

City of Geneva Bikeway Implementation Plan

November 2005



RESOLUTION 2005-31

RESOLUTION APPROVING THE CITY OF GENEVA BIKEWAY IMPLEMENTATION PLAN

WHEREAS, in October of 1998 the City Council, adopted Geneva's Trail Map as an amendment to the City's Comprehensive Plan; and,

WHEREAS, the City Council has determined that a more detailed bikeway implementation plan is necessary to guide the design and layout of multi-use trails, off-street sidepaths, on-street bike lanes, bicycle bridges/underpasses and bike route signage throughout the City; and

WHEREAS, in February of 2004 Mayor Kevin Burns appointed citizens to serve on the nine member Bikeway Study Committee for the purpose of guiding the formulation of the Bikeway Implementation Plan; and

WHEREAS, in March of 2004 the City entered into a consulting services contract with Schreiber/Anderson Associates, Inc. to provide technical expertise and support to the Bikeway Study Committee in its work on the Bikeway Implementation Plan; and

WHEREAS, the overarching goals of Geneva's Trail Map and the Bikeway Implementation Plan are as follows:

- 1) Promote a sense of community and togetherness by providing linkage to all neighborhoods, as well as to multi-community bikeway facilities
- 2) Reduce congestion and pollution by providing an alternative means of transportation
- 3) Support regional tourism by providing connections between regional trails
- 4) Support Geneva commercial establishments by guiding residents and visitors to shopping areas
- 5) Foster a sense of independence in children by providing bike and pedestrian access to schools, recreational facilities and other neighborhoods
- 6) Increase safety for bike riders and pedestrians; and

WHEREAS, during the process of formulating the plan field surveys were conducted of biking conditions in and around Geneva, analyses were conducted including a Bicycle Level of Service Analysis and a Sidepath Suitability Score Analysis, and community workshops were held to gather information from citizens on biking needs and ideas for future bikeway improvements; and

WHEREAS, on September 29, 2005 the Bikeway Study Committee recommended that the City Council of the City of Geneva approve the Bikeway Implementation Plan; and

WHEREAS, on October 24, 2005 the Committee of the Whole of the City Council recommended approval of the Bikeway Implementation Plan.

NOW THEREFORE BE IT RESOLVED by the City Council of the City of Geneva, Kane County, Illinois, as follows:

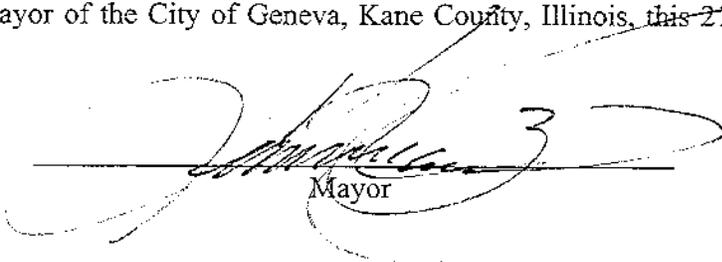
SECTION 1: The City of Geneva Bikeway Implementation Plan, attached hereto at Exhibit "A" and made a part hereof, is hereby approved.

SECTION 2: That this Resolution shall take effect immediately upon its passage and shall be published by the City Clerk in pamphlet form.

APPROVED by the City Council of the City of Geneva this 21st day of November 2005.

AYES: 7 NAYS: 2 ABSENT: 1 ABSTAINING: 0 HOLDING OFFICE: 10

APPROVED by me as Mayor of the City of Geneva, Kane County, Illinois, this 21st day of November, 2005.



Mayor

ATTEST:



City Clerk

Acknowledgements

City Council

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City of Geneva Bikeway Implementation Plan

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EXECUTIVE SUMMARY

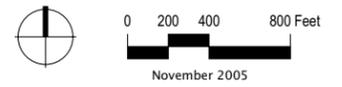
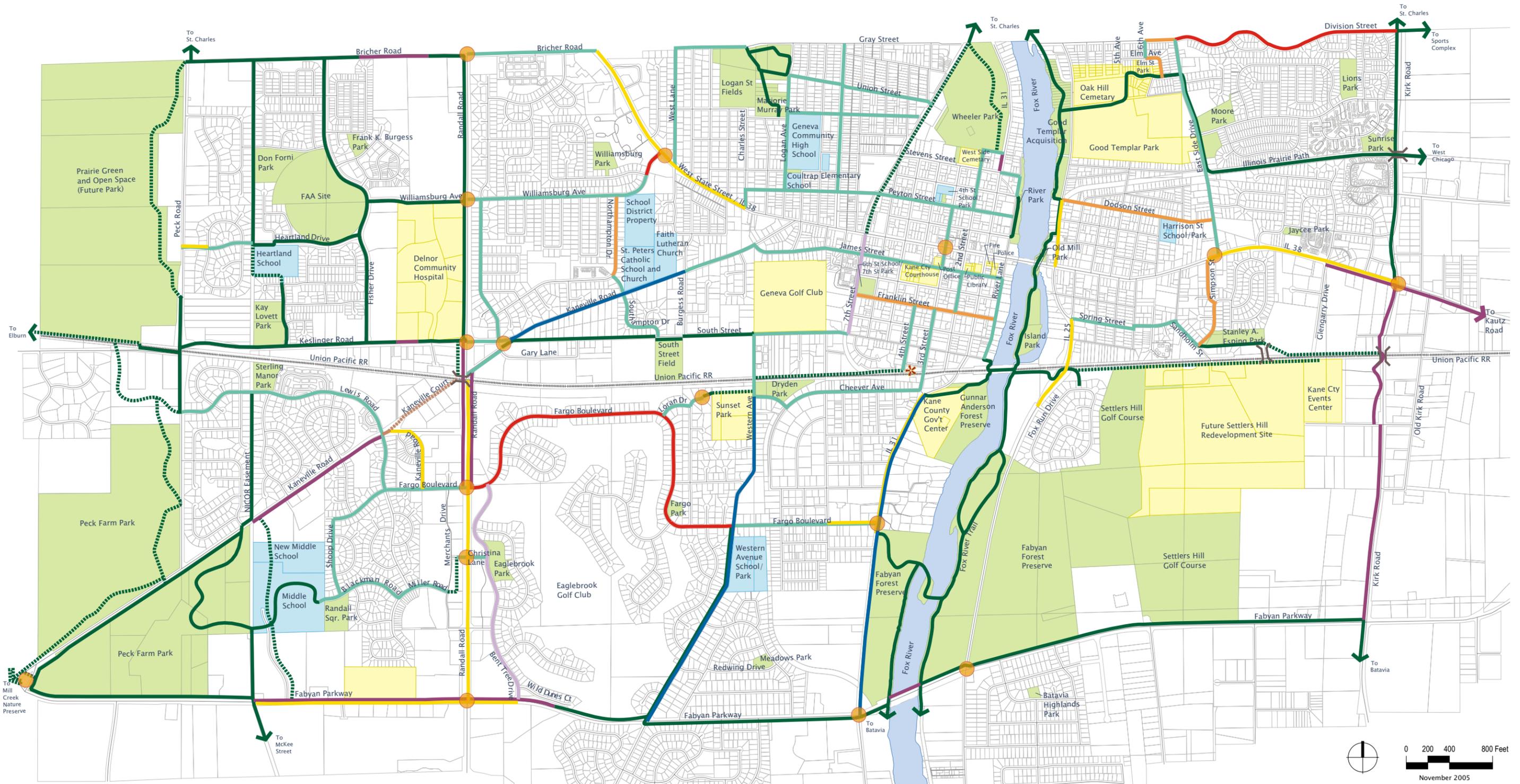
The City of Geneva has long recognized the importance of planning for bicyclists as part of a city-wide and regional multi-use transportation system. During the City's 1996 strategic planning process, many residents and local officials embarked on a nominal group planning exercise that identified, among other things, the need to create a City-wide bikeway map. As a result, a dedicated group of local citizens worked to create the Geneva's Trail Map, which identified existing and proposed bike routes throughout Geneva. The intent of the map was to expand the network of biking facilities into a broader network of bikeways that more effectively served the neighborhoods of the City. Geneva's Trail Map was officially adopted by the Geneva City Council in 1998 and was incorporated into the City's comprehensive plan.

In 2004, Geneva's mayor appointed a citizen Bikeway Study Committee (BSC) to help plan for future bicycle routes and facilities in the City and to implement Geneva's Trail Map. To build off of the 1998 bikeway recommendations and to work with the BSC to develop a strategy to make biking in Geneva a realistic alternative to automobiles for short trips, the City hired the consulting firm of Schreiber/Anderson Associates (SAA), along with the League of Illinois Bicyclists (LIB) and Gewalt Hamilton Associates (GHA) to facilitate the bikeway planning process.

The overall objectives of the planning process are to improve the bikeability of the community and to strengthen connections to the Fox River Trail system. The plan is also intended to:

- Provide a comprehensive bicycle facilities plan that serves a variety of user types, ages and abilities, children and adults, recreational riders and commuters.
- Build public consensus around bikeway planning and facility implementation in Geneva by encouraging public participation in the planning process and plan implementation.
- Identify strategies and schedules for the design and construction of recommended bike route improvements. Improvement projects should be appropriately sized to match the funding amounts and sources likely to be available.

This *Bikeway Implementation Plan* presents the results of a planning process that built off of Geneva's Trail Map and included a thorough study of the City's existing bicycling conditions; a review of regional bicycle planning efforts and existing regional plans affecting the City; and extensive public involvement through a series of meetings and open houses.



Geneva Bikeway Implementation Plan – General Recommendations

Bikeway Recommendations

City of Geneva

PRODUCED BY:



- | | | |
|-----------------------------|--|--|
| Existing Bicycle Facilities | Proposed Multi-Use Trails | Sidepath |
| Schools | Bike Lanes without Parking | Bike Route Signage |
| Parks | Bike Lanes with Parking | Signage and Repaving |
| Other Areas of Interest | Important Bike Route (facility to be decided with neighbors) | Bike Route Signage (conditional) |
| Third Street Metra Station | Sidewalk Improvements | Sidewalk Improvements |
| | Proposed Bridge or Underpass | Intersection Improvements and/or Bike-and-Chevron Markings |

1. Introduction

The purpose of this *Plan* is to increase bicycle use and improve conditions for bicycling in Geneva. Plan recommendations, if implemented, will increase transportation safety for bicyclists and motorists.

Many existing streets in Geneva are suitable for bicycling and will require little or no improvement. Other streets may benefit from facility improvements such as re-stripping to add bike lanes to existing pavement, improving intersections, providing directional signs or increasing maintenance of facilities.

The preparation of the *Bikeway Implementation Plan* was identified as one of the Geneva City Council's strategic objectives for the 2003/2004 and 2004/2005 fiscal years. The mayor appointed the Bikeway Study Committee (BSC) to direct the formulation of a detailed implementation plan to include analysis, design, cost estimates and prioritization of bikeway improvements along the bikeway routes shown on Geneva's adopted trail map. The City determined that the technical nature of the implementation plan required a qualified consultant with expertise in bikeway planning and design, civil engineering and meeting facilitation. The City chose the consulting team of Schreiber/Anderson Associates (SAA), League of Illinois Bicyclists (LIB) and Gewalt Hamilton Associates (GHA) to lead the planning process. The overarching goals for this *Plan* are to improve the bikeability of the community and to strengthen connections to the Fox River Trail system.

Why is this Plan Important?

Prior to the 1900s, bicycling and walking were common modes of transportation in the United States. Transportation infrastructure and land use patterns reflected the need to accommodate these travel modes and compact communities allowed people to walk to most destinations. Interestingly, early American urban roads were originally paved for bicyclists.

As the pace of the American lifestyle quickened and automobiles were made affordable to a larger portion of the population, bicycling and walking gradually dropped in priority as modes of transportation. Since the late 1940s, motor vehicles have been the dominant influence on transportation and land use patterns. The convenience and flexibility of the automobile are easily recognized; however, the automobile is not the most efficient mode of travel for some types of trips. The benefits of alternative modes of travel, such as bicycling, are particularly significant for short urban trips. The arguments for encouraging bicycle travel are both functional and philosophical:

- Bicycling is one of the most cost efficient modes of transportation with regard to operation, development and maintenance of facilities.
- Bicycling is one of the best forms of physical exercise and therefore can effectively enhance the health of users.

- Bicycle facilities developed for transportation purposes can simultaneously enhance recreation and tourism opportunities.
- Bicycling does not contribute to noise or air pollution and thus contributes to the health of the community. Also, facilities developed for bicycling can protect and enhance natural resources.
- Bicycling promotes social interaction within families and the larger community.

National, state and local units of government increasingly acknowledge the benefits of bicycling beyond a mere recreational value. Recognizing the efficiency of bicycling for certain types of trips versus other modes of travel is the basis for multi-modal transportation planning. The premise of multi-modalism is simple: to create a transportation system that offers not only choices among travel modes for specific trips, but more importantly, presents these options so that they are viable choices that meet the needs of individuals and society as a whole.

Table 1: Transportation Mode for NPTS Identified Trip Purposes - 1995

Trip Purpose	Percent of Trips by Transportation Mode			
	Bicycling	Walking	Personal Automobile	Public Transportation
Work	9	9	21	37
School/Church	9	15	7	13
Shopping/Personal	22	42	48	20
Social/Recreational	60	34	24	30

Source: NPTS, 1995

A 1995 Nationwide Personal Transportation Survey (NPTS) demonstrated that bicycling and walking are more commonly used for social or recreational trips than other transportation modes. Safety, distance and traffic conditions are reasons often cited for infrequent use of multi-modal travel modes. A 1990 Harris Poll suggests that twice as many people would walk or bicycle as a primary means of transportation if better facilities were available. In today's fast-paced society, time and distance are perhaps the greatest impediments to non-motorized travel, yet nearly 40 percent of trips made in the U.S. are less than two miles. These short trips are very easily accomplished by average bicyclists and when compared to driving require little, if any, additional time.

The City of Geneva *Bikeway Implementation Plan* addresses community-wide bicycle needs, such as major community bike routes, increased safety on City streets for bicycles, coordination of connectivity to surrounding communities and increased bike parking, which collectively will help promote both work and recreational trips.

How was the Plan Developed?

Inventory and Analysis of Existing Bicycling Conditions

The first step in the planning process involved a careful review of Geneva's Trail Map, which was created by Geneva citizens during the City's strategic planning process in 1996. This map was designed to highlight existing bicycle routes and to propose a system of new routes. The consultants found this map to be very inclusive and well done, and it was used as a basis when considering the bikeway system that is recommended in this *Bikeway Implementation Plan*.

The second step in this planning process involved several field surveys where the consultants biked extensively throughout Geneva to determine where good bikeway connections and potential problems areas existed.

The third step included an extensive inventory and analysis of existing bicycling conditions in Geneva. This inventory included a Bicycle Level of Service (BLOS) analysis and a Sidepath Suitability Score analysis. These analyses are discussed in detail and existing conditions are mapped in Chapter 2 of this *Plan*.

Geneva Bike Planning Workshops

Several bike-planning workshops were held during the course of plan development. The purpose of these public meetings was to listen to the interests of bicyclists and other Geneva residents and to build consensus on the plan.

The public meeting held on June 29, 2004 at Island Park was very well attended and generated a great deal of information regarding both existing and potential Geneva bike routes.

Also, a bike tour was held on August 11, 2004 with City Staff and members of the BSC. The tour visited the Third Street Metra Station to discuss bike parking and access; Fargo Boulevard to discuss a potential pavement striping project; and other points of interest in Geneva, including Randall Road and the bicycle facilities on South Street.

City Planning Initiatives and their Biking Implications

The overarching goals for this *Plan* are to improve the bikeability of the community and to strengthen connections to the Fox River Trail system. In addition to these goals, the committee that created the Geneva's Trail Map had the following goals:

1. Promote a sense of community and togetherness by providing linkage to all neighborhoods, as well as to regional bikeway facilities.

2. Reduce congestion and pollution by providing an alternative means of transportation to the automobile.
3. Support regional tourism by providing connections between regional trails.
4. Support Geneva's commercial establishments by guiding residents and visitors to the downtown and other shopping areas.
5. Foster a sense of independence in children by providing bike and pedestrian access to schools, recreational facilities and other neighborhoods.
6. Increase safety for bicyclists and pedestrians.

Plan Objectives

1. Provide a comprehensive bicycle facilities plan that serves a variety of user types, ages and abilities, children and adults, recreational riders and commuters.
2. Review the designated bikeway routes on the Geneva Trails Map and consider any appropriate adjustments to the routes based upon changed field conditions since 1998, or any other factors that may negatively impact the ability to implement bikeway improvements along the route segments.
3. Identify short-term and long-term improvements to key intersections, route gaps and major new facilities.
4. Recommend policies and facilities that will increase user safety, using guidelines derived from the American Association of State Highway and Transportation Officials (AASHTO) Guidelines for Developing Bicycle Facilities, 1999 and from the Manual on Uniform Traffic Control Devices (MUTCD).
5. Formulate consensus improvement plans for the bike routes that meet AASHTO, Illinois Department of Transportation and Kane County Department of Transportation standards and local needs and determine probable estimates of improvement costs for each route segment (information needed to support grant requests and project implementation).
6. Develop a detailed approach to funding recommended bike route improvements and specific grants to be pursued for each route segment.
7. Formulate strategies and schedules for the design and construction of recommended bike route improvements. Improvement projects should be appropriately sized to match the funding amounts and sources likely to be available.
8. Incorporate plans for recommended bike route improvements into the transportation, land use and development plans of other units of government where appropriate.

Public Input Objectives

1. Work with broad-based community interest groups, including the Bikeway Study Committee, that speak effectively for bicyclist and public health interests.
2. Obtain public participation in the planning process to build consensus and to encourage plan implementation and use by the public.
3. Develop a planning process that involves all groups and individuals that have expressed an interest in this project and direct their energies into creating consensus around an innovative, convenient and complete bikeway system for the City of Geneva.

System Development Objectives

1. Develop facilities that are directed toward major destinations, such as parks, Forest Preserves, regional trails, community centers, City Hall, the Library, Third Street Metra Station, retail centers, employment centers and/or government centers.
2. Emphasize connectivity of the system to adjacent communities, as well as to local and regional trail systems such as the Illinois Prairie Path and the Fox River Trail.
3. Review existing conditions along each of the designated bikeway routes and identify barriers to bikeway improvement, constructability issues and potential negative impacts. Focus on design approaches and methods that could be used to overcome physical barriers to bike riders (like crossing Randall Road), and related safety hazards.
4. Identify any right-of-way and/or easements necessary to construct the bike routes.

This *Plan* is designed to be consistent with community and regional planning efforts. The Kane County Bicycle and Pedestrian Plan provided background information and a framework for the preparation of Geneva's *Bikeway Implementation Plan*.

2. EXISTING CONDITIONS

Biking Conditions in Geneva

This planning process involved an extensive data collection effort to inventory Geneva's existing bicycle network, determine where bikeways are planned and understand regional bicycle planning efforts that affect Geneva. This inventory consisted of a review of Geneva's Trail Map; field surveys; a Bicycle Level of Service (BLOS) and Sidepath Suitability analysis; a review of existing transportation and planning data; and meetings with various groups, including the BSC, the Kane County Forest Preserve District, the Kane County Department of Transportation (KDOT), City Staff, local bicycle organizations and the public.

Existing Local Bikeways

A variety of bikeways already exist in Geneva. Many of the routes are sidepaths along arterial or collector streets. A sidepath is a trail that is parallel to, but separated from, a roadway. Other routes, such as along South Street, have on-street bike lanes and still others, such as Cheever Avenue, have signed on-street bike routes. All of these bikeway facilities help create Geneva's bikeway system. Main routes exist along all or portions of:

- Fabyan Parkway
- Eagle Brook Drive
- Cheever Avenue
- Randall Road between Keslinger Road and Williamsburg Avenue
- South Street
- Wheeler Park
- Kirk Road
- Keslinger Road
- Bricher Road
- Fisher Drive
- Peck Road
- Kaneville Road
- Viking Drive
- Heartland
- Williamsburg Avenue
- NICOR Gas Easement (runs in segments north to south between Bricher Road and Fabyan Parkway)
- Gray Street
- Logan Avenue
- Western Avenue
- Redwing Drive
- Seventh Street
- East Side Drive
- Crissey Avenue

Many of these routes are not well connected to other routes and areas of the City and gaps exist in the system, which prohibits local bicyclists from safely accessing all areas of the City or connecting to the regional trail network.

