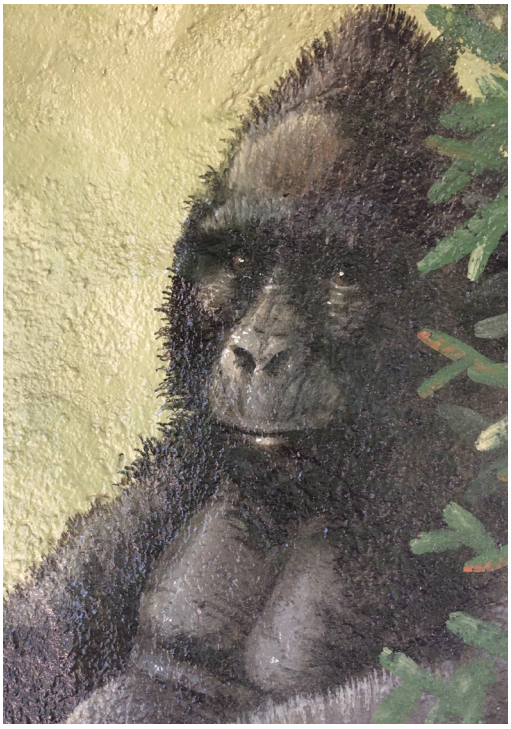
BROOKFIELD
Active Transportation Plan



Adopted September 2017

ACTIVE TRANSPORTATION ALLIANCE

ACKNOWLEDGMENTS

Active Transportation Plan Steering Committee

This plan represents the combined vision and goals of the steering committee that guided its development as well as residents and other key stakeholders. Thank you to these community representatives.

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About the Consultants

Active Transportation Alliance is a coalition of people who want safer, healthier and more convenient transportation choices. We envision walkable communities, networks of trails and other types of bikeways, reliable transit and safe and easy biking.

We envision the region with half as many crashes and where half of the trips are made by bicycling and transit. We promote walking, bicycling, and pubic transit to create healthy, sustainable and equitable communities.

Our staff includes, planning, policy, and education experts who developed many of the best practice programs and recommendations included in this plan.

Our project team includes:

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About the Healthy Hotspot Initiative

This project was supported by the Healthy HotSpot Initiative

Bottom cover image by Lena Pettus

Subarea Aerial Maps Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, swisssto and the GIS User Community

Intersection Diagram Aerial Maps: Google Earth 2017

DISCLAIMER: The motor vehicle crash data referenced herein was provided by the Illinois Department of Transportation. The author is responsible for any data analyses and conclusions drawn.

Healthy HotSpot

Connect to places for healthy living.

Healthy HotSpot is an initiative lead by the Cook County Department of Public Health that aims to build healthy places in suburban Cook County through community partnerships. For more information, visit **healthyhotspot.org**.

BROOKFIELD

Active Transportation Plan

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HOLLYWOOD MOTORS INC

1

INTRODUCTION

Why create an Active Transportation Plan for Brookfield?

Art for Metra riders to enjoy at the Hollywood Station

1.1 BROOKFIELD'S VISION

There has been growing enthusiasm among residents for biking in Brookfield in recent years. Since 2016, the Village has hosted a Bike Brookfield event. It started as an experiment, but with hundreds of residents and other people from the surrounding west suburbs participating, Brookfield quickly saw that there was a demand for more biking opportunities. A community-led group also resulted from the Bike Brookfield event.

Brookfield has an extraordinarily high percentage of residents that use active transportation modes to commute to work. In areas near the Metra stations, the percentage of people that commute to work by walking, biking and/or transit is over 20% (Source: U.S. Census Bureau, 2011-2015 American Community Survey 5-Year Estimates). The Village also has one of the highest percentage of BNSF riders who walk to the train station.

The residents and Village staff of Brookfield recognize the community and economic benefits of walkable and bicycle-friendly places. Brookfield wants to position itself as a leader among the many communities nation-wide seeking to take advantage of the benefits of walkable and bicycle-friendly places. This includes attracting new families and retaining existing residents, allowing people to age in place.

Based on the goals of the Village, steering committee, and residents, the following Vision was determined for active transportation:

The Village of Brookfield will be a leader in the suburban Chicagoland region for walking, biking and access to transit. The community will have innovative infrastructure, programs and policies that enable residents and visitors to access local and regional destinations on foot or by bike. Active transportation will be so easy, safe and fast that it's the first option people think of for either daily needs or weekend recreation.

Photo credit: Lena Pettus

1.2 WHY ACTIVE TRANSPORTATION?

There are many reasons the Village of Brookfield is undertaking its first Active Transportation Plan. For starters, there are concrete economic and financial benefits for such a plan. In addition, there are many health, social, and environmental benefits to creating a walkable, bikeable municipality. While these non-economic benefits are not always easy to quantify, over the long term, they are equally important to the community.

- Health: Walking and biking are easy, affordable and convenient ways to not only get exercise, but also to travel. With inactive lifestyles and chronic disease on the rise, promoting walking and biking is more important than ever. Adults are encouraged to get at least 30 minutes of physical activity per day, which can easily be achieved by substituting one short car trip with a trip on bike or on foot.

- Equity: About 1/3 of our population either cannot drive or does not have reliable access to a car. This includes children, seniors, people with disabilities, and people with limited means. These groups depend on walking, bicycling, and transit, but often do not have a safe and efficient network of sidewalks, bikeways, and transit amenities to reach destinations like work, school, and grocery stores. The map on the following page demonstrates equity target areas in Brookfield. These are places where there are the highest concentrations of people who could benefit most from active transportation improvements. More details on how equity was considered in prioritizing improvements is in Chapter 4 Implementation.

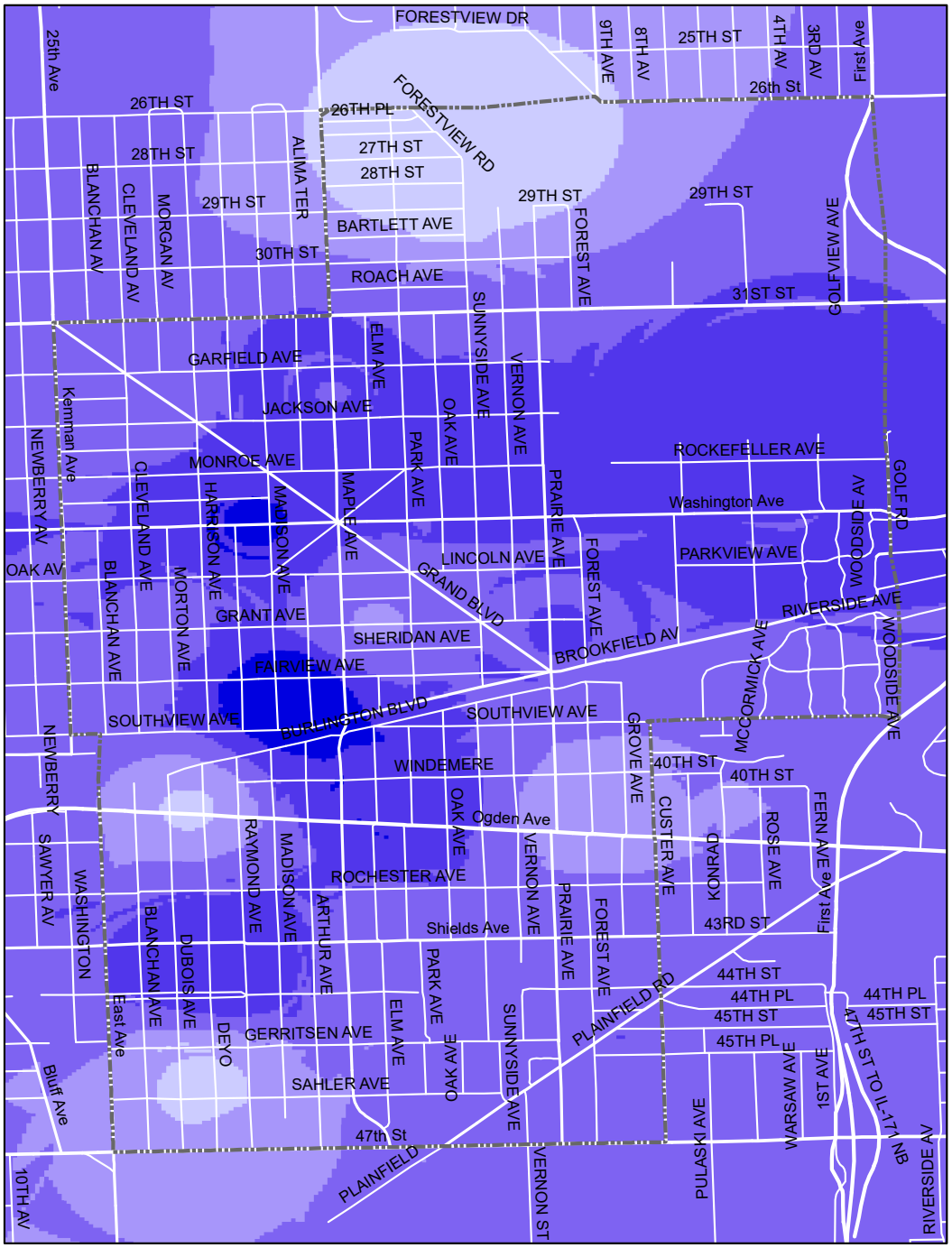
- Safety: Active transportation facilities have safety benefits for all roadway users. Many of the built environment changes that support walking and biking have positive safety benefits for all roadway users by creating a safe place for pedestrians and cyclists, and by encouraging more cautious driver behavior though complete design.

- Economic: Walking and biking are affordable ways to travel and create positive economic outcomes for communities. The cost to an individual to own, maintain and drive a car on a regular basis is about 12 times higher than transportation costs for a person who relies on bicycling. A complete and well-connected bicycle and pedestrian network also has a positive effect on local spending. Cyclists and pedestrians make more frequent trips to local shops, resulting in more dollars for the local economy. Additionally, having a developed "Complete Streets" roadway network fully utilizes the capacity of an otherwise underutilized asset. As an example, making it easier for residents to bike to the Zoo is not only healthy, but also avoids the cost (and parking) of driving to the Zoo.

- Social: People who walk and bike have more opportunities to connect with each other. More connections encourage people to be active, happy and socially engaged. Moreover, it is a social connector that is available to children and adults of all ages.

- Environment: Nearly half of all trips are less than three miles, and more than a quarter of trips are less than one mile. Shifting these shorter distance motor vehicle trips to walking, biking or transit reduces greenhouse gas emissions and contributes to cleaner air.

Equity Hot Spots



Equity Hot Spot

Equity Cold Spot

1.3 STEERING COMMITTEE PRIORITIES

At the start of the plan, the Village assembled a Steering Committee made up of Village staff, representatives from other agencies, and members of the community. During this meeting, the steering committee evaluated priority destinations, infrastructure improvements, policies, and programs, and developed the plan vision. Key themes that emerged during the meetings included:

- Make active transportation the easiest, first option people think of: The neighborhoods around the Metra stations already have a relatively high rate of people that commute by walking, biking or taking public transit and many kids can be seen biking to school. The steering committee wanted to expand this and make it easier and safer for everyone in the Village to walk and bike not just for commuting, but also daily errands.

- Improve access to Metra Stations Downtown: There are three Metra stations within the community that are widely used. However, the intersection around the Downtown Metra station can be hard to navigate, especially during rush hour.

- Eight Corners: This business area is an economic asset to the community, however, it is extremely confusing and hazardous for users to navigate.

- Behavior changes and awareness: Aggressive driving behavior towards pedestrians and bicyclists makes the Village a less hospitable place to walk and bike. Education and campaigns could further contribute to a safer environment.

- Collaboration: The Steering Committee would like to increase communication between other agencies, organizations and Village departments to achieve the outcomes of the plan.

- Economic Development: The Village Staff recognizes that communicating the economic benefits of active transportation to business owners and developers and using the tools to strengthen business districts is key and a priority of the plan.

Following the initial meeting, steering committee members stayed involved by promoting ways for the community to get involved in the plan and reviewing recommendations. More details about the steering committee's priorities are included in the Appendix.

The benefits of a walkable neighborhood. Image credit: Sara Rodriguez

Frequent words mentioned by the Steering Committee

Eight Corners is confusing for all users of the roadway

1.4 EXISTING CONDITIONS OVERVIEW

The project team reviewed existing datasets, previous Village plans and policies, regional plans and conducted field visits to better understand existing and future conditions in Brookfield. These key findings from the analysis shaped the recommendations included in this plan:

- Demographics: Brookfield is a moderately populated community of almost 19,000. Almost 10% of residents walk, bike or take public transit to work, according to the U.S. Census Bureau, 2011-2015 American Community Survey 5-Year Estimates. In some Census blocks, especially those where people can walk to a Metra station, over 20% of residents use active transportation modes to commute to work. Over 1,600 companies are located in Brookfield. About 3,300 people commute into the community for their jobs every day and almost 8,900 Brookfield residents commute out. 7% are commuting to downtown Chicago.

- Crash hotspots: The project team analyzed pedestrian, bicycle, and vehicle crashes resulting in injuries and fatalities from 2011 to 2015, as demonstrated by the map on the following page. They looked at places where a high rate of crashes occur. A high density of crashes occurred at the Eight Corners intersection and 31st St and Maple Ave. Eight Corners also had the highest number of pedestrian and bike crashes in the community. Over thirty pedestrian and bike crashes also occurred along the Maple Ave, Ogden Ave and Washington St corridors, as well. According to community engagement, Washington St is a route that many use to get to school.

- Arden Bike Boulevard: The Village has programmed money for a "bike boulevard" (see page 23) to be built in the Hollywood neighborhood on Arden Ave. The plans have already been featured in local media as well as Streetsblog Chicago. When built, it could be one of the first bike boulevards in the Chicago suburban region.

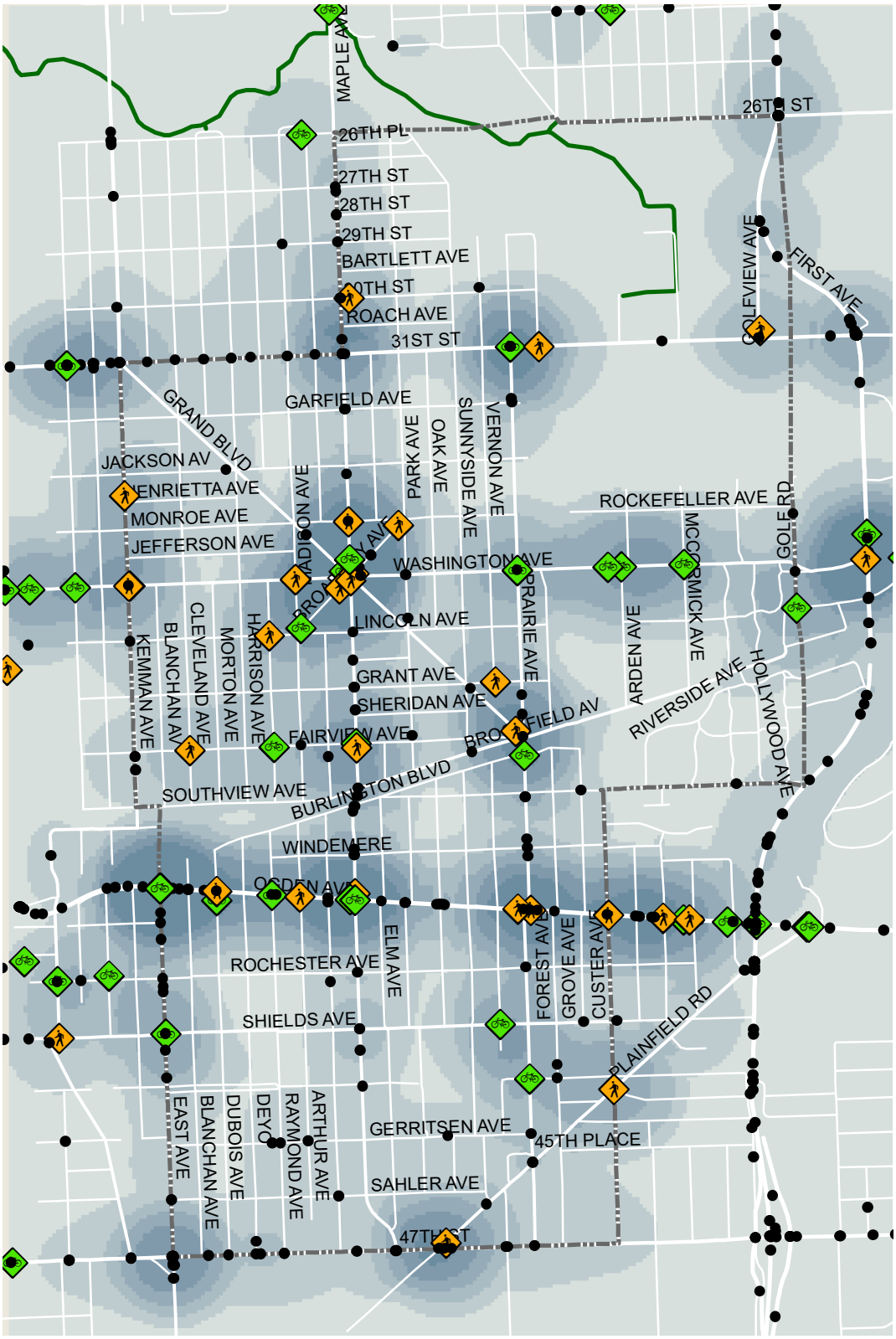
- Referendum: The Village passed a referendum that authorizes an eight year road program. The projects are tied to the road condition/state of disrepair, which has been compiled and is periodically updated. Detailed roadway programming includes possible bike enhancements as approved by the Complete Streets Committee.

- Future studies: The Village is currently developing a comprehensive plan.

- Regional and local planning studies: The Village's 2020 Master Plan identifies subarea improvements near the Brookfield Metra Station, Hollywood Metra Station and Eight Corners. Many of these recommendations are still relevant today and supported by this plan. The team also reviewed the Grand Avenue Corridor Plan, Integrated Economic Development Strategy, and current Comprehensive Plan Existing Conditions report for context. The Open Space Plan noted the goal of all residents being within half a mile of a trail and connecting local parks to bike facilities. The West Central Municipal Conference Bike Plan identifies 31st St, Ogden Ave and Washington St as regional routes.

- Brookfield Bikes: Brookfield has an existing group that hosts weekly community rides that could be supporters in implementing this plan.

Injury and Fatal Crashes, 2011-2015



1.5 COMMUNITY ENGAGEMENT

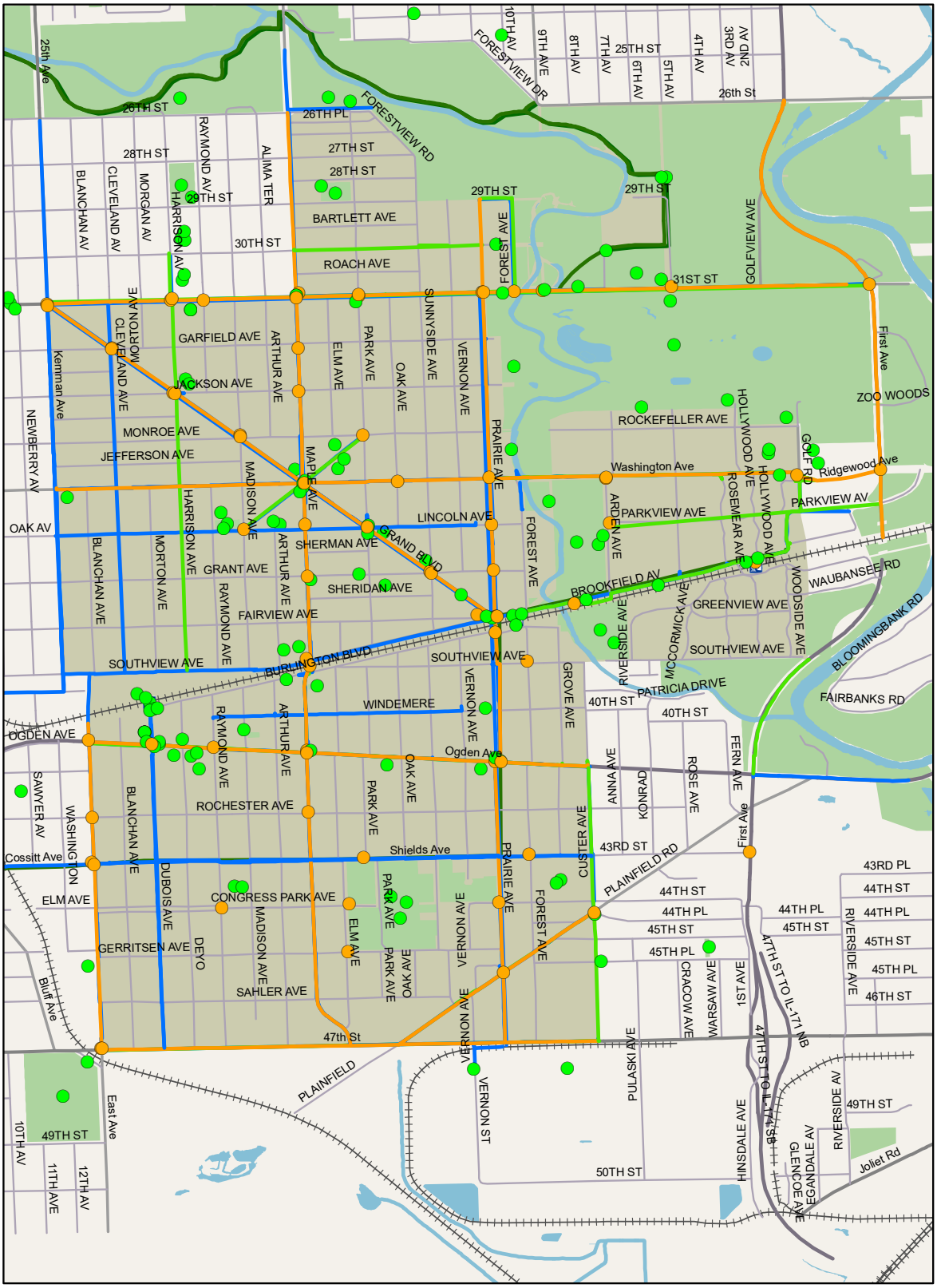
To engage the community in the plan process, the project team disseminated an online survey, tabled at the Monsters on Main Street Halloween event, and presented at a community workshop. In total, about 250 people responded to questions in person or online and 90 comments were received on a web-based interactive map. Many residents participated in the engagement process enthusiastically and had thoughtful and innovative ideas for improving their community.

In all cases, we asked people to identify priority destinations, priority roads for bicycle and pedestrian improvements, and stressful intersections. The map on the following page summarizes the areas that community members mentioned most often. Some common trends mentioned included:

- Most people were concerned about the Eight Corners intersection. It's located in the center of an important business district destination for the community, but its confusing and difficult to navigate for everyone.
- A lot of people also mentioned that 31st St, Maple Ave and Prairie Ave are important corridors across the community, but lack safe facilities for cyclists.
- Residents mentioned proximity and connections to the Salt Creek Trail, which is the only trailhead in the community.
- Washington is a route used by many for bicycling in the community, especially children to school, but due to aggressive driver behavior, the street can be an unpleasant experience.

Residents and other stakeholders participate in live poll voting at the community workshop

Community Engagement Results



Destination

Difficult Intersections

Walking Improvement

Bike Improvement

Walking and Biking Improvement

Image Credit: Lena Pettus

2

TOOLBOX AND NETWORK

Tools and strategies for developing a robust network of streets and trails to prioritize the use of active transportation

2.1 OVERVIEW

The chapter includes pedestrian- and bicycle-focused enhancements for Brookfield's streets, sidewalks, and intersections. The recommendations are aimed at increasing the community's access to destinations identified during the community engagement process. The Toolbox and Network Recommendations chapter includes three sections:

- Active Transportation Toolbox: Offers recommendations and design features for infrastructure improvements included in this plan.
- Active Transportation Network: Summarizes all streets and intersections that could be enhanced through additional bicycle facilities, sidewalk projects, trails, and intersection improvements.
- Corridors and Places: Proposes context appropriate tools aimed at enhancing the safety and comfort of users of the active transportation network based on the speed limit, average daily traffic, number of lanes, and other factors. Roadway characteristics, and recommended improvements follow each description.

Image credit: Lena Pettus

2.2 TOOLBOX

No two roads are alike, and each requires assessment of existing and planned conditions to determine context appropriate bicycle and pedestrian improvements. For example, active transportation projects constructed on roads with four lanes and high traffic will require more protection for pedestrians and cyclists traveling along them than low speed neighborhood streets. Likewise, intersections on high speed, high volume streets will require more enhancements to reduce vehicle speed and increase visibility of non-motorized users of the road. Brookfield's roadway network consists primarily of low-traffic, local streets, but difficult six- and eight- corners intersections make it confusing to navigate the network. Moreover, there are few safe and easily identifiable connections between the north and south portions of the community, which are split by the BNSF Line and Ogden Ave. For the most part, especially in residential areas and local commercial areas, Brookfield has an excellent sidewalk network. However, regional roadways such as Ogden Ave and 47th St could use pedestrian improvements, due to either sidewalk gaps or cars regularly parking in and blocking the sidewalk.

The tools presented in this section are tailored to the Brookfield's unique roadway conditions. The toolbox is organized in the following way:

- Pedestrian Tools
- Bicycle Tools
- Signals & Beacons
- Intersection Tools
- Amenities

Image credit for above three photos: Lena Pettus

Pedestrian Tools

Sidewalks

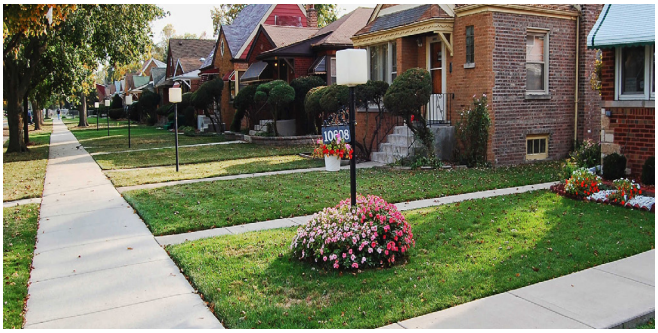
The plan recommends including sidewalks on all streets and corridors. Sidewalks should be at least 5' wide, but 8-10' is preferred in areas with high pedestrian foot traffic. Ideally, sidewalks will include buffer areas to provide additional protection from vehicle lanes, such as parking lanes, trees, planters or street furniture such as benches. Sidewalks should continue across commercial driveways and residential alleys to better define the pedestrian space. In areas where angled parking is adjacent to sidewalks curbed separation should be provided to prevent drivers from parking in the sidewalk. An inventory of all the sidewalk gaps with more details is provided in Appendix E.

Main roadways for improvement include:

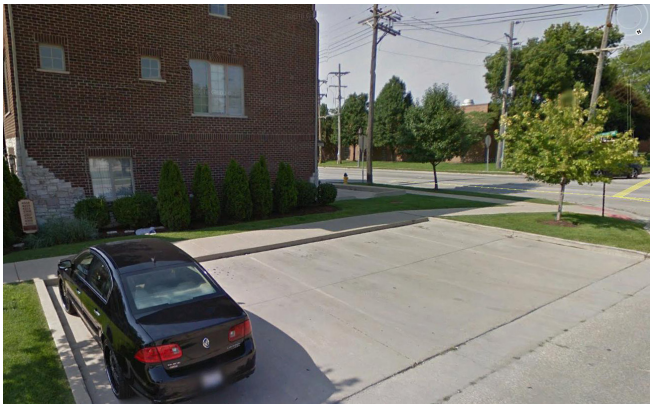
- 30th Street: Forest Ave to Sunnyside Ave
- 31st St: Prairie Ave to Golfview Ave
- Garfield Ave: Cleveland Ave to Raymond Ave
- Forest Ave: 31st St to 30th St
- 29th St: Forest Ave to Prairie Ave
- Southview Ave: Park Ave to Prairie Ave and Grove Ave to Custer Ave
- Congress Park Ave: Madison Ave to Elm Ave and Forest Ave to Custer Ave
- Sahler Ave: Park Ave to Sunnyside Ave
- Ogden Ave: parked cars encroach the sidewalks on many side streets leading up to Ogden

Commercial area sidewalk

Sidewalk extending across commercial driveway



Residential sidewalk



Curb separation between sidewalk and parking. Image credit: Google Earth 2017.

