

Evanston Bicycle System Improvement Plan:

Needs Assessment

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Evanston Bicycle System Improvement Plan: Needs Assessment

1. INTRODUCTION

The City of Evanston is developing a plan to improve conditions for bicycling. Through a multi-departmental effort, the City wishes to better understand bicycling in Evanston and to develop a program of improvements that will make it safer and more convenient to bicycle in Evanston.

The beginning of this new century is a good time to be looking at bicycling for the contribution it can make to transportation choice and better communities. Bicycling is becoming increasingly more popular in the United States where between 1983 and 1993 there was a 37 percent increase in the number of bicyclists, growing from 72 million to 99 million. Currently, adult bicyclists outnumber child cyclists, and throughout the world, three times as many bicycles are manufactured as automobiles. Bicycling is an inexpensive travel and recreation choice. Bicycles also provide the only independent means of travel for children other than walking.

The amount of attention focused on bicycle facilities has been steadily increasing in recent years, due in part to federal funding programs which require providing facilities for bicyclists and pedestrians in our transportation systems. These programs are the 1991 Intermodal Surface Transportation Efficiency Act (ISTEA) and its successor legislation, the Transportation Equity Act for the 21st Century (TEA-21). TEA-21 continues to support bicycling and walking through the integration of these modes into the transportation mainstream. Section 1202 of TEA-21 says, "...bicyclists and pedestrians shall be given due consideration in the planning process, and bicycle facilities and pedestrian walkways shall be considered, where appropriate, in conjunction with all new construction and reconstruction of



Bicycling in Evanston

transportation facilities except where bicycle use and walking are not permitted.” TEA-21 enhances the ability of communities to invest in projects that can improve the safety and practicality of bicycling and walking for everyday travel. It is federal policy, as expressed in *The National Bicycling and Walking Study*, to double the current (1994) percentage (from 7.9% to 15.8%) of total trips made by bicycling and walking, and to reduce by 10% the number of bicyclists and pedestrians killed or injured in traffic crashes.

There are many reasons communities decide to take actions to increase bicycling and walking as transportation alternatives. Primary among these are the desire to promote healthier lifestyles and provide transportation choice.

Benefits of Walking and Bicycling

Health: Inactivity is second only to smoking as a national health hazard according to the Center for Disease Control and Prevention: walking and bicycling by children appear to have fallen 40% between 1977 and 1995.

Transportation Alternatives: One third of the population does not drive; independent mobility is important for everyone.

Air Quality: Transportation sources are responsible for half of all pollution in the United States; bicycling and walking trips replace between 7.6 and 28.1 billion motor vehicle miles, saving between 4.4 and 16.3 million metric tons of exhaust.

Bicycling should be recognized as a legitimate mode of transportation for its potential as a non-polluting, energy efficient element of a more balanced inter-modal transportation system. Research conducted for *The National Bicycling and Walking Study* indicates that participation in bicycling is greatest in communities that have relatively short trips for work and basic services, have a university and have a commitment to providing bicycle facilities. Evanston has short trips; a university; relatively high levels of bicycle use; and, the potential, through investment in facility improvements, to follow model communities like Madison, Wisconsin and Davis, California where between 10 and 25 percent of all trips are taken by bicycle.

The following report addresses the needs of Evanston bicyclists through an examination of existing conditions and sets out an approach to the design of a bicycle facility network.

2. EXISTING CONDITIONS

2.1 Bicycling in Evanston Today

Evanston is already a bicycling city. Casual observation and data from the Census travel to work survey indicate that Evanston residents can and do bicycle for transportation and pleasure. With several colleges and universities and forty three percent of Evanston based workers also living in Evanston, the nature and length of trips are conducive to cycling. The 1990 U.S. Census compares means of transportation to work for workers living in Chicago area communities. Evanston has the highest level of bicycling to work in the northeastern Illinois region. The rate of bicycling is almost 6 times higher than the regional average. (U.S. Census Bureau, *1990 Census of Population and Housing – Summary Tape File 3A, Table 7A.*)

The Evanston Bicycle Club, an affiliated group of the City's Parks/Forestry and Recreation Department and representing recreational riding, is one of the largest riding clubs in the region with more than 400 members.

Historically, Evanston has approached bicycle accommodation in a variety of ways. At one time there was a route system signed throughout the City that indicated streets thought to be better than others for bicycling and offering guidance to nearby trails. Over the years the signs wore out or disappeared and a re-thinking of bicyclists' needs did not support their replacement. Eventually, they were all removed.

Members of the Evanston Bicycle Club researched and helped to produce a bicycle suitability map that the City distributes. Many of the streets rated as preferable for bicycling are similarly rated on the regional suitability map created by the Chicagoland Bicycle Federation. Both maps are the result of evaluations of roadways by experienced riders and offer the bicyclists a choice of recommended streets and streets that should be used with caution.

The City has also provided trails through a number of its parks. The lakefront trail is the most heavily used, but the newer trail around James Park is also quite popular. The trails along the North Shore Channel on the Evanston side are less well known but current and planned improvements will increase their visibility.

Following are discussions of additional factors that contribute to an understanding of current conditions for bicycling in Evanston including: bicycle counts; bicycle crashes; bicycle parking; the insights gathered through several public involvement efforts; and the implications of other City planning initiatives for the bicycle planning project.

All the maps in this study were constructed using the City of Evanston's GIS base map files. A bicycle planning map was created for use at the planning workshop using layers to show one-way streets, off-street bike paths, streets closed to bicyclists, alleys, cul-de-sacs, traffic circles, traffic humps, traffic signals, train stations and parks. Additional layers show points identifying bicycle crash locations and bicycle traffic volumes. Additional layers will be created as the project proceeds to show proposed bike routes and bike parking locations (see Figure 1).

Figure One: Bicycle Planning Map

2.2 Identified Needs

Several public involvement opportunities took place during the phase of initial plan development. Included among these were a bike ride and discussion aimed at Evanston institutions including City departments, business and educational interests; a Community Bicycle Planning workshop; a volunteer bicycle count; and, an examination of downtown bicycle parking needs initiated by EVMARK. These public involvement opportunities are a primary means through which local needs have been identified. Detailed discussions of the results of these efforts follow in section 2.6. Several priorities identified by participating individuals and institutions include:



Bicycling on Oakton

- Improved on-street bicycle facilities on a network of priority streets identified by participants in the Community Bicycle Workshop.
- Improvements to rough pavement conditions.
- Improvements to and extensions of the City's trails.
- Bicycle parking improvements.
- Better understanding between motorists and bicyclists.
- Coordinated bike planning between the City and Northwestern University, other colleges, schools and area businesses.

A preliminary examination of bicycle traffic crash clusters did not yield conclusive patterns. It is interesting to note that the highest levels of bicycle crashes did not always appear to coincide with the highest levels of bicycling as indicated by counts. For instance, current and previous counts have indicated high levels of bicycling on Sheridan Road but levels of crashes there are not particularly high.

Other City planning initiatives represent opportunities for coordination within City departments. The policies of the Comprehensive General Plan are consistent with and specifically call for priority include all downtown circulation and transit access initiatives; the Chicago Avenue Corridor Study and the Evanston Wayfinding Plan.

2.3 Counts

We know that Evanston is an important bicycling City, both for those who live here and bicycle to work, school and for errands and pleasure, as well as, for the many cyclists who pass through Evanston on longer distance trips. Volunteers from Evanston's cycling community and the Chicagoland Bicycle Federation conducted counts to document some of this bicycling activity. Counts took place in September and October 2001. City staff

chose fourteen geographically dispersed intersection locations throughout the city. Each location was counted for the following three two hour periods:

- a weekday from 7 to 9 AM
- a weekday from 4 to 6 PM
- Saturday from 12 to 2 PM

The four lakefront locations and the three downtown locations were counted concurrently to make comparisons more meaningful. There were a total of 2830 cyclists counted at the 14 locations during 84 hours of volunteer counts. In addition to the location (street) and direction of each cyclist, helmet use, sidewalk riding and wrong-way street riding were recorded.

Distribution of bicycle use

By far the greatest numbers of cyclists were counted at the Chicago/Sheridan location near Northwestern University. The total of 564 was over twice that of any other location. The next four highest locations were near downtown, the lakefront and the University campus: Sherman/Church at 274, Lincoln Sheridan at 272, Chicago/Davis at 243 and Davis/Lakefront at 241. The lowest counts were on the west side of the city with McCormick/Emerson at 116, Central/Green Bay at 106, Oakton/Dodge at 95 and Central/Central Park at 41. (See Figure 2.)

Helmet Use

Helmet use was relatively high, averaging 35% Citywide.¹ There was considerable variation however with some locations as low as 19% and others as high as 56%. Six count locations indicated helmet use at over 40%.

Sidewalk and Wrong-way Riding

Sidewalk riding varied widely. At Chicago/Sheridan 81.6% of those counted used the sidewalk. This high percentage reflects the long-standing use of the wide sidewalk adjacent to Northwestern University as a bike path. Three other locations also had very high sidewalk usage: Sheridan/Lincoln at 64%, Dodge/Oakton at 63.2%, and Dodge/Church at 60.9%. The remaining locations ranged from 19.3% to 44.3% sidewalk riding. Sidewalk riding is not prohibited by signing at these locations. The three downtown locations, which are signed to prohibit sidewalk riding, had the lowest levels, between 19.3% and 28.9%.

On-street wrong-way riding does not vary by location as much as sidewalk use. The indication of this problem ranged from 0 to 16.4 % at the count locations. Only three locations were above 10% including Chicago/Main at 16.4% and two of the three downtown locations, Benson/Davis at 14.5% and Sherman/Church at 12.8%.

Additional uses of count data

The count data will have utility as the bikeway network is selected and as projects are prioritized for implementation. Supplemental counts might be desirable as the bikeway network is defined. Count information may also be used as a baseline for measuring the effectiveness of the bicycle plan over time. Counts Summaries are found in Appendix A.

**Figure Two: Accident Location Diagram
and Bicycle Volume Counts**

2.4 Crashes and Crash Analysis

From January 1, 1998 through September 31, 2001, 203 bicycle crashes were reported to the Evanston Police. Motor vehicles were involved in all but two of the reported crashes. These figures are most likely representative of only a portion of bicycle crashes in Evanston during that time period, as national studies of emergency room reports have indicated that only about 10 percent of all bicycle crashes are reported to the police. The percentage of bicycle crashes reported to the police in Evanston is unknown. It is difficult to compute crash rates in Evanston, for there is no method for accurately measuring bicycle crash exposure (bicycle trip length and frequency). Richard Raub, in a study of bicycle and pedestrian crashes in Evanston conducted in the mid-1990s confronted the lack of exposure data by looking at the relationship between bicycle crashes and population densities to determine crash rates. He did not find any significant pattern to bicycle accidents in Evanston except that they were highest in areas close to public transit lines. These are areas of intense commercial activity and might represent peak areas of bicycle travel as well as crash occurrences. (Raub, *Identifying High-Hazard Locations for Pedestrian and Bicycle Crashes*, Northwestern Traffic Institute.)

Thirty-five percent of the 203 reported crashes in Evanston resulted in no injury to the bicyclist; 42 percent resulted in non-incapacitating injuries; 16 percent were reported without evident injuries; and 6 percent resulted in incapacitating injuries to the bicyclist. There were no fatalities. The crash locations for this time period have been plotted on a GIS map base (not geo-coded) for further study. (See Figure 2.)

2.4.1 National Data

According to the U.S. Department of Transportation, 690 bicyclists were killed and 51,000 were injured in traffic crashes in 2000, nationally. This is a 20 percent decrease in fatalities from the 859 reported in 1990. In Illinois in 2000, 18 bicyclists (1.49 per million population) were killed. This figure is significantly lower than the national average of 2.51 fatalities per million population.

Gender

Males accounted for 89 percent of the cyclists killed and 78 percent of those injured in 2000. The fatality rate per capita was more than 8 times as high for males as for females, and the injury rate per capita was nearly 4 times as high for males.

Age

Children between the ages of 5 and 15 years accounted for twenty-seven percent of the bicycle fatalities in 2000. The fatality rate for this age group was nearly double that for all cyclists per capita, and the injury rate for this age group per capita was over two times the rate for cyclists of all ages. The relatively high number of child fatalities and injuries can be attributed to children's difficulty identifying the source of sounds and speeds of moving objects, their small size, their tendency to complete motions once begun, and their lack of experience with complex traffic situations.

Alcohol

Alcohol use by the driver or the cyclist was reported in more than one-third of the national traffic crashes that resulted in cyclist fatalities in 2000.

2.4.2 Pedestrian and Bicycle Crash Analysis Tool

Bicycle crash data are most valuable when they are analyzed with the variables of location, time, victim characteristics, and the sequence of events leading up to the crash taken into account. This kind of multi-variable analysis elicits the need for appropriate analysis systems. In 1999, the Pedestrian and Bicycle Crash Analysis Tool (PBCAT) was created in response to that need. It is a software product intended to assist state and local police, planners, and engineers with understanding reported bicycle and pedestrian crashes. This program relies on national research for details associated with crashes between motor vehicles and pedestrians or bicyclists, including crash-types that describe the pre-crash actions of the parties involved. Once local data are entered, the software can then be used to produce reports and countermeasures to address the problems identified.

The PBCAT's greatest attributes are its well-organized data storage system and the accident classification system that it provides. However, the data, once entered, are not displayed effectively: one can choose a maximum of only three variables to be shown in a table at a time; bar graphs are available only for frequency of accident types; and little from the program can be printed or transferred to another file. While the PBCAT can be a useful tool for storing data, determining crash types, and providing relevant countermeasures, it currently has limited potential for effective reporting.

The PBCAT software is currently undergoing additional development. An improved version will be available in late 2002. Ideally, that version will include increased options for data storage and organization, including the ability to maintain files separated by crash type, location, frequency, or other chosen factors. It will optimally have better-displayed tables and more graph choices. These improvements, along with the option to print and transfer files, will make the PBCAT a user-friendly and practical tool. It is recommended that the city explore its further use at that time.

<p style="text-align: center;">PBCAT and Crash Facts Available From: Pedestrian and Bicycle Information Center bicyclinginfo.org</p>

2.4.3 Evanston Bicycle Crashes, 1998-2001

To test the PBCAT as a tool for use in Evanston, a selected sub-group of bicycle accident reports was analyzed. Police reports from January 1998 through October 2001 were examined from six locations in Evanston where clusters of bicycle/motor vehicle crashes occurred: Main between Custer and Hinman; Chicago between Washington and Main;

Dempster between Dodge and Hartrey; Church between Dodge and Hartrey; Central between Ewing and Reese; and the intersection of Howard and Asbury. A total of 23 crashes were reported during this time period at the study locations. Eleven of the crashes were intersection related. In eleven of the events, the cyclist was riding in a travel lane shared with motor vehicles at the time of the crash; the cyclist was riding in a marked crosswalk when the collision took place in seven crashes; three occurred when the cyclist entered the road from an unmarked, mid-block location; the cyclist entered the road from a paved driveway in one event; and the position of the bicyclist is unknown for one crash. The majority of bicyclists were male (19) and 13 cyclists were between the ages of 8 and 18. Alcohol did not play an apparent role in the analyzed crashes.

Central Street

Three bicycle crashes were reported on Central Street between Ewing and Reese from 1998 through 2001. No strong crash pattern is evidenced by the reports. One was intersection related and was the result of a right-turning driver hitting the bicyclist. In the second crash, the cyclist entered the path of the driver from a mid-block location. The driver did not have enough time to avoid hitting the bicyclist. The third crash was the result of a bicyclist riding into a parked car. All bicyclists were male. The bicyclists' age ranged from 10 to 29.

Main

Two crashes were reported on Main between Custer and Hinman from 1998 through 2001. One took place on the corner of Chicago and Main and was the result of a car turning right on a red light into the path of the bicyclist in the crosswalk. The other event occurred at the junction of the one-way Metra parking driveway and Main. The bicyclist failed to yield at Main. Both bicyclists were boys. Neither crash resulted in an injury.

Chicago

Three crashes were reported on Chicago between Main and Kedzie from 1998 through 2001. One of these was intersection related. The cyclist was riding with the flow of traffic at Main when he was hit from the rear by a motor vehicle. There are no further details for this event. The other two accidents took place between Main and Kedzie. The cyclist in both cases was riding in the road in the same direction as traffic. One cyclist lost control of his bike and was hit when he swerved into the path of a car. There is insufficient information to interpret the third crash report. The cyclists in all three cases were adult males.

Howard and Asbury

There were four crashes reported at the corner of Howard and Asbury from 1998 through 2001. All crashes were intersection and crosswalk related. Two of the crashes were the result of a right-turning car driving into the path of a bicyclist in the crosswalk, one was the failure of a car to yield to a red light, and one was the failure of the bicyclist to yield to a red light. The bicyclist in each case was male, and three of the crashes involved a child between 8 and 13.

