design and engineering phases of future roadway and transportation improvement projects. This policy also encourages the use of public transit, in addition to walking and biking, as an alternative to the passenger vehicle; these modes of transportation are widely available throughout the Village of Libertyville. This policy also discusses the exceptions to the parameters listed throughout this document, as the elements of Complete Streets do not always provide feasible improvements in all situations. The Director of Public Works, Village Engineer or their designee will use this policy as a

guideline to determine the projects that will follow the Complete Streets policy.

### Comprehensive Plan

#### *Bicycle and Pedestrian Network<sup>1</sup>*

Libertyville has a well-used trail system that includes the Des Plaines River Trail and North Shore Bike Path connecting to nearby communities and the Lake County Forest Preserves. The Village also maintains local bike paths in and around Butler Park and Adler Memorial Park.

Libertyville, however, does not have on-street bike facilities with dedicated pavement markings for bicyclists and Libertyville residents expressed concern that at-grade street crossings for off-street paths often feel unsafe. Residents also expressed difficulty in accessing existing paths and trails (whether walking or biking) due to the lack of sidewalks, minimal or no buffer between pedestrians and vehicles, and lack of on-street bike infrastructure. Bicyclist crash hotspots include the intersection of Park Avenue and Butterfield Road, as well as Park and Brainerd Avenues. More than half of all pedestrian crashes occurred on Milwaukee Avenue.

In 2017, the Village of Libertyville adopted a Downtown Transit Oriented Development Plan, which included bicycle and pedestrian recommendations for the quarter mile around the Libertyville Metra station, such as safety improvements and increased connections to existing bike paths.



### ***The Milwaukee Avenue and Route 137 Opportunity Site<sup>2</sup>***

Located in the southwest portion of the intersection, the south/southwest of existing commercial development along the Route 137 frontage. The 15-acre opportunity site is split among two main parcels that are currently vacant, as well as properties with existing commercial uses.

- **Opportunities and Constraints:** Greater pedestrian and bike connectivity should be explored from this area, connecting through the Lake County Complex, Butler Lake Park, and into downtown as well as a potential connection across Milwaukee Avenue to the Des Plaines River Trail.

### ***Transportation Policies and Supporting Strategies***

Policy 3 aims to enhance connectivity to the regional trail network by addressing missing on-street connections and upgrading off-street trail segments:

- 3.1: Initiate a community bicycle plan to establish a Village-wide network of routes. Work with Lake County to implement the planned bike routes through Libertyville in the Lake County 2040 Transportation Plan. Identify missing continuous connections from bike trails to community destinations and transit, such as to Cook Park, Adler Park, Cook Memorial Library, schools, and the Metra stations.<sup>3</sup>

Policy 4 encourages establishing complete streets with a full network of sidewalks and bicycle routes to encourage active transportation.

- 4.3: Identify and install additional bike parking at key locations throughout the Village. Inventory the supply of bike parking

throughout the Village and survey the public and business community on the need for additional bike parking to identify locations of need.<sup>4</sup>

### ***Transportation-Related Funding Sources<sup>4</sup>***

**Safe Routes to School (SRTS):** The Illinois Department of Transportation administers the Safe Routes to School program, which uses a multidisciplinary approach to improve conditions for students who walk or bike to school. Illinois SRTS funds infrastructure improvements and non-infrastructure projects. Schools, school districts, governmental entities, and non-profit organizations are eligible. Projects may be organized and implemented on different jurisdictional levels.



## BIKE PARKING LOCATIONS

### *Village Bike Rack Locations*

Location	Notes
Adler Park	Bike rack located on south side of the pool. Repair station located near monument on the Des Plaines River.
Butler Lake Park	Bike racks located at the playground near the Little League fields, Odom ball field, and along the Sunken Garden bike path near the Bull Creek bridge. Butler Lake also has a bike repair station.
Charles Brown Park	Bike rack located near entrance to Charles Brown Park by port-a-potty enclosure.
Church Street Parking Garage	Bike rack located inside the garage on the northwest side.
Civic Center	Bike rack located on the west side of the building.
Gilbert Stiles Park	Bike rack located at the playground.
Lake Street Parking Garage	Bike rack located inside the garage on the south side.
Metra Downtown Train Station	Bike rack located on the west and east side of the building.
Milwaukee Avenue	Bike rack located outside of 552 N. Milwaukee Avenue.
Nicholas Dowden Park	Bike rack located next to the restroom.
Overholser Park	Bike rack located on the north side of the park.
Prairie Crossing Train Station	Bike rack located on the north side of the building and two are located on the south side on the building.
Riverside Park	Bike rack located in the north parking lot near sidewalk leading to the playground.
Schertz Building	Bike rack located near the main entrance.
School Street Parking Lot	Bike rack located next to the garbage enclosure.
Timber Creek	Bike rack located on the west side of the playground.
Village Hall	Bike rack located at northwest corner of building and across the parking lot behind 501 N. Milwaukee Ave.



## BICYCLE DESTINATIONS IN THE VILLAGE

### ***Transit Stations***

Metra Commuter Rail Downtown Station, Metra Commuter Rail Prairie Crossing Station

### ***Parks***

Adler Memorial Park, Blueberry Park, Butler Lake Park, Cambridge Knoll Park, Canterbury Park, Charles Brown Park, Duane Laska Park, Gilbert Stiles Park, Greentree Park, JoAnn Eckman Park, Kenloch Park, Nicholas Dowden Park, Paradise Park, Paul M. Neal Park, Red Top Park, Riverside Park, Sunrise Rotary Park, Timber Creek Park, Willis Overholser Park

### ***Forest Preserves***

Independence Grove, Wilmot Woods

### ***Trails***

North Shore Bike Path, Des Plaines River Trail

### ***Schools***

Libertyville High School, Highland Middle School, Adler Park School, Rockland School, Copeland School, Butterfield School, St. Joseph Catholic School, St. John's Lutheran School

### ***Medical Facilities***

Advocate Condell Medical Center

### ***Public Facilities***

Village Hall, Public Library, Post Office, Civic Center, Schertz Building, Recreation Building

### ***Recreation Facilities***

Adler Pool, Riverside Pool, Riverside Tennis Courts, Adler Park Disc Golf Course, Senior Center at Libertyville Civic Center, Crawford House, Adler Lodge

### ***Religious Institutions***

Apostolic Church of Libertyville, Calvary Way International Fellowship, Christian Science Reading Room, Community of Christ, Evangelical Free Church of Libertyville, First Church of Christ, Scientist, First Presbyterian Church, Grace Lutheran Church, Heritage Church, Holy Cross Lutheran Church, Libertyville Covenant Church, North Suburban Mennonite Church, St. John's Lutheran Church, St. Joseph Parish, St. Lawrence Episcopal Church, The Chapel, The Gathering Place, Trinity Community Church, United Methodist Church

### ***Commercial Areas***

Downtown Central Business District on Milwaukee Avenue, Row of Cars on Milwaukee Avenue, Rockland Plaza, Red Top Plaza, Peterson Commons, Butterfield Square



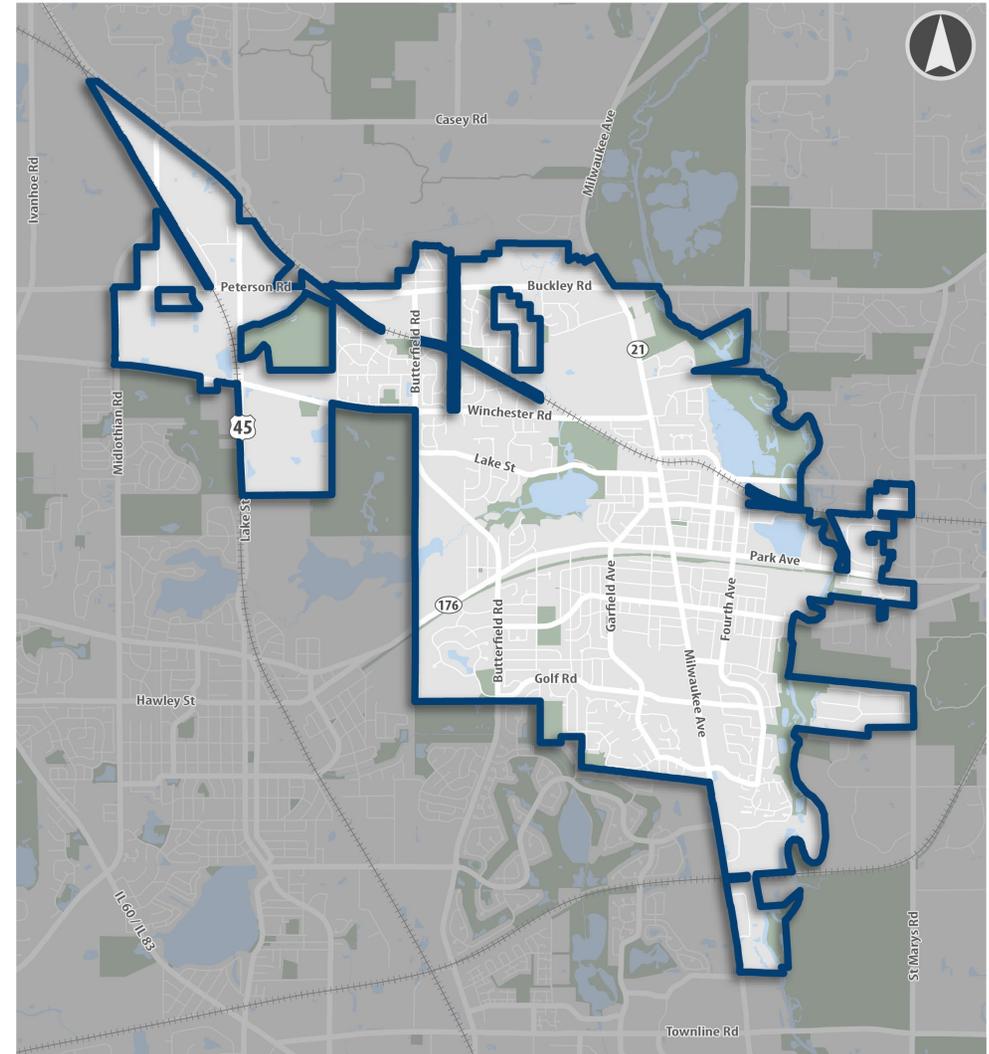
## TRANSPORTATION NETWORK, ASSETS, AND CHARACTERISTICS

Review and analysis of the existing transportation network and other relevant datasets helped inform the development of the bike network. Each dataset provided insights on safety considerations, overall connectivity and continuity, and potential places of interest for the bike network to serve. The following types of information and datasets were analyzed:

- Existing bike routes and infrastructure (e.g., bike racks)
- Roadway characteristics
  - Roadway jurisdiction
  - Roadway functional class
  - Annual average daily traffic (AADT)
  - Number of lanes
  - Traffic signals
- Transit and regional bike trails
- 5-year crash data
- Land use
  - Community-oriented spaces
  - Freight-generating uses

Several of these maps are included and further described on the following pages. The full Existing Conditions map set is included in the Appendix.

*Village Boundary*



- Libertyville Boundary
- Park or Open Space
- Railroads



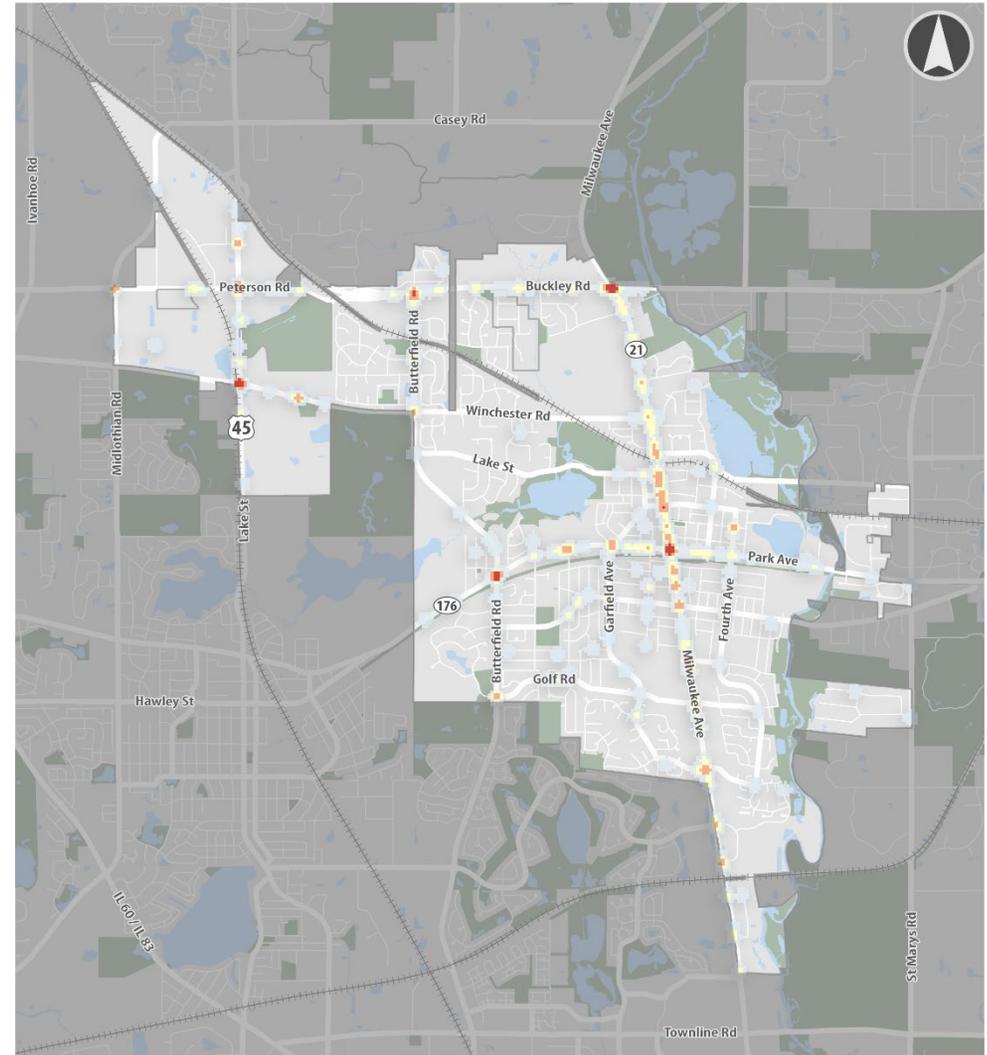
## Injury Crash Hot Spots (2017-2021)

This safety analysis aggregated five years of crash data from IDOT's Roadway Crash Data System (2017-2021). The results from the analysis informed where there were unsafe roadway segments and intersections that resulted in an injury. The hot spots visually helped to identify key intersections to consider for improvement with an emphasis on which would need design treatments to increase bicyclist safety, as well as what bike facility should be considered if a stretch of roadway seemed to produce dangerous biking conditions.