Pedestrian Tools, continued

Curb Ramps, Tactile Pads & Crosswalks

The plan recommends that the Village equips all intersections with bi-directional curb ramps and detectable warning pads and crosswalks. Ladder style crosswalks should be used at signalized crossings, mid-block crossings, and school and park crossings. Decorative crosswalks may be used in place of ladder style crosswalks in business districts. Standard crosswalks can be used at all other intersections.

Recommended for all intersections in Brookfield.

Standard crosswalk

Ladder style crosswalk

Decorative crosswalk

Pedestrian Bridge and Tunnel Improvements

There are few safe connections for pedestrians and bicyclists across the railroad tracks connecting the north and south sides of the Village. Improving existing pedestrian tunnel connections with wayfinding signage, landscaping and lighting will improve existing tunnels. New bridges and tunnels will provide safe and convenient connections.

Recommended for:

- Congress Park Metra Pedestrian Tunnel
- Downtown Brookfield Metra Station: support 2020 Master Plan to build a pedestrian bridge across the tracks at Forest Ave

Bicycle and Pedestrian Route Tools

Trail

Trails and paths provide a low-stress, car-free route for pedestrians and cyclists.

Trail through the forest

Recommended for:

- Brookfield Woods Trail from Sunnyside to Prairie
- Burlington Blvd Trail from Burlington to Blanchan

Sidepath/Multi-Use Path

Sidepaths run parallel to a road and are shared by pedestrians and cyclists. They should be at least 8' wide, but can be as wide as 14'. A sidewalk should be provided on the opposite side of the road.

Newly built sidepath on North Ave through Melrose Park

Recommended for:

- 31st Street from Golfview to Prairie Ave
- 31st Street from Golfview to 1st Ave
- Brookfield Ave from Prairie Ave to Hollywood Metra

Bicycle Tools, continued

Bike Boulevards (pictured below)

Bike Boulevards are streets designed to prioritize bicycle travel with infrastructure features that calm vehicular traffic on neighborhood streets, and improve safety at busy intersections. When designed as a network, the result is an attractive, safe, and comfortable environment for cyclists of all ages and abilities, and more peaceful residential streets. Moreover, bike boulevards can be a cost-effective option as they it leverages existing infrastructure and does not require construction.

Brookfield's narrow, quiet residential streets make ideal candidates for bike boulevards and can be enhanced through pavement markings and signage. Brookfield may wish to explore future traffic calming on these streets, such as mini roundabouts or bump-outs.

Bikes May Use Full Lane Signs

Install bikes may use full lane sign (R4-11) together with bike boulevard pavement markings (pictured below). Full lane usage typically works best on streets with low traffic volumes.

Use pavement markings along Bike Boulevards, spaced 250 feet apart. Photo credit: http://www.columbusunderground.com/

Recommended for:

- Grand Avenue
- Arden Avenue
- Congress Park Avenue
- Harrison Avenue
- Dubois Avenue

Bicycle Tools, continued

Marked Shared Lane

Install marked shared lanes on streets with high bike traffic, on-street parking, and limited lane width. Indicate the proper lane position to cyclists and cautions drivers to expect cyclists on the road.

Recommended for:

- 29th Street from Maple to Prairie
- Fairview Ave from Kemman to Vernon
- Kemman from 31st to Fairview
- Prairie from 29th to 31st
- Maple Ave from 31st to 47th (Option 2, see page 57)
- Prairie Ave from 31st to 47th (Option 2, see page 57)

Bus/Bike Lane

A bus/bike lane is a dedicated lane shared by buses and cyclists. Use bus only pavement markings in conjunction with marked shared lanes. They are not recommended for use on streets with frequent bus service and high volume of bike traffic.

Recommended for:

- 31st Street from Kemman to Prairie (Option 5, see page 55)

Bicycle Tools, continued

Bike Lanes

Bike lanes designate a space for cyclists on a road and encourage drivers and cyclists to behave predictably. They also reduce motor vehicle speeds and lower the risk of severe crashes. At minimum, bike lanes should be 5' wide. Can be used in conjunction with a road diet.

Recommended for:

- 31st from Kemman to Prairie (Option 2, see page 55)
- Washington from Kemman to Golf

Buffered Bike Lane

Like a bike lane, a buffered bike lane designates space on a road for cyclists. Include a 2' wide buffer on the vehicle lane side of the street, the parking lane side of the street, or on both where space permits. Can be used in conjunction with a road diet.

Recommended for:

- Maple Avenue from 31st to Salt Creek Trail
- 31st from Kemman to Prairie (Option 1, see page 55)
- Maple Ave from 31st to 47th (Option 1, see page 57)
- Prairie Ave from 31st to 47th (Option 1, see page 57)

Bicycle Tools, continued

Wayfinding Signage

Wayfinding signage identifies distance, direction, and destinations for cyclists travelling on key routes.

Recommended for:

- Hollywood from Metra Station to Washington Ave
- Morton Ave from Fairview to Southview

Signed Bike Route

A signed bike route indicates to drivers to expect cyclists to be on the road and helps cyclists identify streets appropriate for cycling.

Recommended for:

- Garfield Ave from Kemman to Prairie
- Maple Ave from 31st to 47th
- Prairie Ave from 31st to 47th

Signals and Beacons

Pedestrian Countdown Signals

Countdown signals indicate the amount of time pedestrians have available to cross the street. Place countdown signals at all signalized intersections. This treatment is particularly helpful for seniors and people with mobility impairments.

Recommended for:

- All signalized intersections

Rectangular Rapid Flashing Beacons (RRFB)

Enable pedestrians and cyclists to activate a warning beacon at mid-block or unsignalized crossings. RRFBs can be solar controlled. They have a high rate of driver stopping compliance.

Recommended for:

- Brookfield Ave at the Village Hall mid-block crossing

Traffic Signal

Traffic signals are typically used at intersections with high traffic volumes, but may be warranted at intersections with complex traffic patterns or adjacent to railroad tracks.

Recommended for:

- Prairie Ave/Fairview Ave/Grand Ave

Intersection Geometry Recommendations

Wide six-way intersections and certain school crossings could benefit from additional traffic calming improvements, such as raised table intersections or raised crosswalks. Intersection murals can be implemented in these locations in the near-term, and can later be enhanced by raised table intersections or raised crosswalks.

Recommended for:

- Grand Boulevard/Garfield Ave/Cleveland Ave
- Grand Blvd/Jackson Ave/Harrison Ave
- Grand Blvd/Monroe Ave/Madison Ave
- Grand Blvd/Grant Ave/Sunnyside Ave
- Shields Ave and Custer Ave
- Shields Ave and Grove Ave

Raised Crosswalk

Calms traffic at pedestrian crossings by raising the crosswalk to the height of the curb. Uses a gradual incline to reduce issues for plows. Recommended for use at mid-block locations.

Dutch-Style Roundabout

Dutch-style roundabouts provide a protected bike lane for cyclists between the vehicle lane and the sidewalk to minimize conflicts and near-misses. They add an additional buffer for pedestrians from motor vehicle traffic, as well.

Recommended for:

- Eight Corners
- Prairie Ave/Grand Ave/Fairview Ave (optional)

Raised Table Intersection

Similar to the concept of a raised crosswalk, it raises the intersection using a gradual incline to calm traffic at pedestrian crossings. Use at six-way intersections.

Credit: NACTO

Intersection Geometry Recommendations, Continued

Intersection Murals

Murals can be used as a temporary solution to calm traffic at wide intersections with low traffic volumes. Work with local artists and the community to develop a design and paint the street. Once a year, the intersections can be closed for a mural refresh/repaint block party.

Intersection mural image courtesy of J. Maus

Create a public art committee to administer the intersection mural program. Establish an application process in which local artists, businesses and residents can apply for a mural at their adjacent intersection. The program should include a public approval process requiring 100% of residents and business owners adjacent to the proposed mural and 80% of homeowners within a one block radius to give consent. Also adopt design guidelines, such as:

- The mural should not be composed of shapes, colors and directional arrows that could be confused for traffic control devices.
- There should be a two foot buffer between the mural and crosswalks.
- The murals should not contain text.

For example design guidelines and applications from other cities, see Appendix B.

Bump-outs/Curb Extensions

Bump-outs slow traffic, provide shorter crossing distances for pedestrians and improve sightlines for both drivers and pedestrians.

Recommended for:

- Prairie Ave/Grand Ave/Prairie Ave (optional)
- 29th St & Sunnyside Ave
- Ogden Ave and Maple Ave
- Eight Corners

Bike Crossing Improvements

Bike Boxes

Bike boxes designate a space for cyclists to stop in advance of vehicles at an intersection. They make cyclists more visible to drivers.

Recommended for:

- Ogden Ave & Maple Ave

Refuge Islands

Refuge islands buffer and protect pedestrians and cyclists crossing wide or busy streets, enabling them to cross in two stages. Where possible, they should be wide enough to accommodate the length of a standard bicycle. Refuge islands are recommended for all signalized intersections and mid-block crossings in Brookfield where the crossing distance is wide, there is heavy pedestrian and bike traffic, and there is room in the median to build this facility.

Pedestrian/Bicycle Crossing Warning Signs

Pedestrian/bicycle crossing waning signs warn drivers that a pedestrian or bicycle crossing is approaching at mid-block locations. They should include an advanced warning sign and a sign at the crossing.

Recommended for:

- 29th St and Sunnyside Ave
- Shields Ave and Madison Ave
- Shields Ave and Raymond Ave
- Shields Ave and Park Ave
- Shields Ave and Elm Ave
- Shields Ave and Sunnyside Ave

Toolbox Matrix

The below chart lists all the facilities described in the Toolbox section and provides rankings for the degree to which facilities separate pedestrians and bicyclists from car traffic, the mode the designs will most help (pedestrian or bike), and the "Network Impact."

Cost can be hard to determine for a facility because it is based on many variables, such as land acquisition, what agency owns the roadway, if there is an upcoming roadway project, whether the curb-to-curb width of the roadway will change, length/size of the facility, and potential funding. For these reasons, cost varies on a case-to-case basis. A comprehensive engineering study may be needed to determine cost estimates. However, to give a quick starting point, the "Network Impact" describes the cost/benefit of different facilities in a broader sense. It indicates the benefit a design will provide to the overall pedestrian and bicycle network based on the average costs of such facilities and the impact it will have on pedestrian and bicycle safety. Projects that are ranked high provide more "bang for your buck" in this regard.

Tool Type	Mode	Degree of Traffic Separation	Network Impact
Sidewalk	Pedestrian	Maximum	Low
Pedestrian Bridge	Pedestrian and Bike	Maximum	High
Trail	Pedestrian and Bike	Maximum	Moderate
Sidepath	Pedestrian and Bike	Maximum	Moderate
Dutch-Style Roundabout	All	Maximum	High
Bus/Bike Lane	Bike and Bus	Moderate	Moderate
Bike Lane	Bike	Moderate	Moderate
Buffered Bike Lane	Bike	Moderate	Moderate
Raised Crosswalk	Pedestrian	Moderate	Moderate
Raised Table Intersection	All	Moderate	Moderate
Bump-Out	Pedestrian and Bike	Moderate	Moderate
Bike Box	Bike	Moderate	Moderate
Refuge Island	Pedestrian and Bike	Moderate	Moderate

Tool Type	Mode	Degree of Traffic Separation	Network Impact
Bike Boulevard	Bike	Minimal	Low
Marked Shared Lanes	Bike	Minimal	Low
Signed Bike Route	Bike	Minimal	Low
Intersection Mural	All	Minimal	Low
Curb Ramp	Pedestrian	NA	Low
Crosswalk	Pedestrian	NA	Low
Wayfinding Signage	Pedestrian and Bike	NA	Low
Pedestrian Countdown Signals	Pedestrian	NA	Moderate
Rectangular Rapid Flashing Beacons	Pedestrian and Bike	NA	Moderate
Traffic Signal	All	NA	High
Crossing Warning Signage	Pedestrian and Bike	NA	Low

Image credit: Lena Pettus

2.3 ACTIVE TRANSPORTATION NETWORK

Brookfield's proposed active transportation network specifies street-, sidewalk-, trail-, and intersection projects that are central to improving barriers to active travel and providing a low-stress experience for pedestrians and bicyclists alike. A full build-out of the proposed network will enable people of all ages and abilities to access destinations on foot and by bike, both inside and outside of the community, resulting in increased physical activity, improved community and environmental health, and future opportunities for economic development.

The map featured on the next page includes proposed sidewalk, bicycle facilities, and intersection improvements addressed in this plan.

Proposed Sidewalk Improvements

This plan assumes that every street in Brookfield is a pedestrian street. The Village's existing sidewalk network is nearly complete, but there are some gaps in the network and improvements to existing sidewalks needed. The pedestrian network can be further improved by the construction of new trails and pathways. The map on the following page indicates priority sidewalk projects. The next section includes design guidance for sidewalks.

Proposed Bicycle Improvements

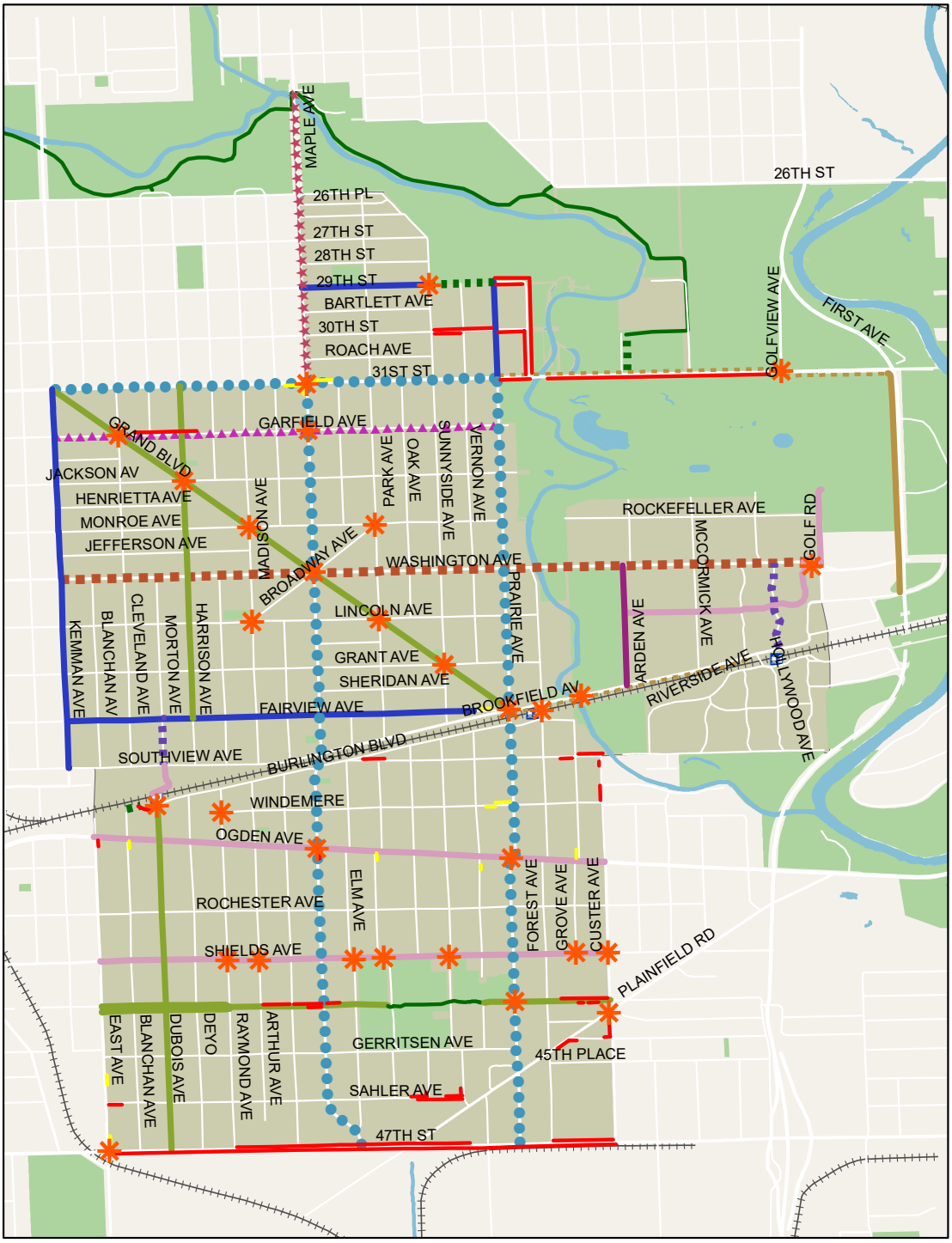
The bicycle improvements proposed for Brookfield are focused on building new trails and bicycle facilities on specific streets within the Village, which are indicated on the following page. When developed as a whole, the network of bikeways will enable people to more comfortably reach priority destinations. Specific bicycle facility types are recommended for streets, based on their width, average daily traffic, speed limit, and crash history. To better understand what a bike lane, bike boulevard, or other bike facility is, see Section 2.2.

Proposed Intersection Improvements

All midblock crossings should include pedestrian crosswalks, curb ramps, and detectable warning pads and all signalized crossings should be equipped with countdown signals. Although this plan does not include a full intersection audit, it does indicate where improvements should be made on major roads, at key crossings, and along the bike network. Intersections that surfaced as concerns during community engagement are also covered. Specific recommendations are listed by corridor and sub-area in Section 2.4.

The remainder of the chapter focuses on design recommendations for each of the treatments (see Section 2.3) and detailed recommendations by corridor and sub-area (see Section 2.4.)

Proposed Active Transportation Network



- Bike Boulevard, Proposed
- Bike Boulevard, Programmed
- Bike Improvement Route
- Bike Lanes, Proposed
- Marked Shared Lanes, Proposed
- Pedestrian Improvement Route
- Road Diet, Proposed
- Sidepath, Existing
- Sidepath, Proposed
- Sidewalk Improvement, Proposed
- Sidewalk, Proposed
- Signed Bike Route, Proposed
- Trail, Existing
- Trail, Proposed
- Wayfinding Signage, Proposed
- Intersection Improvement

2.4 RECOMMENDATIONS

Eight Corners Sub-Area

Eight Corners is a thriving commercial district in the center of the community with a high number of pedestrian, bicycle and vehicle trips each day. The confusing configuration of the intersection and wide lanes pose a problem to all users of the roadway as evidenced by the high number of crashes. Between 2011 and 2015, there were 87 crashes in and around the intersection. 24 caused injuries or fatalities and 13 involved pedestrians or bicyclists. If the intersection is made easier to navigate, people will be more likely to linger and park in one place and walk across the intersection to other stores, promoting economic development. This is also an important intersection in the proposed bike network because the Grand Blvd bike boulevard, Maple Ave bike improvement route and the Washington Ave bike lanes will cross here.

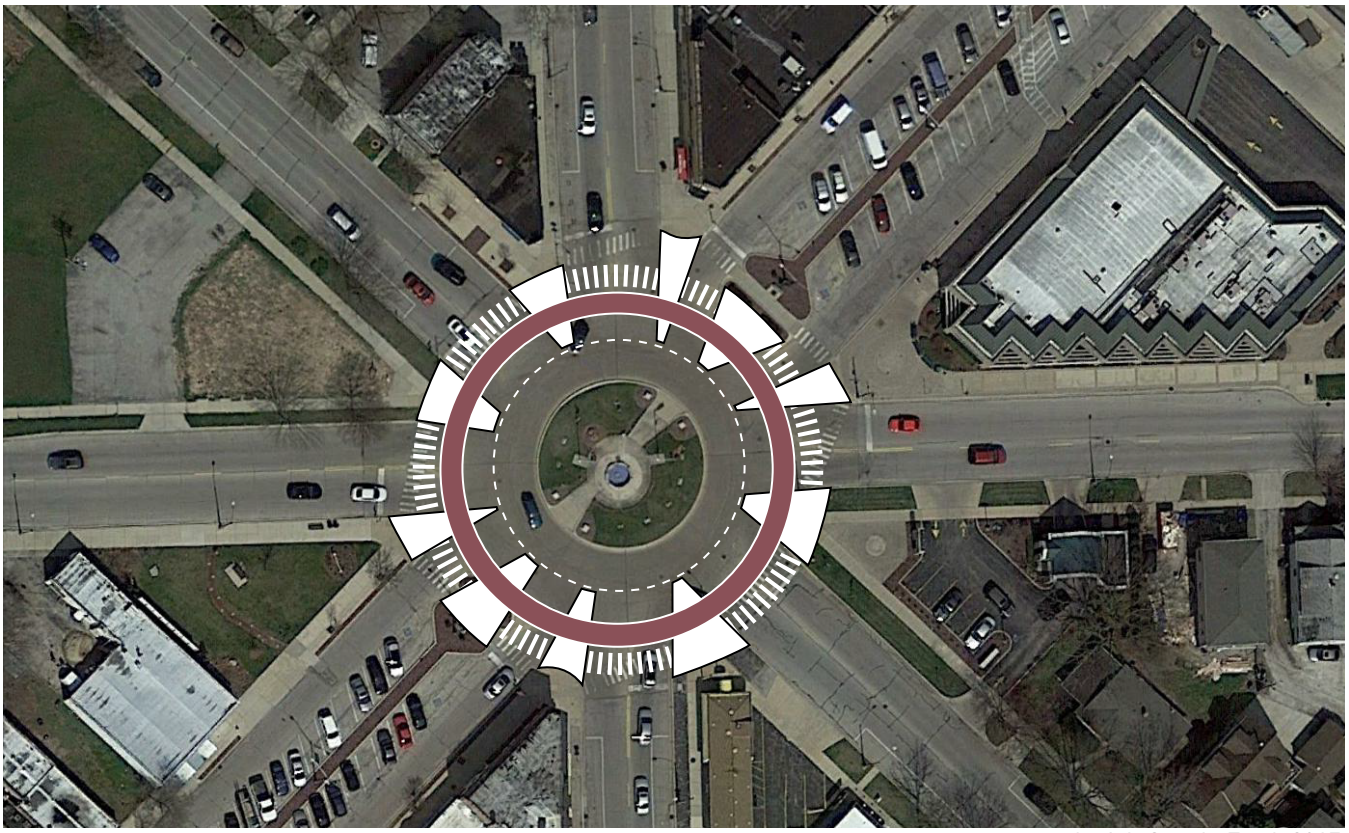
Recommendations for Intersection:

- Utilize the Dutch-style roundabout design (see right and Section 2.2 Toolbox for more details).
- Build a cycle track along the perimeter of the roundabout
- Include a separated pedestrian path with raised high visibility crosswalks at each entrance to the intersection along the perimeter
- Include traffic circle directional wayfinding signage at all approaches to the intersection.
- Reduce vehicular travel way to one 12 ft lane.
- Curb extensions at each drive into the roundabout.
- Support the 2020 Master Plan subarea recommendation to include roundabout wayfinding signage at the approach to each leg of the intersection

The Village has plans to re-landscape the circle. The following proposed recommendations do not change the footprint of the inside of the roundabout, so the Village can still follow the urban design landscaping plan. The recommendations narrow the vehicular travel way, allotting dedicated space to pedestrians and cyclists and indicating the separation of users through pavement markings. It will create a safer, less confusing space for everyone.

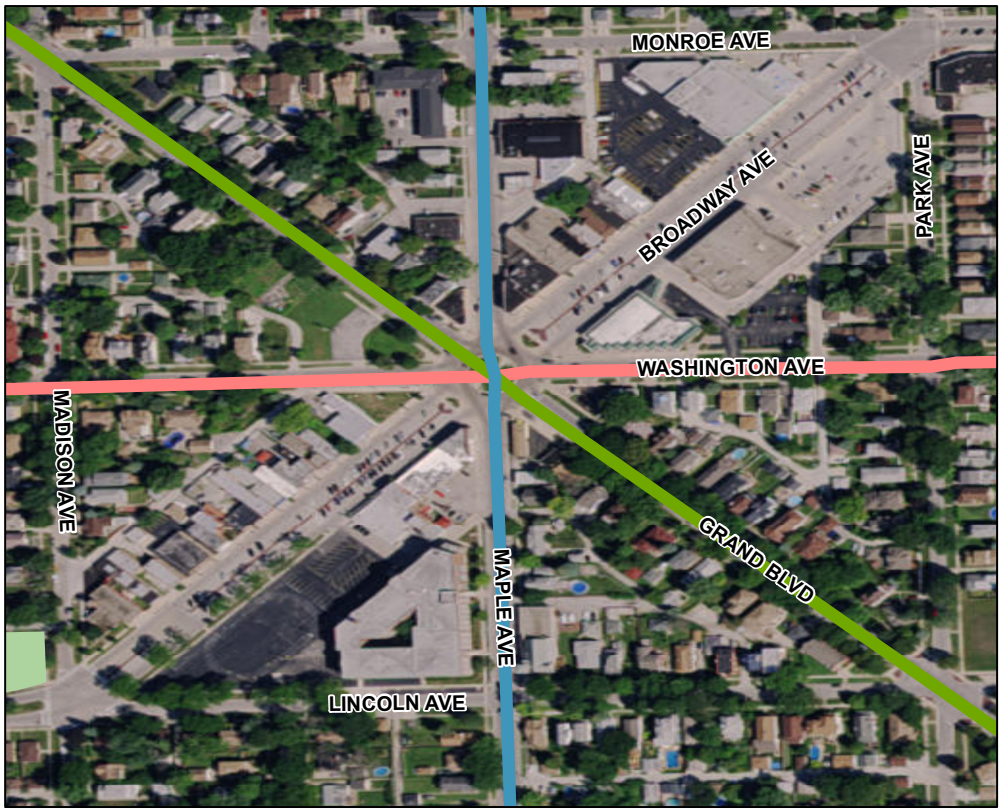
This proposal is an innovative multimodal improvement. Since there are few existing examples of this intersection style in the suburban region it is recommended that the build-out of this project is phased and that the tactical suburban approach is utilized. Tactical suburbanism involves initially building a project with temporary materials (that can be more easily altered than concrete) to experiment with roadway configurations that are new to the community. In the short term, build the facilities with paint and bollards so the geometry can be tested and adjusted based on how it is utilized, and so residents have a chance to become familiar with it before it is permanent. In the long-term, once the best dimensions are finalized, build the facility to be curbed with concrete.

Eight Corners Proposed Improvements



Aerial: Google Earth 2017

Eight Corners Proposed Network Improvements



Bike Boulevard Bike Improvement Route Bike Lanes

Downtown Brookfield Sub-Area

Downtown Brookfield has the "bones" of a great main street district and many successful businesses have already established in the area. However, the proximity of the train tracks in conjunction with a wide intersections, poor visibility and right-of-way confusion makes this a difficult area to navigate on foot or by bike. Although the data do not show that this is a high crash area, during community engagement and steering committee discussions it surfaced that there's a perception of this being an unsafe area due to the confusion of who has right-of-way at the stop signs, visibility challenges and wide crossing distances for pedestrians. If people feel that it is not safe to traverse the area by foot and bike, then they will avoid it. Increasing pedestrian and bike safety at this intersection could have a critical impact on the development of Downtown Brookfield and increase the likelihood that more commuters will walk to the Metra Station.

Fortunate for Brookfield, all of the roadways that pass through this intersection are locally-controlled. Installing traffic signals may be feasible. The Village recently acquired a grant to fund improvements in this area.