Proposed Local Bikeways on Geneva's Trail Map

"Geneva's Trail Map" proposes many bike routes to connect local and regional routes. Many of these proposed routes close gaps in the existing bikeway system, and/or help provide safe bicycle access to previously inaccessible areas of the City. Major proposed bikeways on this map are located in the following areas:

- A Fabyan Parkway connector
- Randall Road
- Bent Tree Drive
- Fargo Boulevard
- Batavia Avenue
- Kaneville Court/Kaneville Road
- Union Pacific Railroad
- Downtown routes, including: 7th Street, 4th Street, Franklin Street, 2nd Street, James Place, Peyton Street and River Lane
- Southampton Drive/Northampton Drive
- Williamsburg Avenue
- Bricher Road
- Gray Street
- Division Street
- Geneva Drive
- Spring Street/Spring Court

Other routes have been proposed by various agencies, but were not included on the "Geneva's Trail Map", including:

- A connection from Mill Creek Subdivision to Peck Farm/Middle School.
- A bikeway facility connecting River Park to Wheeler Park.
- An extension of South Street under Randall Road to the southwest corner of Randall Road and Keslinger Road. This connection was in Phase 1 engineering in the fall of 2004.
- A Mid-County Trail connection along Peck Road (identified in the Kane County Bicycle and Pedestrian Plan).

The proposed bike routes mentioned above will connect Geneva from east to west, and from north to south. They will provide improved access to the Fox River Trail, Fabyan Forest Preserve and Sunset Park. Access to and through the downtown will be improved and several Randall Road crossings will be made safer. This *Plan* builds on these bike route recommendations and provides specific implementation strategies to ensure safer and more convenient bicycle access throughout Geneva.

Existing Regional Bikeways

Fox River Trail

The Fox River Trail is a 35-mile long trail that follows the Fox River. The trail begins in the City of Crystal Lake in McHenry County, but is located mostly within Kane County. North of Crystal Lake, the trail veers away from the river and becomes the Prairie Trail. The southern end of the trail is located in the Village of Oswego in Kendall County, although conceptual plans exist to extend the trail to Yorkville. The trail is completed through the Cities of St. Charles, Geneva, Batavia and Aurora and is a popular bikeway both locally and regionally.

Illinois Prairie Path

The Illinois Prairie Path (IPP) was one of the first multi-use trails in the nation, and was constructed on the former Chicago, Aurora and Elgin Railway. Although most of the 55-mile trail system is a former railbed, two stretches in Hillside and Villa Park-Lombard are on-road facilities. The Prairie Path passes through several communities in Chicago's western suburbs, showing a broad cross section of suburban life. The IPP links many municipal parks and county forest preserves and offers a glimpse into prairie flora and fauna. Because of its long, uninterrupted route, it is used as a commuter route for non-motorized travel.

The majority of the IPP system is in DuPage and Cook County, but three of its branches extend and end at the Fox River Trail in Kane County. There may be opportunities to extend the trails further west into Kane County.

The Geneva Branch of the Illinois Prairie path is approximately nine miles long. The Kane County Forest Preserve District has leased most of the Geneva Spur in Kane County from Commonwealth Edison to create a new branch of the Illinois Prairie Path. It separates from the Elgin Branch near the Timber Bridge Forest Preserve and heads west until it terminates and connects with the Fox River Trail north of downtown Geneva, near Oak Hill Cemetery.

Kirk Road

There is a sidepath along the west side of the right-of-way on Kirk Road that passes through four communities: St. Charles, Batavia, Geneva and Aurora. Of the 7.5-mile length between North Avenue in St. Charles and Butterfield Road in North Aurora, there is a 1.2-mile gap in the sidepath. This gap is located in Geneva, between IL 38 and Fabyan Parkway. Although the road is under county jurisdiction, it is an important link in the regional bikeway system and the *Geneva Bikeway Implementation Plan* makes recommendations for completing the gap in this bicycle facility. The Kirk Road sidepath offers connections to the Illinois Prairie Path's main trail and to the Batavia Spur. Several local paths that connect to this facility exist or are in the planned and conceptual stages of development.

Proposed Regional Bikeways by Kane County and Others

Geneva is well served by an excellent county-wide bicycle network. However, as the population in the area grows, it is important to provide additional bicycle facilities for both commuters and recreational bikers. There are several proposed regional bikeway facilities for the area and these are described below.

Mid-County Trail

The Mid-County Trail is a proposed north-south trail that will serve as a recreational and transportation corridor. This trail utilizes several existing local trails; requires the construction of new sidepaths and trails; and utilizes forest preserves, parks and greenways. The proposed northern trailhead is near IL20 and Nesler Road in Elgin. The proposed southern trailhead is near IL56 and the Virgil Gilman Trail in Aurora. The Mid-County Trail can be extended at either the north or south trailhead if there is sufficient interest and available right-of-way.

The Kane County Forest Preserve District, in coordination with local agencies, is acquiring land connecting existing forest preserves and trail systems to form the “Mid-County Trail” corridor. Continued residential and commercial development in the area will make it more difficult to acquire property and right-of-way for a bikeway corridor. The opportunity to identify a corridor and preserve land and open space is now. In addition, if a route is identified, developers can “buy into” and plan around such a corridor, as well as build portions of the trail and connections to the trail. This *Plan* recommends connecting the Mid-County Trail through the Prairie Green Preserve that will be located west of Peck Road between Bricher Road and Keslinger Road.

Elburn to Geneva (Union Pacific or Keslinger)

The corridor from Elburn to Geneva is a logical place to add another east-west trail to Kane County’s bicycle network. Kane County and Elburn have pursued sidepaths as part of new development along Keslinger Road. A trail should be designated along the north side of the Union Pacific Railroad through the Prairie Green Preserve and continuing to the west along the rail corridor. This route will be especially important as the new Metra line is extended west of Geneva and as areas to the west continue to develop.

Randall Road

Randall Road is a major arterial transportation corridor. Because of this, consistent facilities need to be provided. BLOS improvements or new sidepaths should be extended south to Fabyan Parkway. Randall Road in St. Charles and Batavia generally has very wide paved shoulders. Randall Road through Geneva also has wide shoulders, but the shoulders are increasingly being used for new turn lanes. In some places, a much narrower shoulder is added to the right of the right-turn lane, but in other places, the shoulder is taken over completely by automobile traffic. Any discontinuity in the shoulders can make the entire route unacceptable. The stretch from IL38 to IL64 in St. Charles does not have shoulders – but reconstruction designs are considering bicyclists. A portion of the Randall Road bikeway north of LeRoy Oaks Forest Preserve will be utilized by the Mid-County Trail.

Geneva residents west of Randall Road are separated from the rest of the community, downtown shopping, the Fox River Trail, Sunset Park and other amenities because of the difficulty in crossing Randall Road. This problem is addressed in Chapter 3 of the *Geneva Bikeway Implementation Plan* and recommendations are made to improve these crossings.

Kirk Road

Kirk Road’s sidepath from IL56 in Aurora to IL64 in St. Charles has a break in Geneva, forcing significant detours to the west and preventing access to the Kane County Events Center, Elfstrom Stadium and other key destinations. The Kirk Road Bridge over the Union Pacific

railroad has no additional width. Future improvement designs should include adequate paved shoulders or other appropriate accommodations for bicyclists. One possibility to help fill the gap along Kirk Road was the use of Old Kirk Road; however, the Old Kirk Road rail crossing will be closed in the near future, which means that the accommodation of bicyclists on the future Kirk Road Bridge (or a separate bicycle/pedestrian bridge) is even more important.

Fabyan Connector

There is a sidepath along the south side of Fabyan Parkway west of the Fox River, and a sidepath along the north side of Fabyan Parkway east of the Fox River. However, there are two (2) gaps in this facility between Kaneville Road and Kirk Road. One gap is over the Fox River. The other gap is west of the Fox River, from the NICOR Trail to about 400 feet east of Bent Tree Drive. Completion of these gaps will connect three trail systems: the proposed Mid-County Trail, the Fox River Trail and the Kirk Road Sidepath. Also served by this connection is the popular Fabyan Forest Preserve, which is located on both sides of the Fox River just north of the Fabyan Bridge. It is recommended that the western gap be completed by providing a sidepath through developer agreements. When the Fabyan Bridge is reconstructed, additional width should be added to accommodate bicycle and pedestrian traffic. Before this occurs, bicycle traffic should be directed to ride through Fabyan Forest Preserve and cross the river there.

Geneva to Johnson's Mound Trail Gap

Johnson's Mound Forest Preserve is a popular destination. There are a series of trails from Geneva along Kaneville Road, Fabyan Parkway and Hughes Road (Mill Creek Subdivision and Peck Farm). There is a short gap at the Kaneville/Fabyan intersection that should be filled, and the trail could be extended westward along Hughes Road to the Johnson Mound Forest Preserve. A wider paved shoulder should be added to Hughes Road for more experienced cyclists that prefer riding on the road.

Bicycle Level of Service and Sidepath Score Suitability Analysis

Choosing an appropriate bicycle facility involves both public input and technical recommendation. Depending on the situation, the best technical choice may be an on-road or off-road improvement, or simply signing a route that may already be adequate. Two planning tools are employed in this plan to objectively assess existing conditions. The Bicycle Level of Service measures on-road suitability, while the Sidepath Suitability Score rates bicycling on a sidewalk or sidepath. Later, these same tools will be used to gauge the feasibility – and the resulting benefit – of different bicycle facility options.

Bicycle Level of Service (BLOS) Analysis

Selected roads in Geneva that showed potential for bikeway facilities and/or were marked on Geneva's Trail Map were inventoried with a Bicycle Level of Service (BLOS) analysis. A BLOS analysis rates a road's perceived "comfort level" or a range of typical experiences for adult bicyclists who share a roadway with motorized traffic. Ratings of "A" through "F" are given, with "A" exhibiting the best conditions for bicyclists and "F" exhibiting the worst. Key factors in the BLOS rating are traffic speed, traffic volume, pavement condition, lane width and the presence of on-road bike lanes or paved shoulders. The ratings are intended to assist a

bicyclist in selecting roads that match his or her experience and skill level. BLOS analyses may also be used to assess how a roadway improvement will impact bicyclists and can help ensure a basic level of service is incorporated into roadway design and reconstruction.

BLOS is an emerging national standard for quantifying the “bike-friendliness” of a roadway. While motorist “level-of-service” indices relate to traffic capacity, these measures indicate bicyclist comfort level for specific roadway geometries and traffic conditions. Associated with the “A” through “F” grades are numbers related to each of the factors that are considered in the BLOS analysis. Roadways with a better (lower) score are more attractive – and usually safer – for cyclists. The BLOS analysis for the City of Geneva, with the corresponding number and letter scores, is included in the Appendix.

BLOS evaluation may be useful in several ways:

- A bicycle map can be produced for the public to assist them in route selection.
- The most appropriate routes for inclusion in the community bicycle network can be identified.
- “Weak links” in the network can be determined, and sites needing improvement can be prioritized.
- Alternate treatments for improving bike-friendliness of a roadway can be evaluated.
- Policies can encourage or require road project designs to improve BLOS rating, or to achieve specific levels.

Landis et al.¹ developed the BLOS (1997) model by measuring cyclist reaction to actual field courses. The measure has been used on over 200,000 miles nationwide by agencies including IDOT and Kane County (bike maps), the Chicago Area Transportation Study and the Kane County Council of Mayors.

The BLOS model reflects the effect on bicycling suitability or “compatibility” due to factors such as roadway width, bike lane widths and striping combinations, traffic volume, pavement surface conditions, motor vehicles’ speed and type and on-street parking. BLOS is used to analyze mid-block cross-sections, but not intersections. Striped-off space used by cyclists – including paved shoulders, bike lanes, and sparsely-occupied parking – is one factor that has a major impact on the BLOS score.

In general, more experienced and traffic-tolerant cyclists prefer roads rated “C” or better. More casual cyclists may be comfortable on “B” or better roads. The least traffic-tolerant may bike only on “A” roads – or just trails and sidewalks. A good bicycle accommodation design policy might call for a minimum level of “C” for all roads and “B” for roads with high latent demand (near important destinations, major through routes, etc.)

¹ Landis, Bruce W. “Real-Time Human Perceptions: Toward a Bicycle Level of Service” *Transportation Research Record 1578*, Transportation Research Board, Washington DC 1997

BLOS Maps and Results

BLOS analysis of existing conditions was performed on the following Geneva roads:

- Proposed routes previously identified by the Bikeway Study Committee and adopted into Geneva's Comprehensive Plan.
- Other roads that might be considered for the bikeway network due to destination or connection needs.

Most of the necessary data was provided by Mr. Bob Smith of the City of Geneva, with additional field work where needed.

A particular road's characteristics can change frequently over its course. Some smoothing of the data was done to reduce the number of distinct segments. Also, some truck volume and "extra width" data was outside the model's validity range. Professional judgment and techniques from the Kane County bike map were also used. Road cross-sections were rated away from intersections, where characteristics frequently change. The only intersection effect considered was the narrowing of some specific shoulders at long turn lanes, such as on Randall Road.

The following BLOS maps show Geneva's west, central and east regions, divided by Randall Road and the Fox River. Roads having sufficient width for some type of striped-off area are indicated. The effect of this striping will be examined in Chapter 3 of this *Plan*.

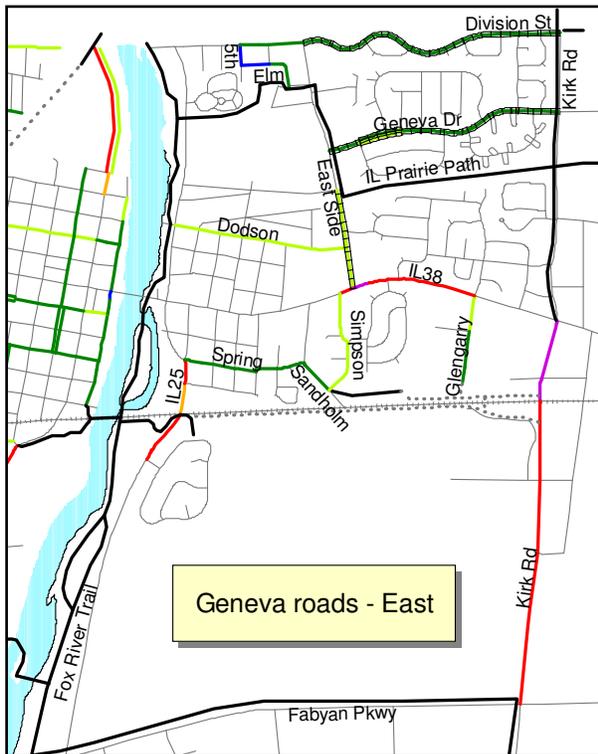
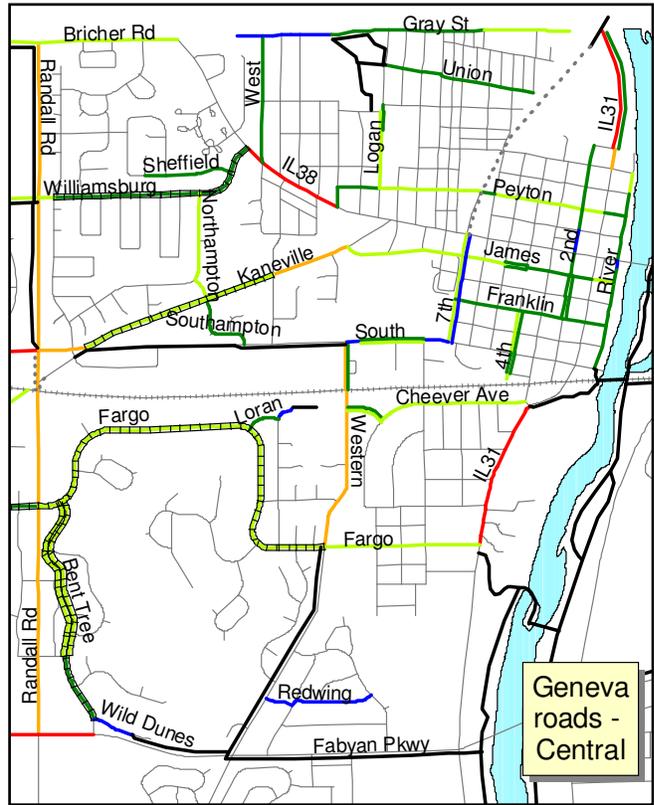
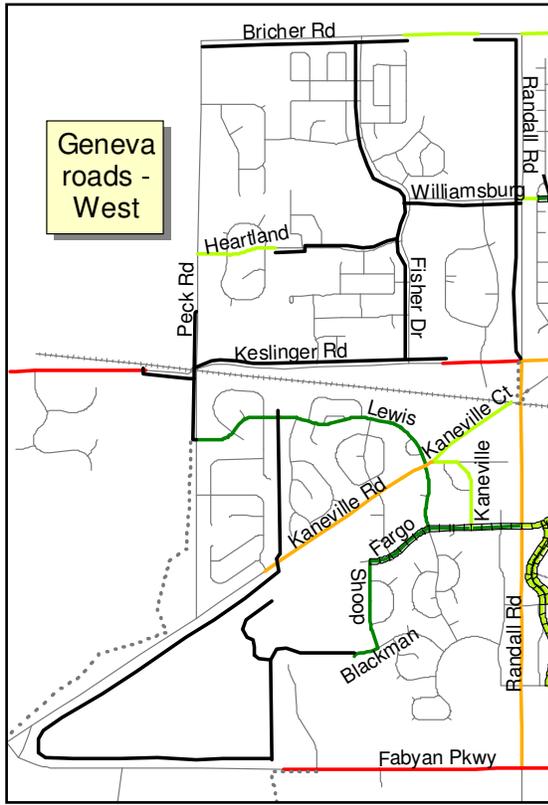
Some general observations can be made from the results. First, the Bikeway Study Committee has done an excellent job of selecting the most bike-friendly roads for circulation and access to destinations throughout Geneva, including the crossing of major barriers (e.g., Union Pacific Railroad, IL38, the Fox River and Randall Road). Many of the recommended roads may already be adequate for route designation, perhaps through a standardized signage system.

The wider roads specially marked on the map present opportunities for striping of bike lanes or, where parking is allowed but very sparse, shared use areas (similar to paved shoulders) for bikes and parking.

Other roads will be more challenging and will require more extensive improvements. For some roads, a sidepath trail may be deemed appropriate. Sidepaths are discussed in greater detail in Chapter 3. Other roads might be able to be widened, as South Street was in the early 1990's with the addition of federally-funded bike lanes. For a few roads, bikeway improvements may not be possible and a sidepath may not be appropriate. It may be best to not designate these routes as bikeways, but rather, to improve (or add) sidewalks with careful attention to intersections and crossings.

A detailed look at specific routes is included in Chapter 3 of this *Plan*.

Existing On-Road Conditions of Potential Bike Routes



Trails
 Existing
 Proposed

BLOS rating
 A
 B
 C
 D
 E
 F

 Striping possible

Sidepath Suitability Score – Off-Road Measure

While the Bicycle Level of Service is a measure of on-road bicycling conditions, the Sidepath Suitability Score (SP Score) rates a sidewalk or sidepath as a place to bike.

As described in the *Methodology for Selecting the Bike Route and the Facility Type* in Chapter 3 of this *Plan*, there are major safety problems in relying too much on sidewalks or sidepaths as bicycle facilities, particularly where there are frequent intersections and other crossings. Where bike travel on sidewalks is common, steps may be taken to reduce visibility problems. Also, gauging the relative risk can assist decision-making and intersection design on new sidepaths. The SP Score methodology can help with these assessments.

SP Score evaluation can be used to:

- Rate existing conditions
- Rate the effect of safety improvements on existing sidewalks or sidepaths
- Consider the feasibility of a new sidepath – is this an appropriate place for an off-road bike trail? What can be done to minimize intersection conflicts?