Church

Six crashes were reported on Church between Dodge and Hartrey from 1998 through 2001. None were officially coded by the police as intersection related. However, four of

the events involved crossing movements, one of which took place in a designated crosswalk. Those crashes were the result of the bicyclist crossing the path of the driver at a mid-block location. The other two were the result of a bicyclist running into a parked vehicle with an extended door between Dodge and Brown. In one of those cases, the bicyclist approached the parked car from between the parking lane and a double-parked car. All crashes occurred within the immediate vicinity of Evanston Township High School. Two of the bicyclists were female, and three were youth between 11 and 18 years.

Dempster and Dodge

There were five reported crashes on Dempster between Dodge and Hartrey from 1998 through 2001. All but one was intersection related, and two involved a crosswalk. The details of one of the accidents were not recorded. Of those recorded, two took place at the intersection of Dempster and the signalized plaza driveway west of Dodge, and were the result of the driver entering the pathway of the bicyclist. In one of those cases, the driver was surprised by the red light and was unable to break in time to avoid the cyclist. In the other, the driver attempted a right-turn-on-red into the path of a bicyclist entering the crosswalk from the sidewalk. Two of the crashes were the fault of the bicyclist. Of those, one was the result of the cyclist bumping into the mirror of a pickup stopped in traffic. In the other, the cyclist entered the path of a vehicle with the right-of-way on Dempster east of Hartrey. The driver swerved, but was unable to get out of the bicyclist's path. Three of the cyclists were youth, and four were male.

Sub-Group Summary

Eight general crash types were found for the PBCAT-analyzed Evanston sub-groups. These included a ride out/through signs or signals of one vehicle into the path of another at an intersection; a motorist right turn into a crosswalk; a bicyclist riding into the path of a motor vehicle at a mid-block location; a bicyclist overtaking a parked or stopped vehicle or an extended door; a motorist overtaking a bicyclist; and a bicyclist losing control of his cycle. Two accidents did not have enough information for classification. Although the sample size is too small to draw definitive conclusions, some patterns stand out from the study sample.

Crosswalks were a significant location in intersection related crashes. The majority of the eleven intersection events occurred when a motor vehicle drove through a stop sign or signal or made a turn into a crosswalk occupied by a cyclist. Five crashes occurred as cars turned right into bicyclists who were in the crosswalks. The intersections of Howard and Asbury, and that of the signalized driveway at the Dempster and Dodge plaza with Dempster seem particularly prone to crosswalk-related crashes.

Bicyclists crossing traffic at mid-block locations, with or without a crosswalk, were a common circumstance of crashes in the study group. Motor vehicles were surprised to find bicyclists crossing the road in seven of the events and unable to stop before hitting or being hit by the cyclist. In many of those cases, the cyclist had misjudged his/her ability to cross the street before the motor vehicle approached. In others, the view of the driver or cyclist was compromised by the presence of other vehicles.

Conflicts between parked or stopped cars comprised the final outstanding crash group. In five incidents, a bicyclist riding with traffic ran into a non-moving vehicle. Two of those

events involved a driver who, unaware of the cyclist, opened his door into the cyclist's path.

No pattern was evidenced by the remaining crashes. The PBCAT program offers recommended actions that might be taken to reduce the incidence of various types of crashes. The countermeasures that apply to the crash types found in the Evanston sample are summarized in Appendix B.

2.5 Bicycle Parking

The provision of bicycle parking is essential to the transportation use of bicycles. The City has installed a variety of bicycle parking facilities, mostly throughout the Downtown and at public transit stations and parks. Schools, colleges and the university also provide bicycle parking, as do some private buildings.

A survey of bicycle parking was conducted in downtown and at transit stations. The City provided the locations of bicycle parking facilities in the parks. A phone inquiry was made to determine the existence of bicycle parking at public schools, Northwestern University and in private buildings downtown. (See Appendix C for summary tables of bicycle parking availability in downtown Evanston, at transit stations, at public schools and at Evanston parks.)

Downtown Evanston

The Inverted U, Wave, Expanded Wave, School, and Keyhole racks can be found throughout Downtown Evanston. The Inverted U rack is a steel pipe bent in the shape of an inverted U and fastened directly to the ground. These racks are located at Active Endeavors; the parking garage on Clark and Chicago; the Sherman Restaurant; the Student Book Exchange; Osco Drug; on Davis St. between Sherman and Maple; the corner of Benson and Church; the corner of Benson and Clark; and, the post office on Oak at Davis. They are usually found in groups of two to ten. These racks optimally allow two bicycles to be effectively locked. The bicycle is leaned against the U for support and the frame and one wheel can be locked with a high security lock. The second wheel can be attached by way of a cable or by removing it and locking it to the rack along with the rest of the bicycle. Unfortunately, the round pipe of these U racks can be cut with a pipe cutter, as shown on the corner of Benson and Church. (Newer versions of these racks are now available with square pipes to eliminate this problem.)

The Wave rack is made out of steel pipes bent in the shape of a series of connected inverted U's. These racks also connect directly to the ground. They can be found on University between Maple and Benson; the YMCA; the parking garage on Maple at Clark; the Century Theaters; and the Industrial Research Lab on



Bike parking available at U-rack

Maple. They are found downtown in groups of one (University between Maple and Benson) to four (YMCA, IRL) with three to five crests each. The Wave racks are able to accommodate one bicycle on each end of the rack and one between each crest. Each Wave rack, therefore, can comfortably hold one more bicycle than the number of crests it has. The frame and one wheel can be readily attached to the rack.



Bicycle rack at Central Street Transit Station

The Expanded Wave rack is similar in structure to the Wave rack, in that it is a connected series of steel “waves” connected directly to the ground. The troughs of the waves, however, are longer than those of the Wave’s. The extra room between each crest allows two bicycles to fit in that space. Each Expanded Wave rack is therefore able to hold twice as many bicycles as it has crests. The only Expanded Wave racks in Downtown Evanston are located in front of Whole Foods Market. The bicycle is attached as it is with the Wave rack.

The Keyhole rack is made of a three foot steel post fastened directly to the ground with one steel loop on either side of the post. The only Keyhole rack downtown is located in front of the Chandler’s Building on Sherman. This rack can support two bicycles. It is not as versatile as the U rack.

“School” racks, or freestanding rectangular racks of varying lengths, are located at the parking garage on Benson at Davis; at the office building on Grove at Sherman; at Border’s Books; and at the Main Branch of the Evanston Public Library. These racks are found in groups of one (parking garage) to six (Border’s), and are intended to hold many bicycles. However, they are designed for the locking of wheels, not frames. Bicyclists have therefore found a variety of ingenious ways to use these racks. Bicycles are seen parked length wise on the rack, taking up as many as eight intended spaces; bicycles are lifted over the top of the rack; and bicyclists lock their bicycles to the end supports to which they can attach the popular U-locks.

In Downtown Evanston, parking meters are commonly used to park bicycles and appear to be preferred over School racks.

Transit Stations

With the exception of Dempster and Howard Streets, the El stations in Evanston (South Blvd., Main, Davis, Foster, Noyes, and Central) are equipped with bicycle racks. Each station has between three (South Blvd.) and six (Main, Church) inverted U racks, with the exception of Davis St. That station has two school racks over which parking meters seem to be preferred.

The Metra stations have bicycle parking facilities, with the exception of Davis. The area in which bicycle parking was previously provided for the Davis Street Metra station is under construction at this time. Central Street has 21 inverted U racks and Main Street has 2 wave rack(s).

Schools/Northwestern University

Most of the public schools in Evanston provide bicycle parking. Some of the K-5 schools do not allow children to ride to school and do not provide parking and at least one school allows only 5th graders to do so.

Northwestern University provides extensive bicycle parking throughout the campus and at residential and many off-campus university properties. The university uses the Wave rack extensively but still has some of the old “school” racks.

2.6 Bicycling in Evanston: Public and Institutional Perspective

Given the interest in bicycling in Evanston, it is very important that the public process for this planning effort involve the appropriate institutions and individuals. The people, who actually bicycle in Evanston and those who are responsible for their safety and/or provide facilities, can offer essential insights into the needs and preferences that the plan should address. Institutional and citizen support facilitate implementation. During the first phase of the planning process there were several opportunities for public involvement.

2.6.1 Evanston Institutional Bicycle Ride and Discussion

On Saturday, September 29, 2001 a bicycle ride and box lunch discussion offered first hand experience of riding in Evanston to City staff and other community decision makers. A follow-up discussion contributed ideas from local institutions and businesses about the role of bicycling in the City and the ways in which the City can work with others to create the best possible plan.

An effort was made to reach out to the educational, business, safety and bicycle advocacy communities and to involve representatives of impacted City departments. Twenty-three people attended, including representatives of downtown businesses, Northwestern University, Evanston Township High School, the Evanston Bicycle Club and the Chicagoland Bicycle Federation. The City was represented by attendees from the Planning, Zoning, Public Works, Parks/Forestry and Recreation, and Police Departments, and the Library.

The ten-mile ride covered the City from the South to the North and from East to West. Both local residential streets and major arterials were on the route, as well as several of the City’s trails.

After the ride, a series of questions were posed to participants. The questions fell into four broad areas:

- Observations about bicycling in Evanston.
- Bicycling related problems, issues, needs or opportunities.



Bike ride near Ecology Center

- The impact of bicycling on the institution or constituency that you represent.
- Initiatives that the City should take to improve conditions for bicycling.

Several members of the Evanston Bicycle Club (EBC) attended the bike ride and participated in the subsequent discussion. A follow-up meeting with EBC was also held at which the project coordinator and consultants answered questions about the plan and solicited suggestions for the plan. Suggestions reinforced the concerns and issues that arose at the bike ride/discussion and added some additional insights from this constituency. These are incorporated into the following summary.

Observations about bicycling in Evanston

General observations of participants included: there are many bicyclists on sidewalks; there is a need to serve cyclists of all levels of ability; and cyclists need to be more visible to motorists. Additional observations were that there are no bike lanes in Evanston and that speed humps work best when carefully designed and marked to handle bicycling smoothly. It was also noted that the City needs good connections to area trails.

Asked how Evanston is a good bicycling city, participants answered that it is easier than it appears to bicycle around Evanston and that, relative to conditions in other communities a certain degree of civility exists between bicyclists and motorists. EBC members added many additional qualities, including quiet streets, many desirable destinations and being able to take a bike on the CTA.

Bicycling related problems, issues or opportunities

Participants identified several problems and issues for bicycling including:

- Trails are too narrow and some lacked good access at certain locations.
- Downtown is difficult to navigate and has no bicycle parking or way-finding signs.
- Civility between cyclists and motorists decreases in the Downtown area.
- Cul-de-sacs and one-way streets can be obstacles to bicycle travel.
- East/west travel is difficult.
- Potholes are especially hazardous to bicyclists and Sheridan Road is in special need of attention.
- Connection to Chicago is poor.

Opportunities include:

- Improve Green Bay Trail connections (perhaps connect with Ridge/Isabella/Sheridan Road).
- Improve connections to and between the North Shore Channel trails including a connection to the James Park Trail.
- Church might be a good east/west street for bicycle improvement.
- Bicycle lanes would be valuable on higher volume roadways, especially for east/west travel.

- Re-configuration of roads to make room for bicycle lanes – possibly narrowing the road from 4 lanes to 3.
- Public education and communication for and between user groups:
 - Need to clearly identify bicycle routes (marked with signs and pavement markings).
 - Educate public about the benefits of cycling.
- Encourage employers to provide support facilities such as showers and good bicycle parking.
- Encouraging bicycling promotes shopping in Evanston.

The impact of bicycling on the institution or constituency that you represent

Several constituencies were represented or identified by the attendees. Part of the goal of the bike ride and discussion was to identify the needs of these various constituencies and what special insights or concerns the plan might address for these various groups or institutions.

Northwestern University

The university is a destination and a generator of bicycle travel. Some of the issues identified include:

- Large numbers of university students and faculty use cycling as a primary mode of transportation.
- The university requires automobile parking permits, of which there is a limited availability; this forces students and staff to find alternative transportation to Northwestern University.
- Northwestern University has a large web of walkways currently used by a large number of cyclists; a designated bike path could add additional complications.
- NU experiences pedestrian and bicycle conflicts at access points along Sheridan Road.
- There is a need to encourage bicyclists and pedestrians in the central campus area while discouraging through motor vehicle traffic and reducing confusion.
- The Chicago/Sheridan gate is a particular pinch point for bicycle and pedestrian conflicts.
- Northwestern University has a need for a way-finding system through campus and to alternative destinations and trails.

Business/Development Community

- New residential development that provides bicycle parking has led to an increase in bicycle traffic, both recreational and student travel.
- EVMARK is initiating a “Ride Evanston” program to encourage the use of transit and bicycling to access downtown Evanston.

Schools

- Schools would like to increase ridership among students
- Cycling to school historically has been viewed as a liability to the school for potential theft of bicycles.
- This has led to inadequate bicycle parking facilities.
- Some educators and parents view bicycling to school as dangerous.
- Evanston Township High School has a “bicycle cage” for secure parking; the system might warrant improvement.
- There is a program in Evanston to educate children in safe cycling.
- Police officers will offer sessions upon request.
- It is suggested that that program should be expanded to educate both parent and child.
- Models have been developed nationally for safe routes to school; these are community-based programs to develop safe routes to walk/bike to school and to involve parents in their implementation.
- Additional involvement of grammar schools in encouraging children to bicycle is desirable.

Initiatives that the City should take to improve conditions for bicycling

Many needs and opportunities were articulated along with the interests of various constituencies. Participants were also asked to identify what the City might do to improve conditions for bicycling.

Participants acknowledged that the City contends with high traffic volumes and high demand for parking. Bicycling was seen as an opportunity to contribute positively to the solution to these problems. In addition to the requests that are implicit in the bicycling related problems, issues, needs or opportunities discussed above, the following specific suggestions were made for action on the part of the City as part of this planning effort or beyond:

Bicycle Parking Initiatives

- Indoor bicycle parking should be provided; pay-per-use would be acceptable in some cases.
- Develop guidelines for use by the City and developers/building managers regarding the design and placement of racks.
- Examine the potential for an ordinance to require bike parking within the site plan process (requires a sample ordinance).
- Work with Metra and CTA to improve bike storage.

Additional Initiatives

- Adopt a zoning regulation to require sidewalks in conjunction with new development.
- Close Grant at McCormick Blvd and extend Prairie south to McCormick with the possible addition of a signal.

- Continue the James Park east/west trail along south side of Oakton
- Interface with Northwestern University for developing a complementary bike plan.
- Work with property owners to enhance bicycle and pedestrian travel options.
- Re-pave Sheridan Road.

2.6.2 Community Bicycle Planning Workshop

On the evening of Wednesday, November 7, 2001 a community wide Bicycle Planning Workshop was held. Representatives of the Evanston Bicycle Club, various community organizations and other interested citizens were invited to continue the process of needs identification through exercises designed to identify destinations, route preferences and desired facility improvements. Approximately 350 individuals were invited to participate. The workshop was also publicized through local papers and a flier that was distributed at recreation centers, bicycle shops and other venues. Fifty-six participants attended.

The workshop was two and a half hours long. After introductions and an initial exercise to get participants thinking about bicycling in Evanston, participants worked in groups to identify: streets that are currently good for bicycling; important destinations for bicycle travel; preferred routes to serve destinations; barriers and conflict points along these routes; and additional opportunities for bicycle improvements. This information was mostly recorded on maps – one at each working table. These maps showed the location of one-way streets, stoplights, cul-de-sacs, speed humps and bicycle trails (see Figure 1). The combined results of each group’s efforts are summarized in several tables (see Appendix D). The primary product of this workshop is a working map that combines the results of the workshop. The preferences, opportunities and conflicts identified by participants help with the definition of a preliminary network for facility improvements.

The participants marked the streets that are currently good for bicycling on their maps. These streets include local residential streets like Monroe and Madison but also include fairly major streets like Dodge and Church. Many streets were deemed good for cycling but were also thought of as candidates for improvement. For instance, many participants would like to see bicycle lanes on some of the major streets that they currently ride on, and poor pavement condition was often mentioned as a deterrent on some streets.

The next step was for participants to identify priority destinations. They were instructed that the lakefront, downtown Evanston and Northwestern University were givens as bicycling destinations and that each participant should identify 5 additional destinations that should be bicycle accessible. There was significant overlap in destination choices. Once consolidated, 69 destinations had been identified within and outside of Evanston including all of the transit stations, schools, libraries, many shopping areas and recreational destinations, such as the North Branch Trail and Evanston’s recreation centers. (See Table D-1, Appendix D.)

