Northfield
Walkability Assessment and Workshop
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Chicago Metropolitan Agency for Planning
Chicago Area Transportation Study
Village of Northfield
Introduction

Final Report
This is the final report of a workshop to study walkability and the travel environment in Northfield. The workshop focused on the village's core, near Happ Road at Willow Road. The workshop also examined a mostly commercial area along Northfield Road. This report presents the same ideas presented to workshop participants to enrich community understanding of concepts and tools for making Northfield more walkable.

Chicago Metropolitan Agency for Planning
To integrate planning for transportation and land use, the Chicago Metropolitan Agency for Planning (CMAP) has been created by merging the staffs of the Chicago Area Transportation Study (CATS) and the Northeastern Illinois Planning Commission (NIPC). CMAP serves the counties of Cook, DuPage, Kane, Kendall, Lake, McHenry, and Will.

Palatine-Willow Corridor Study.
This workshop was conducted as part of the Palatine Willow Corridor Study by Glatting Jackson and the Chicago Area Transportation Study with the cooperation of the Village of Northfield. The workshop was intended to address issues related to pedestrian travel and safety that were raised early in the corridor study. Addressing such issues will encourage walking and bicycling, reducing the need for arterial automotive travel for local trips and reducing crashes.
What is Walkability?

To understand the value of this workshop, it is a good start to discuss walkability itself. To be safe and comfortable as pedestrians, we need facilities to complement our streets and built environment. The design and construction of sidewalks, paths, and crossings determines how effectively we can get where we want and need to go by walking.

What truly makes communities walkable is the relationship between the way its people move around on foot and the destinations and attractions to which they are moving. The nature of pedestrian facilities may be different based on what part of our community we are in, but we expect the same comfort and safety from one place to another.

People created cities and towns to minimize the need for and the distance of travel and to maximize the exchange of people, goods, services, culture, information and wisdom. The best cities and towns are places that are fully accessible by the most basic form of transportation—our feet.
What is Walkability?

The most walkable communities are those that have succeeded in bringing all of these elements together. When land use and development are coordinated and ordered to allow the pedestrian as much comfort in reaching their destinations as the driver, the community is truly open and accessible to everyone. Adjacency and human scale drive the design of these places, not a need to accommodate the automobile.
Walkability is an important concern for all users of the environment. People of all ages have social priorities and needs that are more easily met when they have the independence of mobility.

As much as walkability promotes independence, it is also an important contributor to the strength of our sense of community—namely, of interdependence, social interaction, and common ownership of our cities and towns. Only in walkable environments do streets truly become public space, the incubator of cities' imperative for exchange.

While this workshop focused on the technical aspects of Northfield's pedestrian environment, it asked larger questions of how pedestrians could understand and navigate their community and the nature of the community itself. While Northfield is an established community, it seems to have redeveloped over time in a way that has not preserved connectivity. It is important now more than ever to define and maintain what kinds of connections it will have, starting with the Village's existing built environment.
Walkability Design

What are walkability's technical concerns? Moreover, what are the concerns in designing for everyone—those with disabilities and other special needs?

This section defines some of the major technical issues of walkability: how paths are aligned, how wide they should be, where crossings are appropriately placed with respect to cars, how streets should be designed and configured to be amenable to pedestrians, and how to account for those with special needs. These ideas were presented to workshop participants as a general lexicon of the tools used to improve walkability. By beginning the workshop with a discussion of these issues, the workshop facilitators allowed the participants to understand these issues more precisely and approach a survey of their own environments with a working knowledge of its technical dimensions.
**Walkability Design: Crossing Concerns**

Good practice in placing crossings calls for them to be in a consistent path with the sidewalk. If this is not possible, deviation from the sidewalk's path should be minimized.

In general, crossings should be of adequate width for the volume of pedestrians that the street is carrying. They should not be significantly narrower than their corresponding sidewalks, though accessible ramps are not always the full width of the sidewalk or crossing.

*Crossing enhancements (especially stripes) should be maintained to draw motorist attention to pedestrian zones. Crossings that are not maintained lead to less certain (and less visible) pedestrian paths.*

*Tactile edges allow the vision-impaired to sense the edge of the ‘safe zone’ for pedestrians and know they are crossing traffic. The same treatment allows medians to be used as refuge islands.*

*Crossings should be wide enough to accommodate the expected volumes, including people with disabilities.*
Walkability Design: Alignment

The alignment of sidewalks and paths should allow pedestrians to find their path intuitively, especially for vision- and mobility-impaired pedestrians. This is particularly important in guiding pedestrians to crossings. The lines of guidance, or shorelines, make use of existing features such as landscaping or building walls to establish the alignment of the path.

