Neighborhood Traffic Study
Area Number 2
Downers Grove, Illinois

Prepared for:

Village of Downers Grove

Submitted by:

Kenig, Lindgren, O'Hara, Aboona, Inc.

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By Kenig, Lindgren, O'Hara, Aboona, Inc.

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1. Introduction

The Village of Downers Grove has retained Kenig, Lindgren, O'Hara, Aboona, Inc. (KLOA, Inc.) to conduct the neighborhood traffic study in Area Number 2. Overall, the objective of the study was to thoroughly examine the existing operations within the neighborhood, identify operational deficiencies and recommend modifications and/or improvements to enhance both vehicular and pedestrian operations. In addition to addressing the primary traffic concerns within a neighborhood, vehicular volume, vehicular speed and overall vehicular and pedestrian safety, the study examined the operation of several intersections bordering the neighborhood.

Bounded by Ogden Avenue on the north, Main Street on the east, Warren Avenue on the south and Lee Avenue on the west, the neighborhood is located just northwest of downtown Downers Grove. The neighborhood has thirteen north-south roads and eight east-west roads. Primarily consisting of residential homes, the neighborhood also contains several commercial and office land uses, Pierce Downer Elementary School, Herrick Middle School, Downers Grove North High School, Prince Pond and Lee and Grant Park. **Figure 1** shows the location of the neighborhood (all of the figures for this study area are provided at the end of the report).

2.
Existing Neighborhood Conditions

Transportation conditions were inventoried to obtain a database for evaluating the existing operations within the neighborhood and along the collector and arterial roadways bordering the neighborhood. The components of existing conditions that were inventoried within the neighborhood included the following.

- Existing land uses
- Physical and operating characteristics of the roadways
- Existing intersection traffic control
- Existing pedestrian and bicycle facilities and traffic control devices
- Existing daily traffic volumes and observed speeds
- Existing morning and evening peak hour volumes

Study Area and Existing Land Uses

The neighborhood is bounded by Ogden Avenue on the north, Main Street on the east, Warren Avenue on the south and Lee Avenue on the west. Located just northwest of downtown Downers Grove, single-family homes are the predominant land use within the neighborhood with some multi-family, commercial and office land uses located in the north, south and southeast portions of the neighborhood. In addition, the neighborhood contains Pierce Downer Elementary School, Herrick Middle School and Downers Grove North High School all of which are located in the north portion of the neighborhood. Prince Pond and Lee and Grant Park are located in the southeast and northwest portions of the neighborhood, respectively. Lastly, downtown Downers Grove and a Metra commuter rail station (Downers Grove Main Street station) are located within walking distance of the neighborhood.

Existing Roadway System

External Neighborhood Roadways

The four roadways that border the neighborhood are described below.

Ogden Avenue (U.S. Route 34) is an east-west road that is under the jurisdiction of the Illinois Department of Transportation (IDOT). It has a five-lane cross section with a posted speed limit of 35 mph. Traffic signal control is provided at its intersections with Main Street and Saratoga Avenue. IDOT classifies Ogden Avenue as a major arterial.

Main Street is a north-south roadway that is under the jurisdiction of the Village of Downers Grove south of Ogden Avenue and the DuPage County Division of Transportation (DuDOT) north of Ogden Avenue. Between Ogden Avenue and Franklin Street, Main Street has a four-lane cross section and a posted speed limit that varies between 25 and 30 mph. South of Franklin Street, Main Street has a two-lane cross section with on-street parking and a posted speed limit of 25 mph. Traffic signal control is provided at its intersections with Ogden Avenue, Grant Street, Prairie Avenue, Franklin Street and Warren Avenue. The Village of Downers Grove classifies Main Street as a major arterial.

Warren Avenue is an east-west roadway that is under the jurisdiction of the Village of Downers Grove. It has a two-lane cross section and a posted speed limit of 30 mph. Parking is generally provided on both sides of the road. Warren Avenue is a recommended bike route. The Village of Downers Grove classifies Warren Avenue as a collector road.

Lee Avenue is a north-south roadway that is under the jurisdiction of the Village of Downers Grove. It has a two-lane cross section and a posted speed limit of 25 mph. Parking is generally provided along both sides of the road. The Village of Downers Grove classifies Lee Avenue as a local road.

Internal Neighborhood Roadways

Excluding Ogden Avenue and Main Street, the following summarizes the physical and operating characteristics of the roadways within the neighborhood.

- All of the roadways in the neighborhood provide one lane in each direction except Sherman Street which is a one-way westbound road between Main Street and Prince Street.

- The following roads have a brick surface.

    - Oakwood Avenue between Chicago Avenue and Warren Avenue
    - Middaugh Avenue between Chicago Avenue and Warren Avenue
    - Linscott Avenue between Chicago Avenue and Franklin Street
    - Saratoga Avenue between Prairie Avenue and Franklin Street
    - Prince Street between Chicago Avenue and Franklin Street
    - Franklin Street between Linscott Avenue and Oakwood Avenue

- All of the roadways within the neighborhood are classified as local roads except the following which are classified as collector roads.

  - Warren Avenue
  - Prairie Avenue
  - Franklin Street between Main Street and Forest Avenue
  - Saratoga Avenue between Ogden Avenue and Prairie Avenue
  - Forest Avenue between Franklin Street and Warren Avenue

- Parking is generally provided on one or both sides of the roadways. However, parking restrictions are provided on many of the roadways.

- The posted speed limit within the neighborhood ranges between 20 and 30 mph with 20 mph school and park speed zone limits.

Figure 2 illustrates the number of lanes and the posted speed limits on each of the roadways and the geometrics at the primary intersections. **Figure 3** shows the permitted parking within the neighborhood.

Pedestrian and Bicycle Facilities and Traffic Control Devices

The neighborhood contains three schools, two public parks and is located within walking distance of downtown and the Main Street Metra commuter rail station. In order to accommodate the neighborhood pedestrian and bicycle activity, a number of facilities and traffic control devices are provided in the neighborhood. These are illustrated in **Figure 4** and highlighted below.

- Except Sherman Street between Saratoga Avenue and Prince Street, sidewalks are provided on at least one side of all the roadways.
- Grant Street and Saratoga Avenue are signed as bike routes and Warren Avenue is a recommended bike route.
- Dedicated school crossings are provided at several intersections.
- School zones which include appropriate warning signs and reduced speed limits are located along several roads.
- School crossing guards are provided at the intersections of Oakwood Avenue/Grant Street, Seeley Avenue/Grant Street and Oakwood Avenue/Prairie Avenue.
- All of the traffic signals provide pedestrian signals.

In order to determine the pedestrian activity within the neighborhood, pedestrian traffic counts were conducted at 14 intersections in the neighborhood in October 2012. Per the direction of Village staff, the counts were conducted from 7:30 A.M. to 9:30 A.M. and 3:00 P.M. to 6:00 P.M. Figure 4 also illustrates the results of the pedestrian traffic counts.

Existing Intersection Traffic Control

Figure 5 shows the existing intersection traffic control within the neighborhood and the following provides a summary of the existing traffic control at the 75 intersections within the neighborhood that are not under traffic signal control.

- Four Traffic Signal Controlled Intersections
- Nine All-Way Stop Sign Controlled Intersections
- Fourteen Two-Way or One-Way Yield Sign Controlled Intersections
- Thirty-three Two-Way or One-Way Stop Sign Controlled Intersections
- One Intersection where Two of the Three Legs are under Stop Sign Control
- One Intersection where Three of the Four Legs are under Stop Sign Control
- Thirteen Intersections with No Intersection Traffic Control

Existing Daily Traffic Volumes and Speed Surveys

In order to determine the existing traffic volumes and speeds along the neighborhood roadways, KLOA, Inc. conducted daily machine traffic counts and speed surveys at 42 locations and the Village of Downers Grove conducted daily traffic counts and speed surveys at seven locations. Of the total traffic counts and speed surveys, 32 were conducted along the north-south roadways and 17 were conducted along the east-west roadways. The KLOA, Inc. traffic counts and speed surveys were conducted during October and November 2012. All of the traffic counts and speed surveys were conducted for a minimum of two days and were broken down by direction and by hour.

Figure 6 shows the two-way daily traffic volumes and **Figure 7** shows the average and 85th percentile speeds observed on the roadways. The average speed is the sum of the observed speeds of all the vehicles divided by the total vehicles and represents the average speed of all the vehicles on that segment of the road. Average speeds are used to ascertain the general speeds at which motorists are traversing a roadway section. Whereas the 85th percentile speed represents the speed at or below which 85 percent of vehicles on a roadway section travel. The 85th percentile speed is commonly used to establish the posted speed limits along roadways.

Existing Morning and Evening Peak Period Traffic Counts

In addition to the daily traffic counts and speed surveys, KLOA, Inc. conducted manual peak period traffic counts at the following intersections within the study area.

- Main Street with Prairie Avenue
- Forest Avenue with Franklin Street
- Saratoga Avenue with Grant Street
- Saratoga Avenue with Lincoln Street
- Saratoga Avenue with Prairie Avenue
- Oakwood Avenue with Chicago Avenue
- Oakwood Avenue with Prairie Avenue
- Seeley Avenue with Chicago Avenue
- Northcott Avenue with Avenue with Prairie Avenue

The traffic counts were conducted in October and November 2012 during the morning (7:30 A.M. to 9:30 A.M.) and the evening (3:00 P.M. to 6:00 P.M.) peak periods. **Figure 8** illustrates the existing morning and evening peak hour traffic volumes.

3.
Evaluation of Existing Conditions

To determine how the roadway system is currently functioning, this section examined the existing operating characteristics within the neighborhood. The purpose of this evaluation was to identify and quantify the current operations and ascertain how the neighborhood's infrastructure and land uses contribute to the existing conditions. This was accomplished by reviewing and analyzing the existing traffic volumes and the speed surveys as well as the physical characteristics of the neighborhood and its transportation system. The evaluation provides the basis to thoroughly analyze and develop recommendations pertaining to the operation and design of the internal roadways.

Daily Traffic Volumes

From Figure 6, it can be seen that the collector roads (Saratoga Avenue, Prairie Avenue, Warren Avenue and Forest Avenue between Franklin Street and Warren Avenue) carry the highest volume of traffic which is expected given the length of the roads, the number of homes and other land uses they serve and their functional classification. In addition, the north-south roads of Seeley Avenue, Oakwood Avenue, Middaugh Avenue and Forest Avenue have the next highest traffic volume as they serve the various schools in the neighborhood. Further, Seeley Avenue and Oakwood Avenue carry a portion of the Downers Drive, Middaugh Avenue and Linscott Avenue traffic that is accessing Ogden Avenue. Lastly, Chicago Avenue and Lee Avenue also carry a higher volume of traffic which is due to the length of the road and the fact they both extend the entire length of the neighborhood.

