NAPERVILLE TRANSPORTATION ADVISORY BOARD
COUNCIL CHAMBERS – MUNICIPAL CENTER
FINAL AGENDA
10/05/2013 - 8:00 a.m.

CALL TO ORDER:

A. ROLL CALL

B. APPROVAL OF MINUTES

1. Approve the minutes of the September 7, 2013 Transportation Advisory Board.

C. PUBLIC FORUM

D. OLD BUSINESS

E. PUBLIC HEARINGS

F. REPORTS AND RECOMMENDATIONS

1. City Council Report
2. Police Department Report
3. Zone 11 Neighborhood Traffic Study
4. Recommendation to Establish Neighborhood Speed Limit 25 MPH on Ford Lane and Baker Lane

G. CORRESPONDENCE

H. NEW BUSINESS

I. ADJOURNMENT

Any individual with a disability requesting a reasonable accommodation in order to participate in a public meeting should contact the ADA Compliance Specialist at least 48 hours in advance of the scheduled meeting. The ADA Compliance Specialist

can be reached in person at 400 S. Eagle Street, Naperville, IL., via telephone at 630-420-6725 or 630-305-5205 (TDD) or via e-mail at manningm@naperville.il.us.
Every effort will be made to allow for meeting participation.

NAPERVILLE TRANSPORTATION ADVISORY BOARD
MINUTES OF August 3, 2013

Call to Order **8:00 a.m.**

A. Roll Call

Present:	Amberg, Benson, DiGiovine-Gehrs, Floegel, McIntosh, Nye, Polites, Preissig, Smith, Chairman Wencel Student Representatives: Lundy
Absent:	Collins, Nye
Staff Present:	Project Manager Caitlin Marcon, Project Engineer Jonathan Stelle, Sergeant Al Trotsky

B. Minutes Approve the minutes with addition of Council notes from Preissig for the August 3, 2013 Transportation Advisory Board meeting.

Motion to approve.
Motion by: Preissig
Second by: Amberg Approved, 9-0

C. Public Forum N/A

D. Old Business

E. Public Hearings

E1. 2014 Annual Sidewalk Program

Project Engineer Jonathan Stelle provided an overview on the selected sidewalk segments to be included in the 2014 program as well as the recommended contingency list for the 2015 program.

Public Testimony:

Mike Wisniewski, 1012 N Main Street, Naperville

- Expressed gratitude and his support for the addition of sidewalks in his neighborhood.

Elaine Conroy, 1024 N Main Street, Naperville

- Thanked the City for the proposal and gave support for the sidewalk locations.

Bob Schrader, 620 Melody Lane, Naperville

- Has concerns if the gas and water pipes under the ground have been considered when selectiong these locations.
- Project Engineer Stelle informed him that the sidewalk work does not dig deep enough to effect and of the underground utilities.
- Mr. Schrader still asks that sidewalk not be installed on top of these utility pipes for future maintenance. He suggested placing the sidewalk on the other side of the street.

Dave Scholstrum, 634 Melody Lane, Naperville

- Does not agree with the installation of sidewalk of Melody Lane in front of property. He believes it will bring too many people near his home and make too much noise.
- Suggested the sidewalk to be installed on the opposite side of Melody lane.

Transportation Advisory Board Questions/Discussion:

Wencel

- What was this section of Melody Lane chosen?

- Project Engineer Stelle responded that there are flood plane concerns on the other side of the street.

Benson

- Has the City raised the budget for the program?
- Project Engineer Stelle responded the budget is at about 300 thousand for the program.
- Has a concern about the segment on Raymond and who will maintain this?
- Project Engineer Stelle said the property owner will be responsible for maintenance.

Preissig

- Asked if #9 on contingency plan can be pushed to this year since it is the only one remaining in neighborhood.
- Project Engineer Stelle said that this section would push the program over budget, so it cannot be moved to this year.

Floegel

- Stated Melody Lane should not be on the list if the neighborhood does not want it. There are other neighborhoods that want sidewalk and the money should be used there.

Wencel

- Understands the need for the section on Melody Lane and is not comfortable removing it all together.
- Understands that there are gaps and that it is part of the process.
- Would like to remove the Raymond section from the contingency plan.

McIntosh

- Would like to see the gaps in Naperville Heights filled in before some of the contingency items.
- Believes that Melody Lane should be removed and the City should place it in the flood plane on the opposite side with County approval.

Benson

- Supports removing Raymond to a later date.
- Requested future lists to include road category and rational for choosing each section.

Motion to approve the 2014 selection, but not the contingency list.
Motion: McIntosh
Second: Amberg
Approved: 9-0

F. Reports and Recommendations

F1. City Council Report

DiGiovine- Gehrs and Floegel stated that there were no transportation-related items on the August and September Agendas.

F2. Police Department Report

Sergeant Al Trotsky stated the Department is working with school zones for the start of the year and concentrating on the Route 59 construction area.

F3. Charles Avenue and Brighton Road

Projectw of studies done at this intersection to identify if a Stop sign should be installed. City staff recommends

a stop to be installed for Charles to stop for Brighton.

Transportation Advisory Board Questions/Discussion:

Benson

- Does not agree with the installation due to the limited number of homes on Charles.
- Believes drivers on Brighton and Wisconsin would have a more confusing time moving through the intersection.

Wencel

- Supports the sign having driven through the intersection many times.

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Recommend a motion to approve.

Motion by: Preissig
Seconded by: Floegel
Approved: 8-1

F4. Brookdale Rd. Parking Restrictions

Project Manager Caitlin Marcon provided an overview of the proposed parking restrictions for Brookdale Road in front of the swim club. Removal of parking boxes is recommended in order to provide adequate site distance for vehicles attempting to come out of the club parking lot and pull onto Brookdale.

Transportation Advisory Board Questions/Discussion:

Wencel

- Wants to clarify that there are other parking options in the area.
- Project Manager Marcon stated there are more parking options in the lot at the club as well as further along Brookdale Road.

Amberg

- Has concerns of event parking availability; specifically during swim meets when there are many more cars.
- Asked Sergeant Trotsky if police are aware of these events.
- Sergeant Trotsky stated police are aware of events and take extra precautions for pedestrians

Motion to approve

Motion: McIntosh
Second: Benson
Approved:9-0

G. Correspondence

H. New Business

H1. Washington Street Resurfacing

- Amberg requested clarification on why there will be construction during the weekends for the Washington Resurfacing project as opposed to having the work done overnight. He also inquired about the metal plates on Washington.
- Project Manager Marcon explained there are many residential homes close to the construction zone that would prohibit overnight work. Also indicating that the metal plates are related to the resurfacing project, but will follow-up with the Project Engineer.

I. Adjournment

Motion to Adjourn

Motion: Amberg
Second: Benson
Approved: 9-0

Naperville

TRANSPORTATION ADVISORY BOARD
AGENDA ITEM

AGENDA DATE: **10/5/2013**

SUBJECT: Zone 11 Neighborhood Traffic Study Recommendations

ACTION REQUESTED: Recommend approval of the Zone 11 Neighborhood Traffic Study recommendations.

PREPARED BY: Jennifer Louden, DRT Project Manager/Project Engineer
Kim Schmidt, Project Engineer

ACTION PREVIOUSLY TAKEN:

Date	Item No.	Action
8/3/13	F3	Provided input on the study and continued the agenda item.

BACKGROUND:
At the August 3, 2013 Transportation Advisory Board (TAB) meeting, City staff presented the study process and recommendations related to the Zone 11 Neighborhood Traffic Study. The meeting also provided an opportunity for the public and the TAB members to comment on and ask questions regarding the study and recommendations.