The next step taken by the workshop was to identify the preferred routes to serve these destinations. The maps for all of the tables were consolidated following the meeting and the level of priority of each recommended route was determined by how frequently it was identified. Those routes that were identified as desirable by at least three tables are

considered 1st Tier; those chosen by 2 tables are 2nd Tier; and those chosen by one table are 3rd Tier. (Table D-2, Appendix D summarizes these preferences along with the streets that are considered to be good for bicycling “as is.”)

While there was considerable overlap between the “good for bicycling streets” and the preferred routes, there were also some differences and additions. For instance, while the section of Asbury from Howard to Main was rated both “good” and “desirable,” the section north of Main was also rated as “desirable.” Several major streets, such as Howard and Emerson, not rated as “good,” were rated as “desirable.”

The next step in the workshop process asked participants to identify obstacles or hazards for bicycle travel along the identified preferred routes. A total of 41 types of obstacles were identified, some of them at multiple sites along the preferred routes. (See Table D-3, Appendix D.) These difficulties ranged from very general comments like “bad street” to more specific descriptions like “bad traffic conditions.” Many of the statements are quite specific including the lack of traffic signals at specific locations or poor condition pavement along a section of bike path. Some very specific hazardous conditions are described, i.e., “blind, narrow, slippery, bad stop sign compliance” under the viaduct where Oakton transitions to South Blvd.

The final exercise asked participants to identify additional opportunities for bicycle improvements. This was a way to solicit good solutions to perceived problems, such as, “put a cut-through for bikes” at The Greenwood/Dodge cul de sac; or to allow participants to articulate dream projects such as adding a trail to the Skokie Swift right-of-way and beyond on an old electric line right-of-way. There were 42 opportunities identified. (See Table D-4, Appendix D.)

Next Steps: How is this Input Used?

The detailed suggestions developed at the Public Workshop are an important element of the draft network plan. The Preferred Routes in combination with the “good” streets reflect the perceived needs and priorities of the bicycling public. This is a good place to start the definition and evaluation of a candidate bicycle network. Many of these streets are already recommended on the City of Evanston Bikeway Map as either “recommended routes” or “experienced rider routes.”

The planning process will further evaluate the candidate routes to discover opportunities for improvements. Roadway widths, traffic volumes and competing needs will be considered. The approach proposed for developing a bikeway network is discussed in Section 3.

The identified obstacles will be further evaluated, as well. Since bicyclists will be found on all streets in Evanston with the exception of the stretch of Ridge from which they are banned, it is important that hazards and obstacles are addressed whether or not the location will be on a bikeway.

Opportunities will also be assessed. The many suggestions for cut-through locations, connections to area trails and re-configuration of existing streets for better bicycle accommodation will serve as a resource to the planning effort. “Dream” project ideas will be further explored if possible.

All of the insights gained through the Phase 1 Public Participation effort will be used to create a draft facility network and appropriate policy elements for the draft plan. These will be presented to an open public meeting for review and comment prior to development of the final recommended plan for City adoption and implementation.

2.7 City Planning Initiatives: Bicycling Implications

The City of Evanston as a large and dynamic community has many planning and infrastructure improvements underway at any given time.

Evanston Comprehensive General Plan

The City developed and adopted a Comprehensive General Plan in 2000. The vision, goals and objectives of this plan seek to recognize and reinforce the distinct character of Evanston as a community. One of its distinctions is the variety of transportation alternatives available and the density and quality of life that this variety makes possible.

It is the adopted **goal** of the Comprehensive General Plan that Evanston will be:

- *A Community that offers safe, affordable and easily accessible alternatives to the automobile.*

This goal is further reinforced by the **objective** to:

- *Enhance bicycle access and safety through infrastructure improvements and modifications.*

The following **policies/actions** are recommended:

- *Promote biking to enhance the character of the community, retail vitality and the health of citizens.*
- *Encourage the placement of bike racks in convenient, well-lighted areas, especially in areas in close proximity to shopping areas and mass transit stops.*
- *Improve the signage for marking designated bike routes and restrictions.*
- *Improve connections between Evanston's own bike paths, bike systems of other communities and regional trail networks (e.g., Green Bay Trail, Chicago Lakefront paths).*
- *Investigate feasibility of creating bike lanes on streets of adequate width and connect neighborhoods to major business, employment and recreation areas.*
- *In conjunction with bicycle interest groups, sponsor bicycle safety and education programs.*

The Bicycle System Improvement Plan is addressing all of these policy/action items to further the realization of the goal of offering transportation alternatives.

The comprehensive plan also recognizes the essential part that recreational opportunities play in making Evanston an excellent place to live. The parks and the many activities they make possible, including trail activities, are recognized as important community resources that require innovative investment and management. Of special interest to the Bicycle Plan is a survey of recreational attitudes in which recreational access to the North

Shore Channel was highly rated. Current and future improvements to Evanston's channel trails will address this interest.

Downtown Evanston: Davis Street Circulation Plans and Transit-Oriented Development Study

The Downtown Evanston Plan submitted to the City and participating agencies in June, 2001, is an expression of the City goal to encourage alternative transportation and to promote adequate traffic circulation and parking options that do not compromise the character of downtown Evanston.

There were three surveys cited in this plan, including one each of transit riders, parking, and employees. Access to transit, parking behavior and employee mode to work were assessed. Bicycling was not offered as a mode choice in these surveys. However, survey results do reveal some potential ways in which bicycle commuting improvements might contribute to downtown transportation issues. The employee survey established that most downtown employees have relatively short commutes. Many of these commutes are probably within the 2 to 4-mile easy bicycle commute distance. Also, among those who drive but could take transit, inconvenient transit schedules and a lack of flexibility play a part in their decision to drive. Bicycling has the advantage of personal scheduling and great flexibility as a transportation choice. Bicycle commuting in Evanston is already several times higher as a mode share than in other area communities. With better bicycle facilities some of those who drive might bicycle instead.

Among the recommendations of this plan are various central and peripheral parking options; recommendations to decrease the use of parking meters by employees; and, several recommendations for street circulation improvements. Bicycle provisions will complement these plans and should be included in the implementation of proposed projects including parking lots and street reconstruction projects.

Chicago Avenue Corridor Recommendations Report

The Chicago Avenue study is a community-based planning effort to, among other goals, increase the pedestrian friendliness of Chicago Avenue in southeast Evanston while maintaining or improving traffic accommodations. With much new development planned and underway, this is a critical effort for the surrounding neighborhoods and businesses. The plan that is currently under consideration proposes substantial pedestrian improvements including wider sidewalks and better crossing options. The plan has not addressed bicycle traffic.

Many of the improvements suggested by the plan will increase the attractiveness of Chicago Avenue to bicyclists as well as pedestrians. Counts indicate significant bicycle traffic on Chicago Avenue. There are also fairly high levels of bicycle crashes. It is important that bicycle traffic be considered in this planning effort. The Bicycle System Improvement Plan will review the street width configurations suggested for Chicago Avenue. If appropriate, alternatives will be recommended that would better accommodate bicycles along with pedestrians and motor vehicle traffic.

City of Evanston Wayfinding Plan

The City is in the process of developing a system of signing that will provide location and direction information to residents and visitors. A report dated March 14, 2001

summarizes the recommended signs. Bicycle route signing often includes supplemental information about destinations and direction as provided for in the Manual on Uniform Traffic Control Devices. It is not in the interest of the community to over do signing. If possible, the implementation of bicycle route signing should be coordinated with the wayfinding plan to reduce total signing requirements and to reduce the potential for confusion.

3. BUILDING A NETWORK

The needs of bicyclists are similar to the needs of the users of other modes of transportation. Cyclists are looking for a safe, easy to understand, continuous system that connects them with minimal delay to all the destinations that are important to them. Such a system can be used with equal zeal by cyclists going to school, to the store or to the trail.

Evanston's street system was designed to meet these needs, originally with carriage and cart traffic in mind. It currently meets the needs of many bicyclists; however, automobile speeds and volumes frighten many cyclists onto the sidewalk. Many more leave their bikes gathering dust in the basement because the prospect of trying to get somewhere by bike seems far from the carefree image they had of cycling as a child.

The intent of this plan is to put in place a cycling network that restores the confidence of the frightened cyclist, the worried parent, the hurried commuter and those with resolutions to get more exercise. This network must be one that is affordable, that fits in the space that is available and that is safe, not just for cyclists but pedestrians and motorists as well. Both the design and the implementation will require significant effort. It is hoped that the result will be well used and become a vital part of community life.

3.1 Design Cyclist and Youth

The design recommendations of this plan assume that recommendations should be targeted to what FHWA guidance has called the "basic cyclist." These are casual adult and teenage riders who are less confident of their ability to operate in traffic without special provisions for bicycles.

Experienced cyclists use Evanston's street system in its present state. It is the goal of this plan to make cycling safer and more comfortable for experienced cyclists and to encourage experienced as well as "basic" cyclists to use their bicycles even more. Special care will be taken to avoid recommendations that make cycling more difficult for experienced cyclists.

Child and youth cyclists have the greatest need for facilities that limit their exposure to crashes with pedestrians, other cyclists, and motor vehicles. Sidewalks are appropriate places for children to bicycle. When children ride on the sidewalk, proper guidance and instruction are important to deal with the street crossings and pedestrian interaction. City policies on youth riding on sidewalks in commercial areas will be addressed in this plan. Many of the facilities recommended in this plan will not be suitable for young cyclists to use alone. The plan will



Paths are for all ages and many uses

provide many new places where youth cyclists can comfortably cycle with adult supervision. Furthermore special attention will be given to neighborhood routes providing school access.

3.2 The Design Challenge

Evanston developed as a traditional urban community. There is a basic grid system of streets with sidewalks linking places in Evanston to each other and to surrounding communities. Bicyclists are found throughout this system, using major streets, residential streets and sidewalks. Bicyclists are interacting with motor vehicles on the streets, pedestrians on the sidewalks and everyone at intersections.

The design challenge of this plan is to provide improved mobility for cyclists while managing the impacts and conflicts with pedestrians and motor vehicles. Given the nature of Evanston's system of streets and sidewalks, the general approach is to improve the interaction between bicycles and motor vehicles on the streets and encourage bicyclists to leave the sidewalks as a refuge for pedestrians.

3.2.1 Sidewalk Woes

Conflicts between bicyclists and pedestrians on sidewalks are extremely difficult to mitigate. Physics plays a role. Pedestrians can and do change speed and direction almost instantaneously. Even the slowest cyclist, traveling over 3 times faster than a pedestrian, does not have the stopping distance required to avoid common sudden pedestrian movements on the sidewalk. The only safe practice for cyclists sharing the sidewalk is to reduce speed to a walking pace whenever pedestrians are encountered. In Evanston these encounters occur often enough to greatly reduce the utility of adult cycling on sidewalks.

Another problem with sidewalk usage by bicyclists is that it increases the incidence of crashes at driveways and intersections. Motorists often do not expect, are not looking for, or cannot see bikes entering the crosswalk or crossing point at bicycle speeds. This is the cause of one of the most common car/bike crashes. Among the limited sample of Evanston's bike/car crashes that were examined in detail, a large number occurred when bicyclists were in the crosswalk area. It is likely that some of these crashes are related to the difficulties associated with sidewalk riding.

These objective problems with sidewalk cycling do not deter many cyclists in Evanston from choosing to use them. During the intersection counts in November of 2001, about a third of riders were on the sidewalk. Clearly cyclists are making choices about the perceived dangers of riding in the



Sidewalk entry to Edgemere Court

streets. If cyclists are confident in the safety of an improved bicycle network on the streets, many more will choose to leave the sidewalk.

3.2.2 Bikeway Network Development

The initial public involvement workshops conducted for this plan confirmed that we do not need to start from scratch but rather build the network of local streets and some major streets that provide direct access throughout the city. Maintaining a grid network of selected streets and enhanced existing trails will best serve Evanston's variety of destinations and meet Evanston's range of recreation and transportation cycling needs.

Significant problems identified through the public process were:

- Crossing major streets and barriers such as rail tracks and the North Shore Channel.
- Linkage of trails with surrounding communities and trails.
- Access along many arterials and commercial streets is difficult because traffic volumes, narrow lane widths, motor vehicle speeds and turning movements create uncomfortable conditions and in some cases safety concerns.

Overcoming these challenges is the key to increasing cycling in Evanston.

3.3 Design Approach

To build on Evanston's bicycling assets and meet the challenges the following design approach is proposed for developing a bikeway network:

3.3.1 Select a recommended network of bike lanes and bike routes.

Maintain the assets of the existing street grid

While cyclists should be expected to use any street in Evanston (except for Ridge Ave. south of Emerson), cycling improvements cannot be made everywhere at once. A network of streets will be prioritized to provide special consideration for the needs of cyclists. By selecting a grid with options 2 to 4 blocks in every direction, the bikeway network can maintain the direct access that Evanston's grid system provides to destinations throughout the city.

Utilize existing good cycling streets

Some of the streets on this network are good places to bicycle without any changes. These are:

- Residential streets with low traffic volumes and low speeds
- Arterial streets with lower speeds and/or wide outside lanes (wide outside lanes are curbside travel lanes, which have sufficient width to permit motor vehicles to pass bicyclists without encroaching on other lanes)

Projects will be recommended to improve arterial crossings and links to other parts of the network to improve continuity. Many of these streets will be marked and signed as bicycle routes to provide continuous routes and directional information.

Find streets with improvement potential

Other streets will be selected because of their potential to be improved, including:

- Streets with adequate width for striping bike lanes.
- Streets where pavement markings can be reconfigured to create wide outside lanes.
- Streets where motor vehicle speeds can be calmed.



Sheridan / South Boulevard

Bike lanes are recommended wherever there is opportunity

Bike lanes encourage cycling and improve safety even when they are available for only a portion of the trip. Segments with longer bike lane opportunities should be pursued first.

Bicycle lanes are safer than an unmarked street of the same width. Research has indicated the following benefits:

- Less weaving by both bicyclists and motorists.²
- Less wrong-way riding (reduced from 55% to 15%).³
- Less sidewalk riding (reduced from 15% to 3%).⁴
- Reduction in crashes for both motorists and bicyclists.⁵
- Cities with more cycling have fewer accidents overall.⁶
- Increased adherence to signals and stop signs by bicyclists on bike lane streets.⁷
- Greater helmet use by cyclists on bike lane streets.⁸

3.3.2 Recommend residential traffic calming designs.

Traffic calming designs are increasingly employed by the City of Evanston to mitigate the safety problems and other disadvantages that result from inappropriate traffic speeds and volumes on residential streets. The lower speeds and volumes resulting from traffic calming make cycling on residential streets more comfortable. This plan will recommend ways that many common traffic calming devices can be designed to be compatible with cyclists' needs. In some cases pieces of the recommended bikeway network will be proposed for



Evanston traffic circle

residential streets where traffic problems have been identified. In these places specific traffic calming recommendations will be made.

3.3.3 Recommend trail improvements

We do not anticipate discovering any new corridors in Evanston where new trails could be built. However, several improvements can be made to the trail system to enhance its value to the bikeway network by extending existing trails and adding access points. Some suggestions from the initial public involvement include:

- Link the North Shore Channel Trail north to the Green Bay Trail.
- Improve the linkage of the Lakefront Trail south to Chicago.
- Develop the missing pieces of the eastern bank of the North Shore Channel trail.
- Link the James Park loop to the North Shore Trail and surrounding streets.

Design improvements to existing trails segments will be recommended for the facility network.



Path in Butler Park

3.3.4 Recommend cut-throughs

Cut-throughs are very short off-street connections that create new links in the bikeway network where connections do not exist on the regular street network. Cut-throughs can sometimes provide special access across a barrier and may involve bridges or underpasses. Most cut-throughs simply provide bicycle access where through auto movements are not possible (e.g., cul-de-sacs). Cut-throughs can make the bicycle trip to some destinations more attractive because they make the bicycle trip shorter than the competing auto trip.



No bicycle cut thru at cul-de-sac

3.4 Hard choices

A recommended bicycle network is a set of strategically placed corridor improvement proposals. Each project included in the plan will require difficult choices. The level of improvement for cycling is not the only consideration. How does the project impact others using the street? The costs and benefits of each project will be weighed. Projects included in the plan will be recommended and prioritized based upon the following criteria:

Cost Criteria: What does the community have to give up to make the project happen? Costs considered in order of relative importance:

- *Safety* - To what extent might the project diminish pedestrian and motor vehicle safety?
- *Funding* - Is the project affordable? How difficult will it be to get state or federal funds for the project? What level of local funding will be needed?
- *Motor Vehicle Capacity* - To what extent will the project reduce motor vehicle capacity or parking? What are the implications of that change?