Residential Streets, Third Edition[a] indicates that local residential roads have a daily volume between 400 and 1,500 vehicles while residential collector roads have a daily volume exceeding 1,500 vehicles. Therefore, even with the characteristics outlined above, the traffic volumes are within the established standards for residential roads.

Nevertheless, a review of the existing traffic volumes as well as the roadway system's physical and operating conditions indicates that the neighborhood is likely experiencing some cut-through traffic, particularly along the following roads.

- *Saratoga Avenue* has the highest daily traffic volume in the neighborhood (a high of 3,511 vehicles). However, this is expected as it is a longer road and a collector road. Further, the road provides direct access to Downers Grove North High School and indirect access to Herrick Middle School and downtown. It is also partially due to motorists who likely traverse the road to utilize the traffic signal at Ogden Avenue and avoid congestion along Ogden Avenue and Main Street.

- *Oakwood Avenue and Seeley Avenue* have daily traffic volumes between 900 and 1,100 vehicles between Ogden Avenue and Prairie Avenue or Chicago Avenue. The higher traffic volumes are primarily due to the fact that both roads are longer roads and both carry a portion of the Downers Drive, Middaugh Avenue and Linscott Avenue traffic that is accessing Ogden Avenue. In addition, both roads also provide access to Pierce Downer Elementary School and Herrick Middle School. Lastly, the higher traffic volumes are also partially due to motorists who likely traverse the roads to avoid congestion along Ogden Avenue and Main Street.

- *Lee Avenue and Chicago Avenue* have daily traffic volumes between 850 and 1,240 vehicles on certain sections of the roads. The higher traffic volumes are primarily due to the fact that both roads are longer roads that extend the length of the neighborhood. Lastly, the higher traffic volumes are also partially due to motorists who likely traverse the roads to avoid congestion along Ogden Avenue and Main Street. Furthermore, it is our understanding that the auto dealerships along Ogden Avenue often use Lee Avenue as a route for customers to test drive vehicles.

Travel Speed Surveys

The main factors affecting travel speeds are the roadway's physical and operating characteristics, including width of road, number of travel lanes, hills, curves, roadway surface and length of free flow conditions. Many of these attributes are fixed within the neighborhood's infrastructure and are generally difficult and/or costly to change/modify.

[a] *Residential Streets*, Third Edition was developed by the National Association of Home Builders (NAHB), the American Society of Civil Engineers (ASCE), the Institute of Transportation Engineers (ITE) and the Urban Land Institute (ULI)

Excluding the two roads (Prairie Avenue and Warren Avenue) that have a 30 mph posted speed limit, the internal neighborhood roads had an observed average speed of approximately 25 mph and an observed 85th percentile speed of approximately 30 mph. As shown in Figure 7, the average speeds were generally between 20 and 29 mph. While the observed 85th percentile speed on average was approximately 30 mph, a number of the surveyed road sections did experience 85th percentile speeds that exceeded 30 mph. The higher 85th percentile speeds were primarily observed along those roadway sections that had longer lengths of free flow conditions.

The speed surveys have shown that sections of Lee Avenue experience 85th percentile speeds that exceed 30 mph. As indicated previously, it is our understanding that the auto dealerships along Ogden Avenue often use Lee Avenue as a route for customers to test drive vehicles. According to Village staff and residents, the vehicle test driving is a contributing factor to the higher speeds experienced along Lee Avenue.

Warren Avenue and Prairie Avenue, which have a posted speed limit of 30 mph, had an observed average speed of approximately 30 to 31 mph and an observed 85th percentile speed of approximately 35 to 37 mph. As shown in Figure 7, the average speeds were generally between 28 and 34 mph.

Intersection Capacity Analyses

In order to determine the operation of the roadway system, capacity analyses were conducted at the nine intersections included in the study area. Intersection capacity analyses are a tool used to measure the level of congestion at an intersection by evaluating the intersection's operation based on volume to capacity ratios and the average delay motorists experience traversing through the intersection. The results of the capacity analyses are used to determine if and what type of improvements and/or modifications are required to improve intersection operations.

The ability of an intersection to accommodate traffic flow is expressed in terms of level of service (LOS), which is assigned a letter grade from A to F based on the average control delay experienced by vehicles passing through the intersection. Control delay is that portion of the total delay attributed to the traffic signal or stop sign control operation and includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. LOS A is the highest grade (best traffic flow and least delay), LOS E represents saturated or at-capacity conditions, and LOS F is the lowest grade (oversaturated conditions, extensive delays). The results of the existing intersection capacity analyses are presented in **Table 1**. The capacity analyses were performed based on the intersection's existing geometrics and signal timings/phasing as well as the morning and evening peak hour traffic volumes. Syncro/Sim Traffic 7.0 computer software was used to evaluate and model the operation of the intersections.

From Table 1, it can be seen that all of the intersections are operating at a good level of service (LOS C or better). Further, all of the individual movements are also operating at a good level of service, including all of the movements at the signalized intersection. Lastly, all of the intersections have sufficient reserve capacity to accommodate future traffic growth in the area. As such, no capacity improvements are required at any of the intersections.

While the Main Street/Prairie Avenue intersection operates at a good level of service, it should be noted that Main Street does not have exclusive left-turn lanes at this intersection. The lack of the left-turn lanes reduces the intersection's capacity and the efficiency of the traffic signal. Further, it increases the potential for crashes, especially rear-end crashes (stopped vehicles in the through lanes), sideswipe crashes (through vehicles changing lanes to pass stopped vehicles) and turning or angle crashes (since opposing left-turn movements are not aligned opposite one another it is often difficult for the left-turn vehicles to observe on-coming traffic).

Table 1
CAPACITY ANALYSIS RESULTS/SUMMARY - EXISTING CONDITIONS

	Weekday Morning Peak Hour		Weekday Evening Peak Hour	
Intersection	Level of Service	Delay (Seconds)	Level of Service	Delay (Seconds)
Main Street/Prairie Avenue[1]	C	27.0	C	27.3
Saratoga Avenue/Grant Street[2]	A	8.2	A	8.2
Saratoga Avenue/Lincoln Street[3]	B	10.9	B	11.5
Saratoga Avenue/Prairie Avenue[3]	B	14.1	C	22.7
Forest Avenue/Franklin Street[4]	A	n.a.	A	n.a.
Oakwood Avenue/Chicago Avenue[2]	A	7.7	A	7.5
Oakwood Avenue/Prairie Avenue[3]	C	16.0	C	15.1
Seeley Avenue/Chicago Avenue[2]	A	7.7	A	7.4
Northcutt Avenue/Prairie Avenue[3]	B	14.1	B	12.3

1 - Traffic Signal Control
2 - All-way stop sign control
3 - Two-way stop sign control
4. - Three of the four legs under stop sign control

Downers Grove North High School Operational Improvements/Modifications

Several improvements/modifications to the Downers Grove North High School campus were recently completed in November 2012 and have significantly enhanced the school's transportation and parking operations. The following highlights the improvements/modifications.

- *East Parking Lot*. This parking lot was expanded and now occupies the entire block bounded by Sherman Street, Highland Avenue, Grant Street and Main Street. The athletic fields located on this block were relocated to the west side of the campus. In addition, the expanded parking lot contains a dedicated student drop-off/pick-up area located on the south side of the parking lot. This lot provides parking for students, staff and visitors during the school day and is open parking after 4:00 P.M.

- *West Parking Lot.* This parking lot was relocated from the north half to the south half of the block bounded by Sherman Street, Prince Street, Grant Street and Saratoga Avenue. The north half of the block contains new athletic fields which replaced the athletic fields previously located on the east side of Main Street. In order to provide a combined, integrated athletic complex, a portion of Prince Street (north of Grant Street) was vacated by the Village. In addition, the relocated parking lot contains (1) a student drop-off/pick-up area and (2) dedicated school bus parking. This lot provides parking for staff during the school day and is open parking after 4:00 P.M.

- *Forest Avenue Drop-off/Pick-Up Circle*. The circle on Forest Avenue at the south end of the campus continues to be used for student drop-off and pick-up.

The improvements/modifications have expanded/reconfigured the campus with the purpose of increasing (1) the portion of the campus that is free from external through traffic, (2) the passenger and school bus parking provided within the campus and (3) the drop-off/pick-up areas within the campus. Overall the improvement/modifications have greatly enhanced pedestrian and vehicle access to, from and through the campus and the school bus loading/unloading and student drop-off/pick-up operations. All of which has significantly reduced the impact of the high school operations on the neighborhood and the neighborhood roads. The following summarizes the benefits that the improvements/modifications have provided.

- The vacation of Prince Street and the relocation of athletic fields have greatly enhanced student safety by expanding the boundary of the campus that is free from external through traffic and locating all of the athletic fields within this expanded boundary. As such, students do not have to cross an external road when using any of the athletic fields. Further, the vacation of Prince Street has also enhanced the pedestrian access to, from and through the campus.

- With the provisions of the bus parking provided in the west parking lot and drop-off/pick-up areas within the east and west parking lots, the majority of the drop-off/pick-up activity and bus loading/unloading now occurs within the campus. This has resulted in the elimination of most of the student drop-off/pick-up activity and bus loading/unloading that used to occur along the neighborhood roads. Further, the school day traffic restrictions that were previously required along Prince Street and Grant Street to accommodate school operations are no longer necessary and have been eliminated.

- The campus now provides three student drop-off/pick-up areas within the campus, which has reduced the impact of this activity on the neighborhood and the neighborhood roads. This is due to the fact that (1) more of the activity is accommodated within the campus and (2) the drop-off/pick-up activity is spread over three different locations which further distributes the school traffic along the area roadways.

It is important to note that School District 99 has worked closely with Village staff and residents regarding the modifications to the high school campus. Further, District 99 has indicated that they will continue to work with both Village staff and the residents to refine, if necessary, the traffic and parking operations so to minimize the impact of the various high school activities on the neighborhood and the neighborhood roads.