The August 3, 2013 TAB meeting was the third formal opportunity for the public to participate in the Zone 11 Neighborhood Traffic Study. The City actively engaged neighborhood residents, businesses, and organizations throughout the study to encourage input on existing conditions and the proposed recommendations. At the outset of the study, the City did a direct mailing to every resident and business address within the study limits to inform the neighborhood about the study and the initial open house and to provide information on how to remain informed via the e-News service during the remainder of the process. Notifications for subsequent opportunities were made through the City's website, e-News blasts and press releases.

DISCUSSION:
Since the August TAB meeting, City staff and the consultant have conducted additional analysis to respond to the questions and comments from the public and TAB members, finalized the report and recommendations and developed an implementation plan for TAB's consideration.

Responses to the questions and comments from the August 3, 2013 TAB Meeting are provided in Attachment 1.

Recommendations Matrix

The final matrix of the recommendations, including the implementation timeframe for each recommendation, is provided in Attachment 2 for TAB's consideration. The final report is also provided in Attachment 3.

The paragraphs below provide a summary of the modifications that have been made to the recommendations:

- Item 2 – Spruce Drive at Emerald Drive
  During the August TAB meeting, there was a concern regarding the automatic replacement of Yield signs with Stop signs. Following the meeting, staff conducted additional research regarding this concern and determined that it would be appropriate to modify the City's policy regarding the removal Yield sign. As a result, the recommendation for this location was modified to remove the Yield sign rather than remove and replace with a Stop sign. Additional information regarding this item is provided in Attachment 1.

- Item 20 – "Children at Play" Sign Policy
  The recommendation has been modified to state that once the policy has been changed to prohibit the further use of the "Children at Play" signs, existing signs will be removed rather than waiting to remove them when they fade.

- Item 23 – Gartner Road (Washington Street to Modaff Road)
  This recommendation has been modified from a tiered approach to implementing all three recommendations at the same time.

- Item 29 – Gartner Road with Modaff Road and Magnolia Lane
  City staff and the consultant conducted additional analysis based upon the comments at the TAB meeting. The recommendation has been revised to No Change (maintaining the existing alignment of the roadways) based upon the analysis. Additional information regarding the analysis is provided in Attachment 1.

- Item 38 – Neighborhood Transportation Data
  During the August TAB meeting, there was a suggestion to create zone specific education materials related to vehicles, pedestrians and bicyclists. A recommendation was developed to put Zone specific transportation data on the City's website, similar to the School Walk Route maps.

Implementation and Follow-Up

Following the approval of the recommendations by City Council, staff will begin implementation in accordance with the timeframes identified on the matrix.

After studies and/or follow-up traffic counts will be conducted in the Zone at such time that one or more of the following conditions exists:

- A major land use or transportation change in or adjacent to the Zone has occurred that would result in changes in traffic patterns,
- Three years or more has passed since the completion of a previous after/follow-up study, or
- Certain study recommendations are implemented (based on engineering judgment).

Transportation Advisory Board Consideration

Staff requests that TAB vote on the recommendations at the October meeting. Due to the number of recommendations included with this study, staff recommends that TAB vote in a manner that is similar to how consent items are considered at City Council meetings. Specifically, this process involves the following steps:

1. Each TAB member will have the opportunity to pull specific recommendations that they would like to discuss in greater detail.
2. After each TAB member has had the opportunity to pull recommendations, any items that have not been pulled for discussion will be recommended for approval as a group and voted on by TAB.
3. Each pulled item will be discussed by the TAB members and voted on individually.

Next Steps

Following the TAB meeting, City staff will present the Zone 11 Neighborhood Traffic Study and recommendations to the City Council for their review and approval. If there are instances where TAB and staff recommendations differ, both recommendations will be presented to the City Council for their consideration.

RECOMMENDATION:

Recommend approval of the Zone 11 Neighborhood Traffic Study recommendations.

ATTACHMENTS:

1. Responses to August 3, 2013 TAB Questions/Comments
2. Zone 11 Recommendation and Implementation Matrix
3. Zone 11 Final Report

Attachment 1

Zone 11 Neighborhood Traffic Study
August 3, 2013 Transportation Advisory Board Meeting

RESPONSES TO PUBLIC AND TAB COMMENTS

Yield Sign Replacement Policy

A question was raised as to why the removal of a yield sign should automatically result in the installation of a stop sign. The comment was made that some yield sign locations have low traffic volumes and good sight distance. Why should we force people to stop if there isn't a need?

City staff reviewed the MUTCD and investigated policies from other communities. A revised Residential Yield Sign Removal Policy has been developed to take into account sight distance, accidents and traffic volumes to determine if the Yield Sign should be replaced with a Stop sign. The warrants are based upon the MUTCD.

Residential Yield Sign Removal Policy

Within residential areas, existing Yield signs should be replaced with a Stop Sign if any of the following conditions exist:

1. Vehicular traffic volumes on the major street exceed 6,000 vehicles per day.
2. A restricted view exists that requires road users to stop in order to adequately observe conflicting traffic on the major street.
3. Crash records indicate that three or more crashes over a 12 month period are susceptible to correction by the installation of a Stop sign or five or more crashes over a 2-year period (right angle and turning crashes between the side street and major street).

If none of the above conditions exist, the existing Yield sign should be removed without replacement of any traffic control.

Based upon this new policy, Recommendation 2, which involves removing the Yield signs on Spruce Drive at Emerald Drive, has been modified to the removal of the Yield signs without the installation of new Stop signs. Recommendations 1 and 3 remain the same.

Modaff Road and Buckeye Drive "Do Not Block Intersection"

A comment was made to relocate the "Do Not Block Intersection" sign at Modaff Road and Buckeye Drive from the far side of the intersection to the near side of the intersection as requested by the resident.

KLOA observed traffic during at various times of the day at the intersection of Modaff Road and Buckeye Drive. The longest queues were observed during the PM peak. Vehicles were rarely observed extending back on Modaff Road through the intersection with Buckeye Drive and when they did, the southbound vehicles typically did not block Buckeye Drive. Based upon these observations, KLOA did not recommend any modifications to the signage or striping at this location.

"Children at Play" Signs

A comment was made that if the "Children at Play" signs are removed, the City should find an alternative to remind motorists that they are entering a neighborhood.

The City has a policy to install the "Neighborhood Speed Limit" signs on neighborhood connector and local streets as motorists enter the neighborhood from an arterial or a collector street. KLOA evaluated all of the signs within the Zone 11 neighborhood. Twelve neighborhood speeds limit signs are recommended to be replaced under Recommendation 18, which involves replacing faded, outdated and/or vandalized signs:

- Catalpa (NB) – Between Sycamore Drive and Gartner Road
- E. Savannah Circle (NB) – At West Street
- Emerald Drive (SB) – Between West Street and Hazelwood Drive
- Hemlock Lane (WB) – Between Aspen Court and Cypress Drive
- Juniper Drive (WB) – Between Gartner Road and Emerald Drive
- Laurel Lane (NB) – Between Gartner Road and Sycamore Drive
- N. Merrimac Circle (EB) – At West Street
- S. Merrimac Circle (EB) – At West Street
- Tupelo Avenue (EB) – At Basswood Drive
- W. Savannah Circle (WB) – At West Street
- W. Shiloh Circle (EB) – North of Gartner Road
- Williamsburg Drive (SB) – Between West Street and Appomattox Circle/Vicksburg Court

In order to make the signs more visible, Recommendation 21 involves trimming trees in the right-of-way to improve the visibility of signs, including the neighborhood speed limit sign.