Bicycle- and pedestrian-specific crashes were also closely reviewed during this analysis to gain a greater understanding of where past vehicular and bicycle or pedestrian conflicts occurred.

### Findings

- Crash hotspots generally occurred at major intersections or where a local, neighborhood street intersected a major roadway.
- Nearly the entire stretch of Milwaukee Avenue within the Village's boundaries experiences higher injury-producing crashes compared to any other road in the Village. More severe bicycle and pedestrian crashes also had more occurrences along Milwaukee Avenue.



▭ Libertyville Boundary  
▭ Park or Open Space  
▭ Railroads

#### Crash Hot Spots (Injury Crashes)

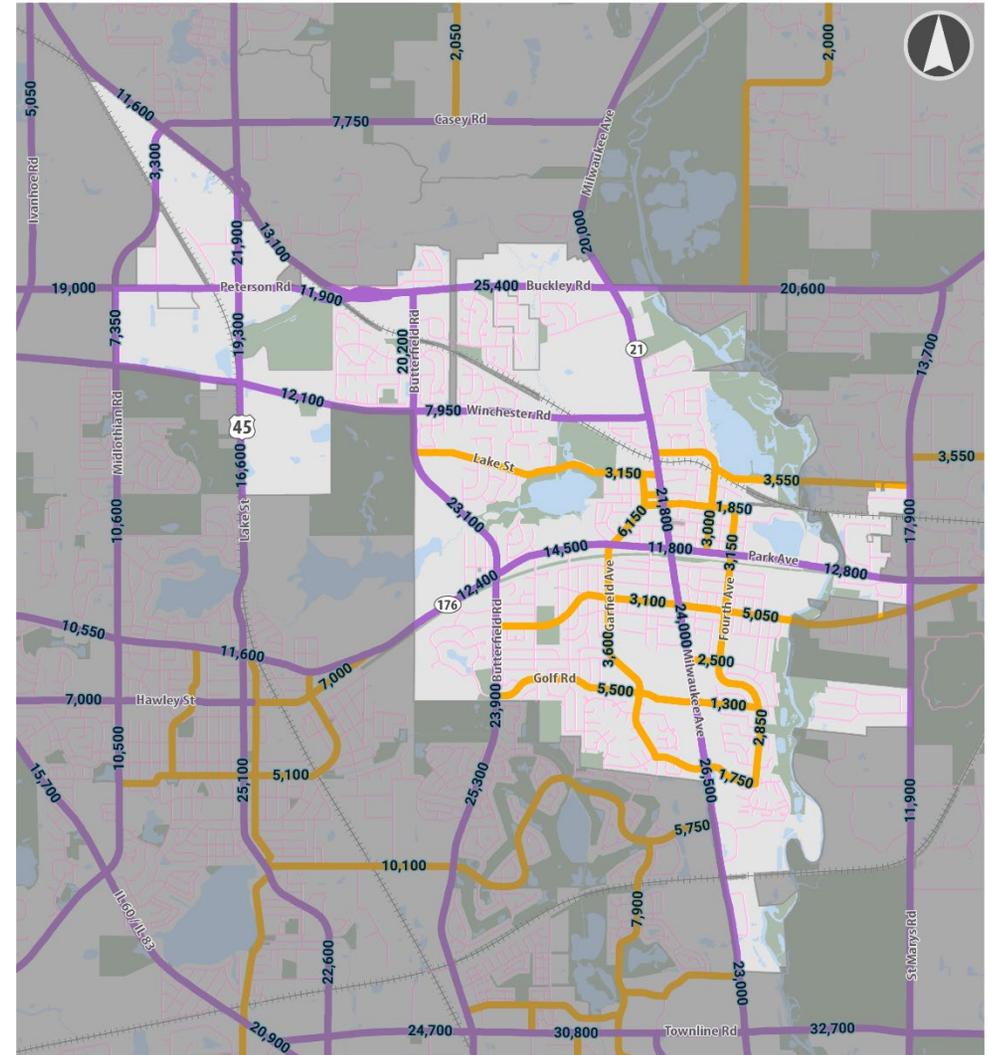
▭ More Crashes  
▭ Fewer Crashes





## Functional Class and Traffic Volumes

Motor traffic volumes tend to be higher on wider, higher speed arterial and collector roadways. Most of these roadways are also owned and maintained by state or county DOTs. The roadways with the greatest traffic volumes are Milwaukee Avenue, Butterfield Road, and Buckley Road, all of which are arterials and range from 23,100 to 26,500 average annual vehicles per day.



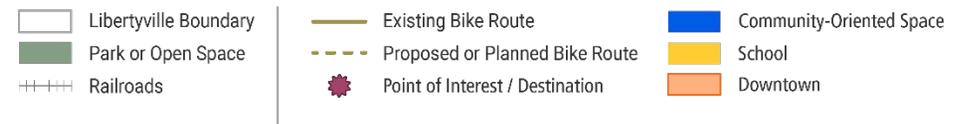
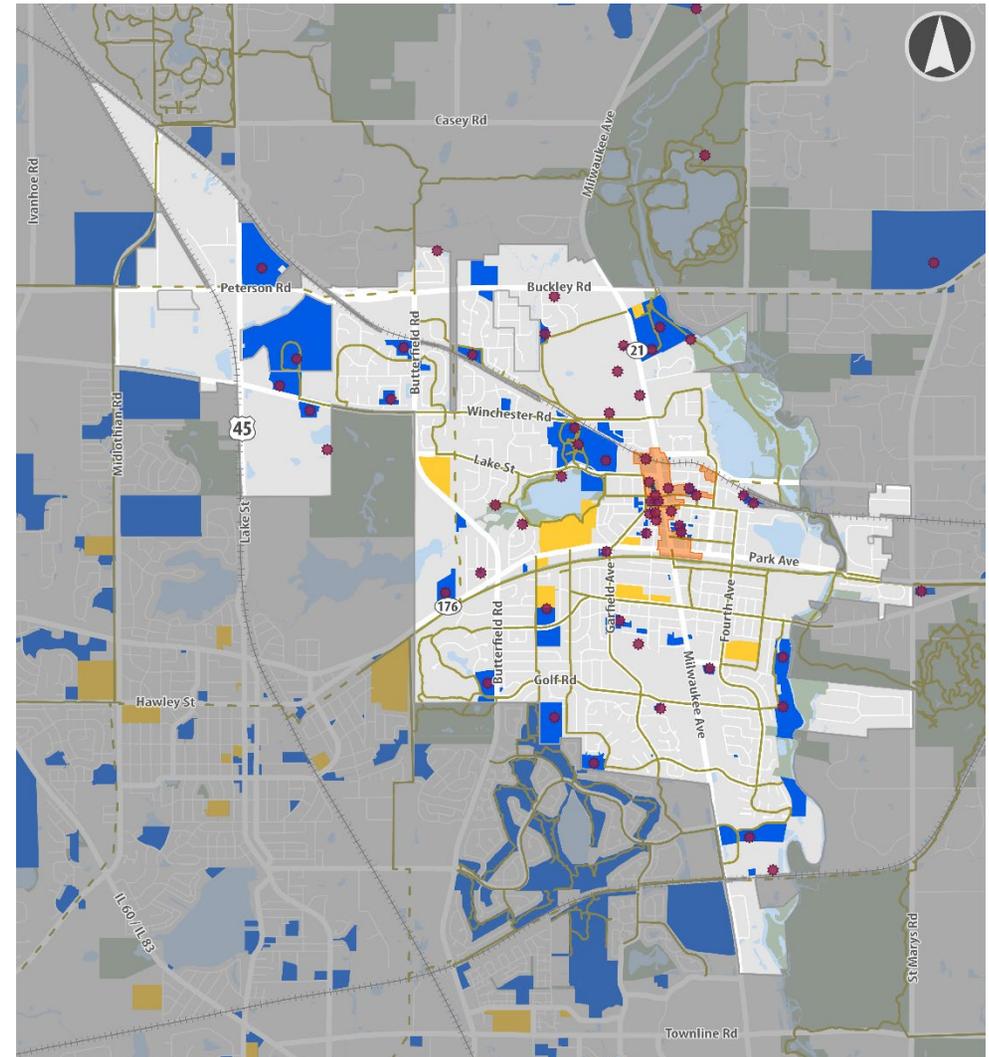


## Community-Oriented Land Uses

Libertyville has a thriving downtown, top-notch schools, and a multitude of spaces that residents frequent and which attract visitors across the region. All of these spaces, scattered throughout the Village, are ideal places to provide greater access to via increased bicycle connectivity.

The map uses CMAP's 2015 Land Use Inventory. Below are the land use classifications used for community-oriented spaces:

- Cultural / Entertainment
- Religious Facilities
- Cemeteries
- Service Organizations / Other Institutional
- Open Space (Primarily Recreation)



# CHAPTER 3

## Network Recommendations



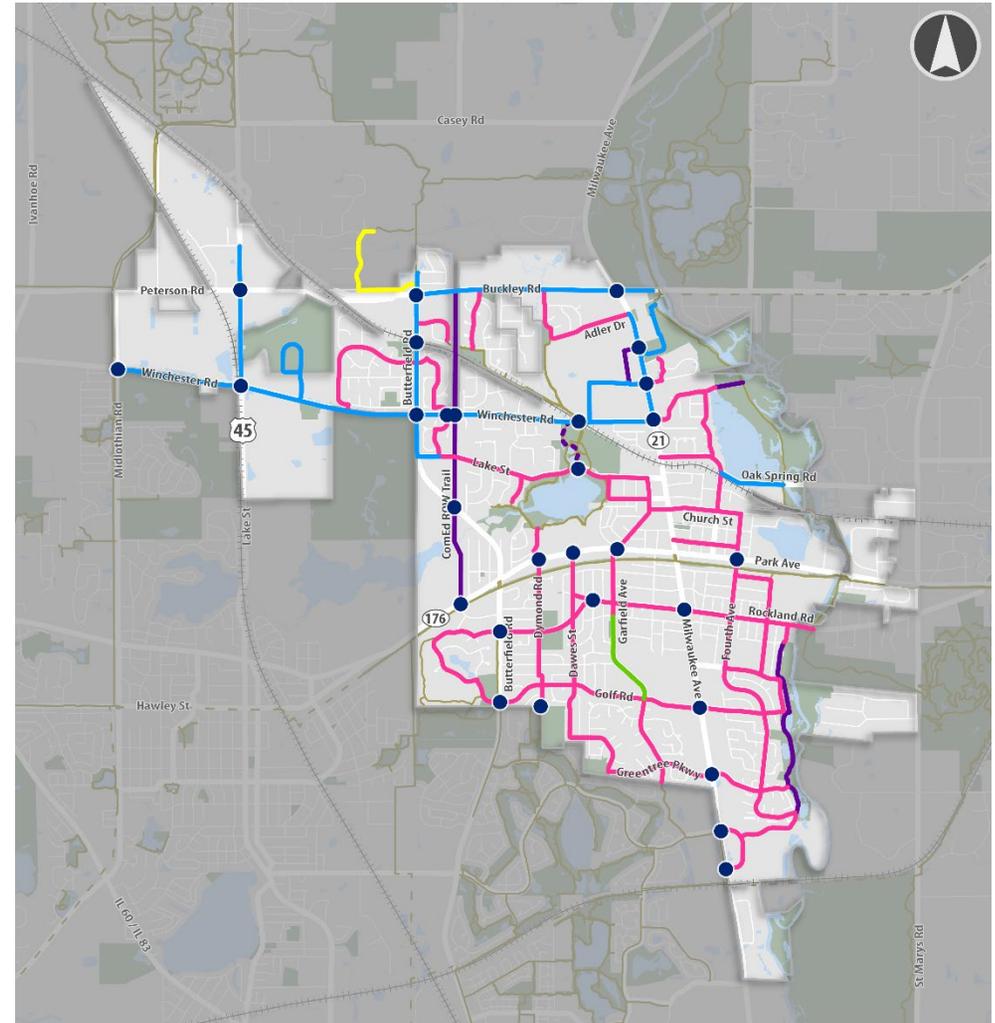


The network recommendations were developed based on community engagement findings, an existing conditions analysis, field work, and suggestions from previous studies and plans. Public and stakeholder outreach occurred in tandem with the development of the bike network. The final network recommendations reflect input heard during community engagement activities.