As seen in the illustration to the left, the sidewalk here crosses the driveway with the shorelines marked in brick texture establishing an 'outer boundary' of the crossing area.

Shorelines guide pedestrians through crossings, establishing where the crossing will connect again with the sidewalk.

State St and Maulson St, Chicago. Buildings can be used to establish shorelines, guiding pedestrians into the walkway.
Walkability Design: Accessibility

Accommodating ADA-compliant crossings with different turning radii requires special treatment, usually in the number and alignment of the crossing ramps at the curb. Single ramps to accommodate both sidewalk directions may be used due to cost constraints, but they should not be used on smaller radii where pedestrians, especially those who are mobility-impaired, are forced by the ramp to move directly into the travel lanes of the intersecting streets (above left).

- **Acceptable**
- **NOT Acceptable**
- **NOT Acceptable**

At this intersection in Honolulu, the left corner uses a single ramp to access both crossings, acceptable on a large radius. The right corner uses a single ramp on a much smaller radius, which leads to potential conflicts.

- **NOT acceptable**: wheelchairs forced to enter travel lanes to reach crosswalk
- **Acceptable**: wide radius, room to avoid travel lanes
Improving the Safety of Streets

Design of facilities is not the only consideration: pedestrians are most often traveling along streets and roads along with vehicles; even if their paths are separated, streets will not be amenable to pedestrians unless their design reflects the scale and needs of people.

These principles describe the various ways that pedestrian safety is addressed. This is not only making sidewalks and crossings safe, but designing the parts of streets intended for vehicles in a way that tames their behavior. As the primary goal of pedestrian safety concerns is to reduce the chance for conflict between vehicles and pedestrians, these techniques demonstrate approaches for each.
Improving the Safety of Streets: Driveway Crossings

Effect of Corner Turning Radii on Pedestrian Crossing Distances

The wider a turning radius, the greater the distance a pedestrian must travel to cross the street at a corner. The extended distance increases the potential for conflicts, especially toward the edges of the crossing areas (the corners) where motorist attention may be diverted to checking for oncoming traffic before making turns.

In addition to managing access through driveway density, it is important to ensure that turning radii at corners—even corners of streets and driveways—are adequate to allow safe movement but not overly wide.

<table>
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<tr>
<th>Radius</th>
<th>Crossing Distance</th>
<th>Increased Crossing</th>
<th>Percent Increase</th>
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<td>50'</td>
<td>89'</td>
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Improving the Safety of Streets: Roadway Crossings

Mid-block crossings are appropriate on longer block lengths. Though intersections are the preferred locations for pedestrian crossings, when block lengths exceed 400 feet it is a good idea to consider formalized mid-block crossings to avoid 'improvised crossings' from pedestrians that may be unsafe. Using a diagonal shift from one leg of the crossing to the next allow pedestrians to have refuge, using a median island, and physically shift the pedestrian's direction toward motorists, forcing them to look toward oncoming traffic.
Improving the Safety of Streets: Lanes

Lane width is an important—if underestimated—dimension of roadway design in determining vehicle speed and overall safety. Lane widths of ten feet satisfy the needs of moving vehicles on urban streets, allowing ample separation for both cars and trucks (upper right). Eleven-foot lane widths are acceptable, though twelve-foot widths should be avoided on urban streets.

Many urban streets have been designed to the specifications of rural roads and highways, namely with wider lanes and overall wider roadways. While these oversized streets may pass through urban areas with lower posted speeds, they nonetheless offer the motorist the space and comfort needed to drive at higher speeds. Only by seeking consistency between posted speeds and road design speeds can motorist behavior be modified to make streets more walkable. The following page illustrates practical roadways design dimensions for a street that should accommodate 25-35 mile-per-hour speeds.

Controlling and reducing excessive travel lane width allows the same roadway to accommodate additional functions, such as turning lanes to keep through traffic flowing without impediment (upper left and upper right) and on-street parking to enhance viability and access to land uses along the street.
Improving the Safety of Streets: Lanes

A wide outer travel lane encourages high speed travel and turning movements. Pedestrians have ample room in this configuration but are not protected from right turns in and out of driveways when they must cross them.