Bike Sharrows

A suggestion was made to investigate dedicated bike lanes on Modaff Road and Gartner Road rather than using Sharrows.

Per the AASHTO Guide for the Development of Bicycle Facilities, dedicated bike lanes typically have a minimum width of 5 feet and are provided on both sides of a two-way street to accommodate both directions of bicycle travel. Thus, to accommodate bike lanes on Modaff Road and Gartner Road, 10 feet of street width must be dedicated.

Modaff Road is 36 feet wide and Gartner Road is 33 feet wide. The following design scenarios would accommodate bike lanes on these two streets.

- Modaff Road (Scenario 1) – Two 9.5-foot travel lanes, two 5-foot bike lanes, one 7-foot parking lane on west side of street to best serve St. Raphael Church/School. This would require the elimination of parking along east side of street (Gartner to Tupelo). The transition would occur at the Tupelo intersection where the bike lane would end and shared lane would begin between Tupelo and 75th Street.

- Modaff Road (Scenario 2) – Two 13-foot travel lanes and two 5-foot bike lanes. This would require the elimination of parking from both sides of the street (Gartner to Tupelo).
- Gartner Road (Scenario 1) – Two 11.5-foot travel lanes and two 5-foot bike lanes. This would require the elimination of parking from both sides of the street (Catalpa to Modaff).
- Gartner Road (Scenario 2) – Two 8-foot travel lanes, two 5-foot bike lanes, one 7-foot parking lane on south side of street to best serve Knox Presbyterian Church. This would require the elimination of parking along the north side of street (Catalpa to Modaff). The 8-foot travel lanes would be substandard in width and not advisable.

Staff recommends the implementation of Sharrows in order to accommodate all roadways users (bicyclists and those who use the roadway for vehicle parking).

Gartner Road with Modaff Road and Magnolia Lane

At the TAB meeting, there was considerable discussion regarding the proposed improvement alternatives at this intersection and staff's recommendation to implement the 50% realignment option. TAB requested a comparison of crashes at 4-way stop intersections with similar land use and traffic volumes as well as additional information regarding the alternatives that were not recommended.

The table below provides a summary of the crash comparison between the Gartner Road with Magnolia Lane and Modaff Road intersection and four other all-way stop intersections in Naperville. The four intersections were selected because they all involve the intersection of two collector streets in residential areas with similar average daily traffic (ADT) volumes (24-hour traffic volumes).

Table 1 –Crash Comparison for Gartner Road with Magnolia Lane and Modaff Road

Intersection	Intersection ADT	3-Year Crash Volume	Crash Rate	Crash Type			
				Rear End	Angle/ Turning	Bike/Ped	Other
Gartner/Olesen	11,900	4	0.31	1 (25%)	3 (75%)	0	0
Bailey/Modaff	12,300	8	0.59	1 (12.5%)	7 (87.5%)	0	0
Gartner/Magnolia/Modaff	**13,500**	**7**	**0.47**	**5 (71.4%)**	**1 (14.3%)**	**0**	**1 (14.3%)**
5th/Columbia/Plank	15,800	7	0.40	3 (42.9%)	4 (57.1%)	0	0
Jefferson/River	18,800	13	0.63	5 (38.5%)	6 (46.1%)	1 (7.7%)	1 (7.7%)

As the table shows, the total number of crashes that occurred at Gartner Road with Modaff Road and Magnolia Lane was not higher than the other four intersections. In addition, when the crash rate, meaning the ratio of crashes to the intersection ADT was evaluated, the intersection of Gartner Road with Modaff Road and Magnolia Lane was consistent with the other intersections. Finally, the types of accidents at each intersection were evaluated. The prevailing accident type at the Gartner Road with Modaff Road and Magnolia Lane intersection is rear end while the other intersections are predominately angle and turning accidents, which tend to result in more injuries. The accident analysis demonstrates that the unique geometry of the Gartner Road with Modaff Road and Magnolia Lane intersection does not make it less safe than other collector/collector intersections in neighborhoods.

As requested at the TAB meeting, KLOA and city staff also developed a comparison matrix for five alternatives at Gartner Road with Modaff Road and Magnolia Lane:

1. No Build
2. Full (100%) Realignment
3. 50% Realignment
4. 12% Realignment
5. Traffic Signal Installation

Taking into consideration the data analysis completed prior to the first TAB meeting and the additional analysis based on TAB's suggestion, staff has revised the recommendation for this intersection to "No Change" (maintaining the existing alignment of the roadways).

Bicycle Routes on Modaff Road and Gartner Road

The Modaff Road route is one of the best north-south bike routes in the City. A concern was expressed that if the intersection of Gartner Road with Modaff Road and Magnolia Lane is modified, it may negatively impact bike movements in the intersection. Currently bikes take the right side of the lane at the intersection and vehicles shift left into the striped median. It may be uncomfortable for bicyclists to take the lane at the intersection and potential for conflicts with cars. Look at how bikes can be accommodated.

The AASHTO Guide for the Development of Bicycle Facilities suggests a travel lane width of 14 feet on major roadways where bicyclists and motorists share the road. Since Modaff Road is a collector road and a posted bike route, it would be appropriate to use this standard to design the curb extension or neckdown on Modaff Road at Gartner Road. Modaff Road is 36 feet wide with a centerline, so narrowing the roadway to 28 feet at the Gartner Road intersection would leave an 11-foot travel lane and 3-foot buffer zone for each direction of travel.

If the curb extension or neckdown option is pursued on Modaff Road at the intersection with Gartner Road and Magnolia Lane, the road would be designed to maintain a 14-foot wide lane on all of the approach to the intersection, which will provide an adequate buffer space between vehicles and bicycles.

Gartner/Gartner Intersection Improvement

A question was raised as to whether or not there would be a benefit to doing the Gartner Road and Gartner Road intersection improvement now.

City staff discussed this question and determined that there would not be a benefit to completing this improvement in the short term. When KLOA conducted their data collection and observations, they noted that although the intersection was not a standard configuration, the traffic data and accident summary did not indicate that the intersection was currently a safety concern. KLOA indicated that the recommendation should be implemented if the traffic conditions change in the future. As noted in the recommendation matrix, the implementation of this item is "On Hold". Staff will monitor this intersection and program the improvements if necessary.

Osler Drive and West Street Traffic Signal

There was a concern as to how the traffic signal at Osler Drive and West Street and the removal of the all-way stop at Emerald Drive and West Street will impact traffic in Zone 11. The residents were specifically concerned about traffic on Emerald Drive and West Street.

Recommendation 26 was included as a response to conversations with residents that were concerned about the impact of the proposed traffic signal at West Street and Osler Drive on the neighborhood and specifically, on Emerald Drive and Williamsburg Drive. At this time, the hospital has not indicated an intention to move forward with the traffic signal. If the signal project moves forward in the future, a traffic analysis will be completed as part of the engineering and construction process. Until then, the West Street and Emerald Drive intersection will continue to operate as an all-way stop.

Recommendation 26 - Emerald Drive and Williamsburg Drive

There was a concern that the City included a recommendation to re-evaluate traffic conditions on Emerald Drive and Williamsburg Drive because the City knows that traffic is going to get worse due to Edward Hospital, Naperville Central High School or downtown development.

Recommendation 26 was included as a response to conversations with residents that were concerned about the impact of the proposed traffic signal at West Street and Osler Drive on the neighborhood and specifically, on Emerald Drive and Williamsburg Drive. Recommendation 26 is not intended for any other reasons.