Benefit Criteria: How much of an improvement is the project over current conditions? Benefits considered in order of relative importance:

- *Safety* - What pedestrian, bicycle and motor vehicles crashes will the project likely reduce?
- *Popularity* - There are several factors that will determine how many bicyclists the project will attract: How significant are the destinations served by the project? Does the project provide a shorter route? Can youth or inexperienced cyclists use the project? Does the project make the cycling experience more pleasant?
- *Recreation* - Does the project provide a significant enhancement to recreational cycling opportunities in Evanston?
- *Economic Impact* - Are there economic development benefits? Does the project provide improved access to retail or jobs? Does the project make nearby residential areas more valuable?

3.5 Bicycle Facility Standards

Bicycle facility standards, particularly the AASHTO Guide for Bicycle Facilities and the Manual for Uniform Traffic Control Devices, are reviewed for all projects recommended in this plan. All projects will be screened to make sure the project can be built in the proposed location. The following considerations for various bicycle facilities commonly impact project selection:

Off-street trails

- All trails will be shared use; that is, pedestrians, skaters, joggers and other non-motorized users will also use them.
- Minimum width of 8 feet, 10-12 feet preferred.
- Trails will not be constructed along roadways where conditions such as numerous driveway or street crossings would make on-street accommodation safer.

Bike lanes

- Marked with stripes, symbols and signs on both sides of a two-way road with cyclists riding with the flow of traffic.
- To be used on arterial streets wherever width and parking conditions permit.
- 4-5 feet wide if against a curb where parking is prohibited.
- 5-6 feet if adjacent to parked cars. Need minimum street width of 44 feet with parking on both sides of the street.

Bike route signs

- Can be placed along streets with bike lanes, wide outside lanes, or suitable local streets.
- Are most useful when they provide distance, destination or directional information.
- Currently have liability implications for local governments. (There are active legislative efforts to change this.)



Example of a bike lane



Example of a bike route sign

¹ University of North Carolina Highway Research Center, "North Carolina Bicycle Helmet Study," 1999. This study found that the statewide helmet use rate is 17% in North Carolina on neighborhood and collector streets.

Also, counts performed in 2001 by the City of Chicago Department of Transportation found that the helmet use rate was between 29% and 30%.

² David L. Harkey and J. Richard Stewart, "Evaluation of Shared-Use Facilities for Bicycles and Motor Vehicles in Florida," *ProBike ProWalk 96 Resource Book*, p. 103

³ Federal Highway Administration, *Bicycle Lanes versus Wide Curb Lanes: Operational and Safety Findings*, May 1998

⁴ Federal Highway Administration, *Bicycle Lanes versus Wide Curb Lanes: Operational and Safety Findings*, May 1998

⁵ Federal Highway Administration, *Bicycle Safety-Related Research Synthesis*, 1995

Also Ministry of Transport, Public Works and Water Management, *Cities Make Room for Bicycles*, Delft, 1995

⁶ Peter Newman, Lecture presented at the Conservation Law Foundation, Boston, MA, January 9, 1997

⁷ Federal Highway Administration, *Bicycle Lanes versus Wide Curb Lanes: Operational and Safety Findings*, May 1998

Also Federal Highway Administration, *Safety Effectiveness of Highway Design Features, Volume VI, Pedestrians and Bicyclists*, FHWA-RD-91-049, 1991

⁸ *Oregon Bicycle and Pedestrian Plan*, 1995

Appendix A
Bicycle Counts

Time/Date	North/South Street McCor path & McCor				East/West Street Emerson/Golf				Total Riders	Helmet %	Sidewalk	Sidewalk %	Wrong Way	Wrong Way %
	Street Total		Street Total		Street Total		Street Total							
	N	S	W	E	W	E	W	E						
9/26/01 AM	1	0	0	0	0	0	0	0	1	0.0%	0	0.0%	0	0.0%
7:00-7:15	2	4	3	3	6	6	6	8	3	37.5%	6	75.0%	0	0.0%
7:15-7:30	1	4	2	0	2	2	2	5	4	80.0%	1	20.0%	0	0.0%
7:30-7:45	1	2	0	2	3	2	2	3	2	66.7%	3	100.0%	0	0.0%
7:45-8:00	0	2	0	1	1	1	1	2	2	100.0%	1	50.0%	0	0.0%
8:00-8:15	0	0	1	0	1	0	0	1	0	0.0%	0	0.0%	0	0.0%
8:15-8:30	0	0	0	0	0	0	0	0	0		0		0	
8:30-8:45	0	0	0	0	0	0	0	0	0		0		0	
8:45-9:00	0	0	0	0	0	0	0	0	0		0		0	
Weekday AM	5	12	6	6	12	12	12	20	11	55.0%	11	55.0%	0	0.0%
Total														

9/25/01 PM	2	0	2	1	0	0	0	1	2	50.0%	1	50.0%	0	0.0%
4:00-4:15	1	1	2	1	1	1	1	2	0	0.0%	2	100.0%	0	0.0%
4:15-4:30	1	0	1	0	1	0	0	1	1	50.0%	1	50.0%	0	0.0%
4:30-4:45	0	0	0	1	0	0	0	1	0	0.0%	1	100.0%	0	0.0%
4:45-5:00	0	1	1	0	1	1	1	2	1	50.0%	1	50.0%	0	0.0%
5:00-5:15	1	0	1	1	0	0	0	1	0	0.0%	1	100.0%	0	0.0%
5:15-5:30	2	2	4	1	4	1	4	7	1	14.3%	4	57.1%	0	0.0%
5:30-5:45	0	2	2	0	2	0	0	2	1	50.0%	0	0.0%	0	0.0%
5:45-6:00	7	6	13	8	6	6	14	19	5	26.3%	11	57.9%	0	0.0%
Weekday PM														
Total														

9/22/01	6	6	12	2	0	0	2	12	5	41.7%	3	25.0%	0	0.0%
Saturday PM	4	1	5	1	0	0	1	6	5	83.3%	1	16.7%	0	0.0%
12:00-12:15	0	3	3	1	1	1	2	4	3	75.0%	2	50.0%	0	0.0%
12:15-12:30	1	2	3	1	0	0	1	4	0	0.0%	1	25.0%	0	0.0%
12:30-12:45	7	5	12	6	2	2	8	15	11	73.3%	6	40.0%	0	0.0%
12:45-1:00	4	7	11	1	4	4	5	11	6	54.5%	3	27.3%	0	0.0%
1:00-1:15	5	9	14	2	3	3	5	16	9	56.3%	5	31.3%	0	0.0%
1:15-1:30	4	3	7	0	9	9	9	9	7	77.8%	4	44.4%	0	0.0%
1:30-1:45	31	36	67	14	19	19	33	77	46	59.7%	25	32.5%	0	0.0%
1:45-2:00														
Saturday PM														
Total														

Grand Total	43	54	97	28	31	31	59	116	62	53.4%	36	31.0%	0	0.0%
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Time	North/South Street				East/West Street				Total	Helmet	Helmet %	Sidewalk	Sidewalk %	Wrong Way	Wrong Way %
	Central Park				Central Street										
	N	S	Street Total	Street Total	W	E	Street Total	Street Total							
9/27/01 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00-7:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15-7:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30-7:45	0	0	0	0	1	0	1	1	0	0.0%	0	0.0%	1	100.0%	0
7:45-8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00-8:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15-8:30	0	1	1	1	0	0	0	1	1	100.0%	0	0.0%	1	100.0%	0
8:30-8:45	1	0	1	1	0	1	1	1	1	100.0%	0	0.0%	0	0.0%	0
8:45-9:00	0	0	0	0	1	0	1	1	1	100.0%	0	0.0%	0	0.0%	0
Weekday AM															
Total	1	1	2	2	2	1	3	4	3	75.0%	0	0.0%	2	50.0%	0

10/01/01 PM

4:00-4:15	1	0	1	1	0	1	1	1	1	100.0%	1	100.0%	0	0.0%	0
4:15-4:30	1	0	1	1	2	0	2	2	1	50.0%	2	100.0%	0	0.0%	0
4:30-4:45	1	0	1	1	0	0	0	1	0	0.0%	0	0.0%	0	0.0%	0
4:45-5:00	0	1	1	1	0	0	0	1	0	0.0%	0	0.0%	0	0.0%	0
5:00-5:15	0	0	0	0	1	1	2	2	1	50.0%	2	100.0%	0	0.0%	0
5:15-5:30	0	1	1	1	0	0	0	1	0	0.0%	0	0.0%	0	0.0%	0
5:30-5:45	1	2	3	3	0	0	0	2	1	50.0%	1	50.0%	0	0.0%	0
5:45-6:00	5	0	5	5	1	0	1	5	3	60.0%	1	20.0%	0	0.0%	0
Weekday PM															
Total	9	4	13	13	4	2	6	15	7	46.7%	7	46.7%	0	0.0%	0

9/15/01

Saturday PM

12:00-12:15	1	0	1	1	0	1	1	2	1	50.0%	1	50.0%	0	0.0%	0
12:15-12:30	1	0	1	1	0	1	1	1	0	0.0%	0	0.0%	0	0.0%	0
12:30-12:45	0	1	1	1	0	4	4	4	3	75.0%	3	75.0%	0	0.0%	0
12:45-1:00	2	1	3	3	1	2	3	3	2	66.7%	1	33.3%	0	0.0%	0
1:00-1:15	0	0	0	0	0	2	2	2	1	50.0%	2	100.0%	0	0.0%	0
1:15-1:30	0	2	2	2	0	2	2	2	0	0.0%	0	0.0%	0	0.0%	0
1:30-1:45	0	3	3	3	0	0	0	3	0	0.0%	0	0.0%	0	0.0%	0
1:45-2:00	3	2	5	5	1	3	4	5	3	60.0%	4	80.0%	1	20.0%	0
Saturday PM															
Total	7	9	16	16	2	15	17	22	10	45.5%	11	50.0%	1	4.5%	0

Grand Total

17	14	31	31	8	18	26	41	20	48.8%	18	43.9%	3	7.3%	0
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Time	North/South Street				East/West Street				Total	Helmet %	Sidewalk	Sidewalk %	Wrong Way	Wrong Way %
	Dodge				Oakton									
	N	S	Street Total	E	W	Street Total	Total	Helmet						
9/26/01 AM														
7:00-7:15	2	0	2	0	1	1	0	0	0	2	100.0%	0	0.0%	
7:15-7:30	1	0	1	0	0	0	1	100.0%	0	0.0%	0.0%	0	0.0%	
7:30-7:45	2	0	2	0	2	2	0	0.0%	2	100.0%	0.0%	0	0.0%	
7:45-8:00	3	0	3	0	0	0	3	100.0%	0	0.0%	0.0%	0	0.0%	
8:00-8:15	0	2	2	0	2	2	0	0.0%	2	100.0%	0.0%	0	0.0%	
8:15-8:30	2	3	5	0	0	0	1	20.0%	4	80.0%	0.0%	0	0.0%	
8:30-8:45	0	0	0	1	1	1	0	0.0%	0	0.0%	0.0%	1	100.0%	
8:45-9:00	2	0	2	0	1	1	1	50.0%	1	50.0%	50.0%	0	0.0%	
Weekday AM														
Total	12	5	17	6	1	7	18	33.3%	11	61.1%		1	5.6%	

9/25/01 PM														
4:00-4:15	2	1	3	1	1	2	4	25.0%	3	75.0%		0	0.0%	
4:15-4:30	0	1	1	0	1	1	1	0.0%	1	100.0%		0	0.0%	
4:30-4:45	0	1	1	0	3	3	4	0.0%	4	100.0%		0	0.0%	
4:45-5:00	3	0	3	0	3	3	4	25.0%	3	75.0%		1	25.0%	
5:00-5:15	1	0	1	0	2	2	3	0.0%	3	100.0%		0	0.0%	
5:15-5:30	3	2	5	3	1	4	6	16.7%	5	83.3%		0	0.0%	
5:30-5:45	0	6	6	2	1	3	7	14.3%	5	71.4%		0	0.0%	
5:45-6:00	1	2	3	1	0	1	3	100.0%	2	66.7%		0	0.0%	
Weekday PM														
Total	10	13	23	7	12	19	32	21.9%	26	81.3%		1	3.1%	

9/22/01														
Saturday PM														
12:00-12:15	2	2	4	1	0	1	4	25.0%	2	50.0%		0	0.0%	
12:15-12:30	4	4	8	1	1	2	9	66.7%	2	22.2%		0	0.0%	
12:30-12:45	2	0	2	0	4	4	4	75.0%	2	50.0%		0	0.0%	
12:45-1:00	0	6	6	2	0	2	8	25.0%	4	50.0%		0	0.0%	
1:00-1:15	1	2	3	1	1	2	3	0.0%	2	66.7%		0	0.0%	
1:15-1:30	2	1	3	4	1	5	7	42.9%	5	71.4%		0	0.0%	
1:30-1:45	4	2	6	1	3	4	7	71.4%	4	57.1%		0	0.0%	
1:45-2:00	1	1	2	3	0	3	3	33.3%	2	66.7%		0	0.0%	
Saturday PM														
Total	16	18	34	13	10	23	45	46.7%	23	51.1%		0	0.0%	

Grand Total	38	36	74	26	23	49	95	35.8%	60	63.2%		2	2.1%
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Time	North/South Street Chicago				East/West Street Main				Total	Helmet %	Sidewalk	Sidewalk %	Wrong Way	Wrong Way %
	N	S	Street Total	W	E	Street Total								
	0	2	2	0	2	2								
9/06/01 AM														
7:00-7:15	1	1	2	1	1	2	3	33.3%	1	33.3%	0	0.0%		
7:15-7:30	1	0	1	0	1	1	2	50.0%	0	0.0%	0	0.0%		
7:30-7:45	4	1	5	1	3	4	7	28.6%	2	28.6%	2	28.6%		
8:00-8:15	7	2	9	1	5	6	11	27.3%	3	27.3%	1	9.1%		
8:15-8:30	6	1	7	1	6	7	11	9.1%	1	45.5%	2	18.2%		
8:30-8:45	6	0	6	3	3	6	8	50.0%	4	12.5%	1	12.5%		
8:45-9:00	4	0	4	1	0	1	4	25.0%	1	25.0%	1	25.0%		
Weekday AM														
Total	29	7	36	8	21	29	48	27.1%	13	14	29.2%	7	14.6%	

Time	North/South Street Chicago				East/West Street Main				Total	Helmet %	Sidewalk	Sidewalk %	Wrong Way	Wrong Way %
	N	S	Street Total	W	E	Street Total								
	0	3	3	1	1	2								
9/26/01 PM														
4:00-4:15	4	1	5	0	2	2	5	40.0%	2	20.0%	0	0.0%		
4:15-4:30	4	5	9	3	1	4	11	27.3%	3	45.5%	5	45.5%		
4:30-4:45	6	3	9	5	3	8	11	18.2%	2	27.3%	4	36.4%		
4:45-5:00	6	3	9	4	7	11	16	12.5%	2	62.5%	6	37.5%		
5:00-5:15	7	2	9	2	2	4	10	80.0%	8	20.0%	2	10.0%		
5:15-5:30	0	7	7	3	4	7	10	40.0%	4	40.0%	4	40.0%		
5:30-5:45	10	2	12	1	6	7	15	60.0%	9	13.3%	0	0.0%		
Weekday PM														
Total	37	26	63	19	26	45	81	37.0%	30	28	34.6%	20	24.7%	

Time	North/South Street Chicago				East/West Street Main				Total	Helmet %	Sidewalk	Sidewalk %	Wrong Way	Wrong Way %
	N	S	Street Total	W	E	Street Total								
	3	5	8	1	2	3								
9/15/01														
Saturday PM														
12:00-12:15	2	3	5	1	0	1	5	40.0%	2	20.0%	1	20.0%		
12:15-12:30	5	6	11	2	5	7	14	21.4%	3	35.7%	1	7.1%		
12:30-12:45	3	2	5	2	3	5	6	0.0%	0	50.0%	2	33.3%		
12:45-1:00	6	1	7	4	3	7	12	25.0%	3	33.3%	2	16.7%		
1:00-1:15	2	1	3	3	1	4	6	16.7%	1	33.3%	0	0.0%		
1:15-1:30	4	6	10	4	5	9	17	23.5%	4	29.4%	1	5.9%		
1:30-1:45	2	6	8	3	3	6	9	11.1%	1	11.1%	0	0.0%		
Saturday PM														
Total	27	30	57	20	22	42	78	24.4%	19	22	28.2%	7	9.0%	

