ITEM MOT 00-05235

VILLAGE OF DOWNERS GROVE
REPORT FOR THE VILLAGE COUNCIL MEETING
AUGUST 6, 2013 AGENDA

SUBJECT:	TYPE:	SUBMITTED BY:
Update to the Village of Downers Grove Bicycle and Pedestrian Plan	Resolution Ordinance ✓ Motion Discussion Only	Nan Newlon, P.E. Director of Public Works

SYNOPSIS
A motion is requested to accept the update to the Village of Downers Grove Bicycle and Pedestrian Plan, dated March 2013, prepared by Sam Schwartz Engineering.

STRATEGIC PLAN ALIGNMENT
The goals for 2011 to 2018 identified *Top Quality Infrastructure and Steward of Financial and Environmental Sustainability.*

FISCAL IMPACT
Recommendations from this plan will be incorporated into future budget discussions.

UPDATE & RECOMMENDATION
This item was discussed at the May 21, June 11 and June 18, 2013 Village Council meetings. Based on Council discussion at the meetings, this item is being placed on First Reading for further consideration.

BACKGROUND
The Village was awarded a Community Planning Program grant by the Chicagoland Metropolitan Agency for Planning (CMAP) to update the existing Bicycle and Pedestrian Plans, which were created in 2000 and 2001. Over 70% of the originally proposed bicycle network has been put in place and a 95+% complete network of public sidewalks exist; however, there is strong desire in the community for a greater level of non-motorized transportation. The purpose of this plan update is to ensure that the Village is using best practices to plan and manage its transportation system, specifically for non-motorized trips. The major elements of this plan update included working with a project steering committee, creating goals, conducting a high level of public engagement, identifying key findings and developing achievable recommendations.

Steering Committee

The project steering committee included representatives of the following groups:

- Other Government Entities (Park District, District 58, Forest Preserve District, DuPage County)
- Downers Grove Bicycle Club
- Village Staff (Police, Community Development, Public Works)
- Downtown Management Corporation
- Transportation and Parking Commission

Goals

The Plan's goals include:

- Improving mobility and safety for bicyclists and pedestrians
- Improving the pedestrian experience in Downtown Downers Grove
- Attracting residents and visitors to Downers Grove
- Encouraging reduction in car trips by using non-motorized means of transportation
- Improving connections to regional bike routes
- Completing the sidewalk network; and
- Being recognized as a "Bicycle Friendly Community"

Public Engagement

The public outreach process reached over 400 stakeholders. The public engagement process included:

- Staff and consultant manned booths at Bike to Work Week, the Car Show, the Downers Grove Market and Rotary Grovefest in 2012
- Two interactive walking and bicycling workshops
- Two public meetings with the Transportation and Parking Commission; and
- An on-line survey

Key Findings

Strengths

- The Village is known for a very walkable downtown and has many popular destinations and prominent events that are potential attractions for pedestrians and cyclists
- Bicycle parking facilities are well used, particularly at the commuter train stations
- Prior Metra studies found Downers Grove to be among the top ten for bicycle use
- The Village has a nearly comprehensive sidewalk network
- The Comprehensive Plan includes supportive recommendations for bicycling and walking
- A predominant grid system of low volume streets is conducive to bicycling

Opportunities for Improvement

- There are 28 miles of signed bike routes in the Village; however, some are lacking in continuity
- Major street crossings and the railroad create barriers for bicyclists and pedestrians
- The rate of injuries resulting from bicycle crashes per Downers Grove resident is 1.5 times the national average
- The addition of on-street bicycle facilities was felt to be most needed by residents who provided comments. Most were in favor of striped bike lanes.

Recommendations

The Plan's recommendations include those made by the consultant as well as recommendations made by staff and the steering committee. The recommendations that could be implemented more quickly are categorized as short term. Implementation of a majority of the recommendations will require funding approval, changes to regulations or Village policy and will be presented in more detail to the Transportation and Parking Commission and Village Council prior to implementation. Recommendations that are not regulatory or require a change to Council policy will be addressed by staff.

Short-Term Recommendations

- Create a bicycle and pedestrian task force
- Complete the network of signed routes
- Increase bicycle parking in the downtown
- Institute a bicycle rack request system
- Identify needed improvements for crossings of major streets
- Create a plan to beautify pedestrian spaces and corridors in the downtown

- Complete missing short trail connections
- Include countdown indicators and other ADA amenities with new traffic signals

Medium-Term Recommendations

- Identify funding and locations for expanded bicycle parking at the commuter stations
- Sponsor a bike rack design competition
- Review the current policy for removing abandoned bicycles
- Complete the sidewalk network for at least one side of the street
- Improve the crossings of major streets
- Install count-down indicators on existing high priority traffic signals
- Improve connections to the proposed 31st Street Trail
- Identify and implement safety enhancements for mid-block pedestrian and bicycle crossings
- Identify and implement best practices for bicycle promotion and safety education

Longer-Term Recommendations

- Coordinate with DuPage County regarding a connection to a 75th Street sidepath
- Evaluate the feasibility of a separated pedestrian crossing at Lee Street and in the downtown and the BNSFRR

The draft plan was presented at the November meeting of the Transportation and Parking Commission. With the inclusion of comments and recommendations made at the meeting, members of the Commission recommended unanimously to approve the updated Bicycle and Pedestrian plan.

ATTACHMENTS

Meeting Minutes – TAP Commission
Village of Downers Grove Bicycle and Pedestrian Plan

TRANSPORTATION AND PARKING COMMISSION
MEETING MINUTES

NOVEMBER 14, 2012

1. File #19-12 Bike/Ped Update Plan – Draft Recommendations. Mr. Fera introduced consultants **Ms. Stacy Meekins** and **Ian Preston** with Sam Schwartz Engineering. He summarized that staff did review the recommendations and had some comments which were incorporated into the material being presented. The material was now up for commissioner comments with refinements to follow and hopefully finalization during December 2012.

Chairman Pro tem Schiller mentioned that when he did review the material, he was surprised to find that there were a number of items that would normally come before the commission as individual items. He confirmed with **Mr. Fera** that if the commission recommends this draft that the recommendations made in the report would still come before the commissioners with participation by the property owners, etc, that are affected by the recommendations, to which **Mr. Fera** confirmed yes but clarified some items may cost more or have certain timelines, etc. but that they would come before this commission. The plan would also go before the Steering Committee for review as well.

Ms. Meekins walked through her PowerPoint presentation and asked the commissioners to feel free to walk around the room to view the map boards and make comments.

She brought the commissioners up to speed on the Bike/Pedestrian plan, recalling that existing conditions were taken into consideration, primarily focusing on ADA accessibility and how information was gathered for the Existing Conditions Report. A Pedestrian Infrastructure Report was put together for the downtown area, along with the draft recommendations being presented today. **Ms. Meekins** pointed out that the draft recommendations were different from the final plan which would include costs and implementation steps.

A survey was taken from 400 individuals on the positives and negatives of the current pedestrian/biking conditions in the Village and key destinations which fed into the goals and recommendations. Details followed on the goals for that portion, followed by the seven Bicycle Network recommendations. Commissioner questions followed on the design competition, removing abandoned bicycles, and the implementation of the covered bicycle racks, also noting that cyclists could use the public parking garage for long-term parking.

Ms. Meekins said that one consistent comment received from the public was that the current signed Bike Route streets do not make them comfortable bike routes. **Ms. Meekins** mentioned a number of phases would take place: Phase 1 encompassed enhancing the current bike routes with on-street pavement markings and adding some connections and off-street routes to improve the overall connectivity of the bike network. Phase 2 would cover further improved connectivity by marking the longer routes and working with the county on some engineering analysis. Speaking on the

recommendations for Fairview Ave., **Mr. Wrobel** pointed out that other communities have used large amounts of parkway area and expanded their sidewalks to become bikeways/sidewalks and that Fairview Ave could be left as a three-lane street and incorporate the bikeway with the existing sidewalks. **Ms. Meekins** offered to review that idea but agreed with **Mr. Schiller** that the third center lane on Fairview Ave was usually used for left-turners and that it depended on the land use characteristics. In this case, Fairview Ave was not heavy commercial, but instead, was residential, and should not have much turning volumes. **Ms. Vlcek** countered her comment, stating the street has become an arterial street. She suggested **Ms. Meekins** reviewing Fairview Ave again. She also appreciated the educational piece added in the plan.

Ms. Loehman also stated she did not understand why **Ms. Meekins** would want to remove a lane when there was a sidewalk, wherein **Ms. Meekins** stated that biking on a sidewalk was less safe than biking in the street and streets had to be designed to be safer for bikes, i.e., bike lanes. Examples followed.

In response to **Mr. Wrobel's** question regarding the Green Valley Bikeway and the Woodridge Trail network and those networks being counter to using streets, **Ms. Meekins** stated that many people do feel safer off the roadway and the issue was a "Catch 22". Examples followed but also the fact that the issue was visibility with cyclists and if given a separate lane on a street, the cyclists become more visible.

Continuing, **Ms. Meekins** reviewed Phase 3, which would cover connections, some coordinated engineering with the county and neighboring municipalities. Because it was not on the map, **Mr. Fera** inquired about the Burlington/Warren connection from the Village's downtown to Walnut Avenue and that it be added to the map. **Mr. Saricks** agreed and that consideration should be taken to connect the north and south areas of the Village, specifically to Gilbert Park, with either an overpass or underpass at the location. **Ms. Meekins** stated it should be on the map and will follow up. **Mr. Fera** added that staff also initiated dialogue with the Forest Preserve about the narrow bridge within Maple Grove near Gilbert Park. The existing gravel path is useable, but is very difficult to navigate once one got to the bridge over the creek.

Continuing, **Ms. Meekins** reviewed the Pedestrian Improvement recommendations which included general policy recommendations. Regarding the rectangular rapid flash beacon (RRFB) a question was raised regarding the testing done on it due to concerns about neuro-patients, which **Ms. Meekins** confirmed was done. Recommendations for specific intersections also followed, noting that many were located on Fairview Ave, to which **Mr. Fera** pointed out that 4 out of the 6 intersections were not Village-maintained intersections. Regarding 55th Street, **Mr. Fera** added that the DuPage DOT was currently studying the corridor between Dunham Road and the Village limits. The Village has provided some input already to certain intersections in that corridor, with more comments to it in the future.

Ms. Meekins then discussed the programmatic recommendations. A question followed on the latest trend in bicycles, wherein **Ms. Meekins** stated the move was more toward "city bikes" -- upright and utilitarian. Another question was whether the bike lanes were wide enough along the apron of the road -- given the training cyclists -- wherein **Ms. Meekins** explained the lanes were designed to have more space than is physically needed to ride a bike. Asked if **Ms. Meekins** was seeing more incumbents in older demographic communities, she indicated she had not heard it was a trend, but it was

possible. **Mr. Fera** also brought attention to the fact that there are different types of bike riders, i.e., the weekend riders, the parent-with-child rider, and the athlete rider, and lanes had to be designed with all three in mind.

Ms. Vlcek appreciated the plan as it was very detailed and helpful. A motion was entertained.

MR. SARICKS MADE A MOTION THAT THE TRAFFIC AND PARKING COMMISSION APPROVE THE BIKE/PEDESTRIAN REPORT AND TO FORWARD IT TO THE VILLAGE COUNCIL AS PRESENTED.

MS. VLCEK SECONDED THE MOTION.

MOTION CARRIED UNANIMOUSLY BY VOICE VOTE OF 6-0.

Village of Downers Grove

Bicycle and Pedestrian Plan

MARCH 2013

SAM SCHWARTZ ENGINEERING

Village of DOWNERS GROVE FOUNDED IN 1832

Village of Downers Grove Bicycle & Pedestrian Plan

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Village of Downers Grove

BICYCLE & PEDESTRIAN PLAN

Introduction

The Village of Downers Grove is on its way to becoming recognized as one of Chicagoland's most bicycle and pedestrian friendly destinations for residents and visitors alike. In 2000, the Village completed both a bicycle and a pedestrian plan. Now, through the support of the Chicago Metropolitan Agency for Planning (CMAP), the Village is embarking on an update and integration of the previous plans with this Bicycle and Pedestrian Plan.

The Village of Downers Grove has a solid foundation of walking and biking assets to build off of, with several bike facilities, a strong culture of biking to Metra stations, a near-complete sidewalk network, and a successful walkable downtown business district. With three Metra stations in the Village, many residents and businesses are within a quick walk or bike ride of connecting to downtown Chicago, 22 miles away.

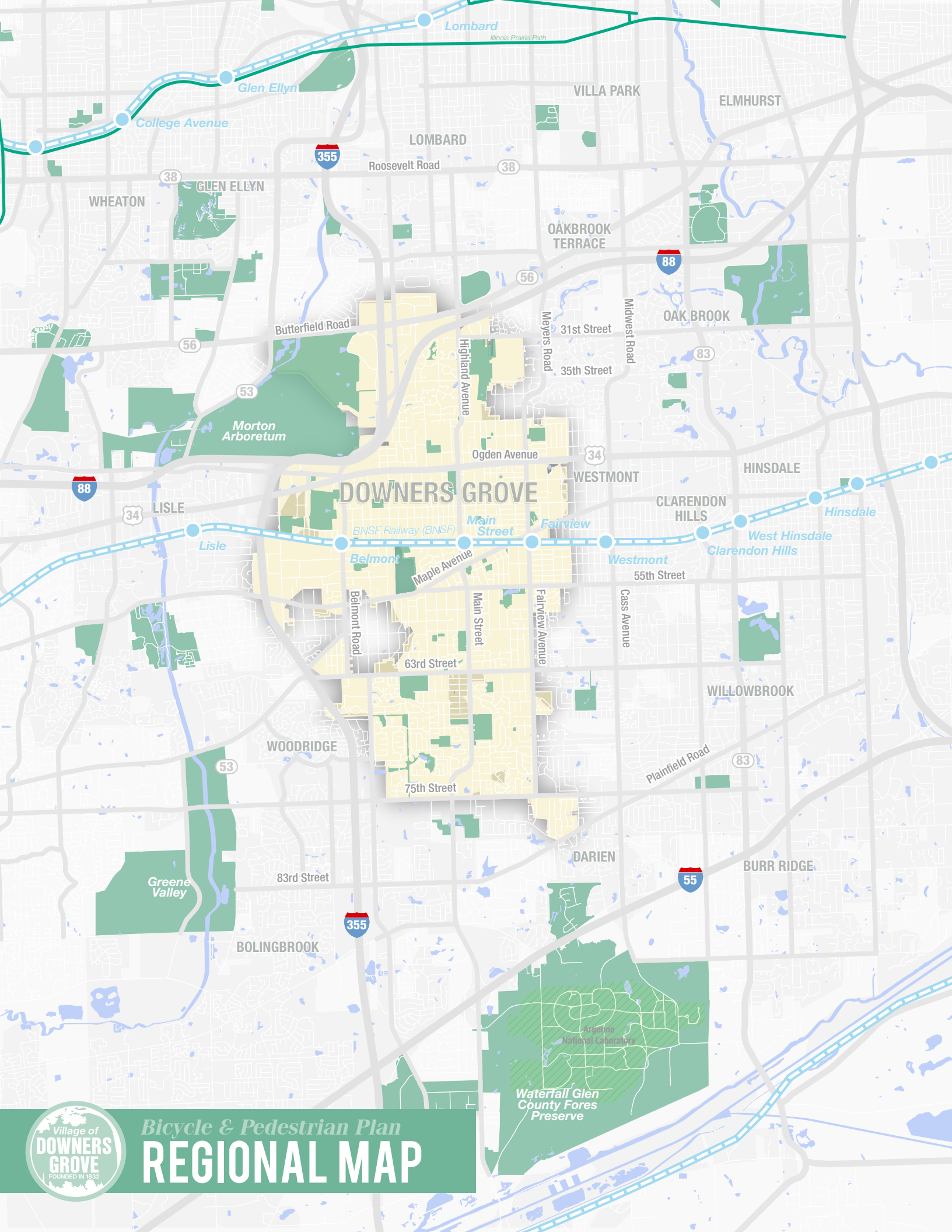
Creating safe streets and crossings that are inviting to bicycles and pedestrians encourages residents to lead more healthy lifestyles. Without the feeling of security and convenience, people will choose to drive as it seems less intimidating and easier. Given today's health outlook as obesity and other effects of physical inactivity are increasing, being able to make healthy choices is important for the entire community. A walkable and bikeable community also instills independence among those who cannot or choose not to drive.

Streets that are safer for bicyclists and pedestrians are also safer for drivers. Adding bike lanes to streets has been shown to reduce crashes among all roadway users and calm vehicle speeds. Slower speeds are in turn more inviting to pedestrians and bicyclists. This sequence leads to a street network that becomes a more hospitable environment in which to live, work, and play.

This document first summarizes the exploratory phase of the planning process. The *Existing Conditions* include general observations of pedestrian and bicycle conditions, an analysis of crashes, a document review, and a public input summary. Guidelines are presented for bicycle and pedestrian infrastructure in the *Tools* section. These are intended to provide direction during the plan's implementation. The *Recommendations* section covers engineering, policy, and programmatic solutions to improve the Village's bicycle and pedestrian networks. Finally, an *Implementation* section recommends a schedule for specific tasks to turn the plan into a reality.

Bicycle & Pedestrian Plan Goals

- Improve mobility and safety for bicyclists and pedestrians
- Improve the pedestrian experience in Downtown Downers Grove
- Attract residents and visitors to Downers Grove
- Encourage mode shift to reduce car trips
- Improve connections to regional bike routes
- Complete the sidewalk network
- Be recognized by the League of American Bicyclists as a "Bicycle Friendly Community"



Village of DOWNERS GROVE FOUNDED IN 1832

Bicycle & Pedestrian Plan

REGIONAL MAP

EXISTING CONDITIONS

Being a Pedestrian in Downers Grove

Downers Grove has invested tremendous resources in its pedestrian infrastructure. The Village is known for its very walkable and successful downtown business district. The pedestrian friendly nature of Downers Grove sets it apart from many suburban communities in the Chicago metropolitan region.

Downtown Downers Grove has many popular destinations and prominent events, including the Downers Grove car show and the Downers Grove Market, that draw crowds of residents and visitors. The downtown is consistently active with people. Wide sidewalks, slow traffic, and crossings that are safe and convenient, all have helped create this atmosphere and foster the success of the downtown.

Throughout the Village's neighborhoods, Downers Grove has a nearly comprehensive sidewalk network with a sidewalk on at least one side of almost every street. The sidewalk network allows for residents to walk as part of their daily routine, whether it be walking to school, running an errand, walking the dog, or simply strolling around the neighborhood. However, barriers remain that keep people from walking more. The major arterials (e.g. Ogden Avenue, Finley Road, 55th Street, 63rd Street, 75th Street) are difficult for pedestrians to cross, and as such, separate residents from destinations such as parks and schools. The Burlington Northern Santa Fe (BNSF) tracks that bisect the Village also create a significant barrier for pedestrians. With only a handful of crossings, pedestrians have to walk up to 3 miles to get to a destination that is directly across the tracks. This is often discouraging for biking and prohibitive to walking. Difficult crossings caused by the rail tracks and major streets have created difficulties for pedestrians trying to reach popular parks such as the Maple Grove Forest Preserve and McCollum Park, both of which are destinations nearby residents would like to be able to walk to.