The Village and project team surveyed the community on desirable and challenging biking routes, as well as difficult crossings. To supplement the qualitative community engagement findings, a quantitative analysis of datasets was also conducted to inform the network recommendations (e.g., functional classification, speed, roadway width, available right-of-way, and traffic counts). Using this information, the project team developed a network of recommended designs that were appropriate for the various types of streets, connected to key destinations, were desired by the community, and avoided impacts such as the removal of parking, increasing traffic congestion, and the removal of trees.

This chapter breaks up the recommendations by bike design or facility type. Each section contains a location map of the recommendation, a definition, example photos, and conceptual designs of how the recommendations could look on Libertyville's streets.

## Bike Network Map



- |                       |                               |                                   |
|-----------------------|-------------------------------|-----------------------------------|
| Libertyville Boundary | Marked Shared Lane            | Wayfinding Signage Only           |
| Park or Open Space    | Sidepath                      | Intersection/Crossing Improvement |
| Railroads             | Bike Lanes                    | Existing Trail or Path            |
|                       | New Trail or Trail Connection | Proposed or Planned Trail or Path |



## DESIGN RECOMMENDATIONS

The following maps and sections provide an overview of the more detailed design recommendations included in the network.

### Marked Shared Lanes

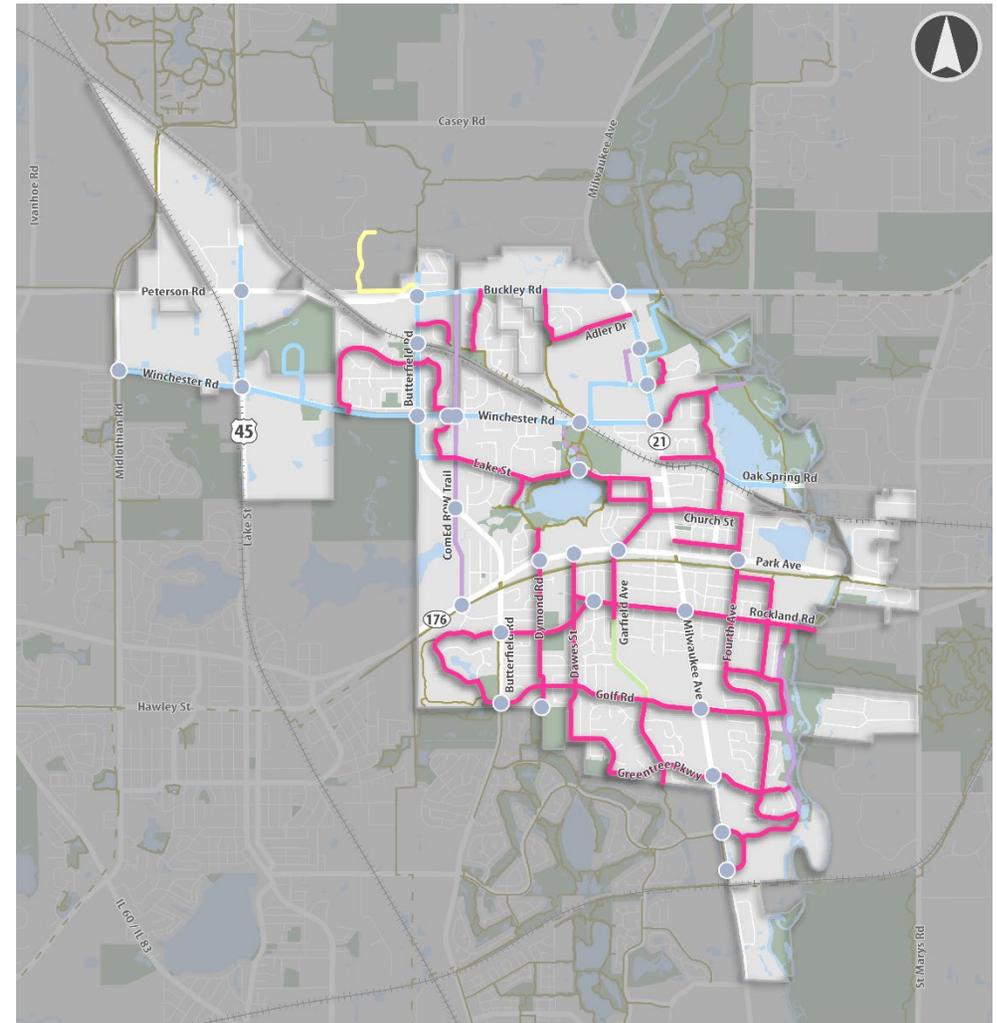
Marked shared lanes are recommended on the majority of streets in the Libertyville network. They are easy-to-implement and “low hanging fruit” options to build out the network.

#### *What are marked shared lanes?*

Marked shared lanes are a design that involves bicyclists riding on-street in a shared lane with vehicles. Sharrow symbols reinforce the legitimacy of bicycle travel on a street while indicating to drivers that they need to be cautious and share the road with bicyclists. They are recommended on low volume, low speed residential streets that are safer for this mixed mode situation.

Marked shared lanes include sharrow that indicate where bicyclists should position themselves to both stay out of the parking “door zone” and allow space for drivers to safely pass, when appropriate. There is flexibility with where the sharrow is painted on the roadway (i.e. closer to the middle of the travel lane or closer to the outside of the travel lane). Further study is needed to determine the appropriate placement on a case-by-case basis.

*Marked Shared Lane Locations*

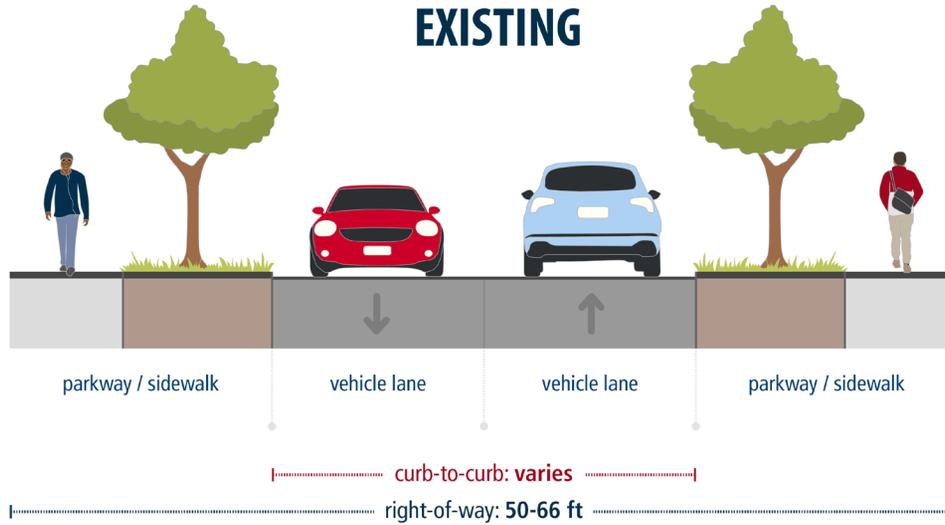


- |                       |                               |                                   |
|-----------------------|-------------------------------|-----------------------------------|
| Libertyville Boundary | Marked Shared Lane            | Wayfinding Signage Only           |
| Park or Open Space    | Sidepath                      | Intersection/Crossing Improvement |
| Railroads             | Bike Lanes                    | Existing Trail or Path            |
|                       | New Trail or Trail Connection | Proposed or Planned Trail or Path |

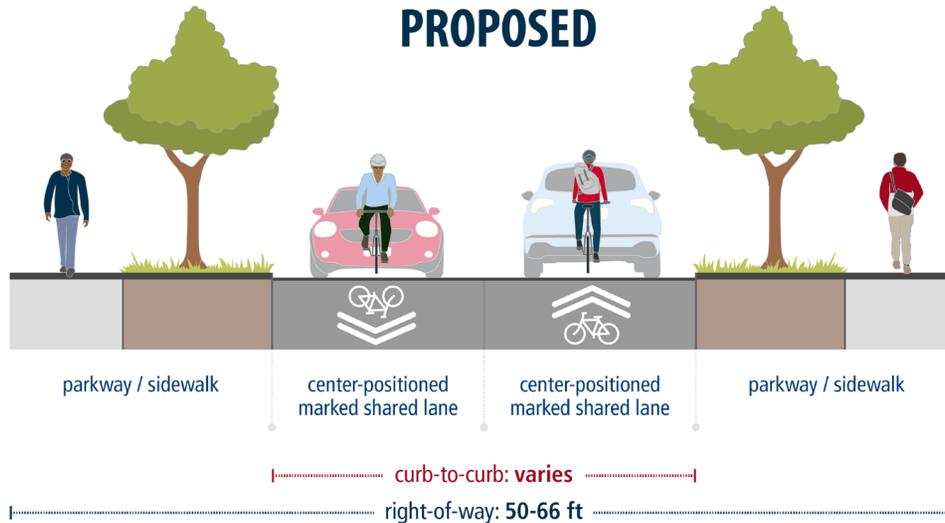


### Typical Cross Section

## EXISTING



## PROPOSED



Marked shared lane in Kane County, IL; Photo from Kane County Chronicle

### Marked Shared Lane Example



Typical Pavement Marking



## Sidepaths

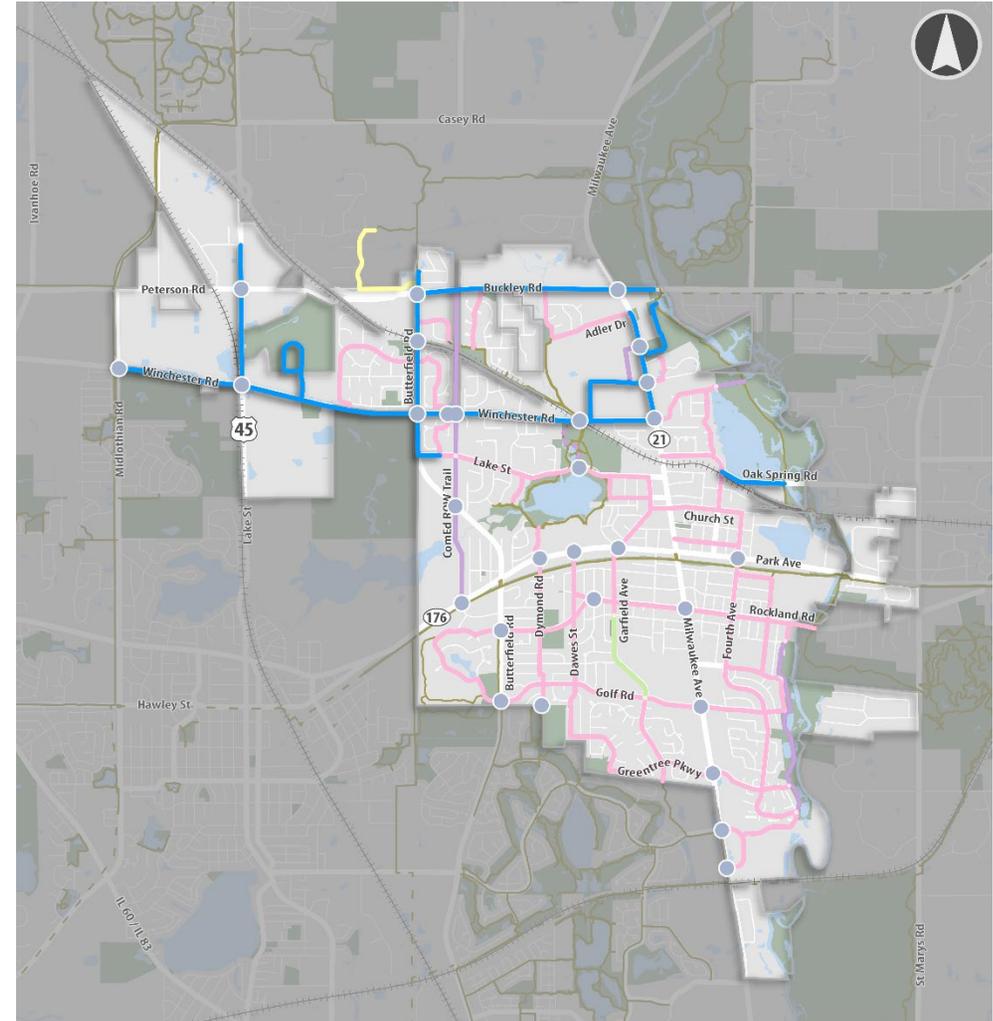
There are some corridors in the Village that are important connectors in creating a complete bike and pedestrian network across the community, but due to higher traffic volumes, vehicle speeds, jurisdictional responsibility, functional classification, wider pavement widths, and other factors, the mixing of cars and bikes in the curb-to-curb space is either inadvisable or not optimal. In these instances, sidepaths are recommended. Further engineering study will be needed in each of these proposed side path locations

### What are sidepaths?

Sidepaths are like multi-use trails alongside the road. They are completely separated from vehicular lanes and include paved space for both bicyclists and pedestrians. They look like an extra-wide 8 to 10 foot sidewalk. This increased width provides room for the mixing of those on foot and bike. In some locations sidewalks already exist, so the design would involve widening the sidewalk by a few to several feet. In other places, sidewalks do not exist.

