Village of Downers Grove
Bicycle and Pedestrian Plan

Pedestrian Infrastructure Report

09.07.12

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Background

Pedestrians with disabilities are those most affected by flaws in the physical environment. Things that do not even appear to be obstacles can make an entire trip impossible for someone with limited mobility. Four thousand Downers Grove residents have a disability, making up 8.5% of the population.[1] Almost 14% (6,500) of the population is over age 65 and have a higher risk of experiencing limited mobility.

Building a network in which everyone, even those less able-bodied, can get around as pedestrians takes careful planning and design.

The Americans with Disabilities Act (ADA) was enacted to ensure that people are not discriminated against based on their disability and are offered the same opportunities as others. Title II of the ADA contains requirements of state and local governments in the services, programs, and activities they provide, including transportation and the public way. Recommended steps for a government entity to achieve compliance are as follows:

1. Designate an ADA Coordinator
2. Provide public notice of ADA Requirements
3. Establish a grievance procedure
4. Conduct a self-evaluation
5. Prepare a transition plan for physical changes
6. Monitor and document the progress of the transition plan

The Village of Downers Grove has completed Steps 1 through 3 above. Contact information for the ADA Coordinator, the public notice of ADA requirements, and the grievance procedure are all available on the Village's website.

The draft Proposed Accessibility Guidelines for Pedestrian Facilities in the Public Right-of-Way (PROWAG) is a set of guidelines to help communities develop pedestrian facilities in compliance with ADA. These guidelines are often used during the self-evaluation (Step 4) as well as in designing new or reconstructed facilities. A facility evaluation has been conducted for portions of Downers Grove in the downtown area and near the Fairview Metra station, which will serve as the beginning of the Village's self-evaluation. This report summarizes the results of that evaluation. The full results, with exact locations of non-compliant elements, will be provided to the Village as a geographic information systems (GIS) compatible database.

The self-evaluation becomes part of a community's transition plan. The transition plan is an important step towards ADA compliance as it provides the framework for making physical changes. Transition plans are required to cover the public right-of-way as well as government buildings such as Village Hall. Separate plans may be developed for the public right-of-way and government buildings.

A transition plan identifies and documents the barriers to persons with disabilities in a given facility or area, proposes modifications that will be made to provide future accessibility, prioritizes them, and sets forth a schedule for making physical changes to achieve accessibility. The recommended elements of a transition plan are:

1. List of physical barriers that limit accessibility (developed through the self-evaluation)
2. Detailed description of methods to remove these barriers and make the facilities accessible
3. Schedule for taking the necessary steps
4. Name of person responsible for implementation
5. Schedule for providing curb ramps
6. Documentation of stakeholder and public involvement in the plan development

This report recommends actions for the Village to take in order to begin to upgrade facilities as well as steps to take to create a full transition plan.