4.
Detailed Evaluation and Recommendations Internal Neighborhood Roadways

This section of the study provides the detailed evaluation of the internal roadways and pedestrian and bicycle facilities and traffic control devices within the neighborhood. Similar to a traditional neighborhood traffic study, this section provides a thorough analysis of traffic operations, vehicles and pedestrian/bicycle circulation and overall safety along the internal neighborhood roadways. Recommendations were developed for the following components of the neighborhood transportation system.

- Intersection Traffic Control
- On-Street Parking
- Pedestrian and Bicycle Facilities and Traffic Control Devices

In addition, a number of traffic calming measures and/or tools were identified that can be used to effectively reduce the operating speeds in the neighborhood.

The recommendations developed in this section were based primarily on accepted engineering practices, conformity with the *2009 Manual on Uniform Traffic Control Devices* (MUTCD), existing Village criteria and the input from Village staff. The MUTCD defines the standards used to install and maintain traffic control devices, defined as all signs, signals, markings, and other devices used to regulate, warn, or guide traffic, on all public streets, highways, bikeways, and private roads open to public traffic. While the MUTCD provides criteria with specific benchmarks, many of the criteria are subjective and are left to engineering judgment and practices.

Intersection Traffic Control

Development of the intersection traffic control plan involves a comprehensive evaluation of each intersection along with the existing overall operating conditions of the neighborhood (see Chapter 3). Any intersection traffic control plan must consider typical neighborhood issues, such as the functional classification, cut-through traffic, speeding, traffic calming, neighborhood circulation and land-use impacts. As such, a systematic approach was employed that examined the neighborhood from the inside (each individual intersection) and outside (the overall neighborhood). It is important to note that to increase the level of standardization and consistency of the neighborhood traffic control, the Village has requested that traffic signal control or some form of stop sign control be provided at all of the neighborhood intersections.

The first step consisted of evaluating the physical and operating conditions of each intersection to determine if they meet any of the warrants/requirements that control the installation of all-way stop sign control. The second step was to determine which road of the one-way and two-way controlled intersections is to be under stop sign control. The last step evaluated the intersections that have two of three or three of four legs under stop sign control. **Figure 9** illustrates the recommended traffic control plan which is presented below.

All-Way Stop Sign Controlled Intersections

The following points summarize the all-way stop sign control warrants/requirements as outlined in the MUTCD.

1. Meets the minimum traffic and pedestrian volume
2. Meets the minimum number of intersection crashes
3. Required to control left-turn conflicts
4. Required to control vehicle/pedestrian conflicts
5. Required due to poor intersection sight distance
6. Required to improve traffic operational characteristics of the intersection of two collector roads with similar design and operating characteristics

The characteristics of each intersection were evaluated to verify if the existing operations met any of the warrants and/or requirements that control the installation of an all-way stop sign control. It has been determined that the following ten intersections should be under all-way stop sign control.

- *Prince Street/Grant Street, Saratoga Avenue/Grant Street, Middaugh Avenue/Grant Street, Oakwood Avenue/Grant Street and Seeley Avenue/Grant Street.* All five of the intersections should continue to operate under all-way stop sign control as they are located adjacent to the three schools in the neighborhood. All way-stop sign control should be provided to control the vehicle and pedestrian conflicts at these intersections.

- *Seeley Avenue/Chicago Avenue and Oakwood Avenue/Chicago Avenue.* Both of these intersections should continue to operate under all-way stop sign control as they both are larger/wider intersections and have approaches that intersect the cross road on an angle. All way-stop sign control should be provided given the size of the intersections and the reduced sight distance.

- *Linscott Avenue/Franklin Street.* The Linscott Avenue approaches are currently under yield sign control at this intersection. Since the intersection is adjacent to Prince Pond, all way-stop sign control should be provided to control the vehicle and pedestrian conflicts at this intersection.

- *Lee Avenue/Chicago Avenue and Saratoga Avenue/Chicago Avenue.* Both of these intersections have reduced sight distance and both have been under all-way stop sign control for many years. All-way stop sign control should be provided given the reduced sight distance and to maintain these established locations.

Two-Way/One-Way Stop Sign Control

Once the all-way stop sign control intersections were identified, it was assumed that all of the other intersections were to be controlled via one-way (T-intersections) or two-way (four-legged intersections) stop sign control. The criteria used in determining which road of an intersection should be under stop sign control were based on the following.

1. The guidelines provided in the MUTCD.

2. Minimizing the uninterrupted flow along the local road by providing, if possible, a stop sign at every other cross road along the local roads.

3. If possible, maintaining which road is currently under traffic control (via either yield sign or stop sign) at each intersection in order to minimize the change in the flow of traffic through the neighborhood.

The following summarizes the intersections requiring modifications.

- *Lee Avenue/Glen Avenue.* Glen Avenue is recommended to be under stop sign control at this intersection which currently has no intersection control.

- *Lee Avenue/Grant Street.* Grant Street is recommended to be under stop sign control at this intersection which currently has no intersection control.

- *Lee Avenue/Banchory Court.* Banchory Court is recommended to be under stop sign control at this intersection which currently has no intersection control.

- *Lee Avenue/Warren Avenue.* Lee Avenue is recommended to be under stop sign control at this intersection which is currently controlled by a yield sign.

- *Northcutt Avenue/Chicago Avenue.* Northcutt Avenue is recommended to be under stop sign control at this intersection which currently has no intersection control.

- *Northcutt Avenue/Warren Avenue.* Northcutt Avenue is recommended to be under stop sign control at this intersection which is currently controlled by a yield sign.

- *Downers Drive/Grant Street.* Grant Street is recommended to be under stop sign control at this intersection which currently has no intersection control.

- *Wallbank Avenue/Chicago Avenue.* Wallbank Avenue is recommended to be under stop sign control at this intersection which currently has no intersection control.

- *Wallbank Avenue/Warren Avenue.* Wallbank Avenue is recommended to be under stop sign control at this intersection which is currently controlled by a yield sign.

- *Seeley Avenue/Warren Avenue.* Seeley Avenue is recommended to be under stop sign control at this intersection which is currently controlled by a yield sign.

- *Montgomery Avenue/Chicago Avenue.* Montgomery Avenue is recommended to be under stop sign control at this intersection which currently has no intersection control.

- *Montgomery Avenue/Warren Avenue.* Montgomery Avenue is recommended to be under stop sign control at this intersection which is currently controlled by a yield sign.

- *Oakwood Avenue/Franklin Street.* Franklin Street is recommended to be under stop sign control at this intersection which is currently controlled by a yield sign.

- *Oakwood Avenue/Warren Avenue.* Oakwood Avenue is recommended to be under stop sign control at this intersection which is currently controlled by a yield sign.

- *Middaugh Avenue/Franklin Street.* Middaugh Avenue is recommended to be under stop sign control at this intersection which is currently controlled by yield signs.

- *Middaugh Avenue/Warren Avenue.* Middaugh Avenue is recommended to be under stop sign control at this intersection which is currently controlled by a yield sign.

- *Linscott Avenue/Grant Street.* Linscott Avenue is recommended to be under stop sign control at this intersection which currently has no intersection control.

- *Linscott Avenue/Parkway Drive.* Parkway Drive is recommended to be under stop sign control at this intersection which currently has no intersection control.

- *Linscott Avenue/Warren Avenue.* Linscott Avenue is recommended to be under stop sign control at this intersection which is currently controlled by a yield sign.

- *Parkway Drive/Franklin Street.* Parkway Drive is recommended to be under stop sign control at this intersection which currently has no intersection control.

- *Saratoga Avenue/Sherman Street.* Sherman Street is recommended to be under stop sign control at this intersection which is currently controlled by a yield sign.

- *Saratoga Avenue/Franklin Street.* Both legs of Saratoga Avenue are recommended to be under stop sign control at their respective intersections with Franklin Street which currently have no intersection control.

- *Saratoga Avenue/Warren Avenue.* Saratoga Avenue is recommended to be under stop sign control at this intersection which is currently controlled by a yield sign.

- *Prince Street/Sherman Street.* Sherman Street is recommended to be under stop sign control at this intersection which is currently controlled by a yield sign.

- *Prince Street/Franklin Street.* Prince Street is recommended to be under stop sign control at this intersection which currently has no intersection control.

Intersections That Have Two or Three of Three of Four Legs under Stop Sign Control

Given the unique locations and/or operations of two intersections within the neighborhood, both intersections have all but one leg of the intersections under stop sign control. The traffic control at these intersections is appropriate as discussed below.

- *Forest Avenue/Warren Avenue.* The southbound approach of Forest Avenue and the Warren Avenue approach are under stop sign control while the northbound approach of Forest Avenue is under free flow conditions. This is due to the volume of traffic on Forest Avenue and the proximity of the intersection to the at-grade railroad crossing (200 feet south of the intersection). Field observations and a review of the crash data indicates that this intersection is generally operating well under the existing intersection traffic signal control.

- *Forest Avenue/Franklin Street.* Both approaches of Forest Avenue and the eastbound approach of Franklin Street are under stop sign control while the westbound approach of Franklin Street is under free flow conditions. This is due to the volume of traffic along the westbound approach of Franklin Street and the proximity of the intersection to Main Street (285 feet east of the intersection). Field observations and a review of the crash data indicates that this intersection is generally operating well under the existing intersection traffic control.

Summary of Recommended Intersection Traffic Control Plan

Table 2 provides a comparison of the existing and recommended traffic control within the neighborhood and the following summarizes the recommended modifications.

- Under the recommended plan, all 75 intersections will be under either traffic signal control or some form of stop sign control. This is an improvement over existing conditions where fourteen intersections have yield sign control and thirteen intersections have no intersection traffic control.

- In most cases, a stop sign is provided at least at every other cross road along the local roads. This type of intersection traffic control is an excellent deterrent to neighborhood traffic concerns such as cut-through traffic and speeding along local roads.

- Modifications to the existing intersection traffic control are recommended at 27 intersections. However, none of the intersections require alternating the road which is under stop sign or yield sign control.