**Note:** Each sidepath will require an extensive planning process, which is likely to require items such as a topographic survey, feasibility study, right-of-way and/or easement acquisitions, engineering plans, inter-jurisdictional permitting. Extensive time, effort, and funding might be needed to make several of these sidepaths feasible, with some paths realistically not feasible to plan and build within the next 25 years.

## Sidepath Locations

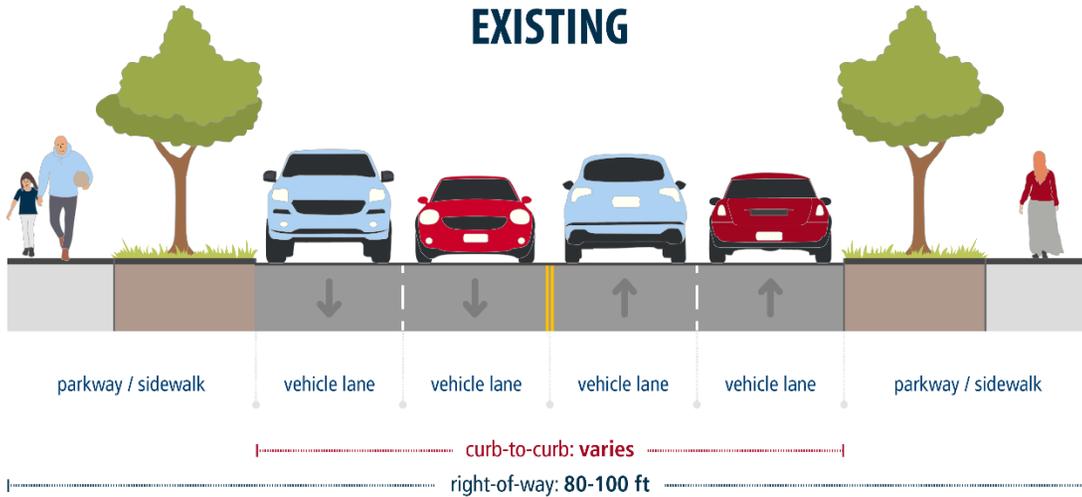


- |                       |                               |                                   |
|-----------------------|-------------------------------|-----------------------------------|
| Libertyville Boundary | Marked Shared Lane            | Wayfinding Signage Only           |
| Park or Open Space    | Sidepath                      | Intersection/Crossing Improvement |
| Railroads             | Bike Lanes                    | Existing Trail or Path            |
|                       | New Trail or Trail Connection | Proposed or Planned Trail or Path |

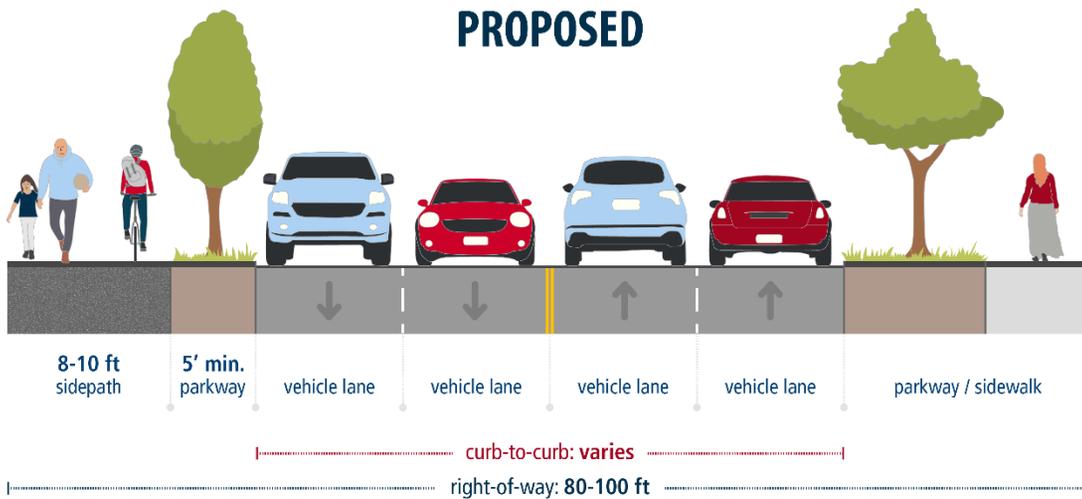


### Typical Cross Section

## EXISTING



## PROPOSED



*Bicyclists and joggers use a sidepath; Photo from Parkways to Greenways*

### Sidepath Example



### Typical Signage

*This type of sign could be placed along a sidepath to show where the bike route turns from a one street or trail to the next and could also be paired with destination names.*



## Bike Lanes

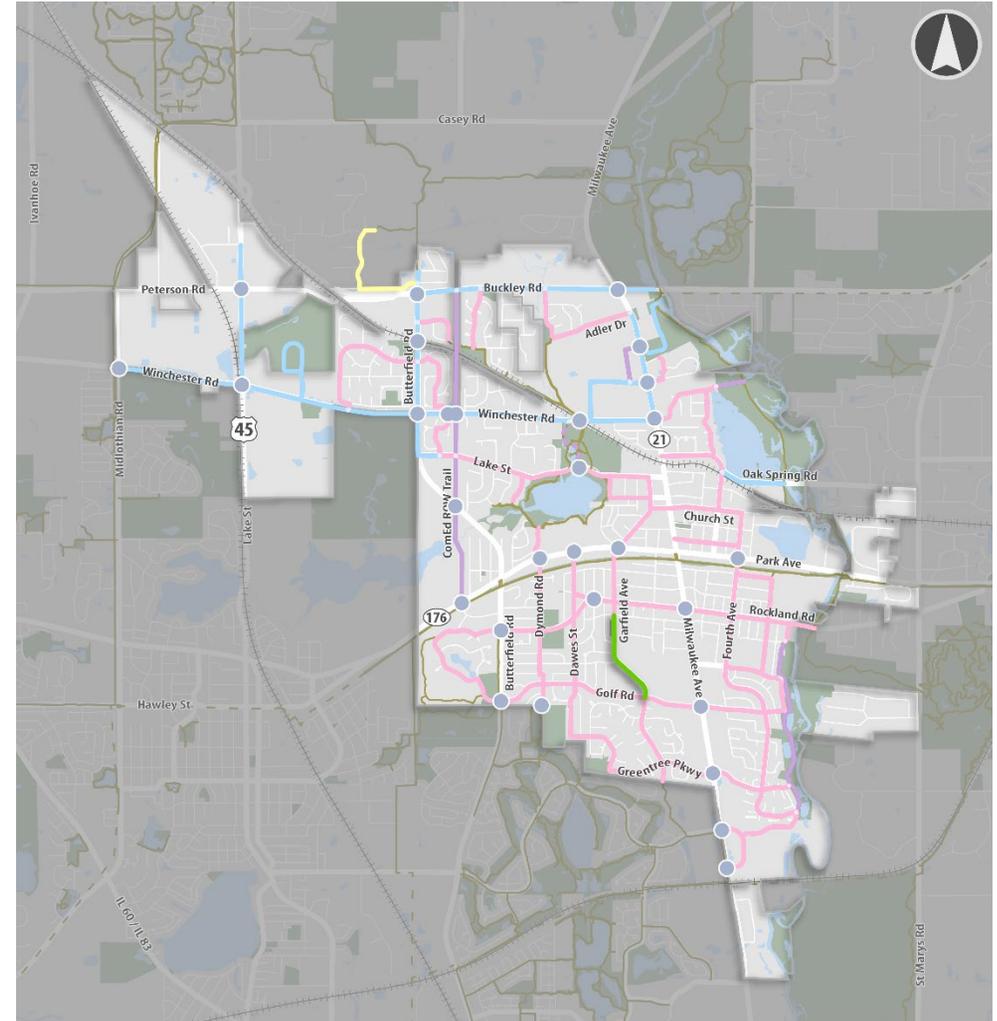
Bike lanes are recommended on a portion of Garfield Avenue between Austin Avenue and Golf Road. The bike lanes could be installed in the existing curb-to-curb right-of-way without widening the pavement, however parking on one side would need to be removed (likely the east side). If removing parking is not feasible, marked shared lanes would be the alternative facility. Bike lanes are not recommended north of Austin Avenue because the existing pavement is not wide enough to accommodate them.

### What are bike lanes?

Bike lanes provide a dedicated lane for bicyclists that is separated from vehicular travel lanes. The white line separating the two is solid, and sometimes the bike lane is painted green to further differentiate it from the vehicle travel lane and to make drivers more aware that other modes may be present on the roadway. The minimum width of a bike lane is 5', however 6' is more desirable if the right-of-way allows.

Bike lanes are currently only recommended on Garfield Avenue, however they can also be considered on marked shared lane streets if further study reveals that parking is under-utilized and could be removed on one or more sides of the street, 10' vehicle lanes can still be maintained, and there is room to add 5' bike lanes.

## Bike Lanes Locations

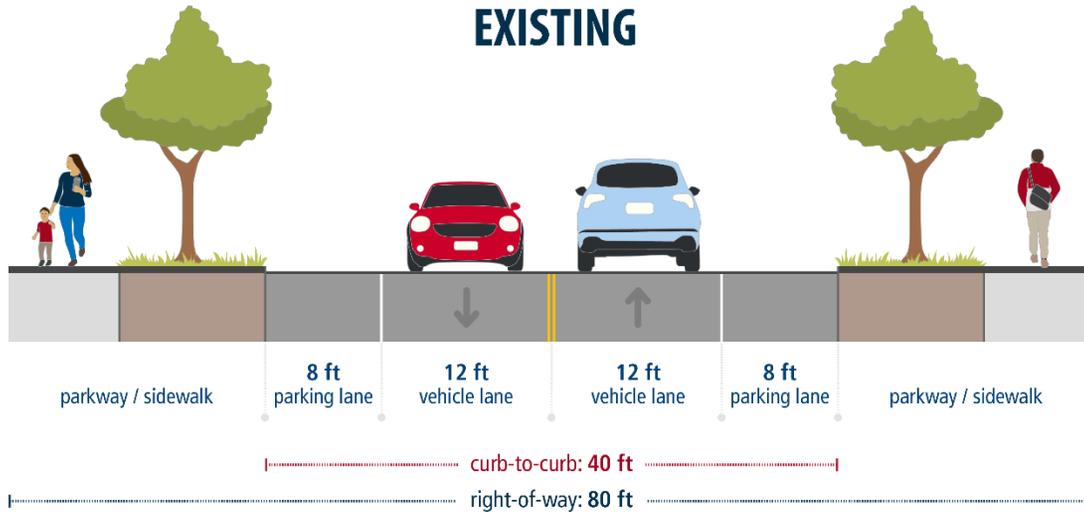


- |                       |                               |                                   |
|-----------------------|-------------------------------|-----------------------------------|
| Libertyville Boundary | Marked Shared Lane            | Wayfinding Signage Only           |
| Park or Open Space    | Sidepath                      | Intersection/Crossing Improvement |
| Railroads             | Bike Lanes                    | Existing Trail or Path            |
|                       | New Trail or Trail Connection | Proposed or Planned Trail or Path |