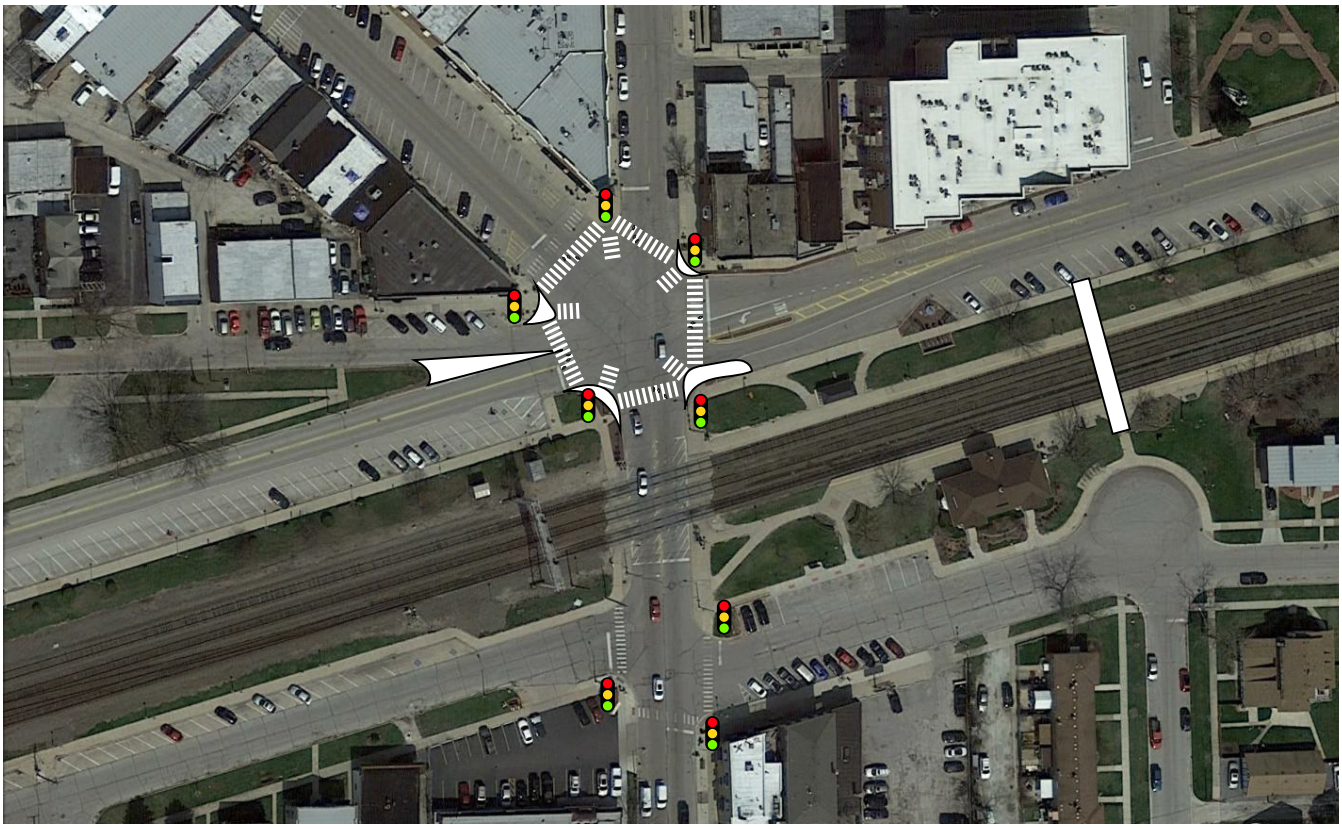
Recommendations:

- Option 1: Install curb extensions and pedestrian refuge islands (see diagram on the following page). Traffic signal at all legs of the intersection. Signal holds traffic south of the tracks until it can flow north. During peak commuting times add a pedestrian scramble cycle.
- Option 2: Install a roundabout as recommended in the 2020 Master Plan and add a signal at Burlington Ave/Prairie Ave to hold traffic until it can flow north of tracks
- Place directional wayfinding signage at all approaches to the intersection
- Support 2020 Master Plan recommendation to reroute Fairview Ave

Brookfield Metra Station

Wide, multi-corner intersection creates confusion in Downtown Brookfield

Downtown Brookfield Proposed Signal Improvements



Aerial: Google Earth 2017

Long crossing distances for pedestrians at the Downtown Brookfield Metra station. Image credit: Emily Egan.

Congress Park Metra Station Sub-Area

This station serves the western half of the community and is the only Metra station in Brookfield that includes a pedestrian tunnel. This is a popular station for commuters because of the several morning express trains that travel straight from Congress Park to Chicago Union Station. Pedestrian and bicyclist access to the station could be prioritized and the area around the station beautified. Although it has the only pedestrian tunnel in the community, offering one of the few safe connections between the north and south portions of Brookfield, the street leading up to this tunnel from Morton Ave has the appearance of being a private roadway (belonging to the Sweetener Supply Corporation). It passes over railroad tracks for the corporation and is gravel. This could present a confusing situation for people who are not regular users or daily commuters. Wayfinding signage, landscaping and improved pavement would direct pedestrians and bicyclists to use the pedestrian tunnel as a safe connection across the tracks.

Morton Ave north of the tracks alongside Sweetener Supply Corporation

Pedestrian tunnel

Pedestrians desire better access to the station

Congress Park Metra Station Proposed Improvements

Aerial: Google Earth 2017

Recommendations:

- Install high visibility crosswalks on Burlington Ave
- Construct a sidewalk cut-through in eastern leg grassy median with high visibility crosswalk to connect to south sidewalk on Dubois
- Pave over and curb gravel area in front of Metra station to create a separated space for pedestrians from vehicles
- Provide wayfinding signage on either side of tunnel with pedestrian/bike mixing/dismount/walk your bike signage
- Increase bike racks and provide sheltered bike parking
- Pave Morton Ave north of the tracks, install pedestrian scale lighting, landscaping, wayfinding signage, and pedestrian gates at grade railroad crossing
- Add bike route wayfinding signage to Metra tunnel
- Build a pedestrian and bike path that connects Blanchan Ave to Burlington Ave

Hollywood Neighborhood Sub-Area

This is the closest Metra Station to the Brookfield Zoo and it also serves the nearby Hollywood residential neighborhood. During the community engagement process it surfaced that wayfinding between the station and the Zoo can be confusing and that some of the sidewalks through the Hollywood neighborhood are in poor condition and difficult to navigate for those with disabilities. This is an important area because it leads to two Brookfield schools, a lot of kids bike on Washington St, and it will have the community's first bike boulevard on Arden Ave. The Village also recently obtained funding to improve the intersection at Riverside Brookfield High School.

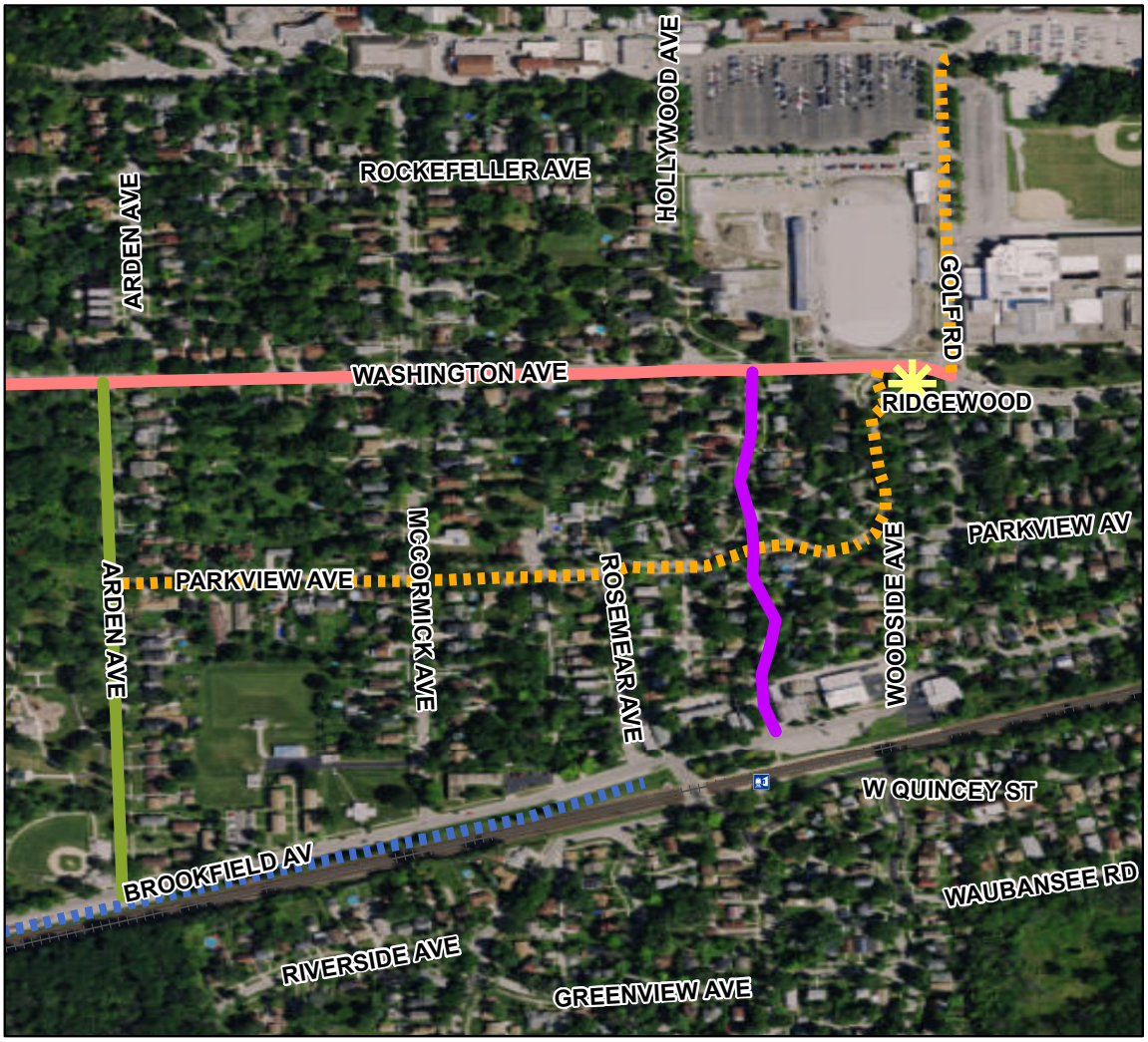
Zoo identity at the Metra Station

Zoo wayfinding through the Hollywood neighborhood

Zoo wayfinding at the Metra Station

Zoo identity at the Metra Station

Hollywood Sub-Area Proposed Improvements



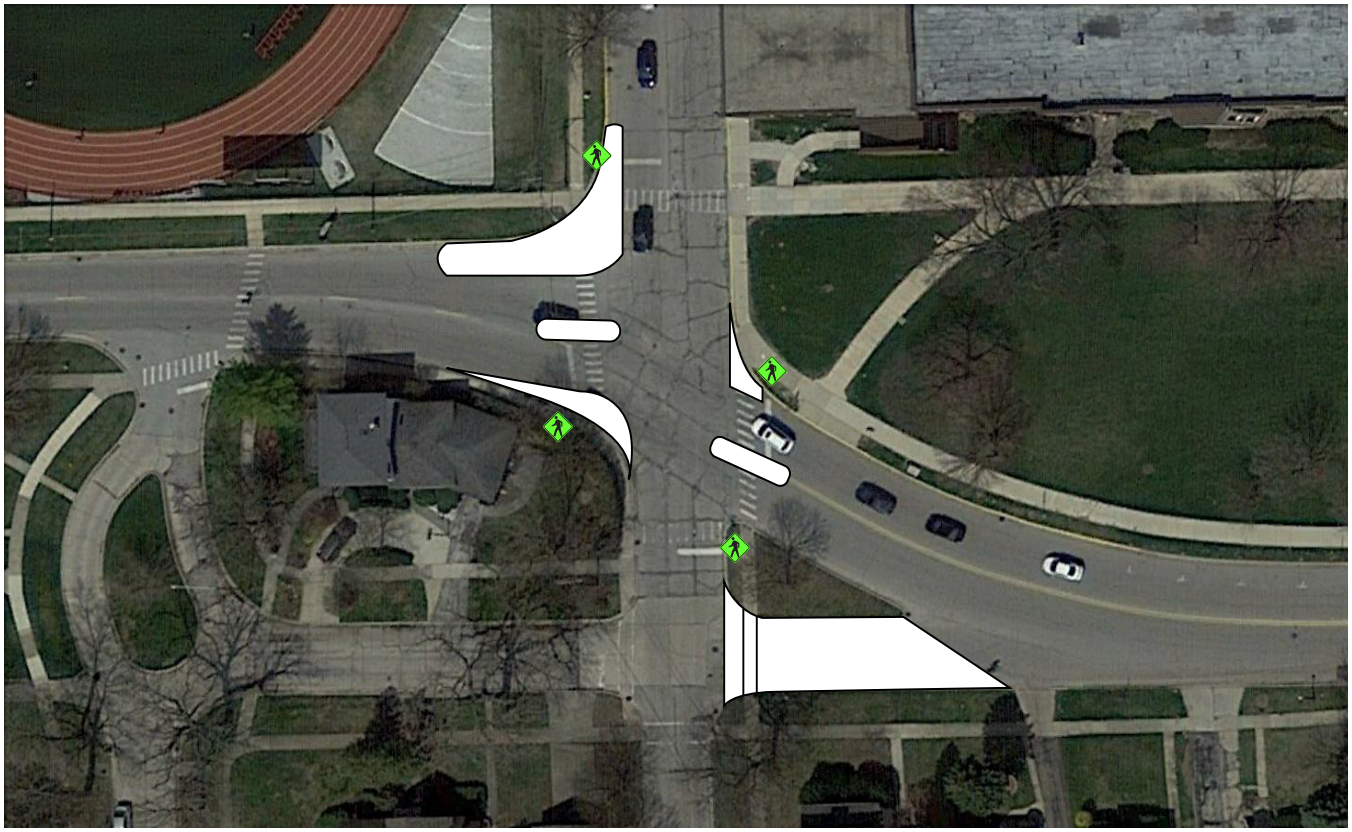
Bike Boulevard, Programmed
Pedestrian Improvement Route, Planned
Sidewalk, Planned
Bike Lanes
Sidepath
Wayfinding Signage
Intersection Improvement

Recommendations:

- Place green 3 D's (distance, destination and direction) wayfinding signage on Hollywood Ave, guiding visitors from Metra Station to the Zoo (see exhibit on this page)
- Reconstruct sidewalk and make curb ramp improvements on Parkview Ave, Woodside Ave and Golf Rd connecting to the south entrance of Zoo
- Install sidepath along south side of Brookfield Ave that connects the station to Downtown Brookfield to the west

MUTCD D1-3C Sign, Image Credit: FHWA

Washington Ave and Ridgewood Ave and Golf Rd Proposed Improvements



Aerial: Google Earth 2017

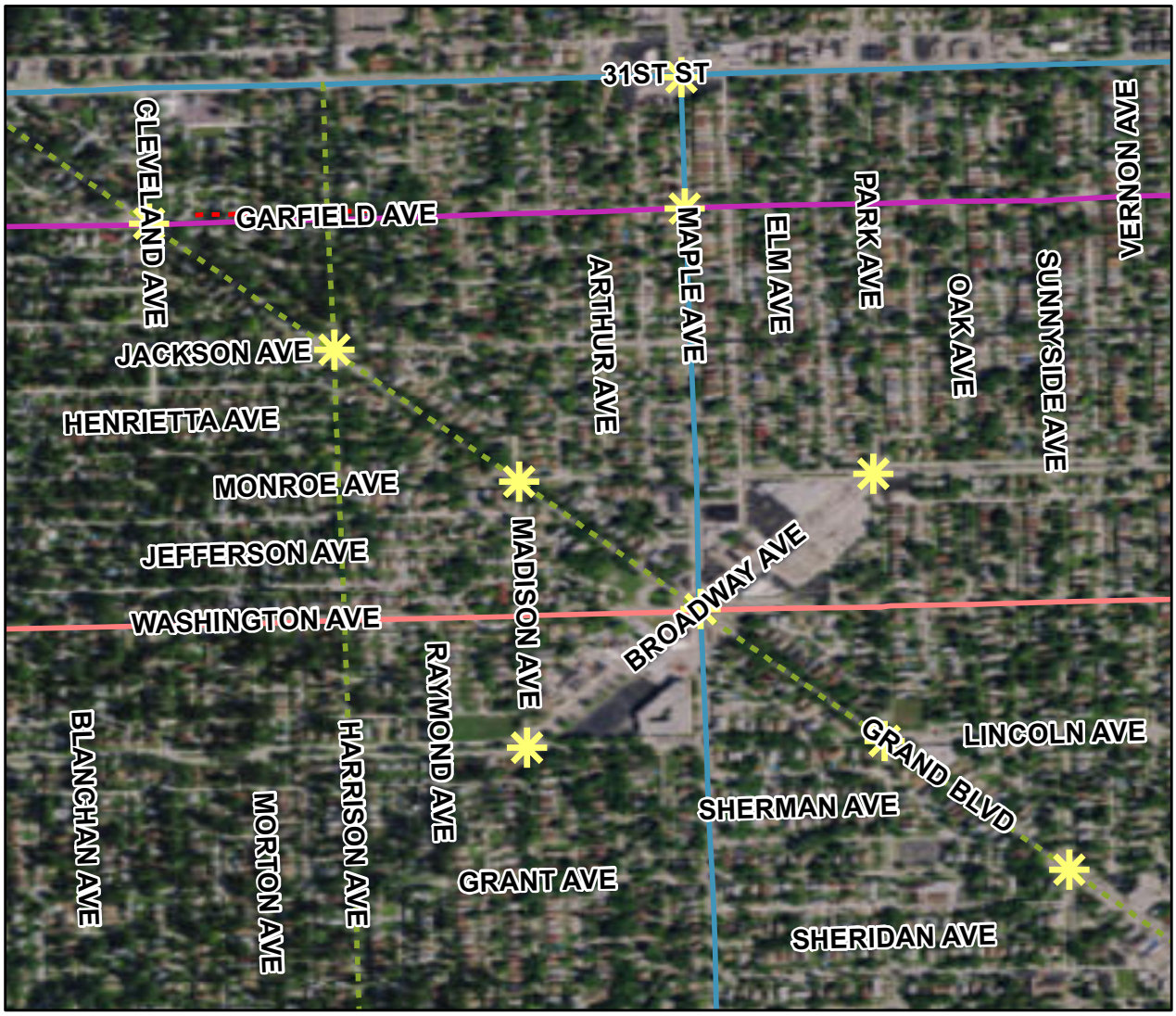
Recommendations:

- Install curb extensions and bump-outs to reduce turning radii and shorten crossing distance for pedestrians
- Install pedestrian refuge islands
- Close Ridgewood Ave from Golf Rd to Ridgewood Rd
- Place pedestrian warning signage at all legs of the intersection
- Add school zone signage to Ridgewood Rd just west of 1st Ave.

Central Brookfield

The five, six corner and eight corner intersections created by diagonal roadways (Grand Blvd and Broadway Ave) in the central residential neighborhoods of Brookfield pose challenges for pedestrians and were noted in the community engagement process. These intersections are wide, difficult to cross and especially along Grand, encourage drivers to speed across.

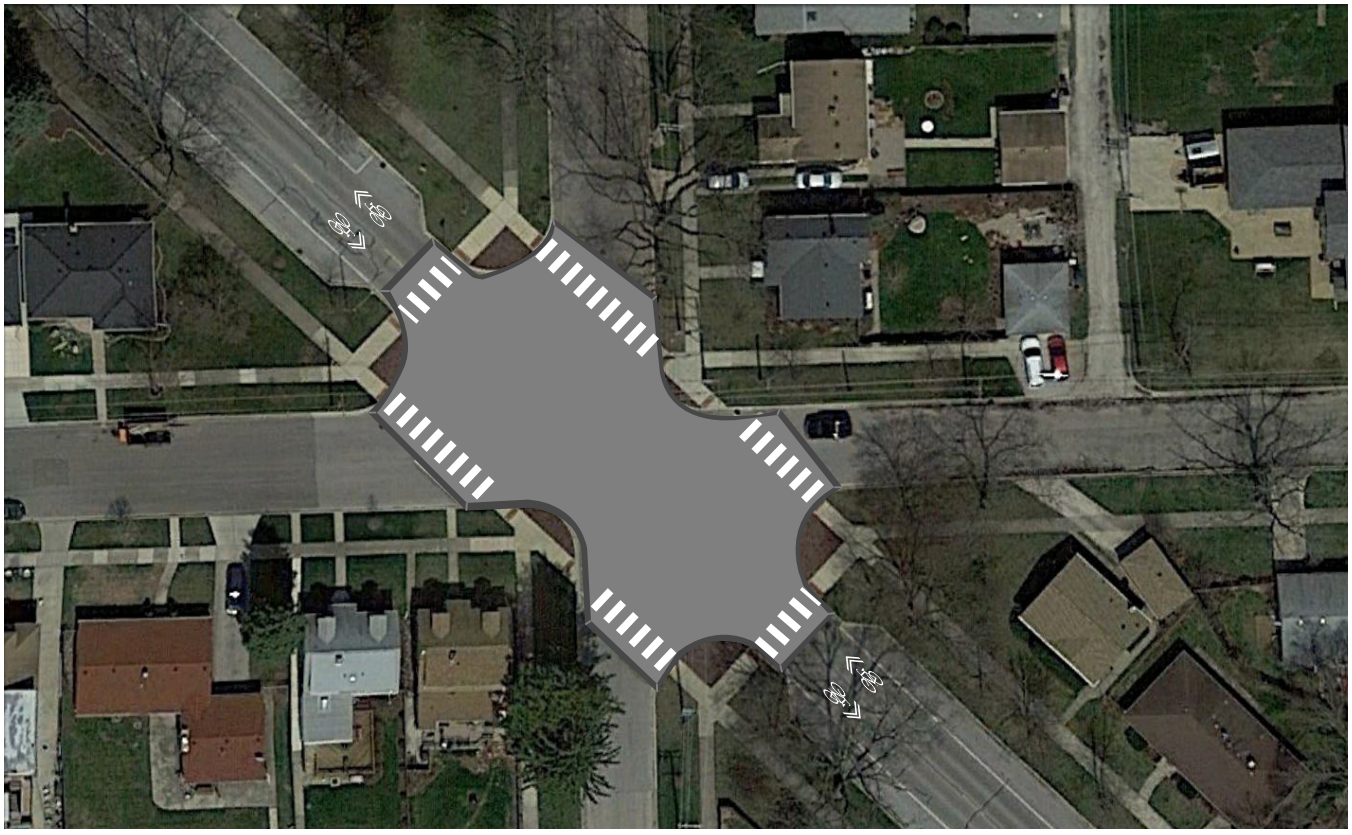
Attractive red brick curb extensions have already been installed along the Grand Blvd corridor. However, the intersections are still very wide. As bicycle and other active transportation facilities are built, especially the proposed Grand Blvd and Harrison Ave bike boulevards, these intersections should be improved to make walking and biking easier across the neighborhoods.



Bike Boulevard | Bike Lanes | Signed Bike Route
Bike Improvement Route | Sidewalk, Planned | Intersection Improvement

Grand Blvd Six Corner Intersections Proposed Improvements

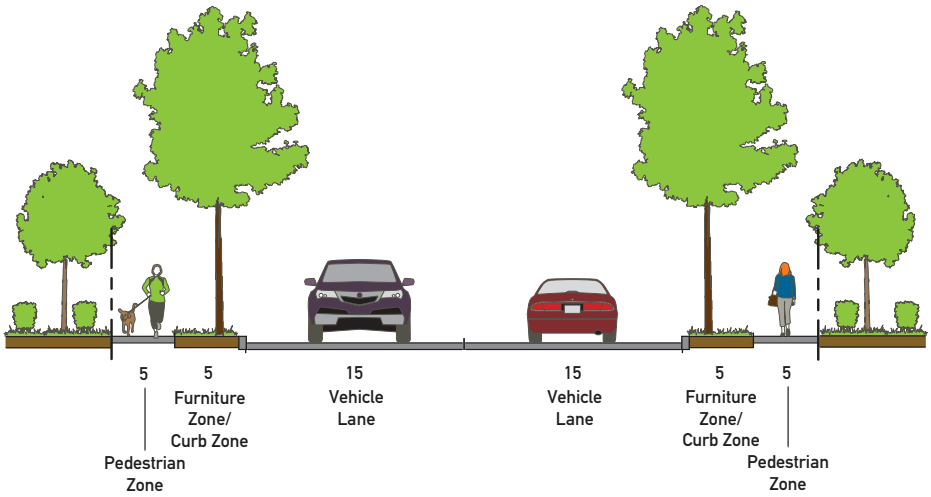
Grand Blvd and Garfield Ave and Cleveland Ave Near Term. Aerial: Google Earth 2017



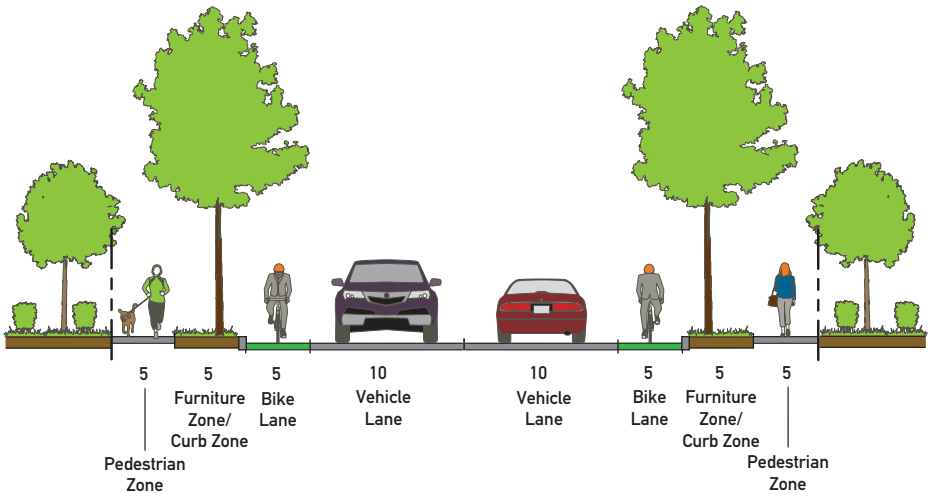
Grand Blvd and Garfield Ave and Cleveland Ave Long Term. Aerial: Google Earth 2017

Recommendations:

- In the near-term (as illustrated in the first image on the previous page), the Village could partner with local artists and create intersection murals at all six corner intersections that cross Grand. See the Toolbox for more details on mural intersections.
- In the long-term (as illustrated in the second picture on the previous page) the Village could convert some or all of these intersections into raised table intersections. This will slow down traffic.
- Construct bike lanes on Washington Ave from Kemman Ave to Golf Rd
- Place bike route signs on Garfield Ave to provide an alternative to 31st St
- Install marked shared lanes on Kemman Ave from 31st St to Southview Ave and on Fairview Ave from Kemman Ave to Prairie Ave.
- Install bike boulevard treatments on Grand Blvd from 31st St to Prairie Ave and on Harrison Ave from 31st St to Fairview Ave.