A Commitment to Walkability

The Village values its walkability and is motivated to further improve on it, which is evident from the continuing work to fill in gaps in the sidewalk network as well as its planning efforts. The recently adopted Comprehensive Plan includes recommendations supportive of pedestrian activity such as mixed use development around transit, streetscaping, and reduction in the number of driveways along commercial corridors to improve safety and ease of travel for pedestrians. Land uses that support an active lifestyle such as neighborhood-based commercial development are included in the plan, which puts shops within easy walking and bicycling distances of residents.

This is important because building a pedestrian network relies on more than just transportation infrastructure. It will also take land use development that contributes to a good walking environment,

State of Bicycling in Downers Grove

Bike Network

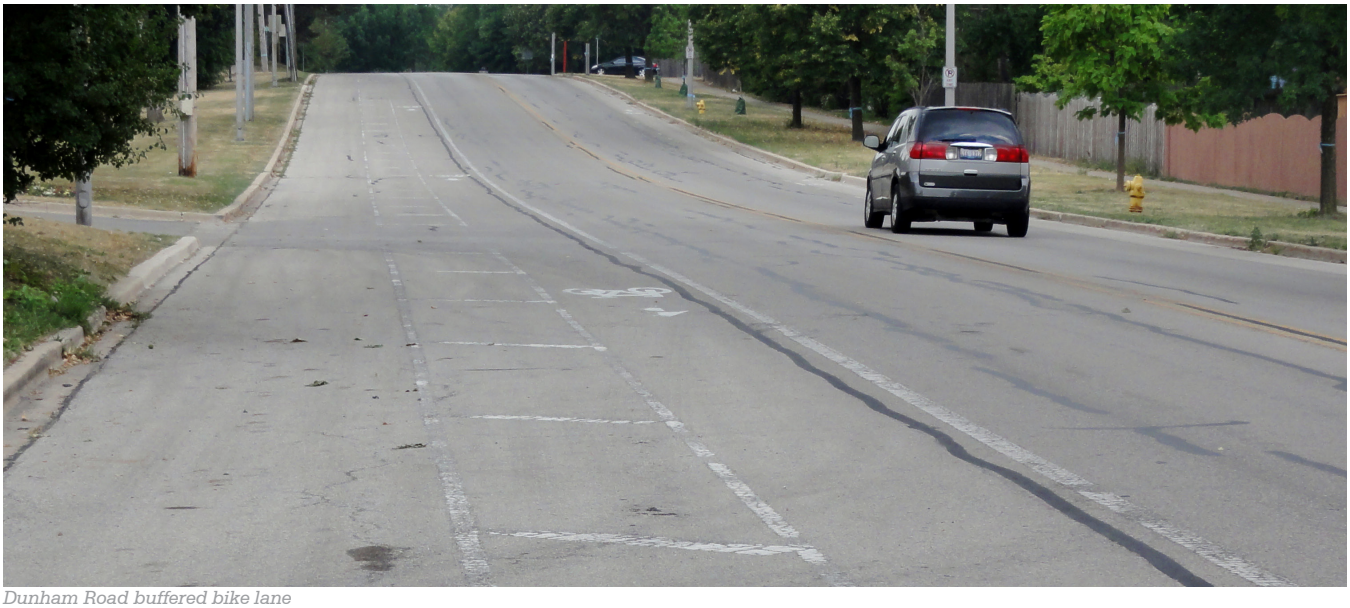
Downers Grove's street network is laid out primarily in a grid pattern, which lends itself well to multi-modal travel. There are many residential streets in the Village with relatively low traffic volumes, low parking demand, and slow vehicle speeds that are comfortable for bicyclists of all skill levels. Still, a few streets are barriers to bicycle travel, particularly for bicyclists with lower comfort levels on the streets. Many of these bicyclists would feel more comfortable on streets with bike lanes or on off-street shared use paths.

Formal, on-street bicycle facilities are limited in Downers Grove. A buffered bike lane is striped along portions of Dunham Road and 71st Street for a total of roughly one mile in each direction. Another bike lane is striped for one block along Warren Avenue.

An additional 28 miles of streets are signed as bike routes, indicating to bicyclists which streets are preferred for biking. However, in some cases, the recommended routes simply end without connecting to other routes or destinations, dropping bicyclists at major streets that are uncomfortable for biking, such as 75th Street or Butterfield Road. Developing a complete network that links bike routes together and leads to important destinations will be a priority of this plan.

As with pedestrians, street and rail crossings are major barriers to bicycling in Downers Grove, with the BNSF tracks being the most significant among them. There are few streets that cross the BNSF tracks and some of those that do are not comfortable for many bicyclists. Several other major streets such as Ogden Avenue, 31st Street, 55th Street, 63rd Street, and Belmont Road are barriers due to high traffic volumes or speeds.

Even more intimidating to get across are the streets that border the Village: 75th Street, Butterfield Road, I-88, and I-355. These wide roads create barriers for people wanting to travel between Downers Grove and neighboring communities.



Dunham Road buffered bike lane

Bike Parking

As evidenced by the consistently full and often over-flowing bike parking at the Main Street Metra station, residents routinely use bicycling for transportation in Downers Grove. During observations on typical weekday mornings, the bike racks on the north platform of the Main Street Metra station were completely full with additional bikes parked at unofficial parking spaces, such as poles or trees. The south platform has more bike parking than the north platform, with fewer people parking there on the days of observations, yet still were well-used.

The bike racks at the Belmont Metra station were about half full, despite the fact that the existing racks are temporary racks. Permanent racks are planned for this station.

This level of bicycle activity is not new to the Village. The 2000 Bikeway Plan as well as two Metra studies in 2003 and 2008 all found high utilization rates at train station bike racks. Metra's studies found the Main Street station to be among the top ten for bike parking of all stations in the agency's service area.

The downtown area has one large bike rack at the corner of Main and Warren with several additional smaller racks scattered at nearby destinations. The bicycle club of Downers Grove donated racks to be placed at popular destinations on the south side of the downtown. These site-specific racks had varied usage during observations, but these types of racks are typically used for short-term trips, as opposed to the bike parking at Metra stations where bikes are typically left all day. Bikes were also observed locked to sign posts or simply left unsecured on the sidewalk. This suggests a need for additional short-term parking.

Bike parking is available at other key destinations such as the library, schools, post office, and parks. Of note, no bike racks are available at the business park in the northwest area of the Village.

Safety of Walking and Bicycling

Crash data from the Illinois Department of Transportation (IDOT) and the Village of Downers Grove for the years 2007 through 2011 were analyzed to identify any specific locations or behaviors that are creating unsafe conditions for pedestrians and bicyclists. The data indicate that 74 bicyclists and 66 pedestrians were involved in motor vehicle crashes over that time period. One of those crashes resulted in a pedestrian fatality as the pedestrian tried to cross Butterfield Road.

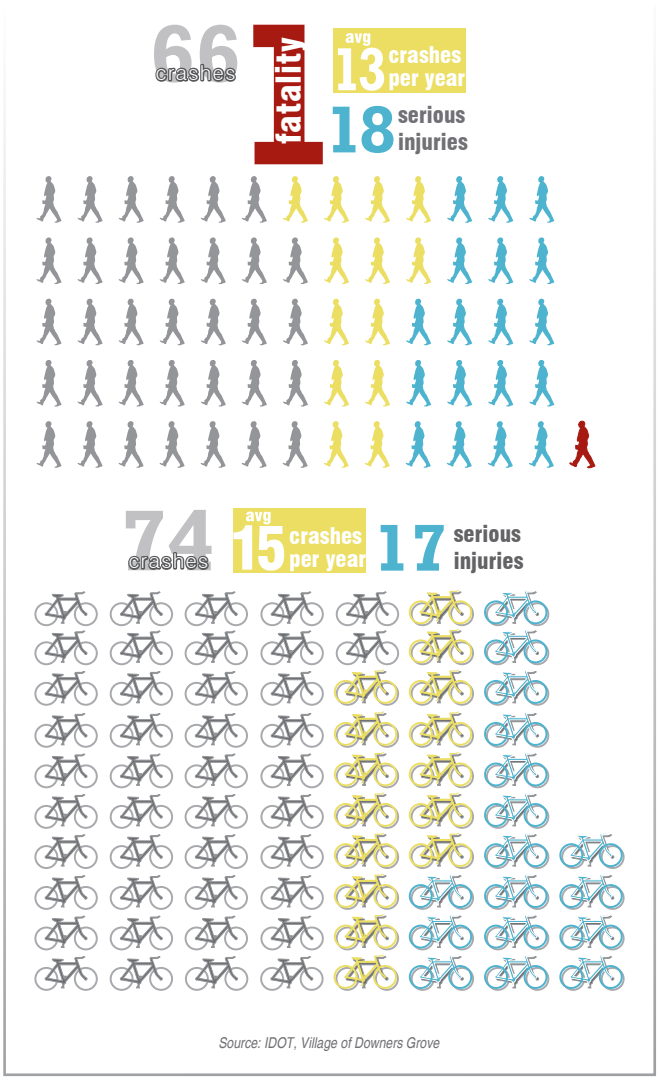
None of the bicycle crashes resulted in a fatality; however, the rate of injuries resulting from bicycle crashes per Downers Grove resident is nearly 1.5 times the national average. While the rate of pedestrian crashes in Downers Grove is consistent with national statistics, reducing crashes involving both bicyclists and pedestrians is a priority for the Village. Understanding what caused the crashes and where they occurred will help the Village determine how best to increase safety.

Most of the crashes occurred at intersections; however, the crashes at non-intersections were more likely to be severe crashes. This is consistent with pedestrian and bicycle crash studies nationwide and is likely due to the speeds of the vehicles when the crash occurred. Vehicles tend to be traveling slower through intersections than midblock.

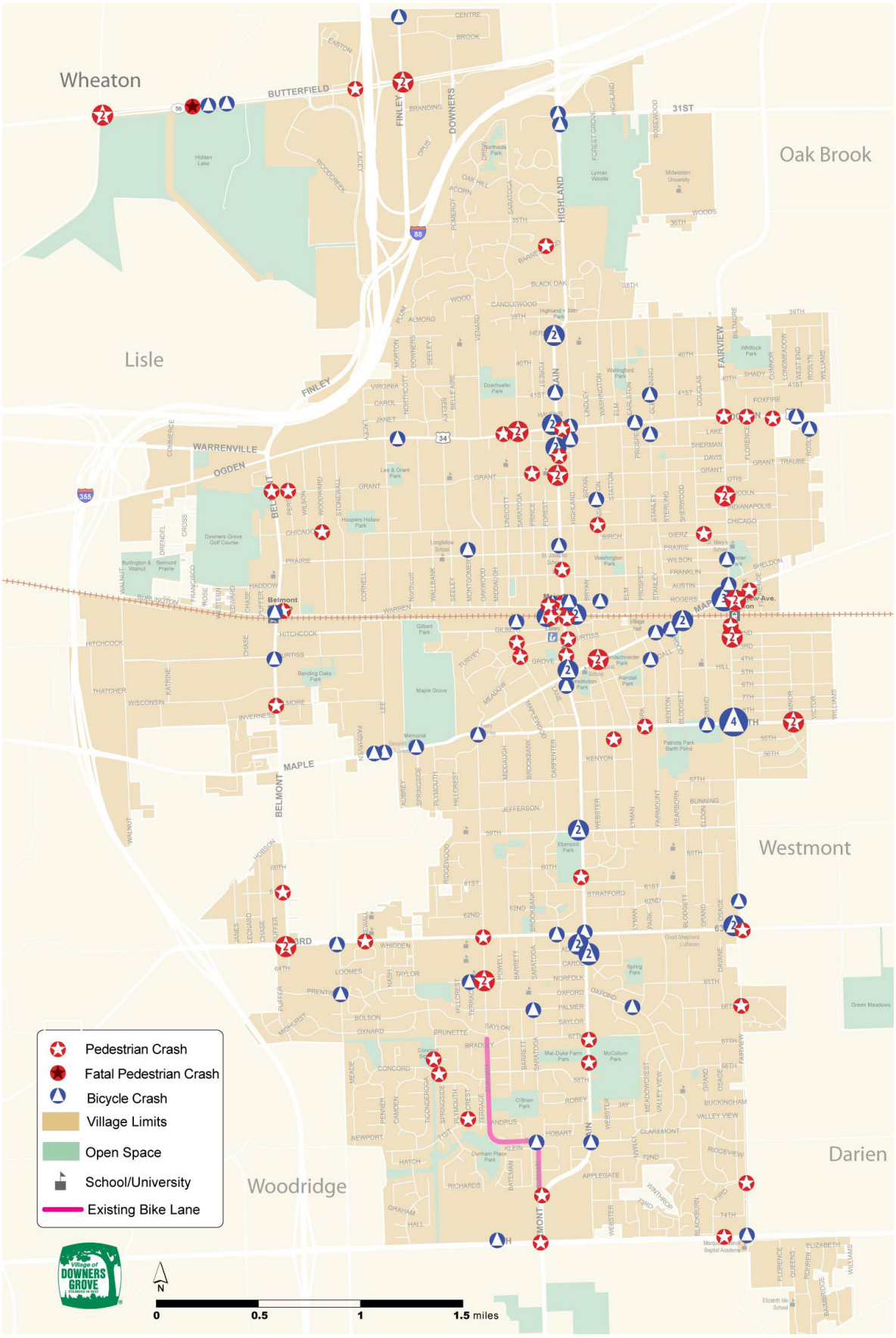
The map on the following page shows the pedestrian and bicycle crash locations and the number of crashes that occurred in the same location in Downers Grove from 2007 through 2011. Several places stand out for having a relatively high concentration of crashes. The intersection of 55th Street and Fairview Avenue had four bicycle crashes over this time period, the highest number of bicycle crashes at any individual intersection. Two of those involved a bicyclist who had been traveling along the sidewalk, crossing the road in the crosswalk, and a driver turning right on red.

Corridors along Maple Avenue, between Main Street and Fairview Avenue, along Main Street in the downtown and between Ogden Avenue and Grant Avenue, and Ogden Avenue also stand out.

Between 2007 and 2011, 66 pedestrians and 74 bicycles were hit by cars. One of those crashes resulted in a pedestrian fatality. 56 bicyclists were injured, for a rate that is almost 1.5 times the national average.



Source: IDOT, Village of Downers Grove



Bicycle and Pedestrian Crashes, 2007-2011

High Crash Intersections

55th Street & Fairview Avenue

Maple Avenue & Fairview Avenue

63rd Street & Fairview Avenue

Ogden Avenue & Main Street

Burlington Avenue & Main Street

Burlington Avenue & Forest Avenue

A closer look at the crashes in these areas and a review of the written narrative in the crash reports reveal some trends. Three-quarters of the bicycle crashes at the high crash locations involved bicyclists who had been riding along the sidewalk and were crossing a driveway or an intersection through the crosswalk. According to previous studies, bicyclists riding on the sidewalk are involved in more motor vehicle crashes than bicylists riding along a roadway.[1]

1 | American Association of State Highway and Transportation Officials, *Guide for the Development of Bicycle Facilities*, 2012.

The reason for this is that most drivers are looking for gaps in traffic and are thus focused on the roadway. While they may also check the sidewalk for pedestrians, they are not anticipating people approaching at faster speeds and do not see a cyclist who may be farther away. Most of the bicyclists involved in these crashes were adult cyclists, which suggests that people of all ages feel more comfortable biking on the sidewalks than on the streets in Downers Grove. These crashes were particularly common along Main Street.

Among the pedestrian crashes, about half involved pedestrians crossing in a crosswalk, in which the driver was at fault, and half involved pedestrians crossing outside of a crosswalk or against a traffic signal.

One quarter of the sample of crashes reviewed involved drivers turning right on red. The right turn on red crashes were concentrated at the intersections of 55th/Fairview and Main/Ogden.

Along the Ogden Avenue corridor, several crashes were caused by drivers not seeing the pedestrian or bicyclist crossing the road. One reason for this may be that the pedestrian or bicyclist was blocked from the motorist's view by another vehicle. This type of crash, known as a "multiple threat" crash, is common on four-lane roadways. They are caused by a driver in the outside lane yielding to someone crossing the road, but at the same time blocking them from the view of a second vehicle travelling in the inside lane, who then collides with the pedestrian. One tool to counteract this type of crash is to install advanced stop lines at designated midblock crosswalks along four-lane roadways. Several crashes along Ogden also occurred at driveways, when a bicyclist or pedestrian exited the driveway and entered the roadway.

Village & Regional Documents

Village of Downers Grove Bikeway Plan

Prepared in June of 2000, the *Village of Downers Grove Bikeway Plan* aimed to address the needs of bicyclists. Along with the companion Village Pedestrian Plan, the goals of the plan were to provide:

- Increased mode choice
- Additional opportunities for recreation
- Improved quality of life for all residents

At the time the plan was prepared, the existing bicycling facilities consisted of three signed routes forming looped tours through the Village on local streets, several off-street paths, and bike parking at Metra stations, schools, the library, and some shopping centers. On a typical weekday, 70-80% of the bike parking spaces at the Metra stations were used, with additional bicycles locked to unofficial bike parking spaces such as poles and trees.

The recommended bicycle network, shown on the following page, included 29.7 miles of on-street and 11.1 miles of off-street routes that would connect users to Metra stations, the downtown and outlying commercial areas, schools, libraries, and parks via direct but lower-volume roadways.

Roughly 70% of the proposed network has been implemented, the majority of which are signed routes.