High vehicle speeds are a well-understood impediment to walkability, but it is often the case that reconfiguration of the roadway—in a way that benefits the pedestrian, the bicyclist, and the community—is the most effective means of controlling speeds.

The upper illustration and diagram show one half of a bifurcated roadway with a wide outer travel lane designed to accommodate turning, acceleration/deceleration, and potentially on-street parking. Reducing the width of this outer travel lane to allow a bicycle lane narrows the motorist's visual focal length and adds a sense of enclosure that causes the typical motorist to drive more cautiously (i.e. slowly).

Further reductions in the sidewalk width and a bicycle lane can accommodate on-street parking, facilitating a transfer of land development from a parking- and auto-oriented configuration to one that places buildings next to the streets and creates a stronger pedestrian realm. Buffers between pedestrians and traffic composed of parking, landscaping, and/or street furniture provide an enhancement to pedestrian safety.

Addition of bike lanes provides dedicated space for cyclists and narrows the outer lane. Reductions from 12-foot to 11-foot lanes have been shown to result in speed reductions of up to 20 percent.

Further addition of on-street parking provides additional separation between pedestrians and moving vehicles. With narrower travel lanes (e.g. 10 feet) sidewalk width can be maintained.
Improving the Safety of Streets: Roadway Dimensions

25-35 mph Design
With these dimensions most motorists feel comfortable traveling at or below 35 mph. Speeding is reduced with these dimensions.

Sidewalk attached to curb
Minimum width 6 feet, with 7-8 feet preferred. When next to retaining wall minimum width is 8 feet.

Median Varies
6-7 feet acceptable to allow for landscaping, 8 feet strongly preferred. Maintenance and adequate pedestrian storage accommodated in crossings.

Ten Inch Line
8-10" line is used; Preference is 10 inches Thermoplastic or Other low maintenance line

Bike Lane: Six Feet
Critical curb-to-curb dimension. Without six feet in bike lane many functions fail, such as having space for cars to pull into to let emergency response teams get by.

4-8 Feet
Preference is 6 feet with trees set back four feet from the curb

Trees to form tall vertical wall
Trees are spaced 30-36 feet apart. They can be placed close to curb only when bike lanes or on-street parking create extra border width from moving vehicles.

Sidewalk Five Feet
Increased to eight feet near schools

Please refer to the Sources of Information at the end of this report for articles and technical reports on road diets and dimensions.

Northfield Walkability Workshop
Improving the Safety of Streets: Intersections

Large intersections do not have to be impediments to connectivity, but they must be given special treatment to optimize safety and accessibility.

Medians as refuge islands
Medians should be extended through the alignment of the sidewalk to allow them to function as pedestrian islands.

Correct crossing placement
Crossings should be ahead of the stop bar to keep motorists (especially right turns) from violating the pedestrian's right-of-way.

Bicycle lane transitions
Bicycle lanes should be aligned to direct traffic through the intersection, meaning right-turn vehicle lanes are aligned outside of them. Proper striping to guide the bicycle lane and to alert the motorists of this change in alignment will allow for a safe and effective transition.

Please refer to the Sources of Information at the end of this report for articles and technical reports on Intersections.
Improving the Safety of Streets: Intersections and Conflicts

At larger intersections, right-turn slip lanes provide additional storage room for vehicles attempting right turns and, in volumes that do not exceed the length of the lane, allow the outer travel lane of the street to be reserved for through traffic. While they have advantages to motorists and are beneficial from a traffic engineering perspective, they can be a detriment to a safe and convenient pedestrian environment: they increase the distance pedestrians must travel from corner to corner when crossing a street, their curve suggests that motorists may make the turn without slowing, and indeed upon intersecting with the cross street (onto which they are turning) they are practically aligned with it.

The typical approach to planning slip lanes has been an evenly rounded turning radius, facilitating speed and movement in right turns. The workshop discussed a new approach that follows a more gradually curving geometry that approaches the cross street at a tighter, more perpendicular angle. This serves two primary advantages for the pedestrian: pedestrians can cross closer to their parallel street, and motorists are slowing as they approach the cross street due to this slip lane's more perpendicular alignment.
Improving the Safety of Streets: Intersections and Conflicts

When these slip lanes are augmented by pedestrian crossings that take advantage of them, they function as refuge islands between vehicles making right turns and those moving through the intersection, and they allow the paths of sidewalks to remain aligned mostly parallel to the streets with minimal diversion.
Improving the Safety of Streets: Roundabouts

At certain intersections, placement of a roundabout can greatly facilitate through traffic and turning movements without requiring signal control. They are made up of a circulating roadway with an island that is often used for landscaping or other decorative features. The circulating roadway is typically wider than the approach roadways and features an additional 'apron' against the edges of the island; both of these features allow for operating contingencies, especially with trucks, emergency response vehicles, and other large vehicles.