Table 2
EXISTING AND RECOMMENDED INTERSECTION TRAFFIC CONTROL

	Existing Intersection Traffic Control	Recommended Intersection Traffic Control
Traffic Signal Control	4	4
All-Way Stop Sign Control	9	10
Two-Way/One-Way Stop Sign Control	33	59
Two of Three Legs Under Stop Sign Control	1	1
Three of Four Legs Under Stop Sign Control	1	1
Yield Sign Control	14	0
No Intersection Traffic Control	13	0
Total	75	75

Parking Restrictions

Currently the neighborhood contains numerous types of parking restrictions that have been implemented over many years. All-day parking restrictions have generally been implemented due to the physical and operating conditions of the roadways. Specific time duration (two, three and four-hour) parking restrictions have been implemented in the southwest quadrant of the neighborhood due to its proximity to downtown and the Metra train station. Various weekday specific time of day (i.e. 9:00 A.M. to 1:00 P.M.) parking restrictions have been implemented within proximity to the three schools in the neighborhood, particularly Downers Grove North High School. Lastly, various parking restrictions are provided adjacent to the schools in connection with the drop-off/pick-up activity and/or school parking.

KLOA, Inc. reviewed and examined all of the parking restrictions and with the assistance of Village staff developed recommendations to improve the parking conditions. The primary objective is to reduce the number of parking restrictions by consolidating the restrictions by different sections or zones within the neighborhood. **Figure 10** illustrates the three proposed parking zones within the neighborhood and the following summarizes how the parking restrictions could be consolidated within each zone.

Northeast Quadrant of the Neighborhood (School Zone)

This section of the neighborhood is generally bounded by Ogden Avenue on the north, Main Street on the east, Prairie Avenue on the south and Oakwood Avenue on the west and contains two schools.

- *All-Day Parking Restrictions.* Currently parking is prohibited all-day on one or both sides of several roads in this zone. The all-day parking restrictions are still appropriate and no modifications are recommended (1) as the roadways are too narrow to accommodate parking on both sides, (2) to improve traffic flow and/or (3) to facilitate and enhance drop off/pick up activity around the schools.

- *School Drop-off/Pick-up and Parking Restrictions.* Various parking restrictions are provided adjacent to Downers Grove North High School in connection with the drop-off/pick-up activity and school parking. These restrictions are appropriate and no modifications are recommended.

- *Specific Time of Day Parking Restrictions.* The rest of the roads in the zone have some form of specific time of day parking restrictions typically during weekday mornings and/or early afternoons. This is primarily due to the fact that two schools are located within the zone. In addition to the all-day parking restrictions, Village staff and KLOA, Inc. recommend that the specific time of day parking restrictions should be from 7:00 A.M. to 9:00 A.M. or 8:00 A.M. to 11:00 A.M. Further, due to weekend school activities/functions, consideration should be given to implementing the restrictions on weekdays and Saturdays.

Southeast Quadrant of the Neighborhood (Train Station Zone)

This section of the neighborhood is generally boarded by Prairie Avenue on the north, Main Street on the east, Warren Avenue on the south and Oakwood Avenue on the west.

- *All-Day Parking Restrictions.* Currently parking is prohibited all-day on one or both sides of several roads in this zone. The all-day parking restrictions are still appropriate and no modifications are recommended (1) as the roadways are too narrow to accommodate parking on both sides and (2) to improve traffic flow.

- *Specific Time Duration Restrictions.* Many of the roads in this zone have either two-hour, three-hour or four-hour parking restrictions, particularly south of Franklin Street and along the south side of Franklin Street. This is primarily due to the proximity of the zone to the Metra train station. In addition to the all-day parking restrictions, Village staff and KLOA, Inc. recommend that the specific time duration parking restrictions should be either three-hour parking or four-hour parking. Given that the predominant parking restriction is four-hour parking, this time duration should be considered as the specific time duration parking restriction in the zone.

- *Specific Time of Day Parking Restrictions.* Several roads in the northwest portion of this zone have some form of specific time of day parking restrictions. Given the distance of these roads from the three schools and the Metra station, parking restrictions are likely not required and consideration should be given to eliminating them along these roads. If some form of parking restrictions are desired, it should be consistent with that provided in the rest of the zone.

West Section of the Neighborhood

This section of the neighborhood is generally boarded by Ogden Avenue on the north, Oakwood Avenue on the east, Warren Avenue on the south and Lee Avenue on the west. It should be noted that the majority of the roads in this zone do not have any parking restrictions.

- *All-Day Parking Restrictions.* Currently parking is prohibited all-day on one or both sides of several roads in this zone. The all-day parking restrictions are still appropriate and no modifications are recommended (1) as the roadways are too narrow to accommodate parking on both sides, and (2) to improve traffic flow and (3) to facilitate and enhance drop off/pick up activity around Pierce Downer Elementary School.

- *School Drop-off/Pick-up and Parking Restrictions.* Various parking restrictions are provided on the west side of Oakwood Avenue between Ogden Avenue and Chicago Avenue and along the north side of Grant Street in connection with the drop-off/pick-up activity and parking at Pierce Downer Elementary School. These restrictions are appropriate and no modifications are recommended.

- *Parking Restrictions.* Portions of Chicago Avenue, Oakwood Avenue between Chicago Avenue and Warren Avenue and Montgomery Avenue have parking restrictions. In addition to the all-day parking restrictions, the Village staff and KLOA, Inc. recommend that all of the other parking restrictions in this zone should be removed.

Figure 11 shows the proposed parking restrictions for the neighborhood and was developed by KLOA, Inc. and Village staff.

Pedestrian and Bicycle Facilities and Traffic Control Devices

In addition to the standard pedestrian and bicycle facilities (i.e., sidewalks, crosswalks and bike routes), the neighborhood contains various traffic control devices associated with the three schools and two parks located in the neighborhood. The neighborhood has several dedicated school crossings and school and park zones, which include appropriate warning signs and reduced speed limits. Overall, these traffic control devices are generally well distributed and located appropriately.

However, recommendations have been developed to further enhance the pedestrian and bicycle circulation and to ensure that the traffic control devices comply with the MUTCD. The proposed recommendations are illustrated in **Figure 12** and summarized below.

- *Grant Street*. A school advance crossing assembly should be provided along Grant Street on (1) the south side of the road between Downers Drive and Seeley Avenue and (2) on the north side of the road between Saratoga Avenue and Middaugh Avenue to alert motorists of the school crossings located along Grant Street.

- *Forest Avenue/Franklin Street.* Given the unique traffic control at this intersection where all approaches are under stop sign control except the westbound approach, pedestrian crossing assembly signs should be provided at this intersection to warn motorists of the crosswalk along the west leg of Franklin Street.

- *Oakwood Avenue/Prairie Avenue.* The school crossing assembly sign on the north side of Prairie Avenue east of Oakwood Avenue should be relocated to the west side of Oakwood Avenue so that its on the same side of the intersection as the crosswalk.

- *Main Street/Grant Street.* The school crossing assembly signs at this intersection should be relocated so that they are lower to the ground and located on the near side of the intersection. In addition, the signs should include arrow plaques that point to the crosswalk (school crossing assembly signs).

- *Main Street/Franklin Street.* The existing school advance crossing assembly and school crossing assembly signs should at this intersection eventually be replaced as they do not comply with current MUTCD standards.

- *Pedestrian Signals.* All of the signalized intersections in the study area include pedestrian signals. However, only the intersection of Main Street/Prairie Avenue has countdown pedestrian signals. Therefore, as the traffic signals at these intersections are replaced and/or upgraded, countdown pedestrian signal should be installed at all of the signalized intersections.

- *Sidewalks.* In order to have sidewalks on one side of all of the roads in the neighborhood, it is recommended that the partial sidewalk along the north side of Sherman Street between Saratoga Avenue and Prince Street be extended the entire length of the block.

Observed Neighborhood Speeds

Excluding the two roads (Prairie Avenue and Warren Avenue) that have a 30 mph posted speed limit, the internal neighborhood roads had an average speed of approximately 25 mph and an 85th percentile speed of approximately 30 mph. The average speeds were generally between 20 and 29 mph. While the observed 85th percentile speed on average was approximately 30 mph, a number of the roadway sections experienced 85th percentile speeds that exceeded 30 mph. The higher 85th percentile speeds were primarily observed along those roadway sections that had longer lengths of free flow conditions.

Traffic Calming Measures

The recommended traffic control modifications should help to mitigate the speeds in the neighborhood as it will reduce the length of free flow conditions. Other measures and/or tools that can be used to effectively reduce the speeds in the neighborhood include the following traffic calming measures.

- Speed awareness signs
- Increased speed enforcement
- Portable or permanent speed awareness systems such as electronic speed radar signs
- Pavement markings, parking lanes and bike lanes that reduce the width of roadways
- Horizontal or vertical deflections (i.e., curb extensions and/or medians at intersections and midblock locations, traffic circles, raised crosswalks, chicanes, and chokers).

Table 3 provides a summary of these measures/devices and also shows how they can be implemented incrementally.

Table 3
INCREMENTAL TRAFFIC CALMING MEASURES

	Examples
Level 1 Options	
Regulatory Modifications	Speed Limit Reductions
Increased Police Presence/Enforcement	
Level 2 Options	
Advisory Signing	Portable Speed Radar Signs, Enhanced Speed Limit Signs
Pavement Markings	Parking Lanes, Bike Lanes, Crosswalks, Edgelines
Level 3 Options	
Horizontal Deflections	Curb Extensions, Medians, Traffic Circles, Chicanes, Chokers
Vertical Deflections	Raised Crosswalks, Speed Humps, Speed Tables, Speed Cushions

The Village of Downers Grove has implemented or is considering implementing the following measures to reduce speeds within the neighborhood.

- To increase the awareness/visibility of the speed limits within the neighborhood, enhanced speed limit signs with yellow borders have been installed along Lee Avenue. The Village is considering installing similar signs on other neighborhood roads.

- The Village will increase the policing in the neighborhood with additional enforcement and use of the speed monitoring trailer, particularly along Lee Avenue and the primary roads serving the three schools.

- The Village is considering installing curb extensions, roadway medians and/or reducing roadway cross sections at select locations in the neighborhood. These types of measures will typically be implemented as part of roadway construction projects.

Based on the results of the study and discussions with Village staff, the following traffic calming measures should be considered along several of the neighborhood roads. Both Level 2 and Level 3 options have been provided for each of the locations and can be implemented incrementally.

- *Lee Avenue between Ogden Avenue and Chicago Avenue*. A Level 2 option to consider is to install portable or permanent speed radar signs in both directions located within proximity to Grant Street. Level 3 options to consider include installing horizontal deflection measures (reduced roadway cross sections, median islands and/or chicanes) located north and/or south of Grant Street.

- *Lee Avenue between Prairie Avenue and Warren Avenue.* A Level 2 option to consider is to install portable or permanent speed radar signs in both directions located within the middle of the block. A Level 3 option to consider is to install a horizontal deflection measure (curb extensions, a median island or chicane) located within the middle of the block.