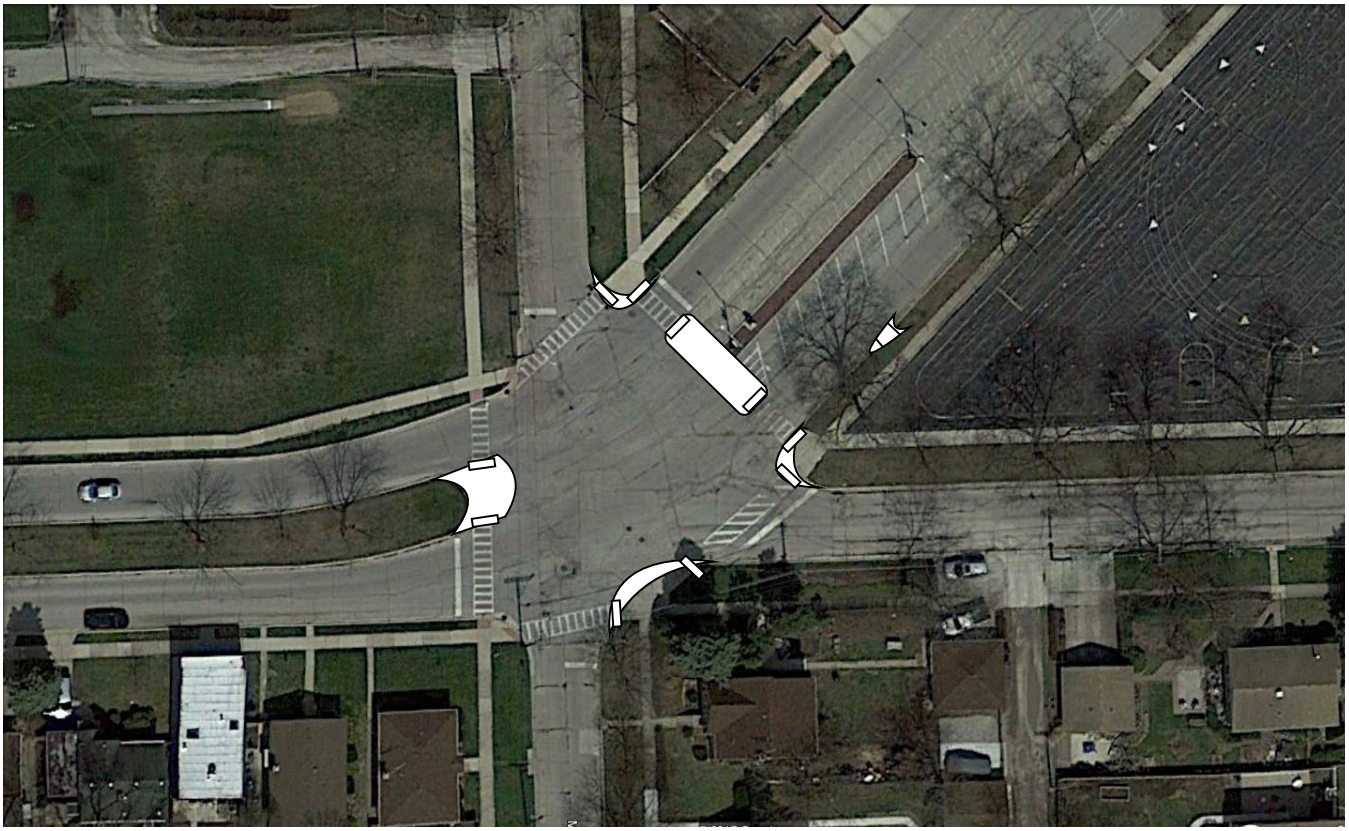


Washington St existing cross section



Washington St proposed cross section

Lincoln Ave and Broadway Ave and Madison Ave Intersection Proposed Improvements



Aerial: Google Earth 2017

Recommendations:

- Option 1: Curb extensions and pedestrian refuge islands.
- Option 2: Raised table intersection

Monroe Ave and Broadway Ave and Park Ave Proposed Improvements

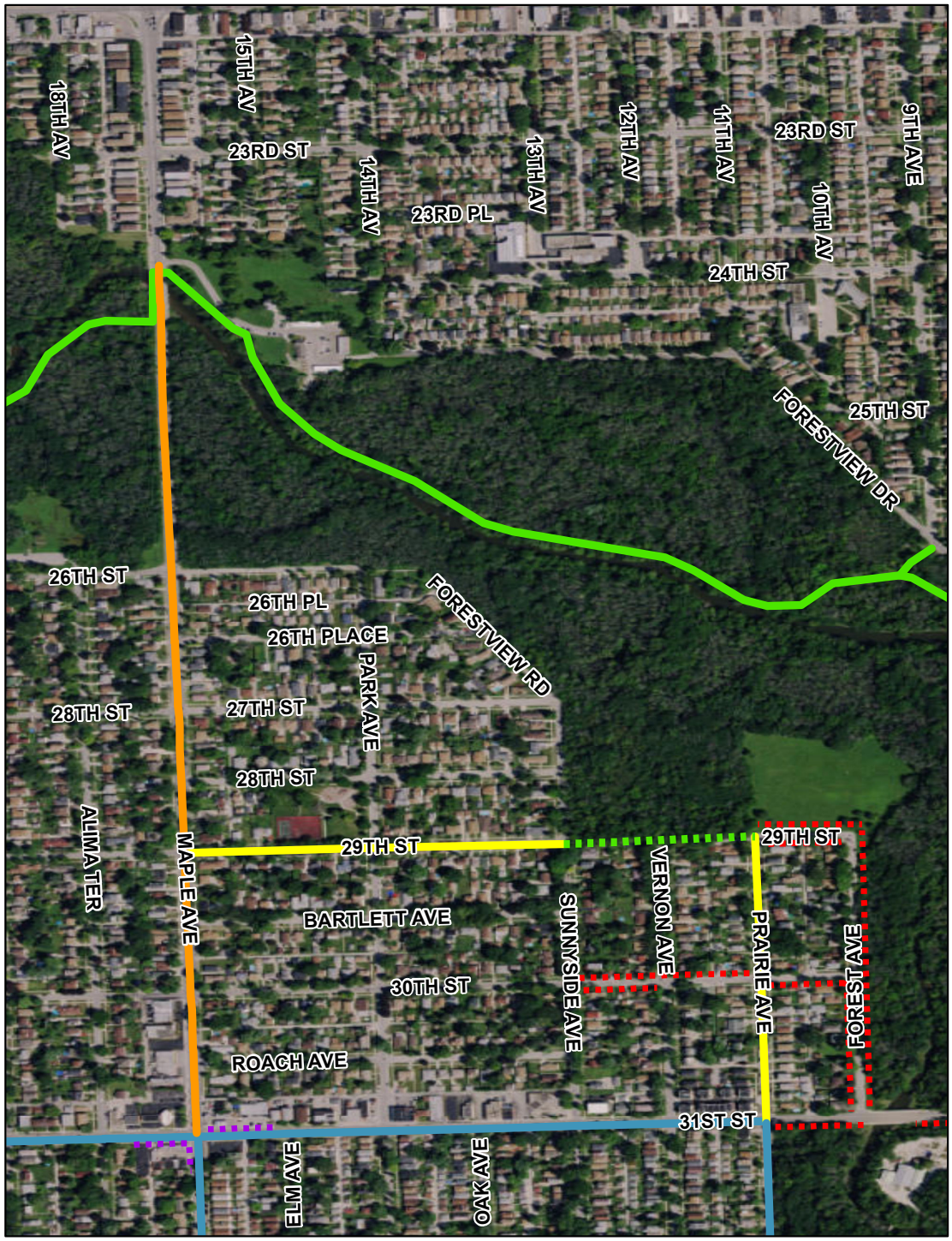
Aerial: Google Earth 2017

Recommendations:

- Option 1: Curb extensions and pedestrian refuge islands.
- Option 2: Raised table intersection

North Brookfield, West

The northwest portion of Brookfield provides connections to some of the community's open space, including the Forest Preserve and Candy Cane Park.



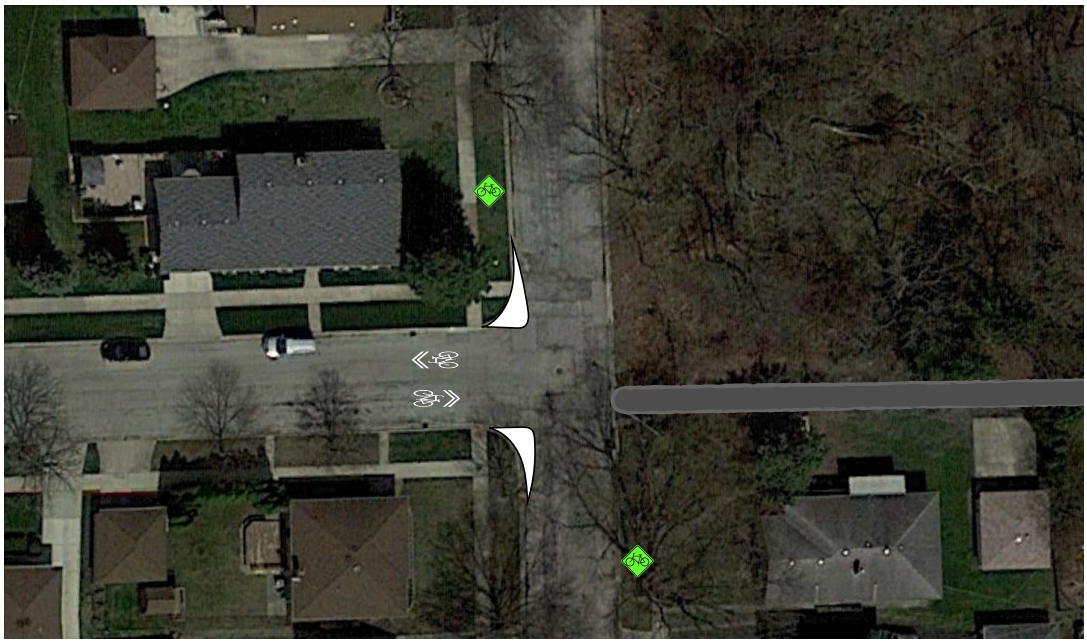
Bike Improvement Route
Marked Shared Lanes
Road Diet
Sidewalk Improvement, Planned
Sidewalk, Planned
Signed Bike Route
Trail, Existing
Trail

Recommendations:

- To create a continuous pedestrian and bicycle connection between the east and west portions of this neighborhood, coordinate with the Forest Preserve in continuing 29th St as a pedestrian and bicycle trail. This will connect residents in each portion of the community to Candy Cane Park and the open space in the Forest Preserve just north of 29th St.
- Fill in the sidewalk gaps in the community and build sidewalks in the east side of the Forest Ave.
- In conjunction with Brookfield Woods Trail, build curb bulb-outs at 29th St and Sunnyside Ave and include bike warning signage
- There is a trailhead to the Salt Creek Trail just north of Brookfield in North Riverside along Maple Ave. This could be a convenient place for residents to access the trail, however Maple Ave is overbuilt for the traffic volume. Work with IDOT and North Riverside on converting this portion of the corridor north of 31st St to a conventional road diet. This would involve converting the roadway from four vehicle lanes to two vehicles lanes, one center turn lane and two buffered bike lanes.

Candy Cane Park

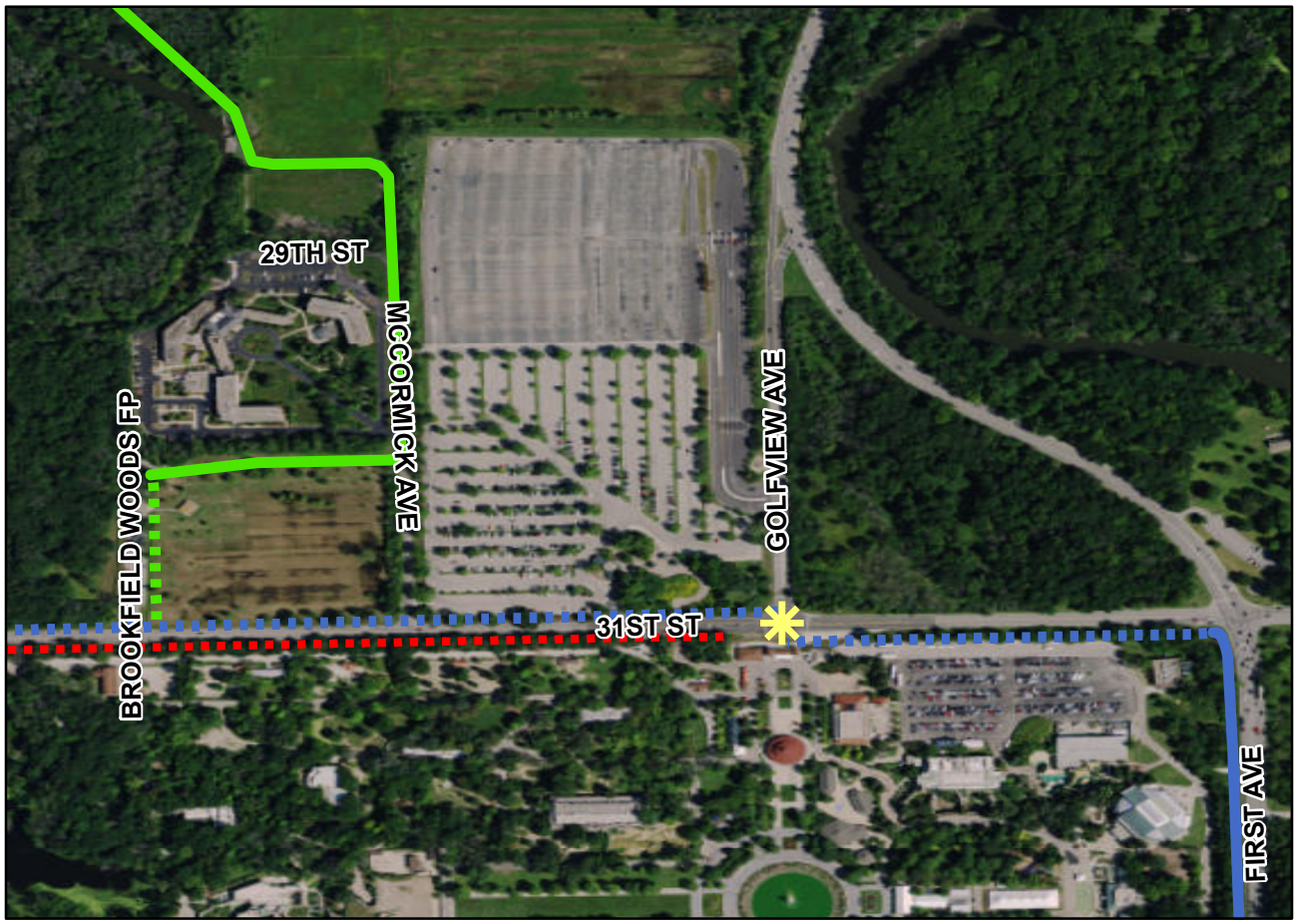
Salt Creek Trailhead on Maple Ave


29th St and Sunnyside Ave intersection improvements if Brookfield Woods Trail is built. Aerial: Google Earth 2017

North Brookfield, East

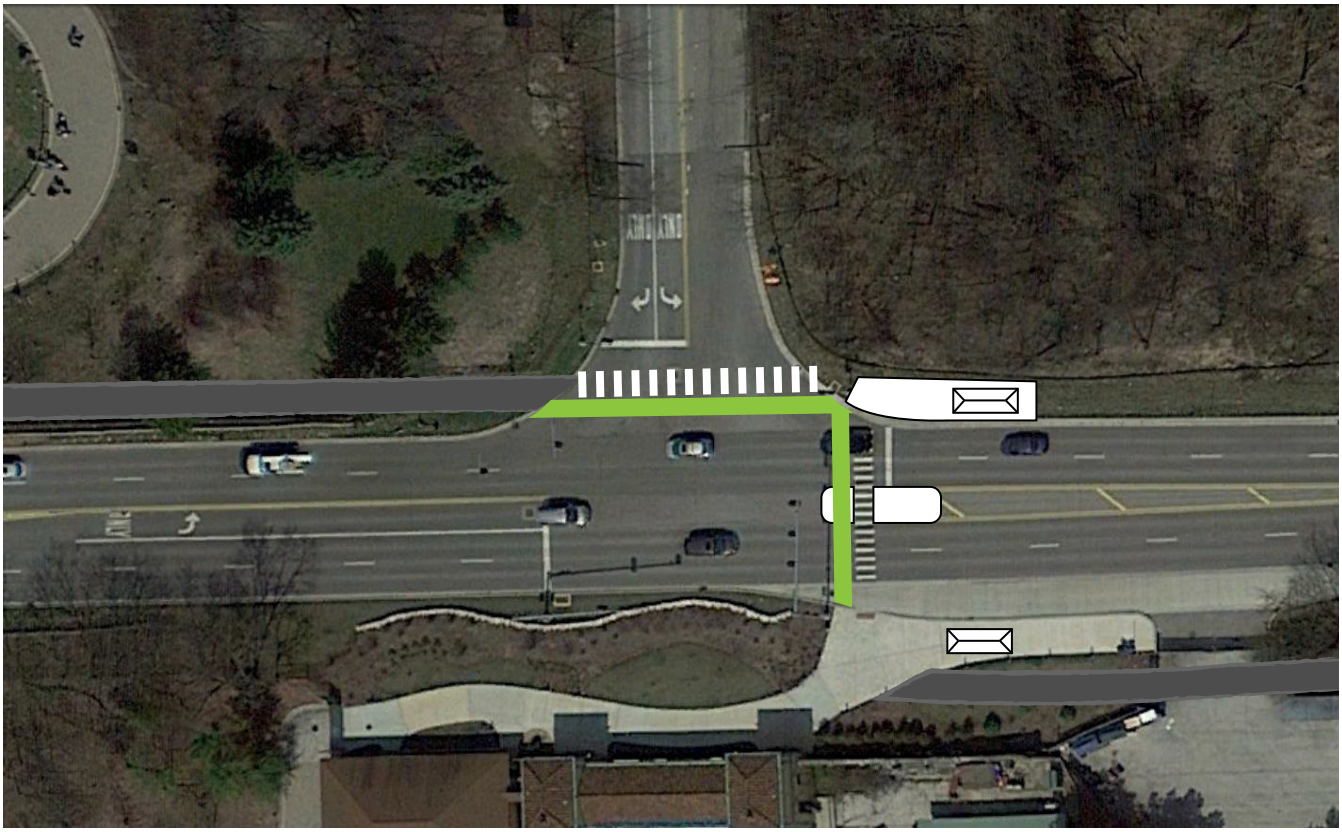
The northeast portion of Brookfield provides important regional connections to the only trailhead within Brookfield boundaries, the Salt Creek Trail; Brookfield Woods Forest Preserve; and the Brookfield Zoo. These are important destinations for residents, visitors from other areas as well as workers to access. The Pace buses that run along 31st St, stopping at the north entrance of Brookfield Zoo, are important commuting routes. The Salt Creek Trail is a regional asset for the community, but 31st St is a barrier and lacks adequate sidewalk and bicycle facilities to reach the trail.

North entrance of the Brookfield Zoo



Sidepath, Existing
Sidewalk, Planned
Trail, Planned
Sidepath, Planned
Trail, Existing
Intersection Improvement

31st St and Golfview Rd Intersection Proposed Improvements



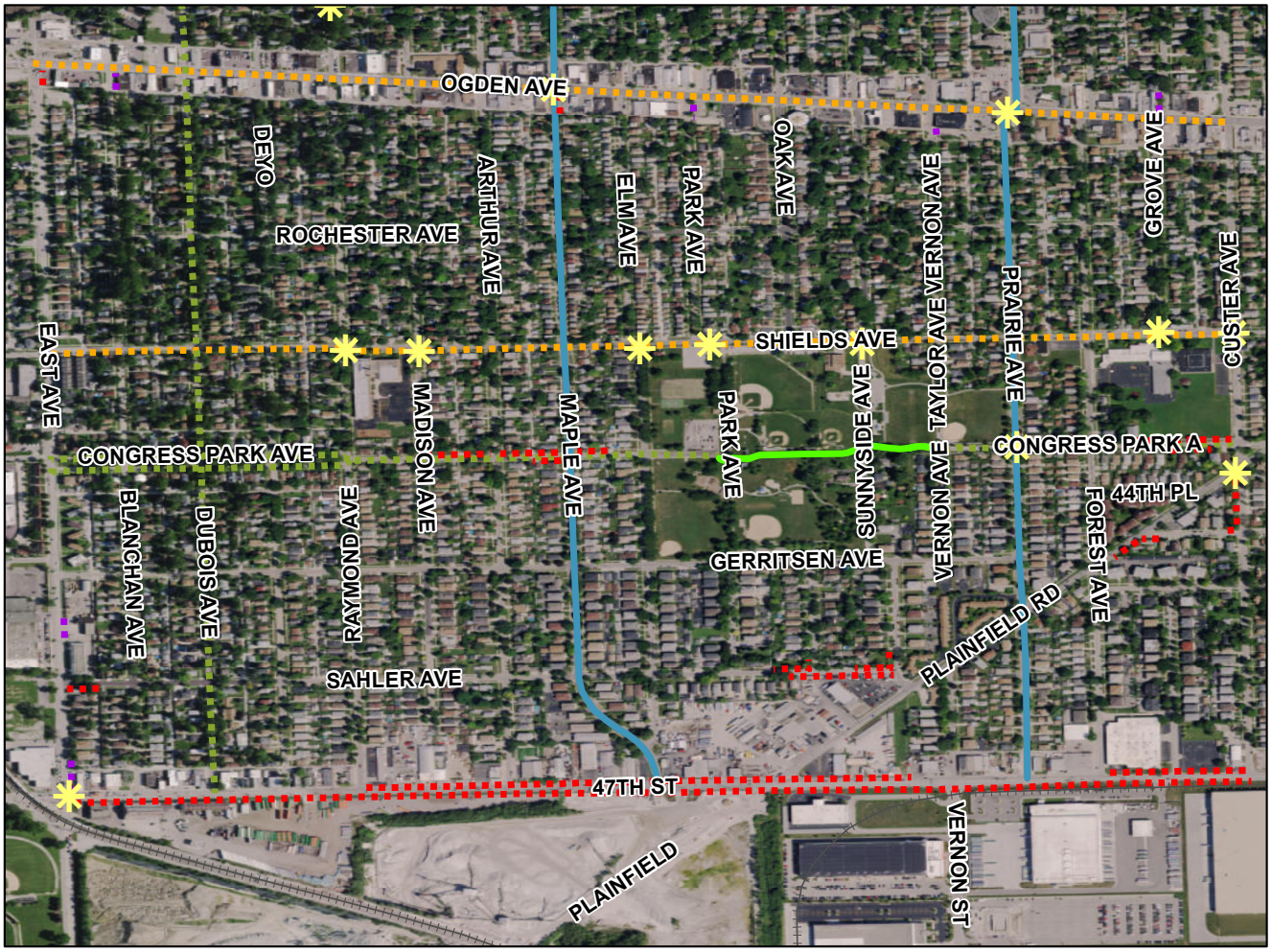
Aerial: Google Earth 2017

Recommendations:

- Install bus shelters for both east and westbound riders at 31st St and Golfview Rd.
- Add a high visibility crosswalk across Golfview Rd and add separated green crossing lanes for bicyclists to continue from the south sidepath to the north sidepath across 31st St and Golfview Rd.
- Route proposed sidepath on the south side of 31st St behind the bus stop area.
- In conjunction with the 31st St sidepath on the north side of the roadway, build a trail that connects the Salt Creek Trailhead and sidepath.
- Build sidepath from the Zoo, connecting to the existing 1st Ave sidepath.
- Build sidewalk along the south side of 31st St to connect pedestrians from north neighborhoods to the Zoo.
- Install pedestrian and bicycle refuge island in the existing painted center median on 31st St.

South Brookfield

The southern portion of Brookfield has two important regional corridors with a residential area with parks and schools in-between. Ogden Ave is a regional IDOT controlled corridor with commercial uses along the length and a Pace route. There are continuous sidewalks along the corridor, however, in places cars park within the sidewalk along Ogden and the side streets leading to it. 47th St is predominantly industrial land uses. Freight traffic is a priority here. However, due to lack of sidewalks and difficult crossings, it would be difficult for area workers who choose to travel by foot or bike to get around.



Bike Boulevard
Bike Improvement Route
Pedestrian Improvement Route, Planned
Sidewalk Improvement, Planned
Sidewalk, Planned
Trail, Existing
Intersection Improvement

Recommendations:

- In places along the side streets leading up to Ogden Ave where cars park in and block the sidewalk, create a curbed separation.
- Install new sidewalk along the south side of 47th St and fill in the gaps along the north side.
- Fill in the sidewalk gaps throughout the residential neighborhood.
- Designate Shields Ave as a pedestrian improvement route. Improve key intersections that connect to the park and school.
- Designate Congress Park Ave from Eberly Ave to Custer Ave and Dubois Ave from Burlington Blvd to 47th St as bike boulevards.

47th St and Eberly/East Ave Intersection Proposed Improvements

Aerial: Google Earth 2017

Recommendations:

- Install high visibility crosswalks and pedestrian countdown timers connecting all corners of the intersection.
- Construct curb extensions at NW, NE and SE corners.
- Build two-directional tactile curb ramps in conjunction with sidewalk installation.

Shields Ave and Elm Ave Intersection Proposed Improvements

Aerial: Google Earth 2017

Recommendations:

- Install raised high visibility crosswalk with pedestrian warning signage on western leg.
- Place high visibility crosswalk on southern leg.
- Add tactile pads to all curb ramps.

Shields Ave and Park Ave Intersection Proposed Improvements

Aerial: Google Earth 2017

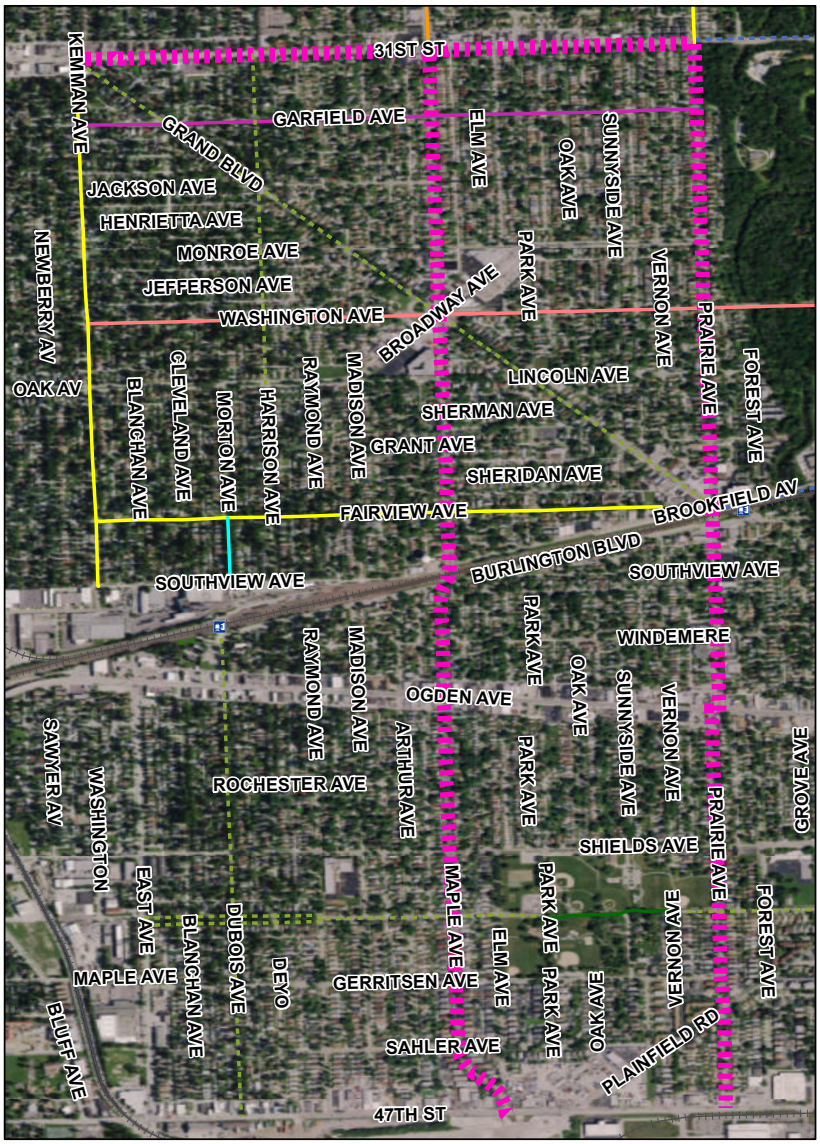
Recommendations:

- Install raised high visibility crosswalk with pedestrian warning signage.