Police Enforcement

There was a comment as to whether or not the Police Department could provide enforcement on Williamsburg and Emerald at the start of school semesters to remind students and parents they are in a neighborhood.

The Police Department can include Williamsburg and Emerald Drive on the selective enforcement list to monitor speeding at the beginning of each semester.

Catalpa Lane Traffic Concerns

A resident was concerned about the amount of traffic driving on Catalpa. Specifically, the resident felt that vehicles were driving down Catalpa rather than using the intersection of Washington Street and Gartner Road.

Twenty-four hour traffic counts were conducted for a one week period in April 2013 on Catalpa between Tanoak and Triton. Looking at citywide traffic data, a local street is anticipated to have up to 1,500 vehicles per day; the average weekday volume on Catalpa was 1,455 vehicles per day. The 85th percentile speeds on Catalpa, 29 mph southbound and 26 mph northbound, were less than the citywide average of 31-32 mph. As stated in the presentation at the Transportation Advisory Board meeting, Catalpa was identified as a location for a recommendation to calm traffic based upon the fact that the traffic volumes on Catalpa were near the upper threshold of

the local roadway street designation. The recommendation is included as Item 27 in the implementation matrix.

Sycamore Drive Traffic Concerns

A resident who lived on Sycamore wanted additional stop signs installed on Sycamore Drive and a "No Right Turn" sign installed on Washington Street at Sycamore Drive, similar to the sign on Oxford Lane between Hobson and 75th Street.

The purpose of a stop sign is to assign right-of-way so that motorists can safely negotiate an intersection. As such, the City does not install stop signs as a traffic calming measure. Sycamore Drive intersects Catalpa Lane and Laurel Lane between Washington Street and Magnolia Lane. At both of these intersections, the side street stops for Sycamore. The City has developed a Residential All-Way Stop policy, which evaluates intersections based upon the follow criteria:

- 85th percentile speed
- Number of school and non-school pedestrians
- Accident history
- Critical approach speeds
- Unexpected hazards
- Nearby public facilities
- Intersection conditions
- Traffic volumes
- Adjacent traffic control

In order for an intersection to be recommended for an all-way stop, it must obtain at least 500 points. KLOA and city staff evaluated the intersections in Zone 11; none of the intersections scored enough points to recommend an all-way stop.

The City of Naperville has a policy that we do not install "No Right Turn" signs at the entrances to neighborhoods. A similar request was recently made by the residents of Naperville Heights, which was denied by the Transportation Advisory Board and City Council. Oxford Lane was a unique situation that is not similar to Sycamore Drive. The segment of Oxford Lane with the "No Right Turn" signs is a 500 foot segment of roadway with 8 homes located between Hobson Road and 75th Street. The majority of the vehicles traveling on this street were not destined for the homes on Oxford Lane. Sycamore, on the other hand, is located within a larger neighborhood of residential streets. While there may be some vehicles not destined for properties within Zone 11, these vehicles make up the minority.

Short and Long Term Benefits of Curb Extensions

There was a concern that curb extensions only provide short term improvements on speed. Please provide data to show short term and long term benefits.

The primary purpose of curb extensions or neckdowns is that they "pedestrianize" an intersection by shortening pedestrian crossing distances and make pedestrians more visible to motorists,

which ultimately improves pedestrian safety. A secondary benefit is that they provide a measure of traffic calming that results in reduced travel speeds, particularly the speeds of right-turning vehicles that are slowed by the tightening of the curb radii at the corners. Curb extensions also limit the ability of through vehicles to bypass left-turning vehicles.

KLOA conducted a literature review to identify before and after studies of curb extensions. A case study on Pedestrian Safety Impacts of Curb Extensions, performed by Oregon State University in 2005 for the Oregon Department of Transportation, determined that curb extensions contributed to a significant improvement in the number of vehicles that yielded to pedestrians waiting to cross the street. Additional case study data published by Fehr & Peers indicated that curb extensions result in a reduction in the 85th-percentile travel speed ranging from 2-3 miles per hour or 7-14 percent. These case studies were based on before-and-after studies that occurred up to two years or more after the curb extensions were installed. While we were unable to find case study data on the long-term benefits of curb extensions, it is expected that the results would be similar to the near-term benefits given that they are physical improvements.

Bicycle Safety at Curb Extensions

There was a concern that curb extensions will reduce bicycle safety at the intersections. Is there a way to provide a bike lane to get through the intersections?

Most of the streets in the neighborhood allow parking on both sides. When cars are parked on the street, bicyclists share the travel lane with vehicles as they bypass parked cars. At the intersections where parking is not permitted, these shared travel lanes can range in width from 12 feet to 16.5 feet, depending on the street. The curb extensions typically do not extend any further into the roadway than the width of the parking lane, which is typically 7 feet wide.

The AASHTO Guide for the Development of Bicycle Facilities suggests a travel lane width of 14 feet on major roadways where bicyclists and motorists share the road. The study recommends curb extensions on a few of the neighborhood connector streets and local streets that are not posted bike routes, including Olympus Drive, Catalpa Lane and Hemlock Lane. These streets vary in width from 24 feet to 33 feet. Since these streets do not have centerline striping, motorists have more flexibility to make use of the full street space to bypass bicyclists. A minimum street width of 20 feet is recommended where curb extensions would be installed. The curb extensions would be designed as follows:

- Olympus Drive (33 feet wide) – 6.5 foot wide curb extensions
- Catalpa Lane (26 feet wide) – 3 foot wide curb extensions
- Hemlock Lane (24 feet wide) – 2 foot wide curb extensions

Curb Extension Experience in Other Communities

Staff was asked to talk with other communities that have installed curb extensions to see if they like them and if they would recommend this treatment.

KLOA contacted three communities in northeastern Illinois to discuss their experience with curb bulb-outs. A summary of their comments are provided below.

River Forest – The Director of Public Works advised that initially a few residents expressed concerns related to the curb extensions. After a few months, most residents were very happy with them. Village staff and Board members have been supportive of the curb extensions and would install them again, if necessary, as part of a street rebuilding project, particularly locations with high pedestrian volumes. The curb extensions were installed as both a pedestrian improvement and a traffic calming measure. He believes that the curb extensions have reduced speeds in the area and are an effective means of calming traffic. He noted that they physically prohibit vehicles from passing left-turn vehicles. The only issue was related to response times by public safety vehicles. They worked closely with all departments during the design process.

Forest Park – Representatives from the Village's Consultant Engineer advised that the Village is generally happy with the curb extensions. They were installed to improve pedestrian safety as well as to calm traffic. Their only issue related to emergency vehicle response times.

Chicago – The Program Manager for the City of Chicago's Streetscape and Sustainable Design Program advises that the City considers curb extensions as a very low cost safety/traffic calming improvement. He cited the following benefits:

- Reducing crosswalk distance
- Better sight lines for vehicles and pedestrians
- Reduce turning speeds
- Excellent traffic calming measure
- Very visual
- No loss of parking

The Program Manager indicated that the City plans to continue to install curb extensions. He believes that they are effective long term physical improvements. With or without bike lanes, the curb extensions are designed at the same width as the parking lane. The main costs associated with the curb extensions include ADA ramps and drainage modifications. He advised that the design needs to consider accommodate turning trucks and emergency vehicles.

Driver Feedback Signs

A comment was made that the driver feedback signs on Columbia street south of Chicago Avenue work well. Staff was asked to determine if driver feedback signs could be used in the Zone 11.