Grand Total	93	63	156	47	69	116	207	30.0%	62	64	30.9%	34	16.4%
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Time	North/South Street McCormick path			North/South Street McCormick			North/South Street McDaniel			North/South Street Emerson/Golf			East/West Street Emerson/Golf			Wrong Way	Wrong Way %		
	N	S	Street Total	N	S	Street Total	N	S	Street Total	W	E	Street Total	Total Riders	Helmet %	Sidewalk %			Sidewalk	Wrong Way
9/26/01 AM	1	0	1	0	0	0	0	3	3	0	0	0	4	75.0%	0.0%	0	0.0%		
7:00-7:15	2	4	6	0	0	0	5	5	3	3	3	6	10	40.0%	70.0%	0	0.0%		
7:15-7:30	1	3	4	0	1	1	3	4	2	0	2	2	8	62.5%	37.5%	0	0.0%		
7:30-7:45	1	2	3	0	0	0	3	3	0	2	2	2	4	50.0%	75.0%	0	0.0%		
7:45-8:00	0	1	1	0	1	1	2	2	0	1	1	1	5	80.0%	20.0%	0	0.0%		
8:00-8:15	0	0	0	0	0	0	1	0	1	0	1	2	2	50.0%	0.0%	0	0.0%		
8:15-8:30	0	0	0	0	0	0	0	0	0	0	0	0	0			0			
8:30-8:45	0	0	0	0	0	0	0	0	0	0	0	0	0			0			
8:45-9:00	0	0	0	0	0	0	0	0	0	0	0	0	0			0			
Weekday AM	5	10	15	0	2	2	5	15	20	6	6	12	33	57.6%	42.4%	14	0.0%		
Total																			

9/25/01 PM	2	0	2	0	0	0	2	2	4	1	0	1	5	60.0%	40.0%	2	0.0%
4:00-4:15	1	1	2	0	0	0	1	0	1	1	1	2	2	0.0%	100.0%	0	0.0%
4:15-4:30	1	0	1	0	0	0	1	0	1	0	0	1	2	50.0%	50.0%	0	0.0%
4:30-4:45	0	0	0	0	0	0	5	1	6	1	0	1	7	71.4%	42.9%	0	0.0%
4:45-5:00	0	1	1	0	0	0	0	0	0	0	1	1	2	50.0%	50.0%	0	0.0%
5:00-5:15	1	0	1	0	0	0	3	2	5	1	0	1	5	40.0%	40.0%	0	0.0%
5:15-5:30	2	1	3	0	1	1	1	1	2	1	4	5	7	14.3%	57.1%	0	0.0%
5:30-5:45	0	2	2	0	0	0	0	2	2	2	0	2	3	66.7%	0.0%	0	0.0%
5:45-6:00	7	5	12	0	1	1	13	8	21	8	6	14	33	45.5%	45.5%	15	0.0%
Weekday PM																	
Total																	

9/22/01	6	5	11	0	1	1	not counted	2	0	0	2	2	12	41.7%	25.0%	3	0.0%
Saturday PM	4	1	5	0	0	0	not counted	1	0	0	1	0	6	83.3%	16.7%	1	0.0%
12:00-12:15	0	3	3	0	0	0	not counted	1	1	1	2	4	4	75.0%	50.0%	2	0.0%
12:15-12:30	1	2	3	0	0	0	not counted	1	0	0	1	4	4	0.0%	25.0%	1	0.0%
12:30-12:45	7	5	12	0	0	0	not counted	6	2	2	8	15	11	73.3%	40.0%	6	0.0%
12:45-1:00	4	7	11	0	0	0	not counted	1	4	5	5	11	6	54.5%	27.3%	3	0.0%
1:00-1:15	5	9	14	0	0	0	not counted	2	3	5	5	16	9	56.3%	31.3%	5	0.0%
1:15-1:30	4	3	7	0	0	0	not counted	0	9	9	9	9	7	77.8%	44.4%	4	0.0%
1:30-1:45	31	35	66	0	1	1	0	14	19	33	33	77	46	59.7%	32.5%	25	0.0%
1:45-2:00																	
Saturday PM																	
Total																	

Grand Total	43	50	93	0	4	4	18	23	41	28	31	59	143	55.9%	27.3%	39	0.0%
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Time	North/South Street				East/West Street				Total	Helmet %	Sidewalk	Sidewalk %	Wrong Way	Wrong Way %
	Dodge				Church									
	N	S	Street Total	E	W	Street Total	Total	Helmet %						
9/21/01 AM														
7:00-7:15	1	3	4	2	2	4	6	33.3%	1	16.7%	0	0.0%		
7:15-7:30	1	0	1	1	2	3	3	33.3%	2	66.7%	0	0.0%		
7:30-7:45	3	2	5	2	7	9	12	41.7%	6	50.0%	2	16.7%		
7:45-8:00	2	5	7	0	5	5	9	22.2%	5	55.6%	0	0.0%		
8:00-8:15	0	0	0	0	0	0	0		0		0			
8:15-8:30	0	0	0	1	1	1	1	100.0%	0	0.0%	0	0.0%		
8:30-8:45	3	0	3	1	1	2	3	0.0%	1	33.3%	1	33.3%		
8:45-9:00	0	0	0	0	0	0	0		0		0			
Weekday AM														
Total	10	10	20	7	17	24	34	32.4%	15	44.1%	3	8.8%		

10/01/01 PM

4:00-4:15	2	1	3	3	3	4	6	16.7%	4	66.7%	1	16.7%
4:15-4:30	3	6	9	1	4	5	11	45.5%	5	45.5%	1	9.1%
4:30-4:45	1	3	4	7	5	12	12	0.0%	11	91.7%	1	8.3%
4:45-5:00	1	2	3	2	2	7	8	12.5%	6	75.0%	0	0.0%
5:00-5:15	5	1	6	3	4	7	10	30.0%	4	40.0%	1	10.0%
5:15-5:30	3	4	7	2	2	5	7	14.3%	3	42.9%	0	0.0%
5:30-5:45	3	2	5	2	2	7	7	0.0%	6	85.7%	1	14.3%
5:45-6:00	5	3	8	6	6	12	14	7.1%	9	64.3%	0	0.0%
Weekday PM												
Total	23	22	45	29	30	59	75	16.0%	48	64.0%	5	6.7%

9/15/01

Saturday PM

12:00-12:15	1	0	1	3	3	3	3	33.3%	1	33.3%	0	0.0%
12:15-12:30	8	5	13	5	2	7	13	7.7%	11	84.6%	0	0.0%
12:30-12:45	1	1	2	1	1	2	2	0.0%	1	50.0%	0	0.0%
12:45-1:00	2	3	5	4	3	7	8	0.0%	8	100.0%	0	0.0%
1:00-1:15	2	2	4	1	1	2	4	0.0%	3	75.0%	1	25.0%
1:15-1:30	3	2	5	2	2	4	6	33.3%	5	83.3%	0	0.0%
1:30-1:45	2	2	4	2	1	3	5	20.0%	2	40.0%	0	0.0%
1:45-2:00	4	0	4	3	2	5	6	33.3%	1	16.7%	1	16.7%
Saturday PM												
Total	23	15	38	21	12	33	47	14.9%	32	68.1%	2	4.3%

Grand Total

56	47	103	67	49	116	156	30	19.2%	95	60.9%	10	6.4%
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Time	North/South Street Green Bay Road				East/West Street Central Street				Total	Helmet %	Sidewalk	Sidewalk %	Wrong Way	Wrong Way %
	N	S	Street Total	W	E	Street Total								
	0	2	2	1	5	6								
10/26/01 AM														
7:00-7:15	0	2	2	1	5	6	6	2	33.3%	0	0.0%	0	0.0%	
7:15-7:30	0	1	1	1	0	1	1	0	0.0%	0	0.0%	0	0.0%	
7:30-7:45	0	5	5	0	7	7	7	3	42.9%	0	0.0%	0	0.0%	
7:45-8:00	1	2	3	2	3	5	5	4	80.0%	0	0.0%	0	0.0%	
8:00-8:15	0	4	4	0	4	4	4	0	0.0%	2	50.0%	0	0.0%	
8:15-8:30	0	0	0	0	1	1	1	1	100.0%	0	0.0%	0	0.0%	
8:30-8:45	1	1	2	0	1	1	2	0	0.0%	2	100.0%	0	0.0%	
8:45-9:00	0	1	1	2	1	3	3	0	0.0%	2	66.7%	0	0.0%	
Weekday AM														
Total	2	16	18	6	22	28	29	10	34.5%	6	20.7%	0	0.0%	

9/28/01 PM													
4:00-4:15	3	1	4	2	3	5	8	2	25.0%	5	62.5%	0	0.0%
4:15-4:30	0	1	1	3	2	5	6	1	16.7%	4	66.7%	0	0.0%
4:30-4:45	0	2	2	2	2	4	4	0	0.0%	1	25.0%	0	0.0%
4:45-5:00	1	0	1	1	0	1	2	1	50.0%	0	0.0%	0	0.0%
5:00-5:15	0	0	0	1	0	1	1	0	0.0%	1	100.0%	0	0.0%
5:15-5:30	0	0	0	2	0	2	2	1	50.0%	1	50.0%	0	0.0%
5:30-5:45	1	3	4	2	0	2	5	2	40.0%	3	60.0%	0	0.0%
5:45-6:00	1	3	4	3	2	5	5	1	20.0%	1	20.0%	1	20.0%
Weekday PM													
Total	6	10	16	16	9	25	33	8	24.2%	16	48.5%	1	3.0%

10/22/01													
Saturday PM													
12:00-12:15	3	1	4	4	3	7	10	4	40.0%	8	80.0%	0	0.0%
12:15-12:30	0	2	2	4	1	5	6	5	83.3%	3	50.0%	0	0.0%
12:30-12:45	0	2	2	4	5	9	10	1	10.0%	6	60.0%	0	0.0%
12:45-1:00	0	0	0	0	2	2	2	2	100.0%	0	0.0%	0	0.0%
1:00-1:15	2	0	2	4	0	4	6	4	66.7%	2	33.3%	0	0.0%
1:15-1:30	1	1	2	1	2	3	5	3	60.0%	3	60.0%	0	0.0%
1:30-1:45	0	1	1	2	1	3	4	3	75.0%	2	50.0%	0	0.0%
1:45-2:00	0	0	0	1	0	1	1	0	0.0%	1	100.0%	0	0.0%
Saturday PM													
Total	6	7	13	20	14	34	44	22	50.0%	25	56.8%	0	0.0%

Grand Total	14	33	47	42	45	87	106	40	37.7%	47	44.3%	1	0.9%
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Time	North/South Street					East/West Street					Total	Helmet %	Sidewalk	Sidewalk %	Wrong Way	Wrong Way %
	Chicago					South										
	N	S	Street Total	W	E	Street Total										
9/13/01 AM	0	1	1	0	2	2	2	2	1	50.0%	0	0.0%	0	0.0%		
7:00-7:15	3	1	4	1	2	3	4	2	2	50.0%	1	25.0%	0	0.0%		
7:15-7:30	3	3	6	0	4	4	8	3	3	37.5%	2	25.0%	0	0.0%		
7:30-7:45	4	1	5	0	1	1	6	3	3	50.0%	1	16.7%	0	0.0%		
7:45-8:00	0	2	2	0	0	0	2	2	2	100.0%	0	0.0%	0	0.0%		
8:00-8:15	1	1	2	0	2	2	4	2	2	50.0%	0	0.0%	0	0.0%		
8:15-8:30	7	0	7	0	3	3	8	2	2	25.0%	3	37.5%	0	0.0%		
8:30-8:45	2	1	3	2	0	2	4	2	2	50.0%	0	0.0%	0	0.0%		
8:45-9:00	20	10	30	3	14	17	38	17	17	44.7%	7	18.4%	0	0.0%		
Weekday AM																
Total																

9/25/01 PM															
4:00-4:15	1	3	4	1	0	1	4	2	2	50.0%	2	50.0%	1	25.0%	
4:15-4:30	5	3	8	2	1	3	10	3	3	30.0%	7	70.0%	0	0.0%	
4:30-4:45	1	6	7	2	0	2	7	2	2	28.6%	2	28.6%	0	0.0%	
4:45-5:00	3	1	4	3	1	4	6	2	2	33.3%	3	50.0%	1	16.7%	
5:00-5:15	4	3	7	1	2	3	7	1	1	14.3%	3	42.9%	0	0.0%	
5:15-5:30	2	4	6	3	4	7	11	4	4	36.4%	4	36.4%	0	0.0%	
5:30-5:45	5	1	6	1	1	2	6	3	3	50.0%	2	33.3%	0	0.0%	
5:45-6:00	4	1	5	2	0	2	5	4	4	80.0%	2	40.0%	0	0.0%	
Weekday PM															
Total	25	22	47	15	9	24	56	21	21	37.5%	25	44.6%	2	3.6%	

9/15/01															
Saturday PM															
12:00-12:15	5	4	9	2	1	3	10	4	4	40.0%	5	50.0%	1	10.0%	
12:15-12:30	2	2	4	1	0	1	5	3	3	60.0%	0	0.0%	0	0.0%	
12:30-12:45	1	3	4	2	0	2	4	2	2	50.0%	2	50.0%	2	50.0%	
12:45-1:00	0	1	1	1	1	2	3	2	2	66.7%	3	100.0%	2	66.7%	
1:00-1:15	2	1	3	2	1	3	6	4	4	66.7%	2	33.3%	0	0.0%	
1:15-1:30	1	5	6	2	1	3	7	2	2	28.6%	3	42.9%	2	28.6%	
1:30-1:45	1	2	3	1	0	1	3	1	1	33.3%	2	66.7%	0	0.0%	
1:45-2:00	5	2	7	1	3	4	11	3	3	27.3%	0	0.0%	3	27.3%	
Saturday PM															
Total	17	20	37	12	7	19	49	21	21	42.9%	17	34.7%	10	20.4%	

Grand Total	62	52	114	30	30	60	143	59	59	41.3%	49	34.3%	12	8.4%
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Time	North/South Street				East/West Street				Total cyclists	Helmet %	Sidewalk	Sidewalk %	Wrong Way	Wrong Way %
	Benson				Davis									
	N	S	Street Total	E	W	Street Total	Total	Helmet						
9/21/01 AM														
7:00-7:15	0	2	2	0	1	1	2	50.0%	0	0.0%	0	0.0%	0	0.0%
7:15-7:30	1	0	1	1	2	3	3	0.0%	1	33.3%	1	33.3%	1	33.3%
7:30-7:45	3	1	4	3	3	6	6	50.0%	2	33.3%	2	33.3%	1	16.7%
7:45-8:00	1	2	3	2	1	3	3	0.0%	2	66.7%	2	66.7%	1	33.3%
8:00-8:15	1	3	4	2	2	4	6	50.0%	3	50.0%	3	50.0%	1	16.7%
8:15-8:30	3	0	3	2	2	4	4	50.0%	2	0.0%	0	0.0%	2	50.0%
8:30-8:45	1	0	1	2	0	2	2	0.0%	1	50.0%	1	50.0%	0	0.0%
8:45-9:00	3	1	4	4	1	5	5	80.0%	4	40.0%	2	40.0%	3	60.0%
Weekday AM														
Total	13	9	22	16	12	28	31	41.9%	13	35.5%	11	35.5%	9	29.0%

9/26/01 PM														
4:00-4:15	0	2	2	3	8	11	11	36.4%	4	45.5%	5	45.5%	2	18.2%
4:15-4:30	0	4	4	5	6	11	11	27.3%	3	36.4%	4	36.4%	2	18.2%
4:30-4:45	2	1	3	2	1	3	3	0.0%	0	33.3%	1	33.3%	0	0.0%
4:45-5:00	2	0	2	2	6	8	8	25.0%	2	12.5%	1	12.5%	1	12.5%
5:00-5:15	3	3	6	3	7	10	10	20.0%	2	30.0%	3	30.0%	1	10.0%
5:15-5:30	4	2	6	6	9	15	15	40.0%	6	46.7%	7	46.7%	4	26.7%
5:30-5:45	7	1	8	4	10	14	15	20.0%	3	20.0%	3	20.0%	0	0.0%
5:45-6:00	1	2	3	0	4	4	5	20.0%	1	0.0%	0	0.0%	0	0.0%
Weekday PM														
Total	19	15	34	25	51	76	78	26.9%	21	30.8%	24	30.8%	10	12.8%

9/15/01														
Saturday PM														
12:00-12:15	1	4	5	3	7	10	10	10.0%	1	20.0%	2	20.0%	2	20.0%
12:15-12:30	1	2	3	2	5	7	7	42.9%	3	28.6%	2	28.6%	1	14.3%
12:30-12:45	4	2	6	1	9	10	10	40.0%	4	0.0%	0	0.0%	0	0.0%
12:45-1:00	4	1	5	4	4	8	9	44.4%	4	22.2%	2	22.2%	1	11.1%
1:00-1:15	5	0	5	5	4	9	9	44.4%	4	44.4%	4	44.4%	1	11.1%
1:15-1:30	0	0	0	1	4	5	5	20.0%	1	40.0%	2	40.0%	0	0.0%
1:30-1:45	2	0	2	1	7	8	8	37.5%	3	0.0%	0	0.0%	1	12.5%
1:45-2:00	3	0	3	3	3	6	6	16.7%	1	50.0%	3	50.0%	0	0.0%
Saturday PM														
Total	20	9	29	20	43	63	64	32.8%	21	23.4%	15	23.4%	6	9.4%

