

Section 4 Pedestrian Facilities

The existing pedestrian facilities within the Rockford Area Transportation Study (RATS) Metropolitan Planning Area (MPA) were analyzed in order to identify gaps in the system and to outline a strategy for addressing these gaps.

This analysis was limited to arterial and collector roadways, as well as transit routes, within the MPA. It does not assess the condition of existing sidewalks. The analysis identified major gaps in sidewalks along arterial and collector roadways. Due to the regional nature of the analysis, missing or individual lot gaps in the sidewalk network were not identified. In addition, the analysis did not identify the presence of accessible ramps at crosswalks. The individual municipalities are encouraged to undertake a more thorough sidewalk investigation and analysis.

The objective of this pedestrian facility analysis is to provide a listing of roadways in need of pedestrian facilities, to determine gaps in the regional sidewalk network, and to prioritize need based on selected criteria.

4.1 Existing Conditions

With the exception of interstate and other limited access highways, all arterials, collectors, and bus routes were analyzed for the presence of sidewalks. Geographic data, aerial photography, and observations obtained through several site visits provided the primary sources of information for analyzing the existing conditions. Extensive sidewalk networks are present in the central areas of Rockford and Belvidere (See **Figure 4-1 Central Belvidere Sidewalk Network**).



Figure 4-1
Central Belvidere Sidewalk Network

The arterial and collector roadway database was provided by RATS and county agencies. The original database contained over one thousand roadway segments that were divided into pieces of varying lengths. For use within this geographic analysis, the arterial and collector roadways included within the database were reorganized into manageable and easily identifiable segments approximately one mile in length, partitioned at major intersections whenever possible. Within this discussion, “roadway segments” refer to the divided arterial and collector roadway portions that lack sidewalks.

Geographic Information Systems (GIS) calculated a total of 571.5 miles of roads to be surveyed for the presence of sidewalks. GIS helped to exclude roads that were ineligible

for further analysis, such as expressways, roads where sidewalks already exist, and roads outside of the Metropolitan Planning Area. 113.1 miles were excluded, resulting in a total of 458.4 miles to serve as the base inventory for further analysis. Gaps within the existing sidewalk network are shown on **Map 4-1, Missing Sidewalks Along Major Corridors**.

However, much of this mileage occurs on rural arterials where sidewalks are not considered practical. A two-part GIS analysis was used to prioritize the relative importance of the remaining roadway segments as part of a regional sidewalk network.

4.2 Facility Analysis

The analysis consisted of the following steps:

First, a series of “pedestrian priority areas” were designated. These areas were created by drawing one-quarter to one-half mile boundaries around land uses that generate pedestrian activity (See **Figure 4-2, Two-Step Pedestrian Facility Analysis** and **Map 4-2, Trip Generators**). One-quarter mile boundaries were drawn around those uses associated with primary destinations or those that are traveled to on a daily basis, whereas one-half mile boundaries were associated with destinations that are traveled to for special trips and for schools, which are likely to draw pedestrians from a larger area (See **Map 4-3, Pedestrian Facility Analysis**).

The one-quarter and one-half mile distances used in this analysis often are cited within urban planning literature as the distances that people within the United States are willing to walk to a destination. One-quarter mile is equivalent to an approximate 10-minute walk.