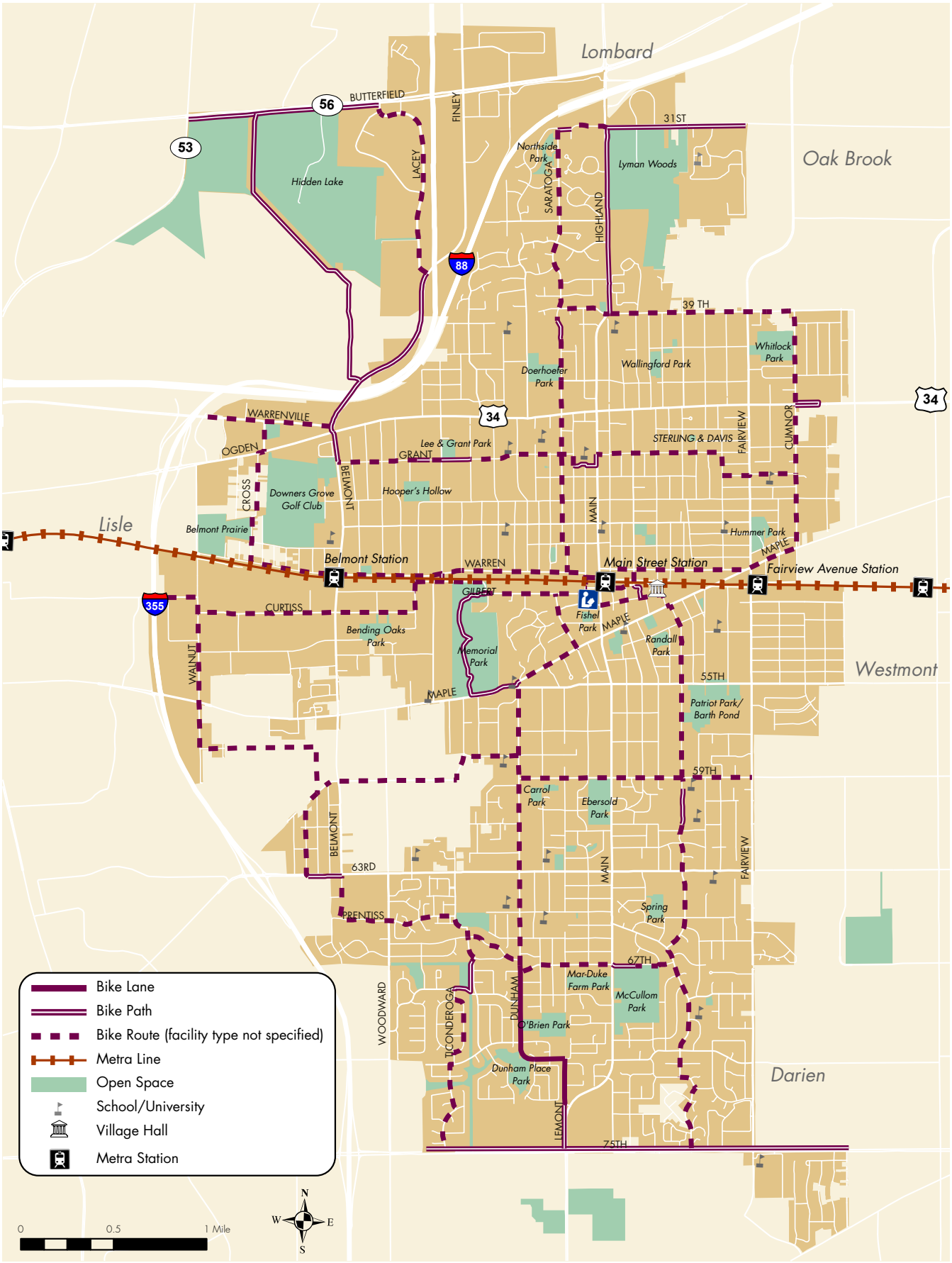
Village of Downers Grove Comprehensive Plan

The *Village of Downers Grove Comprehensive Plan*, adopted in October 2011, will guide future development and conservation in the village for the next 15-20 years. The Comp Plan is made of up several topical plans, covering land use, residential areas, commercial areas, transportation, parks and open space, community facilities, and key focus areas.

While the transportation plan focuses most specifically on bicycle and pedestrian issues, policies that are supportive of bicycling and walking were included in other topical areas, as land use and transportation are intrinsically linked.

A common theme was the objective that the Village continue to expand its sidewalk network to provide better connections between destinations. Neighborhood commercial development is encouraged, which facilitates walking and bicycling as transportation as it keeps destinations closer to residents.

Adding pedestrian amenities and improving the Village streets through streetscaping were also repeated throughout the document.



Village Bikeway Plan, 2000 | Proposed Routes

DuPage County Regional Bike Plan

The *DuPage County Regional Bikeway Plan* was developed to establish bikeways that would serve as a means of transportation and would provide recreational opportunities. The plan was originally developed in 1996 and was last updated in 2008.

The plan includes goals and policies in five categories:

1. Countywide Planning and Design
2. Countywide Safety, Promotion and Education
3. Countywide Intermodal (e.g. bike storage facilities)
4. Countywide Roadway System
5. Local Actions to Promote Non-Motorized Travel

One of the objectives is for local municipalities to develop a bicycle and pedestrian plan.

Downtown Downers Grove is one of the ten areas analyzed in greater detail as a Priority Travel Zone. Specific improvements given "moderate" priority were the 31st St/Highland Ave Downers Grove Route Extension, which would link office districts to a popular community bike route, a trail along the Northern Illinois Gas right-of-way, and the Walnut Street Access Trail to provide a bikeway around a proposed Metra station at Walnut and Railroad Avenue.

Recommendations for pedestrian improvements were also included in the plan. The only recommendation affecting Downers Grove is filling in gaps in the sidewalk network along Ogden Avenue.

Neighborhood Traffic Studies

The Village is conducting neighborhood traffic studies on a continuing basis, focusing on a new neighborhood each time. One was recently conducted in 2011 for the area bounded by Maple Avenue and the BNSF tracks to the north, 55th to the south, Main Street to the west, and Fairview Avenue to the east. The study examined the existing traffic patterns on the residential streets within this neighborhood as well as the arterials and collectors bounding it.

The study resulted in recommended changes to the existing stop and yield signs within the neighborhood. One of the recommended changes occurs along the Fairmount Road bike route; the stop sign on Randall Road at Fairmount is recommended to be reversed so that traffic on Fairmount have to stop while Randall traffic has the right of way.

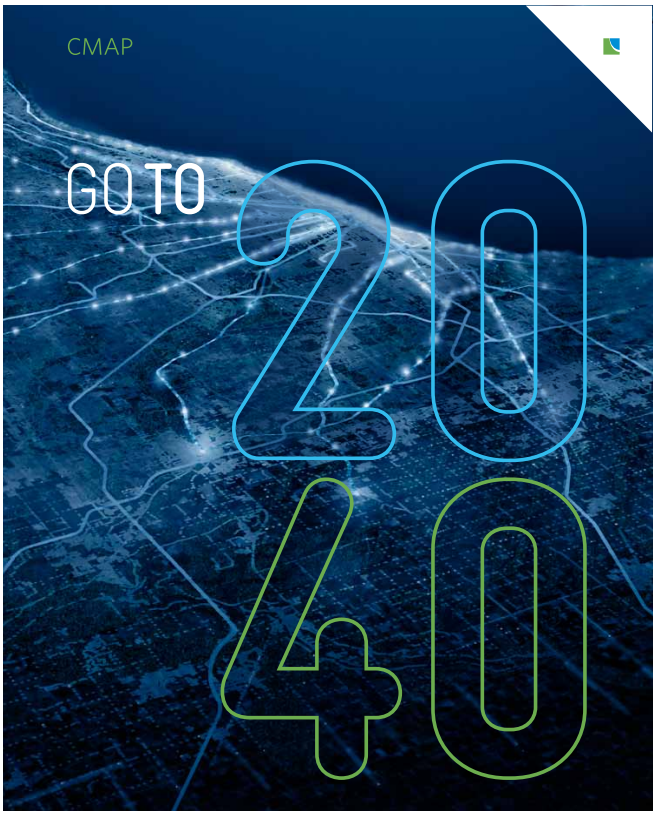
The study of the boundary streets found that three out of the four have more capacity than necessary. Main Street has the most excess capacity and only Fairview Avenue is carrying enough traffic to be near its capacity.

The major intersections were also examined as part of this study and several recommendations were made for better operations and increased safety. Recommendations for 55th/Main and 55th/Fairview intersections called for adding turn lanes. Of note, the 55th/Fairview intersection had a high number of bicycle and pedestrian crashes.

CMAP GoTo 2040

CMAP recently released GoTo 2040, a joint vision and roadmap for the seven-county region that makes up the Chicagoland area. The plan recognizes that in order to succeed as a region - attracting residents, reducing our environmental impact, and economically flourishing - we must make smart decisions about the uses of our resources and provide residents with access to jobs and communities with a good quality of life.

As transportation relates to this shared vision, providing residents with the economical and healthy transportation options such as walking and bicycling is an important component. The Village of Downers Grove Bicycle and Pedestrian Plan will support Go To 2040 by establishing goals and implementable strategies for the Village to begin to provide more choices to its residents.



LIVABLE COMMUNITIES

> "Though opinions differ on what makes a community appealing, livable communities tend to share some common traits. They are healthy, safe, and walkable. They offer choices for timely transportation to schools, jobs, services, and basic needs. They are more cost-effective for individuals and local governments. They make the region more economically competitive.
>
> Whether we choose to live and work in a newer community or one that has been around for decades, a community's unique "sense of place" draws people and makes us feel at home and welcome there. Though that sense may seem intangible, livability is seldom an accident. Livable communities are created through effective planning and decisions by local officials, developers, and individual residents."

Chicago Metropolitan Agency For Planning, *CMAP Go To 2040 Comprehensive Plan*
http://www.cmap.illinois.gov/2040/livable-communities

Existing Policies and Programs

Bicycle-Related Policies

Bicycles must be registered with the Village and are required to be properly equipped with brakes, a front light, rear reflector or light, and a bell.

According to Village Code, bicycling is not permitted on sidewalks in areas zoned for business or where it is otherwise marked as being prohibited. Outside these areas, sidewalk riding is permitted.

Parking bicycles to sign posts, trees, buildings, or other similar structures is unlawful, as is parking a bicycle so as to block the pedestrian way.

Bicycles outfitted with properly equipped brakes, reflectors, front lights, and a bell will keep bikers much safer when biking.

Pedestrian-Related Policies

The Village Code includes regulations concerning the construction of sidewalks with new construction as well as a policy for where sidewalks should be added to already developed properties. The latter policy takes into account the proximity to pedestrian-oriented destinations, such as schools, traffic characteristics, and the existing sidewalk network.

It is unlawful to deposit snow onto the sidewalk, however, the code does not mention any requirements for private property owners to remove snow from the sidewalks adjacent to their property.

Right turn on red restrictions are imposed at a select six intersections in the Village, most of which are along Main Street. An additional four intersections have right turn on red restrictions when pedestrians are present.

Demarcation on roadway for bicycle path and right turn lanes.

Programs

Village residents are encouraged to walk and bike and are educated on safe practices through a number of programs.

The Village of Downers Grove Police Department runs and participates in several education programs for children including Safety Town, Officer Patti, and Bicycle Safety.

The Police Department also has officers on bike patrol in the summer months. This is an important program that legitimizes bicycling on streets. When people see officers bicycling in the streets, they recognize that is the appropriate place for bicyclists to ride. Likewise, the police officers act as a role model for other bicyclists and by riding safely and obeying the rules of the road, can encourage others to do so as well.

The Village partners with the school district in a strong Safe Routes to School program and have successfully applied for state funding for improvements near community schools. Nearly $200,000 was awarded to three schools in the last grant cycle to construct sidewalks and traffic calming treatments that would make it safer and easier for kids to walk and bike to school.

Several Downers Grove schools have clubs and programs that get kids moving and encourage healthy lifestyles. Fit Kids at Indian Trail Elementary teaches 5th and 6th graders the importance of exercise and nutrition and organizes games to engage the group in physical exercise. Lester Elementary has both a Walking Club and a Movin' in the Morning program to encourage kids to walk. Likewise, the Panther Pacers at Pierce Downer Elementary encourages walking or running with an incentive program, encouraging kids to reach a target distance over time. These types of programs are important to instill the value of physical activity in daily life and get kids in the habit of exercising.

The Village also partners with schools in developing and publishing recommended school walk routes. The routes are reviewed and revised, if necessary, on an annual basis by the Traffic and Parking Commission.

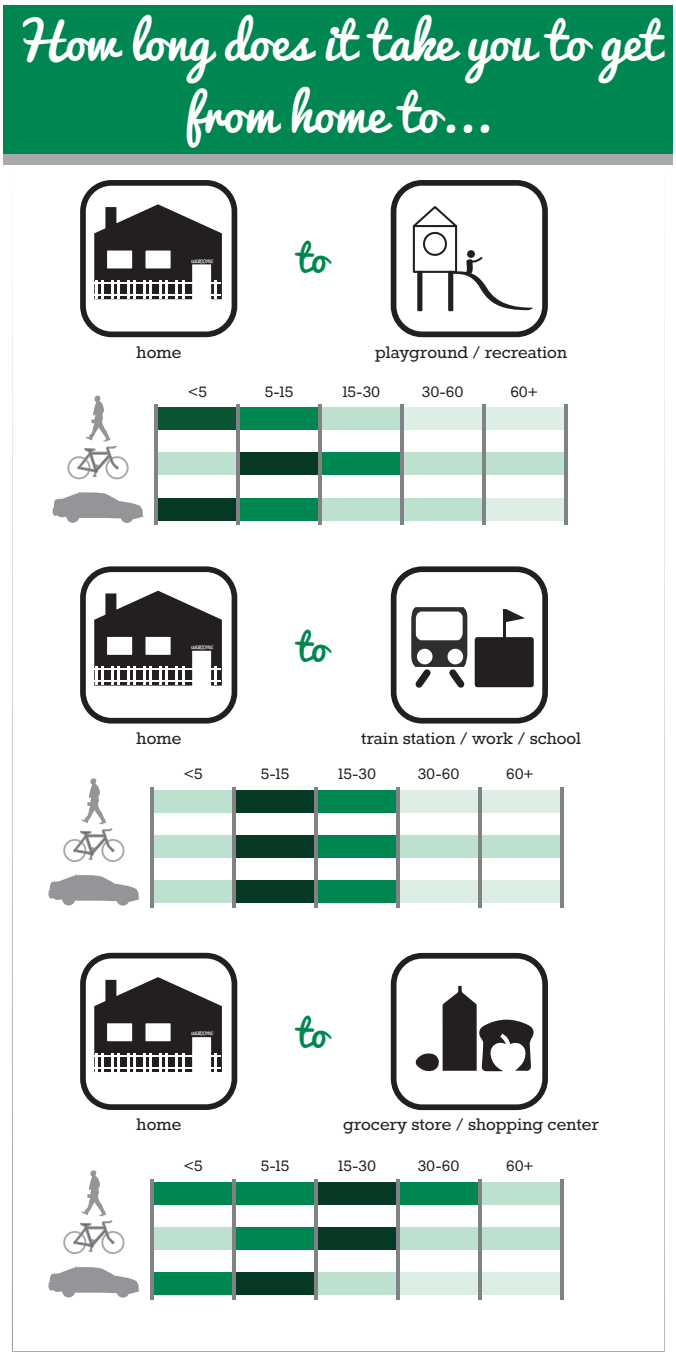
Public Outreach

As part of this planning effort, public input on the existing conditions of bicycling and walking in Downers Grove was sought in a variety of ways. "Pop-up" meetings were held at popular Village events, including Bike to Work Week, the Downers Grove Car Show, and the Downers Grove Market. Pop-up meetings are informal public outreach events. A booth is set up at with interactive activities aimed to engage the public and solicit input. These events are an opportunity to reach out to residents who are not able to make it to the more traditional evening public meetings. A larger open house event was also held during Downers Grove's Grove Fest.

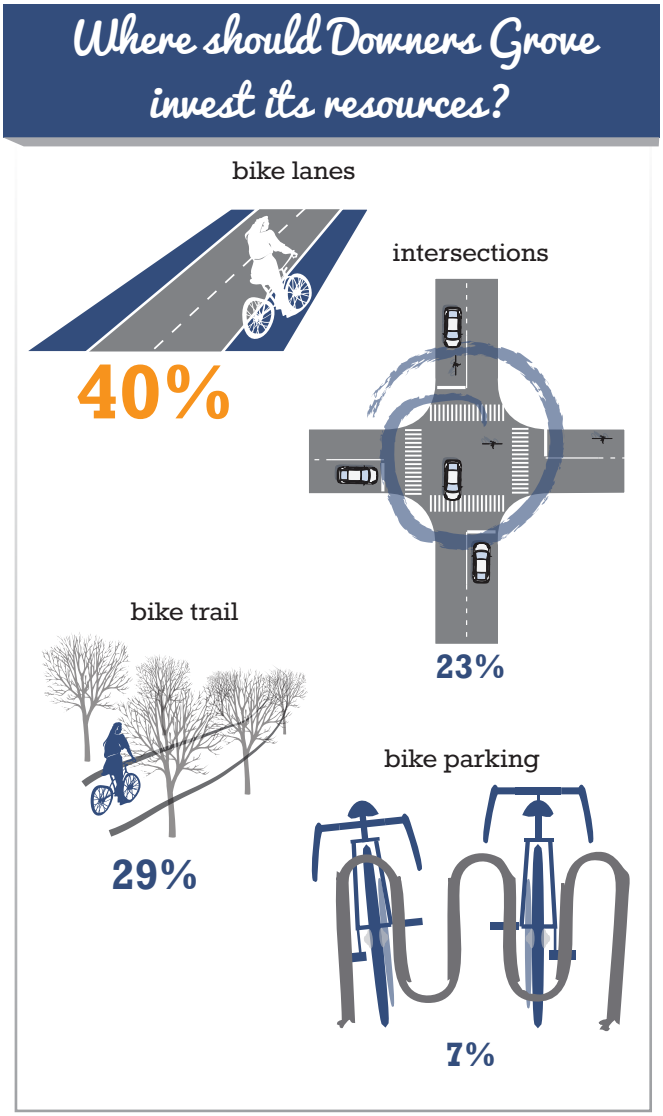
Two interactive workshops were held with residents – one walking workshop around the downtown and one biking workshops throughout the southern portion of the Village. The workshops were an opportunity to look at representative facilities and discuss challenges and opportunities for the Village.

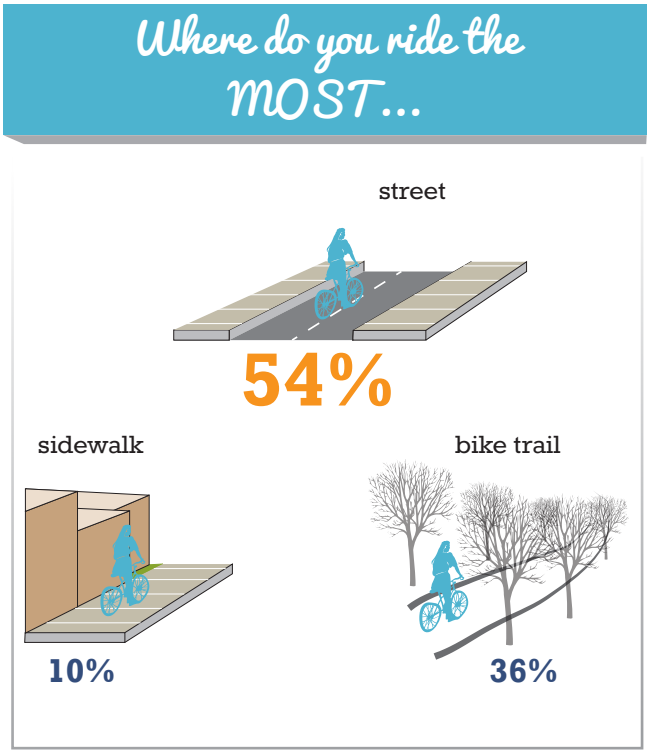
In addition, two public meetings were held in conjunction with Transportation and Parking Commission (TAP) meetings. The first meeting included a presentation on the existing conditions findings while the second was held to receive feedback on the recommendations.