1 2010 U.S. Census Bureau

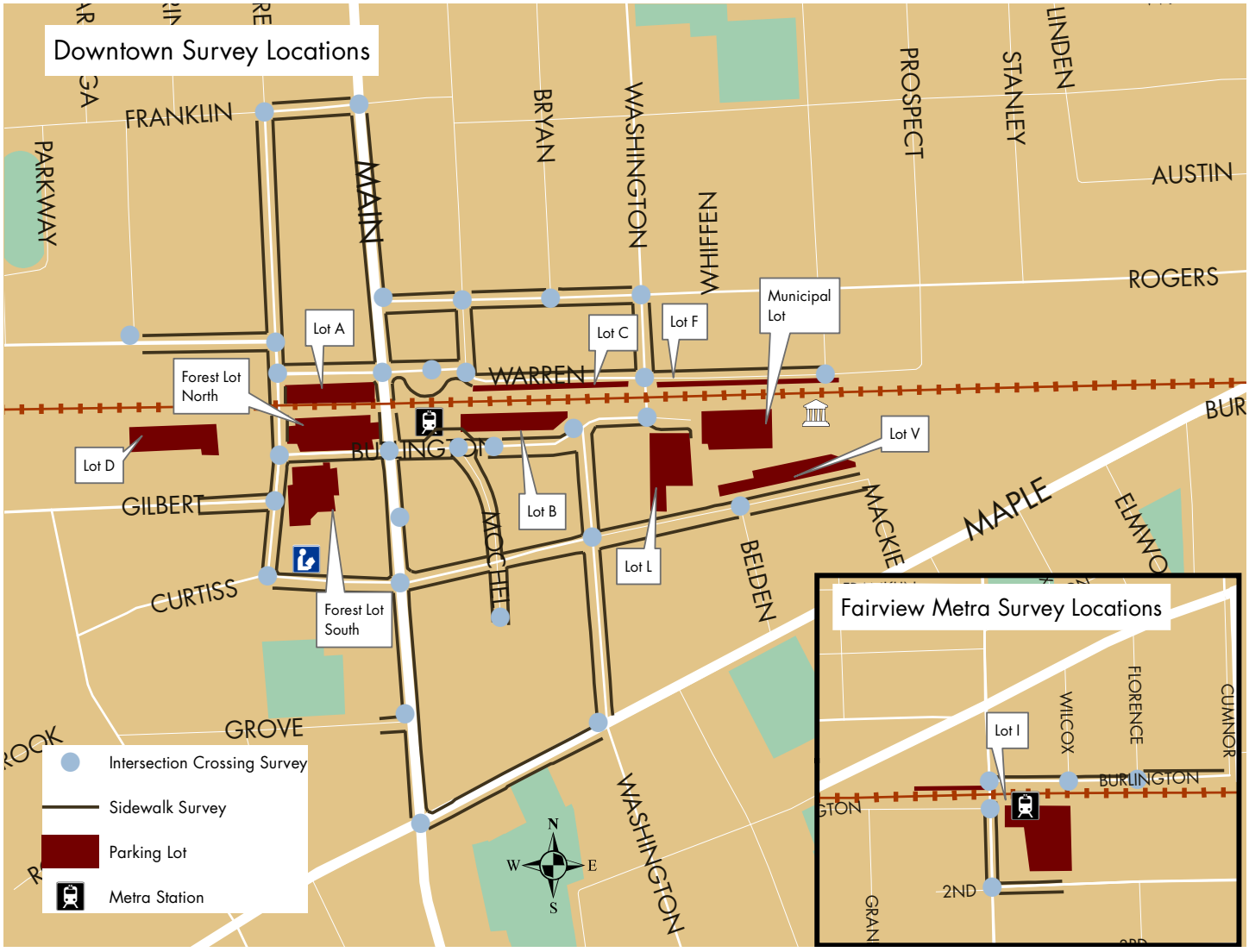
Facility Evaluation

A pedestrian infrastructure survey was conducted of sidewalks, curb ramps and intersection details, parking lots and on-street parking in the downtown and the area surrounding the Fairview Metra Station with regard to their compliance with ADA. The existing conditions were compared to the guidelines proposed in PROWAG. These are considered to be the industry standard and it is anticipated that they will become requirements of design within the next few years. The map below shows the sidewalks, crossings, and parking lots where data was collected.

Sidewalks

Nearly seven miles and 75 blocks of sidewalk were evaluated. The survey found that with only one exception, the pedestrian travel path on the sidewalks was sufficiently wide enough per ADA; that is, they were at least 4' wide. There was also only one location where the running slope was too steep. The sidewalk cross-slope was bigger issue. The cross-slope exceeded the maximum allowable, 2%, on 15 out of the 75 blocks surveyed.

A total of 311 tripping hazards were found. Most of those were minor, between ¼" and ½", and would require only patches to smooth out the surface. Hazards of more than ½" must be ground down to a level surface or replaced entirely at that location.



Sidewalk Survey Summary

Non-Compliant Element	# of Instances
Through width ‹ 4′	1
Running slope › 5%	1
Cross-slope › 2%	15
Tripping Hazards	
1/4 - 1/2 in.	195
1/2 - 1 in.	80
› 1 in.	36
Obstructions	
Fixed	1
Temporary	3
Protruding Objects	12
Driveway/Alley Connections	43

Only one fixed obstruction was found in the traveled way, a utility pole on Rogers Street, and three temporary obstructions were found. Temporary obstructions are relatively easy and inexpensive to remove while the fixed obstructions can be extremely costly and often require coordination between various agencies to remove, making it a long and complicated process.