Roundabouts have been demonstrated to simultaneously increase intersection capacity and safety: as the only requirement for yielding the right-of-way is to traffic already in the circulating roadway, vehicles can continue moving through intersections carrying a light volume, requiring no queue at the approach roadways and potentially allowing all intersecting streets to use the intersection at once.

Bradenton Beach, Florida. This high-volume intersection was one of the town's most dangerous for pedestrians, though immediately adjacent to its prime amenity.

Installation of a roundabout calmed traffic speeds and facilitated pedestrian crossing. It also improved property values and catalyzed redevelopment.

Roundabout design parameters are defined in the AASHO Green Book (refer to Sources of Information at the end of this report).
Improving the Safety of Streets: Roundabouts

Roundabouts provide safer and more amenable pedestrian crossings as well, namely from use of the splitter island as a pedestrian refuge. Allowing one car length between the pedestrian crossing and the circulating roadway optimizes roundabout efficiency for vehicles, allowing vehicles waiting to enter the circulating roadway to be closer to it and preserving a safe distance between pedestrians and vehicles.

One very important safety feature of roundabouts is their reduction of conflict opportunities: when crossing, pedestrians face only one potential conflict (traffic either entering or exiting the roundabout, divided by the splitter island), and not the multiple conflicts in full-crossing intersections.

FOUR-WAY INTERSECTION
32 Vehicle-Vehicle conflicts
24 Vehicle-Pedestrian conflicts

THREE-WAY (‘T’) INTERSECTION
9 Vehicle-Vehicle conflicts
12 Vehicle-Pedestrian conflicts

ROUNDABOUT
8 Vehicle-Vehicle conflicts
8 Vehicle-Pedestrian conflicts
Connectivity

The degree to which communities are connected has strong implications for how well they will serve pedestrians. The greater the number of opportunities to form direct paths, to choose between alternative routes, and generally to navigate through our built environment, the more attractive and practical walking becomes as an option. In any event, we try to minimize the length of trips, to save energy and to save time. The diagram below illustrates four different prototypical development patterns, each found commonly throughout the United States. The traditional pattern of our older cities is the most connected and offers the greatest opportunity for destinations: streets are more closely spaced and all streets are fronted with buildings. On the other end of this cross-section is the single-entry subdivision, accessible only by one intersection and thoroughly dependent on larger main streets for outside travel.

**Traditional**
- 200’ – 600’ street spacing
- 200 – 600’ spacing between bike/ped crossings
- All Streets Fronted

**Interior**
- 1000’ street spacing
- 400 – 600’ Spacing between bike/ped crossings
- Connectors Fronted

**Perimeter**
- 1000’ – 2000’ street spacing
- 600 – 800’ Spacing between bike/ped crossings
- Connectors Walled

**Single Entry**
- No network of streets
- Single bike/ped crossing at entry point
- No connection of streets.
This illustration underscores the importance of connectivity—or rather, the consequences that we may face when we do not provide for it. Though the actual distance between the house circled in yellow and the house circled in blue is not more than two hundred feet, the street path that must be taken is many times that. Where connectivity would make walking between these two points a highly practical option, the lack of connectivity makes it highly inconvenient. Walkability depends on connectivity to make moving around on foot an attractive and useful choice.
Walkability Support

Understanding walkability means that we recognize how our environments work for us in walking and bicycling. The built landscape ranges widely in its friendliness to pedestrians.

The scale and illustrations to the left demonstrate this wide range and provide visual examples of the different types of environments. As much as a quarter of the built environment is not friendly to pedestrians, providing either no walking facilities at all or at least making them inconvenient. However, much of what we have around us is tolerant of walking. These are places where we can walk, but where walking might not be as rewarding as it could be.

Those pedestrian environments that truly make place are the ‘prize’ of promoting walkability. Of course, not everywhere will fully reach this level: these generally make up only five percent of our cities and towns. They are the places that are special to us, where we know where we are without question.