Pop-up meeting at Downers Grove Market



An online survey was posted and advertised on the Village's Facebook page and distributed to stakeholders including the downtown merchants, the plan steering committee, and community members who had participated in other outreach events. More than 320 responses were gathered from the survey. In total, the public outreach process reached over 400 people.





What We Heard

Residents have been supportive and enthusiastic of the Plan. On the whole, this is a community that already likes to bike and walk and is excited that the Village is taking steps to make it even easier to do so. The primary motivation for people walking or biking in Downers Grove is for health, fitness, or recreation. Not having the time or traveling to destinations that are too far is what keeps the majority of residents from walking more.

Participants were asked about their current travel habits – how long it takes them to get from home to the park, to work/train, or to go shopping, whether they're walking, biking, or driving. It's the short trips that are the easiest to encourage people to shift from driving to walking or biking for. In Downers Grove, people seem to be driving fairly short distances to get to parks or other recreation facilities. As health, fitness, and recreation are the primary motivations for walking or biking, encouraging people to walk or bike to these destinations is a natural fit. In

fact, during the outreach process, many people indicated that they would like to walk or bike to the Village's parks, but that the existing connections are not safe or comfortable.

Even the majority of car trips for commuting or shopping purposes are relatively short. This indicates that there may be great potential to encourage more people to choose to walk or bike to their destinations rather than drive.

For pedestrians, the number one priority was to improve street crossings. This was followed by adding sidewalks where the network is incomplete. The Village has an ongoing program to fill in gaps in the sidewalk network.

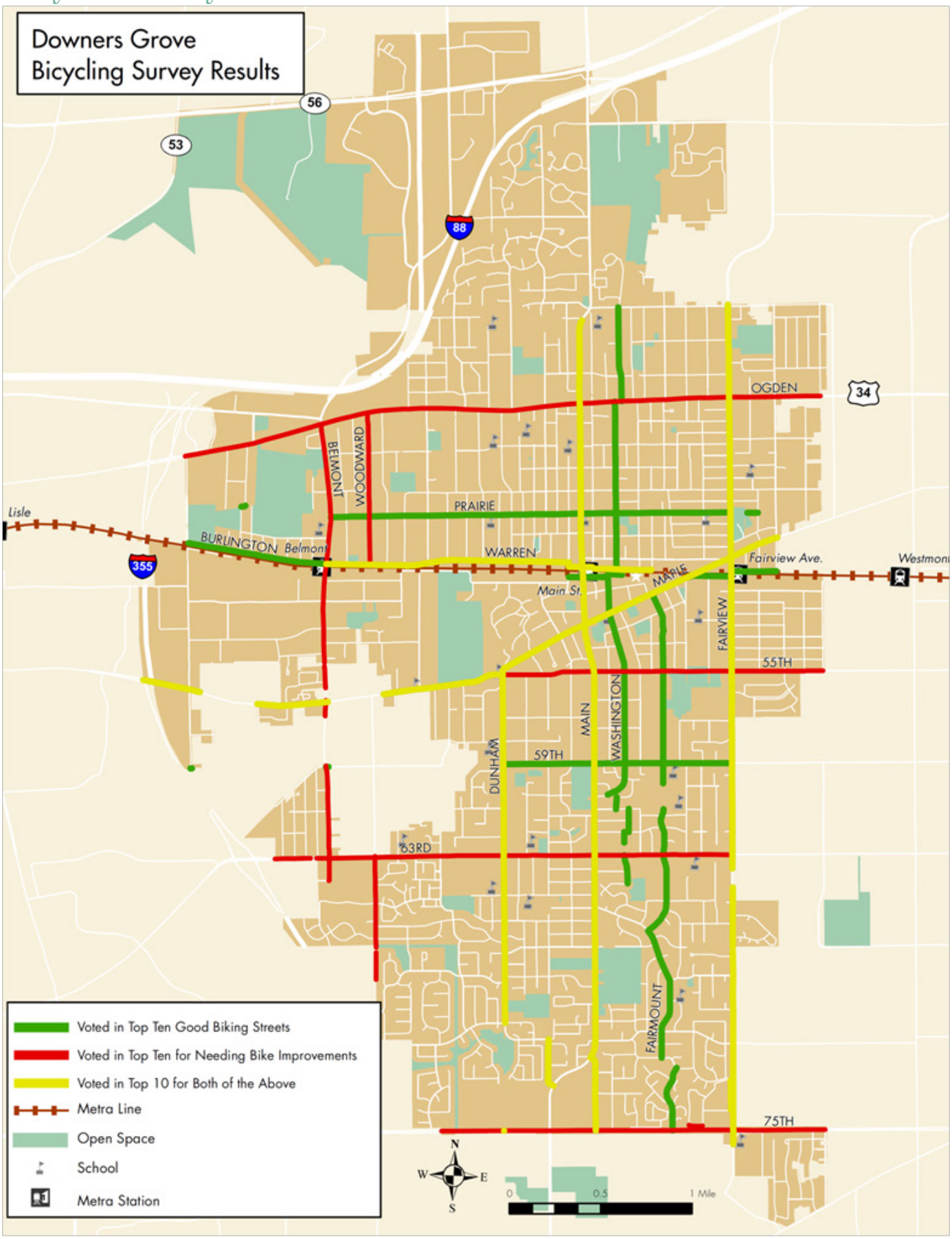
For those wishing to bike more, lack of facilities, both on-street and off-street, is the deterrent. Most people suggested that the most important investment was to add on-street bicycle facilities, to both major streets and local roads. Adding off-street trails and improving crossings were secondarily seen as important investments. In Downers Grove, there is not much opportunity to add off-street bicycle networks as the Village does not have much open space that does not already have trails. Therefore, connecting to the existing off-street trails in the Village and the region at large will be important.

Regarding on-street facilities, we heard from people who did not feel that bike route signs were enough to make a street comfortable for bicycling. Many people were in favor of more streets like Dunham Road, which has a buffered bike lane. Residents told us specifically where they like to bike currently and where they would like to bike if upgrades were made to the street. The map on the following page demonstrates what we found out about where people would like to see better bicycling facilities.

Residents expressed concerns about incomplete sidewalk networks.

Many survey respondents were in favor of the utilization of buffered bike lanes to increase safety while biking in heavy traffic areas.

Bicycle Survey Results



TOOLS

The following array of tools is presented to provide guidance in implementing bicycle and pedestrian improvements. The tools are paired with specific installation guidance. This section can be used as a reference as bicycle and pedestrian issues arise in the future; it also allows the Village to be flexible in implementing the recommendations in this Plan.

Building A Bicycle Network

A complete bicycle network is made up of several different types of facilities to suit different circumstances. On local streets, where traffic volumes and speeds are low, bicyclists may feel comfortable without any type of bicycle facility; they can share the road comfortably with cars. As streets get busier with more and faster moving traffic, bikes need more separation with striped bike lanes or buffered bike lanes to feel comfortable.

Several types of bike facilities that are recommended for the Downers Grove network are described here. Graphics showing cross-sections appropriate for Downers Grove streets are provided in Appendix A. The variety allows the Village the flexibility to choose a design that best fits the context of the street.

Bike Lanes

Bike lanes are dedicated space for bicyclists on the roadway, designated through striping and pavement markings of bike symbols. Bike lanes make the movements of both motorists and bicyclists more predictable, leading to safer streets. Bike lanes often can be created out of existing roadways without widening the roadway by narrowing travel lane widths, removing a travel lane (known as a road diet), or restricting parking.

This bike lane has enough width for a bicyclist to comfortably ride between the curb and gutter and the adjacent travel lane.

Guidelines for striping bike lanes:

- Bike lanes should be 5' wide at a minimum
- Bike symbols should be placed no more than 200' apart
- At least two symbols should be placed on each block
- A bike symbol should be placed at the beginning of each block, no more than 20' after the start of the bike lane

Buffered bike lanes provide a separate space marked off for bicyclists in addition to a buffer between the bicycle and vehicle spaces. Downers Grove's first on-street bikeway was installed along Dunham Road in 2005 and a portion of the route is a buffered bike lane. Industry research has shown that "dooring" crashes, where a bicyclist hits a door that has been opened up in their path, are significantly reduced with buffered bike lanes.

The buffer can be placed between the bike lane and the travel lane, between the bike lane and the parking lane, or both. The desirable place for the buffer will depend on the characteristics of the street. A street with heavy traffic volumes and high speeds but infrequent parking turnover would benefit from a buffer between the travel lane and the bike lane. On the other hand, a street with slower speeds and high parking turnover would benefit more from a buffer on the other side, adjacent to the parked cars.

Guidelines for buffered bike lanes:

- Buffer should be a minimum of 2'
- Buffers 3' or greater should have cross-hatching within the buffer
- Minimum width of bike lane and buffer should be 5' with 6' preferred

Example of a Buffered Bike Lane

Shared Lanes

A *neighborhood bike route* transforms a local, residential street into a family-friendly bicycle route. By marking the street prominently as a bike route, motorists are notified to share the roadway with bicyclists and encouraged to travel slowly. Bicycle route signs can accompany the pavement markings. Neighborhood bike routes provide an opportunity to use custom signage or even custom pavement markings to create a brand for the network or a particular neighborhood. Additional traffic calming measures can be added to these streets to further reduce traffic speeds.

Marked shared lanes are used on streets with a moderate level of traffic but not enough room for a separated bike lane. The same markings as those used for the neighborhood bike route can be used. These are recommended for streets where parking is permitted but not heavily used, so bicyclists can often ride in the space reserved for parked cars.

Marked Shared Lane Example

Signed Routes

Signage may be used to complete a bicycle network. Signs can be used to supplement other facilities, such as bike lanes, and are helpful to direct a bicyclist to a destination. If signs are used without other facilities present, then they should be installed on streets that are already comfortable to bicyclists. There are several variations of signs that can be used serving different purposes, described below. In addition, signs can be customized to create a unique identity for the bicycle network.

Route signs simply indicate that the street is part of a bike route. These signs may be used to accompany the marked routes throughout the network in Downers Grove. If used in conjunction with pavement markings, the number of signs could be reduced. These signs can be personalized to create a branded bike network in Downers Grove. They can also include direction and destination information.

Route Sign Example

Guide signs indicate the direction and distance to a particular destination. Destinations may be a school, a park, or another bike route. Where a route ends, guide signs should direct bicyclists to a destination or connecting route.

Guide Sign Showing Distances to Destinations

Route indicator street signs can be incorporated into the regular street signs either through amending the color or design of the sign for streets that are part of a bike route or installing an attachment above the street signs.

Route Indicator Integrated into Street Sign

Route crossing signs can be added to traffic signal mast heads or light poles, indicating that the cross-street is a bicycle route.

Example of Route Crossing Sign

Source: Calm Streets Boston

Intersection Treatments

Crossing intersections, particularly those with no stop signs or traffic signals, can be such a barrier that it prevents people from biking altogether. Elevating the visibility of bike routes through intersections can make the crossing less intimidating. At intersections with no control and high volumes of cross traffic, additional measures such as those listed in the *Pedestrian Safety Tools* section of this report should be considered in conjunction with pavement markings.

Through intersection markings use shared lane markings or colored pavement to mark the suggested path of the bicyclist through the intersection. This not only shows bicyclists where to go, but it indicates to cross traffic that bicyclists will be crossing. These markings are particularly useful where the bicycle travel path is not a straight line across, such as at an offset intersection or where bicyclists are expected to join a path.

Crossbike markings are bicycle markings added alongside a crosswalk. Similarly, they suggest a travel path for bicyclists. These should be considered where the bicycle crossing is in the same location as a pedestrian crossing, such as at a path or trail.

Bicycle Parking

A bicycle network is not complete without bicycle parking. People are discouraged from going somewhere if it is difficult to park. This is as true for bicycling as it is for driving. Bicycle parking should be convenient to destinations and placed in a well-lit, secure location, meaning it is visible to the public.

Short-term bike parking serves people visiting shops or restaurants and should be located nearby destinations. Individual bike racks should be scattered throughout downtown to ensure that parking is available near most destinations with larger concentrations of bike racks near popular destinations and where space is available. Bicycle parking should be placed out of the way of pedestrian travel. Furniture zones of sidewalks are an ideal location, as are curb bump outs or edges of plazas.

Ideally, the bike racks should enable locking the bike frame and both wheels to the rack, such as an inverted U. Racks placed near walls or other obstructions should be placed far enough away that they can be accessed from either side. This will maximize the capacity of the rack.

Long-term bike parking serves those who are leaving their bicycles for the majority of the day, such as those biking to work or to the train station. Long-term parking should also be in a secure location and should be protected from weather. Good candidate locations for long-term, weather-protected parking in Downers Grove are at Metra stations and the downtown parking garage. Some bike parking is already provided in the downtown parking garage. Bike lockers could be offered for rent for an added level of security.

Improving the Pedestrian Experience

The following are recommended policies and guidelines that will make travel as pedestrians safer, more convenient, and more comfortable.

Crosswalk Design & Placement

Standard crosswalks striped with two 6" parallel lines can be difficult for motorists to see. Even distinctive crosswalks that use brick or other materials to stand out can be difficult to see, particularly when the pavement is wet. Crosswalks marked with high-visibility pavement markings, such as the continental style crosswalk, draw attention to the crossing and should be used in locations of high pedestrian traffic or high priority. Continental style crosswalks consist of 12" or 24" wide stripes, 6' long and spaced 2-4' apart. Suggested locations include:

- All crosswalks within downtown business district
- All uncontrolled crossings along collector or arterial streets
- Crosswalks adjacent to school or park property
- Crosswalks adjacent to Metra property
- Crosswalks with 2 or more pedestrian crashes in past 3 years
- Arterials with high pedestrian traffic
- Pace bus stops

Crosswalks should be marked on all four corners of a signalized or 4-way stop intersection. If the intersection is not in one of the priority locations listed above, standard crosswalk markings could be used. At uncontrolled locations, that is, locations without a yield or stop sign or traffic signal, crosswalks should be marked where crossings are likely to occur on all 2-lane roadways and roadways with more than 2 lanes if the traffic volumes are less than 12,000 vehicles per day. For streets with higher volumes, marked crosswalks should be accompanied by other pedestrian safety tools such as a pedestrian refuge island or rectangular rapid flash beacon.

Signalized Crosswalk in Boulder, Colorado

Pedestrian Signals

Pedestrian Countdown Signals and Timing

Pedestrian countdown signals are required by the MUTCD to be installed whenever a new pedestrian signal is installed or an existing one replaced. However, the Village should consider prioritizing locations of high pedestrian traffic for countdown signals before the existing signals need replacement. Countdown signals provide more information to the pedestrian about how much time they have left to cross the road. None of the current intersections within the downtown area, between Maple Avenue and Franklin Street, have countdown signals. Intersections in Downtown Downers Grove, adjacent to schools and Metra stations, and those having one or more pedestrian crash in the past three years should be a priority for retrofitting signals with countdown signals.

The length of the WALK phase should be determined per the current MUTCD minimum standards at least. At locations where slower pedestrians are likely, such as near elementary schools or senior centers, consider using a slower walking speed to determine the signal timing. Pedestrian phases should use the maximum time available if the green phase is longer than the minimum pedestrian crossing time.

Pedestrian Push Buttons

Pedestrian signal phases in Downtown Downers Grove and other locations of high pedestrian volumes should be automatic. Some downtown signals are controlled by BNSF and will require coordination for any alterations to the signal timing.

Signals can also be configured so that the pedestrian signal is automatic at certain times of the day but require a push button at other times. This should be considered where pedestrian traffic is heavy at limited times, such as near schools or churches. Locations of relatively infrequent pedestrian crossings may rely on a pedestrian push button to call the pedestrian phase when needed.

At many intersections throughout the Village, the pedestrian push buttons in use are sub-standard and should be replaced in accordance with MUTCD requirements. Audible pedestrian signals (APS) should also be considered for installation, in accordance with the MUTCD requirements.

Leading pedestrian intervals, which are discussed below, should be included at all locations with push buttons.

Image Source: Chapel Hill

Pedestrian Refuge Islands

A pedestrian refuge island can be installed to break up a long pedestrian crossing. Pedestrian refuge islands break up the crossing into two shorter crossings, making it so the pedestrian only has to cross one direction of travel at a time. The island should be at least 6 feet wide and 40 feet long to accommodate all pedestrians and be able to accommodate detectable warning strips.

Image Source: FHWA

Rectangular Rapid Flash Beacon (RRFB)

A rectangular rapid flash beacon (RRFB) is a warning device used in conjunction with a marked crosswalk. The beacon is pedestrian activated and rapid flashing LED lights blink to alert motorists of the crossing. These should be considered where there are high pedestrian volumes or where there are not sufficient gaps in traffic to make the crossing. An RRFB can be used at a bike route crossing as well, in which case the push button should be accessible by bike.

Road Diet

A road diet can be a tool to improve pedestrian facilities as well as bike facilities. A typical road diet converts a 4-lane roadway into a 3-lane roadway where 4 lanes are not necessary. Reducing the number of travel lanes provides room for bike lanes or widened sidewalks. The center turn lane can also become a pedestrian refuge island at crossings. While the effects of road diets vary site to site, most road diets result in crash reductions. Roadways with less than 20,000 vehicles per day may benefit from a road diet without significantly impacting traffic operations.[1]

Road Diet Before and After Image Source: Michigan Complete Streets Coalition

In-Road State Law Stop for Pedestrians Sign

In-road "State Law Stop for Pedestrians" sign offer a direct reminder to motorists of the law to stop for pedestrians in a crosswalk. These signs should be considered at uncontrolled crossings. These signs are already used in several locations throughout Downers Grove.

Example of In-Road State Law Stop for Pedestrian Sign

1 | Federal Highway Administration, *Safe Roads for a Safer Future, Proven Safety Countermeasures, "Road Diet" (Roadway Reconfiguration)*, FHWA-SA-13, http://safety.fhwa.dot.gov/provencountermeasures/fhwa_sa_12_013.htm

Advanced Stop Line and Sign

All uncontrolled crosswalks on multilane (more than one lane in each direction) roadways should be accompanied by an advanced stop line and a "Stop Here for Pedestrians" sign. These crossing put pedestrians at increased risk because a car that has stopped for a pedestrian may block the pedestrian from the view of another passing motorist. Asking motorists to stop in advance of the crosswalk keeps sight lines open and makes sure the crossing pedestrian is visible.

Example of Advanced Stop Line and Sign Utilization in Evanston, IL

Leading Pedestrian Interval

A leading pedestrian interval (LPI) gives pedestrians a head start at intersections by giving them the WALK signal before the green signal is given for vehicles. LPIs should be considered where there are conflicts between turning vehicles and pedestrians. Intersections where an LPI is installed should have restrictions on right turns on red.