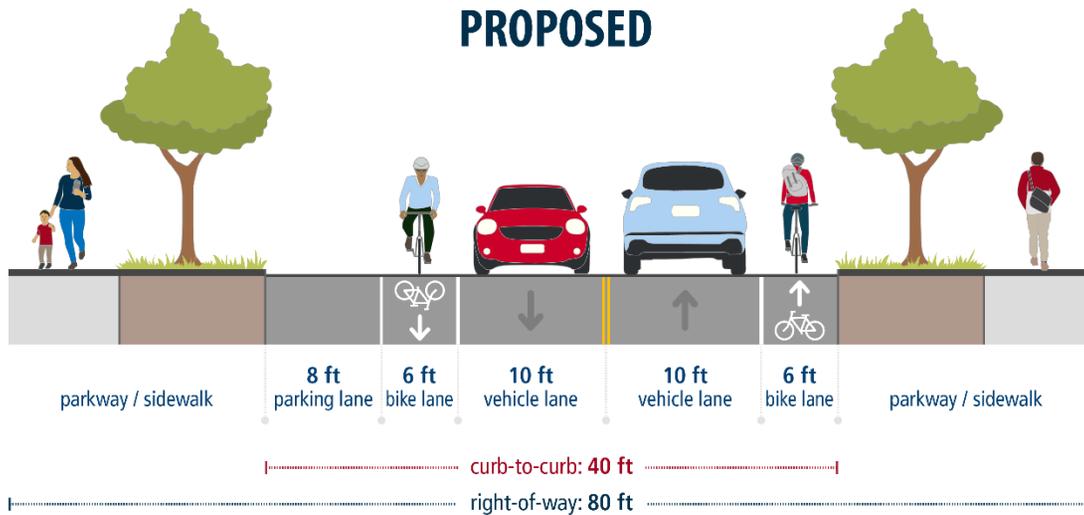


### Typical Cross Section

## EXISTING

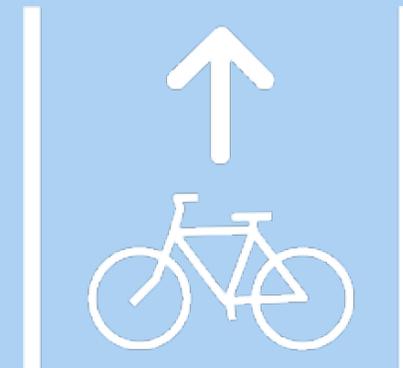


## PROPOSED



*Bike lane next to a parking lane; Photo from the City of Raleigh, NC*

### Bike Lane Example



*Typical Pavement Marking*



### Rockland Road (from Garfield to Milwaukee)

Marked shared lanes are currently recommended for the stretch of Rockland Road from Garfield Avenue to Milwaukee Avenue. However, if the parking lane/shoulder was removed from the south side of the roadway and the vehicle lanes were narrowed from 13' to 11', buffered bike lanes could be a possibility, pending further engineering study. For the westbound bike lane, an additional buffer is recommended on the parking side (door zone). Buffered bike lanes could provide more delineation to help avoid conflicts between cyclists and parked cars during pick-up/drop-off at the middle school. This project would be an excellent candidate to further study with Safe Routes to School grant funding.

#### Buffered Bike Lane Example



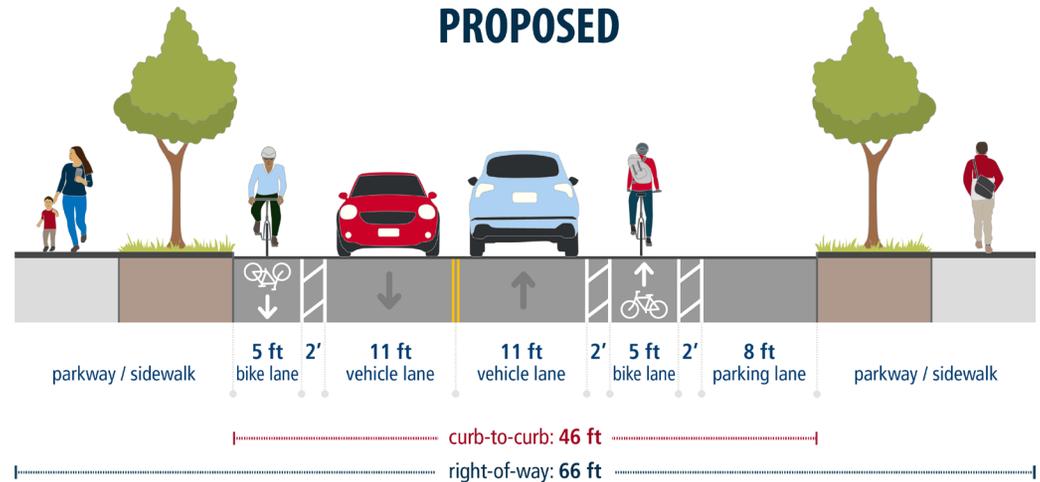
Buffered bike lane next to a parking lane; Photo from the City of Elmhurst, IL

### Cross Section

#### EXISTING



#### PROPOSED





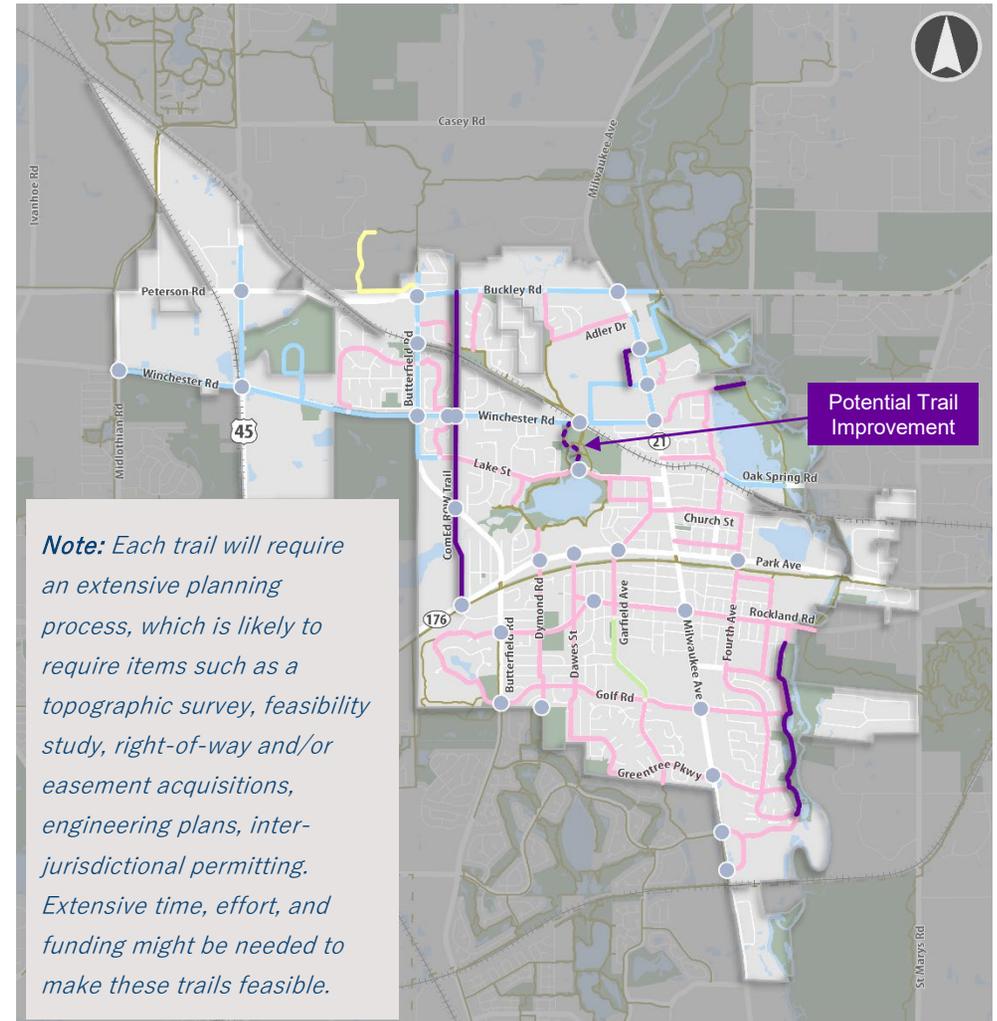
## Trails

Several new trails and trail connections are recommended within the Village. Each trail will enhance the overall network connecting key corridors to existing regional trails, parks, schools, or key destinations in the Village. Each of these proposed trails would require coordination with and/or land-use permission from other organizations. Best practices in design guidance recommend that multi-use trails are 8' wide at a minimum, with a preferred width of 10'. A wider pathway (11-14') is recommended when there is anticipated to be 300 or more users per hour and 30% or more of the total is expected to be pedestrians. In rare cases, separated spaces for pedestrians and cyclists can be painted on the trail, which requires a minimum of 15'. However, this would only be warranted if there were hundreds of pedestrians using the trail per hour. Community members expressed interest in improving Butler Park trails. Pedestrian and cyclist counts could be conducted to determine if widening is warranted.

### What are trails?

Trails (also known as multi-use paths or shared paths) are multi-purpose paths that accommodate bicyclists, pedestrians, runners and other users on a dedicated facility separated from motor vehicle traffic. Trails and shared use paths are typically the most comfortable type of facility for cyclists to use, especially for beginners and children. There are a few existing examples of multi-use paths in Libertyville, including around Butler Lake and the Des Plaines River Trail.

## Trail or Trail Connection Locations



- |                       |                               |                                   |
|-----------------------|-------------------------------|-----------------------------------|
| Libertyville Boundary | Marked Shared Lane            | Wayfinding Signage Only           |
| Park or Open Space    | Sidepath                      | Intersection/Crossing Improvement |
| Railroads             | Bike Lanes                    | Existing Trail or Path            |
|                       | New Trail or Trail Connection | Proposed or Planned Trail or Path |

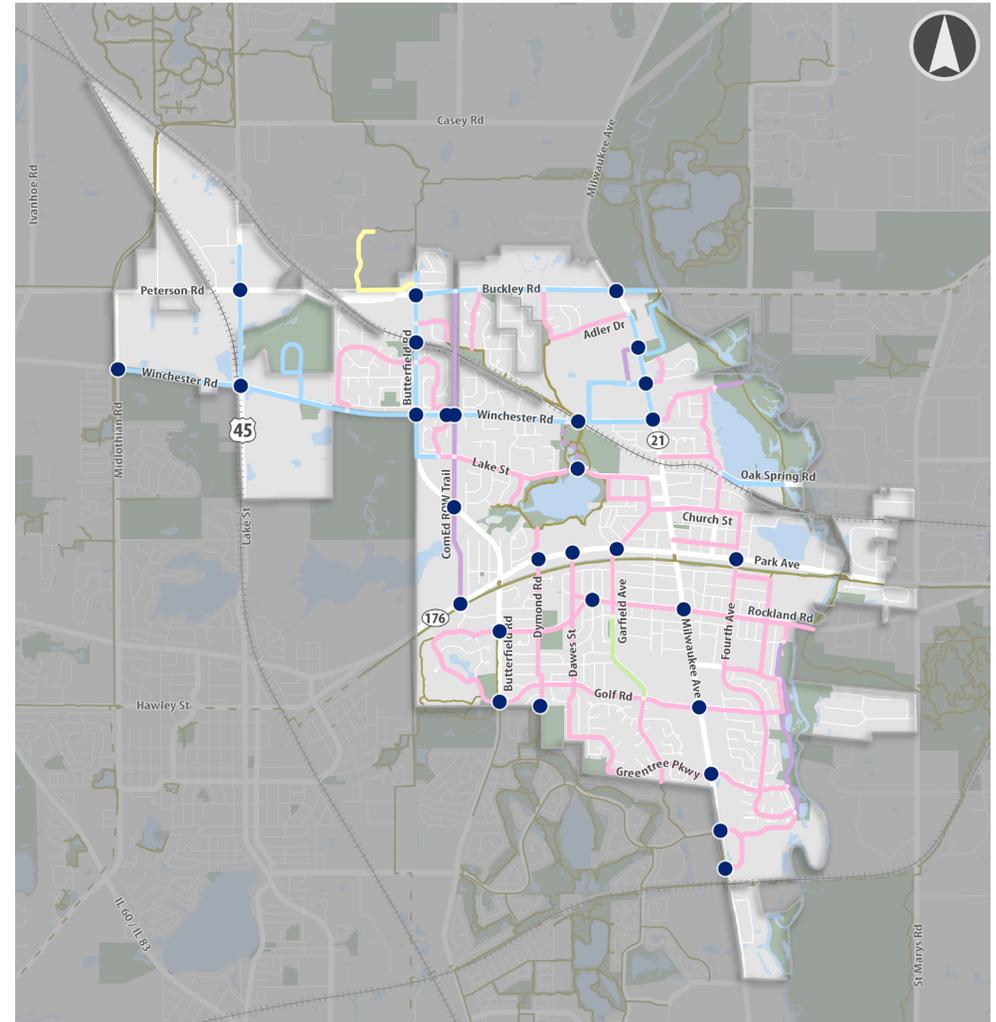


## INTERSECTION RECOMMENDATIONS

This section details which intersections should be considered for improvements based on community engagement findings, the bike network, and existing conditions. These intersections are shown on the map to the right.

Most improvement recommendations will need further study and may require collaboration with or approval from other organizations such as Illinois Department of Transportation, Lake County Department of Transportation, or Lake County Forest Preserve District.