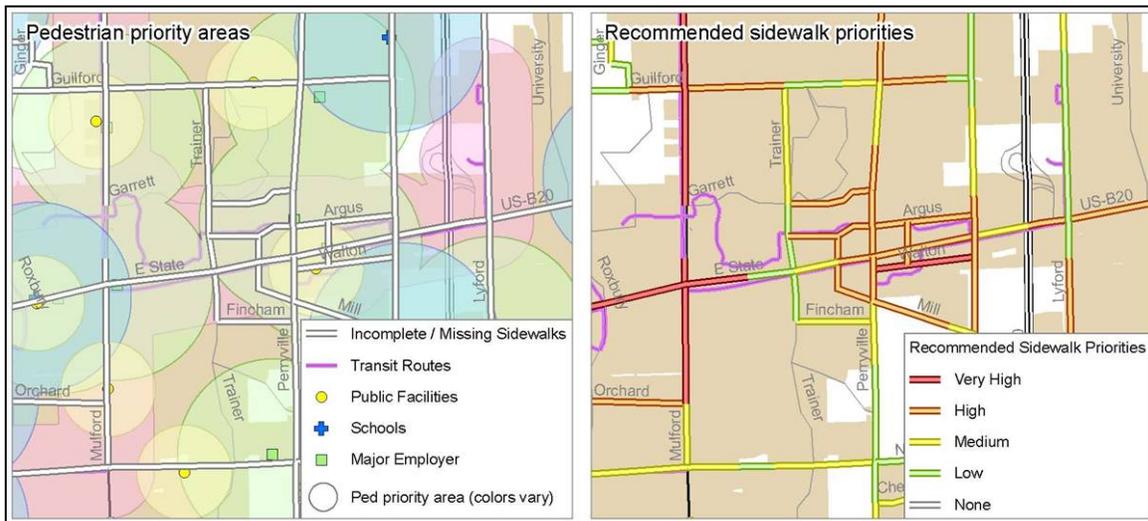


Figure 4-2

Two-Step Pedestrian Facility Analysis

Pedestrian priority areas were designated using the following criteria as pedestrian generators (See **Map 4-2**), with the selected walking radii for each type:

- Public facilities (i.e. recreation centers and museums) (1/2 mile)
- Schools and Colleges (1/2 mile)
- Major employers (1/4 mile)
- Commercial centers (1/4 mile)
- Bus routes (1/4 mile)

Second, roadway segments were assigned a score based on how many pedestrian priority areas overlapped each roadway segment. **Map 4-3, Pedestrian Facility Analysis** illustrates how the pedestrian priority areas overlap the roadway segments. The more pedestrian priority areas that overlapped a segment, the higher the scores calculated for these segments. Point values for each type of pedestrian improvement area were based partially on input from a community leader survey conducted in August 2006.

The 2006 survey listed the criteria used to evaluate the pedestrian priority areas and asked respondents to rate and to rank them according to their importance (See **Section 11 Stakeholder and Public Involvement**). Proximity to schools consistently was rated and ranked as the highest priority for locating sidewalk improvements. On a scale rating of one (least important) to five (most important), proximity to schools received an average rating of 4.6. Proximity to commercial centers, parks, and dense neighborhoods received an average rating of 4.3, whereas proximity to transit routes was rated with an average of 4.0. The lowest rated criterion was proximity to employers, which received an average rating of 3.6. Consequently, pedestrian priority areas surrounding schools were valued at two points; while all other pedestrian priority areas were valued at one point.

4.3 Proposed Improvements

The scores that were assigned to each roadway segment were used to place the segment into one of four priority categories. The categories range from “very high” (for segments within four or five pedestrian priority areas) to “not needed” (for segments not found within any pedestrian improvement areas). Prioritized segments are shown in **Map 4-4, Proposed Pedestrian Priorities**.

Table 4-1, Miles of Analyzed Sidewalks shows that 227.8 miles of sidewalks located within the MPA both were identified and prioritized using GIS analysis. This portion of the roadway network was analyzed further to identify costs based on priority and municipality. 230.6 miles (45%) of the arterial and collector roadway network that was missing sidewalks received no ranking score and was labeled as “not applicable,” because construction of sidewalks at these locations was not deemed necessary at this time.

Table 4-1 Miles of Analyzed Sidewalks	
Within Pedestrian Priority Areas	227.8
Outside Pedestrian Priority Areas	230.6
Total Miles	458.4

Table 4-2, Miles of Sidewalk Needs by Municipality and Priority, shows the length in miles of each category of prioritized sidewalk by municipality. A detailed table showing all roadway segments and their scores is provided in **Attachment A, Pedestrian Priorities**.

Table 4-2 Miles of Sidewalk Needs by Municipality and Priority						
Municipality	Priority				Total	Percent of Total
	Very High	High	Medium	Low		
Belvidere	0.0	2.9	2.0	10.1	14.9	6.6%
Caledonia	0.0	0.0	0.0	3.9	3.9	1.7%
Cherry Valley	0.3	0.4	5.3	5.0	11.0	4.8%
Loves Park	2.0	8.5	4.2	7.6	22.3	9.8%
Machesney Park	0.7	1.8	5.0	2.0	9.4	4.1%
New Milford	0.0	2.2	1.7	0.7	4.6	2.0%
Poplar Grove	0.0	0.0	0.0	3.0	3.0	1.3%
Rockford	13.8	32.0	28.0	27.3	101.0	44.4%
Roscoe	0.0	0.0	4.0	7.4	11.4	5.0%
Timberlane	0.0	0.0	0.0	0.0	0.0	0.0%
Unincorporated	0.0	1.2	5.2	35.9	42.3	18.6%
Winnebago	0.0	1.8	1.4	0.8	3.9	1.7%
Total	16.7	50.7	56.7	103.6	227.8	100%
Percent of Total	7.3%	22.3%	24.9%	45.5%	100%	