At present, no nationally-accepted sidepath suitability index exists. The League of Illinois Bicyclists developed the SP Score algorithm for the North Aurora Non-Motorized Transportation Plan (2001), using design issues described in the AASHTO Guide for the Development of Bicycle Facilities.

The factors considered in the SP Score include intersection traffic; continuity; curb cuts; width and pedestrian use; crosswalks; and path/road separation at intersections.

Sidepath Suitability Maps and Results

Sidepath Suitability Score analysis was done for existing and possible future sidewalks and trails along the proposed bikeway routes, and a few other roadways that might be considered. Not included were routes in the central historic district or other unsuitable areas, such as older residential areas with calmer streets and frequent driveways.

The information needed to calculate current conditions on existing sidewalks was collected through field surveys. Additional feasibility analysis considered the effect of reasonable improvements, such as better crosswalk marking, filling sidewalk gaps and widening (where feasible and desirable).

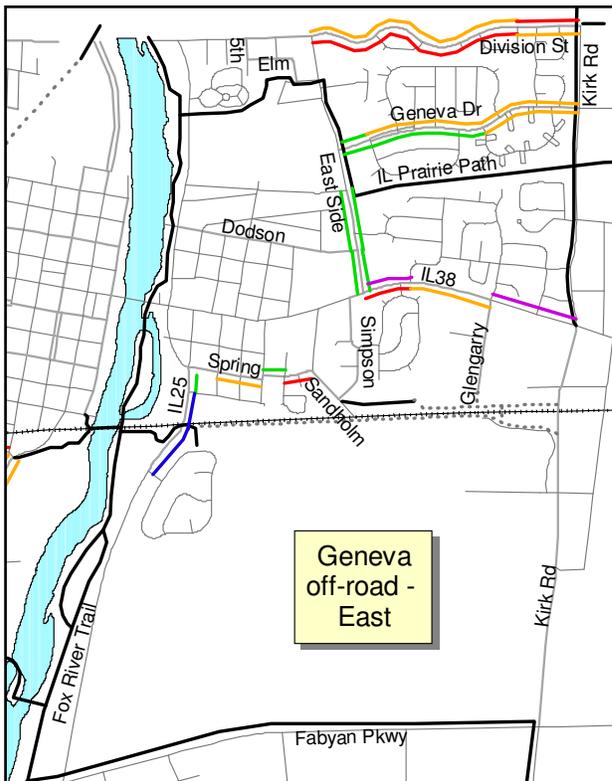
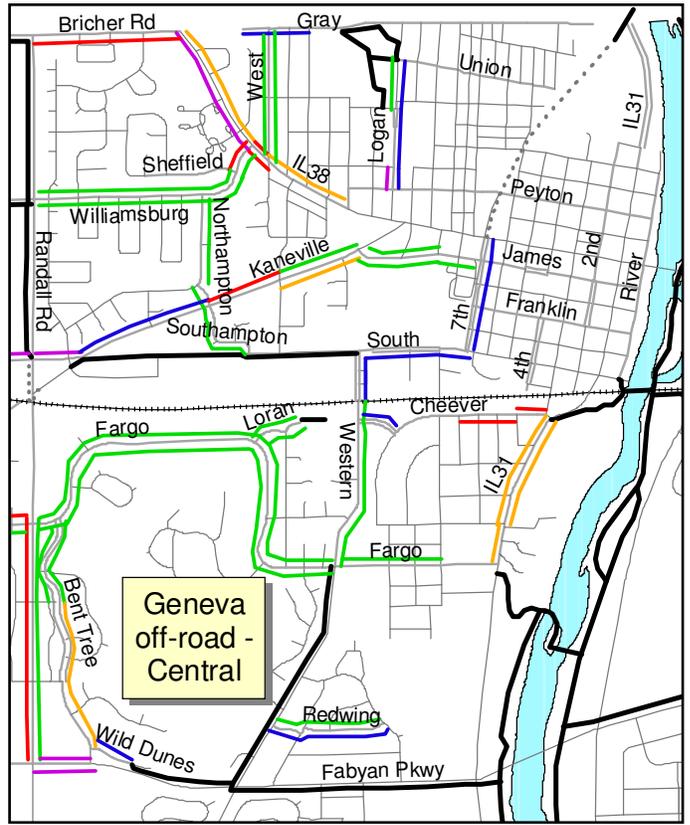
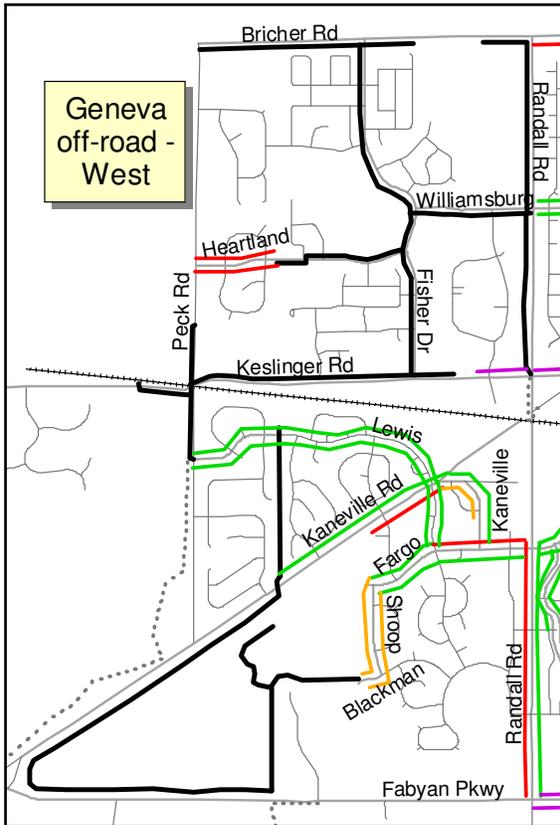
Feasibility analysis of locations without existing sidewalks assumed the best possible intersection design and other sidepath parameters. The hypothetical SP Scores of improved existing sidewalks and retrofitted new sidewalks (or sidepaths) are used in detail in the facility selection for specific routes.

The following maps display SP Score along the proposed routes only where sidewalks already exist. Each side of the road is treated independently. In a few cases, a sidewalk segment may have short gaps that are not specifically shown, but sidewalk gaps and ends dramatically worsen the SP Score.

Generally, results show that while bicycling on sidewalks along some roads is suitable, many sidewalks have lower suitability. In most cases, relatively simple improvements can reduce these risks somewhat, to the benefit of those who will bike on sidewalks no matter what the road condition. However, a detailed comparison between the “best possible” SP Scores and BLOS ratings must be done to recommend the appropriate on-road or off-road bikeway improvements for the proposed routes. Together with public and municipal input, the right choices can be made and prioritized.

While improvements to some sidewalk sections are recommended in this report, it must be stressed that bicycling on the sidewalk has actually been shown to be less safe than bicycling on the road; this is explained in detail in Chapter 3. Children or adults who ride on the sidewalk need to be aware of the hazards that cross streets and driveways present to sidewalk cyclists.

Existing Off-Road Conditions of Potential Bike Routes



Existing Sidepath Suitability Score

- 1 - 7 (most suitable)
- 8 - 9 (somewhat suitable)
- 10 - 11 (least suitable)
- 12 - 13 (not suitable)
- 14 - 18 (very poor)

Trails

- Existing
- Proposed

Bicycle Crash Analysis

Highway and bicycle safety specialists now use the term “crash” instead of “accident” to emphasize that most automobile and bicycle interactions are predictable and preventable occurrences. Bicycle crashes include both falls and collisions. A bicyclist may fall due to slippery conditions or an unexpected impediment to travel, or a bicyclist might have a collision with a car, bike or pedestrian. These should all be considered “crashes” and in a perfect world, “crash” data would be available for all crashes no matter what the cause.

Understanding bicycle crash data helps to identify methods for preventing future crashes. Detailing statistics, such as who is typically involved in a crash (children or adults), where crashes occur (specific intersections or streets) and what time of day crashes occur allows bicycle planners and engineers to more accurately implement safety programs and roadway design enhancements.

National, Illinois and City of Geneva Crash Data

National Data

Nationally, 622 pedalcyclists were killed in 2003, according to the U.S. Department of Transportation. Pedalcyclists include all types of transportation that is pedaled by the user, including bicycles, tricycles, etc. Of those pedalcyclists killed in 2003, approximately 29 percent were killed in an intersection. Pedalcyclists accounted for 11 percent of all nonmotorized traffic fatalities in 2003. Pedestrians accounted for 86 percent, and the remaining three percent were skateboard riders, in-line skaters, etc. Bicycle related deaths are most likely to occur during July, August and September between the hours of 5 p.m. and 9 p.m. Additionally, most pedalcyclists killed are male (88 percent in 2003) and most (57 percent in 2003) were between the ages of 25 and 64.

Illinois Data

In Illinois, 17 pedalcyclists were killed in 2003, representing 1.2 percent of total traffic fatalities; this number dropped from 22 in 2002. With 1.34 pedalcyclist fatalities per million population, Illinois ranked in the middle for the mid-western states. Wisconsin experienced 2.19 pedalcyclist fatalities per million in 2003; Minnesota, 1.19; Michigan, 3.17; Iowa, 1.02; Indiana 1.13; and Ohio, 0.70.

City of Geneva

A total of 24 bicycle crashes were reported in the City of Geneva from January 1, 1999 through June 30, 2004. Most of these occurred in intersections, both signalized and non-signalized. The most common intersection locations were along IL 25, IL 38 and IL 31. Two crashes occurred at IL 31 and IL 38, whereas other locations had just one crash each.

In addition to crashes at intersections, several crashes involved vehicles making a right turn on a red light and colliding with the bicyclist. Also, one crash occurred on a sidepath when a driver failed to yield to the bicyclist in the crosswalk. Several other crashes occurred when cyclists rode the wrong way on a sidewalk or sidepath and collided with motorists in an intersection. Finally, one crash occurred at a private driveway with a motorist and a cyclist who was riding against traffic on the sidewalk.

Countermeasures based on Crash Frequencies

The following are recommended countermeasures that address the most common bicycle crash types. The countermeasures are listed in order of the most frequent to least frequent crash type.

Right Turn on Red (RTOR) Countermeasures:

- “No right turn on red” signs are recommended at major intersections where this type of crash is a problem.
- More prominent signage where RTOR is prohibited already
- Provide stop bar and “Stop Here on Red” sign
- Driver education about checking to the right before a RTOR
- Bicyclist education on defensive driving and the hazards of riding when facing traffic
- Paint “USE CAUTION” on multi-use trails at hazardous intersections
- Remove visual obstructions
- Warning sign alerting motorists – “Yield to Approaching Bicycles”

Bicyclist Ride-Out or Through Intersection Countermeasures:

- Motorists and bicyclist education on the importance of traffic control signs and awareness of vehicle movements
- Reduce motor vehicle speed through appropriate traffic management methods
- Motorist education on possible bicyclist behaviors

Motorist Drive-Out, Commercial Driveway or Alley Countermeasures:

- Install “Watch for Bicyclist” sign
- Install “STOP” sign
- Provide stop bar four feet in advance of sidewalk
- At locations where the sidewalk terminates at the driveway cut, paint a crosswalk with optional advance stop bar or make the sidewalk continuous
- Provide sight lines as if the junction were an uncontrolled roadway intersection or improve sight lines to the extent possible
- Bicyclist education on the hazards of riding when facing traffic and discourage sidewalk riding for adults

Motorist Left Turn, When Cyclist is Traveling in the Opposite Direction Countermeasures:

- Motorist and bicyclist education on avoiding this turning hazard
- Increase visibility of cyclist – especially at night with a headlight, assuming a center of lane riding position, and avoiding being shielded by moving motor vehicles

Motorist Drive-Out or Through Intersection Countermeasures:

- At signalized intersections, increase clearance interval
- Provide sight lines as if the intersection were uncontrolled
- Install “Watch for Bicyclist” sign
- Paint “Use Caution” on the sidewalk at hazardous intersections

Bicyclist Ride-Out Non-Intersection Countermeasures:

- Remove visual obstructions to the extent possible. Remove on-street parking or restrict on-street parking near driveways
- Provide appropriate traffic calming
- Educate motorists to search for bicyclists
- Educate cyclists to search for motorists

Bicycling in Geneva: A Public, City Staff and Consultant Perspective

The consultants value the opinion of local bike riders and motorists. They asked the public to provide guidance regarding which corridors are currently used, which are desired for use and which are considered too dangerous to use. Information was gathered through several public workshops and a bike tour held during plan development.

Regional Efforts

Numerous local and regional bicycle planning efforts exist in the Geneva area. The planning efforts with the greatest impact on Geneva's bikeway system are identified below:

Kane County Bicycle and Pedestrian Plan

This plan was adopted in December, 2002 by the Kane County Forest Preserve District, Kane County and the Kane County Council of Mayors. The plan addressed existing and proposed pedestrian and bicycle planning and routes in Kane County. Recommendations for bikeway systems in Geneva, include:

- Completing the following bikeway gaps:
 - Fabyan Parkway Connector
 - Geneva to Johnson's Mound Trail gap
- Conceptual bikeway corridors include:
 - Elburn to Geneva: Union Pacific or Keslinger Road
 - Mid-County Trail
- BLOS improvements needed for:
 - Randall Road
 - Kirk Road from Fabyan Parkway to IL 38

Kane County Forest Preserve

The Kane County Forest Preserve is actively involved in trail planning throughout the County. There are several projects proposed for the Geneva area, including:

- Connecting Mill Creek subdivision to the Peck Farm trail system on Geneva's far west side in 2005. The subdivision is not located within the City of Geneva, but immediately west of the intersection of Kaneville Road and Fabyan Parkway. Access to the park and the middle school is currently a problem and a bicycle connection is needed for this area.

- The Mid-County Trail (described in previous sections).
- The Kane County Landfill located just south of IL 38 is scheduled to close in 2006. This presents a terrific opportunity to connect the Fox River Trail to Elfstrom Stadium.

Northeastern Illinois Greenways and Trails Implementation Program

This report was developed by the Northeastern Illinois Planning Commission and Openlands Project and adopted in June of 1997. The regional map provides an update to a 1992 study. The map depicts existing and proposed major open spaces and trails, and provides recommendations for revised and new greenway and trail corridors and linkages. Routes that are located in Geneva include the Fox River Trail, the Illinois Prairie Path, the Kirk Road Trail and the Fabyan Parkway Trail.

Chicagoland Bicycle Map

This map, developed by Chicagoland Bicycle Federation (CBF), is currently in its fourth edition. The Chicagoland Bicycle Federation is a nonprofit advocacy group that represents bicyclists in northeastern Illinois. The map recommends routes for bicycling from one area of Chicagoland to another. The routes were recommended by local cyclists based on traffic speed and volume, width of the outside lanes and shoulders, intersection layouts, and pavement conditions. Many of the recommended routes are not “ideal”, but local cyclists have judged them as the best in each area.

Recommended on-street routes in Geneva on this map include segments of the following roads:

- South Street
- Third Street
- Peyton Street
- Bennett Street
- East Side Drive
- Western Avenue
- Cyril Drive
- Maple Lane
- Ford Street
- Randall Road

3. GENEVA BIKEWAY SYSTEM

The Geneva bikeway system is a combination of on-road and off-road facilities. The routes connect many areas of the City to each other and provide important regional connections to surrounding communities and regional trails.

Bikeway System Definitions

The following are terms frequently used in the Geneva Bikeway discussion.

American Association of State Highway and Transportation Officials (AASHTO) Guidelines for Developing Bicycle Facilities, 1999: This guide provides information to planners and designers on developing all types of bicycle facilities, and provides guidelines on size, spacing, color, location, etc. of bicycle signage and other facilities.

Arterial: Signalized streets that serve primarily through traffic and provide access to abutting properties as a secondary function.

Average Daily Traffic Count (ADT): The number of vehicles that pass a particular point on a roadway during a period of 24 consecutive hours averaged over a period of 365 days. Unless specified otherwise, the ADT includes volume in both directions.

Bicycle Facilities: A general term denoting improvements and provisions made by public agencies to accommodate or encourage bicycling, including parking and storage facilities, and shared roadways not specifically designated for bicycle use.

Bicycle Path or Bike Path: See Multi-Use Path

Bike Lane with Parking: This facility provides a four (4) or five (5)-foot bike lane on each side of the street, two (2) 11-foot wide vehicle traffic lanes and a seven (7) to eight (8)-foot wide parking lane on one side of the street only.

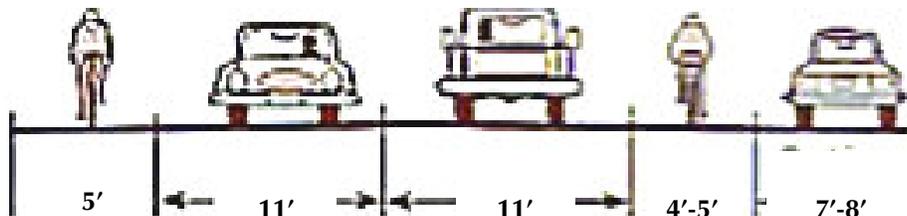


Diagram of a bike lane with parking on one-side.

(Source: http://safety.fhwa.dot.gov/ped_bike/univcourse/swless20.htm)

Bike Lane without Parking: A portion of a roadway that has been designated by striping, signing and pavement markings for preferential or exclusive use by bicyclists. One five (5)-foot bike lane should be located on each side of the street, and bicyclists must travel in the direction of traffic.



Bicyclist using a bike lane without parking
(Source: www.walkable.org/download/rdiets.pdf)

Bike-and-Chevron: This marking is used on shared roadways to depict where a bicyclist should ride in relation to parked cars and moving traffic. The chevron provides arrows to keep the bicyclist outside of the zone of an open car door. This tool is used to help prevent bicyclists from being “doored”, which occurs when the door of a parked car opens in the path of a bicyclist.



Bike-and-chevron marking on shared roadway (Source: www.bicycle.sfgov.org)

Bikeway: a generic term for any road, street, path or way that in some manner is specifically designated for bicycle travel, regardless of whether such facilities are designated for the exclusive use of bicycles or are to be shared with other transportation modes.

Carriage Sidewalk: A sidewalk located adjacent to the road, but lacking a terrace.

Collector: A surface street that provides land access and traffic circulation within residential, commercial and industrial areas.

Crosswalk: That part of a roadway at an intersection that is included within the extensions of the lateral lines of the sidewalks on opposite sides of the roadway, measured from the curbline, or in the absence of curbs from the edges of the roadway, or in the absence of a sidewalk on one side of the roadway, the part of the roadway included within the extension of the lateral lines of the sidewalk at right angles to the centerline. Also, any portion of a roadway at an intersection or elsewhere that is distinctly indicated for pedestrian crossing by lines or other markings on the surface.

Designated Bicycle Route: A system of bikeways designated by the jurisdictional authority with appropriate directional and informational route markers, with or without specific bicycle route numbers. Bicycle routes, which might be a combination of various types of bikeways, should establish a continuous routing. A Bike Route can be thought of more as a planning term than a specific facility.

Grate: A framework of latticed or parallel bars that prevents large objects from falling through a drainage inlet but permits water and some sediment to fall through the slots. Bicycle tires can get caught in poorly placed grate openings.

Gutter: A trough or dip used for drainage purposes that runs along the edge of the street and curb.

Intersection: The crossing of two (2) or more highways or bikeways.

Local Road: Road that serves individual residences or businesses, and/or distributes traffic within a given urban or rural area.

Multi-Use Path (or trail): A bikeway physically separated from motorized vehicular traffic by an open space or barrier and either located within the highway right-of-way or within an independent alignment. Pedestrians, skaters, wheelchair users, joggers and other non-motorized users might also use multi-use paths.



Bicyclist on Fox River Multi-Use Trail, Island Park, Geneva. (Source: SAA Image)

MUTCD: The “Manual on Uniform Traffic Control Devices”, approved by the Federal Highway Administration as a national standard for placement and selection of all traffic control devices on or adjacent to all highways open to public travel.

Pavement Markings: Painted or applied lines or legends placed on a roadway surface for regulating, guiding or warning traffic.