Grand Total	52	33	85	61	106	167	173	31.8%	55	28.9%	50	28.9%	25	14.5%
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Time	North/South Street Chicago				East/West Street Davis				Total	Helmet %	Sidewalk	Sidewalk %	Wrong Way	Wrong Way %
	N	S	Street Total	W	E	Street Total								
9/21/01 AM														
7:00-7:15	1	0	1	0	0	0	0	1	100.0%	0	0.0%	0	0.0%	
7:15-7:30	2	0	2	1	0	1	3	3	33.3%	2	66.7%	0	0.0%	
7:30-7:45	1	1	2	2	1	3	4	4	0.0%	0	0.0%	1	25.0%	
7:45-8:00	5	0	5	1	2	3	5	5	0.0%	1	20.0%	1	20.0%	
8:00-8:15	8	0	8	6	1	7	11	11	9.1%	2	18.2%	3	27.3%	
8:15-8:30	10	0	10	2	0	2	10	10	30.0%	4	40.0%	0	0.0%	
8:30-8:45	4	0	4	2	0	2	5	5	40.0%	2	40.0%	0	0.0%	
8:45-9:00	7	0	7	3	0	3	8	8	50.0%	4	0.0%	0	0.0%	
Weekday AM														
Total	38	1	39	17	4	21	47	47	25.5%	11	23.4%	5	10.6%	

9/26/01PM														
4:00-4:15	1	4	5	6	1	7	10	10	40.0%	3	30.0%	1	10.0%	
4:15-4:30	5	7	12	3	1	4	13	13	53.8%	4	30.8%	2	15.4%	
4:30-4:45	3	8	11	1	2	3	12	12	0.0%	4	33.3%	0	0.0%	
4:45-5:00	7	4	11	6	2	8	11	11	9.1%	7	63.6%	1	9.1%	
5:00-5:15	4	10	14	7	1	8	17	17	41.2%	3	17.6%	1	5.9%	
5:15-5:30	6	10	16	5	0	5	16	16	25.0%	7	43.8%	0	0.0%	
5:30-5:45	1	7	8	2	1	3	8	8	12.5%	3	37.5%	1	12.5%	
5:45-6:00	4	8	12	2	2	4	14	14	28.6%	3	21.4%	0	0.0%	
Weekday PM														
Total	31	58	89	32	10	42	101	101	27.7%	34	33.7%	6	5.9%	

9/15/01														
Saturday PM														
12:00-12:15	8	6	14	8	2	10	17	17	41.2%	4	23.5%	0	0.0%	
12:15-12:30	4	4	8	8	0	8	13	13	61.5%	1	7.7%	0	0.0%	
12:30-12:45	5	6	11	6	3	9	16	16	43.8%	0	0.0%	2	12.5%	
12:45-1:00	5	4	9	2	0	2	9	9	44.4%	3	33.3%	0	0.0%	
1:00-1:15	1	3	4	2	1	3	5	5	20.0%	1	20.0%	0	0.0%	
1:15-1:30	2	7	9	6	4	10	13	13	15.4%	2	15.4%	0	0.0%	
1:30-1:45	6	4	10	4	1	5	12	12	8.3%	2	16.7%	0	0.0%	
1:45-2:00	3	6	9	2	2	4	10	10	50.0%	3	30.0%	0	0.0%	
Saturday PM														
Total	34	40	74	38	13	51	95	95	36.8%	16	16.8%	2	2.1%	
Grand Total	103	99	202	87	27	114	243	243	30.9%	61	25.1%	13	5.3%	

Time	North/South Street				East/West Street				Total	Helmet %	Sidewalk	Sidewalk %	Wrong Way	Wrong Way %
	Sherman				Church									
	N	S	Street Total	E	W	Street Total	Total	Street Total						
9/21/01 AM	0	2	2	1	0	1	3	3	100.0%	0	0.0%	0	0.0%	
7:00-7:15	3	0	3	1	2	3	4	1	25.0%	2	50.0%	3	75.0%	
7:30-7:45	0	2	2	1	0	1	3	3	100.0%	0	0.0%	0	0.0%	
7:45-8:00	0	5	5	4	0	4	7	3	42.9%	1	14.3%	1	14.3%	
8:00-8:15	0	1	1	3	0	3	3	1	33.3%	0	0.0%	0	0.0%	
8:15-8:30	1	1	2	1	1	2	3	1	33.3%	0	0.0%	1	33.3%	
8:30-8:45	1	3	4	8	1	9	11	2	18.2%	1	9.1%	1	9.1%	
8:45-9:00	1	4	5	4	2	6	8	4	50.0%	1	12.5%	2	25.0%	
Weekday AM														
Total	6	18	24	23	6	29	42	18	42.9%	5	11.9%	8	19.0%	

9/26/01 PM													
4:00-4:15	4	10	14	6	1	7	17	3	17.6%	4	23.5%	1	5.9%
4:15-4:30	4	3	7	7	3	10	14	1	7.1%	3	21.4%	0	0.0%
4:30-4:45	4	8	12	4	5	9	15	2	13.3%	1	6.7%	4	26.7%
4:45-5:00	1	6	7	7	4	11	14	5	35.7%	3	21.4%	1	7.1%
5:00-5:15	3	9	12	5	5	10	17	3	17.6%	1	5.9%	2	11.8%
5:15-5:30	1	13	14	9	0	9	18	5	27.8%	3	16.7%	1	5.6%
5:30-5:45	2	6	8	5	1	6	11	2	18.2%	3	27.3%	0	0.0%
5:45-6:00	3	14	17	5	3	8	17	6	35.3%	3	17.6%	2	11.8%
Weekday PM													
Total	22	69	91	48	22	70	123	27	22.0%	21	17.1%	11	8.9%

9/15/01													
Saturday PM													
12:00-12:15	2	6	8	4	3	7	12	3	25.0%	1	8.3%	4	33.3%
12:15-12:30	1	3	4	3	1	4	6	1	16.7%	1	16.7%	2	33.3%
12:30-12:45	1	5	6	6	2	8	13	5	38.5%	4	30.8%	1	7.7%
12:45-1:00	4	10	14	12	1	13	19	6	31.6%	6	31.6%	3	15.8%
1:00-1:15	4	7	11	5	1	6	12	3	25.0%	4	33.3%	1	8.3%
1:15-1:30	4	11	15	8	6	14	15	3	20.0%	5	33.3%	2	13.3%
1:30-1:45	3	10	13	3	4	7	14	8	57.1%	5	35.7%	2	14.3%
1:45-2:00	0	11	11	6	3	9	18	5	27.8%	1	5.6%	1	5.6%
Saturday PM													
Total	19	63	82	47	21	68	109	34	31.2%	27	24.8%	16	14.7%

Grand Total	47	150	197	118	49	167	274	79	28.8%	53	19.3%	35	12.8%
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Time	North/South Street				East/West Street				Total	Helmet %	Sidewalk	Sidewalk %	Wrong Way	Wrong Way %
	Sheridan		Lincoln		Lincoln		Sheridan							
	N	S	Street Total	W	E	Street Total	Street Total	Street Total						
9/21/01 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
7:00-7:15	2	1	3	2	1	3	3	3	66.7%	3	100.0%	0	0.0%	
7:15-7:30	1	2	3	1	2	3	4	4	75.0%	0	0.0%	0	0.0%	
7:30-7:45	1	2	3	1	1	2	5	5	60.0%	0	0.0%	0	0.0%	
7:45-8:00	0	0	0	0	0	0	0	0		0		0		
8:00-8:15	1	3	4	0	2	2	5	5	40.0%	5	100.0%	0	0.0%	
8:15-8:30	1	0	1	0	2	2	3	3	33.3%	1	33.3%	0	0.0%	
8:30-8:45	1	0	1	0	2	2	3	3	100.0%	0	0.0%	0	0.0%	
8:45-9:00	7	8	15	4	10	14	23	23	60.9%	9	39.1%	0	0.0%	
Weekday AM														
Total	8	37	99	28	35	63	138	138	34.1%	47	65.2%	1	0.7%	

9/26/01 PM	8	1	9	3	6	9	14	14	21.4%	3	71.4%	0	0.0%	
4:00-4:15	2	4	6	0	2	2	7	7	42.9%	3	57.1%	0	0.0%	
4:15-4:30	7	6	13	1	5	6	16	16	18.8%	3	81.3%	0	0.0%	
4:30-4:45	7	7	14	8	4	12	21	21	42.9%	9	47.6%	0	0.0%	
4:45-5:00	9	1	10	6	2	8	16	16	31.3%	5	68.8%	0	0.0%	
5:00-5:15	20	8	28	3	9	12	35	35	34.3%	12	74.3%	0	0.0%	
5:15-5:30	3	5	8	4	3	7	13	13	46.2%	6	46.2%	1	7.7%	
5:30-5:45	6	5	11	3	4	7	16	16	37.5%	6	62.5%	0	0.0%	
5:45-6:00	62	37	99	28	35	63	138	138	34.1%	47	65.2%	1	0.7%	
Weekday PM														
Total	8	37	99	28	35	63	138	138	34.1%	47	65.2%	1	0.7%	

9/15/01	6	9	15	1	7	8	17	17	35.3%	6	76.5%	0	0.0%	
Saturday PM	2	6	8	3	12	15	16	16	62.5%	10	43.8%	0	0.0%	
12:00-12:15	1	1	2	1	1	2	4	4	75.0%	3	25.0%	0	0.0%	
12:15-12:30	5	1	6	8	1	9	11	11	18.2%	2	45.5%	0	0.0%	
12:30-12:45	10	7	17	7	6	13	18	18	50.0%	9	83.3%	0	0.0%	
12:45-1:00	1	10	11	2	5	7	14	14	50.0%	7	71.4%	0	0.0%	
1:00-1:15	6	7	13	4	7	11	18	18	55.6%	10	88.9%	0	0.0%	
1:15-1:30	4	6	10	2	4	6	13	13	46.2%	6	61.5%	0	0.0%	
1:30-1:45	35	47	82	28	43	71	111	111	47.7%	53	67.6%	0	0.0%	
1:45-2:00														
Saturday PM														
Total	104	92	196	60	88	148	272	272	41.9%	114	64.0%	1	0.4%	

Grand Total	104	92	196	60	88	148	272	272	41.9%	114	64.0%	1	0.4%
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Time	North/South Street Chicago/Sheridan				East/West Street Sheridan				Total	Helmet %	Sidewalk	Sidewalk %	Wrong Way	Wrong Way %
	N	S	Street Total	W	E	Street Total								
9/21/01 AM														
7:00-7:15	2	0	2	0	0	0	2	2	100.0%	2	100.0%	0	0.0%	
7:15-7:30	3	0	3	1	0	1	3	3	33.3%	2	66.7%	1	33.3%	
7:30-7:45	4	3	7	3	2	5	7	7	14.3%	7	100.0%	0	0.0%	
7:45-8:00	6	2	8	2	4	6	10	10	40.0%	9	90.0%	0	0.0%	
8:00-8:15	20	1	21	11	0	11	23	23	30.4%	23	100.0%	0	0.0%	
8:15-8:30	31	1	32	5	2	7	32	32	21.9%	29	90.6%	1	3.1%	
8:30-8:45	21	1	22	10	1	11	23	23	34.8%	21	91.3%	0	0.0%	
8:45-9:00	12	3	15	7	3	10	16	16	43.8%	16	100.0%	0	0.0%	
Weekday AM														
Total	99	11	110	39	12	51	116	116	31.9%	109	94.0%	2	1.7%	

9/26/01 PM														
4:00-4:15	9	18	27	24	6	30	42	42	9.5%	4	81.0%	0	0.0%	
4:15-4:30	14	11	25	8	11	19	31	31	16.1%	5	83.9%	0	0.0%	
4:30-4:45	15	18	33	13	7	20	41	41	9.8%	35	85.4%	0	0.0%	
4:45-5:00	15	21	36	16	9	25	44	44	15.9%	7	81.8%	1	2.3%	
5:00-5:15	10	24	34	13	9	22	44	44	25.0%	34	77.3%	2	4.5%	
5:15-5:30	16	24	40	6	7	13	45	45	17.8%	33	73.3%	0	0.0%	
5:30-5:45	12	27	39	3	12	15	44	44	31.8%	14	70.5%	0	0.0%	
5:45-6:00	11	26	37	5	9	14	43	43	25.6%	32	74.4%	0	0.0%	
Weekday PM														
Total	102	169	271	88	70	158	334	334	19.2%	261	78.1%	3	0.9%	

9/15/01														
Saturday PM														
12:00-12:15	7	14	21	2	2	4	24	24	45.8%	11	83.3%	0	0.0%	
12:15-12:30	6	6	12	4	2	6	16	16	43.8%	7	81.3%	0	0.0%	
12:30-12:45	4	1	5	1	2	3	7	7	14.3%	1	71.4%	0	0.0%	
12:45-1:00	3	1	4	1	1	2	6	6	16.7%	1	50.0%	0	0.0%	
1:00-1:15	8	7	15	1	2	3	17	17	17.6%	3	88.2%	0	0.0%	
1:15-1:30	2	13	15	4	4	8	20	20	40.0%	8	75.0%	0	0.0%	
1:30-1:45	2	2	4	0	1	1	4	4	75.0%	3	100.0%	0	0.0%	
1:45-2:00	6	10	16	4	5	9	20	20	40.0%	8	75.0%	0	0.0%	
Saturday PM														
Total	38	54	92	17	19	36	114	114	36.8%	42	78.9%	0	0.0%	

Grand Total	239	234	473	144	101	245	564	564	25.4%	143	81.6%	5	0.9%
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Time	North/South Street lakefront path at lagoon			East/West Street none (Davis ext.)			Total Riders	Helmet	Helmet %	Sidewalk	Sidewalk %	Wrong Way	Wrong Way %
	N	S	Street Total	W	E	Street Total							
	9/21/01 AM												
7:00-7:15	2	1	3	NA	NA	NA	3	2	66.7%	NA	NA	NA	NA
7:15-7:30	1	2	3	NA	NA	NA	3	1	33.3%	NA	NA	NA	NA
7:30-7:45	0	2	2	NA	NA	NA	2	1	50.0%	NA	NA	NA	NA
7:45-8:00	2	2	4	NA	NA	NA	4	2	50.0%	NA	NA	NA	NA
8:00-8:15	1	5	6	NA	NA	NA	6	3	50.0%	NA	NA	NA	NA
8:15-8:30	0	9	9	NA	NA	NA	9	5	55.6%	NA	NA	NA	NA
8:30-8:45	1	5	6	NA	NA	NA	6	4	66.7%	NA	NA	NA	NA
8:45-9:00	1	9	10	NA	NA	NA	9	3	33.3%	NA	NA	NA	NA
Weekday AM													
Total	8	35	43	NA	NA	NA	42	21	50.0%	NA	NA	NA	NA

9/26/01 PM													
4:00-4:15	1	3	4	NA	NA	NA	4	0	0.0%	NA	NA	NA	NA
4:15-4:30	2	2	4	NA	NA	NA	4	1	25.0%	NA	NA	NA	NA
4:30-4:45	3	6	9	NA	NA	NA	9	3	33.3%	NA	NA	NA	NA
4:45-5:00	5	8	13	NA	NA	NA	13	7	53.8%	NA	NA	NA	NA
5:00-5:15	3	12	15	NA	NA	NA	12	6	50.0%	NA	NA	NA	NA
5:15-5:30	4	7	11	NA	NA	NA	11	7	63.6%	NA	NA	NA	NA
5:30-5:45	5	15	20	NA	NA	NA	20	10	50.0%	NA	NA	NA	NA
5:45-6:00	11	11	22	NA	NA	NA	22	4	18.2%	NA	NA	NA	NA
Weekday PM													
Total	34	64	98	NA	NA	NA	95	38	40.0%	NA	NA	NA	NA

9/15/01 Saturday PM													
12:00-12:15	5	5	10	NA	NA	NA	10	5	50.0%	NA	NA	NA	NA
12:15-12:30	9	7	16	NA	NA	NA	16	8	50.0%	NA	NA	NA	NA
12:30-12:45	8	14	22	NA	NA	NA	22	14	63.6%	NA	NA	NA	NA
12:45-1:00	9	4	13	NA	NA	NA	13	8	61.5%	NA	NA	NA	NA
1:00-1:15	3	2	5	NA	NA	NA	5	5	100.0%	NA	NA	NA	NA
1:15-1:30	7	6	13	NA	NA	NA	13	9	69.2%	NA	NA	NA	NA
1:30-1:45	5	11	16	NA	NA	NA	16	9	56.3%	NA	NA	NA	NA
1:45-2:00	4	5	9	NA	NA	NA	9	3	33.3%	NA	NA	NA	NA
Saturday PM													
Total	50	54	104	NA	NA	NA	104	61	58.7%	NA	NA	NA	NA