Communities that actively promote walkability understand that walking-tolerant environments can always be improved and made to be walking-supportive.
The amount of connection has important ramifications for how well a community's residents can move around: on foot or even by vehicle. The diagrams here show connectivity in Roswell, Georgia, with all streets in the town shown on the left and only those streets that have a direct connection to other streets shown on the right. Nearly 80 percent of the total street length of the town is in dead-end streets that only have one opportunity for connection to another street, many of these in subdivisions with single points of entry. As previous illustrations have shown, this increases the distance from one place to another by requiring travelers to take longer paths—essentially to reach a destination much closer than their path would suggest.
These diagrams illustrate the difference in trip lengths from communities built on a traditional model of connected streets and mixed uses (left) and conventional suburban patterns that have emerged since the 1950s (right). Note that in the conventional community every trip to or from residential areas (shown in yellow) must pass through one or two entry points to reach shopping, work, or recreational opportunities. In addition to having these amenities within the community (accommodating more of the community’s needs in the community), the traditional pattern allows a greater number of exits when one must leave to reach another destination and a variety of paths to reach those exits— all shortening trip lengths and time required to travel.
Connectivity: Consequences for Traffic

Connectivity gives greater options for vehicle movements as well. The two diagrams here illustrate the same capacity in each direction: four total lanes north and south, six total lanes east and west. In the diagram on the left, all of these lanes must be distributed through a single intersection. Assuming this intersection is signalized, the wait times are longer, where the network principle has minimal wait times and increased turning opportunities at each intersection.

The difference also has implications for pedestrians: instead of crossing narrower streets that have collectively distributed traffic flow of a larger area, pedestrians must cross larger, busier roads that are less safe and potentially require greater crossing time.
The workshop was organized around a presentation of the ideas discussed thus far in this report and engaged the participants in a walking audit and design session. The focus of the workshop was on Happ Road at Willow Road, or around Northfield’s civic facilities. Workshop participants investigated such concepts as roundabouts at the Happ/Winnetka and Northfield/Willow intersections and establishing greater connectivity around Happ Road, Orchard Lane and the Dominick’s supermarket.
The Workshop

Breakout sessions allowed participants to explore their ideas from the walking audit on paper, detailing improvements they would like to see and applying the walkability principles discussed earlier in the workshop session to an aerial photograph of the intersection.
General Recommendations for Northfield

Central Northfield’s pedestrian system offers good connections, but many (well-intentioned) treatments have led to problems.

It is important to provide facilities on a grade equal to or higher than that of the roadway, unless the lower grade of the sidewalk has adequate drainage facilities that prevent flooding. Different points along the east side of Happ Road showed signs of water accumulation, which can make the sidewalk unusable.

Additionally, where medians and landscaping treatments may be used to enhance the pedestrian environment, what is essential is a clear, direct path providing confidence and convenience for those for whom walking may present challenges.

The images here illustrate some of these problems and point to concerns to be kept in mind when developing future pedestrian facilities.

Crossings should be clear of obstacles—even those that are designed to be easily surmountable. Here a mobility-impaired pedestrian would need to walk closer to the path of moving vehicles to circumvent this low median.
Recommendations: What Should Northfield Study In Depth?

Workshop participants developed and discussed the ideas presented in the previous pages. It should be noted that these ideas are conceptual and will need further technical study to be developed into a form that can be applied in the community. However, they reflect the participants' understanding of the concepts presented in the workshop and their contribution to a vision for how central Northfield's streets can be made safer, more efficient, and more convenient for all users.

Technical details on the recommendations have been limited to observations on challenges and opportunities of that particular treatment.
Recommendations: What Should Northfield Study In Depth?

Realignment of Orchard Lane from Happ to Northfield. To maximize connectivity and convenience, participants suggested moving the present alignment of Orchard Lane west of Happ Road to provide a more direct connection between Happ, the Dominick's supermarket, and Northfield Road. This restores a true street to the local network as well as restoring development opportunities currently lost to vehicle circulation. The location of the ComEd transformer tower was noted; any alternative alignments would need to factor this as immovable.

Orchard remains a two-way street with more direct connectivity to Northfield Road. The drive aisles of the Dominick's parking lot in front of the store, currently accommodating two-way yields, can be returned to operation as a public street, restoring a connection to the street network.

Sidewalks already on either side of Orchard would continue to serve Dominick's and its parking facility. The trail west of Northfield Road would align with the south sidewalk on Orchard Lane and the two would be linked by a common crossing.