Rail with Trail: A shared use path, either paved or unpaved, built within the right-of-way (r.o.w.) of an existing or formal railroad.

Roadway: The portion of the road, including shoulders, intended for vehicular use.

Road Diet: A four (4)-lane road that is converted to a two (2)-lane road with a continuous center left-hand turn lane and striped bike lanes on both sides of the road.

Shared Use Roadway: A roadway that is shared by bicyclists and automobiles without any special striping or roadway improvements. The roadway is wide enough and traffic speed/volume low enough that bikes and cars can coexist. This is the most common type of facility.

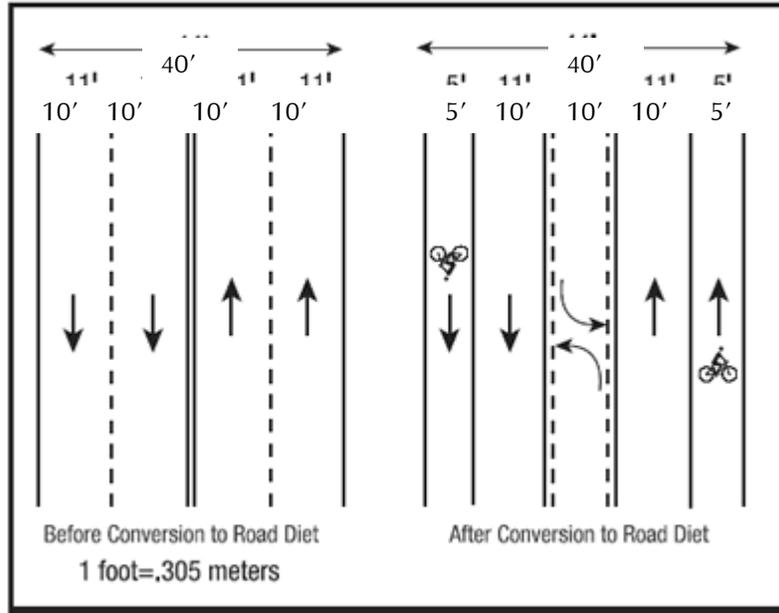


Diagram of a road diet (Source: SAA and www.tfhr.gov/safety/hsis/pubs/04082/fig1.gif)

Shoulder: The portion of the roadway contiguous with the traveled way for accommodation of stopped vehicles, for emergency use and for lateral support of sub-base, base and surface courses.

Sidepath: A bike path built within the right of way of a street. The two-way path often only runs along one side the road, which can create a number of traffic conflicts.



Sidepath along Kirk Road in Geneva (Source: SAA Image)

Sidewalk: The portion of a street or highway right-of-way designed for preferential or exclusive use by pedestrians. Some young and/or inexperienced cyclists use sidewalks, but this is not recommended.

Signed Shared Roadway (Signed Bike Route): A shared roadway that has been designated by signing as a preferred route for bicycle use.



Bike Route Signage (Source: MUTCD)

Slip Lane: A slip lane is a portion of a public street designated for the use of vehicles turning right at an intersection or T-Intersection. Often, slip lanes have a raised island that provides traffic calming measures and serves as a pedestrian refuge.



Slip lanes with islands
(Source: www.walkinginfo.org)

Terrace: The portion of the public right of way located between the street and the sidewalk. Terraces are usually planted with grass or have some type of landscape design feature, such as trees or pedestrian amenities.

Wayfinding: Signs placed along a designated bike route to assist bicyclists (and motorists) in finding popular destinations.

White Edge Line: A seven (7) or eight (8)-foot paved area along the road edge with a four (4)-inch white stripe to delineate where parked cars and bicyclists should be located in relation to the drive lane.



White edge line in Middleton, WI
(Source: *SAA Image*)

Wide Curb Lane: An outside or curb lane greater than 12 feet to better accommodate bicycles and automobiles. 14 feet of usable lane is the preferred width.



Bicyclists using wide curb lane
(Source: www.bicyclinginfo.org)

Methodology for Selecting the Bike Route and the Facility Type

AASHTO (American Association of State Highway and Transportation Officials) states that “All (roads and) highways should be designed and constructed under the assumption that they will be used by cyclists.” A basic tenet of this report is that bikes belong as part of a shared use transportation system. Cycling is an efficient and effective means of travel that improves individual health (via increased activity levels) and community health by reducing air and noise pollution.

Selecting Bike Routes and Facilities

Selecting Bike Routes

A successful network of bike routes has the following characteristics:

- Convenient, accessible and safe
- Comprehensive, providing access to most destinations for most cyclists
- Establishes connectivity
- Provides city-wide and regional coverage

Selecting Bike Facilities

Bike facilities listed in order of increasing design complexity include:

- Shared use roadways
- Bike lanes and wide curb lanes
- Sidepaths

Shared Use Roadways

The majority of Geneva’s Bikeway System is on shared use roadways. Streets with less than 5,000 Average Daily Traffic (ADT) qualify for shared use. On shared use roadways, attention should be given to the following design features:

- Improved railroad crossings
- Bicycle safe drainage and bridge expansion joints
- Smooth pavement
- Adequate sight distances
- Signal timing and detector systems that respond to bicycles

Bike Lanes and Wide Curb Lanes

Cyclists can be accommodated on arterial roadways even when vehicle traffic volumes are high. Wide curb lanes without bike lane markings, paved shoulders and bike lanes are cost effective ways of increasing bicycle safety on roadways with high traffic volumes.

A bicycle lane or a wide curb lane can both accommodate cyclists who are confident in traffic and provide benefits for pedestrians. The benefits of an on-road bicycle accommodation include:

- Reduced bike/pedestrian conflicts
- Cyclists are encouraged to ride in the direction of traffic
- Buffer between motor vehicle space and pedestrian area
- More negotiating room for motorists entering roadway
- Proximity to motorized traffic prevents collection of debris that may puncture bicycle tires

Fourteen feet of usable lane width is the recommended width for shared use in a wide curb lane. Usable width is defined as the width from the edge stripe to the lane stripe or from the longitudinal joint of the gutter pan to the lane stripe. The gutter pan width is part of the “usable width”. Wide curb lanes can often be created by restriping the remaining lanes and the left-hand turn lane, making them narrower.

When adequate lane width is available, average daily traffic (ADT) volumes are the determining factor as to whether a shared use roadway is recommended versus a bike lane. Roadways that carry up to 5,000 ADT per day can function well as a shared use facility. On roads with a 5,000 to 10,000 ADT per day, a bike lane should be considered and when over 10,000 ADT per day, a bike lane should be installed.

Sidepaths

Sidepaths are biking/walking paths located immediately adjacent to a roadway, much like a wide sidewalk. Sidepaths have many operational problems and they are generally not recommended. Operational problems² with sidepaths include:

1. Unless they are constructed on both sides of the road, sidepaths require one direction of bicycle traffic to ride against motor vehicle traffic, contrary to normal rules of the road.
2. When the path ends, bicyclists traveling against traffic will tend to continue to travel on the wrong side of the street. This occurs on South Street in Geneva, when the sidepath ends at Southampton Drive. Likewise, bicyclists approaching a shared use path often travel on the wrong side of the street to get to the path. Wrong-way travel by bicyclists is a major cause of bicycle/automobile crashes and should be discouraged at every opportunity.
3. At intersections, motorists entering or crossing the roadway often will not notice bicyclists approaching from their right, as they are not expecting contra-flow vehicles. Motorists turning to exit the roadway may likewise fail to notice the bicyclist. Even bicyclists coming from the left often go unnoticed, especially when sight distances are limited.

For the above reasons, bikeways other than sidepaths are better suited to accommodate bicycle traffic along roadway corridors, depending upon traffic conditions. Shared use paths should not be considered a substitute for street improvements even when the path

² AASHTO, Guide for the Development of Bicycle Facilities, 1999

is located adjacent to the roadway, because many bicyclists will find it less convenient to ride on these paths compared with the streets, particularly for utility trips.

Detailed information regarding bicycle facility design can be found in AASHTO's Guide for the Development of Bicycle Facilities, 1999. Detailed design guidelines for bike lane development can be found in the Bike Lane Design Guide, available on-line at www.bicyclinginfo.org.³

General Guidelines for Recommendations

To determine the bikeway facility recommendations for the City of Geneva, the consultants created general guidelines. The guidelines were determined based on review of AASHTO recommendations, MUTCD standards and the BLOS and Sidepath Suitability Analysis conducted in Geneva. These guidelines help determine which facilities to apply to each designated bike route. They may be used in the future if new routes are added to the Geneva system. It should be noted that many of these recommendations will be implemented in conjunction with planned road improvements and the City's Pavement Management Program.

Guidelines by Facility Type

Bike Lanes with Parking

In residential areas with little parking demand and sufficient width, a bike lane should be provided on each side of the street with bicyclists traveling in the direction of traffic, two (2) 11-foot wide vehicle traffic lanes should be provided and a seven (7) to eight (8)-foot wide parking lane should be provided on one side of the street only, including the gutter pan.

Bike Lanes without Parking

In non-residential areas or areas where parking is not allowed and width is sufficient, two (2) bike lanes, five (5) feet wide at a minimum (including the gutter pan), are recommended on either side of the street with bicyclists traveling with the direction of traffic.

Signage

In situations where traffic count is less than 5,000 ADT and the traffic speeds are low (these conditions exist on the majority of Geneva's streets), it is recommended that bikes and cars share the road. The only recommended improvement in these areas is Bike Route signage and wayfinding signage in key areas to help bicyclists and motorists find important destinations such as shopping districts, the library, community parks and the Fox River Trail.

Sidewalks and Crosswalks

Gaps in sidewalks should be filled, especially within 1/2 mile radius of schools, parks and other popular destinations. The crosswalks in these areas should also be improved and maintained. While the sidewalks may be used by children and inexperienced adult cyclists, they should not be signed as Bike Routes.

³ Bike Lane Design Guide was published by the Pedestrian and Bicycle Information Center, the City of Chicago, the Chicagoland Bicycle Federation and the Association of Pedestrian and Bicycle Professionals

The City's policy for crosswalks is to provide zebra striping for crosswalks at all formal bicycle and pedestrian paths with moderate to significant volumes of bicycle, pedestrian and vehicle traffic. Generally, this would involve sidepaths that cross streets in non-residential areas. If a bike route is signed through a low-traffic volume neighborhood, two parallel lines would be provided for the crosswalk. When crosswalks are recommended in this *Plan*, it should be assumed that the crosswalks will be designated with two parallel lines. However, some important high-volume crossings (not just at sidepaths) warrant zebra crosswalks. Where zebra crosswalks are recommended, the *Plan* will state this. It should be noted that it is the City's policy to provide a unique parallel line, or ladder, crosswalk at school crossings.



Zebra crosswalk in Geneva. (Source: SAA Image)



Parallel line crosswalk in Geneva. (Source: SAA Image)

Sidepaths

Sidepath gaps should be filled, especially if they connect residential areas to popular destinations, such as the sidepaths along Kirk Road, Fabyan Parkway and Bricher Road. On collector or arterial roads with sidepaths it is recommended that an on-road facility, such as a bike lane, be provided also. Experienced cyclists will prefer to ride on the road even if a sidepath is provided, as it is usually faster.

Multi-Use Paths (Trails)

Multi-use trails should be developed if right of way (r.o.w.) exists and the r.o.w leads to existing or proposed destinations.

Bikeway Routes by Study Area

In determining where potential bicycle routes should be located in the City of Geneva, the consultants divided the City into thirds based on natural barriers to bicyclists. The East Routes study area includes the eastern portion of the City to the Fox River; the Central Routes study area includes the section of the City from the Fox River to Randall Road; and the West Routes study area includes the area from Randall Road to the City's western boundary. These study areas and their proposed bikeways are described in detail below. The Geneva Bikeway Implementation Plan – General Recommendations Map can be found at the beginning of this *Plan*. Bikeway system definitions and other details related to bike route signage, wayfinding signage and other bicycle facilities mentioned in the Bikeway Routes by Study Area section is described in several sections throughout this chapter. These bikeway route recommendations were determined primarily based on the BLOS and Sidepath Suitability Score, described in Chapter 2. These analyses considered traffic speed, traffic volume, pavement condition, lane width and the presence of on-road bike lanes or paved shoulders. The entire BLOS and Sidepath Suitability Analysis are included in the Appendix.

East Routes

The East Routes study area includes the area between the eastern boundary of Geneva and the Fox River. This area generally consists of a combination of grid and curvilinear street patterns. Important destinations in this part of the City include the Fox River Trail, the Illinois Prairie Path, Elfstrom Stadium and the East Side Sports Complex. There are barriers to bicyclists and pedestrians in this study area, including IL 25 and IL 38. Both of these roadways are difficult for bicyclists to cross. Proposed bikeway segments and recommendations for improvements are identified below.

Division Street is a two (2) lane residential connector street. The street connects the Oak Hill Cemetery, Good Templar Park, the Illinois Prairie Path (and ultimately the Fox River Trail) with the northeastern part of the City of Geneva and St. Charles' East Side Sports Complex east of Kirk Road. This road currently exhibits a BLOS grade of 'B', but it could easily be improved to make it an 'A'. Several segments of Division Street are included in the bikeway system, as described below.

- 6th Avenue to East Side Drive is a two (2) lane residential street. Recommendations for improvements include adding Bike Route signage and re-paving Division Street between East Side Drive and 6th Avenue, which is scheduled in the City's Pavement Management Program for 2004-2005. To improve conditions for pedestrians, it could be helpful to add a five (5)-foot carriage sidewalk on the south side.
- East Side Drive to Kirk Road is a wide two (2)-lane residential street and is a very important east/west connection in the City's bikeway system. It is recommended that the BSC and staff work with the neighborhood and the City of St. Charles to design and implement a bikeway facility for this road. Based on discussions with the BSC and staff, there are four options:
 1. Bike lane with parking
 2. White edge line

3. Bike route signage
4. No facility

In addition, well-marked and well-maintained zebra crosswalks should be installed across Kirk Road at Division Street to provide access to the East Side Sports Complex for pedestrians – and to increase visibility of younger children and inexperienced adults who choose to bike on sidewalks.

5th and 6th Avenues are low ADT residential streets that connect Elm Avenue to Division Street. Because it is more of a direct route and does not require any facility work (other than adding Bike Route signage) it is recommended that 6th Avenue be designated as a bike route, rather than 5th Avenue. 6th Avenue and Elm Avenue should be used to connect Division Street to the Illinois Prairie Path.

Elm Avenue is a low traffic volume, two (2)-lane residential street that connects 6th Avenue to High Street and the Illinois Prairie Path. The only recommendations for improvements are repaving the street when it is scheduled for repaving in the City’s Pavement Management Program and installing Bike Route signage.

East Side Drive is one of three (3) major streets that run north/south through the East Routes study area, connecting IL 38 to the northern part of the City and beyond. Bike Route signage and well-maintained zebra crosswalks are recommended for this entire stretch.

From the intersection at East Side Drive and IL 38, the route continues south and west to Simpson Street. However, this is a difficult intersection for pedestrians and bicyclists to maneuver for the following reasons:

- The intersection is not aligned. Once across IL 38, pedestrians and bicyclists must maneuver west before connecting to Simpson Street.
- There is signage in this area, but no wayfinding signage to indicate to bicyclists how to continue south on Simpson Street. Also, lamp posts are placed in the center of the sidewalk on the south side of IL 38, which makes it difficult for pedestrians and bicyclists to maneuver this sidewalk.



Difficult crossing at IL 38/Simpson Street/East Side Drive. Image looking across IL 38 toward East Side Drive. Note the lamp posts in the center of the sidewalk. (Source: SAA Image, 2004).

It is recognized that IL 38 is under jurisdiction of the Illinois Department of Transportation (IDOT), and any improvements would need to be conducted through IDOT. However,

suggestions for improvements to this area include adding a bicycle signal head for crossing IL 38 (see the Innovative Treatment section of this chapter); providing wayfinding for bicyclists to provide them with directions to continue south on Simpson Street after crossing East Side Drive at IL 38; and providing well-marked and well-maintained zebra crosswalks on IL 38 and across Simpson Street. Although not generally encouraged, in this case bicyclists are recommended to use the sidewalk on the south side of IL 38 to reach Simpson Street, and then should be directed to the west side of Simpson Street to continue south. Northbound bicyclists should be directed to bike on the east side of Simpson Street and then follow the sidewalk along the south side of IL 38 to the crosswalks at East Side Drive, where they should cross and continue north along the east side of the street.

Dodson Street is an east/west street that connects IL 25 and the Fox River Trail to East Side Drive; the street received a BLOS grade of 'C'. During this planning period, the public suggested this as a route to be included in the bikeway system, as it serves an east-west need, links conveniently to the Fox River Trail and is a direct route with only one (1) stop sign at School Street. Dodson Street is scheduled to be repaved in 2005-2006; Bike Route signage should be installed with this project.

Fox River Trail follows the east side of the Fox River through Geneva and is the major north/south regional trail through the City, connecting it to communities and destinations to the north and south. The trail is used by thousands of bicyclists, walkers, joggers, and in-line skaters each year. Currently, the portion of the trail between Wall and Dodson Streets extended leaves the east river shoreline and uses the sidepath trail along the west side of Bennett Street. Ultimately, the City of Geneva desires that this portion of the trail be relocated so that it runs continuously along the river shoreline. Any relocation of the trail by the City will not be undertaken without the support of the Geneva Park District and any other units of government involved in Fox River Trail planning and facilities development. There are seven homes located in the area and the City has no intention of extending the trail behind these homes. Relocation of the trail is a long-range planning objective of the City. The City will only acquire land or easements for the trail from willing sellers, and only in conjunction with assemblage of parcels for redevelopment. Condemnation of property will not be considered.

IL 38 (State Street) has an ADT of about 30,000 and the BLOS grade ranges between 'E' and 'F'. This is not a good bike route, and there are few opportunities to improve on-street conditions. Instead, recommendations focus on filling sidewalk gaps and improving visibility at sidewalk intersections, but not designating the sidewalks as Bike Routes (except the south side sidewalk between East Side Drive and Simpson Street, which is described earlier in this section). Recommendations include:

- Complete the sidewalk gap on the north side of the street.
- Add crosswalks (especially for the commercial entrances on the north side of the street).
- Fix the bumpy curb cuts on the north sidewalk near East Side Drive when redevelopment occurs.
- Improve the surface of the south side sidewalk by installing curb cuts and crosswalks from Simpson Street to East Side Drive at streets and commercial entrances. Also, relocate lamp posts to the terrace and off of the sidewalk.

- Install a sidepath on the south side of the street from Glengarry Drive to Kautz Road. New development on both sides of Kirk Road provides an opportunity to require developers to install a sidepath.
- Improve the intersection of East Side Drive/IL 38 and Simpson Street/IL 38 for pedestrian and bicycle crossings (see discussion under East Side Drive, above).

Kirk Road is a major north/south route in the East Routes study area; it is also an arterial roadway under Kane County jurisdiction. Kirk Road carries an ADT of 40,000 and exhibits BLOS grades of 'E' and 'F', depending on the segment. A high-priority recommendation (listed in the Kane County Bicycle and Pedestrian Plan) is to add a sidepath on the west side of the road between Fabyan Parkway and Cherry Lane, serving the Elfstrom Events Center, ice arena and other destinations. Both near-term and long-term development could leverage construction of segments of this sidepath, including development of the parcel on the southwest corner of IL38 and Kirk Road and the expansion of Kirk Road to six (6) lanes (with bridge replacement), which is identified in the Kane County 2030 Long Range Transportation Plan. When the new Kirk Road Bridge over the Union Pacific Railway is constructed sometime after 2010, a pedestrian/bicycle crossing should be included in the bridge design to connect the Kirk Road sidepath north and south of the railroad tracks.

When the IL 38/Kirk Road parcel is developed, the City could require the developer to include a sidepath along Kirk Road and provide a trail along the railroad tracks between Kirk Road and Stanley A. Esping Park. This trail would connect to Sandholm Street and a proposed bridge over the railroad tracks to Settler's Hill either within the park or at the end of Sandholm Street.