Protruding objects were found to be a bigger hazard in the Village than fixed or temporary obstructions. Protruding objects may be signs or landscaping that project into the traveled way horizontally and thus can often be removed by simple landscape maintenance or relocating signs. Protruding objects are of concern for blind persons because they stick out into the pedestrian space above ground and thus are not detectable with a cane.

Driveway and alley connections refer to locations where the connection between the sidewalk and the vehicle way is not smooth and there may be tripping hazards. The addresses of these and other hazards, as well as additional details such as the type of obstruction can be found in the GIS database.

Corner Curb Ramps

The findings from the intersections and crossings survey are broken up into two primary topics: curb ramps and push buttons. Nearly 120 curb ramps were surveyed. Additional details such as the crosswalk marking materials and types and pedestrian signals are included in the GIS database; however, these are not governed by ADA and thus are not summarized here.

The corners analyzed were split fairly evenly between having perpendicular curb ramps and corners with blended transition. A perpendicular curb ramp means that the ramp itself, or the slope, runs perpendicular to the curb line. Blended transitions are corners in which the entire corner is depressed to meet the level of the street. Blended transitions

Perpendicular Curb Ramp

Blended Transition

are not considered ramps because they are gradual transitions with a low grade. Each is handled differently in the regulations.

While both types are compliant with ADA, the perpendicular ramps are preferred because they put pedestrians in direct line with the crosswalk. On the other hand, on a corner with a blended transition, a pedestrian could walk into the intersection at the corner, where they would be pointed into the middle of the intersection. This could be hazardous for visually impaired pedestrians. In some locations, the geometry of the road, sidewalk, and/or drainage system may prevent a perpendicular curb ramp and thus a blended transition may be the best option. Blended transitions are preferred over apex ramps, which is a ramp where the sidewalk meets the roadway only at the apex of the corner. In this situation, the pedestrian has no option but to start his crossing facing the middle of the intersection, which is not only less convenient, but potentially more hazardous particularly for pedestrians in wheelchairs or with visual impairments. With a blended transition, the pedestrian at least has the ability to align himself with the crosswalk without having to step off a raised curb.

Curb Ramp Survey Summary

Non-Compliant Element	# of Instances
Running slope › 8.33% or 5%*	12
Cross-slope › 2%	40
Landing (4′ x 4′ level are) missing	17
Landing slope › 2%	50
Flare slope › 10%	5
Detectable warning strip missing	87
Tripping Hazards	
1/4 - 1/2 in.	82
1/2 - 1 in.	24
› 1 in.	2

* Note: The maximum running slope is 8.33% for a ramp and 5% for a blended transition

The maximum allowable running slope for a curb ramp is 8.33% and is 5% for a blended transition. At greater than 5%, it is considered a ramp and should be designed as such. Two instances were found where the running slope of a perpendicular ramp was greater than the allowable 8.33%. Ten instances of running slopes greater than 5% were found for blended transitions. Forty ramps had a cross-slope that was too severe. Excessive cross-slopes make it hard for people in wheelchairs to maneuver in a straight line.

At the top of a curb ramp, a 4' x 4' level area (maximum 2% slope in any direction) is required to provide a space for wheelchair users to turn. There were 17 instances where the landing space was unavailable and an additional 46 locations where an available landing was not level. In many cases, the landing was level in one direction, but not all.

Perpendicular curb ramps often have side flares to transition to the sidewalk. The flares can have a slope of up to 10%. Perpendicular ramps may also be bounded by a vertical curb, which negates the need for flares. Among the curb ramps surveyed, 43 ramps had flares and 5 of those were too steep.

The most common violation among the curb ramps was missing detectable warning strips. Over half of the ramps were missing these, which serve to alert visually impaired pedestrians that they are about to enter into vehicle space. The survey only took note of the presence or absence of warning strip; howev-

er, several locations were noted where the warning strip was included, but did not extend the full width of the ramp. It should be noted for future installations that the warning strip should extend the full width of the ramp or blended transition, according to PROWAG

Tripping hazards were also fairly common; however, the majority of those were minor surface condition defaults at between ¼" and ½", similar to the findings from the sidewalk survey.