*Bike Network Intersections identified for Improvements*



- |                       |                               |                                   |
|-----------------------|-------------------------------|-----------------------------------|
| Libertyville Boundary | Marked Shared Lane            | Wayfinding Signage Only           |
| Park or Open Space    | Sidepath                      | Intersection/Crossing Improvement |
| Railroads             | Bike Lanes                    | Existing Trail or Path            |
|                       | New Trail or Trail Connection | Proposed or Planned Trail or Path |



# INTERSECTION IMPROVEMENT TOOLKIT

The images below show the potential tools the Village could use to improve crossings. These tools in combination with each other should be considered as the bike network is constructed. In many cases, additional study and approval will be needed to implement any of these tools at a given intersection or crossing.



### Sidewalk Connections

The presence of sidewalks allow for safer pedestrian movement, enhance connectivity, and encourage walking. A well-connected sidewalk network consists of infrastructure that provides direct routing, accessibility, few dead-ends, and minimal physical barriers. Increased levels of connectivity can also help activate a community socially and economically.



### Bicycle/Pedestrian Crossing Signs

Pedestrian and/or bicycle crossing signs warn drivers that a school, pedestrian or bicycle crossing is ahead. "Must stop for pedestrians in crosswalk" signage can also be used.

Image Source: Daily Herald



### Mini Traffic Circles

Mini traffic circles direct users through intersections in a predictable manner. They can help reduce the severity of crashes and can calm traffic on residential streets. They are most effective when grouped in a series of three. They can be designed with mountable curbs to allow large vehicles to travel through an intersection.



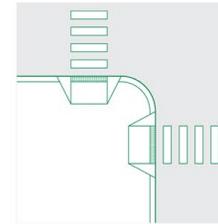
### High Visibility Crosswalks, Curb Ramps, & Detectable Warning Pads

High visibility crosswalks increase awareness of pedestrian crossing paths and discourage drivers from encroaching into crosswalks. Curb ramps enable people in wheel chairs to cross streets and detectable warning pads direct people with visual impairments through an intersection at a crosswalk.



### Countdown Signals

Countdown pedestrian signals show the amount of time that remains before a traffic signal changes from walk to don't walk. They are designed to reduce the number of pedestrians who start crossing when there is not enough time to complete their crossing safely.



### Reduced Corner Radii

The size of the corner relates to the length of a crosswalk and the speed of turning traffic. Reducing curb radii create a shorter crossing distance for pedestrians and encourage drivers to slow down when making right turns.

Image Source: NACTO



### Median Refuge Island

Median refuge islands buffer and protect pedestrians and cyclists crossing wide or busy streets, enabling them to cross in two stages.



### Rectangular Rapid Flashing Beacon

Rectangular rapid flash beacons (RRFBs) are highly visible, using flashing yellow LED lights to supplement standard pedestrian crossing warning signs at mid-block and other unsignalized crossing locations.



### Corner Island and Right-Turn Slip Lane Improvements

Corner islands ("pork chop" islands) are triangular raised islands placed at an intersection between a right-turn slip lane and through-travel lanes. Well-designed right-turn slip lanes provide pedestrians with refuges and a right-turn lane that is designed to optimize the right turning motorist's view of the pedestrian and of vehicles to their left.

Image Source: CMAP



### Curb Bump-Outs (or Extensions)

Bump-outs provide shorter crossing distances for pedestrians and improve sightlines for both drivers and pedestrians. They can slow the speed of turning traffic. They are most appropriate for use on local roads where they intersect arterial and collector streets.

Image Source: NACTO



### Wayfinding Decision Signage

Wayfinding signage helps cyclists and pedestrians navigate to key destinations along preferred routes. Decision signage is typically placed at the junction of multiple destinations. Signage should provide distance, destination, and directional information.



### Raised Crosswalks

Raised crosswalks typically serve as a tool for traffic calming by bringing the level of the roadway to that of the sidewalk (e.g., roadway flush with the height of the curb). These crosswalks force vehicles to slow down before passing over the crosswalk while also providing a level pedestrian or bicyclist path of travel from curb to curb.



## OTHER CONSIDERATIONS

### Development Agreements near Trail and Bike Route Crossings

The below list details some site-specific best practice considerations regarding bicycle facility design and infrastructure when a new development or redevelopment is proposed. The goal is to ensure that any development that is directly adjacent to the bicycle network or potentially impacts connections to the bicycle network incorporates transportation designs that facilitate safe bicycle access and does not impede connectivity of the bicycle network. These guidelines should be considered in tandem with each other and when discussing or reviewing developer designs.

- Minimize number of driveways that cross the bike path.
- If multiple vehicular access points are possible (e.g., corner site), access on the street where there is not a bike path is preferred.
- Driveways must be as narrow as possible and designed to encourage slow travel speeds. Turning radii should be minimized to encourage slow turning speeds.
- Setbacks from curb to right-of-way or easement line should be wide enough so that path can be provided.
  - If possible, the minimum width between curb and right-of-way line should be 15' if a trail/sidepath will be present there.
    - This should include a minimum 5' buffer between trail/sidepath and curb, which meets IDOT standards and best practices.

- If there is not room for 15' min between curb and right-of-way line (if there is not room in public right-of-way) dedicate room for path/easement through property.
- Consider plantings adjacent to driveways to ensure adequate sight lines between path users and vehicles (e.g., not having overgrown or tall plantings).
- Include buffer between parking lot and bike path if possible.



Parking lot screening examples, Sources: Village of Glenview, City of Milwaukee, and Better Town Toolkit

# CHAPTER 4

## Implementation





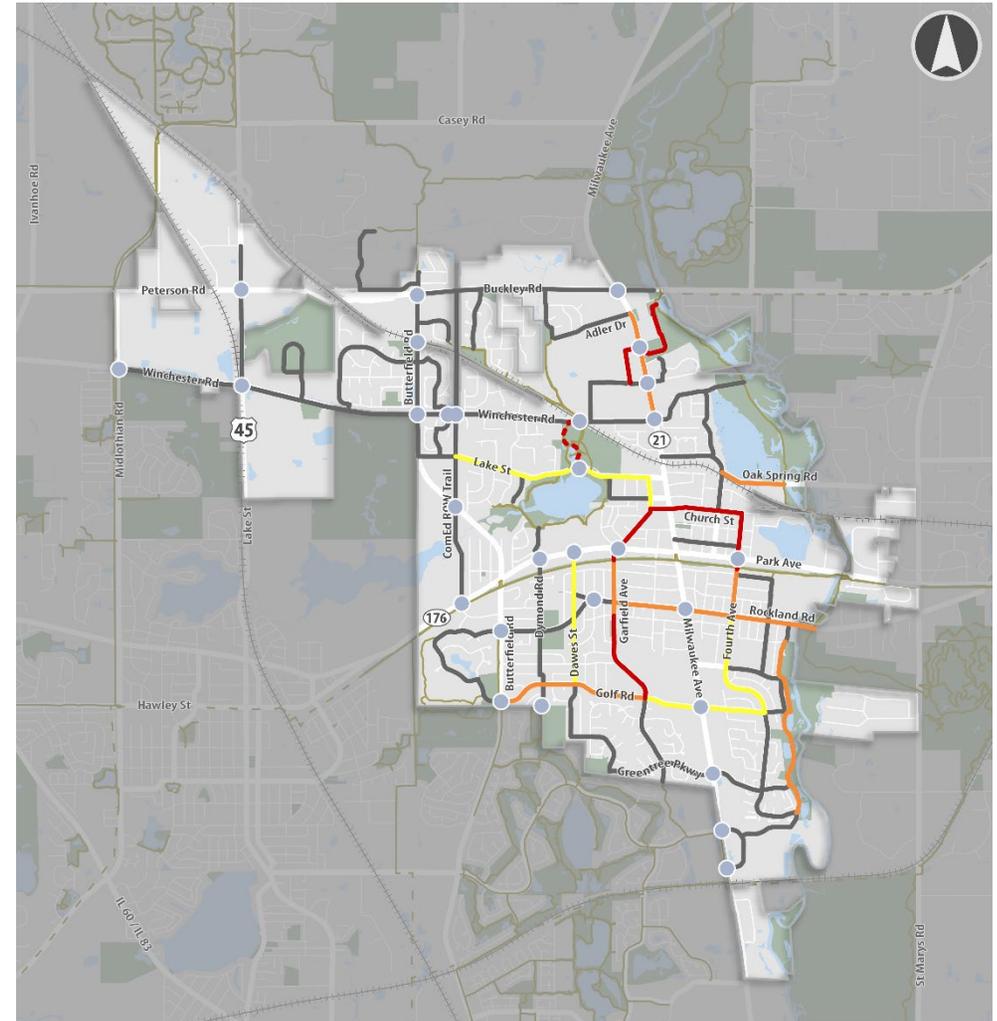
# Bike Network Phasing, Prioritization, and Cost Estimates

This section includes a bike network prioritization map that can be used in tandem with the implementation matrix to help identify when to implement a given bike facility and how much level of effort may be required, as well as when to consider improving certain intersections or crossings that further enhance the bike network.

High priority projects are bike routes that were indicated as priorities by community members and connect to key destinations such as schools, parks, existing trails, and the downtown. The implementation matrix on the following page also has phasing tiers, which can help the Village identify timelines for implementing the bike route network. Tier 1 projects are lower cost and are more likely to be programmed into the Village's annual budget whereas Tier 2 and 3 projects may require grant funding.

Projects that are identified as both Tier 1 and high or medium priority in the implementation matrix are great candidates for programming into the Village's annual budget. Projects that are Tier 2 or 3 and high priority could be great candidates for pursuing grant funding. Bike route project ideas are on the funding matrix (pages 47-78).

*Bike Network Prioritization Map*



- |                       |                     |                                   |
|-----------------------|---------------------|-----------------------------------|
| Libertyville Boundary | High Priority       | Intersection/Crossing Improvement |
| Park or Open Space    | Medium Priority     | Existing Trail or Path            |
| Railroads             | Medium-Low Priority | Proposed or Planned Trail or Path |
|                       | Low Priority        |                                   |



## IMPLEMENTATION MATRIX

The bike network implementation matrix includes information describing each recommended bike facility, cost estimate for the recommended facility, and assigns a phasing/prioritization tier for the Village to consider. The phasing tiers are as follows: **Tier 1**) low-hanging fruit, low cost of implementation, and minimal external coordination, **Tier 2**) medium cost of implementation, some external coordination, **Tier 3**) high cost of implementation, right-of-way or easement acquisition likely, heavy external coordination, and potential agreements needed to proceed with the project.

### *Village Owned Roadways*

Route Name	To	From	Facility	Jurisdiction	Length (ft)	Approx. Cost	Prioritization	Phasing Tier
2nd St	Appley Ave	Church St	Marked Shared Lanes	Local	1,236	\$1,500	Low	Tier 1
4th Ave	Church St	Red Top Dr	Marked Shared Lanes	Local	9,601	\$12,500	High / Medium	Tier 1
7th Ave	Sunnyside Ave	Valley Park Dr	Marked Shared Lanes	Local	3,021	\$4,000	Low	Tier 1
Adler Dr	Path	Milwaukee Ave	Marked Shared Lanes	Local	2,586	\$3,500	Low	Tier 1
Appley Ave	Milwaukee Ave	Oak Spring Rd	Marked Shared Lanes	Local	2,230	\$3,000	Low	Tier 1
Artaius Pkwy	Milwaukee Ave	N/A	Marked Shared Lanes	Local	2,152	\$3,000	Low	Tier 1
Brainerd Ave	Park Ave	Lake St	Marked Shared Lanes	Local	2,663	\$3,500	High	Tier 1
Brandywine Rd / Stevenson Rd	Golf Rd	Crane Blvd	Marked Shared Lanes	Local	3,512	\$4,500	Low	Tier 1
Cass Ave / Trail	Adler Dr	Buckley Rd	Marked Shared Lanes	Local	1,663	\$2,000	Low	Tier 1
Church St	Brainerd Ave	4th Ave	Marked Shared Lanes	Local	2,927	\$3,500	High	Tier 1
Cook Ave / West St	Lake St	Brainerd Ave	Marked Shared Lanes	Local	1,967	\$2,500	Low	Tier 1
Country Club Road	Golf Rd	Valley Park Dr	Marked Shared Lanes	Local	1,017	\$1,500	Low	Tier 1
Crane Blvd	Stevenson Rd	Rockland Rd	Marked Shared Lanes	Local	4,152	\$5,500	Low	Tier 1
Dawes St	Park Ave	Greentree Pkwy	Marked Shared Lanes	Local	8,133	\$10,500	Medium / Low	Tier 1
Dymond Rd	Pond Ridge Rd	Village Boundary	Marked Shared Lanes	Local	5,113	\$6,500	Low	Tier 1