Cross Town Bike Improvement Routes

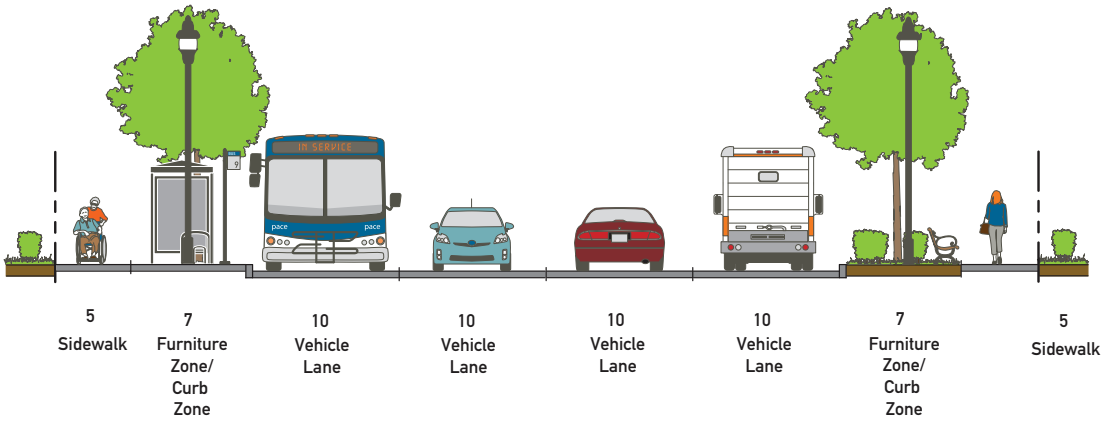
Maple Ave, Prairie Ave and 31st St are all cross-town anchor routes. These three roadways surfaced as the most mentioned during community engagement. They provide vital connections between the north, south, east and west sections of the community, however, they are uncomfortable for bicyclists for varying design reasons. Prairie Ave is locally controlled, 31st St is one of the few roadways in Brookfield controlled by IDOT, and Maple Ave is locally controlled south of 31st St and locally controlled north of 31st St. There were a high number of pedestrian and bicycle crashes along Maple Ave and one fatal crash. There were also several pedestrian and bicycle crashes along both Prairie Ave and 31st St.

They are designated in this plan as bike improvement routes because there are multiple design alternatives, based on feasibility, goals of the community, coordination with IDOT and adjacent businesses and residents, as well as future traffic and parking feasibility studies.



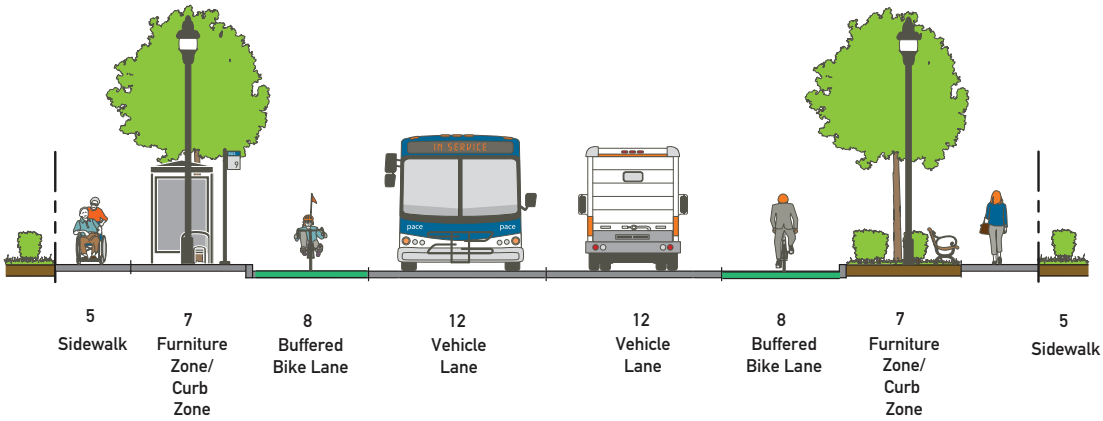
31st St Recommendations:

- Option: 1. Road diet with buffered bike lane, no center turn lane (illustrated on next page).
- Option 2: Road diet with conventional bike lane and center turn (illustrated on next page).
- Option 3. Widen sidewalk to sidepath width to accommodate bike/pedestrian mixing (illustrated on next page).
- Option 4: Conventional road diet with reduced curb-to-curb width. Use gained space from the reduced curb-to-curb width to create sidepaths on both sides of the roadway (illustrated on next page). This option could be utilized if there is not enough space to widen the sidewalk to a sidepath as described in Option 3.
- Option 5: Shared bus/bike lane.
- Option 6: Flex bike/vehicle lane (outer lanes flex to vehicle lanes during peak traffic hours)

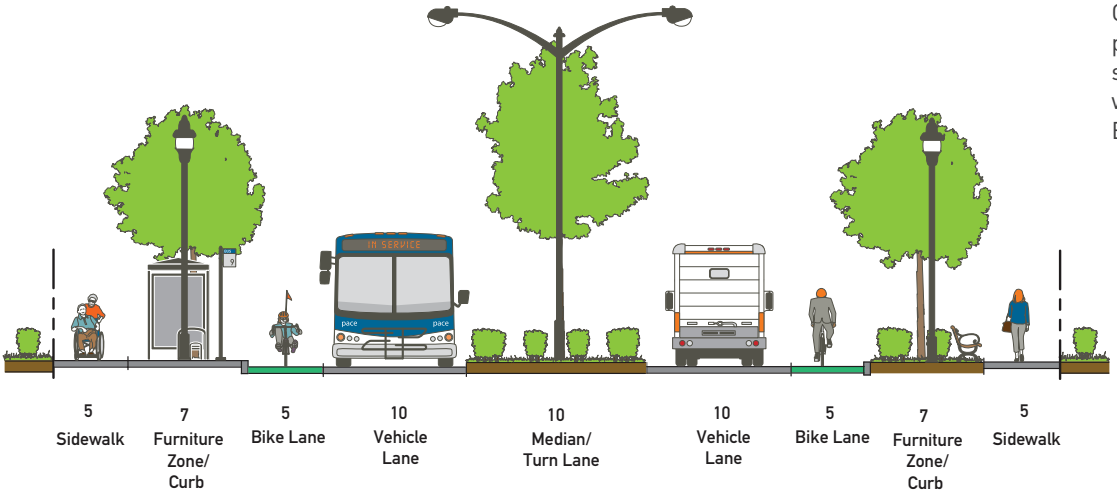


31st St existing cross section

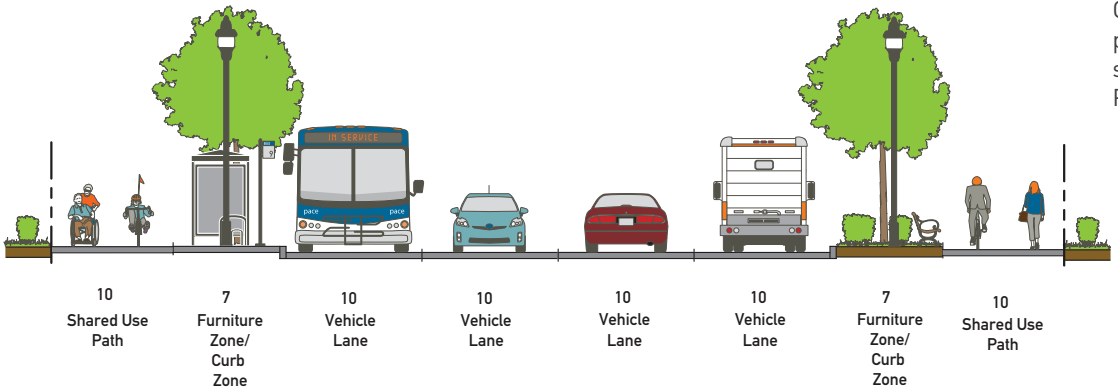
Desire lines for better pedestrian and bicycle facilities along 31st St connecting to Salt Creek Trail. Image Credit: Emily Egan



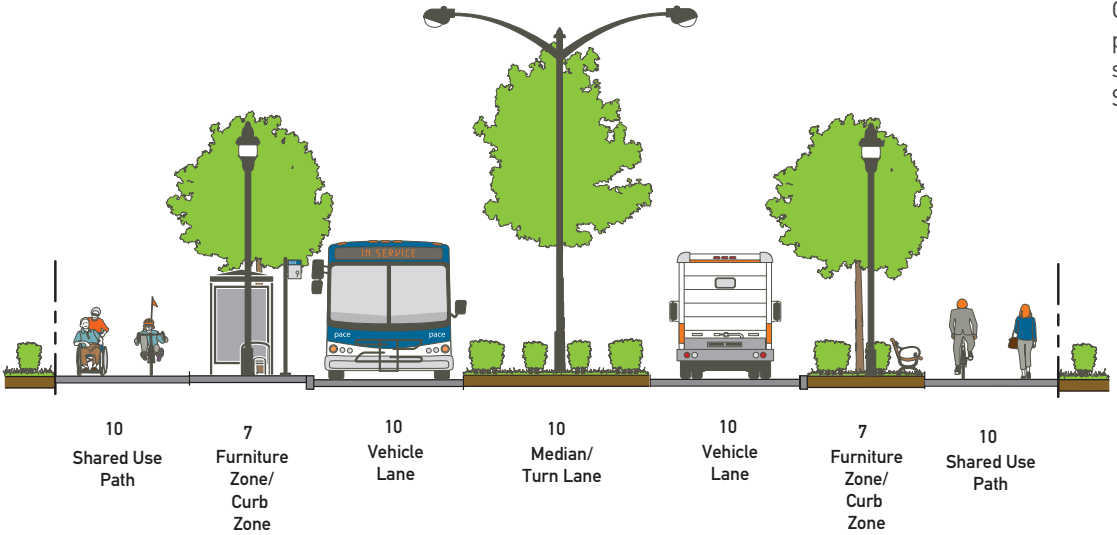
Option 1: 31st St proposed cross section: Road Diet with Buffered Bike Lanes



Option 2: 31st St proposed cross section: Road Diet with Conventional Bike Lanes



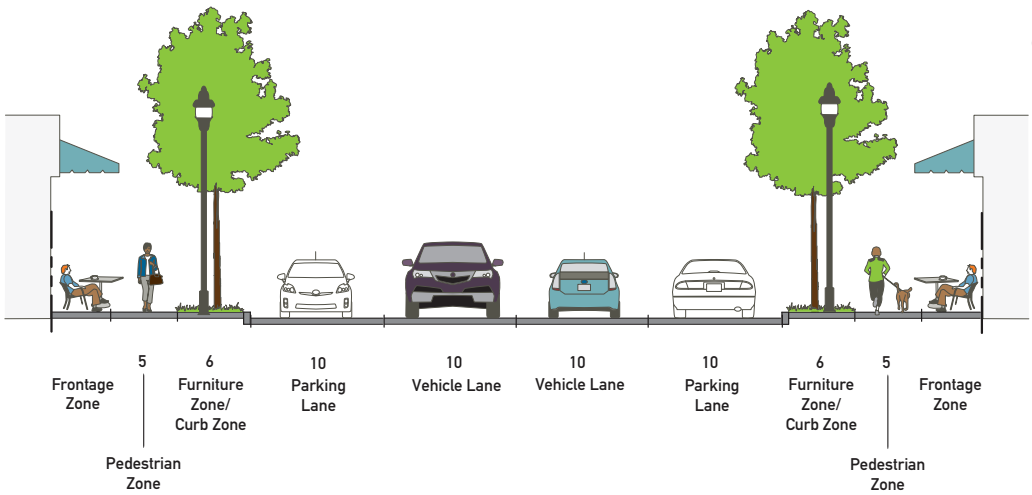
Option 3: 31st St proposed cross section: Shared Use Path



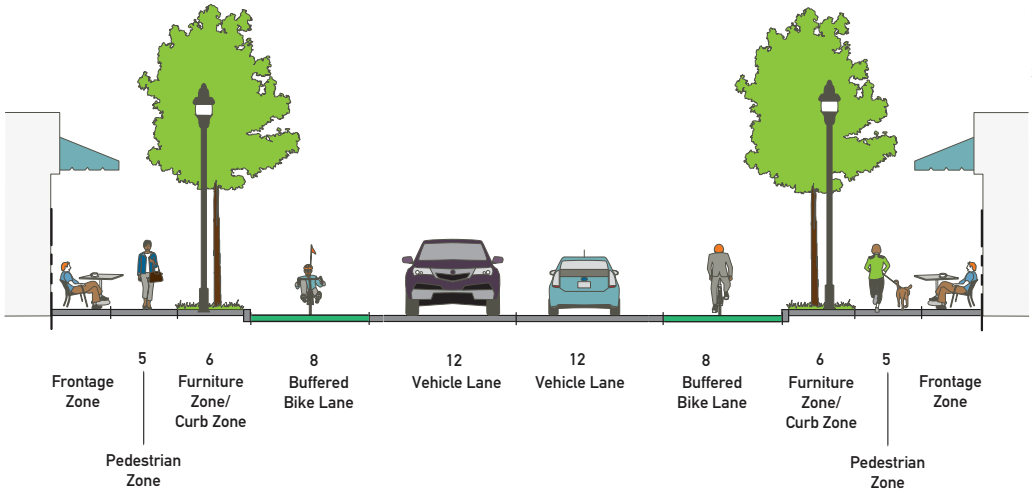
Option 4: 31st St proposed cross section: Road Diet, Shared Use Path

Maple Ave and Prairie Ave Corridors Recommendations:

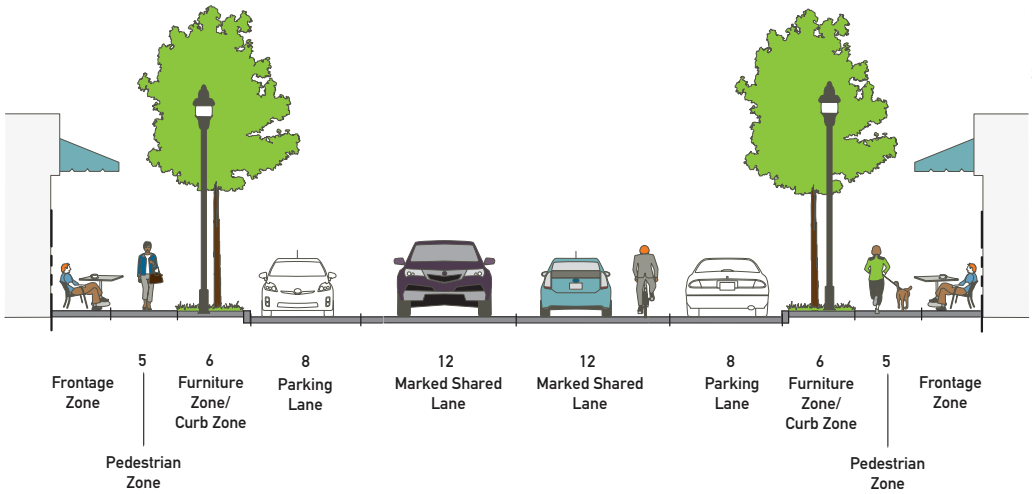
- Options: 1. Remove parking lanes and install two buffered bike lanes (5' bike lane with 3' buffer).
- Option 2: Reduce parking lane to 8' and widen travel lanes to create marked shared lanes. Accompany with bike route and share the road signage.



Maple Ave and Prairie Ave existing cross section



Option 1: Maple Ave and Prairie Ave proposed cross section



Option 2: Maple Ave and Prairie Ave proposed cross section

3

POLICIES & PROGRAMS

Creating supportive policies and programs.

3.1 POLICY RECOMMENDATIONS

Policies and programs help create a supportive and welcoming environment for pedestrians and cyclists and provide near-term steps that can be taken in advance of infrastructure improvements. The Village has already taken an important first step in improving the policy environment for active transportation through the adoption of a Complete Streets policy in 2016. The recommendations in this section would complement the Complete Streets policy and advance its goals. In order to create a comprehensive approach to active transportation, this plan recommends that specific policies be considered related to local development, roadway construction, and safety.

Prioritize Pedestrians in Developments

Sidewalks that discontinue across residential and commercial driveways pose a similar hazard for pedestrians to crossing a roadway. If drivers don't see a sidewalk continuing across a driveway they often think they have the right-of-way and don't stop for pedestrians. Brookfield should require new developments to prioritize pedestrians along driveways. Including continuous sidewalks along driveways will provide the greatest degree of comfort since the presence of sidewalks is associated with increased safety for pedestrians.

Develop a Vision Zero Strategy

The Vision Zero is the Swedish approach to road safety. Founded on the belief that loss of life is not an acceptable price to pay for mobility, Vision Zero takes a systems approach to enhancing safety. Rather than exclusively faulting pedestrians, cyclists, or drivers, Vision Zero places the core responsibility for crashes on the overall system design, addressing infrastructure design, vehicle technology, and enforcement. The Village of Brookfield should develop a Vision Zero Action Plan to reduce all crashes. The Action Plan should set a timeline to achieve zero traffic deaths in the community. More details and resources can be found at the Vision Zero Network (VisionZeroNetwork.org).

Create a Safe Park Zones Policy

As havens for physical activity and recreation, parks are priority destinations for all community members, especially children because traffic safety can be a major barrier for children walking and biking to parks, Brookfield should improve access to parks by adopting Safe Park Zones.

Similar to Safe School Zones, Safe Park Zones are streets adjacent to parks where traffic safety is prioritized with lower speed limits and higher fines for speeding and disobeying stop signs and stoplights when children are present. Under Illinois Vehicle Code section 5/11-605.3, revenue from the higher fines can be used to establish and maintain safety infrastructure within the zone and to fund safety programming. Safe Park Zone streets must be designated by local ordinance and marked with signs.

Safe Park Zone speed limit sign in Lemont, IL

Update Zoning Code for Walking and Bicycling Friendly Developments

Walking and biking facilities within private developments play a significant role in whether those sites can be accessed by active transportation. Brookfield should consider updating the Village's zoning code to ensure connectivity and access for pedestrians, cyclists and transit users in all new developments. The Village has already made progress in key commercial locations through the Zoning Modernization Project, but there may be opportunities to further enhance and expand pedestrian and bicycle friendly zoning in other areas. Examples include:

- Allow for greater integration of land use types, thereby decreasing distance barriers for walking and bicycling.
- Give priority to continuous sidewalks adjacent to large developments and require connectivity to building entrances.
- Require a maximum setback distance for building entrances, ensuring shorter trips through parking lots for cyclists and pedestrians.
- Require street connectivity for housing developments in order to improve the directness of routes, again decreasing distance barriers for walking and bicycling.
- Increase flexibility on the required number of car parking spaces in order to limit parking lot size.
- Create minimum standards for bicycle parking accommodations at commercial sites and workplaces.
- Develop guidelines for planting trees, installing benches, including pedestrian scale lighting, and installing awnings at business districts.
- Developers proposing plans that meet these criteria can receive expedited permits or reduced costs by allowing for reduced parking.

Develop a Snow Clearing Ordinance

The accumulation of snow and ice on sidewalks creates a major barrier to pedestrians, especially seniors and children. To ensure safety and accessibility of the whole transportation network, the Village should consider establishing snow removal responsibilities in the Village Code that require property owners to maintain sidewalks adjacent to their properties during and after a snow event within a timely manner. In addition, Brookfield could consider working with community organizations to develop a program to help people with disabilities and others who need assistance with snow clearance. For example, other communities have coordinated with local Boy Scout, Girl Scout or high school clubs in need of volunteer hours to remove snow from the sidewalks of the elderly or those with disabilities.

Ice and snow can make walking trips treacherous in the winter.

Expand the 50/50 Sidewalk Fund and Create a Bike Rack Fund

Most of Brookfield's residential neighborhoods have a complete, connected sidewalk network. However, after years of wear and tear, sidewalks sometimes need repair. The Village currently has a sidewalk repair matching funds program to cover half of all repair and replacement costs. The Village should widely publicize this program to encourage a higher level of participation by residents.

Additionally, the Village should establish a similar program for businesses to install bike racks in key commercial areas. The Village can create a matching funds program to cover half the cost of bike racks and businesses can cover the other half in exchange for having the racks sited adjacent to or in front of their buildings. Business owners can either request the racks or the Village can recruit participants in target commercial areas. The presence of sufficient and secure bike parking encourages people to bike for daily needs and shopping. This both benefits the purposes of the plan as well as business owners in attracting new customers.

Develop a No Parking on Sidewalks Ordinance

The Brookfield Steering Committee identified parking in sidewalks as an issue prohibiting walking safely. Interruptions in sidewalks may require children, seniors, and people with disabilities to cross a busy arterial or cross mid-block to continue along the sidewalk. For example, Ogden Ave is especially prone to sidewalk parking. The Village should develop a No Parking in Sidewalks Ordinance. Sidewalks should be continuous and allow for access without forcing users to cross or move into the right-of-way.

Cars parked on sidewalk on Ogden Ave, Image Credit: Michael Sewall

3.2 PROGRAM RECOMMENDATIONS

Education initiatives give all users of the road an understanding of their rights and responsibilities, encouragement activities engage local residents in activities designed to get more people to walk and bike, and enforcement activities promote safe travel behaviors on local streets.

Education Programs

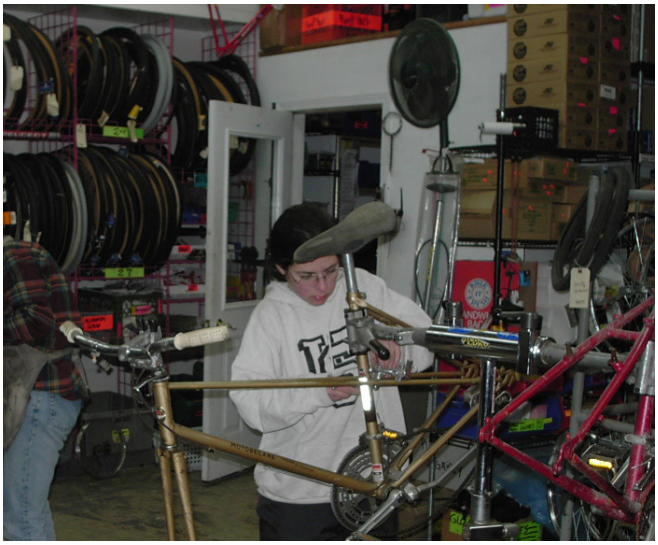
Snow Clearing Campaign

Implement a Snow Clearing campaign. Create a door card campaign that allows residents to thank their neighbors for keeping sidewalks clear by hanging a thank you message on their neighbor's door. Include educational information in the quarterly newsletter to residents and businesses about children, seniors, and people with disabilities needing a clear space to access destinations. A "Thank you for clearing" card will raise awareness about clearing sidewalks, create community norms to keep walks clear and enhance community pride. A clearing campaign will provide residents with clear walkways throughout the winter and allow residents to utilize the connectivity of the Village in every season.

Thank you for shoveling flyers

Bike Maintenance Classes

Program basic bike maintenance classes through the Brookfield Park District. Basic bike maintenance–such as changing a flat tire and adjusting gear shifting and brakes–eliminates many issues that discourage a person from riding. Training youth in the community could extend the benefits of their training by instructing other youth and adults in basic bicycle maintenance.



Bike maintenance class

Cell Phone and Speeding Community Education

Regularly educate residents on the cell phone use and speeding laws. Brookfield residents can sign a pledge through newsletters, board meetings, businesses, events and local social media outlets. Providing yard signs, city stickers, water bills, posters, and enforcement events will bring more awareness of these laws. Additionally, other topics can include walking & biking rules of the road, tricks and tips, educate drivers about sharing the road with non-motorized users, Must Stop for Pedestrians law, promoting local cycling and walking events and issues for discussion or action.

Local Bike/Walk Map

A user-friendly walk and bike network map would encourage use of the improved pedestrian and bicycle network and patronage of the key places identified in this plan. Brookfield should work with the Active Transportation Plan Steering Committee or a contractor to produce and distribute a free active transportation network map that includes safe bicycling and walking routes to key places and safety tips. Large employers and local businesses could be approached for sponsorship of the map.

Walking and biking map

Kids on Wheels

Kids on Wheels provides a "starter fleet" consisting of a fully enclosed mobile trailer containing 28 bikes, helmets, and all the necessary accessories and training for a school district or park district to provide a comprehensive bike education program.

Through a two-year transitional program, participating school districts partner with a local park district to experience what top notch on-bike training for kids looks like, and staff and volunteers become trained to run the program without having to make any initial financial investment in the materials.

Kids on Wheels trailer

Encouragement Programs

The Village of Brookfield has taken important steps to promote and encourage biking. There is the popular new Bike Brookfield event and strong participation in Bike to Work Week. Additional actions are recommended below.

Bike Rack Program

Work with Brookfield-Riverside High School to produce bike racks for the Village. The Village of Brookfield or businesses in Brookfield can provide students or volunteers with materials to produce the racks. The Brookfield Public Works Department can install the bike racks throughout the community. Work with the Steering Committee, residents, and Village Officials to prioritize locations.

Bike & Dine Events

Invite cyclists to enjoy a progressive dinner by bike at local restaurants. A select bicycle tour of these establishments for groups of 30 or less can garner media attention for local businesses and raise the profile of cycling as a way to encourage and enjoy local patronage. The route can also highlight new or potential community improvements to the bike route network.

Lock Library

Work with the Brookfield Public Library, Zoo, and other public partners to create a Lock Library program. This program allows residents to borrow bike locks. Residents who may not carry a bike lock can lock their bicycles while visiting local destinations.

Bike Light Giveaway

Bike light laws are lightly enforced by police departments. This means lots of cyclists are riding unlighted and unsafely. Brookfield should giveaway front and rear lights to cyclists at dusk with educational information on bicycle safety.

House Hunting by Bike

House Hunting by Bike is a way for prospective residents to get to know the people and places in the community. Work with local real estate agents to hold a bike tour of homes for sale throughout Brookfield. The tour should include homes currently for sale in a variety of price ranges, as well as highlight community parks, schools and other key destinations. Real estate agents host showings along the tour, with attendees receiving a map that lists information for each home.

Bike and dine event

Bike light giveaway

Bike to School Program

Students living less than a mile and a half are not provided transportation to school. This distance from school makes bicycling a feasible and fun option. Encouraging students to use this option by participating in a Bike to School Challenge, will increase the number of students biking to school. A Bike to School Challenge gives bikers incentives to ride to school. Incentives can be free or low cost (homework pass, early dismissal, pens,) to having a large giveaway (new bicycle) at the end of the year.

Safety Dismissal

Students being picked up by private vehicles will be held for five to ten minutes longer at dismissal. Walkers and bikers being released early reduces interaction between vulnerable users and cars. By allowing these students to get safely out of the area, cars and children will have less conflicts. Many students may choose to walk or bike to "get out early" from school. More walkers and bikers will eliminate congestion around dismissal times.

Bike Valet at Events

Offer free or suggested donation bike valet at community events. If people know there will be plentiful and convenient bike parking once they reach the event, they will be more likely to ride there. The Village can coordinate with local nonprofits and other community groups to run the bike valet parking and suggested donation tips can go to their causes. Offering bike valet can also help ease traffic congestion and parking issues created by large-scale community events.

Enforcement Programs

Hold Targeted Enforcement Events

No police department can aggressively enforce all laws in all locations at all times. The Village of Brookfield can use existing crash data to identify the most dangerous locations and target enforcement at those sites. Stings focused on no cell phone use, stopping for pedestrians, and safe crossings have proven particularly successful in other communities. Maple and Ogden Avenues have had multiple pedestrian and bicycle crashes. Brookfield should target its police enforcement efforts in these locations and review these efforts on an annual basis to ensure appropriate allocation of enforcement resources.

Targeted enforcement education in Forest Park, IL

Snow Clearing Tickets

Accumulation of snow along sidewalks creates a major barrier for pedestrians, especially children and seniors. To ensure safe accessibility of the entire transportation network, the Village should consider positive reinforcement of snow removal by giving "tickets" to residents and businesses. The Village can implement a "Thank you for clearing" campaign that allows residents to thank their neighbors for keeping sidewalks clear by hanging a thank you message on their neighbor's door. Sidewalk clearing includes vegetation encroaching the sidewalks and snow removal. A "Thank you for clearing" card will raise awareness about clearing sidewalks, create a culture to keep walks clear and enhance community pride. A clearing campaign will provide residents with clear walkways throughout the winter and allow residents to utilize the connectivity of the village in every season.