The Illinois Prairie Path is a very popular regional bicycle and pedestrian trail that intersects Kirk Road north of the intersection of IL 38 and Kirk Road. Kane County and the City of Geneva plan to improve this at-grade crossing to an overpass in the next five (5) years, which will improve safety and convenience for trail users at this crossing.

Trail – Settler's Hill / South Railroad The Kane County Forest Preserve is scheduled to close Settler's Hill landfill after 2006. When this occurs, an east/west trail connecting the Fox Run trail link (from the Fox River Trail) to the Events Center area is recommended on the Forest Preserve property as part of the site plan. City staff should work with the Forest Preserve to plan the trail route through the Settler's Hill redevelopment area. A connection to the single track bike paths located in Fabyan Forest Preserve on the east side of IL 25 should be strongly encouraged as well.

A pedestrian/bicycle bridge should be installed at the end of Sandholm Street or at the east end of Stanley A. Esping Park (location should be determined by further engineering studies) to provide a connection from the residential areas north of the railroad tracks and IL 38 to the Settler's Hill redevelopment and future trail. This bridge should be installed before the Kirk Road Bridge replacement in order to provide an interim connection over the railroad.

Simpson Street from IL 38 to Sandholm Street is a two (2) lane residential street that connects IL 38 with Stanley A. Esping Park. The street currently has a BLOS grade of 'C', but the grade will improve to a 'B' when the road is re-paved in 2006-2007, as identified in the City's Pavement Management Program. Bike Route signage is recommended.

Spring Street is a low ADT street that has a BLOS grade of 'B'. No improvements are recommended, except adding Bike Route signage.

IL 25 (Bennett Street) from Spring Street to Fox Run Drive is a four (4) lane road with 16,000 ADT. The BLOS grade is a 'D' or 'E', depending on the road segment. The sidewalk on the east side of the road is important for linking a southeast side priority route (Spring Street) with the Fox River Trail, Fox Run subdivision and the possible future trail east through the Settler's Hill area. Some improvements are recommended for this sidewalk, including:

- Install a well-maintained zebra crosswalk on the east side at Chalmers Street.
- Install a well-maintained zebra crosswalk at Fox Run Drive.
- Explore the feasibility and costs of widening the sidewalk in some sections (although the utility infrastructure will make this difficult in places).
- Bike Route signage is not recommended for the sidewalk.

North Side Union Pacific Trail Glengarry Drive is a commercial street with a BLOS grade of 'B', except for the segment between IL 38 and Commerce Drive, which exhibits a 'C'. No improvements are recommended unless the proposed trail is added along the north side of the Union Pacific Railroad tracks. If this occurs, Bike Route signage should be installed.

Central Routes

This section of Geneva has a well-established grid street pattern that lends itself to convenient bicycling conditions. Bicyclists have several options for both east/west travel and north/south travel. One drawback for bicyclists in this portion of the City is the lack of street width for paved bike lanes. Additionally, street parking on these streets makes it more challenging to create bicycle access. One strategy that can be used in the inner grid system of the central area is increased Bike Route signage to alert bicyclists to the safest routes and to alert drivers that bicyclists also share the road here. The narrow streets, while not generally conducive to bike lanes, often have low ADT's and typically have low speed limits.

There are several important destinations for bicyclists in this part of the City, including:

- Sunset Park and pool
- Geneva Community High School
- Third Street Metra Station
- Geneva Public Library and City Hall
- Downtown shops and activities
- Kane County Government Center

Despite the distinct grid pattern of many of the streets in this area, there are a few problem areas where improvements may be necessary to provide better facilities and improve BLOS grades. Two of these problem areas include South Street (because the sidepath on the south side of the street ends at Southampton Drive) and Western Avenue (because there are a large number of bicyclists accessing Sunset Park and Sunset Pool and current bicycle facilities are not adequate). Recommendations for improvements to these streets, and others, are identified below.

Gray Street from West Lane to Logan Avenue is a two (2) lane residential street with a BLOS grade of 'A'. Recommendations for improvements include:

- Add Bike Route and wayfinding signage from West Lane to the Logan Street Fields and the High School with better access to the Logan Street Fields trail suggested.
- Add wayfinding signage on the trail to its end at the Logan Avenue/Union Street intersection.

Union Street from the Logan Street Fields to the abandoned railroad right-of-way on the east end of the street is a two (2) lane residential street rated a "B". From Logan Avenue, Union Street is a better connection than Gray Street to a proposed trail on the railroad right-of-way because:

- The old railroad r.o.w. is located at the east end of Union Street, which provides for an easy connection. Gray Street does not have any direct access to the old railroad r.o.w.
- Union Street dead-ends on the west at Logan Avenue, near the Logan Street Fields trail and Marjorie Murray Park, which allows for connectivity between these destinations and the old railroad r.o.w.

Bike Route signage and zebra crosswalks on Logan Avenue are recommended; parallel crosswalks are recommended along Union Street.

Center Street is a narrow residential street that connects the future abandoned railroad r.o.w. trail to the High School. The street has low speeds and carries few cars, and would therefore make a good signed Bike Route.

Anderson Boulevard from Peyton Street to Gray Street is a recommended signed Bike Route to connect bicyclists to the High School and the Logan Street Fields.

West Lane connects IL 38 to Gray Street. This street received a BLOS grade of 'B' and the only recommendations are to add Bike Route signage and well-marked and well-maintained parallel crosswalks.

Logan Avenue is a two (2) lane residential street that connects IL 38 to Coultrap School, Geneva Community High School, Marjorie Murray Park and Logan Street Fields. The BLOS grade ranges between 'B' and 'C', depending on the street segment. Recommendations for improvements include widening the sidepath on the west side of the street between Union Street and Center Street and adding Bike Route signage south of Union Street

Charles Street connects Peyton Street and IL 38 and the only recommendation is to add Bike Route signage.

Peyton Street is an important east/west residential street that serves as a connector from the west-central part of the City to downtown and the Fox River. The street exhibits moderate conditions for bicyclists, and the BLOS grade varies between 'B' and 'C'. The only

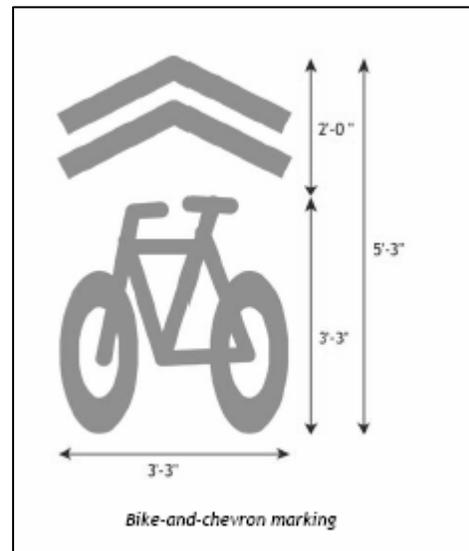
recommendation is to add Bike Route signage, as other improvement options are not possible because of the existing homes and street width.

IL 38 (State Street) is a major four (4) lane east/west road with 30,000 ADT. The segment between Williamsburg Avenue and Charles Street helps connect the west side of Geneva to downtown and the Fox River and is therefore a critical connection in Geneva’s Bikeway System. However, on-street bicycling conditions are poor – the street exhibits a BLOS grade of ‘E’ – and roadway options are limited. To accommodate sidewalk cyclists and pedestrians, the following recommendations are made:

- Widen the sidewalk on the north side of the street between Bricher Road and West Lane to eight (8) feet.
- Add well-maintained zebra crosswalks between Bricher Road and West Lane and fix stop sign placements to place them *before* the crosswalks.
- Trim shrubs and improve the crossing between West Lane and Charles Street by adding zebra crosswalks because of the high volume of bicycle and automobile traffic. It is especially critical to improve the diagonal crossing at West Lane, including cautionary signage for right-turning, northwest-bound IL 31 motorists.

Williamsburg Avenue is a two (2) lane street that serves as a connector between Randall Road and IL 38. The BLOS grade is ‘B’, except the short segment between Randall Road and Cambridge Drive, which is a ‘C’. Most of the street includes marked on-street parking areas. Traffic calming features such as bulb outs and median islands are in place. Recommendations include:

- Add Bike Route signage.
- Consider adding a “bike-and-chevron” shared lane pavement marking for westbound Williamsburg Avenue approaching Randall Road. Also, provide zebra crosswalks on the north, west and south face of the Randall Road/Williamsburg Avenue intersection to help guide bicycle traffic.
- Fill the sidewalk gaps on the north side of the eastern end of the street.
- Add well-marked crosswalks at intersections, including the commercial entrance at the east end.
- It is recommended that the BSC and staff work with the neighborhood to design and implement a bikeway facility for this road from Sheffield Lane to IL 38. Based on discussions with the BSC and staff, there are four options:
 1. Bike lane with parking
 2. White edge line
 3. Bike route signage
 4. No facility



Northampton Drive connects Williamsburg Avenue to Southampton Drive and South Street. This low ADT residential street has a BLOS grade of 'B' and could benefit from Bike Route signage, re-paving (scheduled for 2007-2008) and improved crosswalks for pedestrians.

Southampton Drive connects South Street to Northampton Drive and Williamsburg Avenue. This is a low ADT residential street with a BLOS grade of 'B'. Recommendations include adding Bike Route signage and improving crosswalks for pedestrians.

Kaneville Road is an important east/west connector street between Randall Road and IL 38 and has a BLOS grade of 'D', except the segment between Gary Lane and Burgess Road, which exhibits a 'C'. This grade could be improved slightly by implementing the following:

- Randall Road to Gary Lane has turn lanes, so options are limited. It is recommended that Bike Route signage be installed and that crosswalks on the north side of the street be improved by re-painting.
- Kaneville Road has two (2) 18-foot lanes between Gary Lane and Burgess Road. These lanes should be narrowed to 13-feet, with five (5)-foot wide bike lanes installed between Gary Lane and Burgess Road, with appropriate striping, pavement markings and signage. Also, well-marked and well-maintained crosswalks should be added for sidewalks on the north side of the street.
- Bike Route signage and crosswalks should be added between Burgess Road and James Street, where the street is narrower.

James Street is an east/west street that connects Kaneville Road and the west side of the City to downtown and the Fox River. This is a very important entrance into the downtown for bicyclists, but also a cut-through route for motorists. The street exhibits a BLOS grade of 'B' or 'C', depending on the segment. Recommendations for improvements include adding Bike Route signage along the entire segment and installing well-marked and well-maintained crosswalks on the south side of the street from Kaneville Road to 7th Street. Crosswalks are recommended on the south side of the street because there are fewer crossroads, which allows for safer crossings for pedestrians and inexperienced cyclists who may choose to ride on the sidewalk. Also, between 7th Street and 9th Street there are no sidewalks on the north side of James Street.

Franklin Street is another key entrance into the downtown for bicyclists. This two (2) lane residential street exhibits a BLOS grade of 'B'. Because Franklin Street is an important link in the City's bikeway system, recommended improvements include adding Bike Route signage and re-paving when this street is scheduled on the City's Pavement Management Program.

Westbound South Street is frequently used by cyclists traveling from the Fox River/ Union Pacific underpass bridge to the west. It could be designated as a Bike Route. However, South Street is one-way (west) from 7th Street to 4th Street with parking on the south side, so eastbound Bike Route designation is not possible. Also, eastbound South Street is only permitted to turn right at IL 31. Therefore, Franklin is the preferred eastbound link instead of South Street.

7th Street is an important connection for both bicyclists and motorists between IL 38 and South Street. This segment of 7th Street exhibits a BLOS grade of 'C' on the west side of the

street, which has no parking. The east side, which is wider with sparsely-used parking, exhibits an 'A' grade. Recommendations for improvements include striping a five (5)-foot southbound bike lane (including gutter pan), 11-foot travel lanes, a five (5)-foot northbound bike lane and a seven (7)-foot parking area (including gutter pan).

Railroad right-of-way trail From the intersection of 7th Street and IL 38, an abandoned railroad right-of-way leads north and northeast toward an existing St. Charles trail that crosses IL 31 and follows it north. On the south end, this corridor is used somewhat for informal industrial parking. Further north, it passes through wooded areas and the edge of Wheeler Park. There presently is significant use of this right-of-way by some pedestrians and cyclists, especially younger residents.

The City owns the R.O.W. and this is an excellent opportunity to add an off-street facility to the City of Geneva bike system. It is recommended to acquire the property or an easement for an eight (8) or ten (10)-foot trail. In addition to Stevens Street and IL 31, links to Union Street and Wheeler Park should be included in the plans.

Western Avenue provides a very important north/south connection from the surrounding neighborhoods and from downtown to Sunset Park and Pool. The street has 12-foot lane widths between South Street and the Union Pacific Railroad and 15-foot lane widths between the railroad and Fargo Boulevard. Western Avenue exhibits a BLOS grade of 'B' on the east side between South Street and the Union Pacific Railroad, and 'D' on the west side of this stretch and both sides to Fargo Boulevard. This is a very important connector and suggested improvements are as follow:

- Because the Union Pacific Railroad will be making safety improvements to the intersection with Western Avenue, there will not be room for bike lanes and the only recommendation between South Street and Cheever Avenue is Bike Route signage.
- South of the railroad to Fargo Boulevard, the pavement narrows (although the lane widths increase) because no parking lane is available, so it is recommended to re-stripe for five (5)-foot bike lanes (including gutter) and 11-foot travel lanes.
- South of Fargo Boulevard there is a sidepath on the west side of the road to Fabyan Parkway. The sidepath crosses several intersections, and many experienced cyclists use Western Avenue instead. Therefore, two (2) 11.5-foot travel lanes should be provided with five (5)-foot bike lanes on both sides of the street, where possible. Because of the school and turn lanes, bike lanes may not be suitable for the entire stretch of this road, but they should be installed where possible. A more in-depth engineering analysis must be conducted before this design is implemented.
- Because inexperienced cyclists often use sidewalks, improve the east side sidewalk crosswalk at Cheever Avenue with zebra striping and consider widening the sidewalk from South Street to Cheever Avenue. Also, it is recommended that zebra crosswalks be installed at sidepath crossings across Eagle Brook Drive and Belter Court. Also, sight obstructions such as overgrown vegetation should be cleared at all intersections.
- If the opportunity arises, add a sidewalk on the west side of Western Avenue from South Street to the Sunset Park ballfields, at a minimum. Implementation north of the tracks will be difficult without major utility relocation.

Fabyan Parkway is a major east/west arterial through the southern part of the City. There is a sidepath along the south side of Fabyan Parkway west of the Fox River, and a sidepath along the north side of Fabyan Parkway east of the Fox River. Two gaps exist in this facility. One is located in the western part of the City and is described in the Proposed West Routes section of this chapter. The other gap is the Fabyan Parkway Bridge over the Fox River. When this bridge is reconstructed, additional width should be added to accommodate bicycle and pedestrian traffic or a separate pedestrian/bicycle bridge should be cantilevered off the bridge or constructed alongside of the bridge. Before this occurs, bicycle route signage should be provided to direct bicyclists from the sidepath on the west side of the river, north through Fabyan Forest Preserve, across the pedestrian/bike bridge in the Forest Preserve, south along the east side of the river and back to the Fabyan Parkway sidepath on the east side of the river.

Because of the amount of bicycle traffic at the intersection of IL 31 and Fabyan Parkway, and the intersection of Fabyan Parkway and IL 25, it is important for these intersections to have well-maintained crosswalks, stop bars, and signed lights that are timed to allow for safe bicycle crossings. Also, pedestrian countdown signals should be considered at these two (2) intersections.

South Street is a high priority east/west route connection between downtown and Randall Road. Between Western Avenue and 7th Street, this two (2) lane street has a BLOS grade varying between 'A', 'B' and 'C', depending on parking space and occupancy by golf course users. A BLOS score was not determined for South Street west of Western Avenue because there is an existing sidepath and BLOS analysis was not performed on existing sidepaths.



Recommendations for improvements include:

- Add Bike Route signage.
- Add signage to indicate where the sidepath on the south side of the street ends and changes to a striped lane on the north side of the street.
- Improve crosswalks on the south side for pedestrians and sidewalk cyclists.
- Add signage and pavement striping to help cyclists safely continue west after the sidepath ends at Southampton Drive.

Also, it will be important to provide intersection improvements at Kaneville Road and South Street since the Randall Road underpass will attract more bicyclists to this area.

South Cambridge Drive is a north/south street that connects Williamsburg Avenue to South Street and is a popular bike route alternative to Randall Road to access Geneva Commons. Cambridge Drive will become even more important when the Randall Road underpass is completed, and it is therefore recommended that the City provide Bike Route signage along this segment.

2nd Street/3rd Street 2nd Street is a low ADT downtown residential street with a BLOS grade of 'B', except the segment between Hamilton Street and IL 38, which exhibits an 'A'. This street abuts the Public Library and City Hall, and is therefore an important part of Geneva's Bikeway System. Recommendations for improvements include adding Bike Route signage on 2nd Street from Franklin Street to James Street and from Peyton Street to Wheeler Park.

3rd Street is a residential and commercial street, with well-used on-street parking and high vehicle turnover near IL 38. Bike route signage should be provided on this street from Cheever Avenue to Franklin Street. Bike route signage should be continued again from James Street to Peyton Street, where cyclists can then head east or west. Also, it is recommended that a bike-and-chevron symbol be provided at the 3rd Street/IL 38 intersection to provide a safe access for cyclists across this busy road.

River Lane is a north/south route that follows the Fox River through the downtown area. This low ADT street exhibits a BLOS grade of 'A', 'B' or 'C', depending on the segment. River Lane crosses IL 38 just before the bridge, which is a very difficult crossing for bicyclists and pedestrians; many choose to cross one block west at 1st Street. River Lane is an important part of Geneva's Bikeway System, as it connects downtown and River Park with the pedestrian/bicyclist bridge that spans the Fox River and leads to Island Park and the Fox River Trail.

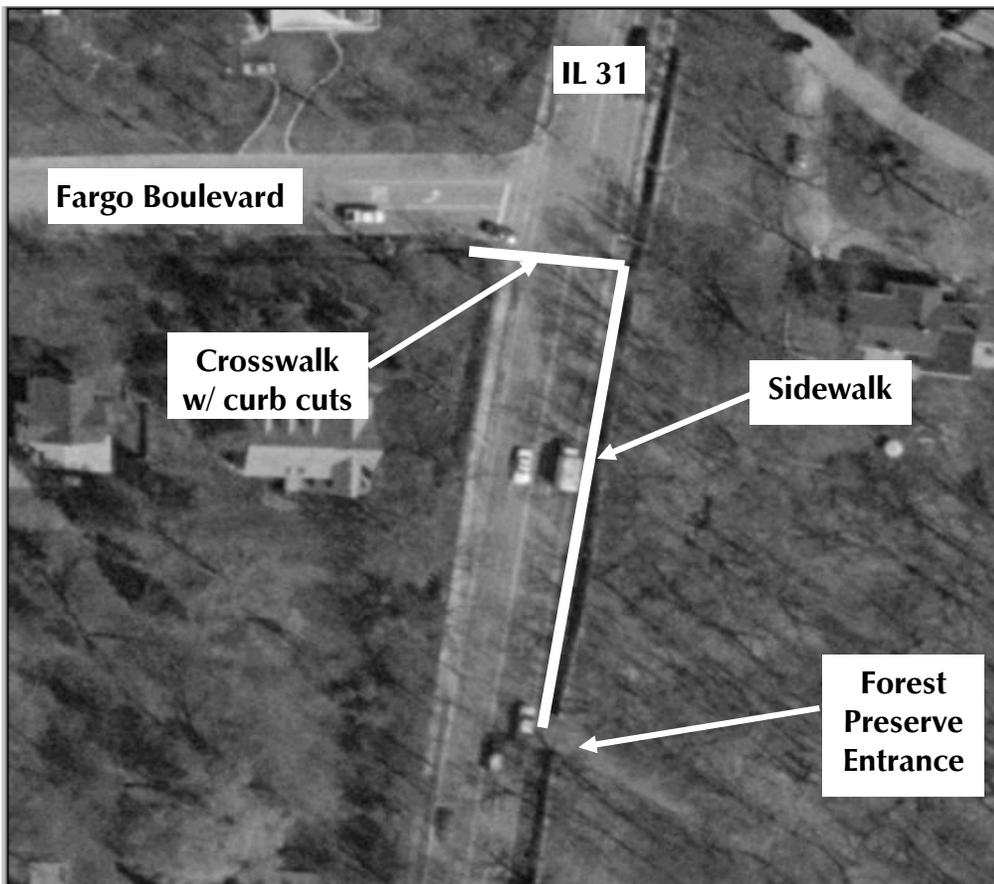
Recommendations for improvements to River Lane include adding Bike Route signage for the stretch between James Street and South Street and also using River Lane as part of a connection between River Park and Wheeler Park. This connection could involve signing a Bike Route from River Park, north along River Lane, west on Stevens Street, north on IL 31 into Wheeler Park. This is dependent upon the recommendation to construct a sidepath on the west side of IL 31 between Stevens Street and the City's northern limit. This sidepath would help provide a critical link between Wheeler Park, River Park and the Fox River Trail System. With this route, well-marked and well-maintained zebra crosswalks should be provided across 1st Street and North Street.