Example of a Leading Pedestrian Interval

Right Turn on Red Restrictions

Allowing right turns on red can improve traffic operations at intersections. However, if a motorist is looking left for a gap in traffic, they may miss a pedestrian approaching from the right. Right turn on red restrictions should be considered where there are conflicts between right turning vehicles and pedestrians or where pedestrian crashes have been caused by right turns on red.

Bump-outs

Bump-outs, also known as curb extensions or bulb-outs, extend the curb into the street where a parking or non-moving lane would otherwise be. Bump-outs are often used at intersections or mid-block in conjunction with a crosswalk. They reduce the crossing distance for pedestrians thereby making the pedestrian environment safer and more comfortable. Bump-outs also provide additional space for amenities such as plantings, bike parking, or other street furniture.

Image Source: KirklandWA.gov

Pedestrian Hybrid Beacon

A pedestrian hybrid beacon is a pedestrian-activated beacon that stops traffic to allow pedestrians to cross. Once activated, the beacon flashes yellow to warn drivers, then goes to steady yellow, then a steady red, indicating that motorists must stop. At that time, the pedestrian gets a WALK signal. Until activated and again once the WALK phase is complete, the beacon remains blank.

Currently, IDOT will not approve the use of pedestrian hybrid beacons; however, they could be considered as a tool on local roadways or if IDOT changes its policy on hybrid beacons.

Image Source: City of Phoenix

RECOMMENDATIONS

Create a Bicycle and Pedestrian Task Force

The first step towards implementation of this plan will be to create a bicycle and pedestrian task force. Stakeholders involved in this group should represent downtown interests, individual business owners, schools, public health, and interested residents.

Quarterly task force meetings should be convened by Village staff to review the progress of the plan's implementation and address other bicycle and pedestrian concerns that arise in the Village.

Bicycle Network Recommendations

Expand the bikeway network

The proposed bikeway network is presented in three phases, as described below. Each phase indicates where marked routes and signed routes should be implemented. Marked routes may be a combination of bike lanes, buffered bike lanes, shared lanes, and neighborhood routes, as described in the Tools section. Detailed network maps are included in Appendix B, showing the specific recommendation by block with a graphic of the suggested cross-sections.

Phase I: The proposed Phase I bicycle network builds on the existing network. Adding pavement markings to the existing signed routes will make these routes more prominent. Additional route segments are proposed, which will improve connectivity of the network. Signed routes are recommended on short segments of local streets to get people from the marked routes to specific destinations, such as schools and parks.

Spot locations also identified where improved connections are needed. In some cases, this may just be directional signs towards an existing path; in others, pavement markings or additional warning signs for motorists are recommended to make the route more manageable.

Phase I could be implemented in two phases, focusing first on enhancing the existing signed routes along Fairmount, Saratoga, and 59th by adding pavement markings and extending the existing routes on Dunham and Warren. The second phase of installation would focus on expanding the network with new routes.

Phase II: The Phase II bicycle network includes longer-term projects that will require more coordination with other agencies. These projects also have a greater potential to improve safety for bicyclists, pedestrians, and drivers as well as improve connectivity for bicyclists.

Several routes are recommended along arterial roadways that will provide for more direct routes and longer distance travel for bicyclists. These facilities will require a reconfiguration of the roadway and therefore will require more detailed engineering analysis and design. The recommendations along 55th Street and Main Street include removing a travel lane in each direction, adding a center turn lane and bike lanes. Traffic volumes collected in 2008 suggest that these changes would not negatively impact vehicle flow; however, current traffic volumes

should be collected and additional analyses should be conducted prior to these changes. The design and construction of 55th Street must be approved by DuPage County, as it is under county jurisdiction. The Village should coordinate with the county to determine if a roadway reconfiguration would be feasible.

The proposed cross-section for Fairview Avenue would require removing the center turn lane to add bike lanes. Intermittent turn lanes could be introduced where high volumes of turns exist, such as at intersections or major destinations. In these locations, the bike lane would be exchanged for a shared lane marking for a short stretch.

Alternatively, if analyses show that reconfiguring the roadway to remove the center turn lane and adding buffered bike lanes will not work, the Village may consider adding a sidepath along one side of Fairview Avenue. The sidepath should be at least 8 feet, preferrably 10 feet, wide. To ensure bicyclists' safety, the driveway and intersection crossings would have to be carefully designed to provide adequate visibility and encourage slow speeds of both drivers and bicyclists. On-street connections would likely be needed at certain locations, such as near the BNSF tracks, where the width for a sidepath may not be available. This option will be more costly than an on-street facility.

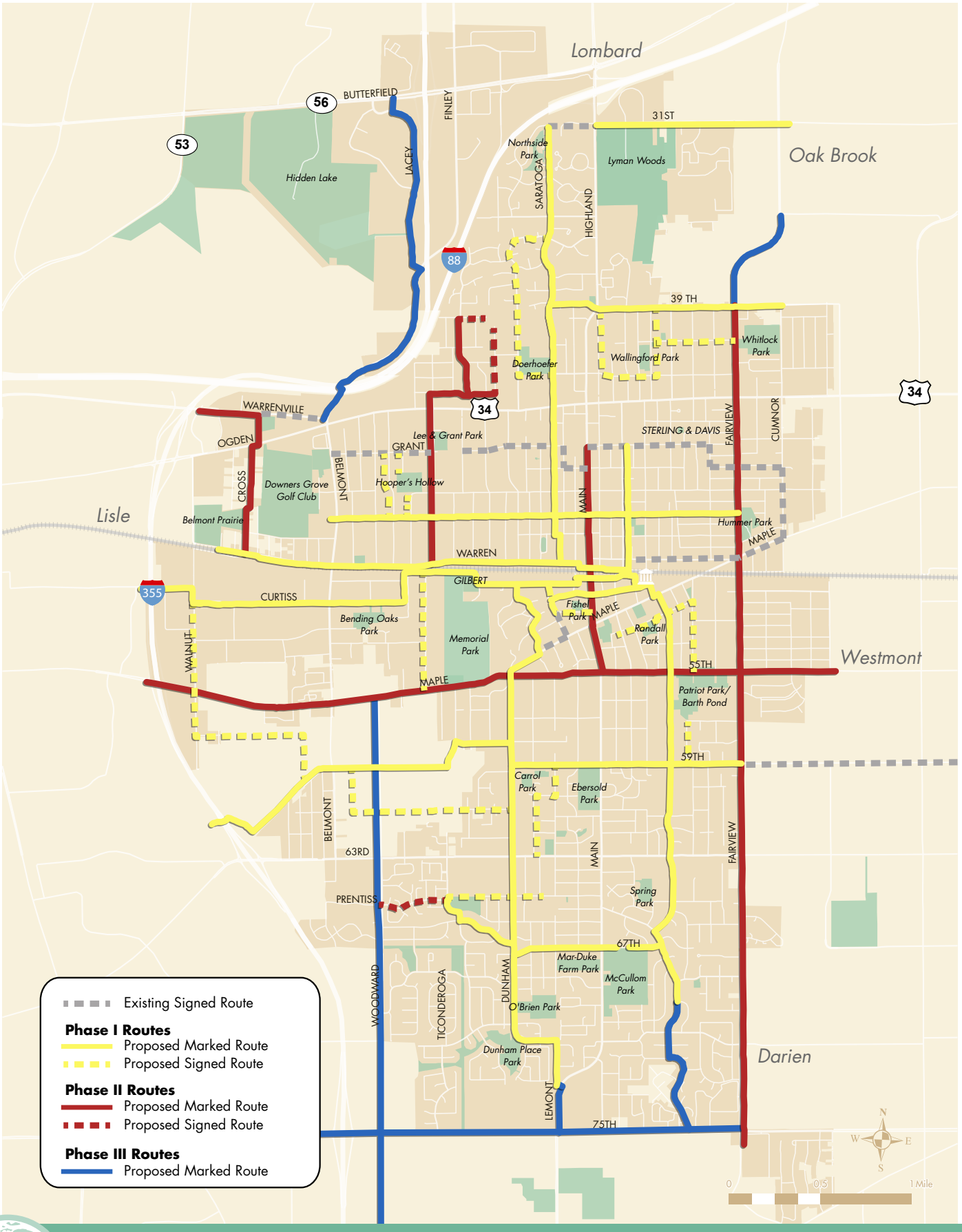
The Morton Arboretum grounds offer an oasis of magnificently tended trees, 14 miles of hiking trails, nine miles of roads, and 900 acres of natural areas including the prototypical, restored 100-acre Schulenberg Prairie.

Two additional local routes are proposed along with crossing improvements at Ogden Avenue. Without these crossing improvements, the bike routes should not be marked or signed.

Phase III: The Phase III bicycle routes focus on regional connectivity. The Phase III bike routes will take greater coordination than the Phase I and Phase II bike routes. Some routes, such as along 75th Street and Lacey Road, will also require greater engineering analysis and design in order to develop a bicycle facility that is safe and comfortable. The regional routes will allow for greater connectivity to the local network, by making connections at Fairmount and Dunham Road from 75th Street.

In some cases, the recommended routes are not within the Village boundaries or under Village jurisdiction. However, these are important routes that will provide regional connectivity for bicyclists. Maximizing the connectivity of Downers Grove to neighboring villages and the existing DuPage County regional trail system will improve the commuter and recreational bicycling experience for residents and visitors. As important regional routes, bicycle facilities along these roads should continue beyond Downers Grove's borders.

As part of Phase III, the Village should work with neighboring Lisle to identify a route to the Morton Arboretum. This important regional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Westmont
Darien
BUTTERFIELD
FINLEY
LACEY
31ST
SARATOGA
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WARRENVILLE
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PRENTISS
67TH
75TH
WOODWARD
TICONDEROGA
DUNHAM
LEMONT
Hidden Lake
Northside Park
Lyman Woods
Doerhoefer Park
Wallingford Park
Whitlock Park
Lee & Grant Park
Downers Grove Golf Club
Hooper's Hollow
Belmont Prairie
Hummer Park
Bending Oaks Park
Memorial Park
Fishel Park
Randall Park
Patriot Park/ Barth Pond
Carrol Park
Ebersold Park
Spring Park
Mar-Duke Farm Park
McCullom Park
O'Brien Park
Dunham Place Park
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destination is cut off from Downers Grove to bicyclists because there is not a safe route. Improved connections to Lisle are recommended as part of Phase II of the bicycle network. The Village, along with regional stakeholders, should explore options to add bicycle facilities to Warrenville Road to the west of Downers Grove and connect to Lincoln Avenue, Park Boulevard, and the arboretum entrance via an off-street trail to the north and west of I-88.

Phase III also include a connection to Maple Grove Forest Preserve across the BNSF tracks via an underpass or an overpass. This recommendation is carried over from the 2000 Bike Plan. While this would be a costly upgrade, it would provide an important connection across the tracks and provide a whole neighborhood with better access to this rich amenity. Currently, nearly a mile and a half separate BNSF track crossings at Belmont and Forest.

Review existing signed routes

Existing bicycle route signage is inconsistent and should be updated and enhanced. A review of the existing signed routes should be conducted, including the removal, replacement, or addition of signs as necessary. Signed routes that are no longer part of the bike network should be removed, and signs should be uniform in design so bicyclists will be able to easily recognize and understand them. Signs should be placed according to the following guidelines:

- Within 150 feet of the beginning of the route or a turn in the route
- Every ¼ - ½ mile thereafter
- 40 feet in advance of a turn in the route

Increase short-term bike parking Downtown

Downtown bike parking should be increased in the downtown area in the near term. Additional bike racks are currently being added on the east end of the Main Street Metra station platform on both sides of the tracks. Monitor these racks to determine how much demand there is and add additional racks if necessary. Temporary, schoolyard racks could be placed in various locations along the Metra tracks for a week at a time to determine the most popular location for bike parking before installing permanent racks.

Additionally, bike racks should be installed in the at major traffic generators, such as train stations, libraries, post offices, and near shops and restaurants. Work with Downtown Management to survey downtown business owners to determine locations in need of additional bike parking in the downtown core. Photographs of potential locations for bike racks are included in Appendix C.

As demand for bike parking increases, consider adding an on-street bike corral downtown, potentially along Mochel Drive or Main Street. On-street bike corrals use a parking space to provide ample bike parking in busy downtown areas while keeping the sidewalk free for pedestrians. Ideally, the bike corral would be located along a bike route and near a popular destination for bicyclists.

Implement long-term bike parking at Metra stations and employment centers

Install long-term, sheltered bike parking to serve the Main Street Metra station in the short term. As demand grows, consider adding long-term bike parking to the Fairview and Belmont Metra stations as well. Survey Metra riders to determine the best location for the long-term parking. Some of the existing parking on the north side and the south side of the tracks could be upgraded by adding a roof over the existing racks. Access to the parking area on the south side of the tracks could be improved by adding a bike channel alongside the stairs leading from the Washington/Burlington intersection.

Employment centers should also be targeted to improve bike parking. Work with businesses to provide long-term bicycle parking for employees and encourage biking to work. For downtown businesses, long-term bicycle parking in the downtown garage could be expanded to add capacity for employees.

Institute a bike rack request system

Add an online request form to the Village's website where residents and business owners can request additional bike parking. Advertise the request form on the Village's Facebook page, newsletters, and other media outlets to get the word out. Assign a staff member to monitor the requests and prioritize them on an annual or bi-annual basis.

Sponsor a bike rack design competition

For businesses and organizations interested in additional bike parking, a bike rack design competition could be initiated to both create distinctive, Downers Grove branded bike racks as well as generate excitement about the installation of additional bike parking.

Remove abandoned bicycles

Abandoned bicycles descend into disrepair as vandals pilfer parts off of the bicycles. They are not only unsightly, they discourage others from biking. The Village should expand the existing maintenance program of removing abandoned bikes from racks. Abandoned bikes could be refurbished and included in a bike library program run by the Village or private organization or donated to a youth bike program.

In addition, the Village should incorporate a section into their online request form to report abandoned bicycles *(see #5 above)*.

Existing Bike Rack

Abandoned Bike Removal

Recommended Pedestrian Facility Improvements

Complete the sidewalk network

The Village has a policy to construct sidewalk on one side of every street. Each year the Village consructs new sidewalk segments which are selected based on a priority matrix and coordination with other Village projects. Currently, over 95% of all Village streets have sidewalk on at least one side. As the Village works toward completion of the matrix there are additional opportunities that should be considered to improve pedestrian mobility. In some areas of the Village it may be beneficial to have sidewalks on both sides of the street, for example, in areas close to schools or other pedestrian destinations. In areas where there are undeveloped rights-of-way the Village should consider the advantages and disadvantages of constructing sidewalks or multi-use paths.

Improve crossings of major streets

Several crossings have repeatedly come up as difficult crossings for pedestrians and in some cases bicyclists as well. Explore improving these crossings using the pedestrian safety tools included in the **"Tools"** section of this report.

- 55th Street at Blodgett Avenue, accessing Patriot's Park
- Maple Avenue at main entrance west of Plymouth Street, accessing Memorial Park
- Main Street midblock between 67th Street and 68th Street, accessing McCollum Park
- Belmont Road at Downers Grove Park District Recreation entrance, between Grant Street and Chicago Avenue

One possibility for all locations is to use a combination of tools, such as an RRFB, high-visibility crosswalk, and advanced stop lines. As these are all 4-lane roadways, adding an advanced stop line will improve visibility of drivers in the inside lane if a motorist in the outside lane stops for a pedestrian. If enough space can be found through narrowing lane widths or a road diet, a pedestrian refuge island could be added to the crossing to further improve safety and visibility.

Facilitate transit connections

The convenience of transit service is directly impacted by one's ability to access the service. Pace and Metra therefore rely on the Village's pedestrian infrastructure to facilitate safe and comfortable access to their services.

The Village should prioritize pedestrian improvements such as sidewalk replacement and ADA-compliant curb ramps and throughways at Pace bus stops and Metra stations.

Crossings near transit should also be prioritized. Pedestrians seek direct routes, sometimes choosing that over a safer route that would mean a detour. Enabling direct connections for pedestrians fosters an environment that is both safer and more convenient for pedestrians. In Downtown Downers Grove,

the single most popular destination for pedestrians is the Metra station. People access the Metra station from all angles. Consider improving connections east across Washington Street, south towards the parking deck, and west to remote lots. Pedestrian crossing treatments and curb cuts should be installed along these direct routes.

Provide pedestrian routes through the Metra Station main lot between the platform and these access points. Pedestrian routes can initially be implemented simply through a painted walkway. In the longer term, formal pedestrian walkways may be desired in spot locations, such as alongside the driveway entrance to the main parking lot. Mimic these pedestrian routes in other parking lots throughout the Village. Accessible parking spaces are required to be connected to the pedestrian travel way via a pedestrian route through a parking lot. Coordinate the accessible spaces with these routes as they are installed.

- Main Street Metra lot to Plaza outside Lemon Treet
- Main Street Metra lot to Burlington Avenue
- Lot D through vacant parking lot to Forest Avenue
- Burlington Avenue to the Fairview Metra

Beautify and activate informal pedestrian spaces

Ballydoyle's Alley, leading from Main Street to the parking garage entrance, is a great example of a successful, inviting pedestrian space that would otherwise be dead space to get through on your way to your destination. Now, it is a pleasant place to walk even if you're not stopping for a bite to eat.

Using this as a model, continue to transform dead spaces into pleasant pedestrian environments if they are natural connections or potential meeting places for pedestrians. One such location is a continuation of the Ballydoyle's Alley, around the corner to the north side of the parking garage.

Improve trail and path connections

There are several important connections that would improve pedestrian access to parks or improve pedestrian circulation. Many of these simply require an extension of a path, an improved access point, or an upgrade to the existing facility. The list of locations below should be considered for improvements.

- Extend Hoopers Hollow path to Stonewall Avenue sidewalk
- Widen the bicycle/pedestrian bridge over St. Joseph Creek in Gilbert Park
- Improve connection from Saratoga Avenue into Doerhoefer Park
- Improve connection between Saratoga Avenue and 31st Street

Construct pedestrian underpasses of the BNSF tracks

While the BNSF rail line provides an invaluable connection between the Village and downtown Chicago, it also creates a barrier between the north and south sides of the Village, particularly for pedestrians. As a long-term goal, the Village should consider adding a pedestrian underpass between Forest Avenue and Belmont Avenue to connect residents on the north side of the tracks to Gilbert Park. A second underpass should be considered in the downtown.

Intersection Improvements

Site visits were conducted at 6 intersections to identify specific improvements for bicycle and pedestrian mobility. The sites were selected based on the crash data analysis and Village input of intersections with a demonstrated need of improved facilities.