A more direct, established pedestrian connection from the Village library/public works office to Dominick's. Future trail on the UP right-of-way crosses the street at a more direct approach and perpendicular angle than the current S-curve in the Orchard-Dominick's access allows. As a public street with Village maintenance, additional crossing facilities (tables, textured/colored walks) could be added from Dominick's to its parking.

Additionally, reduced turning angles facilitate movement of emergency vehicles. On-street parking in front of Dominick's can be used for 'express' or handicapped parking.
Recommendations: What Should Northfield Study In Depth?

Roundabout at Happ/Orchard/Walnut. Participants noted both the complications of this five-point intersection and the proximity to the new public square adjacent to Village Hall. They suggested a roundabout that would allow each intersecting street to approach the circle directly (and not intersect in a single access point, as Walnut and Orchard do now) and that would enhance the aesthetic and civic value of the Village Hall square by adding landscape opportunities in the roundabout's central island.

FUNCTION FOR VEHICLES

Turning movements are facilitated by providing separate access to Walnut and Orchard (east of Happ). In particular, the 'multi-step' turning movements required for these two streets complicate the current intersection.

FUNCTION FOR PEDESTRIANS/CYCLISTS

Crossings over each of the approach roadways with splitter islands to provide refuge. Pedestrians do not need to cross into the roundabout island.

SAFETY IMPROVEMENTS FOR PEDESTRIANS/CYCLISTS

Crossings through splitter islands allow pedestrians simplified set of conflicts to negotiate and a refuge island before negotiating other conflicts. Separation of Walnut and Orchard (east) approach roadways shortens the distance currently required to cross the roadway where they jointly intersect with Happ Road.

In general, while not necessarily a direct benefit to safety, the roundabout helps to anchor this intersection in Northfield's center and to create the '100 percent location' that is an active agent in commercial and civic life.
 Recommendations: What Should Northfield Study In Depth?

**Median treatments along Willow.** Enhancing medians on Willow Road will improve the safety of crossings by allowing refuge islands, providing a more consistent set of facilities for pedestrians unable to cross it in a single pass. When coupled with lane diets, the reduced vehicle speeds on Willow Road will also contribute to improved pedestrian safety.

*Turning opportunities are either shortened or eliminated, though median treatments should not completely eliminate access to cross streets.*

**Function for Vehicles**

Right turn movements are facilitated with slip lanes, though these should be designed to preserve a perpendicular angle for pedestrian crossings as much as possible.

**Function for Pedestrians/Cyclists**

Sidewalks already on or intended for streets are closer to the entrances of businesses. Crossings are continued through intersections as normal, not diverted to bypass the 'nose' of medians.

**Safety Improvements for Pedestrians/Cyclists**

Extended medians allow an opportunity for refuge in normal crosswalks. Willow is currently four to five lanes, depending on the section, and pedestrians attempting to cross it must compete with turning movements from busy cross-streets.

The addition of pork-chop islands, where the cross-section width and property constraints allow, would provide additional refuge and allow pedestrians to navigate signals that do not disallow right turns through red lights.
Recommendations: What Should Northfield Study In Depth?

Focus redevelopment on street-oriented buildings and urban design. As development pressure leads to redevelopment activity in Northfield's center, workshop participants expressed an interest in development that places buildings next to the street and fully engages it as public space. These traditional development patterns would not only allow the pedestrian greater proximity to new land uses from the sidewalk, they would also help to create safer streets by calming traffic—discussions mentioned previously on roadside elements as speed-controlling devices have been derived in part from the study of building location relative to streets.

**FUNCTION FOR VEHICLES**
Parking is generally relocated behind buildings, with greater utilization of on-street parking for immediate access to the fronts of buildings.

**FUNCTION FOR PEDESTRIANS/CYCLISTS**
Sidewalks already on or intended for streets are closer to the entrances of businesses, allowing pedestrians direct connection.

**SAFETY IMPROVEMENTS FOR PEDESTRIANS/CYCLISTS**
Pedestrians are closer to businesses, shortening the distance they must travel from street to front door and exposing them to fewer potential conflicts (especially with vehicles in parking areas). Added ‘roadside elements’ (in this case, buildings) further reduce motorists' speeds and enforce calmer behavior.
Recommendations: What Should Northfield Study In Depth?