A draft version of **Map 4-4, Proposed Pedestrian Priorities** was discussed at the public workshop held in September 2006. Various community members and elected/appointed leaders from the MPA attended. With the aid of various maps depicting the roadway segments analyzed within this analysis, participants provided comment on the prioritized roadway segments.

Three main areas of focus for pedestrian facilities were identified within the context of these public discussions. They include the following:

State Street Corridor– This corridor has a significant number of prioritized roadway segments as indicated within this analysis.

- The State Street and Bell School intersection was cited at the public workshop as a particular concern due to the inability of pedestrians to cross nine lanes of traffic. Some participants suggested that a pedestrian bridge was needed.
- Senior citizens within the MPA have suggested that better crossings were necessary for State Street between Perryville, Fairview Avenue, and Calvin Park Boulevard.
- Increased signal crossing times and/or add an expanded median island on State Street are needed near the intersection of Perryville Road and State Street.
- The State Street and Morsay Road sections between Alpine Road and Calvin Park Boulevard provide access to several popular locations within the MPA. This is a dangerous roadway corridor for pedestrians due to the lack of sufficient facilities.

Forest Hills Road Corridor – Nearly all of Forest Hills Road was prioritized due its commercial nature. Since it is a major arterial with high speeds and several lanes, pedestrian improvements are necessary. High priority locations along this corridor include Forest Hills’ intersections with Alpine Road and Riverside Boulevard.

Spring Brook/Mulford Road - At this intersection, actuated signals are needed in order to improve the crossing conditions for bicycles and pedestrians due to the presence of the existing bicycle route on Spring Brook road and shared use path facilities within nearby Rock Valley College (See **Figure 4-3 Rock Valley College Shared-Use Path**).

The public comments were checked against prioritized segments to ensure that the concerns were addressed within this analysis.



Figure 4-3
Rock Valley College Shared-Use
Path

4.4 Cost Estimation

The typical construction cost of a sidewalk in the RATS region is approximately four dollars per square foot.¹ A standard five-foot sidewalk was used to estimate per-mile costs for construction. A 25% contingency cost also was applied to all estimates to account for additional costs related to engineering design.

Each municipality contained a different cost estimate based on size of incorporated area and the number of pedestrian improvement areas contained within each municipality. For example, the Village of Timberlane possessed no prioritized sidewalk segments, whereas Rockford has an inventory of prioritized sidewalk needs totaling more than \$21 million. In **Table 4-3, Sidewalk Construction Cost Estimates by Municipality and Priority**, cost estimates are expressed in thousands for each municipality within the MPA, and then further broken down by priority.

¹ City of Rockford, Department of Public Works, 2005. This cost includes labor and materials.

Table 4-3 Sidewalk Construction Cost Estimates by Municipality and Priority					
Municipality	Priority				Total Cost
	Very High	High	Medium	Low	
Belvidere	0	606,000	418,000	2,130,000	\$3,154,000
Caledonia	0	0	0	826,000	\$826,000
Cherry Valley	53,000	92,000	1,128,000	1,049,000	\$2,322,000
Loves Park	426,000	1,790,000	889,000	1,611,000	\$4,716,000
Machesney Park	139,000	374,000	1,049,000	421,000	\$1,983,000
New Milford	0	465,000	351,000	156,000	\$972,000
Poplar Grove	0	0	0	626,000	\$626,000
Rockford	2,906,000	6,763,000	5,905,000	5,764,000	\$21,338,000
Roscoe	0	0	851,000	1,564,000	\$2,415,000
Timberlane	0	0	0	0	\$0
Winnebago	0	372,000	301,000	160,000	\$833,000
Unincorporated	0	255,000	1,091,000	7,587,000	\$8,933,000
Total Cost (in thousands)	\$3,524,000	\$10,717,000	\$11,983,000	\$21,894,000	\$48,118,000

The cost estimates are intended to act as a guide for planning and budgeting. Estimates are intended to illustrate the magnitude of the costs associated with upgrading and improving the pedestrian system within the MPA.