Driver feedback signs are used as speed management tools to inform motorists of their actual speed in real time in an effort to bring heightened awareness of special roadway conditions. The Federal Highway Administration (FHWA) has not established a policy regarding the placement

of these devices and the cost per unit is high; therefore the City has established guidelines for the application of these devices.

Driver feedback signs may be used on Neighborhood Connectors or Collectors with an Average Daily Traffic (ADT) volume in the upper 25th percentile for the roadway classification **and** where at least one of the following criteria is met:

1. 85th percentile speed of 12 mph or more over the posted limit, based on the average of both directions of travel. This average is gained over a full week of traffic data collected.
2. High accident incidence directly attributable to speeding conditions.
3. Proximity to schools, programmed parks, other pedestrian generating facilities (e.g., museums).

KLOA conducted an analysis and determined that none of the roadway segments within Zone 11 meet the established criteria. Gartner Road between Washington Street and Modaff Road would meet the criteria for the eastbound direction only; the proposed targeted police enforcement, pavement marking improvements on Gartner between Catalpa and Modaff and the pedestrian crossing enhancements at Catalpa Lane are anticipated to achieve the same goal of reducing speeds. No recommendations have been included to install driver feedback signs.

Catalpa Lane Turning Movements at Gartner Road

There was a comment made during the meeting that it is difficult to turn right from Catalpa Lane onto Gartner Road due to the eastbound queue at the intersection of Washington Street and Gartner Road.

Observations made by KLOA at the Gartner Road and Washington Street intersection during the weekday and Saturday peak hours indicated that eastbound vehicle queues on Gartner Road typically extended beyond the midblock commercial access drives but generally not to Catalpa Lane.

The eastbound left-turning vehicles stacked within the two-way left turn lane once the left-turn storage lane was filled or combined with the through vehicles in the through lane. All vehicles queued on Gartner Road typically cleared the Washington Street intersection on each green phase. As such, if the vehicle queues do periodically extend past Catalpa Lane, they likely clear the intersection during each signal cycle. To reduce the queue lengths on Gartner Road in both the left-turn lane and the through lane, the study recommends modifying the median striping on Gartner Road to extend the eastbound left-turn lane storage by approximately 100 feet (4-5 vehicles). This improvement will reduce the likelihood that vehicle queues will extend back to Catalpa Lane thereby making it easier to make right turns onto Gartner Road from Catalpa Lane.

It should also be noted that it is a common situation for cross street traffic to be delayed when the cross streets are located in close proximity to a signalized intersection. As a local street, it is expected that vehicles traveling on Catalpa will experience a higher delay when attempting to turn onto or cross Gartner Road compared to intersections with lower volume streets. The delay experienced at Catalpa Lane, especially during the peak hours, is not uncommon at similar intersections throughout the City.

Gartner Road and Commercial Driveway Sight Distance Concern

A concern was raised that when a motorist is at the commercial driveway east of the Gartner Road and Catalpa Lane intersection, there is a sight distance concern due to the hedges near the commercial drive. Staff was asked to investigate this concern.

The City's Code Enforcement Team conducted a sight distance study at the commercial driveway east of Gartner Road and Catalpa Lane. The study determined that the hedges are not a sight distance issue. A recommendation has not been included related to this item.

Parking at Gartner Park

Comments were made during the TAB meeting that Gartner Park that people are parked on street because it is the shortest distance from the vehicle to their destination and that the proposed improvements would not stop people from parking on the street. Another comment was made that the Park District may want to consider a circular driveway in the parking lot for drop off and pick up to reduce this activity on the street.

Staff discussed whether or not to remove the Gartner Park recommendations based upon the understanding that people prefer to park in the parking space that is closest to their destination. The decision was made to keep the recommendations in case on-street parking around the lot becomes a problem in the future. City and Park District staffs have been working together over the last couple years to educate patrons at neighborhood parks as to the preferred parking locations. This has helped to reduce the complaints regarding Gartner Park.

Educational Materials

A comment was made that the educational materials should be developed for each specific Zone and that they should include information specific to motorists, pedestrians and bicyclists.

Transportation staff discussed the idea of creating educational materials specific to each zone. There was agreement that it was a good idea but a concern with how to effectively implement it. Rather than modify Recommendation 35, which involves producing general citywide education materials, staff has created Recommendation 38.

The new recommendation involves creating web-based zone specific materials that residents, homeowners associations and others can access at any time of the day. The recommendation is shown for implementation in the next 2-5 years because the City is in the process of updating its website to make it more user friendly. The zone specific information would be added as part of the process to update the City's website.

Implementation of Recommendations

A question was raised as to how we know that the recommendations will not cause problems on other streets. How are we going to check that? Additionally, there was a question as to how future traffic requests would be responded to given that the report text states that future traffic requests would not be evaluated unless there are changes to the adjacent land uses or traffic patterns. How would the City deal with traffic requests that come in 3, 5, 10 years from now?

The measures recommended in the study are intended to calm traffic, improve vehicular operations, and increase pedestrian and bicycle safety. The study does not recommend physical barriers or turn restrictions that would divert traffic from one street onto another street. The City will conduct follow up studies to insure that the improvements are effective and do not adversely impact other neighborhood streets.

After studies and/or follow-up traffic counts will be conducted in the Zone at such time that one or more of the following conditions exists:

- A major land use or transportation change in or adjacent to the Zone has occurred that would result in changes in traffic patterns,
- Three years or more has passed since the completion of a previous after/follow-up study, or
- Certain study recommendations are implemented (based on engineering judgment).

Gartner Road / Modaff Road / Magnolia Lane Alternatives Comparison Matrix

	No Build	Full (100% Realignment)	Alternative 1 (50% Realignment)	Alternative 2 (12% Realignment)	Traffic Signal Installation
Right-Of-Way Required[1]	None	2,330 square feet $50,000-$70,000	250 square feet $6,250-$7,500	None	Minimal or None
Cost[2] • Engineering • Construction	$0	$500,000 - $550,000	$400,000 - $450,000	$125,000 - $150,000	$250,000 - $300,000
Pros	- No cost - No property impacts - No additional ROW required	- Modaff/Magnolia misalignment eliminated - Maximizes intersection width reduction - Creates a 90-degree alignment with Gartner Rd - Eliminates driver confusion - Removes crosswalk from middle of intersection - Reduces Modaff Rd crosswalk width by 12 feet	- Reduces width of intersection by 50% - Creates a 90-degree alignment with Gartner Rd - Removes crosswalk from middle of intersection - Reduces Modaff Rd crosswalk width by 12 feet - Reduces driver confusion	- Reduces width of intersection by 12% - Removes crosswalk from middle of intersection - Reduces Modaff Rd crosswalk width by 12 feet - Reduces driver confusion - No additional ROW required	- Eliminates driver confusion by controlling traffic movements - Provides signal control for pedestrian movements - Limited or no additional ROW required
Cons	- Intersection remains offset - Traffic operation & pedestrian concerns not addressed	- Significant property impacts - Additional ROW required - High cost	- Intersection remains offset - Minor property impacts - Limited additional ROW required - High cost	- Intersection remains offset - Gartner Rd/Modaff Rd intersection skew unchanged - Street parking lost - Moderately high cost	- Not required; all-way stop sign control is effective - Adds delay - Few crashes; crash warrant not satisfied for signal control - Moderately high cost - Could increase traffic through neighborhood - Not consistent with the City's policy regarding traffic signal installations in neighborhoods.