Sidewalk Parking Tickets

Once the Village has adopted a No Parking in Sidewalks ordinance, the Brookfield Police Department should give "tickets" to cars parked in sidewalks. These "tickets" can include educational materials about the need for a safe area to move along the roadway. Repeat offenders should receive a fined parking ticket for these violations.

Caught Being Good Program

Brookfield Police should reward children for good walking and biking behaviors. When officers observe these behaviors they should reward children by "pulling them over" and giving them a reward "ticket". Working with local businesses to donate rewards provides sustainability to this program and encourages children to walk and bike safely around Brookfield.

Police offers can "ticket" children for practicing safe rules of the road.

STOP

4

IMPLEMENTATION

Prioritizing, phasing, and funding plan recommendations.

4.1 PROJECT PRIORITIZATION

Chapter 2 recommends a complete build-out of a context sensitive active transportation network; however, not all projects can be implemented at once, and many will require additional study, external funding, and/or collaboration with other agencies and jurisdictions. As such, this chapter provides a framework for prioritizing projects, suggestions for phasing, and strategies for developing complementary programs and policies that will support and enhance a culture of walking and biking in Brookfield. As the Village grows, this vision will guide future roadway extensions, neighborhood expansions, and annexations, and will also apply to partnerships with neighboring jurisdictions to ensure regional connectivity to trails and bikeways.

There are many questions to ask when assessing the importance of a project to a community. The project team evaluated each recommended project in this study based on a series of criteria to determine how projects should be prioritized by Brookfield. The criteria include:

Access to Destinations

Does the project improve pedestrian and bicycle access to the Metra Station, Pace stops, parks, schools, the library, trails, bikeways proposed for adjacent communities, and commercial areas?

Equity

- Does the project serve residents who are more disproportionately impacted by the cost of car ownership and maintenance, such as people with lower incomes or people who own fewer cars per household?
- Does the project serve people who are less likely to own or operate a car, such as youth (people under 18) and seniors (people over 65)?
- Does the project serve people who commute via walking, biking, or public transit?
- Does the project serve people who live in higher density areas of the community?

Community Engagement

Did the route or intersection receive a high number of responses from the community regarding safety or access?

Safety

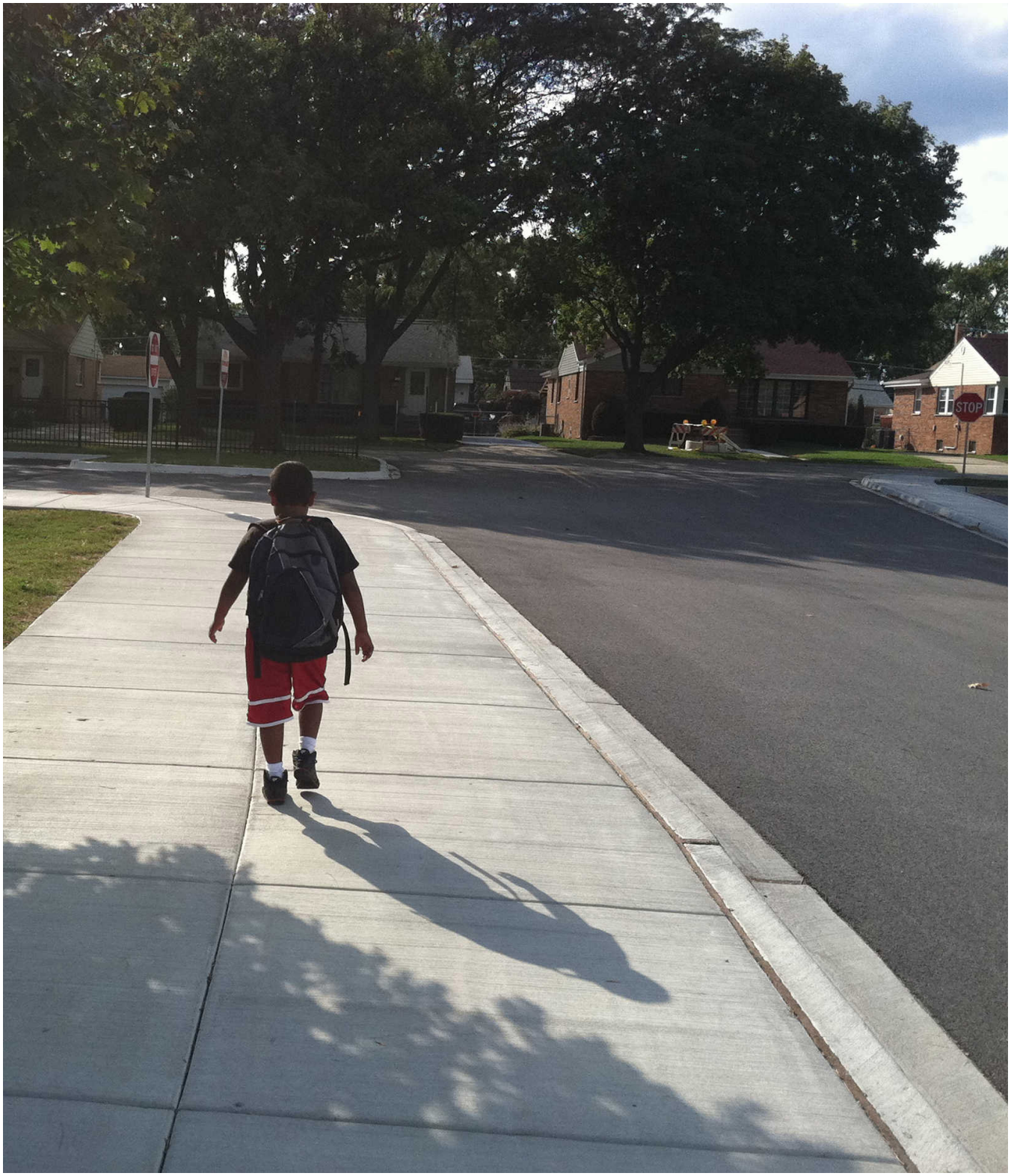
Is there a disproportionately high number of injury or fatal crashes along the corridor or within 200 feet of an intersection for all modes? Have there been pedestrian or bicycle crashes reported along the corridor?

Feasibility

- Which agency controls the road or intersection? Will additional coordination be necessary?
- Can the project be built with external funding, such as CMAQ, constructed by a private developer, or included in a future project of an outside agency?
- Can the project be completed in conjunction with a future resurfacing effort, or in conjunction with a future reconstruction project?
- Does the project require further study?

Combined Score

Each of the above criteria were then combined into an overall score. The overall score was used in the phasing analysis.


STOP

Destinations

Creating a comprehensive network of active transportation facilities that get residents to key destinations they will need to reach for either daily or recreational needs is critical. In fact, the primary purpose of walking, biking or driving is to get to a place, even if it is recreational, like reaching the Zoo. Improving access to destinations not only improves the Village's transportation network but also strengthens its position as one of the most livable and economically viable communities in Western Cook County. This analysis scored routes and intersections that connect to the highest concentration of destinations. Destination data analyzed included parks; schools; Pace bus stops; trail access points; and CMAP land use data classified as commercial, office, mixed use, cultural/entertainment, hotel/motel, medical, educational, government administration and services, and recreational open space.

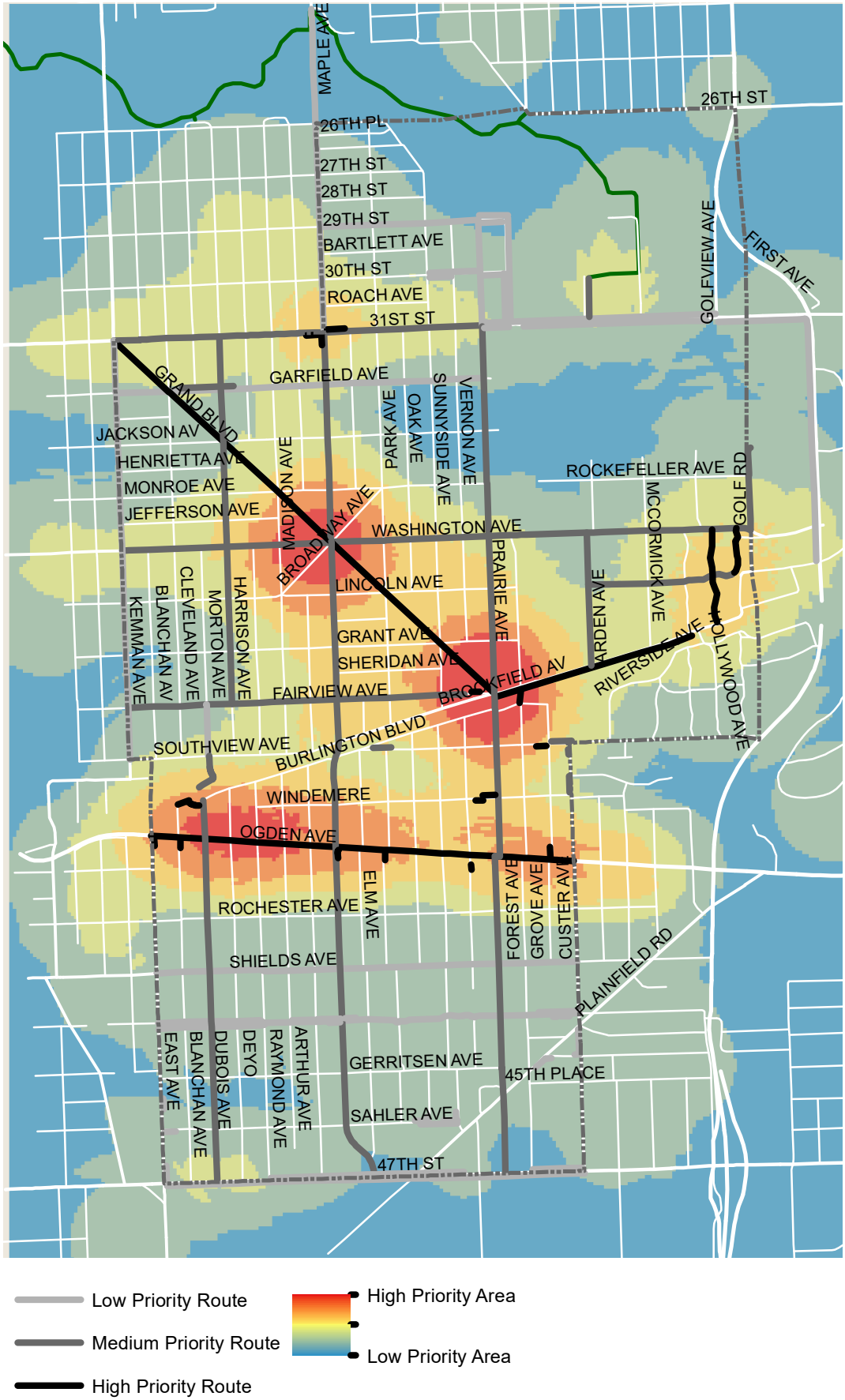
A high priority route or intersection provides a vital link in the network to connect residents to key destinations. A low priority route or intersection will be the furthest from these destinations, but may still be important in the long-term to create a complete network. High priority destination areas may be good candidates for destination-based federal grants, such as the Safe Routes to School program that targets pedestrian and bike improvements around schools. For more information, see the Funding section of this chapter.

Economic development was determined to be a destination goal by the steering committee. Business district land uses were given an extra weighting in this analysis to help prioritize these routes.

Routes that ranked high on the destination scoring criteria include:

- Sidewalk Gaps and Pedestrian Improvement Areas: Fairview Ave, Ogden Ave, Burlington Blvd, Grove Ave, Park Ave, Maple Ave, Blanchan Ave, East Ave, 31st St, Windemere Ave, Vernon Ave, Woodside Ave
- Pedestrian Overpass: Brookfield Metra Station
- Trail: Burlington Blvd Trail
- Bike Boulevard: Grand Blvd
- Sidepath: Brookfield Ave
- Wayfinding Signage: Hollywood Ave

Destinations Priority Projects



Equity Priority Projects

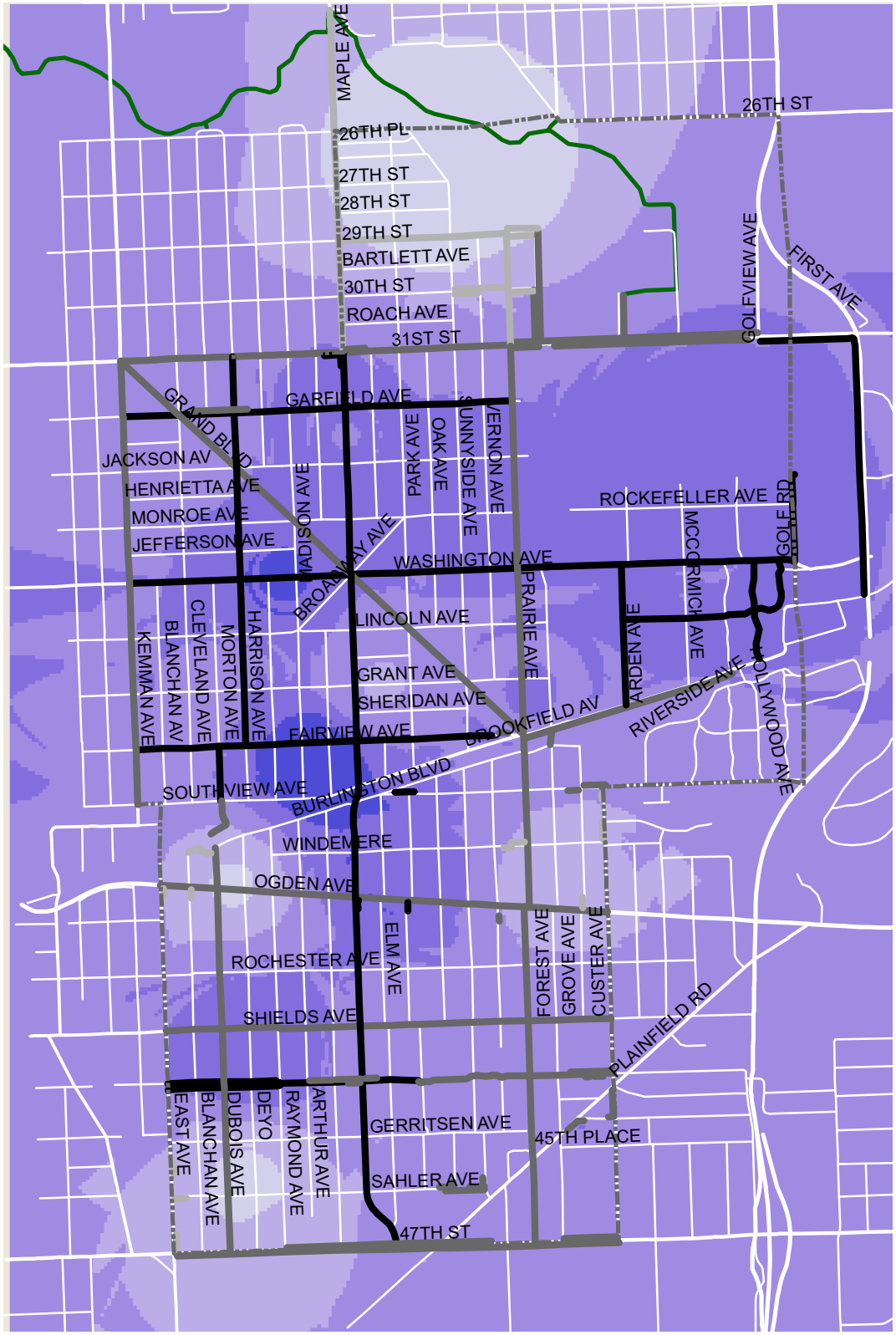
Lack of options to use alternative modes of transportation have the greatest impact on households for whom automobile ownership is a financial burden and for those who are too young or too old to drive. To better understand how to prioritize improvements in Brookfield, the project team compared the recommended active transportation network to specific population data from the 2009-2014 American Community Survey. The following variables were included in the analysis: median household income, population density, senior population, youth population, limited English speaking, fewer or no automobiles owned in a household, and bicycle, pedestrian, and transit commuters. The variables to consider and prioritize were determined and weighted by the plan steering committee. Routes identified as high priority in the map on the following page scored higher in the equity analysis based on the variables. Low priority score routes may be the furthest from equity target areas but may still be important in providing a comprehensively-connected network in the long term.

High equity priority areas may be good candidates for different kinds of demographically targeted grant programs, such as the Cook County Community Development Block Grants that require applications to be in low or moderate income areas.

Proposed projects that scored high on the equity analysis include:

- Bike Boulevards: Congress Park Ave, Arden Ave, Harrison Ave
- Bike Lanes: Washington St
- Sidewalk Gaps and Pedestrian Improvement Routes: Parkview Ave, Woodside Ave, Golf Rd, 31st St, Maple Ave, Southview Ave, Park Ave
- Wayfinding Signage: Hollywood Ave, Morton Ave
- Marked Shared Lanes and Signed Bike Route: Fairview Ave, Garfield Ave
- Bike Improvement Route: Maple Ave
- Sidepath: 31st St

Equity Priority Projects



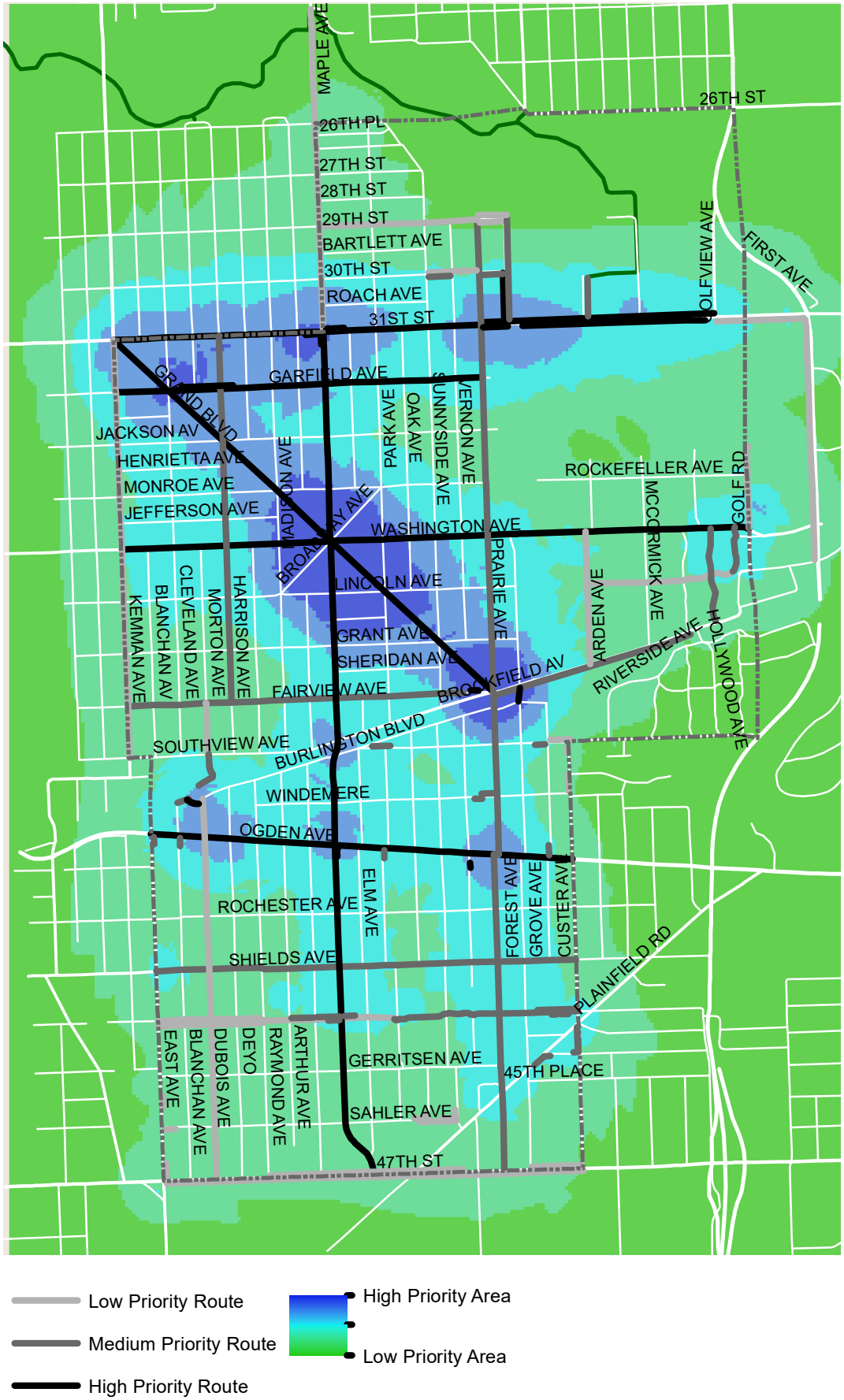
Community Engagement Priority Projects

Key destinations, intersection and crossing barriers, and roadways that would be ideal candidates for pedestrian and bike improvements were identified by the steering committee and community members in meetings and the online survey and interactive map. These data were collected as points and lines and weighted in the analysis by number of votes. A route or intersection receiving a high priority score in the analysis was mentioned often during the community engagement process. Low priority routes were either mentioned less often or not at all. Although not all residents were reached during the community engagement process, and in some cases, further communication and cooperation with adjacent residents and land owners would be needed to build the facilities, this score can help indicate how a facility would be received by the community.

Projects in high ranking community engagement target areas include:

- Sidewalk Gaps and Sidewalk Improvement Areas: 31st St, Maple Ave, Fairview Ave, Garfield Ave, Vernon Ave, Burlington Blvd, Forest Ave, Ogden Ave
- Pedestrian Overpass: Brookfield Metra Station
- Bike Boulevard: Grand Blvd, Harrison Ave
- Bike Improvement Routes: 31st St, Maple Ave
- Signed Bike Route: Garfield Ave
- Bike Lanes: Washington St
- Sidepath: 31st St
- Pedestrian Improvement Route: Ogden Ave

Community Engagement Priority Projects



Safety

The safety map includes an analysis of all injury and fatal crashes of all modes and all bicycle and pedestrian crashes in the community. This analysis was used to determine overall safety scores for proposed routes. Higher priority scores are assigned to routes that most closely fit these criteria. It is important to note that roadways not included in this plan could also have a high number of crashes, so it is recommended that the Village keep a pulse on upcoming roadway projects and use this plan as a leveraging tool to engage in the design process.

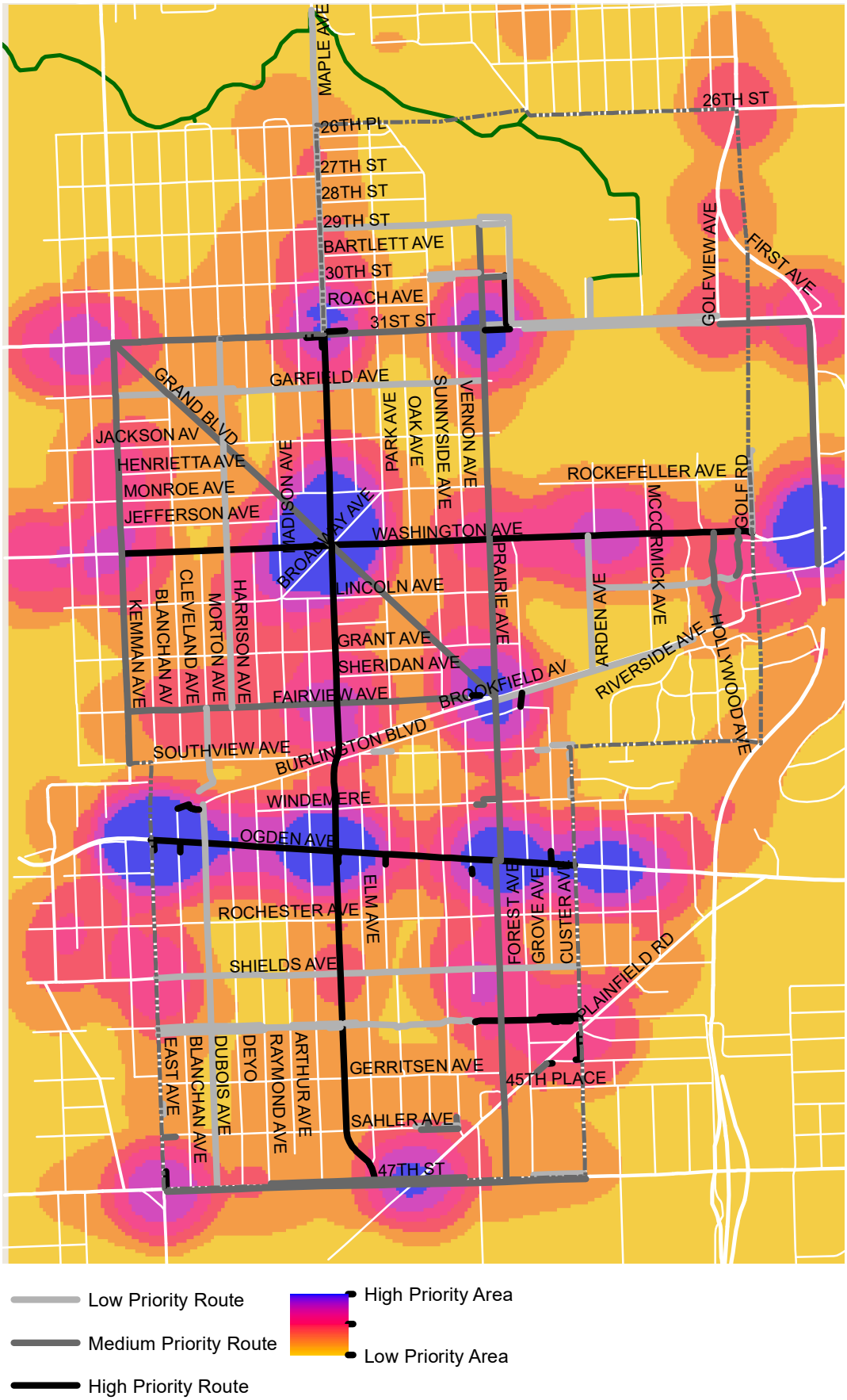
In some cases, the absence of pedestrian and bike crashes on a roadway does not mean that the roadway is safe for non-motorized users of the road. It could mean that the roadway is so uncomfortable that people do not feel able to walk or bike there, which is the case for high-speed arterials that provide key transportation connections in the community, such as portions of 31st St and 47th St.

This map helps identify roadways that have the most safety issues. However, upcoming projects on roadways controlled by other agencies and communities should continually be evaluated and incorporated for coordination.