IL 31 (Batavia Avenue, 1st Street) is the main north/south route that follows the west side of the Fox River through downtown Geneva. Several segments of this road are incorporated within Geneva's bikeway system.

- North City Limit to North Street is a busy two (2) lane road that exhibits a BLOS grade of 'E' on the west side of the road and a BLOS grade of 'B' on the east side because of sparsely-occupied on-street parking. Recommendations include re-paving the road when it is scheduled in the City's Pavement Management Program, but not adding Bike Route signage because this is not a good route. Also, a sidepath could be constructed along the west side of the road in Wheeler Park to the St. Charles Trail that crosses IL 31 just north of the City limits.

- North Street to Stevens Street is also a busy two (2) lane road with a BLOS grade of 'D'. Recommendations include re-paving the road when it is scheduled in the City's Pavement Management Program, but not adding Bike Route signage because this is not a good route.
- 3rd Street/IL 31 to Fabyan Parkway is a very busy four (4) lane road with 20,000 ADT and a BLOS grade of 'E'. The intersection with 3rd Street and Cheever Avenue leads into the Third Street Metra Station, and is an area of heavy automobile, bicycle and pedestrian traffic. The Kane County Government Center, Gunnar Anderson Forest Preserve and Fabyan Forest Preserve are also accessible along this segment of IL 31; however, bikes are banned on this segment. Recommendations to improve access to the Fabyan Forest Preserve from Fargo and neighborhoods to the west of IL31 include:
 - Add zebra crosswalks on the west side sidewalk and consider widening.
 - Add a zebra crosswalk and an east-side curb cut at the south face of the Fargo Boulevard intersection, and add a small sidewalk segment along the east side of IL 31 south to the Fabyan Forest Preserve entrance.

Image depicting recommended access improvements from Fargo Boulevard to Fabyan Forest Preserve {Source: SAA/LIB}



- In addition to the above recommendation to improve access to the Forest Preserve, it is also recommended that a road diet be considered for IL 31 from Cheever Avenue to Fabyan Parkway. A road diet is a four (4)-lane road that is converted to a two (2)-lane road with a continuous center left-hand turn lane and striped bike lanes on both

sides of the road. For IL 31, this could be achieved by converting the four (4) 10-foot drive lanes to two (2) 10-foot drive lanes, one 10-foot continuous center left-hand turn lane, a five (5)-foot bike lane on the east side of the road and a five (5)-foot bike lane on the west side of the road (see diagram in the Bikeway Systems Definitions of this Chapter). IL 31 provides an excellent connection from areas south of Geneva to the downtown and the Third Street Metra Station. This road modification would improve access to these locations for bicyclists and might also improve vehicle traffic flow along IL 31 by placing left-hand turning vehicles out of the traffic flow lanes.

4th Street from Franklin Street to the Third Street Metra Station is a downtown residential street with a BLOS grade of 'B', except the west side of the street between Franklin Street and South Street, which exhibits a 'C'. 4th Street serves as an important access from downtown and the Kane County Court House to the Third Street Metra Station. Recommendations include adding Bike Route signage that provides destination information and a W11-1 (See MUTCD) bicycle warning sign along southbound 4th Street near South Street.

Cheever Avenue between Western Avenue and 3rd Street is a residential street with a BLOS grade of 'C', except the segment between Western Avenue and Dunstan Road, which exhibits a 'B'. Recommended improvements include adding Bike Route signage and filling sidewalk gaps for pedestrians on the north side of the street.

It is evident that some cyclists and pedestrians travel along the Union Pacific railroad tracks from Western Avenue to the Metra parking lot, instead of using the longer Cheever Avenue route. It may be desirable to formalize this trail to provide safe access to the Metra parking lot, recognizing that the route's only purpose is to provide access to the Metra station. Trail access should be located on the north side of the railroad tracks. Please refer to the Third Street Metra Station discussion in this chapter for additional information.

Bent Tree Drive parallels busy Randall Road on the east between Fargo Boulevard and Fabyan Parkway, and is therefore an important link in Geneva's Bikeway System. Bent Tree Drive is a mixed commercial and residential connector street with a BLOS grade of 'C', except the segment between Gleneagle Drive and Fabyan Parkway, which exhibits a 'B'. Parking is prohibited on the west side, while there is sparsely-occupied parking on the east, particularly near Eaglebrook Park. It is recommended that a "bike lanes with parking" facility be installed with two (2) five (5)-foot bike lanes on either side of the road, two (2) 11-foot travel lanes and one (1) seven (7) foot parking lane on the east side of the street. Refer to page 21 of this report for a diagram of this facility design.

Randall Road is the major north/south arterial thoroughfare through the region and is characterized primarily by strip mall and commercial development. The City of Geneva recognizes that Kane County is the unilateral authority on decisions affecting Randall Road. However, the county has adopted policies in the Kane County Bicycle and Pedestrian Plan that promote safer pedestrian and bicycle environments by encouraging facilitated arterial roadway corridor improvements and these policies should be followed for Randall Road. The county's plan



recommends identifying arterial roadway crossings that are barriers or pose safety concerns to bicyclists and pedestrians and implementing designs that improve movement and safety through the intersection. Design recommendations include providing curb cuts and crosswalks at every intersection; providing pedestrian signals at signalized intersections; and depending on the road conditions, providing bulb-outs, traffic signal cycle improvements, textured crosswalks, curb radii altering, No Right Turn on Red restrictions, refuge medians, raised crosswalks, speed humps and channeling islands. The Geneva *Bikeway Implementation Plan* reinforces the recommendations made in the Kane County Bicycle and Pedestrian Plan.

Several segments of Randall Road are included in Geneva's Bikeway System, including:

- Kaneville Road to Fabyan Parkway has an ADT of 44,000 and is characterized by shopping areas and three (3) major signalized intersections at Fargo Boulevard, Christina Lane and Gleneagle Drive. The BLOS grade for this segment of Randall Road is a 'D' because of high traffic volumes. There is an eight (8) foot shoulder on both the east and west sides of this road segment, but it constricts at turn lanes, and is therefore dangerous for bicyclists. Recommendations for improvements include filling the sidewalk gaps on the west side of the road between Christina Lane and Gleneagle Drive and installing well-maintained zebra crosswalks. Bike Route signage is not recommended for this segment.
- Bricher Road to Keslinger Road has a sidepath on the west side of the road.
- Kane County's long-range plan proposes expansion of Randall Road from four (4) to six (6) lanes through Geneva. When this occurs, expansion of remaining sidewalk sections to ten (10)-foot sidepath widths is recommended, along with improved bike/ped access on the railroad bridge from Fargo Boulevard to Kaneville Road. Until that time, it is recommended that shoulder space is maintained for bicyclists when turning lanes are added or lengthened.
- Randall Road crossings are described in greater detail in the Randall Road Crossings discussion under the Specific Improvement Recommendations section.

Fargo Boulevard is an east/west residential connector street that runs from Shoop Drive to IL 31. This street is the most important east/west route for bicyclists in the western and central part of Geneva and providing a bicycle facility on this street is one of the primary recommendations of this *Plan*. Several segments of Fargo Boulevard are included in the Geneva Bikeway System, and are described below.

- Randall Road to Western Avenue is a very wide (19.5-foot lanes) residential connector street that runs along the north edge of the Eaglebrook Golf Club. This segment of Fargo Boulevard has a BLOS grade of 'B'. Parking is available on both sides of the street, but it is minimally used. It is recommended that the BSC and staff work with the neighborhood to design and implement a bikeway facility for this road. Based on discussions with the BSC and staff, there are four options for facilities:



1. Bike lane with parking
2. White edge line
3. Bike route signage
4. No facility

In addition, crosswalks at the golf course entrance and commercial entrances should be improved.

- Western Avenue to IL 31 is a narrower residential street with a BLOS grade of 'C'. Improvements are more difficult here because of narrower lane widths, but recommendations include adding Bike Route signage and installing a six (6) to seven (7) foot sidewalk on the north side of the road from Meadows Road to IL 31.

Loran Drive and Brigham Court are small residential streets that connect Fargo Boulevard to a short paved trail leading to Sunset Park. It is recommended that Bike Route wayfinding signage be installed along these streets as the entrance to the trail is difficult to find. The signage should direct bicyclists and pedestrians to Sunset Park. Also, a curb cut should be provided where the trail intersects Brigham Court and brush should be cleared along the trail connection.

The east end of the trail connection ends in the Sunset Park parking lot. It is recommended that the City consider creating a trail around the west and north perimeter of the parking lot to a marked point (with crosswalks) closer to the pool entrance and possibly even to Western Avenue.

West Routes

In general, the western part of the City is the most recently developed, with most of the development occurring in the past 15 years. The street pattern in this area is curvilinear and there is no distinct grid pattern as there is in the central, older portions of Geneva. Through streets are limited in number, but are very wide. City planners and developers have emphasized sidepaths along the arterials that form the edge of the subdivisions in the developments. However, even when a sidepath is provided, an on-road facility needs to be considered since the limited through streets and the high vehicle ADT's in this part of the City have the potential to make this area more difficult for bicyclists to maneuver than the central or eastern portions of the City.

Currently, the main destinations for bicyclists in the western section of the City are Peck Farm Park, the Middle School and the retail establishments, particularly along Randall Road. In the future, Prairie Green (located west of Peck Road) will also be an important destination. It is important for bicyclists to have safe and convenient access to all of these destinations.

Geneva Commons, located adjacent to the Williamsburg Avenue and Randall Road sidepaths, is accessible to bicyclists. However, other retail areas along Randall Road are not as accessible. To increase their accessibility, policies in the Kane County Bicycle and Pedestrian plan and in this *Plan* related to providing safe crosswalks, sidewalks and other bicycle facilities should be followed. A discussion of Randall Road crossings and strategies for improvements is included in the Specific Improvement Recommendations section of this chapter. In addition to providing safe bicycle access to these retail establishments, it is also critical to provide safe and convenient bicycle parking. Bicycle parking is discussed in Chapter 4 of this *Plan*.

Bricher Road is a main east/west route along the northern edge of the City between Peck Road and IL 38. With the exception of a relatively small gap, there is an existing sidepath on the south side of the street from Peck Road to Randall Road. The sidepath gap will be completed with the Prairie Ridge Development.

Between Randall Road and IL 38, Bricher Road exhibits a BLOS grade of 'C'. There are two (2) lanes, a continuous left-turn lane and few entrances. It is recommended that crosswalks be added and that the remaining south-side sidewalk gaps be completed for the benefit of pedestrians and sidewalk cyclists. Bike Route signage is also recommended for the roadway. Also, depending on the eventual build-out and number of entrances along the road, if a continuous left-turn lane is not needed due to a lack of driveways and/or crossroads, then the continuous left-turn lane should be removed and replaced with bike lanes.

Peck Road Sidepath (north of Bricher Road) a sidepath along Peck Road extends through St. Charles to the regionally-significant Great Western Trail, recreation areas, the county courthouse and more. This sidepath is part of the proposed Mid-County Trail system. A recommended improvement is to complete the sidepath gap from north of Keslinger Road to Bricher Road. Access links should be included at Heartland Drive and Prairieview Drive. As of fall 2004, the Mid-County Trail through the City of Geneva is mapped along Fisher Drive, east of Peck Road. However, the new Prairie Green Preserve Open Space Development,

which is being developed west of Peck Road, could allow for the Peck Road sidepath to be continued north of Keslinger Road, through Prairie Green Preserve west of Peck Road and connect with the Mid-County Trail at Bricher Road, where it would continue north.

Fisher Drive from Bricher Road to Keslinger Road has a sidepath on the west side of the street. At Larrabee Drive and Hillcrest Road, median cuts are needed for the sidepath, and a curb cut connection with a crosswalk is needed to improve access to Larsdotter Lane.

Keslinger Road This is an important east/west route through the western part of Geneva. Several segments of this road are included in the Geneva Bikeway System, including:

- West City Limit to west of Peck Road exhibits a BLOS grade of 'E'. It is recommended that the sidepath on the north side of the road continue to be constructed as development occurs to the west. Coordination with Elburn and the Mill Creek development could lead to a regionally-significant east/west trail, which is recommended in the Kane County Bicycle and Pedestrian Plan.
- Through the Peck Road intersection to east of Fisher Drive, Keslinger Road has an existing sidepath. Future development along Keslinger Road should ensure well-marked and well-maintained crosswalks at sidepath crossings and sidepath access (curb cuts and crossings) to the other side of the street.
- From the sidepath's east end to Randall Road, there is a gap (former White property) and a sidewalk on the Delnor Hospital property. It is recommended that this gap be filled, when feasible. The Delnor entrance requires curb cuts and zebra crosswalks. Also, the sidewalk should be widened to eight (8) or ten (10) feet.

Heartland Drive is a residential connector street with a BLOS grade that varies between 'B' and 'C', depending on the segment. An existing sidepath extends from Fisher Drive to the east side of Westhaven Circle. It is recommended that Bike Route signage and well-marked and well-maintained crosswalks be installed between Peck Road and the east side of Westhaven Circle, and that the sidewalk gaps near Peck Road be completed.

NICOR Trail follows segments of the NICOR gas easement from Bricher Road south to Heartland Drive, where there is a gap until it starts again at Lewis Road and continues south through Peck Farm Park to Fabyan Parkway. It is recommended that a multi-use trail be constructed along the NICOR easement from Heartland Drive, through the school site located south of Heartland Drive, east along the south side of the school to an existing trail at Husking Peg Lane that connects to Keslinger Road. Also, while it is not possible to continue the trail along the NICOR easement south of Kaneville Road to the Middle School, it is recommended that a multi-use trail be developed parallel to the easement along the future road extension from Kaneville Road south to the new Middle School, the existing Middle School and along Viking Drive to Fabyan Parkway. This will allow students to safely access the schools from the surrounding neighborhoods.

Williamsburg Avenue between Fisher Road and Randall Road is a connector street with an existing sidepath on the south side of the street. Curb cut connections and crosswalks are needed to improve access from the sidepath to the entrances of Geneva Commons. See the discussion under Randall Road Crossings for more information on recommendations to improvements at the Williamsburg Avenue and Randall Road crossing.

Fargo Boulevard west of Randall Road provides an extremely important connection between commercial and residential areas. The BLOS grade is a 'B' and this *Plan* recommends a signed Bike Route to guide bicyclists to the Randall Road commercial areas and downtown Geneva.

Pedestrian improvement recommendations include adding well-marked and well-maintained crosswalks and completing the sidewalk gap on the north side of the road.

Shoop Drive is a quiet residential road connecting surrounding neighborhoods and Fargo Boulevard to Geneva Middle School. This road exhibits a BLOS grade of 'B'. Recommended improvements include adding Bike Route signage and well-maintained zebra crosswalks.

Kaneville Road is a major road that cuts southwest/northeast through the western part of the City, connecting Fabyan Parkway, and areas to the southwest, with Randall Road and eventually IL 38. This road has moderate traffic volumes, currently ranging between 3400 and 5000 ADT. However, as development continues to the west, Kaneville Road will likely experience increasing traffic volumes. Several segments were analyzed for the Geneva Bikeway System and are described below.

- Fabyan Parkway to Peck Road exhibits a BLOS grade of 'E'. A sidepath (Peck Farm Trail) exists along the south side of this road and the trail connects Geneva Middle School through Peck Farm Park. Short links to enable trail access are recommended at Peck Road and at the Fabyan/Kaneville intersection, when it is reconstructed.
- A new Geneva Park District trail – part of the multi-jurisdictional Mid-County Trail – is scheduled for 2005 construction along the north side of this segment. The new trail will connect the Mill Creek subdivision, new recreational facilities near Kaneville/Peck and the existing Peck Road sidepath ending at Lewis Road. Again, trail access links are recommended at roadways.
- Between Peck Road and the NICOR easement trail to the north, the Peck Farm Trail sidepath continues on the south side of Kaneville Road.
- Between the NICOR easement trail and Fargo Boulevard, Kaneville Road has a BLOS grade of a high 'D', except for the segment between Kaneville Court and Fargo Boulevard, which exhibits a 'C'. Sidewalks exist on the north/east side and partially on the south/west side. This segment of Geneva's Bikeway System is important as it has the potential to connect many residential areas with Peck Farm Park and Geneva Middle School. Recommendations for improvements include:
 - Provide a sidepath along the south side of Kaneville Road between the NICOR easement and Lewis Road.
 - Add well-marked and well-maintained zebra crosswalks for pedestrians and sidewalk cyclists.
 - From Lewis Road to Fargo Boulevard (on the north/east sides), add well-marked and well-maintained crosswalks and fill the west side sidewalk gap for pedestrians.

Lewis Road from Peck Road to Fargo Boulevard exhibits a BLOS grade of 'B'. Bike Route signage is recommended for the entire stretch, along with well-marked and well-maintained crosswalk markings.

Fabyan Parkway is a main east/west connector through the region and is important for both motorists and bicyclists. Several segments exist in the West Routes study area and they are described below.

- Fabyan Parkway from Kaneville Road to the NICOR Trail (just east of Peck Farm Park) is a two (2) lane road and has a BLOS grade of 'F'. The Peck Farm sidepath follows the north side of the road through Peck Farm Park, but there is poor connectivity to nearby roads from this sidepath. Recommendations for improvements include adding connections to Wenmoth Road and the intersection of Fabyan/Kaneville, when that is reconstructed.
- Fabyan Parkway between the NICOR Trail and Randall Road is mostly a two (2) lane road with a BLOS grade of 'E'. Near Randall Road, the road expands to four (4) lanes with sidewalks. Fabyan Parkway between Randall Road and Bent Tree Drive is a four (4) lane road and also has a BLOS grade of 'E'. Sidewalks near the Fabyan Parkway/Randall Road intersection turn away (north) from the intersection without crossing. Recommendations for both of these segments include the following:
 - On the north side, install a new sidepath (identified in the Kane County Bicycle and Pedestrian Plan) from the Peck Farm Trail, across Randall Road, to the existing Fabyan Parkway sidepath. This includes widening the sidewalks where they exist, and providing a Randall Road crossing with right-turn slip lane refuge islands on both the northwest and northeast corners (diagram in the Bikeway System Definitions section of this Chapter).
 - Consider adding a sidepath or sidewalk along the south side as this area develops.
 - Improve crosswalks at all crossings, including commercial entrances.

South Street Underpass and Trail Extension The Kane County Division of Transportation was in Phase 1 Engineering in fall 2004 on a Randall Road underpass on the north side of the Union Pacific railroad tracks. A trail from South Street would extend west under Randall Road, then north to the intersection of Randall Road and Keslinger Road before crossing Keslinger Road to the northwest corner of the intersection.



Location of future underpass at the west end of South Street connecting under Randall Road.

This underpass would dramatically improve connectivity from the South Street bike lanes to the existing Randall Road sidepath north of Keslinger Road, and to the proposed sidepath heading west on the north side of Keslinger Road. It is recommended that the project include a right-turn slip lane refuge island at the northwest corner of the Randall Road/Keslinger Road intersection, as this would significantly improve the Keslinger Road crossing.