Notes and assumptions:

1. Right-of-way cost estimates are based upon general land values for residential properties. Actual costs will be determined through the land acquisition process.
2. Engineering and construction costs do not include the following: right-of-way acquisition or easements, costs to vacate (plats and legals) the existing right-of-way, relocation of public utilities, sanitary sewer or water main or special or non-special waste removal. The proposed pavement section is assumed to be 10" stone, 6" bituminous binder course, 2" bituminous surface course with 2' undercutting (100%).

Neighborhood Traffic Study Program
Zone 11 Recommendations

	Number	Location	Recommendation Description	Ease of Implementation	Cost	Implementation Timeframe
Traffic Control	1	Juniper Drive at Emerald Drive	Replace “Yield” signs with “Stop” signs.	Low	Low	Short
	2	Spruce Drive at Emerald Drive	Remove “Yield” signs.	Low	Low	Short
	3	Triton Lane at Olympus Drive	Replace “Yield” signs with “Stop” signs.	Low	Low	Short
	4	Virginia Court and Antietam Court at Williamsburg Drive	Install new “Stop” signs.	Low	Low	Short
	5	Sandalwood Drive at Tulip Lane	Install new “Stop” signs.	Low	Low	Short
Pedestrian Facilities	6	West Street at Gartner Road	To be implemented in a tiered approach:			
			1. Extend median nose on West Street south through the crosswalk as a pedestrian refuge.	Medium	Medium	Medium
			2. Continue to monitor traffic conditions and, if warranted, upgrade to a Type 4b installation (flashing beacon with a refuge median and pedestrian warning signs at the crossing and in advance of the crossing).	Medium	High	On Hold
	7	Sycamore Drive at Laurel Lane	Remove crosswalk, Pedestrian Crossing Assembly and Pedestrian Advance Crossing Assembly.	Low	Low	Short
	8	Gartner Road at Catalpa Lane	Enhance crosswalk to a Type 4a installation (flashing beacon with pedestrian warning signs at the crossing and in advance of the crossing) with pedestrian activated warning beacons.	Medium	High	Short
			Install Pedestrian Advance Crossing Assembly on westbound Gartner Road east of Catalpa Lane.			Short
			Install “AHEAD” plaque on Pedestrian Advance Crossing sign on eastbound Gartner west of Catalpa Lane and relocate the sign for improved visibility.			Short
	9	Modaff Road at 75th Street	Install crosswalk on north leg of Modaff Road.	Medium	High	Medium
			Reposition pedestrian signal heads and install pedestrian push buttons.			Medium
			Modify sidewalk/bike trail and install ADA-compliant curb ramps.			Medium
	10	Gartner Road at Modaff Road/Magnolia Lane	Install School Crossing Assembly on south side of Gartner between Modaff and Magnolia.	Low	Low	Short
			Remove School Crossing Assembly on Modaff Road at Gartner.			Short
	11	Hemlock Lane at Spruce Lane	Relocate School Crossing Assembly from northwest corner to southwest corner.	Low	Low	Short
	12	Gartner Road at Alder Lane	Relocate Pedestrian Advance Crossing Assembly on eastbound Gartner west of Alder for improved visibility.	Low	Low	Short
			Replace distance plaque with an “AHEAD” plaque on existing Pedestrian Advance Crossing signs on Gartner Road both directions).			Short
	13	Modaff Road at Tamarack Avenue	Relocate School Crossing Assembly from southeast corner to northeast corner.	Low	Low	Short
	14	Williamsburg Drive at Appomattox Circle/Vicksburg Court	Relocate School Crossing Assembly from southeast corner to northeast corner.	Low	Low	Short
Striping and Signage	15	Gartner Road and Modaff Road	Install shared lane (“sharrow”) markings on segments of Gartner Road (Washington Street-Modaff Road) and Modaff Road (Gartner Road-75th Street) that are posted as bike routes.	Low	Low	Medium
	16	Neighborhood	Refresh pavement markings throughout the neighborhood study area.	Low	Low	Short
	17		Upgrade crosswalks throughout the neighborhood to the City’s new pedestrian/school standard.	Low	Low	Short
	18		Replace faded, outdated and/or vandalized signs.	Low	Low	Short
	19		Remove “Stop for Children in Crosswalk” signs.	Low	Low	Short
	20		Change City policy to prohibit further use of “Children at Play” signs. Remove existing signs.	Medium	Low	Short
	21		Trees located within the City’s right-of-way throughout the neighborhood should be trimmed to improve visibility of the traffic signs.	Low	Low	Short
	22	City-wide	Conduct an evaluation of the types of trees and spacing of trees within the public right-of-way to determine if the City’s policy should be modified.	Medium	Low	Medium

	Number	Location	Recommendation Description	Ease of Implementation	Cost	Implementation Timeframe
Traffic Volumes and Speeds	23	Gartner Road Washington Street to Modaff Road	1. Targeted speed enforcement by Police Department during weekday morning (7:00-9:00 A.M.) and evening (3:00-7:00 P.M.) peak commuting hours.	Low	Low	Short
			2. Install 25 mph speed limit pavement marking on eastbound Gartner Road between Modaff Road and Laurel Lane.	Low	Low	Short
			3. Install double-yellow centerline from Modaff Road to Catalpa Lane.	Low	Low	Short
	24	Gartner Road 75th Street to Modaff Road	To be implemented an in tiered approach:			
			1. Install double-yellow centerline from Modaff Road to Gartner Road.	Low	Low	Short
			2. Install parking boxes on both sides of the road from Magnolia Lane to Gartner Road.	Low	Low	On Hold
			3. Work with the Naperville Park District to develop a "Park Zone Speed Limit" policy. If Gartner Park meets warrants, establish Park Speed Zone and install *Park Zone Speed Limit 20 MPH When Children Are Present* signs adjacent to Gartner Park.	Medium	Low	On Hold
	25	Olympus Drive	To be implemented in an tiered approach:			
			1. Targeted speed enforcement by Police Department during the weekday morning (7:00-9:00 AM) and evening (4:00-7:00 PM) peak commuting hours.	Low	Low	Short
			2. Install curb extensions on Olympus Drive at Tamarack Avenue, Tupelo Avenue, and/or Triton Lane.	Medium	Medium-High	Medium
	26	Emerald Drive and Williamsburg Drive	Monitor volumes and speeds upon completion of West Street/Osler Drive signalization project to assess if volumes and/or speeds have changed due to the signal installation.	Low-Medium	Low-Medium	On Hold
	27	Catalpa Lane	Install curb extensions on Catalpa Lane at Tanoak Lane and/or Triton Lane.	Medium	Medium-High	Medium
	28	Hemlock Lane	Install curb extensions on Hemlock Lane at Elmwood Drive and/or Spruce Drive.	Medium	Medium-High	Medium
Geometric and Operational Conditions	29	Gartner Road with Modaff Road and Magnolia Lane	Implement the No Change Alternative: Maintain the existing alignment of the roadways.	N/A	N/A	N/A
	30	Gartner Road and Gartner Road	Reduce the northwest corner radius through striping or constructing curb extensions.	Medium	Medium-High	On Hold
	31	Gartner Road and 75th Street	Relocate stop sign on Gartner Road closer to 75th Street and install stop line.	Low	Low	Short
	32	Gartner Road and Washington Street	To be implemented in a tiered approach:			
			1. Install "Do Not Block Intersection" sign on eastbound Gartner Road at Naperville Plaza drive; modify median striping to extend eastbound left-turn lane storage on Gartner Road by approximately 100 feet.	Low	Low	Short
			2. If additional mitigation is required, conduct a separate traffic study to determine the implications of turn restrictions or driveway closures.	High	Medium	On Hold
Parking Conditions	33	Laurel Lane Gartner Road to Sycamore Drive	Install school hour parking regulations: • East Side: No Parking 7:45-8:15 AM, 2:15-2:45 PM • West Side: No Parking, Stopping or Standing 7:45-8:15 AM, 2:15-2:45 PM	Low	Low	Short
	34	Gartner Park	Improve usage of the Gartner Park parking lot via a tiered approach:			
			1. Continue to work with the Park District to educate patrons on the availability of off-street parking and the preferred use of the parking lot for drop-off/pick-ups.	Low	Low	Short
			2. Install "Gartner Park Parking" signage at the entrance drive to the parking lot.	Medium	Medium	Long*
			3. Install a paved pedestrian path between the parking lot and east baseball field along the south side of Gartner Park.	Medium	Medium-High	Long*
Education	35	City-wide	Develop educational materials to explain the City's policies regarding vehicular speeds and volumes on neighborhood streets and the State of Illinois "Stop for Pedestrians in the Crosswalk" law.	Medium	Medium	Short
	36		Develop educational materials regarding carriage walks that the City and Homeowners Associations can use to educate homeowners on the do's and don'ts associated with carriage walks (i.e. parking on the sidewalk, placing trash on the sidewalk, etc.).			Short
	37		Develop educational materials regarding laws related to cell phone use within school zones			Short
	38		Explore opportunities to enhance the availability of neighborhood transportation data and information via the City's website.	High	Low-Medium	Medium