Grand Total	92	153	245	NA	NA	NA	241	120	49.8%	NA	NA	NA	NA
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Time	North/South Street				East/West Street				Total Riders	Helmet	Helmet %	Sidewalk W. of Sher. Sq.	Sidewalk %	Wrong way on Sher. Rd.	Wrong Way %
	Sheridan Square & path				Sheridan Road & path										
	N	S	Street Total	E	W	Street Total	E	W							
9/21/01 AM															
7:00-7:15	1	1	2	1	2	1	2	3	3	100.0%	1	33.3%	0	0.0%	
7:15-7:30	1	1	2	1	1	1	2	2	1	50.0%	0	0.0%	0	0.0%	
7:30-7:45	0	0	0	0	0	0	0	0	0		0		0		
7:45-8:00	1	0	1	3	3	3	6	6	3	50.0%	3	50.0%	0	0.0%	
8:00-8:15	4	0	4	4	4	0	4	4	1	25.0%	0	0.0%	0	0.0%	
8:15-8:30	5	1	6	5	5	1	6	6	4	66.7%	0	0.0%	0	0.0%	
8:30-8:45	4	1	5	4	4	1	5	5	4	80.0%	0	0.0%	0	0.0%	
8:45-9:00	5	1	6	4	4	0	4	5	2	40.0%	0	0.0%	0	0.0%	
Weekday AM															
Total	21	5	26	23	23	7	30	31	18	58.1%	4	12.9%	0	0.0%	

9/26/01 PM															
4:00-4:15	1	2	3	2	2	2	4	4	1	25.0%	0	0.0%	0	0.0%	
4:15-4:30	2	3	5	2	2	5	7	6	1	16.7%	1	16.7%	0	0.0%	
4:30-4:45	3	7	10	4	4	7	11	11	2	18.2%	0	0.0%	0	0.0%	
4:45-5:00	3	3	6	4	4	5	9	8	4	50.0%	2	25.0%	0	0.0%	
5:00-5:15	1	5	6	1	1	7	8	7	3	42.9%	1	14.3%	0	0.0%	
5:15-5:30	5	4	9	7	7	5	12	12	9	75.0%	1	8.3%	0	0.0%	
5:30-5:45	3	8	11	4	4	9	13	12	6	50.0%	1	8.3%	0	0.0%	
5:45-6:00	9	10	19	11	11	14	25	23	10	43.5%	1	4.3%	0	0.0%	
Weekday PM															
Total	27	42	69	35	35	54	89	83	36	43.4%	7	8.4%	0	0.0%	

9/15/01															
Saturday PM															
12:00-12:15	3	1	4	7	7	4	11	9	5	55.6%	1	11.1%	0	0.0%	
12:15-12:30	2	3	5	4	4	4	8	8	7	87.5%	2	25.0%	2	25.0%	
12:30-12:45	6	2	8	7	7	2	9	9	3	33.3%	1	11.1%	0	0.0%	
12:45-1:00	2	5	7	4	4	6	10	10	6	60.0%	1	10.0%	0	0.0%	
1:00-1:15	4	3	7	7	7	6	13	13	8	61.5%	4	30.8%	0	0.0%	
1:15-1:30	2	6	8	4	4	5	9	11	5	45.5%	2	18.2%	0	0.0%	
1:30-1:45	2	5	7	5	5	7	12	12	5	41.7%	3	25.0%	0	0.0%	
1:45-2:00	4	4	8	6	6	7	13	13	8	61.5%	3	23.1%	0	0.0%	
Saturday PM															
Total	25	29	54	44	44	41	85	85	47	55.3%	17	20.0%	2	2.4%	

Grand Total	73	76	149	102	102	102	204	199	101	50.8%	28	14.1%	2	1.0%
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Appendix B

Crash Countermeasures

Bicycle Crash Countermeasures by Crash Type (PBCAT)

Crash Type: Motorist Drive-Out/Through Intersection: sign or signal controlled

Crash Type Number 154, 141
Count 3

Possible Cause/Problem

General Countermeasures

- 1) The intersection has a high incidence of driver stop sign or traffic signal violations.**
 - a) Re-configure the intersection as a Modern Roundabout.
 - b) At signalized intersections, increase clearance interval.
 - c) Provide sight lines as if the intersection were uncontrolled.

- 2) Driver fails to stop at stop sign or signal, stops instead at optimal point for viewing cross traffic, extending vehicle beyond crosswalk, thus presenting hazard to bicyclists on sidewalk entering intersection or at right most position in travel lane.**
 - a) Provide a crosswalk where none exists. Where a crosswalk already exists, install a stop bar 4 feet or more in advance or widen the crosswalk.
 - b) Install a "STOP HERE" sign.
 - c) Improve sight lines.

- 3) Bicyclists facing traffic while in the road or on the sidewalk places them out of motorists' expected viewing area.**
 - a) Bicyclist education on the hazards of riding facing traffic.
 - b) Paint "USE CAUTION" on the sidewalk at hazardous intersections.
 - c) Install "WATCH FOR BICYCLISTS SIGN."

- 4) Visual obstructions.**
 - a) Provide sight lines as if the intersection were uncontrolled, or improve sight lines to the extent possible.

Crash Type: Bicyclist Ride-Out/Through Intersection: sign or signal controlled

Crash Type Number 155
Count 2

- 1) Bicyclist's incorrect expectation that the roadway would be empty of motor vehicle traffic.**
 - a) Bicyclist education on the importance of traffic control signs and signals and on searching for vehicles.
- 2) Bicyclist's distractions and competing needs override need to stop.**
 - a) Bicyclist education on the importance of traffic control signs and signals.
- 3) Visual obstructions.**
 - a) Provide sight lines as if the intersection was uncontrolled.
- 4) High motor vehicle speed makes collision more likely and more severe.**
 - a) Reduce motor vehicle speed through appropriate Traffic Calming methods.
- 6) Motorist expectations regarding bicyclist behavior do not match with actual bicyclist behavior.**
 - a) Motorist education on possible bicyclist behaviors.
- 7) Bicyclist unaware of traffic control sign or signal.**
 - a) Provide STOP/YIELD pavement marking, advance warning signs, advance pavement texturing.

Crash Type: Motorist Right Turn - same direction as bicyclist

Crash Type Number 213
Count 1

- 1) High motor vehicle speed on approach to turn.**

- a) Reduce motor vehicle approach speed by shortening turn radius of curvature.
- 2) Bicyclist overtook or stopped on the right of stopped or slow moving motor vehicle.**
 - a) Bicyclist education on the hazards associated with this maneuver.
- 3) Where right turn lanes begin, weaving conflicts exist between bicyclists and right turning motor vehicles.**
 - a) Install lane use sign R4-4 "BEGIN RIGHT TURN LANE, YIELD TO BIKES."
- 4) Motorist overtook bicyclist and misjudged the bicyclist's speed and the space and time required to negotiate the turn safely**
 - a) Motorist education on the hazards associated with this maneuver and on bicycle performance characteristics.
- 5) Bicyclist misjudged the closing speed to the slower moving turning motor vehicle or was unable slow sufficiently.**
 - a) Bicyclist on-bike education on bicycle braking performance.

Crash Type: Motorist Drive-Out – right turn on red (RTOR)

**Crash Type Number 151
Count 2**

- 1) Drivers do not come to a full stop prior to negotiating the turn.**
 - a) Provide a stop bar and STOP HERE ON RED sign.
 - b) Driver education on searching behind for bicycles before RTOR.
 - c) Bicyclist education on defensive riding.
- 2) Drivers cross over the crosswalk or implied crosswalk area before stopping, posing a hazard to sidewalk riding bicyclists.**
 - a) Paint a crosswalk if none is present. Widen existing crosswalk or provide a stop bar 4 feet or more in advance.
 - b) Install a "STOP HERE ON RED" sign.
- 3) Bicyclists facing traffic while in road or on the sidewalk places them out of motorists' expected viewing area.**
 - a) Bicyclist education on the hazards of riding facing traffic.

- b) Paint "USE CAUTION" on the sidewalk at hazardous intersections.
- c) Install "WATCH FOR BICYCLISTS SIGN."

4) Visual obstructions.

- a) Remove visual obstructions.

Crash Type: Motorist Right Turn – facing bicyclist

Crash Type Number 214
Count 1

1) High motor vehicle speed on approach to turn.

- a) Reduce motor vehicle approach speed by shortening turn radius of curvature.

3) Bicyclists riding facing traffic in the street or on the sidewalk are not in the expected viewing area of motorists.

- a) Bicyclist education on the hazards of riding facing traffic.

Crash Type: Bicyclist Ride-Out Non-Intersection: other or unknown

Crash Type Number 318
Count 4

1) Visual obstructions, including on-street parking.

- a) Remove visual obstructions to the extent possible. Remove on-street parking, or restrict parking near driveways.

2) High motor vehicle speed makes collision more likely and more severe.

- a) Provide appropriate Traffic Calming.

3) Lack of formal traffic control at commercial driveways sends ambiguous message to inexperienced child bicyclists

- a) Provide traffic control device where appropriate.
- b) Educate motorists to search for bicyclists.
- c) Educate bicyclists to search for motorists.

Crash Type: Bicyclist Overtaking: extended door, parked vehicle, other

Crash Type Numbers 244, 243, 249
Count 4

1) Passing stopped or slowly moving motor vehicles is risky because drivers do not expect this, may change lanes without signaling, and blind spots exist.

- a) Bicyclist education on the hazards of overtaking motor vehicles.

2) Motor vehicles illegally parked in the travel lane, or on the shoulder present hazards to bicyclists.

- a) Signs prohibiting parking.
- b) Increased enforcement.

3) Bicyclists riding too close to parallel parked motor vehicles or weaving between parked motor vehicles are at risk of being struck with the door of a disembartering driver or passenger.

- a) Bicyclist education on proper position when riding next to parked motor vehicles.
- b) Increasing the width of adjacent shared travel lane may induce some bicyclists to ride further from parked vehicles.
- c) Where parking is permitted but a parking lane is not provided, the combination lane, intended for both motor vehicle parking and bicycle use should be a minimum of 12 ft (3.7 m) wide, with 14 ft (4.3 m) preferable.
- d) Provide a double striped 4-5 ft wide Bike Lane to channel bicyclists, the right stripe 10 ft from the curb face.

4) Disembartering driver or passenger performs insufficient scan for bicyclist.

- a) Signs cautioning motorists on the presence of overtaking bicyclists. "WATCH FOR BICYCLISTS."
- b) Motorist education on searching for bicyclists.
- c) Bicyclist education on defensive riding.

Crash Type: Motorist Overtaking

Crash Type Number 239
Count 1

- 1) Night time riding by inconspicuous bicyclists is a leading contributor to overtaking collisions.**
 - a) Bicyclist education on safely riding during night time.
- 2) Of collisions in which the motorist claimed to have not detected the bicyclist, 40% occurred during daytime conditions.**
 - a) Motorist education on the task of driving. "Share the Road" signs can be used to alert drivers to the presence of bicyclists.
 - b) Motorist education on bicyclists' legitimate use of roadways.
 - c) Increased penalties for striking a bicyclist from behind.
- 3) A too narrow shared travel lane with heavy traffic creates overtaking conflicts.**
 - a) Widen shared lane to 14-15'.
- 4) A shared travel lane more readily enables tracking misjudgments by either operator than separated on-road travel areas.**
 - a) Provide Bike Lane stripping to separate travel areas.

Crash Type: Bicyclist Lost Control - other / unknown

Crash Type Number 129
Count 1

Crash Type: Parallel Path – other

Crash Type Number 280
Count 1

No countermeasure is currently provided for crash types 129 and 280.

Appendix C
Existing Bicycle Parking

EXISTING BIKE PARKING

Transit

LOCATION	RACK TYPE	NUMBER OF RACKS	NUMBER OF SPACES
Davis St. El	S	2	
Central St. El	U	6	12
Noyes St. El	U	5	10
Foster St. El	W	1 with 3 crests	4
Dempster St. El	0	0	0
Main St. El	U	6	12
South Blvd. El	U	3	6
Howard St. El	0	0	0
Main St. Metra	W	2 with 6 crests	14
Davis St. Metra	shared with El		
Central St. Metra	U	21	42

Key to Rack Types

U=inverted U

E=expanded wave

W=wave

S=school racks

K=keyhole

EXISTING BIKE PARKING

Downtown Evanston

LOCATION	RACK TYPE	NUMBER OF RACKS	NUMBER OF SPACES
Corner of Benson and Church	U	5	10
Corner of Benson and Clark	U	10	20
Post Office (Oak at Davis)	U	2	4
Active Endeavors (Chicago at Davis)	U	2	4
Parking Garage (Clark at Chicago)	U	2	4
Sherman Restaurant (Clark at Sherman)	U	2	4
Student Book Exchange (Sherman at Clark)	U	3	6
Osco Drug (Sherman at Church)	U	2	4
Davis between Sherman and Maple	U	2	4
Parking Garage (Benson at Davis)	S	1	
Grove at Sherman	S	3	
Orrington between Church and Clark	S	2 (1 normal, one low)	
Border's Books	S	6 (3 long, 3 short)	
Public Library (Church at Orrington)	S	2	
University (Maple-Benson)	W	1 with 5 crests	6
YMCA (Maple and Grove)	W	4 with 4 crests	20
Parking Garage (Maple at Clark)	W	2 with 5 crests	12
Movie Theater (Church and Maple)	W	3 with 3 crests	12
Maple and Clark (Industrial Research Lab)	W	2 with 3 crests 2 with 5 crests	20
Chandler's Building (Sherman at Davis)	K	1 with 2 loops	2
Whole Foods (Church at Chicago)	E	3 with 4 crests	24

Key to Rack Types

U=inverted U

E=expanded wave

K=keyhole

W=wave

S=school racks

EXISTING BICYCLE PARKING

Evanston Schools

School	Bike Racks at School?
Chute	yes
Dawes	yes
Dewey	yes; two racks in front
Haven	yes
Kingsley	yes
King Lab	yes
Lincoln	no
Lincolnwood	yes (only 5 th graders may ride)
Nichols	yes
Oakton	yes
Orrington	yes
Walker	no
Washington	yes
Willard	yes
Evanston Township High School	yes; bicycle parking cage provided

Existing Bicycle Parking		Department of Parks/Forestry and Recreation	
Park Name	Park Location		Bike Racks
Ackerman	S. of Central E. of McDaniel		N
Alexander	W. of Ridge, N. of Grove		N
Baker	S. of Keeney, E. of Forest		N
Beck	E. of canal, Lyons to Emerson		Y
Bent	S. of Central, E. of Cowper		Y
Brummel/Richmond	N. of Brummel, W. of Richmond		N
Burnham Shores	Lakefront between Dempster and Hamilton		Y
Butler	E. of canal, Emerson to Bridge		N
Cartwright	S. of Grant, E. of Prospect		N
Centennial	Lakefront, Church to University Place		N
Chandler	N. of Lincoln, W. of CTA		Y
Clark Square	N. of Kedzie, E. of Sheridan		N
Clyde-Brummel	N. of Brummel at Clyde		Y
Congregational	N. of Lake, W. of Judson		N
Crown	N. of Main, E. of Dodge		Y
Currey	E. of Hinman, N. of Dempster		Y
Dawes	Lakefront, Dempster to Church		N
Dobson/Brummel	E. of Ashland between Dobson and Brummel		N
Eggleston	N. side of McCormick between Bridge & Hartrey		N
Eiden	E. of Sherman, W. of Custer, Washington - Madison		N
Ellingwood	N. of Harrison, E. of Pioneer		N
Elliott	Lakefront, Hamilton to Lee		N
Fireman's	S. of Simpson, W. of Maple		N
Fitzsimons	N. of Lee, E. of Elmwood		N
Foster	N. of Foster, W. of Ashland		Y
Garden	Lakefront, N. of Sheridan Square		N
Gilbert	N. of Emerson at Ashland		N
Grey	N. of Main, E. of Ridge		N
Harbert	E. of canal, Main to Dempster		Y
Hinman	641 Hinman		N
Hobart	E. of Ridge, N. of Foster		N
Howell	N. of Hartzell, E. of Walnut		N
Independence	N. of Central, E. of Stewart		N
Ingraham	E. of Asbury from Simpson to Leonard Place		N
James	S. of Oakton, W. of Dodge		Y
Kelly	S. of Keeney, W. of Michigan		N
Ladd Arboretum	S.E. of McCormick, Emerson to Grant		N
Larimer	N. of Crain at Oak		N
Lawson	E. of Sheridan, N. of Clinton Place		N
Leahy	S. of Lincoln, W. of Ridge		N
Lee Street Beach	Lakefront at Lee Street		Y
Lighthouse	2603 Sheridan		N