Projects that received a high safety score include:

- Sidewalk Gaps and Pedestrian Improvement Areas: Blanchan Ave, East Ave, Maple Ave, Fairview Ave, Vernon Ave, Ogden Ave, 31st St, Grove Ave, Burlington Blvd, Park Ave, Forest Ave, Congress Park Ave, Gerritsen Ave, Custer Ave
- Pedestrian Overpass: Brookfield Metra Station
- Trail: Burlington Blvd Trail
- Bike Boulevard: Congress Park Ave
- Bike Lanes: Washington St
- Bike Improvement Route: Maple Ave

Safety Prioritization



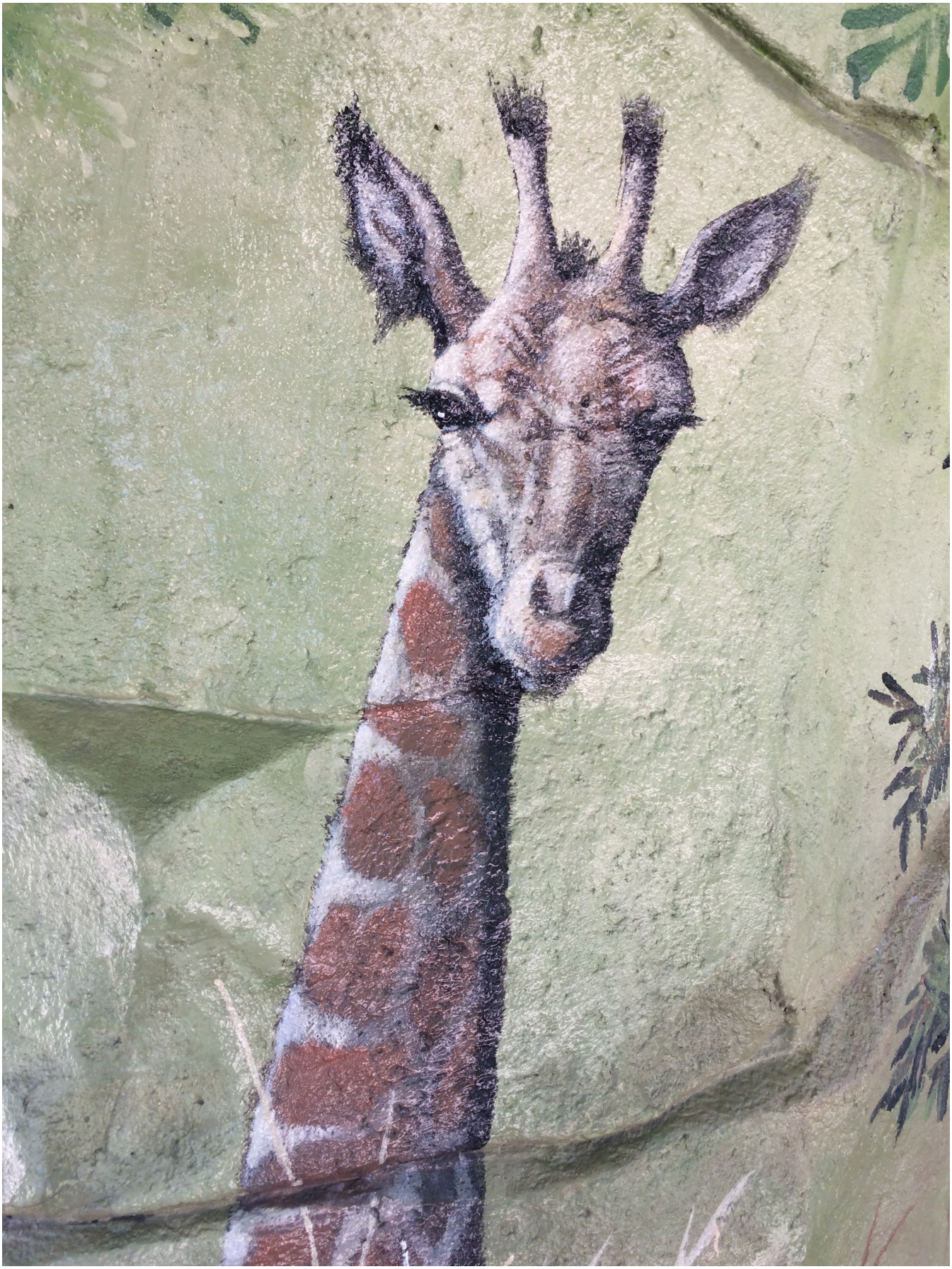
Recommended Project Prioritization							
Street Name	Facility Type	From	To	Desti-nation Priority	Equity Priority	Engage-ment Priority	Safety Priority
31st St	Sidewalk Improvement	Maple Ave	Midblock heading west	High	High	High	High
Maple Ave	Sidewalk Improvement	31st St	Midblock heading south	High	High	High	High
Maple Ave	Sidewalk	Ogden Ave	Midblock heading south	High	High	High	High
Park Ave	Sidewalk Improvement	Ogden Ave	Midblock heading south	High	High	Medium	High
Woodside Ave	Pedestrian Improvement Route	Parkview Ave	South Entrance of Brookfield Zoo	High	High	Medium	Medium
Hollywood Ave	Wayfinding Signage	Hollywood Metra Station/ Brookfield Ave	Washington Ave	High	High	Medium	Medium
Ogden Ave	Pedestrian Improvement Route	Eberly/East Ave	Custer Ave	High	Medium	High	High
Brookfield Metra Bridge	Pedestrian Overpass	Brookfield Ave	Burlington Blvd	High	Medium	High	High
31st St	Sidewalk Improvement	Maple Ave	Midblock going east	High	Medium	High	High
Fairview Ave	Sidewalk Improvement	Midblock: Sunnyside Ave and Grand Blvd		High	Medium	High	High
Vernon Ave	Sidewalk Improvement	Midblock: Ogden Ave and Rochester Ave		High	Medium	High	High
Grand Blvd	Bike Boulevard	31st St/ Kemman Ave	Prairie Ave/ Brookfield Ave	High	Medium	High	Medium
Brookfield Ave	Sidepath	Prairie Ave	Hollywood Metra Station	High	Medium	Medium	Low
Southview Ave	Sidewalk	Grove Ave	Midblock heading west	High	Medium	Medium	Low
Southview Ave	Sidewalk	Grove	East deadend of street	High	Medium	Low	Low
Burlington Blvd	Sidewalk	Dubois Ave	Western deadend of street	High	Low	High	High

Recommended Project Prioritization							
Street Name	Facility Type	From	To	Desti-nation Priority	Equity Priority	Engage-ment Priority	Safety Priority
Burlington Blvd Trail	Trail	Burlington Blvd	Blanchan Ave	High	Low	Medium	High
Grove Ave	Sidewalk Improvement	Grove Ave	Midblock heading north	High	Low	Medium	High
Blanchan Ave	Sidewalk Improvement	Ogden Ave	Midblock heading south	High	Low	Medium	High
East Ave	Sidewalk	Ogden Ave	Midblock heading south	High	Low	Medium	High
Windemere Ave	Sidewalk Improvement	Prairie Ave	Midblock heading west	High	Low	Medium	Medium
Windemere Ave	Sidewalk Improvement	Midblock: Vernon Ave and Prairie Ave		High	Low	Medium	Medium
Washington St	Bike Lanes	Kemman Ave	Golf Rd	Medium	High	High	High
Maple Ave	Bike Improvement Route	31st St	47th St	Medium	High	High	High
Fairview Ave	Marked Shared Lanes	Kemman Ave	Vernon Ave	Medium	High	Medium	Medium
Harrison Ave	Bike Boulevard	31st St	Fairview Ave	Medium	High	Medium	Low
Southview Ave	Sidewalk	Burlington Blvd	Midblock heading east	Medium	High	Medium	Low
Parkview Ave	Pedestrian Improvement Route	Arden Ave	Woodside Ave	Medium	High	Low	Low
Golf Rd	Pedestrian Improvement Route	Ridgewood Ave	Brookfield Zoo South Entrance	Medium	High	Low	Low
Morton Ave	Wayfinding Signage	Fairview Ave	Southview Ave	Medium	High	Low	Low
Arden Ave	Bike Boulevard	Washington Ave	Brookfield Ave	Medium	High	Low	Low
31st St	Bike Improvement Route	Kemman Ave	Prairie Ave	Medium	Medium	High	Medium
Garfield Ave	Sidewalk	Midblock: Cleveland Ave and Morton Ave	Midblock: Harrison Ave and Raymond Ave	Medium	Medium	High	Low

Recommended Project Prioritization							
Street Name	Facility Type	From	To	Desti-nation Priority	Equity Priority	Engage-ment Priority	Safety Priority
Prairie Ave	Bike Improvement Route	31st St	47th St	Medium	Medium	Medium	Medium
Morton Ave	Pedestrian Improvement Route	Southview Ave	Congress Park Metra Tunnel	Medium	Medium	Medium	Low
Salt Creek Trail Extension	Trail	31st St	Salt Creek Trailhead	Medium	Medium	Medium	Low
Dubois Ave	Bike Boulevard	Burlington Blvd	47th St	Medium	Medium	Low	Low
Custer Ave	Sidewalk	Southview Ave	Windemere Ave	Medium	Low	Low	Low
Garfield Ave	Signed Bike Route	Kemman Ave	Prairie Ave	Low	High	High	Low
31st St	Sidepath	Golfview Ave	1st Ave	Low	High	Low	Medium
1st Ave	Sidepath	31st St	Parkview Ave	Low	High	Low	Medium
Congress Park Ave	Bike Boulevard	Eberly/East Ave	Ehlert Park	Low	High	Low	Low
Forest Ave	Sidewalk	30th St	31st St	Low	Medium	High	High
31st St	Sidewalk	Prairie Ave	Forest Ave	Low	Medium	High	High
31st St	Sidepath	Prairie Ave	Golfview Ave	Low	Medium	High	Low
31st St	Sidewalk	Salt Creek Bridge	Golfview Ave	Low	Medium	High	Low
Congress Park Ave	Bike Boulevard	Vernon Ave	Custer Ave	Low	Medium	Medium	High
Congress Park Ave	Sidewalk	Custer Ave	Forest Ave	Low	Medium	Medium	High
Congress Park	Sidewalk	Midblock: Custer Ave and Forest Ave		Low	Medium	Medium	High
Gerritsen Ave	Sidewalk	Custer Ave	Midblock heading west	Low	Medium	Medium	High
Custer Ave	Sidewalk	Plainfield Rd	Gerritsen Ave	Low	Medium	Medium	High
Gerritsen Ave	Sidewalk	Plainfield Rd	Midblock heading east	Low	Medium	Medium	High

Recommended Project Prioritization							
Street Name	Facility Type	From	To	Desti-nation Priority	Equity Priority	Engage-ment Priority	Safety Priority
Plainfield Rd	Sidewalk	Gerritsen Ave	Midblock heading southwest	Low	Medium	Medium	Medium
Shields Ave	Pedestrian Improvement Route	Eberly/East Ave	Custer Ave	Low	Medium	Medium	Low
Ehlert Park Path	Trail	Congress Park Ave	Vernon Ave	Low	Medium	Medium	Low
Congress Park Ave	Sidewalk	Madison Ave	Midblock: Maple Ave and Elm Ave	Low	Medium	Medium	Low
Congress Park Ave	Sidewalk	Maple Ave	Midblock heading west	Low	Medium	Medium	Low
Forest Ave	Sidewalk	31st St	29th St	Low	Medium	Medium	Low
Kemman Ave	Marked Shared Lanes	31st St	Fairview Ave	Low	Medium	Low	Medium
Sunnyside Ave	Sidewalk	Sahler Ave	Midblock heading north	Low	Medium	Low	Medium
Sahler Ave	Sidewalk	Sunnyside Ave	Oak Ave (just west of)	Low	Medium	Low	Medium
Oak Ave	Sidewalk	Oak Ave	Midblock heading north	Low	Medium	Low	Medium
47th St	Sidewalk	Custer Ave	East Ave	Low	Medium	Low	Medium
47th St	Sidewalk	Vernon Ave	Raymond Ave	Low	Medium	Low	Medium
Sahler Ave	Sidewalk	Sunnyside Ave	Midblock: Park Ave and Oak Ave	Low	Medium	Low	Low
47th St	Sidewalk	Custer Ave	Forest Ave	Low	Medium	Low	Low
Prairie Ave	Marked Shared Lanes	29th St	31st St	Low	Low	Medium	Medium
30th St	Sidewalk	Prairie Ave	Forest Ave	Low	Low	Medium	Medium
30th St	Sidewalk	Sunnyside Ave	Vernon Ave	Low	Low	Medium	Low
East Ave	Sidewalk Improvement	47th St	Midblock heading north	Low	Low	Low	High

Recommended Project Prioritization							
Street Name	Facility Type	From	To	Desti-nation Priority	Equity Priority	Engage-ment Priority	Safety Priority
Sahler Ave	Sidewalk	East Ave	Midblock heading east	Low	Low	Low	Medium
29th St	Marked Shared Lanes	Maple Ave	Prairie Ave	Low	Low	Low	Low
Maple Ave	Road Diet	31st St	Salt Creek Trail	Low	Low	Low	Low
Brookfield Woods Trail	Trail	Sunnyside Ave	Prairie Ave	Low	Low	Low	Low
30th St	Sidewalk	Sunnyside Ave	Prairie Ave	Low	Low	Low	Low
29th St	Sidewalk	Prairie Ave	Forest Ave	Low	Low	Low	Low
East Ave	Sidewalk Improvement	Midblock: Gerritsen and Sahler Ave	In front of Brookfield Water Dept	Low	Low	Low	Low
29th St	Sidewalk	Prairie Ave	Forest Ave	Low	Low	Low	Low



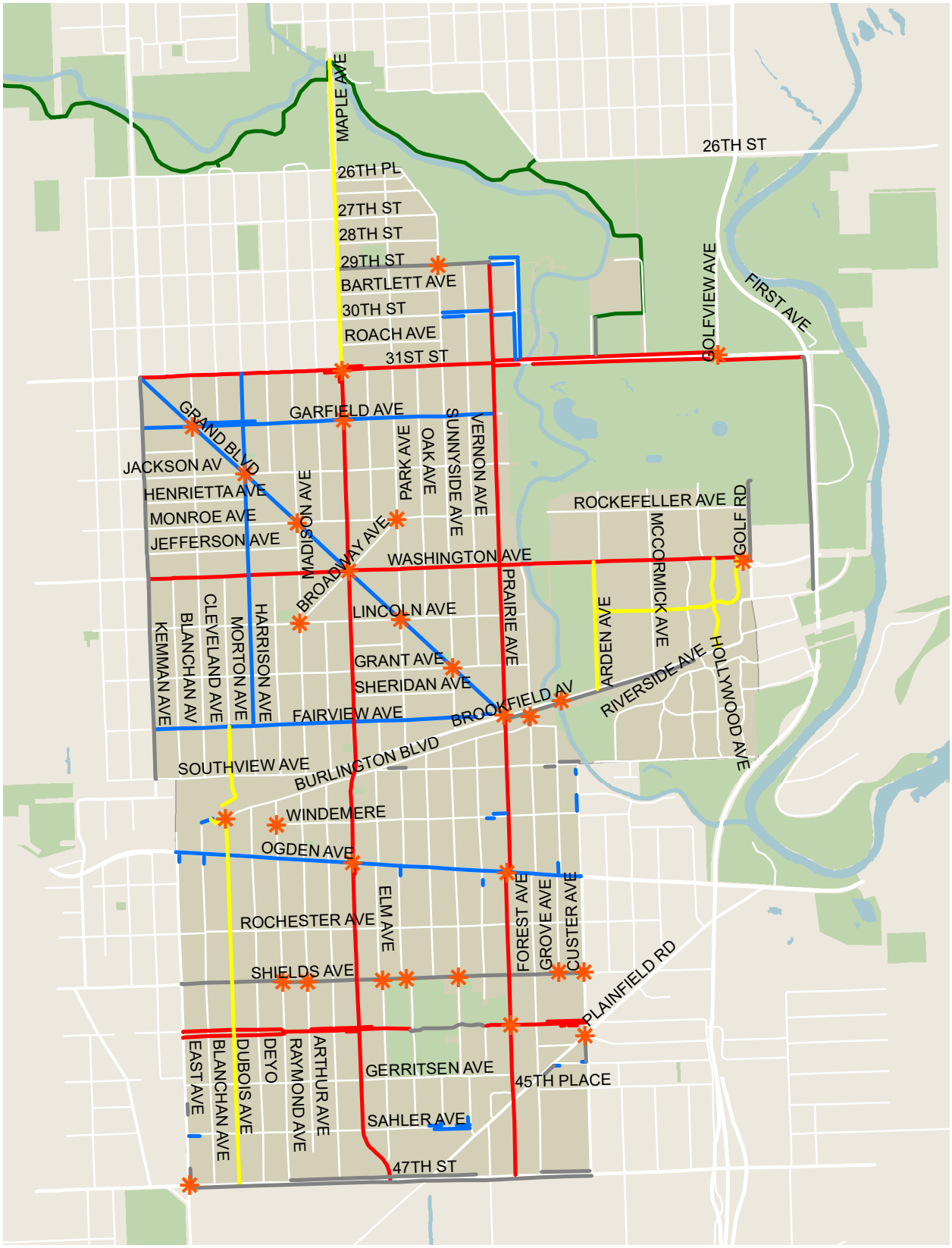
4.2 PROJECT PHASING

The recommended phasing of projects was determined using the scores from the feasibility analyses in Section 4.1 and adjusting for factors that could impact a project's timeline or success, including roadway jurisdiction, complexity of building the facility, previous planning studies, whether the project will help people reach the Zoo or other regional destinations, and pavement rating. The phasing study also looks at whether a project is along a roadway included in the Capital Improvement Plan, to be improved through referendum funding, or in a commercial area of the community. Finally, the analysis considers if the project will require further study and if its a vital link in the network that will provide cross town connections. The analysis attempts to prioritize projects that have the opportunity to connect the entire community, will have a major community impact, are already being advanced by the Village, or are scheduled for an upcoming improvement.

The following map details the results of the analysis. High Impact projects are those that best meet combined prioritization and feasibility criteria. The High Impact projects include the Cross Town Bike Improvement projects, as described in the Toolbox and Network chapter, as well as the Congress Park Ave bike boulevard. These projects should be pursued by the Village of Brookfield first. High Impact projects might not be the easiest projects to coordinate and build out, but they are key anchor routes in the network due to the connections they will provide across the whole community. Near-Term, Mid-Term, and Long-Term projects should be phased in over time.

Tables detailing project-by-project results are included on the following pages

Recommended Project Phasing



Recommended Project Phasing					
Street Name	From	To	Facility Type	Comment	Phasing
31st St	Maple Ave	Midblock heading east	Sidewalk Improvement	North side	High Impact
31st St	Maple Ave	Midblock heading west	Sidewalk Improvement	South side	High Impact
Washington St	Kemman Ave	Golf Rd	Bike Lanes	4-5' conventional bike lanes	High Impact
31st St	Prairie Ave	Forest Ave	Sidewalk	South side	High Impact
Congress Park Ave	Vernon Ave	Custer Ave	Bike Boulevard	Wayfinding signage	High Impact
31st St	Salt Creek Bridge	Golfview Ave	Sidewalk	South side	High Impact
Congress Park Ave	Eberly/East Ave	Ehlert Park	Bike Boulevard	Wayfinding signage	High Impact
Prairie Ave	29th St	31st St	Marked Shared Lanes	Bike Route Signage	High Impact
Congress Park Ave	Madison Ave	Midblock between Maple Ave and Elm Ave	Sidewalk	North side	High Impact
Congress Park Ave	Maple Ave	Midblock heading west	Sidewalk	South side	High Impact
31st St	Prairie Ave	Golfview Ave	Sidepath	Noth side	High Impact
31st St	Golfview Ave	1st Ave	Sidepath	South side	High Impact
Maple Ave	31st St	Midblock heading south	Sidewalk Improvement	West side	High Impact
31st St	Kemman Ave	Prairie Ave	Bike Improvement Route		High Impact
Congress Park Ave	Custer Ave	Forest Ave	Sidewalk	North side	High Impact
Congress Park	Midblock: Custer Ave and Forest Ave		Sidewalk	South side	High Impact
Maple Ave	Ogden Ave	Midblock heading south	Sidewalk	East side	High Impact

Recommended Project Phasing					
Street Name	**From**	**To**	**Facility Type**	**Comment**	**Phasing**
Maple Ave	31st St	47th St	Bike Improvement Route	Bike Route Signage	High Impact
Prairie Ave	31st St	47th St	Bike Improvement Route	Bike Route Signage	High Impact
Hollywood Ave	Hollywood Metra Station/ Brookfield Ave	Washington Ave	Wayfinding Signage		Near Term
Morton Ave	Fairview Ave	Southview Ave	Wayfinding Signage		Near Term
Woodside Ave	Parkview Ave	South Entrance of Brookfield Zoo	Pedestrian Improvement Route		Near Term
Dubois Ave	Burlington Blvd	47th St	Bike Boulevard		Near Term
Burlington Blvd	Dubois Ave	Western deadend of street	Sidewalk	South side	Near Term
Maple Ave	31st St	Salt Creek Trail	Road Diet	Buffered Bike Lanes	Near Term
Morton Ave	Southview Ave	Congress Park Metra Tunnel	Pedestrian Improvement Route		Near Term
Parkview Ave	Arden Ave	Woodside Ave	Pedestrian Improvement Route		Near Term
Arden Ave	Washington Ave	Brookfield Ave	Bike Boulevard		Near Term
Blanchan Ave	Ogden Ave	Midblock heading south	Sidewalk Improvement	East side	Mid Term
Sunnyside Ave	Sahler Ave	Midblock heading north	Sidewalk	West side	Mid Term
Sahler Ave	Sunnyside Ave	Midblock: Park Ave and Oak Ave	Sidewalk	North side	Mid Term
Sahler Ave	Sunnyside Ave	Oak Ave heading west	Sidewalk	South side	Mid Term

Recommended Project Phasing					
Street Name	**From**	**To**	**Facility Type**	**Comment**	**Phasing**
Oak Ave	Oak Ave	Midblock heading north	Sidewalk	West side	Mid Term
Fairview Ave	Midblock: Sunnyside Ave and Grand Blvd		Sidewalk Improvement	North side	Mid Term
Grove Ave	Grove Ave	Midblock heading north	Sidewalk Improvement	West side	Mid Term
Vernon Ave	Midblock: Ogden Ave and Rochester Ave		Sidewalk Improvement	East side	Mid Term
Grand Blvd	31st St/ Kemman Ave	Prairie Ave/ Brookfield Ave	Bike Boulevard	Traffic calming features and signage	Mid Term
Forest Ave	30th St	31st St	Sidewalk	West side	Mid Term
29th St	Prairie Ave	Forest Ave	Sidewalk	South side	Mid Term
Garfield Ave	Midblock: Cleveland Ave and Morton Ave	Midblock: Harrison Ave and Raymond Ave	Sidewalk		Mid Term
Burlington Blvd Trail	Burlington Blvd	Blanchan Ave	Trail		Mid Term
Park Ave	Ogden Ave	Midblock heading south	Sidewalk Improvement	East side	Mid Term
Harrison Ave	31st St	Fairview Ave	Bike Boulevard		Mid Term
Windemere Ave	Prairie Ave	Midblock heading west	Sidewalk Improvement		Mid Term
Windemere Ave	Midblock: Vernon Ave and Prairie Ave		Sidewalk Improvement	South side	Mid Term
Gerritsen Ave	Custer Ave	Midblock heading west	Sidewalk	North side	Mid Term
Gerritsen Ave	Plainfield Rd	Midblock heading east	Sidewalk	South side	Mid Term

Recommended Project Phasing					
Street Name	**From**	**To**	**Facility Type**	**Comment**	**Phasing**
Fairview Ave	Kemman Ave	Vernon Ave	Marked Shared Lanes	Wayfinding signage	Mid Term
Garfield Ave	Kemman Ave	Prairie Ave	Signed Bike Route		Mid Term
Forest Ave	31st St	29th St	Sidewalk	East side	Mid Term
29th St	Prairie Ave	Forest Ave	Sidewalk	North side	Mid Term
30th St	Prairie Ave	Forest Ave	Sidewalk	South side	Mid Term
30th St	Sunnyside Ave	Prairie Ave	Sidewalk	North side	Mid Term
30th St	Sunnyside Ave	Vernon Ave	Sidewalk	South side	Mid Term
Custer Ave	Southview Ave	Windemere Ave	Sidewalk	West side	Mid Term
Ogden Ave	Eberly/East Ave	Custer Ave	Pedestrian Improvement Route	Drive consolidation	Mid Term
East Ave	Ogden Ave	Midblock heading south	Sidewalk	East side	Mid Term
Sahler Ave	East Ave	Midblock heading east	Sidewalk	South side	Mid Term
Southview Ave	Burlington Blvd	Midblock heading east	Sidewalk	North side	Long Term
47th St	Custer Ave	Forest Ave	Sidewalk	North side	Long Term
47th St	Custer Ave	East Ave	Sidewalk	South side	Long Term
47th St	Vernon Ave	Raymond Ave	Sidewalk	North side	Long Term
Brookfield Ave	Prairie Ave	Hollywood Metra Station	Sidepath	South side	Long Term
29th St	Maple Ave	Prairie Ave	Marked Shared Lanes		Long Term
Southview Ave	Grove Ave	Midblock heading west	Sidewalk	South side	Long Term
Kemman Ave	31st St	Fairview Ave	Marked Shared Lanes		Long Term

Recommended Project Phasing					
Street Name	**From**	**To**	**Facility Type**	**Comment**	**Phasing**
Brookfield Metra Bridge	Brookfield Ave	Burlington Blvd	Pedestrian Overpass		Long Term
Custer Ave	Plainfield Rd	Gerritsen Ave	Sidewalk	West side	Long Term
Salt Creek Trail Extension	31st St	Salt Creek Trailhead	Trail		Long Term
Southview Ave	Grove	East deadend of street	Sidewalk	North side	Long Term
1st Ave	31st St	Parkview Ave	Sidepath	West side	Long Term
East Ave	Midblock: Gerritsen and Sahler Ave	In front of Brookfield Water Dept	Sidewalk Improvement	East side	Long Term
East Ave	47th St	Midblock heading north	Sidewalk Improvement	East side	Long Term
Ehlert Park Path	Congress Park Ave	Vernon Ave	Trail		Long Term
Brookfield Woods Trail	Sunnyside Ave	Prairie Ave	Trail		Long Term
Plainfield Rd	Gerritsen Ave	Midblock heading southwest	Sidewalk	Northeast side	Long Term
Golf Rd	Ridgewood Ave	Brookfield Zoo South Entrance	Pedestrian Improvement Route	Wayfinding Signage	Long Term
Shields Ave	Eberly/East Ave	Custer Ave	Pedestrian Improvement Route	Update curb ramps to ADA	Long Term

4.3 PROJECT FUNDING RESOURCES

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

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

- Programs administered by the Illinois Department of Transportation (IDOT)
- Program administered by the Illinois Department of Natural Resources (IDNR)
- Programs administered by the Chicago Metropolitan Agency for Planning (CMAP)
- Programmed by CMAP
- Programmed by the Councils of Mayors (COMs)
- Program administered by Cook County

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 December 2015, Fixing America's Surface Transportation Act, or FAST Act. FAST Act maintains many of the changes from MAP-21, the previous bill. MAP-21 combined several previously stand-alone pedestrian and bicycle funding programs (including Safe Routes to School, Recreational Trails and Transportation Enhancements) into a single pot of money: The Transportation Alternatives Program (TAP). With the passing of FAST Act, the TAP funding was moved within the Surface Transportation Block Grant Program (STBG), as a set-aside. However, the structure, competitive process, and flexibility of the program remains the same as TAP.

IDOT has committed to a new program (coming soon) under FAST Act Section 405 that awards money to states where over 15% of all traffic fatalities in 2013 were cyclists and pedestrians. This grant funds 80% of the cost for education and enforcement related programs to reduce pedestrian and bicycle fatalities, including training law enforcement about state pedestrian and bicycle laws and campaigns or education for pedestrians, bicyclists and motorists. This program is unique because it is just for pedestrian and bicycle related 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 20%. Eligible project sponsors include schools, school districts, and governmental entities. The program

encourages applicants to form a local coalition of stakeholders.

Brookfield should consider Safe Routes to School funding to cover project and program costs near Riverside Brookfield High School and Hollywood Elementary School.

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 20% matching funds and 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.

Routes and intersections that received a high priority score for safety and feasibility may be a good fit for this grant program.

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.

Program Administered by the Illinois Department of Natural Resources (IDNR)

Recreational Trails Program (RTP)

The Recreational Trails Program provides funding for land acquisition, development, restoration, and maintenance of trails. The program requires a 30% local match.

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%.

Surface Transportation Block Grant Program (STBG) (previously Transportation Alternatives Program, TAP)

Under FAST Act, the Transportation Alternatives Program is now a set-aside within the STBG program, however the program structure and competitive process did not change under the new act. CMAP's allocation of this program has focused its funding on bicycle projects. Higher scores are assigned to projects that provide for low-stress bicycle facilities. Some eligible projects include connecting two existing trails, installing multi-use paths or buffered bike lanes, and extending an existing regional trail.