Neighborhood Traffic Study Program
Zone 11 Recommendations

KEY:

Ease of Implementation

High - Recommendation is anticipated to require an extensive level of any or all of the following: outside agency and/or stakeholder involvement, outside engineering assistance and/or construction assistance. The timeframe to implement the recommendation is anticipated to require more than 1 year.

Medium - Recommendation is anticipated to require a moderate level of any or all of the following: outside agency and/or stakeholder involvement, outside engineering assistance and/or construction assistance. The timeframe to implement the recommendation is anticipated to require less than 1 year.

Low - Recommendation will be completed by internal City staff.

Cost

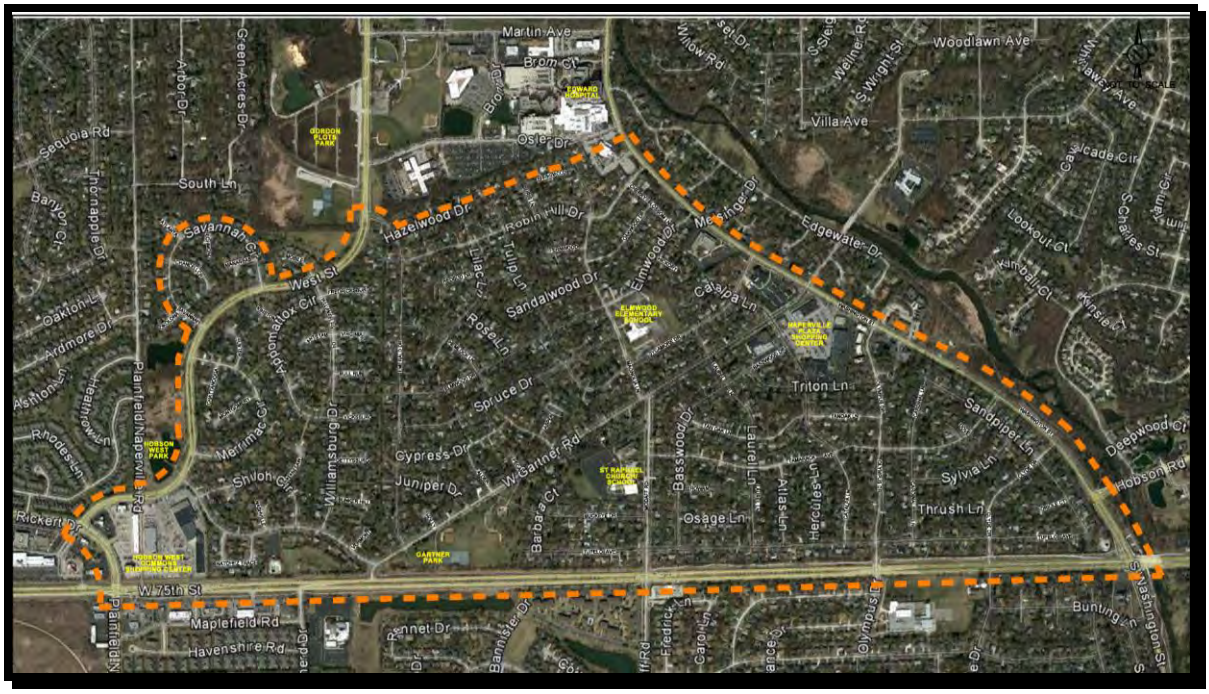
H Greater than $10,000.
M m - Less than $10,000.
L Can be implemented with normal Department operations.

I mentation Schedule

S One year or less.
M m - Two to five years.
L Five or more years.
C ld - Timeframe not identified; will be scheduled if needed.

* mprovements would be implemented by the Naperville Park District at such time that they determine park improvements are needed.

Zone 11
Neighborhood Traffic Study
Naperville, Illinois



Prepared for the:

City of Naperville

Prepared by:

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

September 4, 2013

Zone 11

Neighborhood Traffic Study

Naperville, Illinois

Prepared for:

City of Naperville

Prepared By:

Kenig, Lindgren, O'Hara, Aboona, Inc. (KLOA, Inc.)
Rosemont, Illinois

September 4, 2013

Note: This report includes several photographs and color graphics. These photographs and graphics many not be legible if printed in black and white.

Table of Contents

List of Figures and Tables

Figures

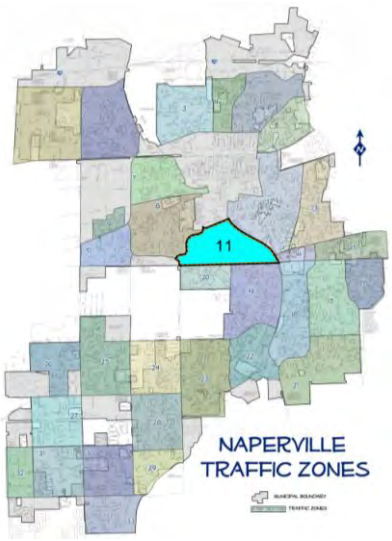
Tables

1.
Introduction – Project Overview

The City of Naperville has undertaken on a Neighborhood Traffic Study (NTS) program to evaluate and address neighborhood traffic concerns programmatically on a comprehensive neighborhood-wide basis. At the onset of the program, the City was divided into 33 neighborhood traffic zones for further study. This report presents the findings from the study of Zone 11, which is the pilot study of the program.

Description of Neighborhood Traffic Study Program

Currently neighborhood traffic concerns are investigated and addressed on an individual basis. While this process addresses specific concerns, it does not examine the traffic conditions within the overall neighborhood. The intent of the NTS program is to work with a traffic engineering firm to examine existing traffic conditions within each neighborhood and develop recommendations to create a consistent and comprehensive neighborhood-wide traffic control, striping, signing and traffic calming plan. Each study area will be evaluated with respect to overall vehicular, pedestrian and bicycle movements within the neighborhood.