Randall Road bridge over Union Pacific railroad It is recommended that the South Street trail extension project not preclude a future cantilever trail bridge over the railroad on the west side of Randall Road. In addition, other options to consider include:

- Using the existing shoulder width on the Randall Road bridge, possibly with re-striping and construction of a barrier, to form a two (2)-way trail on the west side of the bridge. The trail would begin just south of Keslinger Road and terminate at an approach point north of Fargo Boulevard.
- Incorporating a bicycle facility improvement as part of the Randall Road six (6)-lane expansion included in Kane County's 2030 Long-Range Transportation Plan.

If the railroad crossing solution includes approaches near Kaneville Court, then a bicycle/pedestrian connection should be made to that street and it should be marked with Bike Route signage to connect with the rest of the bikeway system.

Miller Road and Blackman Road are residential streets that connect between the Geneva Middle School (and Peck Farm) and Merchants Drive near Randall Road. It is recommended that Bike Route designation of these roads be part of a Randall Road crossing route with these improvements and wayfinding signage:

- Highly visible and well-maintained zebra crosswalks from Miller Road, across Merchants Drive, to an existing east/west sidewalk between parking lots.
- Short sidewalk extension to the Randall Road sidewalk.
- Well-maintained zebra crosswalks across Randall Road at Christina Lane. Right-turn slip lane refuge islands are recommended for both the southwest and northeast corners.
- Bike Route signage on Christina Lane from Randall Road to Bent Tree Drive.

Specific Improvement Recommendations

Randall Road Crossings

At all of the public input sessions, residents requested better bicycle crossings along Randall Road. This four (4) lane Kane County jurisdictional arterial roadway divides traditional Geneva to the east and the newly constructed neighborhoods to the west. Randall Road is also home to a large variety of retail stores and health care facilities. For these reasons it is common for people to want to travel along or across Randall Road.

This report recommends improvements at all crossings of Randall Road except Gleneagle Drive, as Gleneagle Drive is just south of Christina Lane, which is more conducive to improvements for bike travel.

The following two (2) recommendations are the minimum that should be done at the Randall Road crossings with Fabyan Parkway, Fargo Boulevard, Williamsburg Avenue and Bricher Road. It is important to note that Randall Road is a County road and under County jurisdiction. However, the City of Geneva would like better pedestrian and bicycle access in this area and because the County adopted the Kane County Bicycle and Pedestrian Plan, which recommends many of these strategies, this *Plan* reinforces those recommendations.

Signal Timing and Pedestrian Countdown Signal

Signal timing at the above intersections should be checked to be sure that the pedestrian signals are all in working order and that the time allowed is sufficient to allow pedestrians and bicyclists to cross the four (4) lane road. In addition, pedestrian countdown signals should be installed at signalized crossings. These signals display flashing numbers that count down the time remaining until the end of the flashing “DON’T WALK” (FDW) interval. The countdown display, which can start at the onset of either the WALK or the FDW display, reaches zero and blanks out at the onset of the steady “DON’T WALK” (DW) display. When the countdown starts at the beginning of the FDW, the duration of the countdown is approximately equal to the pedestrian clearance interval for the crosswalk (the duration may vary according to local signal timing practice).



These images depict the phases of a pedestrian countdown signal. (Source: http://www.sanjoseca.gov/transportation/forms/report_pedcountdown.pdf)

Crosswalk Painting and Maintenance

The crosswalk pavement striping on all four (4) segments of each intersection needs to be reviewed; if it needs refreshing then do so. These crosswalks should be considered a priority in the county’s annual maintenance budget.

Christina Lane

This is a signalized intersection with retail shops on all four (4) corners and residences both east and west of the shops. There is an existing sidewalk on the southwest corner of the intersection that parallels Randall Road, and just south of the retail stores is a short east/west sidewalk that connects to the residential neighborhood west of the retail shops. It is recommended that the sidewalk be widened slightly to accommodate bike traffic and that wayfinding signs be installed to help bicyclists and pedestrians make the connection across

Randall Road to the retail and residential areas on each side. Please refer to Chapter 4 for details on sign design and location.

Union Pacific and Keslinger Road

Kane County DOT was in Phase I Engineering in Fall 2004 for a bikeway underpass under Randall Road just west of South Street and parallel to Keslinger Road. Once under Randall Road, the trail will turn north and connect to Keslinger Road. There is a sidepath on the north side of Keslinger Road and it is important to route bicyclists and pedestrians from the southwest corner of the intersection to the northwest corner. This *Plan* recommends that a slip-lane island along with a tabletop be installed on the southbound right hand turn lane on Randall Road to assist both pedestrians and cyclists across Keslinger Road. The slip-lane will give pedestrians a refuge from fast moving vehicles turning west onto Keslinger Road and the table top provides traffic calming by slowing vehicle speeds.

Innovative Treatments

Innovative recommendations that are uncommon in the United States but are common in Europe are listed below. These intersection treatments for bicycles will likely become more common in the United States in the future and while these treatments are not necessarily recommended to be implemented immediately in Geneva, they are provided so that Geneva is aware of these treatments in the event they can be installed in the future. Above, we have also included readily accepted, standard treatments for consideration.

Advanced Stop Lines or Bike Boxes

An advanced stop line, or bike box, extends across one or more traffic lanes at the approach of an intersection. When the traffic signal is red, only cyclists may enter the bike box. Motor vehicles must stop at an advanced stop line (ASL) to leave the bike box clear for bicycles. Generally, cyclists can pass queuing vehicles and enter a bike box through an exclusive bike lane. While bike boxes or advanced stop lines are only just being experimented with in the United States, they are common along bike routes in Europe and Canada. The box places bicyclists in front of traffic at signalized intersections and is accessed via a bike lane. This allows for easier left turns and it also allows cyclists to move out of the way of right turning cars and allows cyclists to correctly position themselves for turning movements. This design reduces bicycle crashes from cars turning right on a red because it positions the

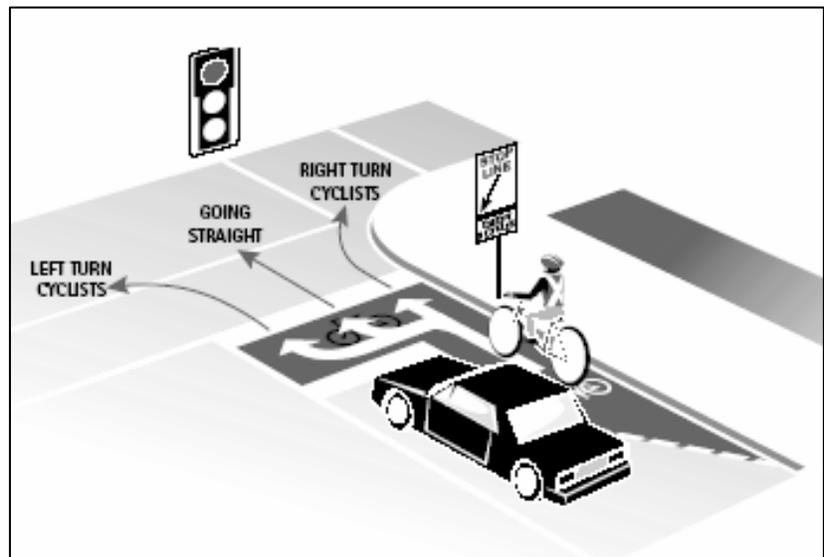


Diagram of an advanced stop line, or bike box. (Source: www.city.vancouver.bc.ca/engsvcs/transport/cycling/pdf/bikebox.pdf)

cyclist in full view of the automobile. An added benefit is it distances the cars from the crosswalks, thus providing a more pleasant crossing place for pedestrians.

Automobile drivers and bicyclists are not yet familiar with the bike box and this is its major disadvantage.

Bicycle Signal Heads

This is a signalized intersection with “bicycle only” phases and movements. Although used with great success in Davis, California and Portland, Oregon and commonly found in European countries, this type of signal head is not approved for inclusion in the MUTCD. A bicycle signal is a red, amber and green bicycle indication installed in addition to the standard red, amber and green ball and arrow indications used for autos. It separates the movements of cars and bikes and thus greatly reduces the conflicts.



(Source: www.bicyclinginfo.org)



Lead Pedestrian Intervals

Equipment or new timing is installed at signalized intersections to allow pedestrians a three second lead in advance of turning vehicles for signals with protected left-turn movements or all movements for permitted left-turn movements. The WALK indication, or walking person symbol, is displayed three seconds in advance of the green indications for vehicles. This provides pedestrians a chance to enter the intersection in advance of conflicting movements by automobiles. The Kane County Bicycle and Pedestrian Plan makes recommendations to provide these and other types of pedestrian enhancements, and they should be implemented in Geneva.

Third Street Metra Station

The bike-to-Metra trip is gaining in importance in Geneva, with significant opportunity for further improvement. A 2003 bike parking study by the League of Illinois Bicyclists, Metra, and the Chicagoland Bicycle Federation found 34 bikes parked at the Third Street Metra Station, a 21 percent increase in five years. However, parking was very tight at 87 percent capacity, and much of that parking was at substandard "schoolyard racks" that are susceptible to bike theft and wheel bending.

It is recommended to improve and increase bike parking at the station, using "continuous-wave" racks (www.dero.com/brochures/rolling_rack.pdf) or "Bike Rib" racks (www.bikerack.com/thebikerib2.htm). These rack types allow both the bike wheel and the frame to be locked. There is adequate room on the north side of the station to install these racks and increase capacity by 80 or more parking spots. A hard surface should be provided in the bike parking area.

It is also recommended to install a set of enclosed bike lockers, as several Chicagoland towns have done. For Metra stations with similar or somewhat lower levels of bike-to-Metra trips as Geneva, the locker rental rate is virtually 100 percent. Lockers often are rented by daytime commuters to Chicago, but they may also be used by reverse commuters working in Geneva and needing secure overnight parking.

If Geneva builds a Third Street Station parking garage in the future, the design should include ample room for the bicycle parking suggested above. Cyclists would welcome a roof over their parked bikes to provide protection from the elements.

Several bikeway improvements suggested in this *Plan* will directly impact the ease of biking to the station. Projects in the immediate vicinity include 4th Street and a possible trail on the south side of the Union Pacific tracks, from Western to the south Third Street Station parking lot.

Forest Preserve Landfill Connection to Phil Elfstrom Stadium

Kane County Forest Preserve has announced that Settler's Hill Landfill will be closing in 2006. This presents a terrific opportunity to connect the Fox River Trail and residents to the west of the landfill to Phil Elfstrom Stadium. Discussions should begin right away with Kane County regarding the closure and the plans for restoration and future use of the site. The landfill closure presents an excellent opportunity for the connection and also for biking and walking trails and other passive recreation activities. A rail crossing of the Union Pacific south of Stanley A. Esping Park would allow access to the new trails at the landfill and to Phil Elfstrom Stadium to all residents living in the east section of Geneva.

SAA contacted Tim Harbaugh, Director of Environmental Development with Kane County, to discuss this trail possibility. Mr. Harbaugh contacted the Kane County Forest Preserve District and reported that the proposed trail sounded feasible and that they would be very interested in partnering on the project.

Abandoned Corridor West of 6th Street

An abandoned rail corridor exists between Richards Street and 6th Street that begins at IL 38 and heads north to Wheeler Park. This corridor presents a great opportunity to connect the neighborhoods south of Wheeler Park via the trail. The corridor also connects to the St. Charles segment of the Fox River Trail. The preservation of this corridor and its development as a multi-use trail should be a top priority and the City recently completed a CMAQ grant to install a trail along this corridor. Wayfinding signage should be installed at the beginning and the end of this trail and should link trail users with the greater Geneva bikeway system. Please refer to Chapter 4 for recommendations on wayfinding signage design and location.

“Rails with Trails” Opportunities

“Rails with trails” path development is recommended along the Union Pacific railroad between Western Avenue and the Third Street Metra Station with connections to the trail at Sunset Park and Dryden Park. A non-formalized trail is located on the south side of the railroad. However, it is advisable to consider dedicating a formal trail on the north side of the rail corridor, as there is a wider right-of-way and a trail on the north side of the railway would connect cyclists directly to the bicycle parking area at the Third Street Metra Station, which is located on the north side of the tracks. The distance between the center of the rails and the northern property line is 55 feet. Therefore, if a five (5) foot buffer is provided between the northern edge of the trail and the property line located north of the tracks, and a 10-foot wide paved trail is constructed, that would leave a 40 foot setback to the center of the tracks. Setback refers to the distance between the edge of a rail-with-trail and the centerline of the closest active railroad track.

In 2002, the U.S. Department of Transportation produced the report “Rails-with-Trails: Lessons Learned”. This report is an excellent resource to use when designing rails-with-trails. The report recommends that the setback distance between track centerline and closest edge of the rail-with-trail should correlate to the type, speed and frequency of trail operations, topographic conditions, maintenance needs, applicable state standards, track curvature, engineering judgment and separation techniques.

The report notes that there is no consensus on either appropriate setback requirements or a method of determining the requirement, but recommends analyzing each trail on an individual basis with regard to the items mentioned above. It should be noted that a 10 to 25 foot setback is relatively narrow, but may be acceptable in certain situations, such as constrained areas. The majority of the rails-with-trails summarized in the report (27 percent) have setbacks between 21 and 50 feet. However, 26 percent of the trails have setbacks between two and 12 feet, which demonstrates the variability in design of these types of trails.

While the railroad may be adverse to a rail-with-trail idea initially, many communities have formed partnerships to provide this type of facility and it would provide many beneficial connections between western neighborhoods and the downtown and Third Street Metra Station.

Priority Needs and Phasing Plan for Recommended Bikeway Improvements

Based on discussions with Geneva staff and with the BSC, the following are recommended priorities for improvements to Geneva's bikeway system.

East Side Short Term (1-3 years):

1. Division Street bicycle facility decision and implementation
2. East Side Drive bike lanes
3. Simpson Street signage and repaving
4. IL 38 north side sidewalk gap

East Side Long Term (4-10 years):

1. Settler's Hill/Sandholm Street Bridge
2. Bennett Street (IL 25) sidewalk improvements
(these should be done in conjunction to complete the system)

West Side Short Term (1-3 years):

1. Western Avenue bike lanes (where possible between Cheever Avenue and Fabyan Parkway)
2. 7th Street bike lanes with parking (between IL 38 and South Street)
3. Fargo Boulevard bicycle facility decision and implementation (between Shoop Drive and Western Avenue)

West Side Long Term (4-10 years):

1. Geneva North Central Trail (on abandoned Chicago & Northwestern Railroad ROW)
2. South Street Underpass and trail (under Randall Road using the bridge embankment over the Union Pacific Railroad) combined with completion of the Keslinger Road sidepath gap, a bicycle facility on the west side of the Randall Road Bridge and a sidepath along the west side of Randall Road to Fargo Boulevard.

4. Implementation and Maintenance

Signing the Bikeway System in Geneva

Signing the Geneva bikeway system is an important step in encouraging the use of bikes as a transportation mode. A well-signed system helps residents find the most efficient and safest routes to their destinations. A safe and successful ride to a destination encourages the bicyclist to use a bicycle again for their next errand. The Manual on Uniform Traffic Control Devices (MUTCD) provides a comprehensive guide for the use of signs, pavement markings and traffic signals. Part 2, Guide Signs and Part 9, Traffic Control for Bicycle Facilities, provide information related specifically to bicycle operation on both roadways and multi-use paths.

In 2003, the Kane County DOT funded a wayfinding program that provided signage for the Fox River Trail. This signage has been implemented on the portion of the trail that runs through Geneva. However, a wayfinding system is needed for the rest of the City. This system should guide bicyclists to the Fox River Trail, as well as to other important destinations within the City, including the downtown and Sunset Park, and to other regional route connections. A sample of wayfinding signage that could be used in Geneva is provided below. The signage was created with standard DOT 18 x 24-inch sign plates, 2-inch letter height and the use of the universal bike symbol.



(Source: SAA)



(Source: SAA)

The guides that should be referenced to determine signage and design for all of the following bicycle facilities are:

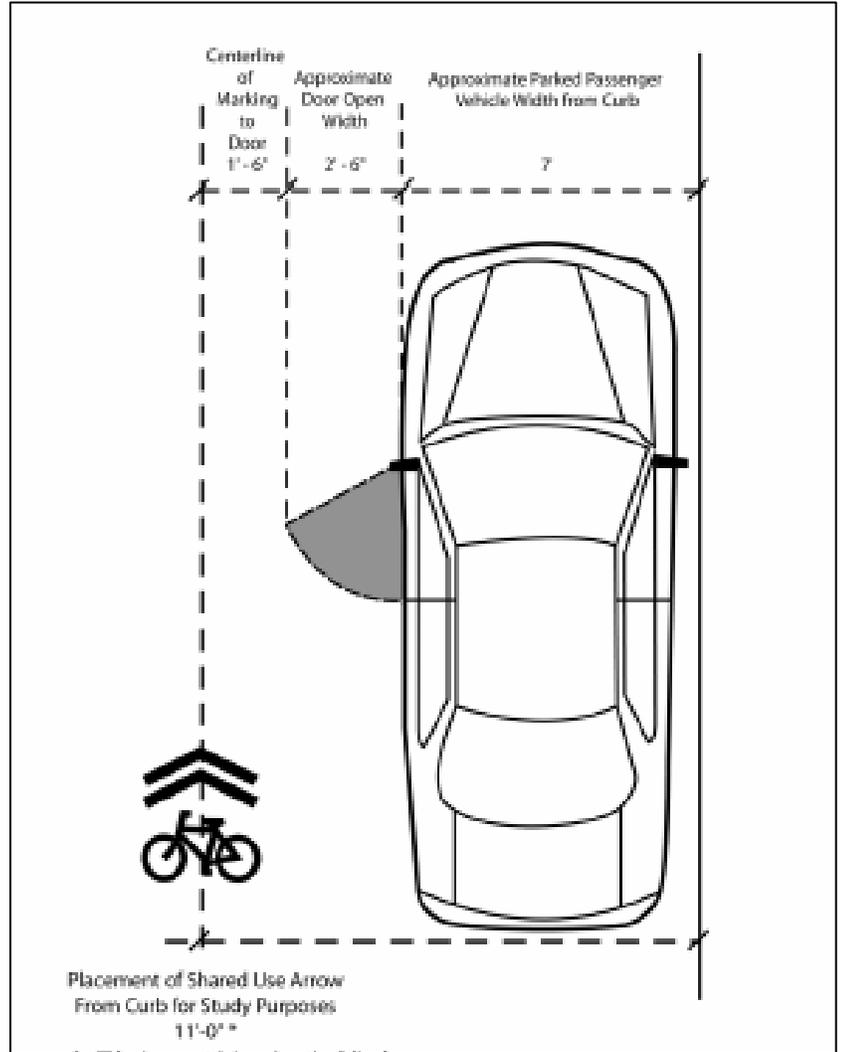
- The City of Chicago Bike Lane Handbook
- The American Association of State Highway and Transportation Officials (AASHTO) Guide for the Development of Bicycle Facilities
- The MUTCD

Shared Use Roadways

The majority of the Geneva Bikeway System is on shared-use roadways. Standard signage for shared use routes should include destination signs displayed in conjunction with “Bike Route” signs at regular half mile intervals along bikeways to provide destination and distance information.

To avoid an excessive quantity of destination signs, only a limited number of destinations should be noted and mileage limited to one (1)-mile increments.

The bike-and-chevron image to the right can be used on shared roadways with high amounts of on-street parking and bicycle traffic. This image shows placement of a shared use arrow for this type of facility. Locations in Geneva where this pavement marking could potentially be used are in the downtown area and/or on Williamsburg Avenue.



(Source: San Francisco Shared Lane Marking Study, Alta Planning, 2004)



Standard bike route signage for shared use roadway.
Source (MUTCD, 2003)



Bike Lanes

Standard signage for bike lanes should include “Bike Lane Ahead” and “Bike Lane Ends” at the beginning and the end of the bike lanes. Additionally, “Right Lane/Bike Only” and, if applicable, “Bike Lane/Parking Lane Only” should be displayed at signalized intersections and/or at regular half-mile intervals to indicate bike lane with parking areas.