Off-street bicycle facilities are an opportunity for strengthening Northfield’s core as well as providing safe travel options to businesses, schools, parks, and forest preserves. The Union Pacific Railroad has discontinued service along its Skokie Valley Route (corridor in red at right). Northfield and neighboring communities may use this right-of-way to provide non-motorized links to community, commercial, and civic assets. However, at-grade crossings of highways need to be addressed. In Northfield, the proposed facility’s crossing of Willow Road should be studied.

Three options for the Skokie Valley bicycle facility’s crossing of Willow Road were discussed during the workshop. The simplest and least expensive solution is to reroute the bicycle facility to a nearby intersection crossing, but this solution would leave many conflicts between motorists and trail users. A bridge over Willow Road was also discussed. This would present a design challenge because of the electric transmission lines overhead and long approach slopes required to maintain accessibility for people with disabilities, but could be an attractive community asset. Another alternative discussed is to divert the trail adjacent to the Chicago River, then routing the trail under Willow Road at the bridge, after which the trail could re-join the rail right-of-way. This option may be considered as part of IDOT’s bridge project.

**FUNCTION FOR VEHICLES**

Diverts local vehicle traffic off of arterial roads.

**FUNCTION FOR PEDESTRIANS/ CYCLISTS**

Off-street paths are attractive to a wide variety of users. The Union Pacific Skokie Valley right-of-way would provide non-motorized routes to area schools and businesses, and a route to Forest Preserve trails without needing to bicycle across Edens Expressway ramps.

**SAFETY IMPROVEMENTS FOR PEDESTRIANS/ CYCLISTS**

An off-street facility, particularly with a grade-separated crossing of Willow Road, would separate some non-motorized users from motor vehicles for trips along the corridor.
Ideas and Next Steps

While the workshop generated ideas and involved key participants in the community in a discussion of how to enhance walkability, it is certainly not an exhaustive approach to the issue. This report recommends the following as the logical next steps, although it should be noted that these are envisioned as a long-term set of efforts, the most crucial in the short term being the formation of a steering committee and preservation of the positive energy and ideas generated during this workshop.

Steering Committee/Strategic Advisory Group
Throughout a community's endeavors in promoting and enhancing walkability, it is important for a group of stakeholders to take ownership in the process, to convene regularly, and to represent and steward the original ideas of the workshops as local staff and elected officials consider how to implement them.

Priorities and Concerns
The steering committee understands the specific concepts discussed in the workshop and can help to identify priorities for how these concepts can be enacted by public agencies.

Plan Development
These priorities are usually expressed in adopted plans, whether for a larger transportation system, for more specific bicycle and pedestrian facilities, or a general capital improvement/public works plan. That addresses the major walkability issues of a community, defines technical standards for how facilities should be defined and constructed, and establishes a formal timetable for implementation.

Implementation
The agencies or bodies implementing the plan should continue to meet with the steering committee to discuss the plan as it is implemented and how future needs and priorities can be addressed and defined in a plan context.
Sources of Technical Information

Lane Widths and Road Diets


Landscaping as a Safety Device

Dumbaugh, Eric. ‘Safe Streets, Livable Streets.’ Journal of the American Planning Association, Volume 71, No. 3, Summer 2005. *This article reviews effects of roadside elements on vehicle crashes and motorist behavior, comparing an urban section of a Florida arterial with a relatively narrow cross section to a comparably wider section with similar volumes, finding a lower incidence of crashes and lower operating speeds.*

Roundabouts

Insurance Institute for Highway Safety. *Insurance Institute for Highway Safety Status Report.* Volume 40, No. 5, November 19, 2005. *This issue discusses the benefits for efficient traffic movement as well as the safety enhancements that come from roundabouts.*

American Association of State Highway and Transportation Officials (AASHTO). *A Policy on Geometric Design of Highways and Streets.* Fifth Edition, 2004. The AASHTO ‘Green Book’ details modern roundabout design and seeks to differentiate roundabouts from traffic circles or rotaries that have been in use in the United States. *It discusses the operational nature of roundabouts, entry approaches and pedestrian crossings.*

Intersections


Access Management

Iowa State University Center for Transportation Research and Education Access Management Toolkit. Available online at [http://www.ctre.iastate.edu/Research/access/toolkit/index.htm](http://www.ctre.iastate.edu/Research/access/toolkit/index.htm). *The toolkit provides a wide range of information on access management topics and treatments and applications of these topics.*