Ogden Avenue & Fairview Avenue

- Consider restricting right turns on red
- Evaluate pedestrian signal timing and provide as long a signal as possible rather than the minimum required.
- Enforce a clear through pedestrian way along the sidewalk; cars were observed parked on the sidewalk along Fairview Avenue, south of Ogden Avenue
- Align curb ramps on the southeast and northwest corners with the corresponding crosswalks
- As the opportunity arises, such as along with utility work or roadway reconstruction, consider tightening the curb radii to shorten the pedestrian crossing and slow turning vehicles.

To further improve walkability:

- Extend the sidewalk along the south side of Ogden, east of Fairview
- Reduce curb cuts along the south side of Ogden, east of Fairview

Maple Avenue & Fairview Avenue

- Evaluate the pedestrian signal timing for crossing Maple Avenue and extend the pedestrian signal if possible.
- Reconstruct the curb ramps on the southwest corner; the slope is greater than the maximum allowable.
- As the opportunity arises, such as along with utility work or roadway reconstruction:
  - *Replace the blended transition at the northwest corner with two perpendicular curb ramps*
  - *Consider tightening the curb radii to shorten the pedestrian crossing and slow turning vehicles.*
- Replace the drain on Maple Avenue near the northeast corner with a bicycle-friendly drain. Maple Avenue is signed as a bike route, but the existing storm drain is unsafe for bicycling as it could catch a bicycle tire.

2nd Street & Fairview Avenue

- Consider closing the driveway just north of the intersection. The gas station would have two driveways remaining.
- Upgrade the northeast corner to provide adequate turning space for a wheelchair at the top of the curb ramps.
- Install a pedestrian signal and crosswalk, along with curb ramps on the north leg of the intersection.
- Evaluate the pedestrian signal timing for the crossing on the east leg.

55th Street & Fairview Avenue

- Reconstruct the northeast and southwest corner curb ramps. The existing slopes exceed the maximum allowable.
- Consider reconfiguration of 55th Street to provide one through lane in each direction with a bike lane in each direction and a left-turn lane at the intersection. A dedicated left turn lane should improve traffic operations and increase safety. A bike lane would improve safety for bicyclists and add safety and comfort to pedestrians by moving the travel lane further from the pedestrian space.
- As the opportunity arises, such as along with utility work or roadway reconstruction, consider tightening the curb radii to shorten the pedestrian crossing and slow turning vehicles.

63rd Street & Fairview Avenue

- Add pedestrian countdown signals. There are currently no pedestrian signals at this intersection.
- As the opportunity arises, such as along with utility work or roadway reconstruction, consider tightening the curb radii to shorten the pedestrian crossing and slow turning vehicles.
- Consider restricting right turns on red.
- To further improve walkability at this intersection, encourage development closer to the corners as properties are redeveloped.

Ogden Avenue & Main Street

- Add a sidewalk connection and curb ramp leading to the crosswalk on the east leg of the intersection.
- As the opportunity arises, such as along with utility work or roadway reconstruction:
  - *Replace the blended transition at the northeast and northwest corners with perpendicular curb ramps*
  - *Consider tightening the curb radii to shorten the pedestrian crossing and slow turning vehicles.*
  - *Eliminate the first driveway west of the intersection on the north side of Ogden Avenue*
- Widen the median on the north leg of the intersection to create a pedestrian refuge island. The southbound lanes could be narrowed to provide additional width for the median.
- Evaluate the pedestrian signal timing and extend the pedestrian signal for the north leg, if possible.
- Straighten the crosswalk on the west leg of the intersection to reduce the crossing distance for pedestrians.

Programs

Certain behaviors have been identified through the crash analysis, public outreach events, and general observations that are unsafe and should be changed. Education and enforcement programs together can help change behaviors. This applies to people using all modes. Some of the key behaviors of concern are sidewalk riding, riding bikes that are not in working condition, stopping for pedestrians at crosswalks. Other behaviors will need to be watched for as bicycling increases in the Village, such as turning right in front of a bicyclist.

Education

Cycling Skills

Basic cycling skills are often taken for granted. However, many kids do not learn how to ride for a variety of reasons. Those who do learn are not often taught skills for biking on streets. Likewise, even many adults do not know or are intimidated by biking on-street.

There are many examples of programs that teach kids how to properly ride with traffic – including skills for biking on streets and skills for biking on paths that intersect streets. Programs can be offered through schools or parks. Short programs could also be offered in conjunction with a downtown event.

Many adults have never learned to ride bikes or haven't ridden in so long they are intimidated to start agEducationain. Cycling courses aimed at adults have been developed by the League of American Bicyclists. League Certified Instructors (LCI) are available throughout the area. Work with local bike shops, the Downers Grove Bicycle Club, or other organizations to host an adult cycling course lead by a LCI.

Resources:

- An Organizer's Guide to Bicycle Rodeos: http://www.bike.cornell.edu/pdfs/Bike_Rodeo_404.2.pdf
- Bike Sense, Louisville, KY: http://www.louisvilleky.gov/NR/rdonlyres/C83ED237-0BAC-4C87-8F39-AA4B5FAC82DC/0/BikeSenseOnBikeschapters.pdf
- League of American Bicyclists Instructor Search: http://findit.bikeleague.org/search/

Bike Maintenance Workshops

Partner with local bike shops or youth organizations to offer a bike maintenance class for students. Many cities have similar programs in which kids learn how to maintain bikes while earning points that in the end lead to a free bike. Workshops for adults can be offered through the same organization.

Resources:

- Neighborhood Bike Works: http://www.neighborhoodbikeworks.org/
- Recycle a Bicycle: http://www.recycleabicycle.org/

Bicycle and Pedestrian Safety Messages

Keep bicycle and pedestrian safety in the forefront of residents' minds through regular postings to social media outlets such as Facebook and Twitter. Postings should be concentrated around relevant events or activities such as Bike to Work Week, enforcement campaigns, or announcements of new facilities, in addition to regular postings. Suggested topics are:

Suggested topics:

- Bikes on transit tips and links
- International Walk & Bike to School Day
- Tips for biking at night
- Winter biking tips
- Reminders to shovel sidewalks
- Reminders to drivers to stop for pedestrians in crosswalks

Safe Routes to School Programs

Several schools in Downers Grove host events and programs related to encouraging students to be more physically active. Encourage more widespread participation in these types of programs by all schools in the Village.

Resources:

- Active Transportation Alliance Guide for Local Leaders: https://www.activetrans.org/sites/default/files/Local%20Leaders%20Guide_0.pdf

Bikes on Transit Education

Many people are not aware of the option to bring bikes on Metra trains or are intimidated by not knowing how to secure their bike on the train or how to use the bike racks on the fronts of Pace buses. Promote these services through the Village website and Facebook page and at appropriate bicycle-related events.

Consider staging demonstrations of how to load a bike on the train or bus at community events. Work with the transit agencies and the Active Transportation Alliance to deliver the demonstrations.

Resources:

- Pace: http://www.pacebus.com/sub/vision2020/bicycle_racks.asp
- Metra: http://metrarail.com/metra/en/home/utility_landing/riding_metra/bikes_on_trains.html

Policy and Enforcement

Develop officer training

Many officers are not aware of all the laws related to bicycles and pedestrians, particularly those that have recently been enacted or revised. Hold a training sessions for law officers providing an overview of relevant infractions and techniques for enforcing them. Create a pamphlet with a summary of the laws, reporting procedures, and tips for enforcing common infractions, such as not yielding to pedestrians in a crosswalk.

Resources:

- The Law Officers Guide to Bicycle Safety, MassBike: http://massbike.org/projectsnew/law-officer-training/
- Traffic Enforcement for Bicyclist Safety, Chicago Department of Transportation: http://www.chicagobikes.org/video/?loadVideo=police_training_2009

Pedestrian and Bicycle Safety Enforcement Campaigns

A continual, rotating enforcement campaign could be implemented, focusing on select behaviors that endanger bicyclists and pedestrians such as not yielding to pedestrians at crosswalks, right turns on red, where restricted, and turning right in front of a bicyclist. These should be conducted in high profile locations in addition to new or altered facilities. For instance, an enforcement and education campaign should accompany any new uncontrolled crosswalk or intersections where right turns on red have been restricted. High profile locations for crosswalk enforcement are along Main Street in Downtown Downers Grove as well as at McCollum Park.

The campaign is also an opportunity to educate the public and thus could be supplemented by educational flyers handed out to motorists with information about pedestrian and bicycle safety and why the specific behaviors are being enforced. Media coverage of the campaign would further spread the messages.

Maintain and Expand the Bike Patrol

The Village Police Department already has a patrol on bikes. Having police on bikes and biking on the streets is a great way to legitimize biking and make it more prominent. The police also set a good example for proper riding behaviors. The Village should maintain the program and expand it if possible.

Educate and Enforce Illegal or Unsafe Bicycling Behaviors

Many bicyclists are not aware that certain behaviors are actually increasing their risk of being in a crash. Police should focus on educating bicyclists when they see these. Common behaviors that put bicyclists at risk are riding the wrong way, riding on the sidewalk, or riding at night without a front light.

Encouragement

Sponsored events can get people excited about bicycling and walking and can be just the incentive they need to make it more of a regular habit. Successful events can range from one-time occurrences to regular weekly or monthly activities.

Host a Vintage Bike Show

Downers Grove is home to a very popular car show that draws people from around the region. Each week features a new type of car. In order to capture the regular audience as well as draw in new visitors, include vintage and custom bicycles as the featured "car" and invite people from the region to show off their antique bikes. Coordinate this event with Bike to Work Week or other bicycle-related events.

Resources:

- Ann Arbor Bicycle Show: http://www.ann-arbor-bicycleshow.com/index.html
- Canadian Vintage Bicycle Show, Brantford, Canada: http://www.canadianvintagebicycleshow.com/index.html)

Host an Open Streets

Open Streets events, where streets are closed to traffic and opened up to recreation, are becoming increasingly popular around the country. A loop around Downtown Downers Grove could be closed to cars during a weekend morning. The event is an opportunity to engage the public in a variety of different activities. Invite organizations to host a booth, hold a fitness class, or put on a show in the streets.

Resources:

- Open Streets, Chicago: http://openstreetschicago.org

Sponsor Organized Family Rides

Organize a regular, family-oriented ride around the Village. Partner with the Downers Grove Bicycle Club or Park District or encourage other organizations to take ownership of the rides.

Resources:

- Kidical Mass: http://empiricalopera.files.wordpress.com/2010/04/kidicalmassposter2.jpg

Encourage Bicycle Friendly Businesses

Encourage businesses in Downers Grove to adopt bicycle friendly policies and apply for Bicycle Friendly Business status from the

League of American Bicyclists. Good candidate businesses would be any of the downtown businesses, Trek Bicycles, or Advocate Good Samaritan Health.

Resources:

- League of American Bicyclists Bicycle Friendly Business Program: http://www.bikeleague.org/programs/bicyclefriendlyamerica/bicyclefriendlybusiness/

Initiate a Bike Library

Bike libraries lend bikes to members after they register and provide a deposit fee. The typical deposit is roughly $100 and programs range in the rental terms from hourly to up to six months.

Resources:

- Iowa City Bike Library: http://www.bikelibrary.org/
- Fort Collins Bike Library: http://www.fcbikelibrary.org/fleet.php
- Right Bike, Ottawa, ON: http://rightbike.org/

PLAN IMPLEMENTATION

From Recommendation to Implementation

Turning the recommendations from this Plan into reality will take time, money, and partnerships. This implementation section provides guidance for realizing the recommendations in this plan by breaking them down into action steps. It also offers performance measures for the Village to gauge its progress. The overall proposed timeline runs through the next ten (10) years.

The most cost-effective way to make pedestrian and bicycle improvements is to incorporate facilities into ongoing roadway projects, including reconstruction and maintenance projects. Many of the recommendations can be implemented at low cost through the Village's General Fund, Tax Increment Financing Districts, and through partnerships with local agencies and organizations.

For larger projects, local communities often rely on federal funding. One of the largest sources of funding for bicycle and pedestrian projects in the region comes from the Congestion Mitigation and Air Quality Improvement Program. In July 2012, the Moving Ahead for Progress in the 21st Century Act (MAP-21) was passed. This bill changed the structure of federal funding of bicycle and pedestrian projects that are administered out of state DOTs. Three programs under the previous bill, Transportation Enhancements, Safe Routes to School, and Recreational Trails were combined into one program, Transportation Alternatives. As this restructuring is so recent, IDOT is still determining the funding outlook for this program. MAP-21 is a two year bill and funding may change again in the near-term.

Funding for education and enforcement programs is available through IDOT's Pedestrian and Bicycle Safety and Injury Prevention Programs. More information on these programs can be found at the web address: *http://www.trafficsafetygrantsillinois.org/Grants_2013.asp*.

For the following implementation matrix, the timeframes presented are **short-term** *(1-3 years)*, **medium-term** *(4-6 years)*, and **long-term** *(7-10 years)*. Cost estimates for bicycle facilities were derived from recent costs of IDOT projects and increased to account for rising costs over the Plan's timeframe as well as to adjust for a potential premium for small projects.

RECOMMENDATION	TIMEFRAME	COST	NEXT STEPS	AGENCY PARTNERS	PERFORMANCE MEASURES
Create a Bicycle and Pedestrian Task Force					
	Short-term	NA		Downtown Management Corporation, Downers Grove Bicycle Club	Conduct task force meetings quarterly beginning in spring 2013.
Expand the bikeway network					
Phase I	Short-term	$415,000	1. Complete review of existing signed routes and install new signage as necessary (see Recommendation #2) 2. Design and install upgrades and extensions along existing routes 3. Design and install additions to bike network with marked routes and signed routes to destinations	-	Upgrade existing bike facilities along Dunham, Fairmount, Warren, and Saratoga by the end of 2014. Complete installation of Phase I by the end of 2015.
Phase II	Medium-term	$315,000	1. Conduct analyses on 55th Street and Fairview Avenue to determine feasibility of a road diet 2. Engage public and develop designs for these corridors	DuPage County, IDOT	Conduct analyses by the end of 2014. Develop designs by the end of 2015. Complete installation of Phase II by the end of 2017.
Phase III	Long-term	NA	1. Coordinate with DuPage County regarding a 75th Street sidepath 2. Conduct a feasibility study of an underpass or overpass at Lee Street and the BNSF tracks 3. Develop concepts for bike facilities on Lacey Road, Woodward Avenue, and Fairview; coordinate with neighboring municipalities on designs	DuPage County, IDOT	Coordinate with DuPage County on 75th Street route by the end of 2013. Conduct feasibility study by the end of 2016. Develop concepts by the end of 2018. Design and install facilities by the end of 2020.
Review existing signed routes					
	Short-term	Minimal	1. Partner with Downers Grove Bicycle Club and convene volunteers to conduct an inventory of bicycle route signage throughout the Village 2. Compare existing signage to guidelines and proposed routes 3. Identify necessary changes and remove, replace, or add signs as necessary	Downers Grove Bicycle Club	Conduct signage inventory by June 2013. Review existing signage and identify changes by August 2013. Install revised signage by end of 2013.
Increase short-term bike parking downtown					
	Short-term	$3,000/year for first two years	1. Survey Downtown business owners to determine bike parking needs 2. Prioritize sites among those shown in Appendix C 3. Install bike racks	Downtown Management Corporation	Survey business owners by April 2013. Install 20 bike parking spaces in Downtown Downers Grove in 2013. Install an additional 10 bike parking spaces downtown in 2014.

RECOMMENDATION	TIMEFRAME	COST	NEXT STEPS	AGENCY PARTNERS	PERFORMANCE MEASURES
Implement long-term bike parking at Metra stations and employment centers					
	Short to Medium-term		1. Identify 3-4 potential locations for long-term parking at the Main Street Metra station. 2. Use temporary bike parking to determine demand 3. Prepare drawings of potential bike parking 4. Survey Metra riders on the preferred location 5. Install bike parking and evaluate use 6. Repeat this process for Fairview and Belmont Metra stations	Metra	Survey Metra riders in June 2013, in conjunction with Chicago's Bike to Work Week. Install covered parking at Main Street Metra station by September 2013. Survey Metra riders at Fairview and Belmont stations in spring 2014.
Institute a bike rack request system					
	Short-term	Minimal	1. Develop a form for the Village's website 2. Advertise the form to the public via social media, email listservs, and newsletters	Downtown Management Corporation	Develop online request form by end of 2014. Review and prioritize requests every 6 months.
Sponsor a bike rack design competition					
	Medium-term	Minimal	1. Research bike rack design programs by other cities 2. Develop guidelines for design		Research programs by end of 2017.
Remove abandoned bicycles					
	Medium-term	Minimal	1. Review the Downers Grove Police Department's current policy of removing abandoned bicycles 2. Work with PD to increase frequency of abandoned bike removal, if necessary 3. Incorporate removal request into bike rack request form so the public can report abandoned bicycles	Downers Grove Police Department	Review existing policy by June 2016.
Complete the sidewalk network					
	On-going		1. This on-going program should be continued on an annual basis.		
Improve crossings of major streets *(see p. 34 for specific locations of recommended improvements)*					
	Short to Medium-term	Costs will depend on specific treatments selected	1. Conduct a study at each crossing location, including traffic counts, pedestrian counts, and traffic gap analysis 2. Work with appropriate agencies to identify potential crossing enhancements 3. Apply for funding	Downers Grove Park District, DuPage County	Conduct study at two locations by end of 2014. Identify crossing enhancements by end of 2015. Conduct study at remaining locations by end of 2016.

RECOMMENDATION	TIMEFRAME	COST	NEXT STEPS	AGENCY PARTNERS	PERFORMANCE MEASURES
Facilitate transit connections					
	Long-term	Costs will depend on specific treatments selected	1. Conduct pedestrian counts at informal crossings leading to the Main Street Metra station in the AM and PM peak periods 2. Determine a priority for improving those crossings 3. Plan and design temporary improvements as a trial, using paint, or permanent improvements	Downtown Management Corporation	Conduct pedestrian counts by end of 2018. Identify locations for improvements by end of 2019.
Beautify and activate informal pedestrian spaces					
	Short-term	Costs will depend on specific treatments selected	1. Work with Downtown Management Corporation to identify locations in need of improvement 2. Identify partners and plan improvements	Downtown Management Corporation	Identify one location for improvements by June 2013. Plan and implement improvements by the end of 2013. Identify two additional locations for improvements by the end of 2014.
Improve trail and path connections					
	Short-Medium Term	Costs will vary by location	1. Work with the Park District to design and implement connections at Hoopers Hollow Park and Doerhoefer Park 2. Coordinate with property owners to improve connection from Saratoga to 31st Street; install a curb ramp to access this connection 3. Work with the Park District to study the need for a new bridge in Maple Grove Forest Preserve	Private Land Owners, Downers Grove Park District	Implement connections at Hoopers Hollow and Doerhoefer Parks by the end of 2015. Improve Saratoga – 31st Street connection by the end of 2016. Complete study for new bridge by the end of 2018.
Construct pedestrian underpasses of the BNSF tracks					
	Long-term	High	1. Evaluate the feasibility of an underpass near Gilbert Park 2. Evaluate the feasibility of an underpass in the downtown area	BNSF, Downers Grove Park Park District	Obtain funding to conduct the first feasibility study by 2015.
Specific intersection improvements *(see pp. 36-37 for specific locations of recommended improvements)*					
	Medium to Long-term	Costs will depend on specific treatments selected	1. Evaluate recommendations at each intersection and determine their feasibility 2. Develop a timeline for implementation of the appropriate improvements 3. Follow up improvements with education and enforcement, particularly after the addition of any Right Turn on Red restrictions	Downers Grove Police Department, DuPage County, IDOT	Evaluate recommendations by end of 2013. Develop timeline of improvements by February 2014.