Pedestrian Push Buttons

Out of the 36 push buttons surveyed, 19 were of an old design while the remainder had been updated to the preferred, modern design. Two push-buttons give audible feedback to the pedestrian. PROWAG stipulates that anywhere a pedestrian signal is provided, accessible pedestrian signals and push buttons should be incorporated. Accessible pedestrian signals and push buttons communicate non-visually such as through audible tones, speech, or vibration. Any new pedestrian signals installed in Downers Grove should incorporate the appropriate accessible features.

PROWAG guidance on the location of push buttons includes where the push button should be positioned with respect to the curb, the crossing, the orientation of the push button to the pedestrian travel path, the height, and the accessibility of the adjacent area. For one or more reasons, none of the push-buttons surveyed were in the ideal location. They were either located too far from the curb ramp, were not adjacent to an accessible landing, were not aligned with the crosswalk, were too high, or some combination of these concerns.

Push buttons should be accompanied by an arrow pointing toward the crossing that the push-button affects. Nearly half, 17, of the push buttons did not have an arrow. The placement of all of the push buttons should be reviewed further.

Push Button Survey Summary

Non-Compliant Element	# of Instances
Push Button Type	
Old push button	19
Non-audible push button	34
Push button location	
Misaligned push button	10
Inaccessible push button	25
Non-compliant location	12
Non-compliant height	1
Push button with no arrow	17

Parking Lots

Eleven parking lots in the downtown area and near the Fairview Metra station were surveyed to determine if there are adequate accessible parking spaces in the lots and if the spaces are accessible to the pedestrian network.

The survey is summarized in the table below, which lists the total parking spaces, existing accessible spaces, and the number of spaces recommended in PROWAG. The table also includes actions that should be taken by the Village to improve accessibility of each lot, over and above adding the necessary number of accessible spaces and routes to reach those spaces.

The Village had conducted its own survey of some of these lots and come up with recommendations to add or remove accessible spaces as necessary. One of the proposed actions was to remove 5 accessible spaces from Lot B. However, during the field survey conducted as part of this project, 5 accessible spaces were occupied during observations. It is recommended that public outreach be conducted before removing spaces to determine if any accessible spaces beyond the recommended minimum are best provided in Lot B or in another lot. An attorney should also be consulted to determine if some of the accessible spaces can be moved between lots to place them if one lot is more desirable than another.