Existing Bicycle Parking		
Department of Parks/Forestry and Recreation		
Park Name	Park Location	Bike Racks
Leah Lomar	S. of Mulford at Wesley	N
Levinson	S. of Mulford at Florence	N
Lovelace	W. of Gross Point, s. of Isabella	Y
Lunt	N. of Church, E. of Judson	N
Mason	S. of Church, W. of Florence	Y
McCulloch	S. of Jenks between Broadway and Eastwood	N
Megowen	N. of South Boulevard, W. of Hinman	N
Merrick Rose	S. of Lake, W. of Oak	N
Monroe	1200 Monroe	N
Oldberg	Elgin Road, Sherman and Clark	N
Patriots	N. of Davis, W. of Sheridan	N
Penny	S. of Lake, W. of Ashland	Y
Perry	1741 Hovland Court	N
Philbrick	S. of Gaffield, W. of Sherman	N
Porter	N. of Simpson, E. of Bennett	Y
Quinlan	S. of Lincoln at Pioneer	N
Raymond	N. of Lake, E. of Chicago	N
Sargent	N. of Reba Place, W. of Elmwood	N
Smith	E. of Ashland, w. of Lyons	N
Snyder	E. of Judson, S. of Kedzie	N
South Blvd	Lakefront, Sheridan Square to city limits	Y
Southwest	S. of Seward, W. of Wesley	N
Stockham	N. of Hamilton at Michigan	N
Tallmadge	E. of Ridge, W. of L ' tracks between Noyes & Colfax	Y
Torgerson	N. of Jenks, E. of Poplar	N
Trahan	E. of Ridge, N. of Monroe	N
Twiggs	E. of canal, Simpson to Greenbay	N

Appendix D
Bicycle Planning Public Workshop Results

Table D-1 EVANSTON DESTINATIONS

(as listed by working table at November 7th workshop)

TABLE 1

Robert Crown
 Green Bay Trail
 ETHS
 hospitals
 Gilson Park
 Levy Center
 North/Northwest suburbs
 Old Orchard shopping
 Target/Home Depot/Sam's Club
 Skokie Lagoons

North Branch Trail
 Central/Dempster/Main shopping
 lakefront to Loop
 Bahai Temple
 James Park
 libraries
 Metra/train stations
 Dominick's/Jewel
 Post Office
 Botanic Garden

TABLE 2

Davis and Main St. trains
 middle and high schools
 senior center
 Old Orchard
 Green Bay Trail
 grocery stores
 library
 McCormick Trail

Northwest Evanston
 Chandler/Fleetwood Jordain/Crown
 Chiaravalle School
 Wilmette Lakefront
 Highland Park
 Central St. shopping
 North Branch Trail

TABLE 3

Central St. Metra and CTA station
 Civic Center
 Sculpture Park

Dempster St. Beach/boats
 High School
 library

James Park
Jewel on Chicago Ave.
movie theater
Main/Chicago shopping
lakefront path to Chicago
Davis St. train station
Roger's Park
Crown Center
Pony Shop

Dempster/Chicago shopping
schools
Forest Preserve Trail
Central Street business district
Northwestern
the Loop
Dominick's at Dempster and Dodge
EAC

TABLE 4

bike shops
Whole Foods
Sheridan Road to Wilmette
Robert Crown
Jewel at Howard
recreation centers
Chicago
all schools
forest preserves
Howard EL

Chandler Community Center
Sculpture Park
Green Bay Trail
Dempster/Dodge Plaza
Jewel/People's Market on Chicago
Civic Center
hospitals
Ecology Center
Dempster/Central/Main shopping

TABLE 5

Main St. shopping
Green Bay Trail
Sheridan Road to Wilmette
canal bike trail
Chicago lakefront
King Lab
libraries
Chandler's

Ravinia
Central St. shopping
North Branch Trail
CTA and Metra stations
Old Orchard
ETHS
James/Lovelace Parks

TABLE 6

all CTA and Metra stations
Central Street shopping area
the Loop
Dominick's at Howard
Dominick's at Dodge and Dempster
Jewel at Chicago Ave.
People's Market
Ecology Center

Wilmette
Green Bay Trail
ETHS
Sculpture Park
Civic Center
Main Street shopping
St. Francis Hospital
Evanston Hospital

TABLE 7

Lighthouse and Arts Center
Chicago Loop
St. Francis Hospital
Robert Crown
Wilmette
Dempster/Chicago shopping
Skokie
Movie Theater

library
Central Street shopping
James Park
ETHS
Perkins Woods
Noyes Art Center
Evanston Hospital
CTA/RTA

ADDITIONAL DESTINATIONS IDENTIFIED BY PARTICIPANTS

Lincoln Park
Northwestern Stadium
Golf Course
coffee shops
post office on Davis St.
Cos Building

YMCA
Presbyterian Homes
Farmers' Market
Andersonville
Video Adventure

Table D-2 “GOOD STREETS – AS IS” AND PREFERRED ROUTES BY TIER

Street Name	As Is	First Tier	Second Tier	Third Tier
Howard		all		
?				Asbury-Barton
Brummel				Hartrey –Ridge
Mulford			Dodge-Darrow	Darrow-Asbury Ridge-Custer
Hull				Asbury-Ridge Ct.
Kirk	Dodge-Asbury			
Oakton	McCormick-Asbury	McCormick-Hartrey Wesley-Asbury Barton-Ridge	Hartrey -Wesley Asbury-Barton Ridge-Callan	
South Blvd.	Dodge-Custer	Custer-Sheridan	Asbury-Custer	Dodge-Asbury
Warren				Hartrey-Dodge
Keeney	Dodge-Asbury		Forest-Sheridan	Chicago-Forest
Seward	Dodge-Asbury			
Cleveland	Dodge-Ridge			Pitner-Hartrey
Monroe	Dodge-Ridge			Brown-Dodge
Madison	Dodge-Elmwood			Elmwood-Custer
Washington	Pitner-Asbury			Dodge-Asbury Elmwood-Chicago
Kedzie		Judson-Sheridan	Chicago-Judson	Pitner-Chicago
Main	McCormick-Ridge Ct.	all		
Lee	Hartrey-Elmwood		Dodge-Elmwood	Hartrey-Dodge Elmwood-Sherman
Greenleaf	Pitner-Lake Shore	Elmwood-Hinman	McDaniel-Dodge Florence-Asbury Hinman-Lake Shore	Dodge-Florence Asbury-Elmwood

ROUTE TABLES (cont.)

Street Name	As Is	First Tier	Second Tier	Third Tier
Hamilton				Chicago-Forest
Dempster				McDaniel-Lake Shore
Burnham				Forest-Michigan
Greenwood	all		McDaniel-Wesley Ridge-Judson	Wesley-Ridge Judson-Lake Shore
Lake	McDaniel-Hinman	Pitner-Chicago		McDaniel-Fowler Chicago-Hinman
Grove				Ashland-Wesley
Davis	Wesley-Hinman	Asbury-Sherman	Dewey-Asbury	Sherman-Hinman
Church	McCormick-Hinman	McCormick-Lake Shore		
Clark				Sherman-Lake Shore
Elgin			Emerson-Orrington	Lincolnwood-Leland
Emerson		Leland-Ridge	Ridge-Sherman	Sherman-Sheridan
Foster				Maple-Sheridan
Simpson	Grey-Ridge	Brown-Sherman		Grey-Brown Crawford-Lincolnwood
Noyes	Green Bay-Sheridan	Green Bay-Sheridan		
Lincoln	Lincolnwood-Sheridan	Crawford-Campus		
Central	Crawford-McDaniel	Crawford-Sheridan		Greeley-Crawford
Chancellor				Broadway-Eastwood
Livingston				Stewart-Broadway
Ingleside			Ridge-Orrington	
Isabella	Gross Point-Sheridan	Reese-Sheridan	Highland-Reese	
Payne	Central Park-Grey			Hartrey-Grey
Grant	Crawford-Prairie		Bennett-Grey	Lawndale-Bennett Grey-Prairie
McCormick	all	all		

ROUTE TABLES (cont.)

Street Name	As Is	First Tier	Second Tier	Third Tier
McDaniel	Lake-Church Elgin-Isabella	Elgin-Isabella	Greenleaf-Dempster	Main-Greenleaf Dempster-Greenwood Lake-Church
Hartrey	Howard-1 st cul de sac Payne-Central			Howard-1 st cul de sac Warren-Cleveland Payne-Central
Dodge	Howard-Simpson	Howard-Simpson		
Asbury	Howard-Main Lincoln-Isabella	Howard-Green Bay		
Barton				Howard-Brummel Hull-Oakton
Ridge				Brummel-Mulford
Custer	all	Howard-South Blvd.		
Chicago	Howard-Greenleaf	Howard-end		
Darrow		Mulford-Oakton		
Dewey	South Blvd.-Main	Oakton-Main		Lake-Church
Florence	Mulford-Main		Lee-Greenleaf	Greenleaf-Dempster
Wesley	Oakton-Simpson		Grove-Church	Oakton-Grove Church-Simpson
Elmwood	Main-Davis	Main-Grove	Grove-Davis	Oakton-Main
Hinman	South Blvd.-Sheridan		Dempster-Clark	South Blvd.-Dempster Clark-Sheridan
Judson	South Blvd.-Lake		Greenleaf-Clark	Kedzie-Greenleaf
Forest	South Blvd.-Lake Shore			South Blvd.-Lake Shore
Michigan	South Blvd.-Main			Keeney-Main
Sheridan/Edgemere/ Lake shore	all	all		
Fowler				Main-Church

ROUTE TABLES (cont.)

Street Name	As Is	First Tier	Second Tier	Third Tier
Ashland	Main-Crain		Simpson-Noyes	Dempster-Grove Foster-Simpson Lincoln-Isabella
Sherman	Dempster-Lake Clark-Central		Lake-Central	Monroe-Greenleaf
Oak	Larimer Park-Davis			Davis-Clark
Maple	Maine-Noyes		Lake-Davis Church-Simpson	Davis-Church Simpson-Noyes
Pitner				Cleveland-Main Lake-Church
Grey				Lake-Church Payne-Grant
University				Elgin-east end
Orrington	Emerson-Ingleside	Emerson-Ingleside		Sherman-Clark
Ridge	Emerson-north end	Emerson-north end		
Campus	bike path-Lincoln	bike path-Lincoln	University-bike path	
Eastwood				Lincoln-Chancellor
Woodbine				Livingston-Isabella
Broadway				Chancellor-Isabella
Crawford	Simpson-Gross Point			Simpson-Gross Point
Prospect				Simpson-Central
Highland				Central-Isabella
Central Park	Simpson-Isabella	Simpson-Isabella		
Green Bay	Emerson-McCormick	Emerson-Isabella		
Thayer/Crawford	Gross Point-Old Glenview	Gross Point-Old Glenview		
Gross Point			Thayer-Isabella	Harrison-Thayer

ROUTE TABLES (cont.)

Street Name	As Is	First Tier	Second Tier	Third Tier
Prairie	Grant-Lincoln			Grant-Lincoln Livingston-Isabella
Poplar	McCormick-Livingston	McCormick-north end		

Table D-3 OBSTACLES

	Obstacle	Location
1	very narrow and bad pavement	Sheridan Rd south of South Blvd.
2	traffic humps---not cut for bikes	Hinman between Greenleaf and Greenwood Hartrey and Brown between Church and Emerson
3	Roundabouts	Greenwood between Darrow and Asbury
4	generally bike unfriendly, especially for kids---no biking on sidewalks and the roads are too dangerous	downtown Evanston
5	Pedestrians	along lakefront bike path
6	drug dealers	Ashland and Simpson
7	bad intersection	Dodge/Main Kedzie/Sheridan Green Bay/Asbury Elmwood/Main Green Bay/Ridge GreenBay/McCormick Central/Eastwood
8	bad street	west end of Howard Asbury near Emerson Emerson east of Ridge Ridge north of Isabella Central Park north of Central
9	Misleading bike thoroughfare; several of the canal crossings are bad	Church, Dempster, and Main bridges are in bad shape or are dangerous for bikes
10	bad traffic conditions	Howard Chicago Ridge/Main Darrow/Church Dempster between Chicago and Hinman
11	Sheridan Road generally has bad pavement, bad traffic, and dangerous conditions	all
12	path from Washington to bike path (is difficult)	from Washington to McCormick path
13	bike parking needs	downtown, along Ladd Arboretum
14	needs lights	Mulford/Asbury
15	no sidewalk	Oakton west of Hartrey
16	this is an impediment to opening up the intersection	near Hartrey and Oakton
17	there is no stop light here	Ridge and South Blvd
18	bike path on sidewalk	lakefront path south of Lee

OBSTACLES (continued)

	Obstacle	Location
19	gate on sidewalk	Edgemere at Main
20	inconvenient one-way streets	Church and Davis in downtown
21	bike path in bad shape	McCormick bike path near Hartrey
22	poor signing to Green Bay, no direct connection	Green Bay and Isabella
23	bad sidewalk	McCormick bike path south of Howard
24	there is no good way around St. Francis hospital, neither from east nor west	Ridge/Mulford/Hull/Sherman
25	blind, narrow, slippery, bad stop sign compliance	Oakton to South Blvd. under train tracks
26	bad crossing at Dempster	McDaniel and Dempster
27	truck traffic during business day	Greenwood west of Dodge
28	blind corner	around campus lakefront bike path
29	brick pavement	Asbury north of Noyes
30	high ridge crossing	north end of Gross Point
31	one way the wrong way	east end of Edgemere between Main and Lee
32	street narrows	Asbury at Main
33	insufficient connections through Crown Park	Main/Florence/Lee/Dodge
34	trail ends with no place to go---ramp please!	McCormick and Green Bay
35	getting the light is difficult here (the sensor does not respond to bicyclists)	McDaniel and Elgin
36	parking garage entrance! busy!	Clark between Hinman and Chicago
37	lots of lights	Crawford/Gross Point/Central
38	high traffic, narrow road	Central west of Green Bay
39	cul de sac	south end of Prospect
40	road too thin with parking	Central east of McDaniel
41	poor visibility at intersection---needs stop signs	Maple and Grove

Table D-4 Opportunities

	Opportunity	Location
1	Ridge bikeway	Ridge between Howard and Green Bay
2	Metra route dream	bike path along entire Metra line
3	golfers' bridge	across canal east of Green Bay
4	realign streets within campus for a secondary route	Northwestern campus near lake
5	connection to Green Bay Trail	north of Isabella
6	narrow street/ few cars on Sherman	between Greenwood and Lake
7	Alley	near Garrison between Central and Isabella
8	good street, bad pavement	Isabella near Ashland
9	Mulford to Hartrey: cut through under Skokie Swift	near James Park
10	extend path on East side of canal	Main to Howard
11	separate bikes from pedestrians	on lakefront path
12	opportunity to open up intersection	near Hartrey and Oakton
13	bikes get through, not cars	on Greenleaf at Pitner
14	bike through park	Larimer Park at Oak and Crain
15	sidewalk entrance	at lakefront path near Hamilton
16	through Northwestern campus	near lakefront
17	pave arboretum bike path	along McCormick
18	make cut through Tallmadge Park	from Noyes to Colfax
19	use sidewalk from Girard to Girard	between Central and Isabella
20	use sidewalk from Byron to Isabella	between Central and Isabella
21	access from Park to Crawford	
22	Sterling Place to Wilmette ave	north of Isabella
24	historic district	Hinman near Keeney and Kedzie
25	fix and widen sidewalk	Sheridan near Calvary cemetery
25	mountain bike trail on Mt. Trashmore	James Park
27	make bike lane reversible	near Edgemere on lakefront trail
28	make bike lane on Asbury	north of Main

OPPORTUNITIES (cont.)

29	make area better for bikes in general	McCormick trail near Green Bay
30	golf course for nature	near Central and Green Bay
31	good alternative route to Green Bay Trail	Poplar/Prairie north of Central
32	use trail here; electric line clear to Milwaukee; Skokie Swift tracks dream	north of Howard
33	a good way to get to Chicago lakeshore path	through Cavalry Cemetery
34	fix ability to cross	Dempster/McDaniel
35	put a cut-through for bikes	cul de sac at Greenwood and Dodge
37	more bike racks downtown and throughout town	
38	bike racks at el stops	all el stops
39	Willard School	Central Park and Park
40	Lincolnwood School	McDaniel and Grant
41	better way across Green Bay to Noyes	form McCormick bike path
42	tunnel under Metra	by Green Bay and Noyes