For this competitive program, 50% of the funding is allocated by a formula based on population and the other 50% is discretionary. The local match is 20%.

CMAP generally gives priority to projects that are a part of the Regional Greenways and Trails Plan, have a high population density near the trail or facility, and have a facility that is well-designed. Additional points are given to projects that are "shovel ready" and have a local match above the 20% minimum.

Programmed by the Subregional Councils of Mayors (COMs)

Under FAST Act, the Surface Transportation Program (STP) was reorganized to be a set-aside within the Surface Transportation Block Grant Program (STBG). Otherwise, there are no structural changes to this program from MAP-21. STBG 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. The program is administered by CMAP. CMAP approves the allocation of this funding to each of the subregional Council of Mayors (COMs).

The six Councils of Mayors in Cook County program these funds. Each of the Councils of Mayors have different project eligibility, application processes, and match requirements. Communities can direct apply through the COMs. This program will fund more granular surface transportation pedestrian projects. The COMs in Cook County fund bicycle and pedestrian projects with a 20-30% local match requirement. A matrix from CMAP summarizing these requirements and guides to the project selection criteria for each of the Councils of Mayors are located at the CMAP website. http://www.cmap.illinois.gov/about/involvement/committees/advisory-committees/council-of-mayors/surface-transportation-program

Routes and intersections with a high priority score for either Community Engagement or Destinations in Brookfield could be great

candidates for this application and the scores from the analysis could serve as supporting materials.

Program Administered by Cook County

Invest in Cook

Administered by the Cook County Department of Transportation Highways, this transportation-focused grant program funds transportation-related initiatives that support Cook County's long-range transportation plan goals. Eligible projects include Phase I engineering, construction, programming, and plans. The grant program requires no local match.

Community Development Block Grants (CDBG)

Administered by Cook County's Bureau of Economic Development, CDBG grants provide flexible funding for a variety of community development purposes. The program provides capital improvement funding that can be applied to bicycle and pedestrian facilities that benefit low and moderate income residential neighborhoods. The CDBG program offers funds for several project types, including street improvements, sidewalk improvements, and accessibility improvements to public facilities. Projects eligible for funding must serve primarily residential neighborhoods with low to moderate income populations. The application was recently updated to provide additional scoring for projects that consider complete streets principles, provide greater connectivity, and promote walking, biking and transit access. These funds can be used in creative ways. Skokie uses CDBG to fund the homeowner match in a 50/50 sidewalk repair program for income eligible households.

This program has specific income requirements that Brookfield would need to consider further, however, routes and intersections that scored high in the equity prioritization analysis in the previous section could be a good starting point when determining which recommendations to apply for this grant. This grant could be especially useful in filling in sidewalk gaps and making crossing improvements on locally-controlled roadways in Brookfield. The prioritization analysis from the previous section could be supporting documentation for the grant application.

The chart on the following page summarizes the programs relevant to Brookfield described above.

Application Process	Transportation Enhancements (ITEP)	Safe Routes to School (SRTS)	Highway Safety Improvement Program (HSIP)	Section 402-State and Community Highway Safety Grant Program	Recreational Trails Program (RTP)
Program Purpose	To foster cultural, historic, aesthetic and environmental aspects of our transportation infrastructure	To enable and encourage children to walk and bike to school through the 5 Es.	To fund highway infrastructure safety projects aimed at reducing fatalities and serious injuries.	To create safety programs aimed at reducing traffic crashes.	To develop and maintain recreational trails and facilities for both motorized and non-motorized users.
Program Administrator	IDOT	IDOT	IDOT Division of Traffic Safety	IDOT Division of Traffic Safety	IDNR
Eligible Projects	Bike/ped facilities, safety education programs and encouragement incentives.	Bike/ped facilities, safety education programs and encouragement incentives.	Bike lanes, paved shoulders, Trail/Highway intersection improvements, crosswalks, signal improvement, and curb cuts as well as safety education and awareness programs.	Enforcement campaigns to improve bike/ped safety, helmet promotion, educational materials, and training.	Trails, Trail/ Highway intersection improvements, trailheads, educational materials, and training.
Key Project Requirements	Must relate to surface transportation.	Can only be spent within 1 ½ miles of a school.	Must address goals written in State Highway Safety Plan.	Must address goals written in State Highway Safety Plan.	30% allocated to non-motorized trail project, 30% for motorized, 40% for diversity of trail use.
Application Process	Next anticipated call for projects Spring 2018.	Irregular schedule at call of IDOT.	Generally there is an annual update to the Plan at call of IDOT Division of Traffic Safety.	Generally each spring at call of IDOT Division of Traffic Safety.	Irregular schedules at call of Illinois Department of Natural Resources.
Local Match Required	Typically 20%	20%	10%	No match required	Typically 20%, some 50%
Eligible Applicants	Local governments	Any governmental entity	Any governmental entity or non-profit	Any governmental entity or non-profit	Any governmental entity or non-profit

Application Process	Surface Transportation Block Grant Program (STBG)	Community Development Block Grants (CDBG)	Congestion Mitigation and Air Quality (CMAQ)	STBG Program Set-Aside (formerly TAP)	Invest in Cook
Program Purpose	To fund state and local road and transportation projects.	To fund community development projects in low- and moderate income communities.	To improve air quality and reduce traffic congestion in areas that do not meet air quality standards.	To support non-motorized modes of transportation.	To support projects that contribute to the goals of the Cook County Long-Range Transportation Plan.
Program Administrator	Cook County Councils of Mayors	Cook County Bureau of Economic Development	CMAP	CMAP	Cook County Department of Transportation & Highways
Eligible Projects	Bike/ped facilities. Road projects that include sidewalks receive additional points.	Accessibility projects, sidewalk improvements, street improvements, and other neighborhood facilities.	Bike/ped facilities, safety education programs and encouragement incentives, active transportation plans, bike/ped maps, bike/ped coordinator position.	Bicycle and pedestrian facilities, streetscaping,	Programs, Plans, Phase I Engineering, Construction
Key Project Requirements	1) Must reduce single occupancy vehicle trips and positively impact air quality. 2) Must be applied toward projects on collectors or arterials.	Must be in predominantly residential neighborhoods with populations identified as low- or moderate-income per application criteria.	1) Must be spent in non-attainment and maintenance areas. 2) Will be evaluated on air quality emissions.	1) Phase I engineering must be nearly complete. 2) Project must be included in a local, sub-regional or regional plan that was formally adopted.	Must relate to a goal spelled out in the county's long-range transportation plan.
Application Process	Varies depending upon sub-regional council of government	Varies, depending on funding availability.	Generally, an annual call for proposals.	Generally, an annual call for proposals in tandem with CMAQ announcement.	TBD
Local Match Required	Typically 20-30% for bike/ped projects	No match required	Typically 20%	20%	No match required
Eligible Applicants	Local governments in Cook County	Local governments	Local or state governmental agencies	Local governments	Local governments, agencies, organizations

4.4 OVERSIGHT

It is important to periodically revisit the plan and stay updated on roadway projects within other agencies and municipal neighbors to make the community a more pedestrian and bike friendly place. The following steps can be taken to assist and track progress of the plan.

Fully Implement the Complete Streets Policy

In 2016, the Village adopted a Complete Streets Policy. This policy creates a forum for advancing active transportation objectives within this plan. As such, the inter-departmental Complete Streets Committee should meet on a regular basis to secure (or plan for obtaining) local and grant funding to accomplish said objectives.

Create a Citizen Bicycle and Pedestrian Advisory Group

The heart and soul of this plan came from local Brookfield residents and staff who participated in public engagement events hosted by the steering committee. These visions and goals are expressed throughout the recommendations of this plan. Brookfield can continue to benefit from the wisdom of these advocates by inviting them to join a standing bicycle and pedestrian advisory council.

The Advisory Council will monitor implementation of the plan, organize and promote events celebrating active transportation in Brookfield, stay updated on potential grant opportunities, reach out to Active Transportation Alliance with questions or for plan implementation assistance, and encourage residents and visitors to use the improved active transportation network. The key stakeholders who comprised the steering committee for this plan would make ideal members of the proposed council. The Council can also assist in implementing the Village's Complete Streets policy.

Establish a Bicycle and Pedestrian Coordinator

Users of the active transportation network and the new Advisory Council would benefit from having access to a single municipal staff contact. This person could also be charged with seeking funding for implementation of the plan and creating partnerships with like-minded governments in the region. These could be roles assigned to a current Village staff champion of the plan. The person could be listed as a contact on the Village website and other communication materials as someone to reach for active transportation related questions.

Image Credit: Lena Pettus

APPENDIX

ACTIVE TRANSPORTATION PLAN PRIOTIZATION WORKSHEET

There are many strategies that can be implemented to reach your vision. Looking at the strategy prioritization worksheet, **rank in order of importance** the strategies you believe would ***create a better environment*** for active transportation users in your community and ***change people's perception*** of walking and biking as a form of transportation.

	Priorities	Already In Place	High	High-Med	Med	Med-Low	Low
Bike Network	***Connecting the Bike Network to:***						
	Public Transit		3	2			
	Employment Centers			2	1	1	1
	Shopping and Commercial Areas		3	2			
	Schools		4	2			
	Parks and Open Spaces		4	2			
	Local and Regional Trails	0.5	5	1			
Pedestrian Network	***Connecting the Pedestrian Network to:***	Already In Place	High	High-Med	Med	Med-Low	Low
	Public Transit		5				
	Employment Centers			2	1	1	1
	Shopping and Commercial Areas	1	3	2			
	Schools		4	1			
	Parks and Open Spaces		3	2			
	Local and Regional Trails	0.5	3	2			
Facilities and Amenities	***Walking Improvements***	Already In Place	High	High-Med	Med	Med-Low	Low
	Sidewalk quality and connectivity		3	1		1	
	Safety at crossings and intersections		6				
	Mid-block crossings			1	3	1	
	Crosswalk visibility		1	2	2		
	Lighting, trees, benches		3	1	1		
	Biking Improvements	Already In Place	High	High-Med	Med	Med-Low	Low
	Off-street trails and paths			2	3		
	On-street bike lanes		4		1		
	On-street separated bike lanes		2	1	1		1
	Wayfinding signage		2	2	1		
	Bicycle parking		2	2	1		
	Transit improvements	Already In Place	High	High-Med	Med	Med-Low	Low
	Bus shelters	1	2				1
	Accessibility to bus stops	1	2		1		1
	Accessibility to train stops	1	3		1		
	Number and location of bus stops		1		3	1	

Policies and Programs

Policy Areas	Already In Place	High	High-Med	Med	Med-Low	Low
Policies on designing roads for all users and modes of transportation	2	2		1		
Policies requiring developers to build bicycle and pedestrian friendly sites	1	2		2		
Regulations on clearing bikeways and walkways from debris and snow		1	3	1		
Other?						

Education	Already In Place	High	High-Med	Med	Med-Low	Low
Community Campaign on Sharing the Road		3		3		
Youth Safety Education	2	3	1			
Adult Bike Education		2	1	3		
Other?		1				

Encouragement	Already In Place	High	High-Med	Med	Med-Low	Low
Bike Trip Tracking				1	4	
Walking and Biking Events	1	2	2			
Local Business Incentives for Pedestrians and Cyclists		4	1		1	
Community Bike Map		4	2			
Walk and Bike to School Day Events	1	3	1			
Social Media Campaign		4		1	1	
Other?						

Enforcement	Already In Place	High	High-Med	Med	Med-Low	Low
Training for police on enforcing bike and pedestriay safety issues		3	2			
Crosswalk Enforcement Events		3	1	1		
School Zones Speeding Campaign		4	2			
Other?						

Appendix B: Design Guidance

Guide for the Planning, Design, and Operation of Pedestrian Facilities

American Association of State Highway and Transportation Officials (AASHTO), 2004

http://www.transportation.org

Designing Sidewalks and Trails for Access

U.S. DOT Federal Highway Administration

http://www.fhwa.dot.gov/environment/bicycle_pedestrian/publications/sidewalks/index.cfm

Guide for the Development of Bicycle Facilities, 4th Edition

American Association of State Highway and Transportation Officials (AASHTO), 2012

http://www.transportation.org

Urban Bikeway Design Guide

National Association of City Transportation Officials

http://nacto.org/cities-for-cycling/design-guide/

Urban Street Design Guide

National Association of City Transportation Officials

http://nacto.org/publication/urban-street-design-guide/

Complete Streets Complete Networks: A Manual for the Design of Active Transportation

Active Transportation Alliance, 2012
www.atpolicy.org/design

Bicycle Parking Design Guidelines

Association of Pedestrian and Bicycling Professionals

http://www.apbp.org/?page=Publications

Manual on Uniform Traffic Control Devices

Federal Highway Administration, 2009

http://mutcd.fhwa.dot.gov/

Bicycle and Pedestrian Accommodations Bureau of Design & Environment Manual

Illinois Department of Transportation, 2011 Edition

http://www.dot.state.il.us/desenv/BDE%20Manual/BDE/pdf/Chapter%2017%20Bicycle%20and%20Pedestrian.pdf

Interagency Transit Passenger Information Design Manual

Regional Transportation Authority

http://www.rtams.org/pdf/planning/SignageDesignManual.pdf

Transit Street Design Guide

National Association of City Transportation Officials

http://nacto.org/publication/transit-street-design-guide/

Transit Supportive Guidelines

http://pacebus.com/guidelines/index.asp

Parking Strategies to Support Livable Communities Chicago Metropolitan Agency for Planning

http://www.cmap.illinois.gov/documents/20583/c224c06f-2735-4400-8281-d3c263ce5ba6

Intersection Mural Program Examples

St. Louis, MO

https://www.stlouis-mo.gov/government/departments/mayor/initiatives/sustainability/toolkit/paint-intersections-building-murals.cfm

Denver, CO

https://www.denvergov.org/content/denvergov/en/transportation-mobility/services/community-streets/intersection-graphics.html

Paint the Pavement, Minneapolis, MN

http://www.minneapolismn.gov/www/groups/public/@cped/documents/webcontent/wcmsp-196543.pdf

The City Repair Project, Portland, OR

http://www.cityrepair.org/street-painting-examples/

Appendix C: Policy Resources

Active Transportation Alliance

Active Transportation Alliance has created a policy resource micro-site, www.atpolicy.org, with free access to Complete Streets policy briefs, local policy examples, and implementation materials. The site also includes PDF versions of local complete streets policies and links to reports from national partners on the benefits of complete streets.

Complete Streets: Best Policy and Implementation Practices

McCann, Barbara, and Suzanne Rynne, Chicago: American Planning Association, 2010.

This publication of the American Planning Association's Planning Advisory Service is available for purchase. It includes case studies, model policies, and development strategies revolving around Complete Streets.

"Complete Streets Policy Elements."

National Complete Streets Coalition.

http://www.completestreets.org/changing-policy/policy-elements/.

Provides a framework by which a Complete Streets policy can be designed and a basic outline of the elements of robust Complete Streets policies.

"Federal Policy Resources."

National Complete Streets Coalition.

http://www.completestreets.org/federal-policy/federal-policy-resources/.

Knowing the trends in national policies concerning Complete Streets can help reinforce local policy initiatives. The NCSC website details past federal activity concerning Complete Streets, features legislative language, and has tips for getting the attention of lawmakers at the federal level.

"Model Bike Parking Ordinance (with annotations)"

This annotated model policy for bike parking was developed through the Public Health Law and Policy (name changed to ChangeLab Solutions) http://www.changelabsolutions.org/publications/bike-parking

Appendix D: Programming Resources

Illinois Bike Safety Quiz Challenge

http://www.bikesafetyquiz.com/

Encourage cyclists and drivers to test their bike safety and share the road knowledge in this online test designed by Ride Illinois.

National Safe Routes to School Partnership

www.saferoutespartnership.org

Offer an annotated bibliography of traffic safety curricula and other educational resources.

Encouragement Resources

Marketing and promotion efforts are essential to any successful bikeways plan. These organizations provide resources to help encourage more cycling:

League of American Bicyclists

www.bikeleague.org

Sponsor the Bicycle Friendly Community program and offer resources for encouragement campaigns. It also certifies instructors to provide bike mechanic and traffic safety skills courses.

Association of Pedestrian & Bicycle Professionals

www.apbp.org

Offer webinars and other resources for professionals who implement education and encouragement campaigns.

Enforcement Resources

Active Transportation Alliance

www.activetrans.org

Provide training for the law enforcement community, including police, judges and prosecutors. The training focuses on best law enforcement practices to ensure traffic safety and an overview of current Illinois traffic safety laws. Active Transportation Alliance also provides free support services for victims of bicycle crashes.

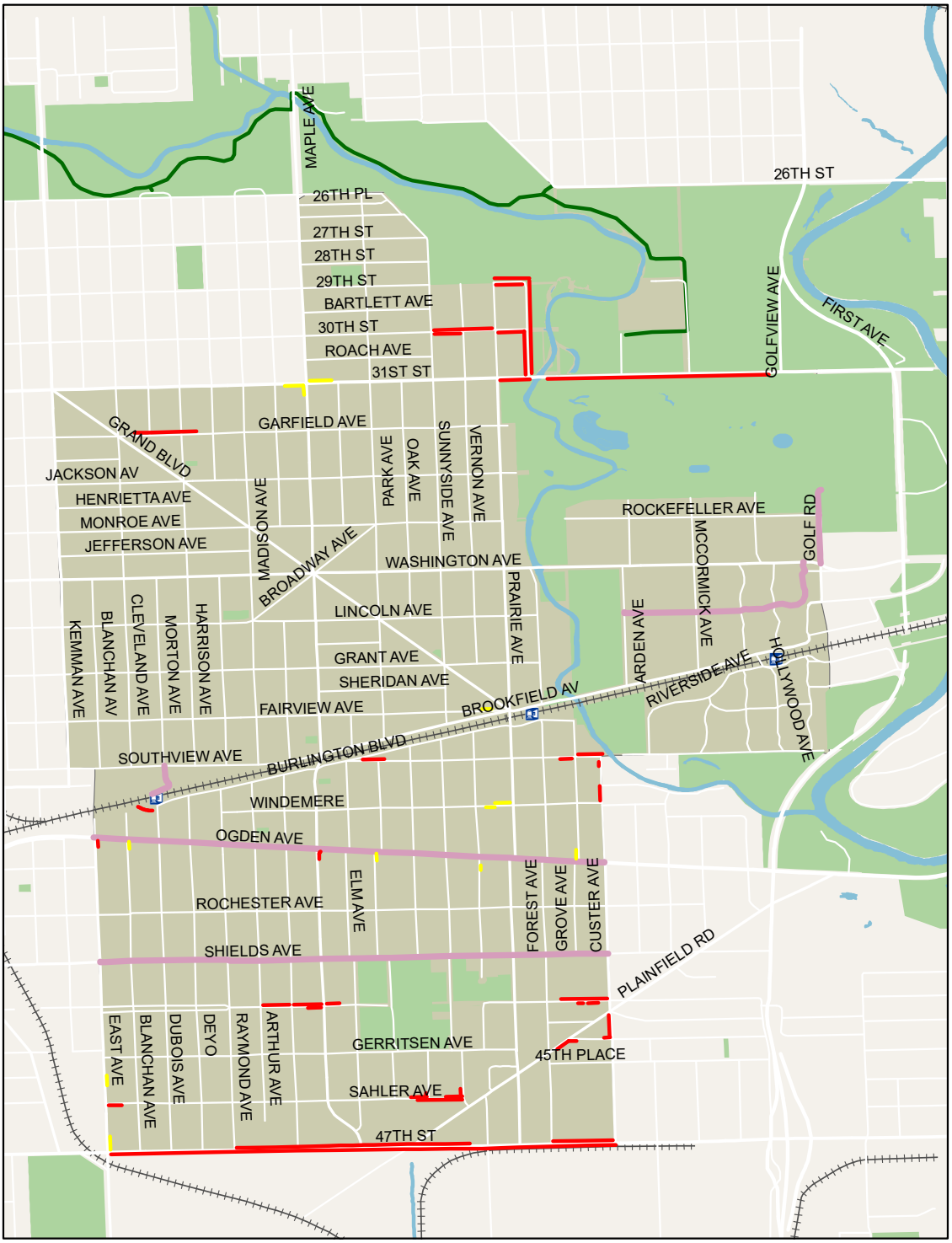
Vision Zero Network

http://visionzeronetwork.org/

Give support, guidance, and trainings for communities interested in reducing all traffic fatalities.

Appendix E: Sidewalk Inventory

The following map and charts illustrate the complete inventory of proposed pedestrian improvements. In the Facility Type column, "Sidewalk" refers to a place where sidewalks do not exist and need to be built (aka sidewalk gaps), "Sidewalk Improvements" are places where sidewalks exist but are in disrepair or have other obstructions, and "Pedestrian Improvement" refers to other recommendations to address barriers to walkability within a corridor.



Pedestrian Improvement Route Sidewalk Improvement Sidewalk

Sidewalk Gaps and Improvements Inventory					
Street Name	**From**	**To**	**Facility Type**	**Facility Description**	**Comments**
29th St	Prairie Ave	Forest Ave	Sidewalk	South side	
29th St	Prairie Ave	Forest Ave	Sidewalk	North side	Would go through Forest Preserve ROW
30th St	Prairie Ave	Forest Ave	Sidewalk	South side	
30th St	Sunnyside Ave	Prairie Ave	Sidewalk	North side	
30th St	Sunnyside Ave	Vernon Ave	Sidewalk	South side	
31st St	Maple Ave	Midblock going east	Sidewalk Improvement	North side	Delineate and prioritize sidewalk over commercial driveways. Consolidate driveways.
31st St	Prairie Ave	Forest Ave	Sidewalk	South side	
31st St	Salt Creek Bridge	Golfview Ave	Sidewalk	South side	Connects to Zoo entrance
31st St	Maple Ave	Midblock heading west	Sidewalk Improvement	South side	Coordinate with gas station to consolidate vehicular drives
47th St	Custer Ave	Forest Ave	Sidewalk	North side	
47th St	Custer Ave	East Ave	Sidewalk	South side	There are no sidewalks along the south of 47th St
47th St	Vernon Ave	Raymond Ave	Sidewalk	North side	There are crumbling sidewalks in front of some businesses. Many of the intersections do not have curb ramps.
Blanchan Ave	Ogden Ave	Midblock heading south	Sidewalk Improvement	East side	Coordinate with business so related vehicles do not park in the pedestrian path. Delineate sidewalk.
Burlington Blvd	Dubois Ave	Western deadend of street	Sidewalk	South side	
Congress Park	Midblock: Custer Ave and Forest Ave		Sidewalk	South side	Intermittent sidewalk gaps. Large sidewalk gap on north side of roadway adjacent to Lincoln Elementary.

Sidewalk Gaps and Improvements Inventory					
Street Name	From	To	Facility Type	Facility Description	Comments
Congress Park Ave	Custer Ave	Forest Ave	Sidewalk	North side	Majority of this block does not have sidewalk on the north side. Adjacent to Lincoln Elementary School. Gaps on south side of road.
Congress Park Ave	Madison Ave	Midblock: Maple Ave and Elm Ave	Sidewalk	North side	
Congress Park Ave	Maple Ave	Midblock heading west	Sidewalk	South side	
Custer Ave	Southview Ave	Windemere Ave	Sidewalk	West side	Sidewalk gaps in this block. Cars are parked in the area where a sidewalk would be in installed in the southern gap
Custer Ave	Plainfield Rd	Gerritsen Ave	Sidewalk	West side	
East Ave	Ogden Ave	Midblock heading south	Sidewalk	East side	
East Ave	Midblock: Gerritsen and Sahler Ave	In front of Brookfield Water Dept	Sidewalk Improvement	East side	Consolidate/narrow giant driveway into the lot
East Ave	47th St	Midblock heading north	Sidewalk Improvement	East side	Install new sidewalks where crumbling and delineate/prioritize sidewalk across garage business drive
Fairview Ave	Midblock: Sunnyside Ave and Grand Blvd		Sidewalk Improvement	North side	Create physical separation, such as curb, to prevent cars from parking in the sidewalk in front of auto repair shop
Forest Ave	30th St	31st St	Sidewalk	West side	
Forest Ave	31st St	29th St	Sidewalk	East side	Would go through Forest Preserve ROW

Sidewalk Gaps and Improvements Inventory					
Street Name	**From**	**To**	**Facility Type**	**Facility Description**	**Comments**
Garfield Ave	Midblock: Cleveland Ave and Morton Ave	Midblock: Harrison Ave and Raymond Ave	Sidewalk		
Gerritsen Ave	Custer Ave	Midblock heading west	Sidewalk	North side	
Gerritsen Ave	Plainfield Rd	Midblock heading east	Sidewalk	South side	
Golf Rd	Ridgewood Ave	Brookfield Zoo South Entrance	Pedestrian Improvement Route	Wayfinding Signage	Sidewalk improvements leading to Zoo entrance
Grove Ave	Grove Ave	Midblock heading north	Sidewalk Improvement	West side	Create physical separation, such as curb, to prevent cars from parking in sidewalk
Maple Ave	31st St	Midblock heading south	Sidewalk Improvement	West side	Coordinate with gas station to consolidate vehicular drives
Maple Ave	Ogden Ave	Midblock heading south	Sidewalk	East side	Coordinate with gas station to consolidate drives
Morton Ave	Southview Ave	Congress Park Metra Tunnel	Pedestrian Improvement Route		Pedestrian scale lighting, landscaping, pave Morton, wayfinding signage, pedestrian arms at RR tracks.
Oak Ave	Oak Ave	Midblock heading north	Sidewalk	West side	
Ogden Ave	Eberly/East Ave	Custer Ave	Pedestrian Improvement Route	Drive consolidation	Design and policy interventions to prevent cars parking in sidewalk
Park Ave	Ogden Ave	Midblock heading south	Sidewalk Improvement	East side	Create physical separation, such as curb, to prevent cars from parking in sidewalk
Parkview Ave	Arden Ave	Woodside Ave	Pedestrian Improvement Route		Sidewalk and curb ramp improvement area
Plainfield Rd	Gerritsen Ave	Midblock heading southwest	Sidewalk	Northeast side	

Sidewalk Gaps and Improvements Inventory					
Street Name	**From**	**To**	**Facility Type**	**Facility Description**	**Comments**
Sahler Ave	Sunnyside Ave	Midblock: Park Ave and Oak Ave	Sidewalk	North side	
Sahler Ave	Sunnyside Ave	Oak Ave (just west of)	Sidewalk	South side	There may be enough space north of Automotive business fence for a sidewalk, but may need to coordinate
Sahler Ave	East Ave	Midblock heading east	Sidewalk	South side	
Shields Ave	Eberly/East Ave	Custer Ave	Pedestrian Improvement Route	Update curb ramps to ADA	Targeted crossing and crosswalk improvements between residential area, school and park
Southview Ave	Grove	East deadend of street	Sidewalk	North side	Appears sidewalk used to exist but is crumbled
Southview Ave	Grove Ave	Midblock heading west	Sidewalk	South side	
Southview Ave	Burlington Blvd	Midblock heading east	Sidewalk	North side	
Sunnyside Ave	Sahler Ave	Midblock heading north	Sidewalk	West side	
Vernon Ave	Midblock: Ogden Ave and Rochester Ave		Sidewalk Improvement	East side	Consolidate/narrow driveway into CVS parking lot or create clearly defined pedestrian path/high visibility crosswalk
Windemere Ave	Prairie Ave	Midblock heading west	Sidewalk Improvement		Create physical separation, such as curb, to prevent cars from parking in the sidewalk in front of the school
Windemere Ave	Midblock: Vernon Ave and Prairie Ave		Sidewalk Improvement	South side	Crumbling sidewalk and car is parked in the pedestrian path
Woodside Ave	Parkview Ave	South Entrance of Brookfield Zoo	Pedestrian Improvement Route		Sidewalk and curb ramp improvement area

IMPROVING OPTIONS FOR BIKING, WALKING, AND TRANSIT ACCESS

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