- *Seeley Avenue between Ogden Avenue and Grant Street.* Level 2 options to consider include installing enhanced speed limit signs and/or portable or permanent speed radar signs in both directions located within the middle of the block. A Level 3 option to consider is to install a horizontal deflection measure (curb extensions, a median island or a chicane) located within the middle of the block.

- *Seeley Avenue between Grant Street and Chicago Avenue.* Level 2 options to consider include installing enhanced speed limit signs and/or portable or permanent speed radar signs in both directions located within the middle of the block. A Level 3 option to consider is to install a horizontal deflection measure (curb extensions, a median island or a chicane) located within the middle of the block.

- *Saratoga Avenue between Ogden Avenue and Grant Street.* A Level 2 option to consider is to install portable or permanent speed radar signs in both directions located just south of Sherman Street. A Level 3 option to consider is to install midblock curb extensions (a horizontal deflection measure) at the existing midblock crosswalk. In addition, to slowing down vehicles, the curb extensions would also provide a pedestrian safety benefit by reducing the length of the pedestrian crosswalk.

- *Saratoga Avenue between Grant Street and Chicago Avenue.* A Level 2 option to consider is to install permanent speed radar signs in both directions within proximity to Lincoln Street. A Level 3 option to consider is to install curb extensions (a horizontal deflection measure) at the Lincoln Street intersection. In addition, to slowing down vehicles, the curb extensions would also provide a pedestrian safety benefit by reducing the length of the pedestrian crosswalk.

Prairie Avenue/Forest Avenue Intersection

A review of the crash data has shown that this intersection has experienced a slightly higher number of crashes compared to the rest of the internal neighborhood intersections. Most of the crashes involve vehicles crossing Prairie Avenue, particularly northbound vehicles. Field observations have revealed that the sight distance at this intersection is restricted due to the trees and traffic signs along the Prairie Avenue right-of-way. In order to enhance the operation of this intersection, it is recommended that a sight distance analyses be conducted at this intersection to determine if the trees in the right-of-way or along private property need to be trimmed and/or if any of the signs need to be relocated to enhance the sight distance.

Warren Avenue From Forest Avenue to Lee Avenue

The section of Warren Avenue that extends through the study area is a collector road that serves several different land-uses including the downtown area at the east end of the road, office and commercials uses along the south side of the road and residential uses along the north side of the road. Further, the grade separation of Warren Avenue over Belmont Avenue has changed the function and character of the road. Given the different physical and operating conditions of this road, it requires a different type of traffic evaluation than your typical neighborhood traffic study. As such, the Village should consider performing a separate review/evaluation of this road that addresses issues such as intersection traffic control, bike route designation, on-street parking, roadway cross section, etc.

5.
Conclusion

This study summarizes the results and findings of the neighborhood traffic study for Area Number 2. The neighborhood is bounded by Ogden Avenue on the north, Main Street on the east, Warren Avenue on the south and Lee Avenue on the west, and is located just northwest of downtown Downers Grove. Overall, the objective of the study was to thoroughly examine the existing traffic and parking operations within the neighborhood, identify operational deficiencies and recommend modifications and/or improvements to enhance both vehicular and pedestrian operations. In addition to addressing the primary traffic concerns within any neighborhood, vehicular volume, vehicular speed and overall vehicular and pedestrian safety, the study examined the operation of several intersections bordering the neighborhood.

Based on the results of the study, recommendations and plans were developed regarding (1) intersection traffic control, (2) on-street parking and (3) pedestrian and bicycle facilities and (4) traffic calming measures. The recommendations developed in the study were based primarily on accepted engineering practices, conformity with the 2009 MUTCD, existing Village criteria and the input from Village staff. The following sections summarize the recommendations of the neighborhood traffic study.

Intersection Traffic Control

The recommended intersection traffic control plan is shown in Figure 9 and Table 2 and highlighted below.

- Under the recommended plan, all 75 intersections will be under either traffic signal control or some form of stop sign control. This is an improvement over existing conditions where fourteen intersections have yield sign control and thirteen intersections have no intersection traffic control.

- In most cases, a stop sign is provided at least at every other cross road along the local roads. This type of intersection traffic control is an excellent deterrent to neighborhood traffic concerns such as cut-through traffic and speeding along local roads.

- Modifications to the existing intersection traffic control are recommended at 27 intersections. However, none of the intersections require a switch in the road which is under stop sign or yield sign control.

On-Street Parking

The primary recommendation is to significantly reduce the number of parking restrictions by consolidating the restrictions by different sections or zones within the neighborhood. Figure 10 illustrates the three proposed parking zones within the neighborhood and the following summarizes how the parking restrictions should be consolidated within each zone.

- The all day parking restrictions are still appropriate in all of the zones and no modifications are recommended.

- Various parking restrictions are provided adjacent to the schools in connection with the drop-off/pick-up activity and school parking. These restrictions are appropriate and no modifications are recommended in any of zones.

- To provide consistency and reduce the overall number of parking restrictions, it is recommended that the parking restrictions in the rest of the zones be reduced and consolidated as follows.

    - *Northeast Quadrant (School Zone).* Specific time of day parking restrictions during the morning and/or early afternoon should be considered in this zone.

    - *Southeast Quadrant (Train Station Zone).* Specific time duration (three or four-hour parking) parking restrictions should be considered for the southwest portion of this zone. No parking restrictions should be considered for the rest of the zone.

    - *West Section.* No parking restrictions should be considered for this zone.

Figure 11 illustrates the proposed parking restrictions for the neighborhood and was developed by KLOA, Inc. and Village Staff.

Pedestrian and Bicycle Facilities and Traffic Control Devices

Recommendations have been developed to further enhance the pedestrian and bicycle circulation and to ensure that the traffic control devices comply with the MUTCD. **Figure 12** illustrates the recommendations.

Neighborhood Speeds

The recommended traffic control modifications should help to mitigate the speeds in the neighborhood as it will reduce the length of free flow conditions. In addition, a number of traffic calming measures and/or tools were identified that can be used to effectively reduce the speeds in the neighborhood. The Village has implemented or is considering implementing some of these measures/tools along the neighborhood roadways. In addition, based on the results of the study and discussions with Village staff, the study provided specific traffic calming measures to be considered along several roadways within the neighborhood.

Prairie Avenue/Forest Avenue Intersection

In order to enhance the operation of this intersection, it is recommended that a sight distance analyses be conducted at this intersection to determine if the trees in the right-of-way need to be trimmed and/or if any of the signs need to be relocated to enhance the sight distance.

Appendix

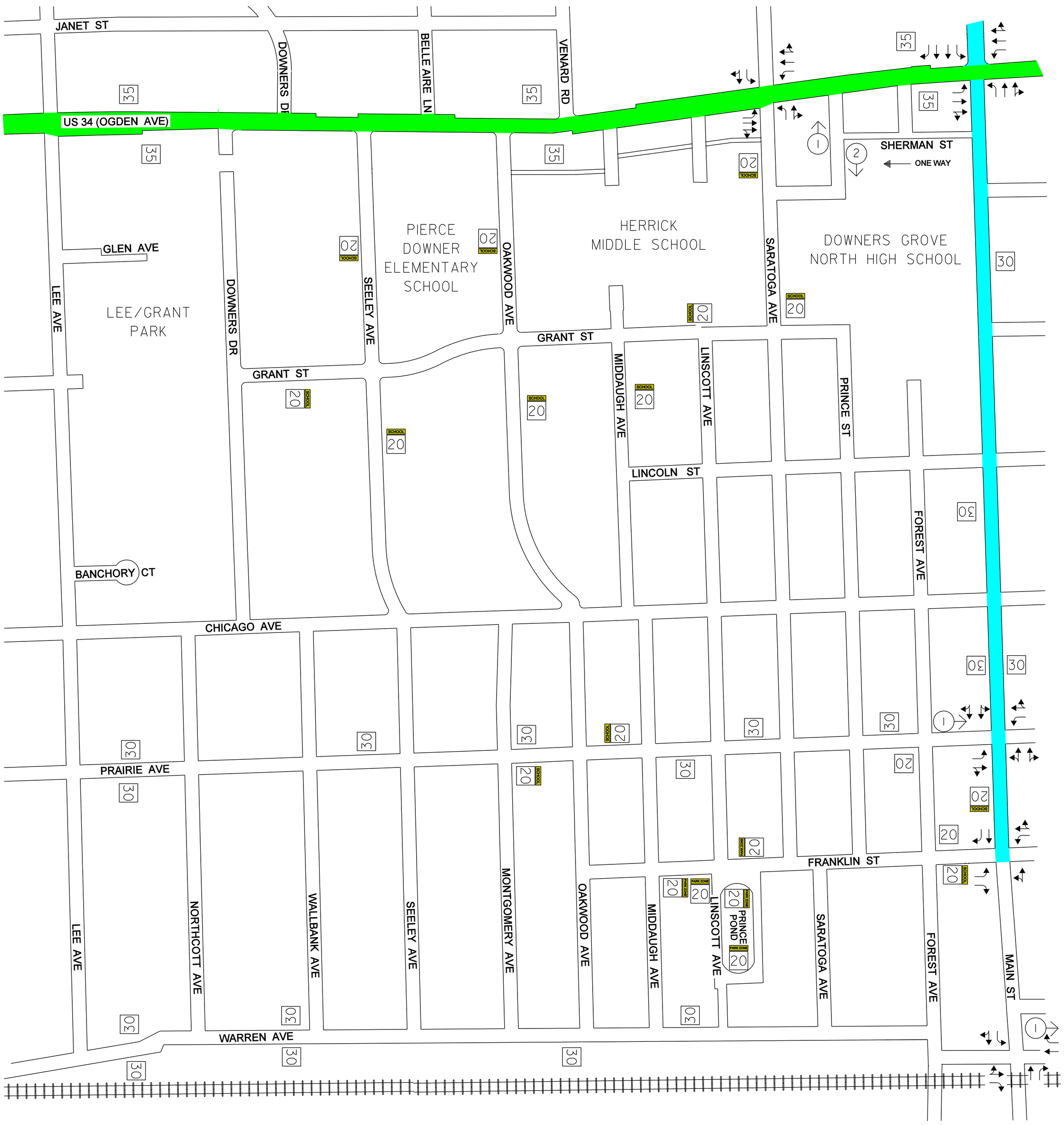
NOT TO SCALE

PROJECT:	TITLE:	
2nd Neighborhood Study Downers Grove, Illinois	STUDY AREA	KLOA Job No: 12-140 Figure: 1

LEGEND

- 2 LANE ROAD
- 4 LANE ROAD
- 5 LANE ROAD
- (1) → NO LEFT TURN
- (2) → NO RIGHT TURN
- XX - POSTED SPEED LIMIT (MPH)
  *ALL ROADS HAVE A 25 MPH SPEED LIMIT UNLESS OTHERWISE POSTED.