APPENDIX A

Bicycle Network

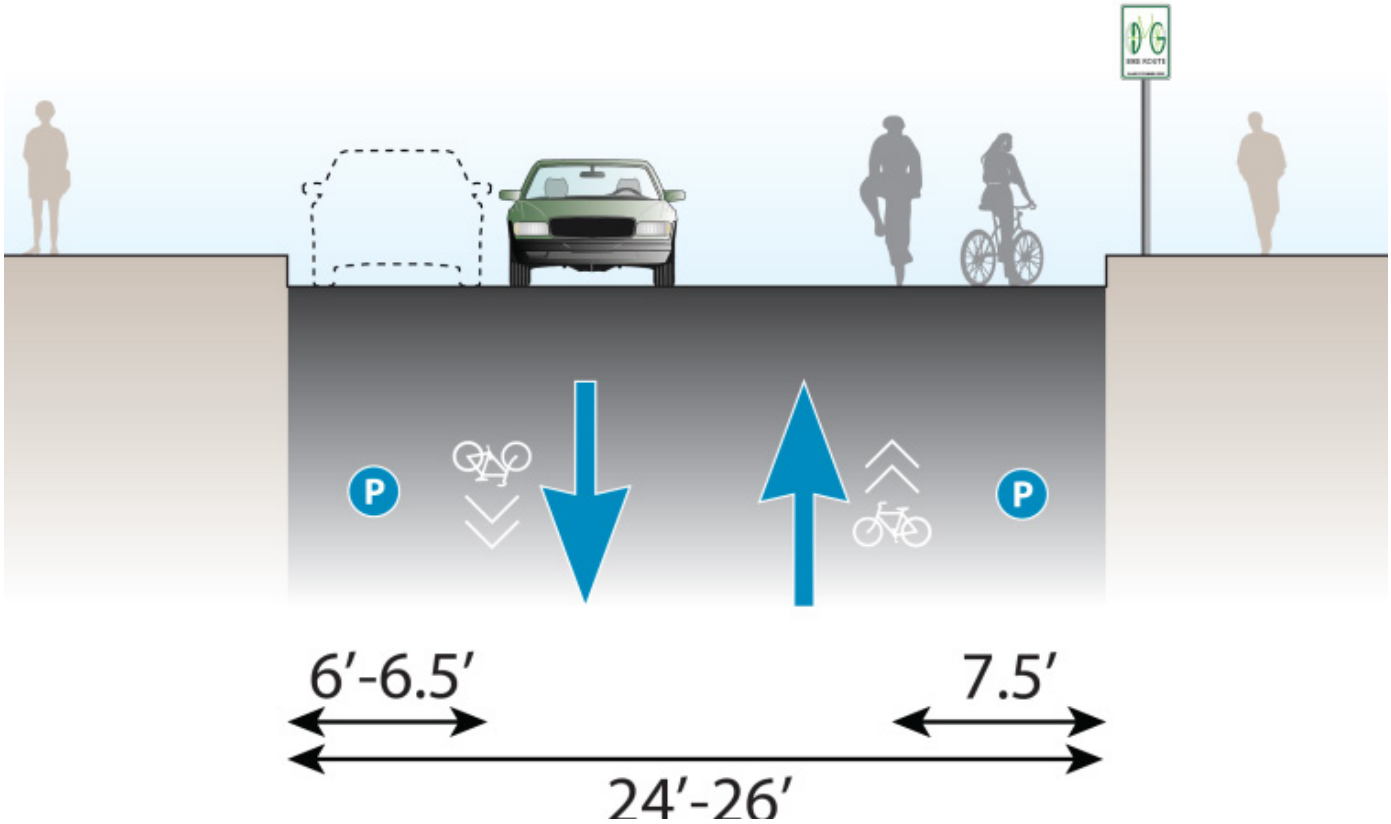
Bicycle Network

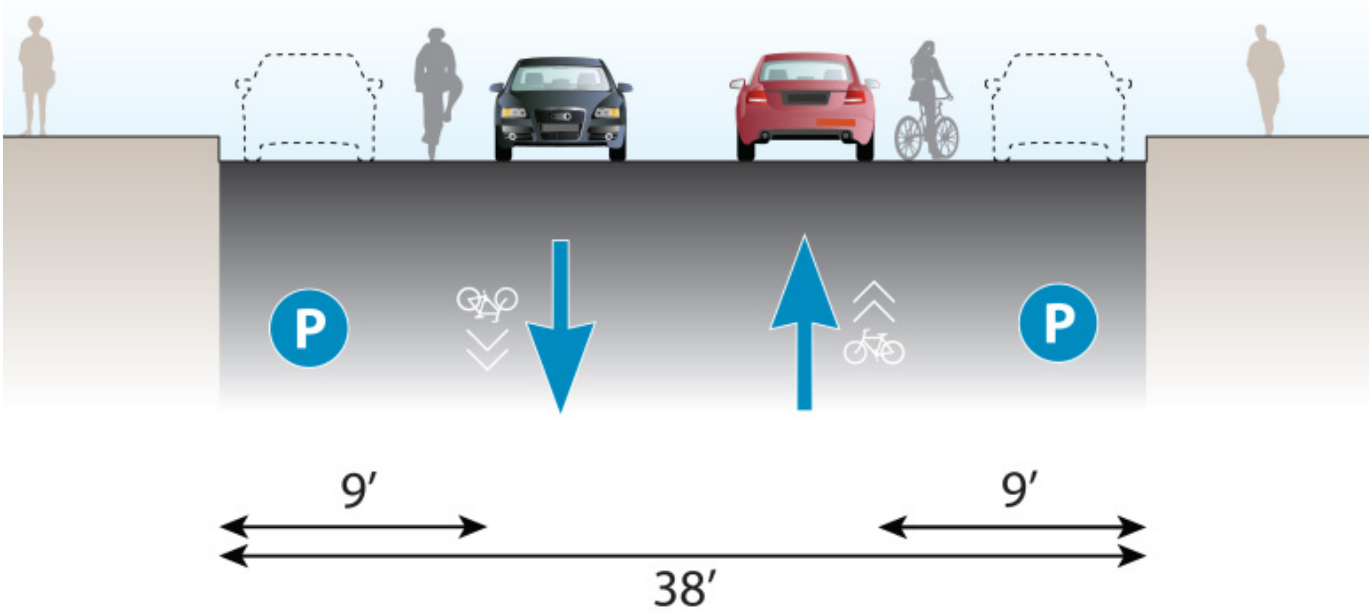
A complete bicycle network is made up of several different types of facilities for different types of users. On local streets, where traffic volumes and speeds are low, bicyclists may feel comfortable without any type of bicycle facility; they can share the road comfortably with cars. As streets get busier with more, faster moving traffic, bikes need more separation with striped bike lanes or buffered bike lanes to feel comfortable.

Several cross-sections appropriate for Downers Grove streets are provided here with suggestions of where they could be used. The variety allows the Village the flexibility to choose a design that best fits the context of the street.

Neighborhood Bike Route

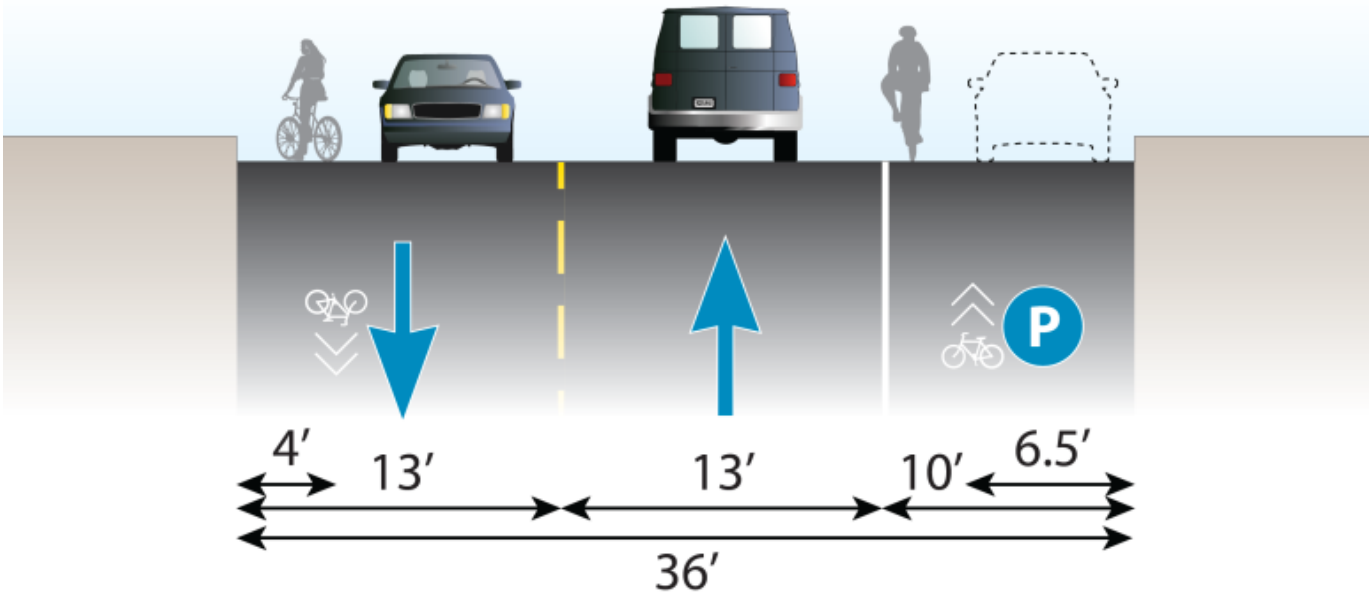
On local streets with low traffic volumes, shared lane markings can be placed in the middle of the travel lane in each direction, designating the street as a preferred route and indicating that bicyclists may use the full lane. This treatment is recommended for local streets where on-street parking is permitted. Route signs including directional and distance signage to destinations should accompany the pavement markings. Neighborhood bike routes provide an opportunity to use custom signage or even custom pavement markings to create a brand for the network.





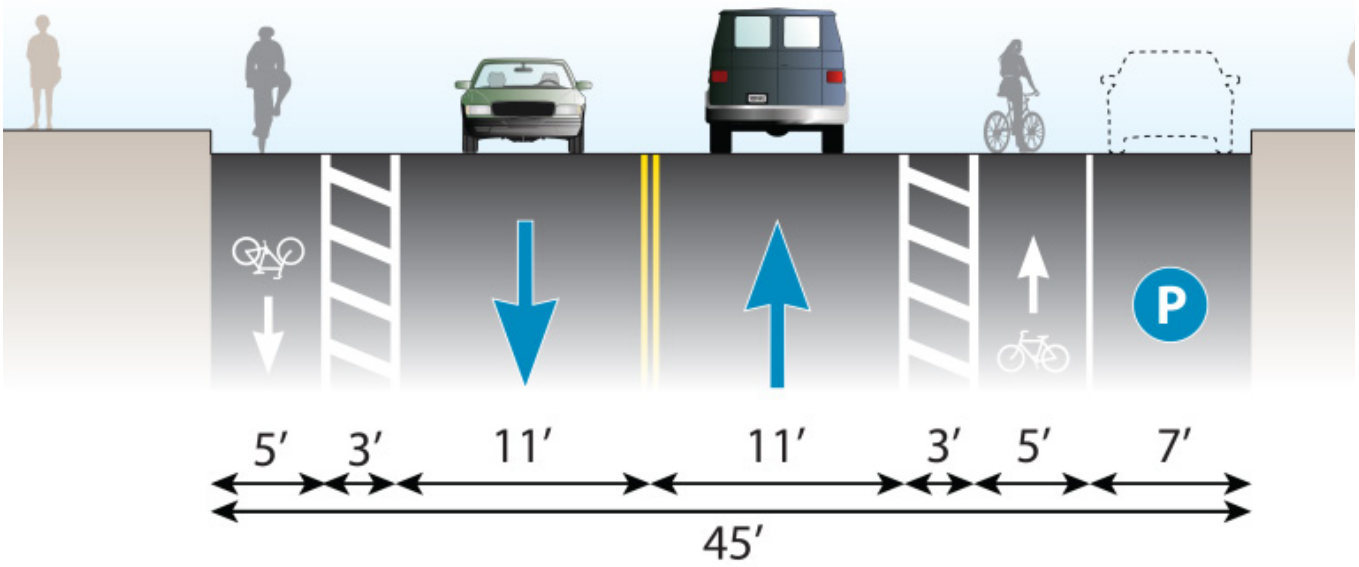
Shared Lanes

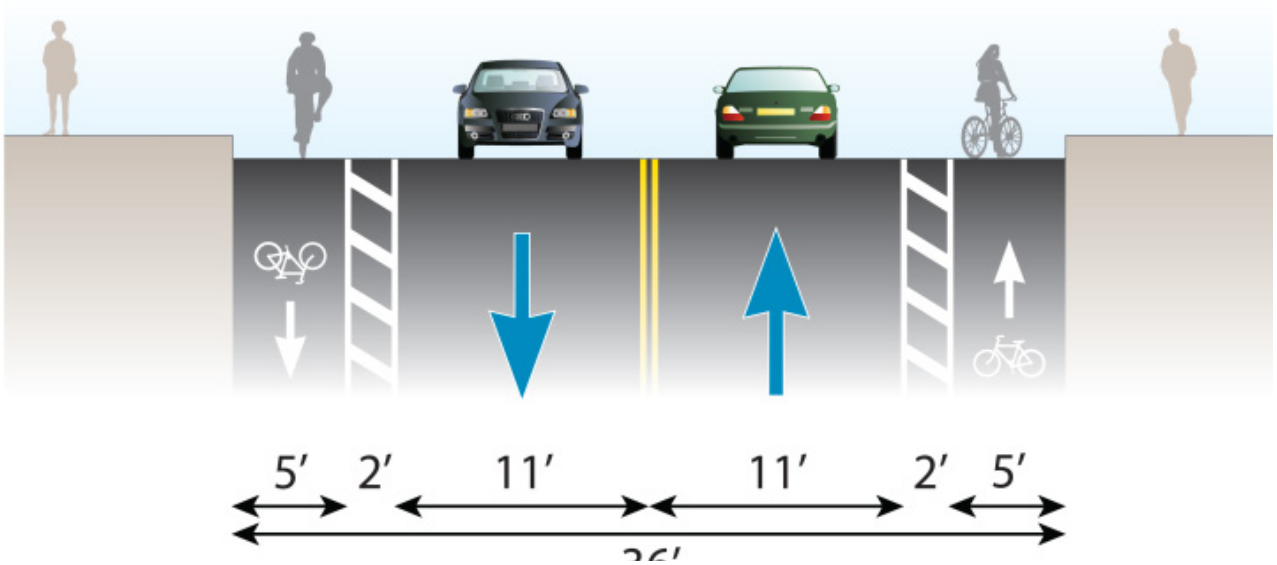
On streets with a moderate level of traffic but not enough room for a separated bike lane, shared lane markings can be placed towards the right side of the travel lane. These are recommended for streets where parking is permitted but not heavily used. The markings must be placed at least 11' from the curb on streets with on-street parking or 4' from the curb on streets without parking. **Ref: MUTCD**



Shared Parking/Bike Lane

On several streets in Downers Grove, a wide parking lane is striped on one side of the road while parking is prohibited on the other side. In some cases, this is an area where parking is needed only at specific times of the day and will not be used at other times. The wide parking stripe has also served to slow vehicles on those streets. Bike facilities can be added to those streets by marking a shared lane in the parking lane and a shared lane for bicyclists in the opposite direction in the travel lane.





Buffered Bike Lanes

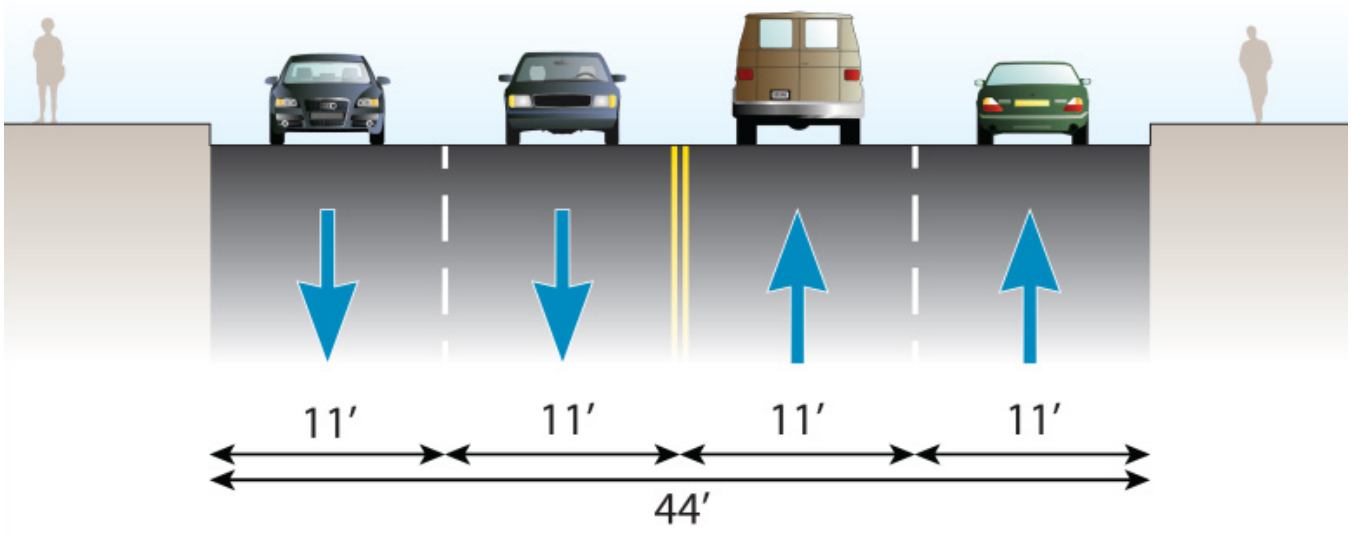
Downers Grove's first on-street bikeway was installed along Dunham Road in 2005 and a portion of the route is a buffered bike lane. Since then, many communities across North America have been installing buffered bike lanes and many lessons have been learned over the past several years. These cross-sections provide tweaks to the existing design on Dunham Road. By narrowing the lane widths, a buffer can be provided on both sides of the street rather than just one. Since parking is not heavily used on this stretch, moving the buffer to the travel lane side of the bike lane will provide more comfort to the cyclist.