Route Name	To	From	Facility	Jurisdiction	Length (ft)	Approx. Cost	Prioritization	Phasing Tier
Elderberry Dr	Peterson Rd / Buckley Rd	New Castle Dr Sidepath	Marked Shared Lanes	Local	1,932	\$2,500	Low	Tier 1
Garfield Ave	Golf Rd	Village Boundary	Marked Shared Lanes	Local	2,843	\$3,500	Low	Tier 1
Garfield Ave	Golf Rd	Austin Ave	Bike Lanes	Local	3,028	\$8,000	High	Tier 1
Garfield Ave	Austin Ave	Park Ave	Marked Shared Lanes	Local	2,157	\$3,000	Medium	Tier 1
Golf Rd	Brandywine Rd	Milwaukee Ave	Marked Shared Lanes	Local	7,856	\$10,000	Medium	Tier 1
Golf Rd	Milwaukee Ave	Country Club Rd	Marked Shared Lanes	Local	2,654	\$3,500	Medium / Low	Tier 1
Greentree Pkwy	Dawes St	Milwaukee Ave	Marked Shared Lanes	Local	3,451	\$4,500	Low	Tier 1
Hurlburt Ct	4th Ave	Milwaukee Ave	Marked Shared Lanes	Local	2,056	\$2,500	Low	Tier 1
Innsbruck Ct	Lake St	Existing Shared Use Path	Marked Shared Lanes	Local	913	\$1,000	Low	Tier 1
Kempton Dr / Florsheim Dr	Riva Ridge Dr	Artaius Pkwy	Marked Shared Lanes	Local	2,162	\$3,000	Low	Tier 1
Kristen Dr / Loyola Dr	Butterfield Rd	Winchester Rd	Marked Shared Lanes	Local	2,756	\$3,500	Low	Tier 1
Lake St	Springhaven Dr	Brainerd Ave	Marked Shared Lanes	Local	6,845	\$9,000	Medium / Low	Tier 1
Old Barn Cir	Butterfield Rd	New Castle Dr Sidepath	Marked Shared Lanes	Local	1,508	\$2,000	Low	Tier 1
Pond Ridge Rd	Dymond Rd	Blueberry Park Shared Use Path	Marked Shared Lanes	Local	736	\$1,000	Low	Tier 1
Red Top Drive	Milwaukee Ave	Red Top Dr sidepath	Marked Shared Lanes	Local	2,591	\$3,500	Low	Tier 1
Riva Ridge Dr	Red Top Dr	Kempton Dr	Marked Shared Lanes	Local	1,989	\$2,500	Low	Tier 1
Riverside Dr	Riverside Park	Rockland Rd	Marked Shared Lanes	Local	591	\$1,000	Low	Tier 1
Rockland Rd	Des Plaines River Bridge	Dawes St	Marked Shared Lanes	Local	7,745	\$10,000	Medium	Tier 1
Sandstone Dr	Winchester Rd	Appley Ave	Marked Shared Lanes	Local	2,202	\$3,000	Low	Tier 1
Springhaven Dr	Windhaven Rd	Lake St	Marked Shared Lanes	Local	906	\$1,000	Low	Tier 1
Sunnyside Ave	4th Ave	7th Ave	Marked Shared Lanes	Local	1,141	\$1,500	Low	Tier 1



Route Name	To	From	Facility	Jurisdiction	Length (ft)	Approx. Cost	Prioritization	Phasing Tier
Valley Park Rd	4th Ave	Country Club Dr	Marked Shared Lanes	Local	1,788	\$2,500	Low	Tier 1
Virginia Ave	Winchester Rd	Butterfield Rd	Marked Shared Lanes	Local	4,634	\$6,000	Low	Tier 1
Walnut St	Milwaukee Ave	Park Entrance/Trail	Marked Shared Lanes	Local	1,287	\$1,500	Low	Tier 1
Winchester Rd	Milwaukee Ave	Des Plaines River Trail	Marked Shared Lanes	Local	2,481	\$3,000	Low	Tier 1
Windhaven Rd	Winchester Rd	Springhaven Dr	Marked Shared Lanes	Local	755	\$1,000	Low	Tier 1
Adler Park Route	Milwaukee Ave	Des Plaines River Trail	Sidepath/Trail	Libertyville Recreation Department	2,577	\$400,000	High	Tier 2
Butterfield Rd	Butterfield Trail	Peterson Rd / Buckley Rd	Sidepath (W)	Local	708	\$750,000	Low	Tier 2
Lake St*	Butterfield Rd	Springhaven Dr	Sidepath (S)	Local	682	\$750,000	Low	Tier 2
New Trail	Red Top Drive	Valley Park Drive Shared Use Path	New Trail	Libertyville Recreation Department	5,970	\$750,000	Medium	Tier 2
Oak Spring Rd	Sandstone Dr	Des Plaines River Trail	Sidepath (N)	Local	2,071	\$900,000	Medium	Tier 2
Technology Way Loop	Winchester Rd	N/A	Sidepath	Local	3,562	\$1,000,000	Low	Tier 2
ComEd Trail	Peterson Rd / Buckley Rd	North Shore Bike Path	New Trail	Local / ComEd	10,100	\$1,150,000	Low	Tier 3
New DPRT Trail Connection	End of Winchester Rd	Des Plaines River Trail	New Trail	Local / Lake County Forest Preserve / Minear Lake	894	\$500,000	Low	Tier 3

\*The Lake Street sidepath between Butterfield Road and Springhaven Drive would likely be completed either in conjunction with or after the Butterfield Road sidepath is constructed.



## Non-Village Owned Roadways or Land

Route Name	To	From	Facility	Jurisdiction	Length (ft)	Approx. Cost	Prioritization	Phasing Tier
Bull Creek / Countryside Dr / Old Peterson Rd	Liberty Prairie Nature Preserve	Butterfield Rd	Wayfinding Signage	Township	4,182	-	Low	Tier 1
New LCDOT / Firestation Trail	LCDOT Roundabout	Milwaukee Avenue	New Trail	County / Private	1,500	\$500,000	High	Tier 2
Butterfield Rd	Peterson Rd / Buckley Rd	Winchester Rd (Lake St Extension)	Sidepath (W)	County	5,164	\$1,200,000	Low	Tier 3
Buckley Rd	Milwaukee Ave	Butterfield Rd	Sidepath (N)	IDOT	7,505	\$1,400,000	Low	Tier 3
LCDOT Property	Winchester Rd	Milwaukee Ave	Sidepath	County	3,088	\$1,000,000	Low	Tier 3
Winchester Rd	Midlothian Rd	Milwaukee Ave	Sidepath (N)	County	17,256	\$2,400,000	Medium	Tier 3
Milwaukee Ave	Adler Dr	Winchester Rd	Sidepath (W)	IDOT	3,472	\$1,000,000	High	Tier 3
Rt 45 / Lake St	Temple Rd	Winchester Rd	Sidepath (E)	IDOT	4,451	\$1,100,000	Low	Tier 3

## Assumptions

- Marked shared lanes and bike lanes will be constructed in-house (no Phase I, II, or III construction engineering). Cost estimates for materials and construction contingency only
- Sidepaths and Trail cost estimates include Phase I, II, and III engineering and construction estimates
- D11-1 bike route signage is included every 600' (in each direction) for roadways (not trails/sidepaths)
- D11-1 bike route signs include post and are \$150/sign
- Wayfinding signage is not included in estimates
- Sharrows every 220' (in each direction) on marked shared lanes and bike lanes
- \*Cost estimate is lower than a typical sidepath as we're assuming that the construction items needed for the route through Adler Park will be more along the lines of a trail, rather than a sidepath, since it's through a park rather than along a major road



## INTERSECTION / CROSSING IMPROVEMENT MATRIX

The intersection and crossing improvement cost estimate matrix includes information about each recommended location, planning-level cost estimate for potential improvements at a given location, and assigns a phasing/prioritization tier for the Village to consider. The phasing tiers are as follows: **Tier 1**) low-hanging fruit, low cost of implementation, and minimal external coordination, **Tier 2**) medium cost of implementation, some external coordination, **Tier 3**) high cost of implementation, heavy external coordination, and potential agreements needed to proceed with improvements. However, as bike routes are installed the accompanying crossing improvements should also be further studied and implemented.

Roadway 1	Roadway 2	Jurisdiction	Phasing Tier	RRFBs	Bicycle & Pedestrian Warning Signs	High Visibility Crosswalks	Green Bike Crossing Markings	Reduced Corner Radii & Curb Extensions	Pedestrian Friendly Porkchops	Curb Ramp Improvements	Median Refuge Island	Pedestrian Countdown Timers	Railroad Coordination Needed	Other	Cost Estimate Range
				Potential Improvements to Consider											
Lake St	Butler Park Path	Local	Tier 1	x											\$30,000 - \$60,000
Crane Blvd / Burdick St	Rockland Rd	Local	Tier 1			x	x	x		x					\$60,900 - \$139,500
Winchester Rd	Butterfield Rd	County	Tier 2		x		x	x							\$51,150 - \$104,600
Winchester Rd	Midlothian Rd	County	Tier 2				x	x	x						\$125,750 - \$353,000
Winchester Rd	Loyola Dr / Windhaven Rd	County & Local	Tier 2	x											\$30,000 - \$60,000
Winchester Rd	New ComEd Trail	County	Tier 2											A	-
Golf Rd	Butterfield Rd	County & Local	Tier 2		x		x			x		x			\$41,150 - \$164,600
Crane Blvd	Butterfield Rd	County & Local	Tier 2		x		x			x		x			\$41,150 - \$164,600
Rt 45 / Lake St	Peterson Rd	IDOT & County	Tier 2		x	x	x	x	x	x		x		B	\$166,300 - \$516,100
Park Ave	4th Ave	IDOT & Local	Tier 2		x	x	x			x					\$11,300 - \$41,100
Butterfield Rd	New ComEd Trail	County	Tier 2											A	-



Roadway 1	Roadway 2	Jurisdiction	Phasing Tier	RRFBs	Bicycle & Pedestrian Warning Signs	High Visibility Crosswalks	Green Bike Crossing Markings	Reduced Corner Radii & Curb Extensions	Pedestrian Friendly Porkchops	Curb Ramp Improvements	Median Refuge Island	Pedestrian Countdown Timers*	Railroad Coordination Needed	Other	Cost Estimate Range
				Potential Improvements to Consider											
Buckley Rd / Peterson Rd	Butterfield Rd	IDOT & County	Tier 3			x	x	x	x	x					\$135,900 - \$389,500
Buckley Rd	Milwaukee Ave	IDOT	Tier 3				x	x	x						\$125,750 - \$353,000
Butterfield Rd	RR Tracks	County & Railroad	Tier 3										x	C	-
Winchester Rd	Rt 45 / Lake St	IDOT & County	Tier 3			x	x	x		x		x		B	\$90,900 - \$264,500
Winchester Rd	RR Tracks	County & Railroad	Tier 3										x		-
Winchester Rd	Milwaukee Ave	IDOT & County	Tier 3			x	x	x							\$50,900 - \$104,500
Milwaukee Ave	Adler Park Entrance	IDOT	Tier 3			x	x								\$900 - \$4,500
Milwaukee Ave	Walnut St	IDOT	Tier 3	x	x		x			x	x				\$91,150 - \$249,600
Milwaukee Ave	Rockland Rd	IDOT & Local	Tier 3				x	x		x					\$60,750 - \$138,000
Milwaukee Ave	Golf Rd	IDOT & Local	Tier 3		x	x	x	x		x					\$61,300 - \$141,100
Milwaukee Ave	Greentree Pkwy / Red Top Drive	IDOT & Local	Tier 3		x	x	x	x							\$51,300 - \$106,100
Milwaukee Ave	Artaius Pkwy (N)	IDOT & Local	Tier 3		x	x	x	x							\$51,300 - \$106,100
Milwaukee Ave	Artaius Pkwy (S)	IDOT & Local	Tier 3		x	x	x	x	x	x				B	\$136,300 - \$391,100
Park Ave	Dymond Rd	IDOT & Local	Tier 3	x	x										\$30,400 - \$61,600
Park Ave	Dawes St	IDOT & Local	Tier 3		x	x				x					\$10,550 - \$38,100
Park Ave	Garfield/Brainerd Aves	IDOT & Local	Tier 3				x		x	x					\$85,750 - \$288,000
Park Ave	New ComEd Trail	IDOT	Tier 3											A	-

A: TBD with trail implementation; B: fill in sidewalk gaps; C: pedestrian gates; \*estimate includes Accessible Pedestrian Signal (APS) upgrades



## FUNDING SOURCES

There are multiple funding sources for transportation programs in Lake County that are applicable to Libertyville. Most programs are highly competitive and require a local match but provide grant funding opportunities for active transportation projects. Many federal transportation funds can be used for pedestrian and bicycle projects.

This section provides information and guidance on the following funding sources:

- Program Administered by the US Department of Transportation (USDOT)
- Programs Administered by the Illinois Department of Transportation (IDOT)
- Program Administered by the Illinois Department of Natural Resources (IDNR)
- Programs Administered by the Illinois Commerce Commission
- Programs Administered by the Chicago Metropolitan Agency for Planning (CMAP)
- Programs Administered by the Lake County Council of Mayors (LCCOM)
- Nonprofit Organization Grants and Foundation Grants

## PROGRAMS ADMINISTERED BY THE US DEPARTMENT OF TRANSPORTATION

### *Safe Streets for All*

Safe Streets for All funds provide supplemental funding to support local initiatives to prevent death and serious injury on roads and streets, commonly referred to as a “Vision Zero” or Towards Zero Deaths” initiatives. Eligible projects are the development of a comprehensive safety action plan or projects that are identified in a comprehensive safety action plan. Local match is 20%.