N
NOT TO SCALE



PROJECT:	TITLE:	
2nd Neighborhood Study Downers Grove, Illinois	Existing Roadway Conditions	KLOA Job No: 12-140 Figure: 2

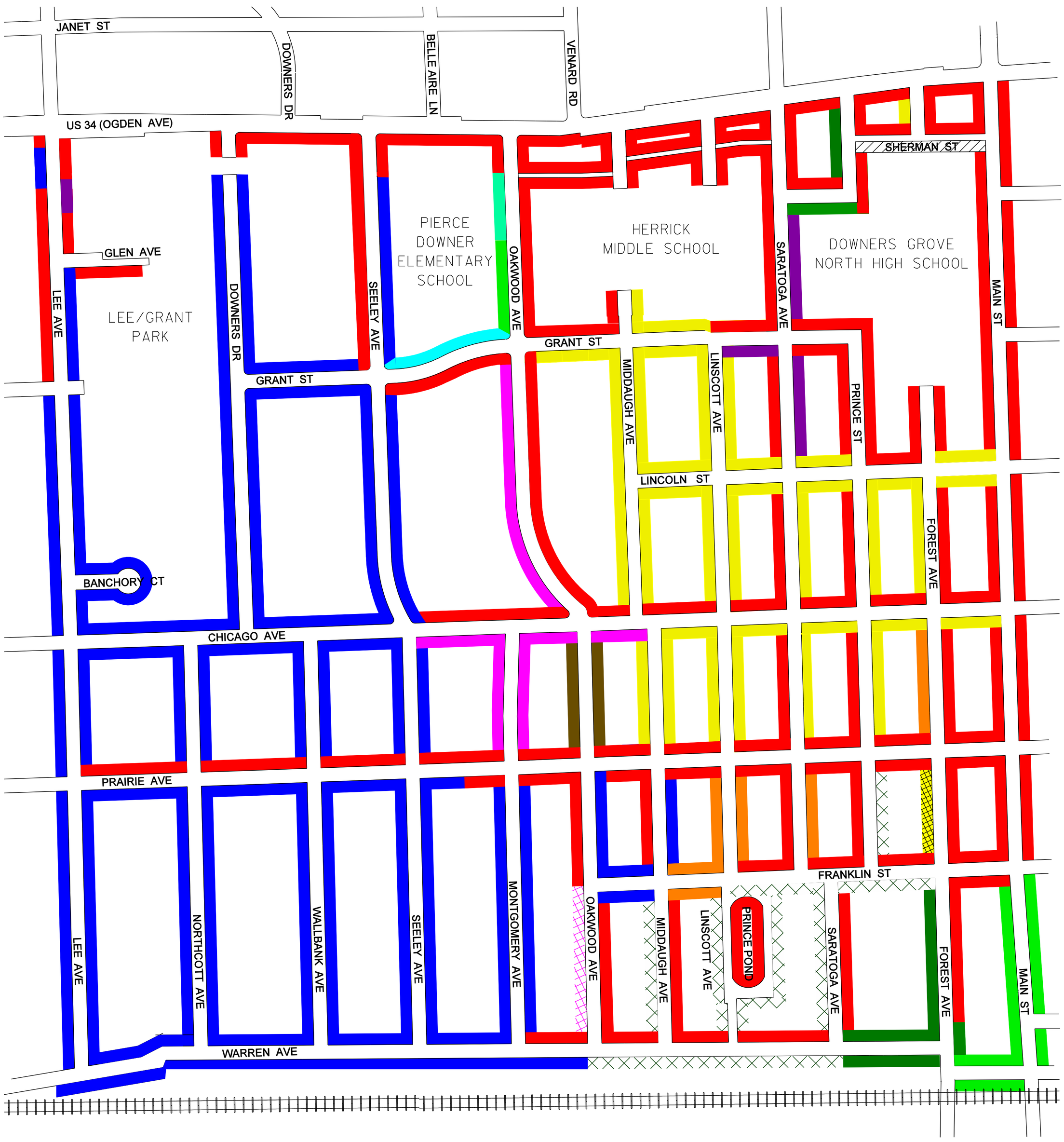
LEGEND

- RESTRICTIONS NOT POSTED
- NO PARKING ANYTIME (NPAT)
- NO PARKING 6 AM - 9 AM
- NO PARKING 7 AM - 9 AM
- NO PARKING 7 AM - 1 PM
- NO PARKING 6 AM - 6 PM
- NO PARKING 7 AM - 4 PM
- NO PARKING 8 AM - 9 AM
- NO PARKING 9 AM - 4 PM
- NO PARKING 8 AM - 11 AM
- NO PARKING 4 PM - 6 PM
- 2 HOUR PARKING
- 3 HOUR PARKING
- 4 HOUR PARKING
- 4 HOUR PARKING 6A-6P
- LOT W