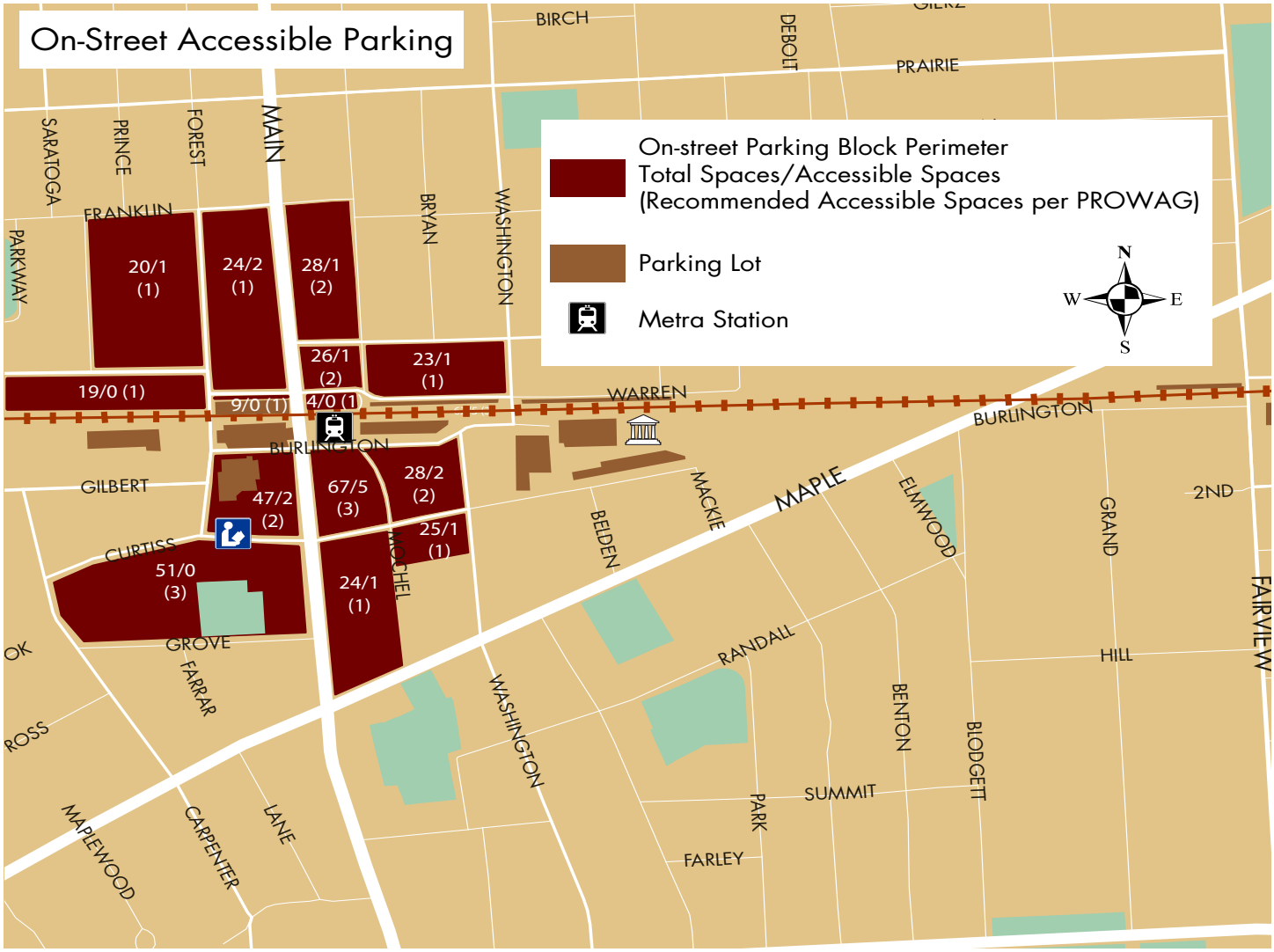
Parking Lot Survey Summary

Lot	Total Spaces	Existing Accessible Spaces	Recommended Accessible Spaces	Accessibility Improvement Recommendations
A	47	0	2	
B	66	9	3	1. Each accessible space must connect to an access route. This means adding a curb ramp to the sidewalk at each accessible aisle, or painting an access route through the lot to one of the existing ramps. 2. Conduct utilization survey and engage the public to determine if all accessible spaces are needed or if some could be converted to regular spaces
C	66	0	3	
D	78	4	4	1. Curb ramp is needed at the existing sidewalk 2. Sidewalk needs to be widened to at least 4′
F	90	0	4	
L	86	0	4	
Forest Lot N	84	2	4	1. Slope of existing access point at north end of lot exceeds 5% and should be modified
Forest Lot S	77	4	4	
Municipal Lot	97	5	4	1. An accessible route is needed on the southern side of the lot
Lot V	86	0	4	
Lot I	222	7	9	

On-Street Parking

Wherever on-street parking is marked or metered, accessible spaces must be provided. PROWAG guidance includes the number of accessible spaces recommended based on the total number of spaces along a block perimeter. The size of the block does not factor into the guidance, only the number of total spaces. Where the parking is not along a closed block, the same guidance should be applied to the block face where on-street parking is provided.

In the downtown area, many of the blocks with on-street parking already have sufficient accessible parking (see map below). Two blocks have more accessible spaces than the recommended minimum. However, several blocks and block faces do not meet the recommended minimums. These occur along the south side of Warren Avenue, on the blocks between Main Street and Highland Avenue, and the block surrounding Fischel Park. The parking inventory is noted on the map below. It is possible that accessible parking in some areas can make up for a lack of accessible parking in other areas if they are sufficiently close; however, an attorney knowledgeable on the ADA would need to be consulted.



Recommendations

1. Designate an ADA Transition Plan Coordinator

An individual should be named to oversee the development as well as the implementation of the ADA Transition Plan. This individual is likely different from the ADA Coordinator and should be someone familiar with engineering design.