An example of bike lane signage. (Source: MUTCD, 2003)

Multi-Use Paths

The Fox River Trail is the main multi-use path in the Geneva bikeway system. Wayfinding signs are already placed along this trail as part of a Kane County DOT project. As with the Bike Route sign, wayfinding signage along the trail should be displayed at signalized intersections and/or at regular half-mile intervals. In addition, if deemed necessary to separate pedestrians from cyclists, “Keep Left/Right” should be displayed as the paths proceed from all roadway intersections. Also, a “Stop” sign should be displayed at all roadway intersections, especially if traffic signals are remotely located. If appropriate, an 18” x 18” “No Motor Vehicles” sign should be displayed at the start of multi-use paths at roadway intersections.



Bicycle signage along Peck Farm Path in Geneva. (Source: SAA Image)

General

“Bicycle Crossing” is a sign that is recommended for display throughout the Geneva bikeway system. This sign, scaled for motorized vehicular traffic, is 24” x 24” minimum and serves to warn drivers of an approaching bikeway crossing. These warning signs should be displayed 250 feet in advance of arterial crossings of the bikeway. In addition, some communities are moving toward the use of bright green reflector strips on pedestrian or bike sign posts to further alert automobile drivers. It is recommended that Geneva explore this option and consider using these strips, especially in areas of high pedestrian and bicycle traffic, such as near schools, Sunset Park and other important community destinations.



Bicycle crossing signage in Geneva. (Source: SAA Image)

Bike Parking

The availability of safe and convenient parking is critical to encouraging bicycle commuting and the use of bicycles for errands. The figures vary, but it is estimated that between 500,000 and one million bicycles are reported stolen every year in the United States and fear of bicycle theft is recognized as a significant deterrent to bike use. It is important to implement safe and convenient bicycle parking at key locations throughout the Geneva bikeway system.

Bike Rack Styles

Providing quality bike parking is not just about placing a “grid” or “comb” style rack in front of a building. There are many styles of bike racks and some are much more effective at securing bikes than others. Also, the specific location of bike parking and proper installation of the rack are important to effective bike parking.

The many different styles of bike racks can be placed into one of the three rack style categories illustrated below:

Type I: Fully enclosed bike stall, basically a bike locker

Type II: Locks the bike at two locations on the frame, an example is the “wave” rack

Type III: All others, an example is the “comb” or “fence” rack



Type I is most useful in office settings where a specific locker can be assigned to a specific user. A rental fee may be collected for use of the locker.

Type I: Bicycle locker- fully enclosed bike stall

(Source: www.dot.wisconsin.gov/projects/state/docs/bike-guidance.pdf)



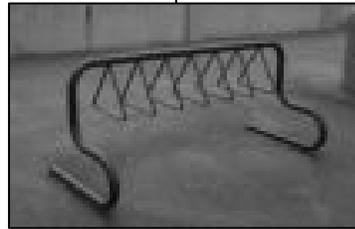
Type II is the rack design preferred by adult commuters and others when long-term secure parking is needed. This type is appropriate at offices, public transportation stations, schools, colleges, libraries and other similar locations.

Type II: Locks the bike at two locations on the frame (Source: SAA Image)

Type III is the least secure and can actually damage the bike if the bike tips over while the front wheel is in the rack. However, these types can be useful for short-term parking and in areas of high traffic where security is not a big issue. Some examples would be tennis courts, aquatic centers and community centers.



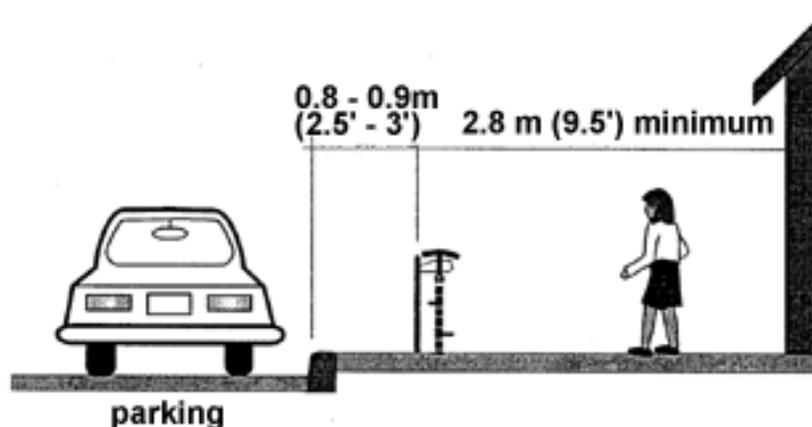
Type III – All other rack types (Sources: SAA Image, www.bicyclinginfo.org, www.pedbikeimageso.org)



Bike Rack Placement

The location of bike parking is critical. People bike, in part, because of the convenience of not having to look for a parking space. If racks are located too far from the entrance of the destination, bicyclists will simply use the nearest post, tree or fence to lock up their bike. This can create circulation problems, especially on narrow sidewalks. It is best to locate bike parking out of the way of pedestrian circulation, yet as close as possible to the destination's main entrance.

The minimum size for a single bike parking space is two (2)-feet by six (6)-feet; an access aisle of five (5)-feet is also necessary. It is important to install the rack so that no part of the bike is exposed to pedestrian or vehicular traffic. Racks should be placed far enough away from building walls to allow for the rack to be used properly.



Philadelphia's standard for bike rack placement in business districts.
(Source http://safety.fhwa.dot.gov/ped_bike/univcourse/swless22.htm)

Geneva Bike Parking Inventory and Analysis

In September 2003, Metra, the League of Illinois bicyclists and the Chicagoland Bicycle Federation conducted a systemwide inventory of bike parking and usage at Metra stations. On September 15, LIB found the following at the Geneva station:

- 270" of "Schoolyard" racks, on gravel
(Reasonable) capacity of 27 bikes; 21 bikes were present, two (2) abandoned bikes, and one (1) motorcycle- 89% usage
- 204" of continuous wave racks, on asphalt
(Reasonable) capacity of 12 bikes; 10 bikes were present, two (2) abandoned bikes, and two (2) motorcycles/scooters - 117% usage
- Three (3) additional bikes were locked to other items (trees, poles and signs)



Bicycle parking at Third Street Geneva Metra Station (Source: SAA Image)

The surveyors concluded that Geneva needs more quality bike parking at the station and suggested approximately double the capacity of what currently exists. The surveyors recommended replacing the schoolyard racks with better quality racks. Suggestions for improvements include "inverted-U" and "continuous wave" racks. The surveyors also suggested considering the use of bike lockers or other sheltered bike parking.

Bicycle parking in other areas of the City was not inventoried as part of this *Plan*. However, it should be mentioned that safe, convenient bicycle parking should be located at important community destinations to encourage bicycle travel. Examples of these destinations include: City Hall, the library, Sunset Pool and Sunset Park and at commercial establishments throughout the City.

Funding

Funding assistance for bicycle facilities and maintenance projects is generally available from the State of Illinois or the federal government. These government entities recognize the need to establish programs to assist local governments and public agencies with funding diverse transportation projects that include bicycle components. Funding is also available locally through local budgets and land dedication requirements.

The level of funding assistance, a sponsor's requirements and grant administration methodology vary among the programs. Several programs that provide funding assistance are listed below and are broken into categories by the entity that provides the funding. It should be noted that local governments are generally required to provide a certain percentage of matching funds to participate in the state and federal funding programs. The three most reliable sources of bicycle funding assistance are the **Congestion Mitigation and Air Quality Improvement Program**, the **Illinois Transportation Enhancement Program** and the **Illinois Bicycle Path Grant Program**. The **National Recreational Trails Program** is also a reliable source of funding, but it is typically only used when certain conditions or environments exist, such as a rail crossing or a natural area.

Local Funding Sources

Capital Improvements and Budget

Bicycle facility improvements can be funded through Geneva's capital improvements budget, depending on the facility. If the facility is a path through a park, then the money should come from the Geneva Park District. Improvements to the roadways to accommodate bicycles such as signs, paved shoulders or re-striping roads should come from the public works department budget.

Land Dedications from Developers

Land dedication ordinances may require developers to dedicate for public use the future right-of-way for a greenway corridor or bike trail and develop the trail through the corridor as it crosses their development. By indicating the future greenways and trails on the official map, the dedication may be required prior to final action on a subdivision or a development requiring planning action.

Tax Increment Financing

This program is a locally permissible municipal financing technique that may be used to renovate blighted areas while improving the tax base of such areas. The program allows a municipality to acquire and prepare property for redevelopment and make needed public improvements.

State of Illinois Funding Sources

Illinois Department of Transportation

Congestion Mitigation and Air Quality Improvement Program

The Congestion Mitigation and Air Quality Improvement Program, or CMAQ, was created by the federal transportation bills ISTEA and TEA-21 to fund projects that could mitigate congestion or improve air quality. The funds are administered through the Chicago Area Transportation Study and the deadline is March 1. The annual allocation for bicycle projects in northeastern Illinois in the past few years has been between \$5-\$7 million dollars. Projects funded generally involve bike facilities that parallel a major roadway or projects that increase the availability of parking facilities for bicycles and promote the use of bicycles over automobiles.

Illinois Transportation Enhancement Program

The Illinois Transportation Enhancement Program allocates resources to well-planned projects that provide and support alternate modes of transportation, enhance the transportation system through preservation of visual and cultural resources and improve the quality of life for communities. The deadline for grant submittals will be announced after the next Federal Transportation Act is passed.

Illinois Tomorrow Corridor Planning Grant Program

This five-year, \$15 million grant program for local governments was developed to help communities develop land use and infrastructure plans that promote efficient use of transportation facilities and improve quality of life. The program will fund planning activities that promote the integration of land use, transportation and infrastructure facility planning in major transportation corridors in Illinois. The goals of the program are 1) to promote land use and transportation options that reduce the growth of congestion; 2) to connect infrastructure and development decisions; 3) to promote balanced economic development that reduces infrastructure costs; and 4) to promote intergovernmental cooperation.

Illinois Department of Natural Resources

The Illinois Bicycle Path Grant Program

The Illinois Bicycle Path Grant Program was created in 1990 to financially assist eligible units of government to acquire, construct and rehabilitate public, non-motorized bicycle paths and directly related support facilities. Grants are available to any local government agency having statutory authority to acquire and develop land for public bicycle path purposes. Financial assistance up to 50% of approved project costs is available through the program. Maximum grant awards for development projects are limited to \$200,000 per annual request; no maximum exists for acquisition projects. Revenue for the program comes from a percentage of vehicle title fees collected pursuant to Section 3-821(f) of the Illinois vehicle code.

Applications for grant assistance must be received by IDNR by March 1 of each calendar year. Applications are evaluated on a competitive basis according to criteria set by the Department. Grant awards are generally announced within six months following the application deadline date.

Eligible project costs include: Linear corridor land acquisition costs, including associated appraisal fees; and bicycle path development or renovation including site clearing and grading, drainage, surfacing, bridging, fencing, signage and directly related support facilities such as potable water and restroom facilities.

National Recreational Trails Program

The federal "Recreational Trails Program" (RTP), was created through the National Recreational Trail Fund Act (NRTFA) as part of the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) and re-authorized by the Transportation Equity Act for the 21st Century (TEA 21). This program provides funding assistance for acquisition, development, rehabilitation and maintenance of both motorized and non-motorized recreation trails. By law, 30% of each state's RTP funding must be earmarked for motorized trail projects, 30% for non-motorized trail projects and the remaining 40% for multi-use (diversified) motorized and non-motorized trails or a combination of either. Eligible applicants include federal, state and local government agencies and not-for-profit organizations.

The RTP program can provide up to 80% federal funding on approved projects and requires a minimum 20% non-federal funding match. Applications for grant assistance must be received by IDNR no later than March 1 of each calendar year. Awards are generally announced within 180 days following the application deadline date.

Examples of eligible project activities include:

- trail construction and rehabilitation;
- restoration of areas adjacent to trails damaged by unauthorized trail uses;
- construction of trail-related support facilities and amenities; and
- acquisition from willing sellers of trail corridors through easements or fee simple title.

Conservation 2000 (C-2000)

For a comprehensive ecological approach, the Conservation 2000 (C-2000) initiative consists of nine programs at the Department of Natural Resources, Department of Agriculture and the Environmental Protection Agency. C-2000 focuses on monitoring and preserving the State of Illinois' natural lands and waters, funding high-quality outdoor recreational activities and promoting sustainable agriculture. Individuals, not-for-profit organizations and local organizations can apply for grants through one of the nine appropriate programs administered by DNR, IDA and IEPA.

Greenways Program

This program provides incentives and technical assistance for local communities to protect greenways corridors and to provide bike trails. Coordination occurs with IDOT on bike trail projects with federal funding. The program encourages the formation of

coalitions within counties and communities for the application of grants, up to \$20,000 per grant, to prepare plans for the improvement of greenway systems.

Open Lands Trust Program

The Illinois Open Lands Trust is a four-year, \$160 million bonding program to set aside land for open space, provide new outdoor recreation opportunities and promote wildlife habitat. Approximately \$40 million is made available each year for state land acquisition, as well as a combination of competitive grants and loans to local governments for open space protection. Maximum grant awards to local governments are \$2 million and require a local match. The program also allows for partnerships with non-governmental organizations, provided that lands acquired with state funds remain under governmental ownership. All land acquired through this program will be from willing sellers only. Applications are typically due in November.

Open Space Land Acquisition and Development (OSLAD)

More than \$125.3 million has been awarded to nearly 800 local park projects since the OSLAD program began in 1986. OSLAD funds are used to provide competitive grants for projects such as parks, outdoor recreation facilities and urban forests. The program is funded by a dedicated percentage of the state real estate transfer tax. Maximum grant awards are \$750,000 for acquisition and \$400,000 for development projects and a local match is required. Written applications must be submitted to IDNR between May 1 and July 1 of each calendar year, with grant awards typically announced by December or January. Only those local government agencies having statutory authority to acquire and develop land for public park purposes are eligible to apply for and receive assistance under the OSLAD grant program.

Federal Funding Sources

Sustainable Development Challenge Grants

These grants support community-based projects that promote sustainable development and help to build partnerships that increase a community's capacity to ensure long-term ecosystem and human health, economic vitality and community well-being. Grants are limited to \$250,000 per project. States and local governments are eligible. (USEPA).

Rivers, Trail and Conservation Assistance

Provides staff assistance to partnerships between governments and citizens designed to increase the number of trails. Funds are used to develop new trails and greenways, protect and restore river resources, convert abandoned railways to trails and conserve open space. (National Park Service).

Maintenance

Because bicycle tires are narrower and more easily punctured than automobile tires, bicycle facilities require a greater level of maintenance than streets. Bicycle routes, lanes and off street paths require more frequent sweeping to remove glass, gravel and other debris. Drainage grates that could “catch” bicycle tires must also be replaced. In addition, landscaping at intersections along paths must be trimmed to maintain adequate sight distances. Finally, striping and other on-street markings must be regularly repainted to maintain legibility. Cyclists should be encouraged to report roadway hazards to the City’s Public Works Department.



A poorly designed drainage grate that can “catch” bicycle tires. (Source: SAA Image)

In addition to the maintenance items mentioned above, railroad tracks exist in the City of Geneva and it is very important that these tracks are properly maintained, especially in areas of bicycle traffic. Railroad crossings can be rough; it is important for bicyclists to slow down when crossing tracks. Also, the City should work with the Railroads to make sure crossings are maintained as needed, especially in areas of high bicycle traffic, such as the crossing on Western Avenue.

Education, Enforcement and Encouragement

Education

A bicyclist who understands the rules of the road is more likely to be a safe bicyclist. In the State of Illinois, bicycles are classified as vehicles and must follow the same traffic laws as automobiles. A motorist who understands that bicycles are vehicles and treats them as such is more likely to drive safely around bicyclists. In the City of Geneva, bicyclists and motorists must be aware that they may encounter each other around any turn or at any intersection. Focused educational efforts are necessary to make motorists and bicyclists aware of this reality so they may operate their respective vehicles safely. An effective, ongoing educational initiative has a different message and technique for delivery for each audience it is trying to reach. The City of Geneva can target three (3) groups:

- child bicyclists and their parents
- average adult bicyclists
- motor vehicle operators



Children are quick learners and will copy what they see demonstrated. Basic bike safety courses for children will reach most children if offered through public and private elementary schools in Geneva. The Illinois DOT offers curriculum for teachers, such as 'Kids on Bikes in Illinois', geared toward 9-11 year old children. Physical education teachers can teach this hands-on curriculum that will increase a child's cycling abilities, teach them the rules of the road and help them avoid danger. Some communities in Illinois offer bicycle safety education during popular, optional summertime classes such as Safety Town or Safety Camp, which are coordinated by civic groups, such as Junior Women's Clubs and conducted by law enforcement officers.



Park and recreation departments around the state sponsor bike safety classes taught by instructors certified by the League of American Bicyclists (LAB). A course for children in kindergarten through third grade covers bike and helmet fit, safety checks and basic bike handling skills. A course for children in fourth, fifth and sixth grades teaches basic traffic laws, in-depth bike handling, group riding and safe route selection. It includes on-road riding to both test student comprehension and allow for practice of the skills learned in the classroom and parking lot exercises. The Chicagoland Bicycle Federation (www.biketraffic.org) or the League of Illinois Bicyclists (www.bikelib.org) can provide a list of instructors.

Adult cyclists are much more difficult to reach with a safety message. LAB offers safety classes for this age group, but most adults believe they know how to ride a bike despite riding the wrong direction on the road or ignoring stop signs. Effective ways to educate adults include point of sale safety information, presentations at bike club meetings and organized bike rides that emphasize bike safety (wearing a helmet, stopping at stop signs, riding on the right, correct lane position, signaling, etc.). Public education campaigns, discussed below, are also effective.

Brand new motorists can learn about bike safety during driver's education classes, provided the instructor has the necessary information to teach the subject. Other motorists can learn about bike safety through public information campaigns. Senior centers often sponsor safe driving classes for older adults. Ideas for public information campaigns include:

- Publicizing safe driving tips during bicycle season (via newspaper articles, public service announcements, etc.)
- Distributing bike safety materials from IDOT
- Asking service groups, injury prevention groups or local hospitals to sponsor and staff bike safety booths at public events or to sponsor a bike safety fair
- Asking the Public Health Department to hold a summer safety fair and include bike safety materials and demonstrations
- Asking libraries to display and distribute safety materials during the bicycling season and encouraging libraries to purchase educational videotapes and books about bike safety and maintenance
- Distributing bike safety materials in other locations such as the City Hall, motor vehicle registration office and bike shops

Enforcement

Law enforcement officers play an important role in educating bicyclists and motorists about safety. Officers have the greatest impact when they speak to young people in a school environment or when they demonstrate safety practices to children. By involving law enforcement in delivering the bicycle safety message to motorists and bicyclists alike, officers are more apt to see that their responsibility includes the enforcement of laws that promote bike safety.

Officers can reinforce bicycle safety messages by stopping bicyclists they observe ignoring the rules of the road. A verbal or written warning is very effective. Along with the warning, officers should be encouraged to give the cyclist information about Illinois' bike laws and sharing the road with motorists. By stopping motorists who exhibit dangerous driving practices around bicyclists, an officer is helping to prevent a future tragedy. Such a stop is a "teachable moment" and the officer can give the motorist information about sharing the road with bicyclists.

Encouragement

Encouragement can only occur after the foundation of the other Es (Education and Enforcement) is strong. A bicyclist who understands how to safely maneuver in traffic is more likely to feel comfortable riding on the road and will use their bicycle more frequently. If cyclists know that the community's roadway maintenance practices take cycling into consideration, they will be more likely to use their bicycle for more types of trips. Bicyclists who believe that law enforcement will both protect them and motorists, will operate their bicycles in a safe manner.

One way that Geneva can encourage new bicyclists to go for a ride is to ensure that safety classes are offered and that safety materials are widely available. Then, the City can promote family rides by suggesting bike routes that appeal to all age and skill levels with distribution of a City bike map.

As an employer, Geneva can encourage its employees to bike to work by providing information about bicycle commuting, installing bicycle parking, offering incentives and making showers available.

The City of Geneva can participate with other groups to sponsor "Bike Week" in the early summer to encourage people to ride their bike at least once during that week to a nearby destination. The Chicagoland Bicycle Federation can help by providing information about how to plan a Bike Week.