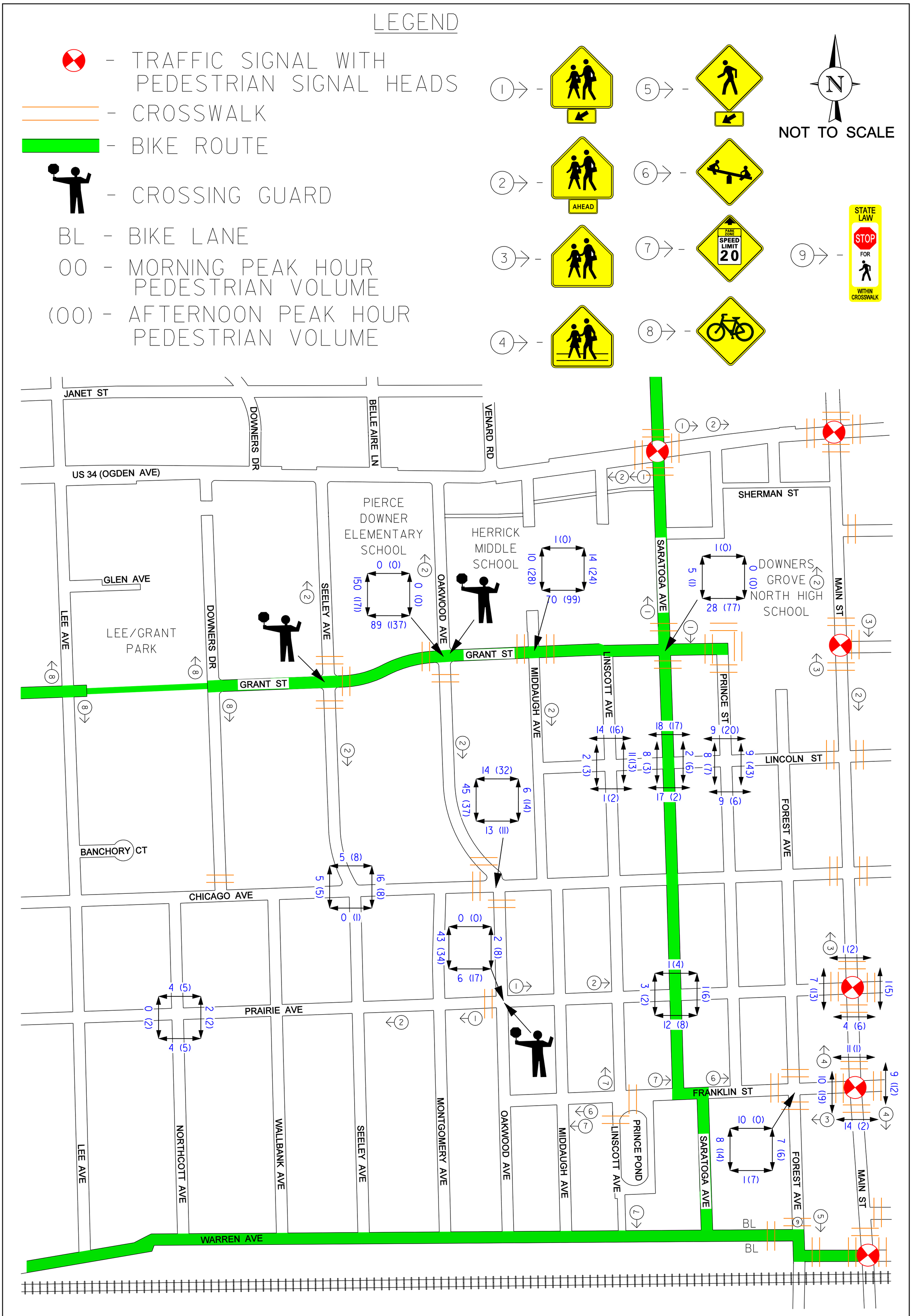
N

NOT TO SCALE

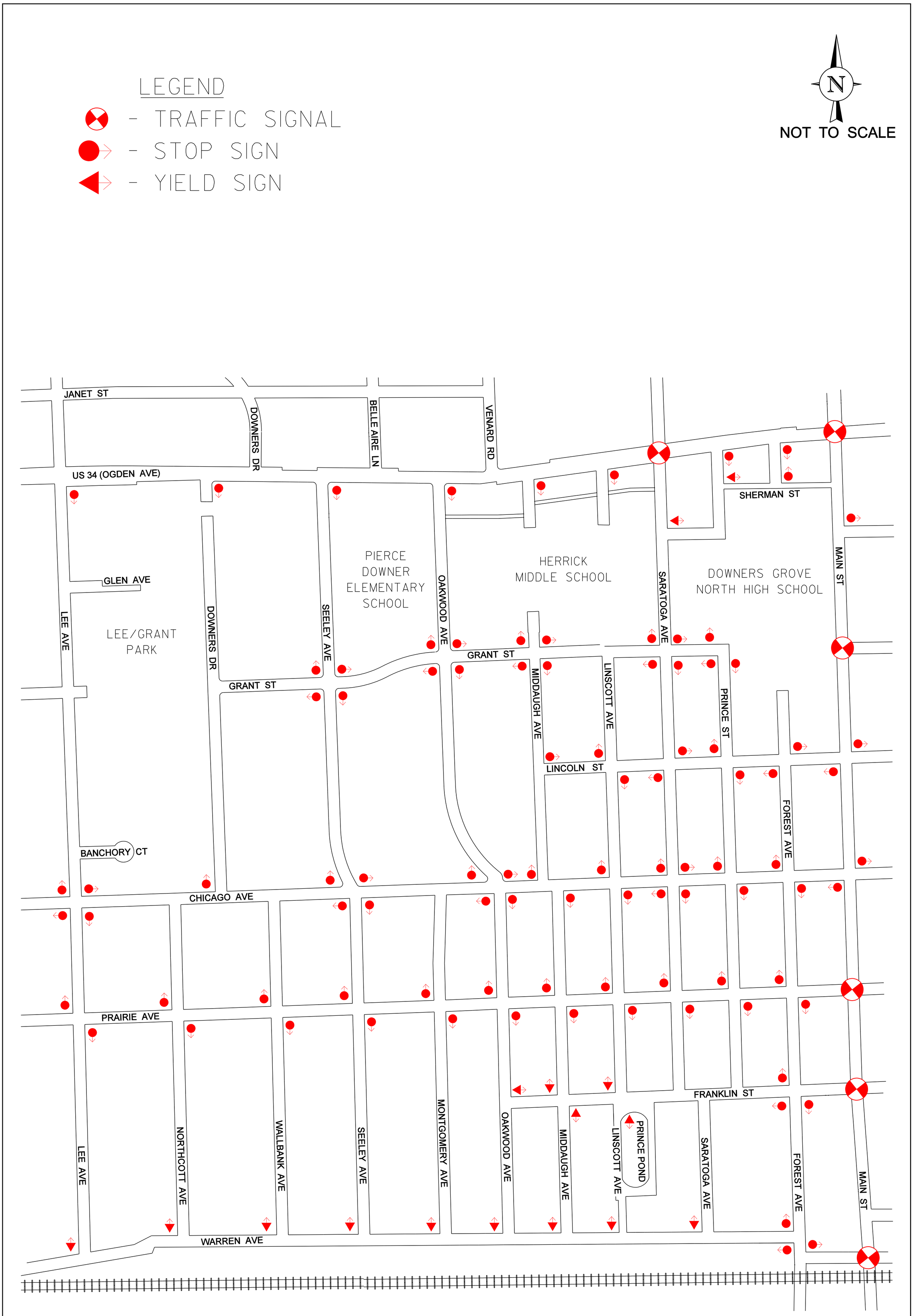
VILLAGE ORDINANCE:
PARKING IS PROHIBITED
ON VILLAGE STREETS
FROM 2 AM TO 6 AM



PROJECT:	TITLE:	
2nd Neighborhood Study Downers Grove, Illinois	Existing Roadway Parking Restrictions	KLOA Job No: 12-140 Figure: 3



PROJECT:	TITLE:	
2nd Neighborhood Study Downers Grove, Illinois	Existing Pedestrian and Bicycle Facilities and Traffic Control Devices	KLOA Job No: 12-140 Figure: 4



PROJECT:	TITLE:	
2nd Neighborhood Study Downers Grove, Illinois	Existing Intersection Traffic Control	KLOA Job No: 12-140 Figure: 5

NOTE: Majority of the traffic counts performed in October 2012

PROJECT:	TITLE:	
2nd Neighborhood Study Downers Grove, Illinois	Existing Daily (24 -Hour) Traffic Volumes	KLOA Job No: 12-140 Figure: 6

LEGEND

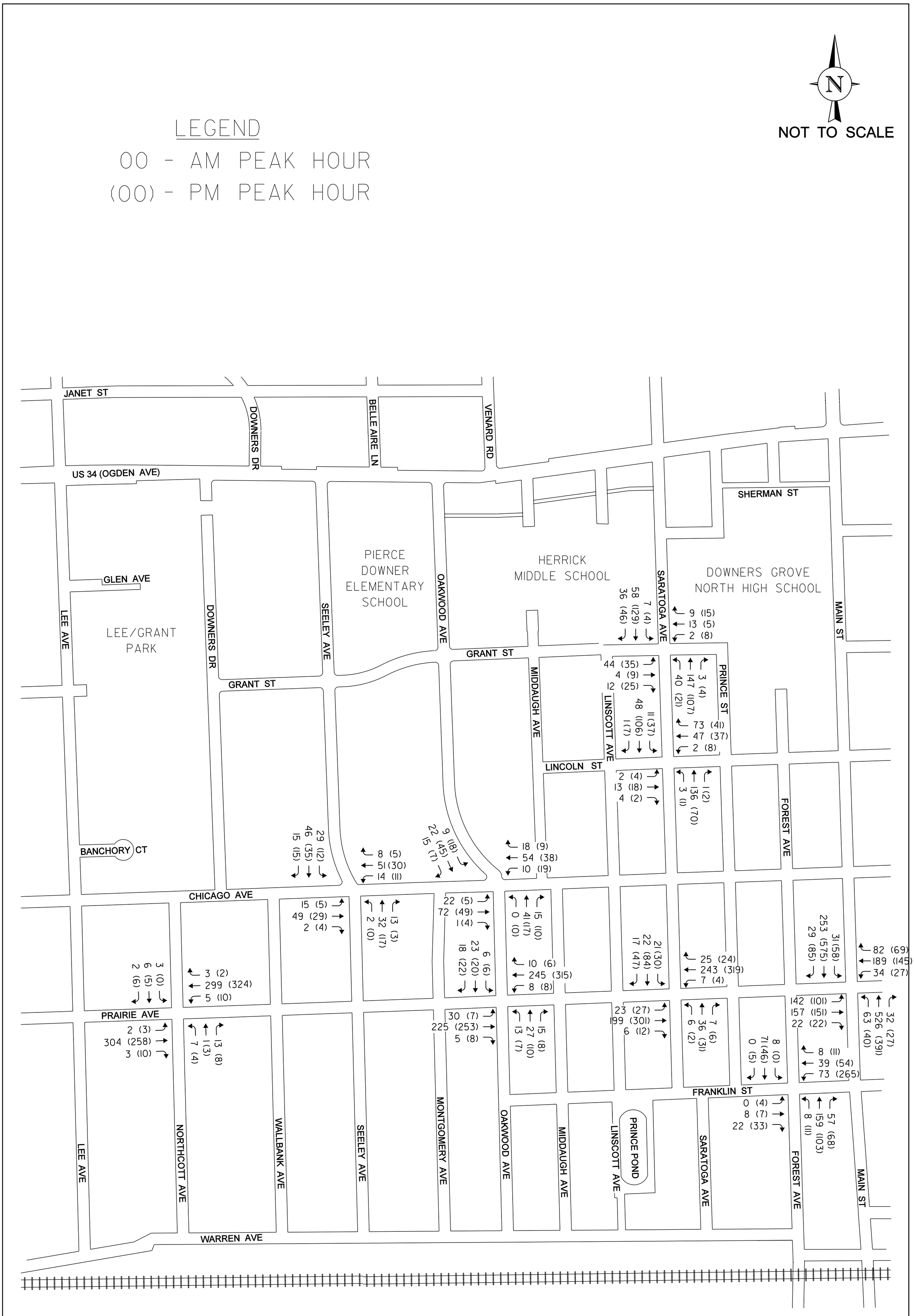
00 - AVERAGE SPEED (MPH)

(00) - 85TH PERCENTILE SPEED (MPH)

NOT TO SCALE

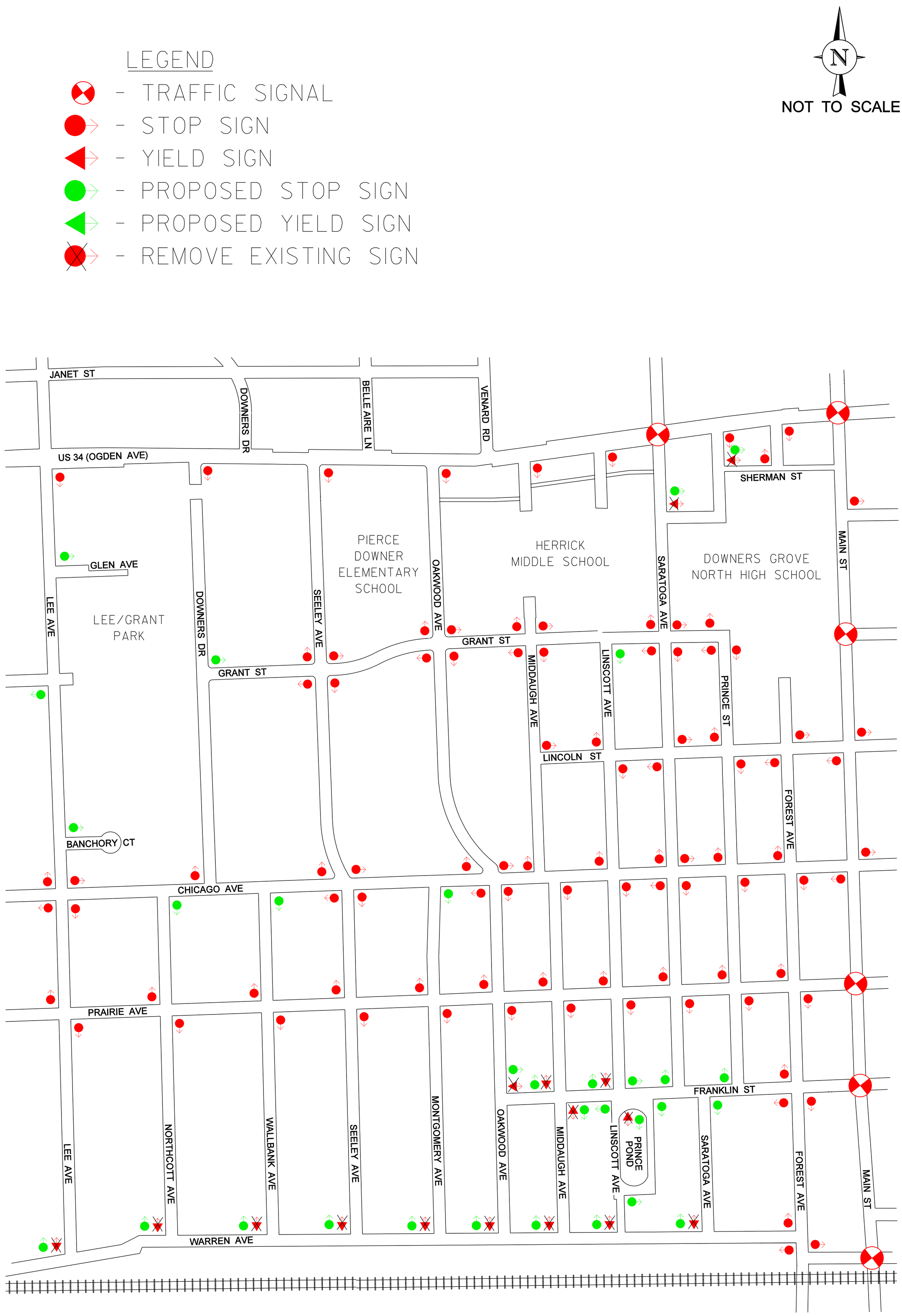
NOTE: Majority of the speed surveys performed in October 2012