This person will oversee completion of the recommendations set forth here.

2. Adopt Design Standards

Having a set of standards that address the scenarios common to the Village of Downers Grove will ensure that any time a new facility is constructed, it will comply with ADA standards.

Retrofitting existing pedestrian facilities often comes with a unique set of challenges. The challenges often vary from corner to corner and block to block. The design guidance available in PROWAG is an important asset to pedestrian facility design. Another invaluable resource, particularly for retrofitting facilities, is the Special Report: Accessible Public Rights-of-Way Planning and Designing for Alterations. The document showcases successful solutions to common design constraints.

Action Steps:

- Review existing local design standards and revise as necessary.
- Formally adopt PROWAG as the Village's design standards.
- Develop design standards for situations specific to Downers Grove that are not already covered in existing standards or in PROWAG.

3. Develop Prioritization Criteria

Developing a set of agreed upon criteria to prioritize improvements will streamline the overall process. A multi-disciplinary team should be involved in this process, including Village engineers, planners, as well as stakeholders from the disability and senior community.

Action Steps:

- Form a committee responsible for developin the criteria.
- Develop draft criteria. Criteria have been suggested here for the initial facility evaluation findings that could be used as a starting point.
- Hold a public hearing to review the criteria and revise as necessary.

4. Complete the Self-Evaluation

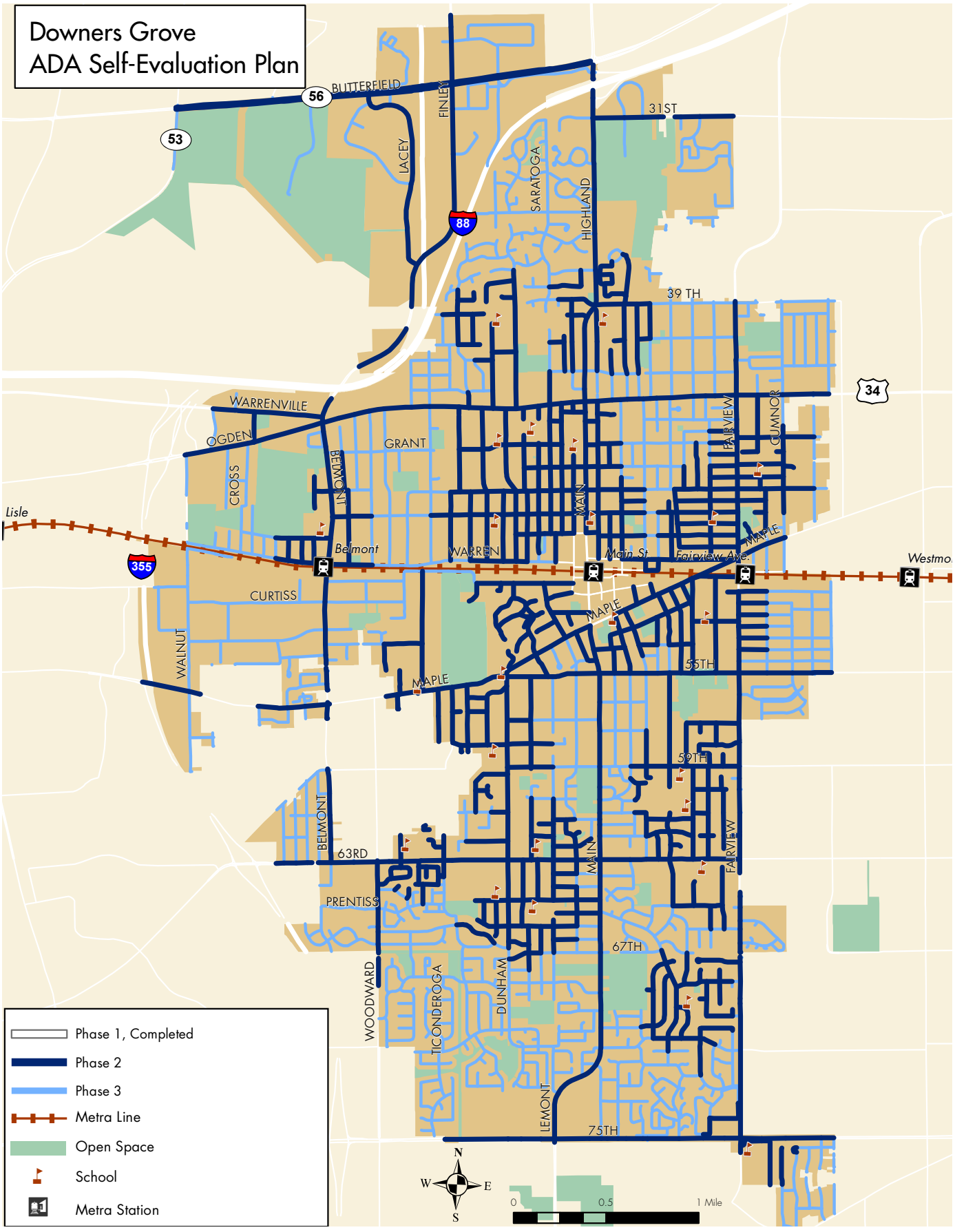
The elements surveyed and summarized here become the first component of Downers Grove's self-evaluation. This effort should be continued and completed for the entire Village.