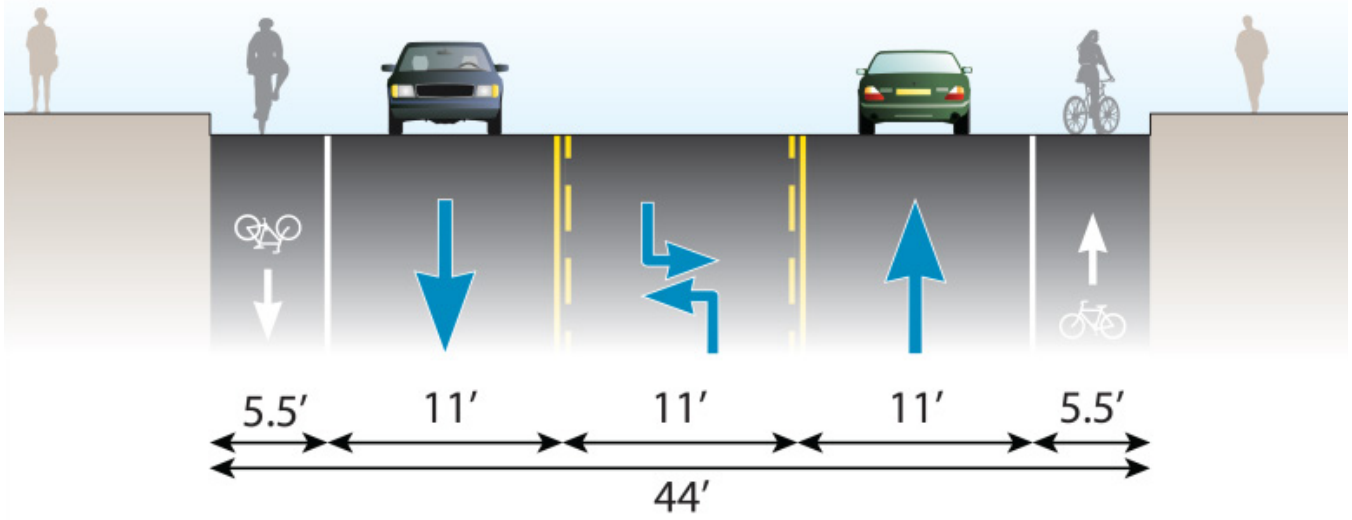
Industry research has shown that "dooring" crashes, where a bicyclist hits a door that has been opened up in their path, are significantly reduced with buffered bike lanes.

Road Diet (4-lane to 3-lane conversion)

Many communities have come to the realization that excess roadway space has been provided for automobile traffic. They have found that by converting four-lane roadways to three-lane roadways, it becomes a safer road. These conversions are often referred to as road diets. Reducing the number of travel lanes provides room for bike lanes, widened sidewalks, and/or pedestrian refuge islands at crossings. These conversions can be done without significantly impacting traffic if the traffic volumes are around 15,000 vehicles per day or less. Road diets have also been conducted on streets with volumes over 20,000 vehicles per day. Traffic analyses, including turning analyses should be conducted to determine if a road diet is appropriate.

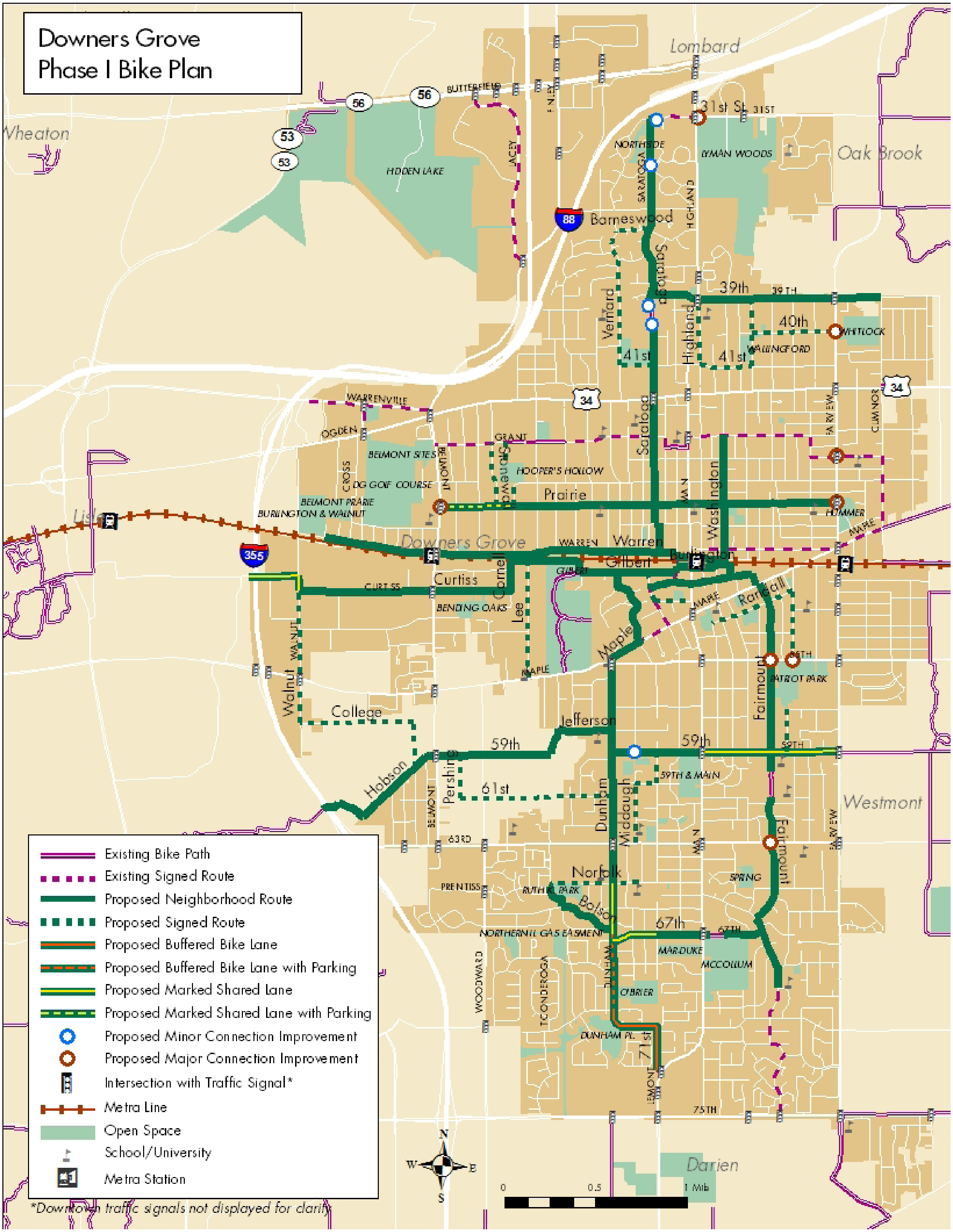
Road diets are recommended for several streets in Phase II of the bicycle network recommendations. Some streets are either entirely or in part under the jurisdiction of DuPage County Department of Transportation and thus, the design and construction of these roads must be approved by the County.

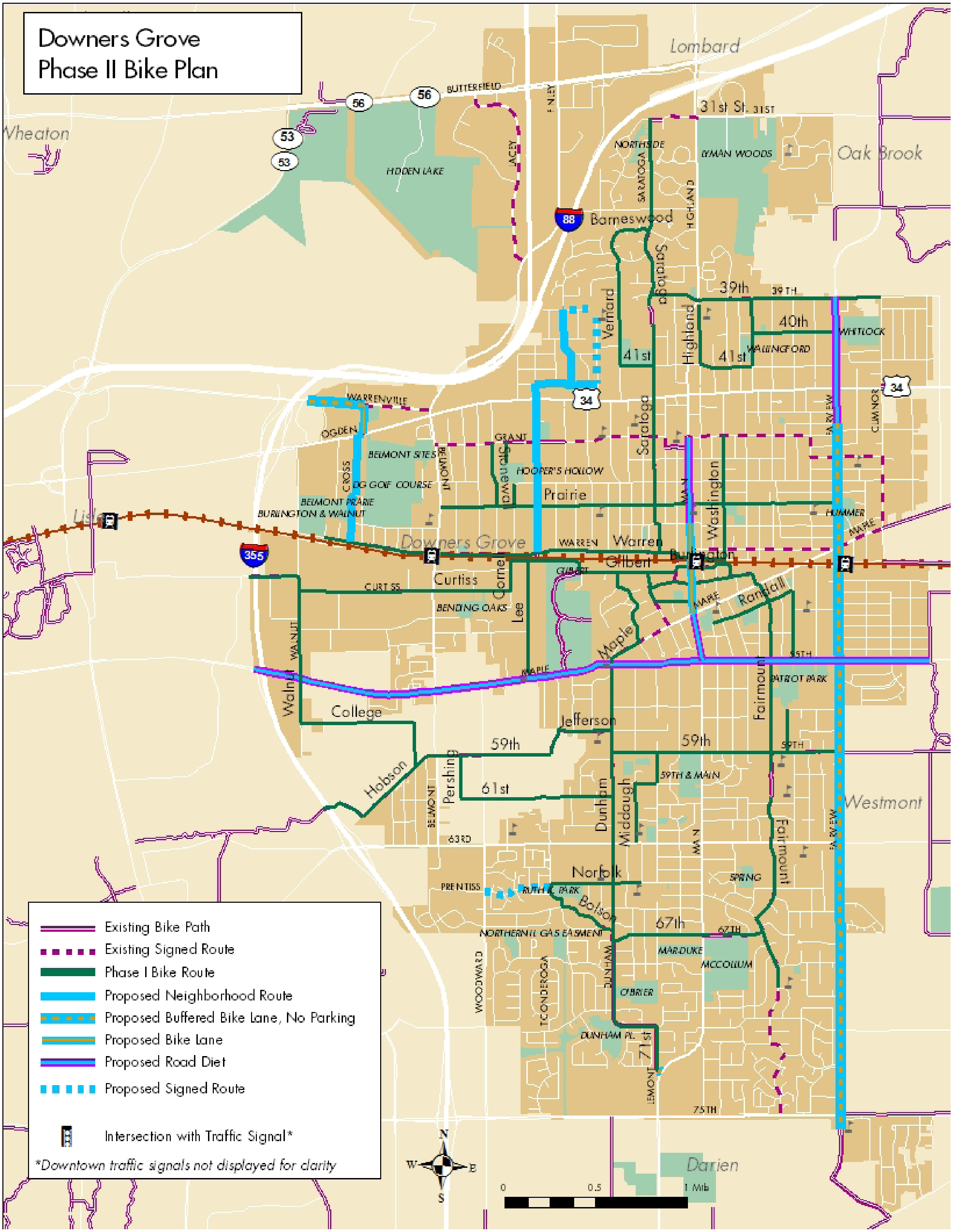


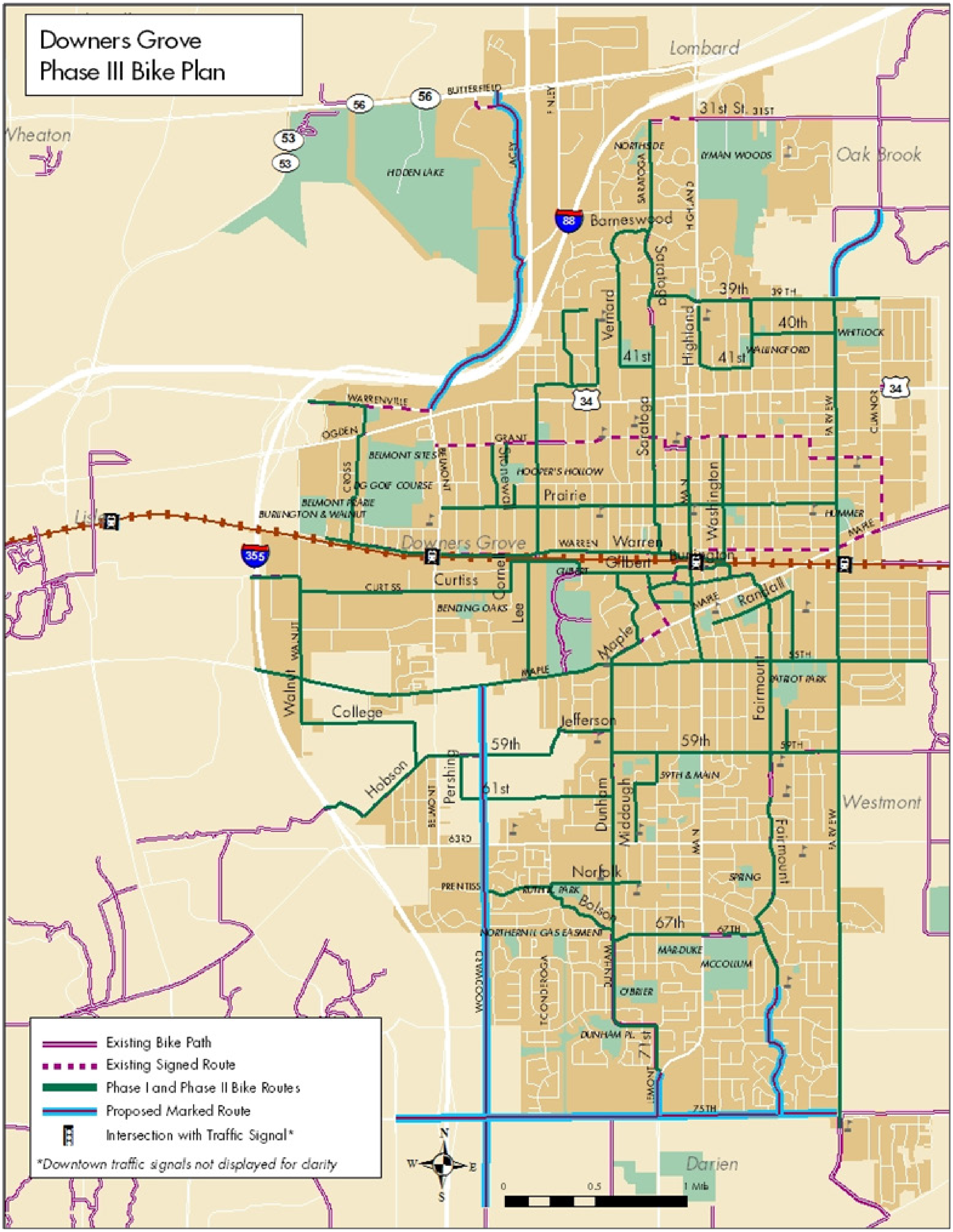


APPENDIX B

Phase I, Phase II, & Phase III Bicycle Plans


Downers Grove
Phase I Bike Plan
Lombard
Wheaton
Oak Brook
Lisle
Downers Grove
Westmont
Darien
HIDDEN LAKE
LYMAN WOODS
NORTHSIDE
Barneswood
BUTTERFIELD
FINLEY
LACEY
Saratoga
HIGHLAND
31st St
31ST
39th
39TH
40th
41st
WHITLOCK
WALLINGFORD
Venard
Highland
WARRENVILLE
OGDEN
GRANT
BELMONT SITES
HOOPER'S HOLLOW
DG GOLF COURSE
CROSS
BELMONT
Stonewall
Prairie
BELMONT PRARIE
BURLINGTON & WALNUT
MAIN
Washington
FAIRVIEW
CUMNOR
HUMMER
WARREN
Warren
Gilbert
GILBERT
Burlington
Curtiss
CURTISS
Cornell
BENDING OAKS
Lee
MAPLE
Maple
Randall
55TH
PATRIOT PARK
Fairmount
WALNUT
Walnut
College
Jefferson
59th
59TH
59TH & MAIN
Hobson
Pershing
61st
Dunham
Middaugh
63RD
PRENTISS
RUTH R. PARK
Norfolk
Bolson
SPRING
67th
67TH
NORTHERN IL GAS EASEMENT
MARDUKE
MCCOLLUM
WOODWARD
T.CONDEROGA
DUNHAM
O'BRIER
DUNHAM PL.
71st
LEMONT
75TH
N
W
E
S
0
0.5
1 Mile
Existing Bike Path
Existing Signed Route
Proposed Neighborhood Route
Proposed Signed Route
Proposed Buffered Bike Lane
Proposed Buffered Bike Lane with Parking
Proposed Marked Shared Lane
Proposed Marked Shared Lane with Parking
Proposed Minor Connection Improvement
Proposed Major Connection Improvement
Intersection with Traffic Signal*
Metra Line
Open Space
School/University
Metra Station
*Downtown traffic signals not displayed for clarity


Downers Grove
Phase II Bike Plan
Lombard
Wheaton
Oak Brook
Lisle
Downers Grove
Westmont
Darien
Butterfield
31st St.
Barneswood
39th
40th
41st
Saratoga
Highland
Venard
Prairie
Warren
Gilbert
Burlington
Curtiss
Cornell
Lee
Maple
Randall
Washington
Walnut
College
Jefferson
59th
61st
Hobson
Pershing
Dunham
Middaugh
Fairmount
Norfolk
Bolson
67th
71st
75TH
Existing Bike Path
Existing Signed Route
Phase I Bike Route
Proposed Neighborhood Route
Proposed Buffered Bike Lane, No Parking
Proposed Bike Lane
Proposed Road Diet
Proposed Signed Route
Intersection with Traffic Signal*
*Downtown traffic signals not displayed for clarity
0
0.5
1 Mile


Downers Grove
Phase III Bike Plan
Existing Bike Path
Existing Signed Route
Phase I and Phase II Bike Routes
Proposed Marked Route
Intersection with Traffic Signal*
*Downtown traffic signals not displayed for clarity
N
W
E
S
0
0.5
1 Mile
Lombard
Oak Brook
Westmont
Darien
Downers Grove
Butterfield
31st St.
Barneswood
39th
40th
41st
Warrenville
Ogden
Grant
Prairie
Warren
Gilbert
Curtiss
Maple
Randall
Walnut
College
Jefferson
59th
61st
Hobson
Pershing
Dunham
Middaugh
Fairmount
Norfolk
Bolson
67th
71st
75TH
Saratoga
Highland
Washington
Cornell
Lee
Stonewall
Vernard
Hidden Lake
Lyman Woods
Patriot Park
Woodward
Ticonderoga
Northern Il Gas Easement

APPENDIX C

Potential Locations for New or Expanded Bike Parking

Grove Street, west of Main Street, looking west

NW corner of Main Street and Grove Street, looking east

NW corner of Main Street and Grove Street, looking north

Forest Lot North, looking east (south side of lot)

Forest Lot North, looking north (north side of lot)

Warren Avenue, west of Main Street, looking west

NE corner of Main Street and Warren Avenue

NW corner of Washington Street and Curtiss Street, looking north

NW corner of Washington Street and Curtiss Street, looking west

SE corner of Curtiss Street and Mochel Drive, looking south