PROJECT:	TITLE:	
2nd Neighborhood Study Downers Grove, Illinois	Existing Speed Surveys	KLOA Job No: 12-140 Figure: 7



NOTE: All of the traffic counts performed in October 2012

PROJECT:	TITLE:	
2nd Neighborhood Study Downers Grove, Illinois	Existing Peak Hour Traffic Volumes	KLOA Job No: 12-140 Figure: 8



PROJECT:	TITLE:	
2nd Neighborhood Study Downers Grove, Illinois	Recommendations Intersection Traffic Control	KLOA Job No: 12-140 Figure: 9

PROJECT:	TITLE:	
2nd Neighborhood Study Downers Grove, Illinois	Recommendations Parking Zones	KLOA Job No: 12-140 Figure: 10

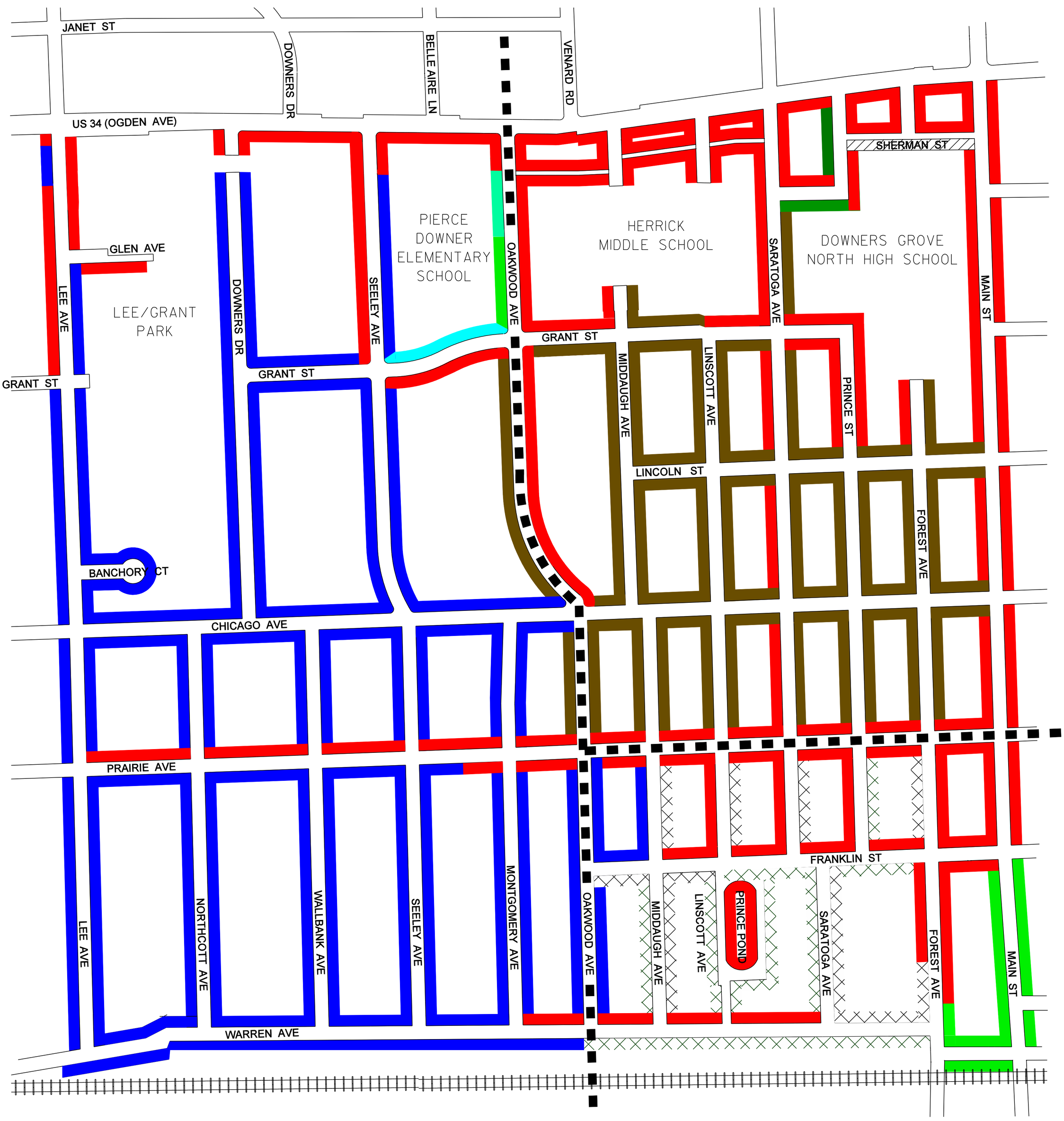
LEGEND

- RESTRICTIONS NOT POSTED
- NO PARKING ANYTIME (NPAT)
- NO PARKING 8 AM - 9 AM SCHOOL DAYS
- NO PARKING 9 AM - 4 PM SCHOOL DAYS
- NO PARKING 8 AM - 11 AM SCHOOL DAYS
- 2 HOUR PARKING
- 3 HOUR PARKING
- 4 HOUR PARKING
- LOT W

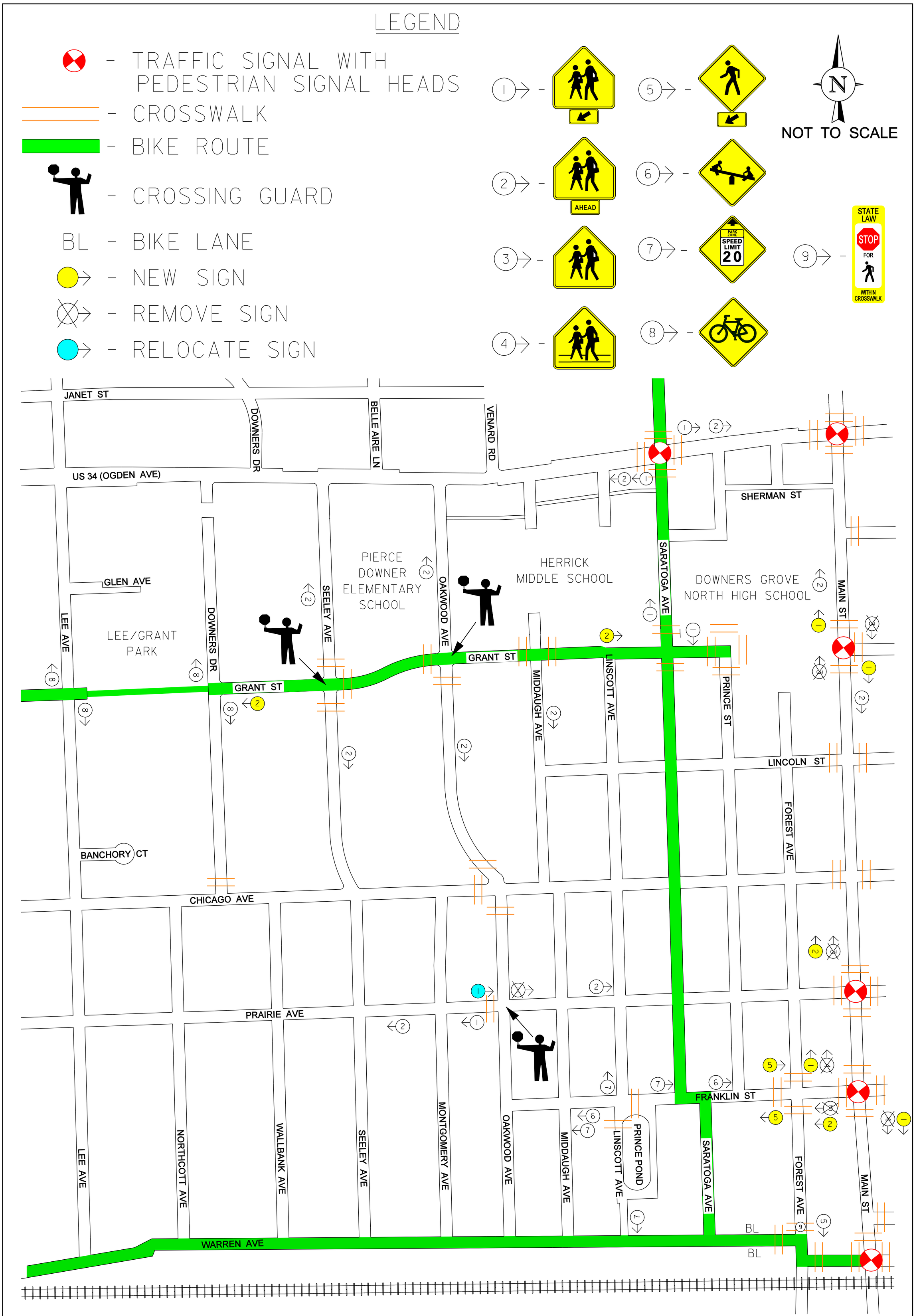
N

NOT TO SCALE

VILLAGE ORDINANCE:
PARKING IS PROHIBITED
ON VILLAGE STREETS
FROM 2 AM TO 6 AM



PROJECT:	TITLE:	
2nd Neighborhood Study Downers Grove, Illinois	Proposed Roadway Parking Restrictions	KLOA Job No: 12-140 Figure: 11



PROJECT:

2nd Neighborhood Study
Downers Grove, Illinois

TITLE:

Recommendations
Modifications to the Pedestrian and Bicycle Facilities
and Traffic Control Devices

KLOA

Job No: 12-140

Figure: 12