The self-evaluation could be conducted in stages; a proposed schedule is illustrated in the map on the following page. Survey forms for the evaluation are included in the appendix.

The evaluation should include sidewalks, intersections and curb ramps, parking lots, and on-street parking where it is marked or metered.

Action Steps:

- Develop a schedule for completing the self-evaluation.
- Solicit volunteers to assist with the survey. Volunteers could be organized by schools and/or parks to conduct the survey on nearby streets.
- Assign a staff member to compile the information from the self-evaluations into the GIS database provided to the Village.


Downers Grove
ADA Self-Evaluation Plan
BUTTERFIELD
56
53
FINLEY
LACEY
88
SARATOGA
HIGHLAND
31ST
39 TH
34
WARRENVILLE
OGDEN
GRANT
CROSS
BELMONT
MAIN
FAIRVIEW
GUMNOR
Lisle
355
Belmont
WARREN
Main St.
Fairview Ave.
MAPLE
Westmo
CURTISS
WALNUT
55TH
59TH
63RD
PRENTISS
67TH
WOODWARD
TICONDEROGA
DUNHAM
LEMONT
75TH
Phase 1, Completed
Phase 2
Phase 3
Metra Line
Open Space
School
Metra Station
N
W
E
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0
0.5
1 Mile

5. Develop a Transition Plan

Every government entity is required to have a transition plan. The previous recommendations all lead towards developing a comprehensive transition plan. A transition plan should include:

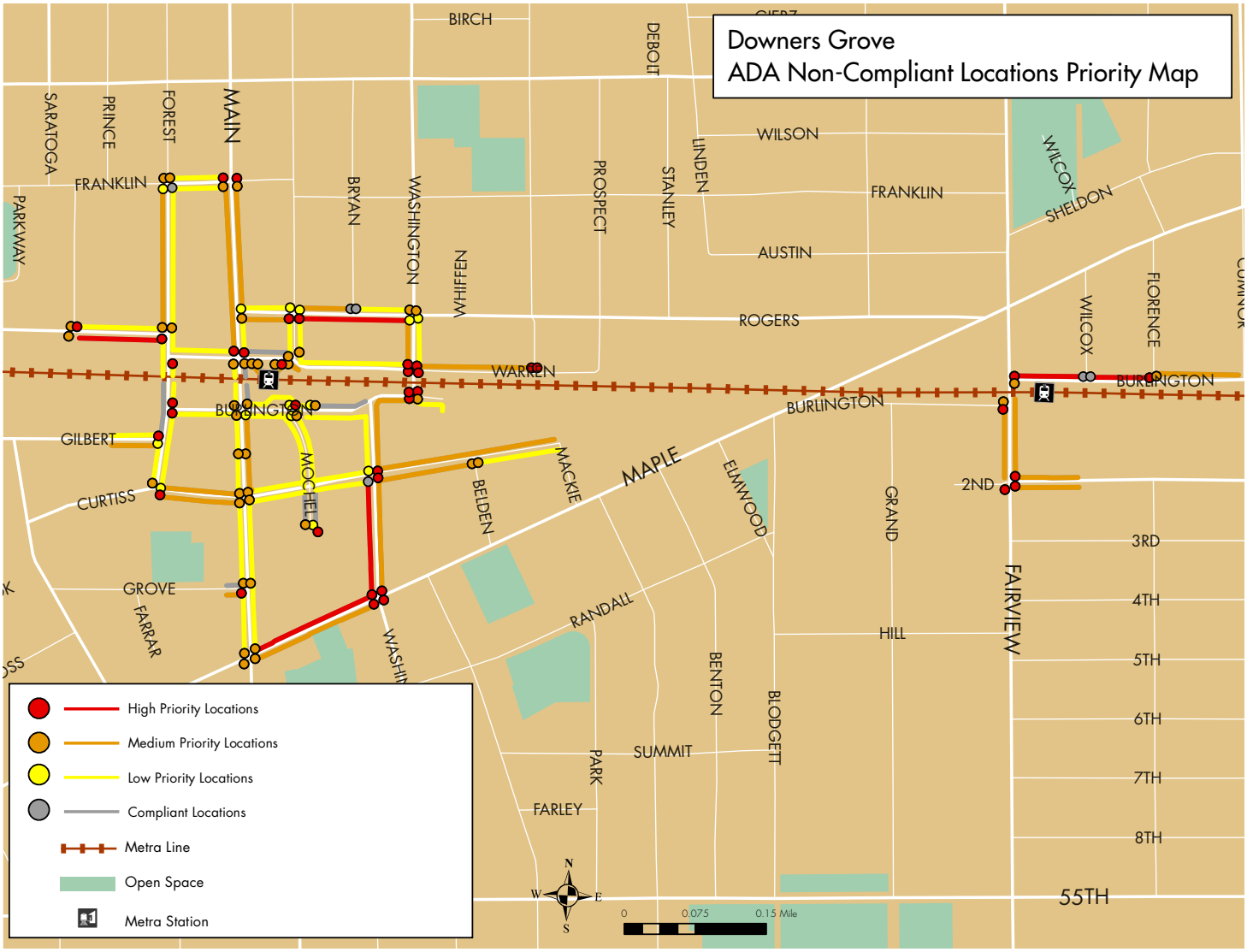
1. A list of physical barriers (identified through the self-evaluation)
2. Methods for removing the barriers
3. A schedule for making physical improvments
4. A schedule specific to providing curb ramps
5. An established budget for completing the improvements

The transition plan should also include a summary of the opportunities for the public to be involved in the plan development.

6. Begin Facility Upgrades

The Village can begin making improvements that were identified during the facility evaluation. These findings should be incorporated into the overall transition plan as well and the priorities re-evaluated as the remaining self-evaluations are completed.

The following map suggests priorities for the physical improvements needed to comply with ADA requirements. The priorities were determined based on the following criteria:



High Priority – Blocks and intersections with two or more non-compliant elements needing more intensive renovation:

- Running slope or cross-slope is too high
- Tripping hazard >1"
- Fixed obstruction
- Narrow through width
- Missing detectable warning strip

Medium Priority – Blocks and intersections with one non-compliant elements needing more intensive renovation.

Low Priority – Blocks and intersections with other non-compliant elements such as low tripping hazards, temporary obstructions, or pedestrian push buttons that are out of place.

Action Steps:

- Develop a cost estimate for each type of improvement, i.e. curb ramp replacement, sidewalk re-grading, etc.
- Develop a schedule for physical changes. In some cases, the low priority items may require simple fixes at little or no cost and therefore may come before the higher-priority changes in the schedule.
- Submit the proposed changes and budget to the Village Board for approval.
- Re-evaluate the schedule annually or as new findings from additional evaluations are completed.

7. Evaluate Accessible Parking

Based on the findings of the facility evaluation, several parking lots and downtown blocks are in need of additional accessible parking while others have more than the minimum required. The placement of accessible spaces should be based not only on national guidance, but also the local need.

The Village should include an evaluation of accessible parking spaces in its transition plan. The public should be involved in this process to ensure that spaces are located in the most appropriate locations.