## PROGRAMS ADMINISTERED BY THE ILLINOIS DEPARTMENT OF TRANSPORTATION (IDOT)

Most federal funds are controlled at the state DOT level and distributed as block grants. IDOT administers these federal pass-through funds for local and regional bicycle and pedestrian projects and safety initiatives. The funds are authorized by the current federal transportation bill passed in 2021, the Infrastructure Investment and Jobs Act (IIJA).

### *Statewide Planning & Research (SPR)*

Statewide Planning & Research (SPR) funds are used to support planning and research activities. The funds are used to establish a cooperative, continuous, and comprehensive framework for making transportation investment decisions and to carry out transportation planning and research activities throughout the State. Eligible activities include:



- Planning studies
- Data purchase, collection, and/or analysis
- Program development activities
- Performance management activities
- Coordination/outreach activities

A 20% match is required to use these funds. However, a match greater than 20% will be considered positively when prioritizing projects.

### ***Illinois Safe Routes to School Program (SRTS)***

The SRTS program, administered by the IDOT Bureau of Safety Engineering, uses both infrastructure and non-infrastructure approaches to improve conditions for students who walk or bike to school. The program is designed to enable and inspire children to walk and bike to school through improvements to the local active transportation network within two miles of schools and through programs and initiatives. The local match is typically 20%. Eligible project sponsors include schools, school districts, and governmental entities. The program encourages applicants to form a local coalition of stakeholders. Eligible infrastructure projects include Sidewalk Improvements, Traffic Calming/ Speed Reduction Improvements, Traffic Control Devices, Pedestrian and Bicycle Crossing Improvements, On-Street Bicycle Facilities, Off-Street Bicycle Facilities, and Secure Bicycle Parking Facilities. Eligible non-infrastructure projects include events, equipment, and supplies that help to address areas of Education, Enforcement, Encouragement, and Evaluation.

### ***Illinois Transportation Enhancement Program (ITEP)***

ITEP was designed to promote and develop non-motorized transportation options and streetscape beautification. Through ITEP, IDOT awards a portion of federal STBG set-aside funds competitively. Any local or state government with taxing authority is eligible to apply. Local governments are required to provide matching funds. The required 20% local match is the responsibility of the project sponsor unless the project qualifies for state matching funds based on high-need criteria. Once all applications are submitted, the local match will be calculated based on the Community Score and set on a sliding scale of 0, 10, or 20%; 50% is required for ROW allocation. Communities should be prepared to commit to expending the highest match amount when possible. Work must begin on the projects within three years of receipt of the award. This program is administered by the IDOT Bureau of Programming in the Office of Planning and Programming.

### ***Highway Safety Improvement Program (HSIP)***

The goal of HSIP is to achieve a significant reduction in traffic fatalities and serious injuries on all public roads. It requires states to set performance measures and targets for reducing traffic-related fatalities and serious injuries for all modes of transportation. HSIP funds both infrastructure and non-infrastructure solutions (like public safety campaigns) and is administered by IDOT's Bureau of Safety Engineering. The program funds preliminary engineering, land acquisition, construction, and construction engineering. A minimum 10% local match is required.



### **Section 402 State and Community Highway Safety Grant Program**

The Section 402 program, administered by the IDOT Bureau of Safety Engineering, provides grants to states to improve driver behavior and reduce deaths and injuries from motor vehicle-related crashes. There are several sub- programs in IDOT’s program, but the most pertinent to bicycle and pedestrian issues is the Injury Prevention Program. Section 402 funds do not support infrastructure projects. Eligible applicants include local civic organizations, schools and universities, hospitals, health departments, local governmental agencies, and nonprofit groups. 402 funds are considered seed funding and are not for ongoing or sustained support. These funds are considered very limited and no local match is required.

### **PROGRAMS ADMINISTERED BY THE ILLINOIS DEPARTMENT OF NATURAL RESOURCES (IDNR)**

#### ***Recreational Trails Program (RTP) and Illinois Bicycle Path (Bike Path) Grant Programs***

The Recreational Trails Program provides funding to assist government agencies and trail groups in the rehabilitation, development, maintenance, and acquisition of recreational trails and related facilities. The Illinois Bicycle Path Grant Program provides financial assistance to eligible local units of government to assist them with the acquisition, construction, and rehabilitation of public off-road, non-motorized bicycle paths and directly related support facilities. The Recreational Trails Program requires a 20%

local match, while the Illinois Bike Path Program requires a 50% local match.

### **PROGRAMS ADMINISTERED BY THE ILLINOIS COMMERCE COMMISSION**

The Illinois Commerce Commission (ICC) administers the Crossing Safety Improvement Program funded by the Grade Crossing Protection Fund. The Program assists jurisdictions in paying for safety improvements at highway-railroad crossings on local roads and streets.

### **PROGRAMS ADMINISTERED BY THE CHICAGO METROPOLITAN AGENCY FOR PLANNING (CMAP)**

CMAP administers federal pass-through money that funds bicycle and pedestrian facilities: the Congestion Mitigation and Air Quality Improvement Program and the regional allocation of the Surface Transportation Block Grant (STBG) program set-aside (formerly Transportation Alternatives Program or TAP). The STBG funds are programmed in two ways: through CMAP for regional projects and through the Councils of Mayors (COMs) for local surface transportation projects. For their allocation, CMAP funds bike facilities that provide regional connections. CMAP will typically only program pedestrian facilities if they provide access to transit. The other allocation of funding is divided amongst the COMs. The COMs will program these funds to more local and granular pedestrian and bike projects.



### ***Congestion Mitigation and Air Quality Improvement Program (CMAQ)***

The CMAQ program is a flexible funding source that targets projects and programs to help meet the congestion mitigation and air quality reduction requirements of the federal Clean Air Act. Bicycle and pedestrian facilities, transit improvements, and traffic flow enhancements make up some of the eligible projects. CMAP will give priority to projects that reduce ozone emissions and particulate matter. The local match is 20%.

### ***Transportation Alternatives Program (TAP-L)***

Programming authority is by the regional Councils of Mayors and City of Chicago. The STP Shared Fund is focused on larger-scale, multijurisdictional and regional projects that address ONTO 2050 goals (the CMAP regional comprehensive plan).

### ***Local Technical Assistance Program (LTA)***

This program provides free planning assistance to communities in the CMAP region. Applicable projects include feasibility studies, parking studies, and comprehensive plans. The call for proposals is typically announced in late spring.

## **PROGRAMS ADMINISTERED BY THE LAKE COUNTY COUNCIL OF MAYORS**

The Surface Transportation Program (STP) Local Program funding is a set-aside within the Surface Transportation Block Grant Program (STBG) program. This program provides flexible funding that may be used by municipalities for projects to preserve or improve conditions and performance on any Federal-aid highway,

bridge projects on any public road, facilities for non-motorized transportation, transit capital projects, and public bus terminals and facilities. CMAP approves the allocation of this funding to each of the subregional Council of Mayors (COMs), and the COMs administer the local programs. The Lake County Council of Mayors administers the STP Local Program for Libertyville.

One of the STP categories focuses on Transportation Control Measures (TCM), which are projects to reduce single occupancy automobile travel and have a positive net impact on air quality. Eligible projects as relevant to this plan include on-street pedestrian/bicycle facilities and trail projects. The remainder of the funding is focused on State routes, and as related to this plan could include intersection improvements.

Safety need score as calculated using IDOT's Safer Road Index (SRI), project readiness (status of Phase I Engineering and ROW acquisition), traffic volumes, pavement conditions, local need (years since a community won STP funding), financial commitment, Complete Streets Planning Factor (Libertyville would be awarded points for having an adopted Complete Streets policy), Green Infrastructure Planning Factor, and Freight Planning Factor are all criteria for roadway projects. There is specific scoring criteria for trail projects, which includes project connectivity, market for facility, project readiness, local needs (years since a community won STP funding), financial commitment, consistency with adopted plans, Complete Streets Planning Factor (Libertyville would be awarded points for having an adopted Complete Streets policy), Inclusive Growth Planning Factor (low to moderate income residents in block group), and Transit Supportive Land Use (proximity to transit).



## NONPROFIT ORGANIZATION AND FOUNDATION GRANTS

There are various local and national NPOs and private sector foundations dedicated to improving walking, biking and access to transit. The call for applications can vary year-to-year, however some programs to look out for include:

### ***Community Change Grant Award (America Walks)***

In 2018, this foundational-based grant program awarded communities \$1,500 stipends for projects related to creating healthy, active, and engaged places to live, work, and play.

### ***People for Bikes Community Grant***

Eligible projects for funding (up to \$10,000, must have at least a 50% local match) include bike paths and rail trails, as well as mountain bike trails, bike parks, BMX facilities, and large-scale bicycle advocacy initiatives.

### ***ComEd Green Region, in partnership with Openlands***

This grant program can be used for the planning, acquisition and improvements to local parks, natural areas, and recreation resources. The ComEd Green Region grants of up to \$10,000 for conservation projects based in Northern Illinois. Eligible Applicants are municipalities, townships, counties, park districts, conservation districts and forest preserve districts within ComEd's service territory. The grantee must have matching funds either secured or another pending application.

### ***American Association of Retired Persons (AARP) Community Challenge Grants***

This program is intended to help communities make immediate improvements and jump-start long-term progress in support of residents of all ages.



## FUNDING MATRIX

	GRANT PROGRAMS		
	Recreational Trails Program	Crossing Safety Improvement Program	Congestion Mitigation and Air Quality (CMAQ)
Program Purpose	To develop and maintain recreational trails and facilities for both motorized and non-motorized users	To improve safety at public highway-rail crossings on local roads	To improve air quality and reduces traffic congestion in areas that do not meet air quality standards
Program Administrator	IDNR	ICC	CMAQ
Eligible Projects	<ul style="list-style-type: none"> <li>• Trails</li> <li>• Trail/highway intersection improvements</li> <li>• Trailheads</li> <li>• Educational materials</li> <li>• Training</li> </ul>	<ul style="list-style-type: none"> <li>• Warning device upgrades</li> <li>• Grade separations</li> <li>• Connecting roads</li> <li>• Remote monitoring devices</li> <li>• Low cost improvements at unsignalized crossings</li> </ul>	<ul style="list-style-type: none"> <li>• Bike and pedestrian facilities</li> <li>• Safety education programs and encouragement incentives</li> <li>• Active transportation plans</li> <li>• Bike and pedestrian maps</li> <li>• Bike and pedestrian coordinator position</li> </ul>
Key Project Requirements	30% allocated to non-motorized trail projects, 30% for motorized, 40% for diversity of trail use	Supports improvements on local roads and streets	Must be spent in non-attainment and maintenance areas Will be evaluated on air quality emissions
Call for Projects	Irregular schedules at call of IDNR	5-year plan, next plan period: 2028-2032	Generally an annual call for proposals
Local Match Required	20%		20%
Eligible Applicants	Any governmental entity or non-profit	Local governments	Local governments
Bike Plan Projects	Trails (Butler Lake Path and Riverside/Redtop Trail)	Crossing improvements on local road bike routes (Crane Blvd/ Rockland Rd, Butler Lake Park/Lake St)	High priority bike route improvements (bike lanes, trails, sidepaths)



	GRANT PROGRAMS		
	Transportation Enhancements (ITEP)	Transportation Alternatives Program (TAP-L)	Safe Routes to School (SRTS)
Program Purpose	To foster cultural, historic, aesthetic, and environmental aspects of our transportation infrastructure	To support non-motorized modes of transportation	To enable and encourage children to walk and bike to school
Program Administrator	IDOT	CMAP	IDOT
Eligible Projects	<ul style="list-style-type: none"> <li>• Bicycle and pedestrian facilities</li> <li>• Streetscaping</li> <li>• Vegetation Management in Transportation Rights-of-Way</li> <li>• Construction of Turnouts, Overlooks, and Viewing Areas</li> </ul>	<ul style="list-style-type: none"> <li>• Bicycle and pedestrian facilities</li> <li>• Streetscaping</li> </ul>	<ul style="list-style-type: none"> <li>• Bicycle and pedestrian facilities</li> <li>• Safety education programs</li> <li>• Encouragement incentives</li> </ul>
Key Project Requirements	Must relate to surface transportation	Phase I engineering must be nearly complete Project must be included in a local, sub-regional or regional plan that was formally adopted	Can only be spent within 2 miles of a school that serves students in grades pre-K through 8
Call for Projects	Annual call for projects	Annual call for projects	Annual call for projects
Local Match Required	20%	20%	20%
Eligible Applicants	Local governments	Local governments	Any government entity
Bike Plan Projects	High priority bike route improvements (bike lanes, trails, sidepaths)	Larger-scale bike route improvements that require partnerships with other agencies (ComEd ROW trail, sidepaths)	Bike route and crossing improvements connecting to elementary schools (Adler Park Trail, Rockland bike route)



## REFERENCES

- <sup>1</sup> Village Comprehensive Plan, page 140
- <sup>2</sup> Village Comprehensive Plan, page 116
- <sup>3</sup> Village Comprehensive Plan, page 144
- <sup>4</sup> Village Comprehensive Plan, page 145