The City anticipates completing one to three studies per year until all 33 zones are completed. Once study recommendations have been implemented, future traffic requests will not be evaluated unless neighborhood traffic patterns and/or conditions are significantly altered from the baseline conditions established through the study. Examples of situations which may cause neighborhood traffic conditions to change include major modifications to the nearby roadway network or completion of a large development in close proximity to the neighborhood.

Zone 11

Demographics and Existing Roadway System

Zone 11 comprises the Olympic Terrace, West Highlands, Maplebrook I and Hobson West neighborhoods, and is generally bounded by Edward Hospital on the north, Washington Street on the east, 75th Street on the south, and West Street/Rickert Drive on the west. Figure 1 shows the boundaries of the Zone 11 study area.

Adjacent Arterial Roadways

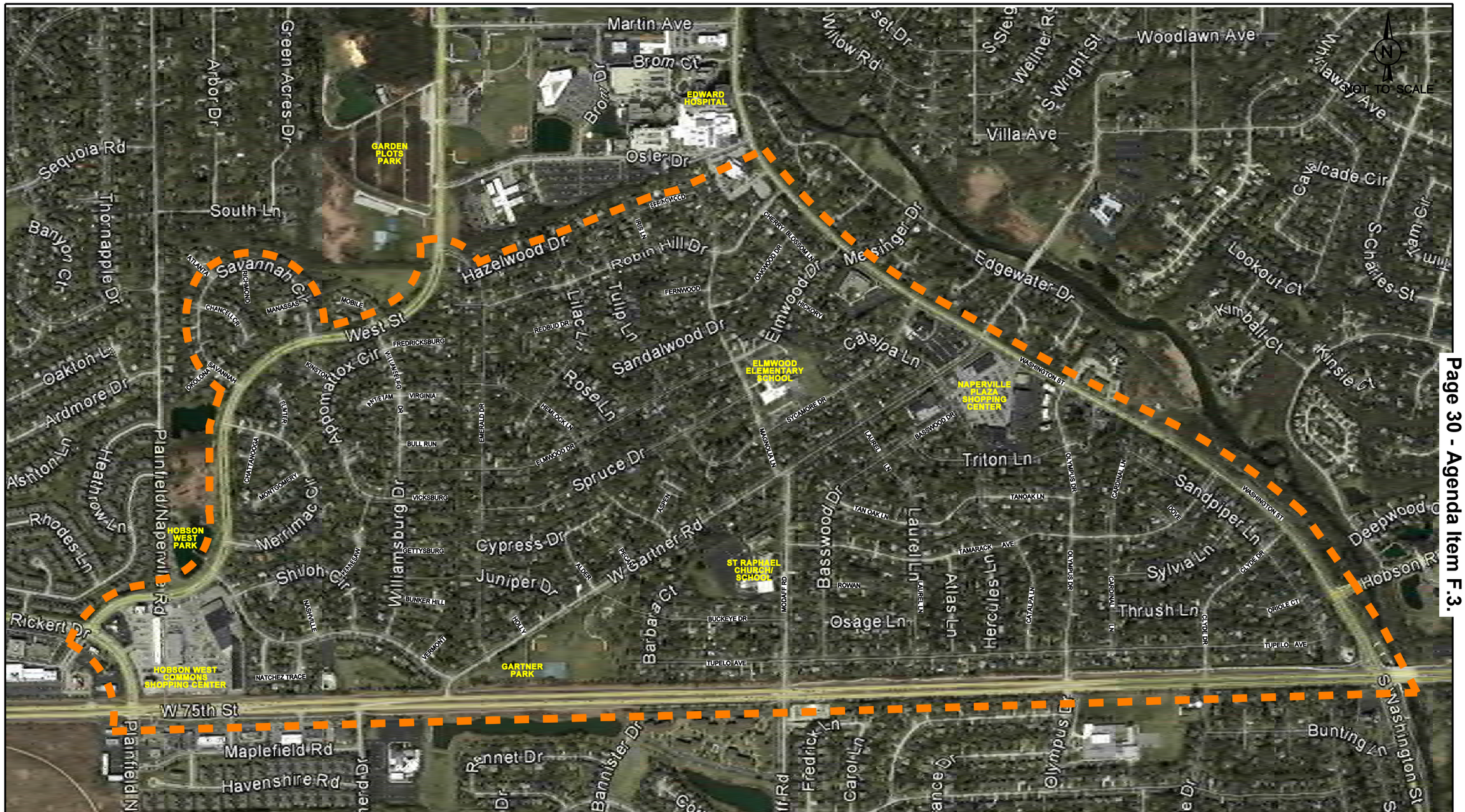
There are four arterial roadways that border Zone 11 and provide access to the neighborhood, as described below.

75th Street is an east-west roadway that is classified as a Strategic Regional Arterial and is under the jurisdiction of the DuPage County Division of Transportation (County Road 33). It has a four-lane divided cross section in the vicinity of Zone 11 that widens to six-lanes at its intersection with Washington Street. The posted speed limit on 75th Street ranges from 45-50 miles per hour (mph) and parking is not permitted on the roadway. Its intersections with Washington Street, Olympus Drive, Modaff Road, Millbrook Drive/Hobson West Shopping Center, and Rickert Drive are under traffic signal control and there are dedicated left-turn lanes on 75th Street at these intersections.

Washington Street is a north-south roadway that is classified as a major arterial and is under the jurisdiction of the City of Naperville. It has a four-lane cross section with a posted speed limit that ranges from 35-40 mph in the study area. Parking is not permitted on Washington Street in the vicinity of Zone 11. The roadway has dedicated left-turn lanes at the all intersections that access the neighborhood, including Robin Hill Drive, Elmwood Drive, Sycamore Drive, Gartner Road, Olympus Drive, and Tamarack Avenue, but excluding Clyde Drive which is restricted to right-in/right-out movements only. Its intersections with Gartner Road, 75th Street, and Osler Drive are under traffic signal control.

Rickert Drive is generally an east-west roadway in the vicinity of Zone 11 that is classified as a major arterial and is under the jurisdiction of the City of Naperville. It has a four-lane cross section with dedicated left-turn lanes at its traffic signal-controlled intersections with West Street and 75th Street. The posted speed limit on Rickert Drive is 40 mph and parking is not permitted on the roadway.

West Street is generally a four-lane, north-south roadway that is classified as a minor arterial and is under the jurisdiction of the City of Naperville. The posted speed limit on West Street is 30 mph and parking is not permitted on the roadway. The roadway has a landscaped median and dedicated left-turn lanes at the intersections that access Zone 11, including Emerald Drive, Williamsburg Drive/Mobile Court, Savannah Circle, Merrimac Circle, and Gartner Road. Its intersection with Emerald Drive is under all-way stop control. Its intersection with Rickert Drive is under traffic signal control.



PROJECT:	TITLE:	
Neighborhood Traffic Study - Zone 11 Naperville, Illinois	STUDY AREA	KLOA Job No: 13-064 Figure: 1

Internal Neighborhood Roadways

The following summarizes the physical and operating characteristics of the roadways within Zone 11.

- The roadways have the following functional classifications, as defined in the City's Master Thoroughfare Plan (see Figure 2 for map).

  Collector Streets
  Gartner Road (75th Street-Washington Street)
  Modaff Road

  Neighborhood Connector Streets
  Elmwood Drive (Emerald Drive-Washington Street)
  Emerald Drive
  Gartner Drive (Gartner Road-West Street)
  Olympus Drive
  Robin Hill Drive (Emerald Drive-Washington Street)
  Sycamore Drive (Magnolia Lane-Washington Street)
  Tamarack Avenue
  Williamsburg Drive

  Local Streets
  All other roadways within Zone 11

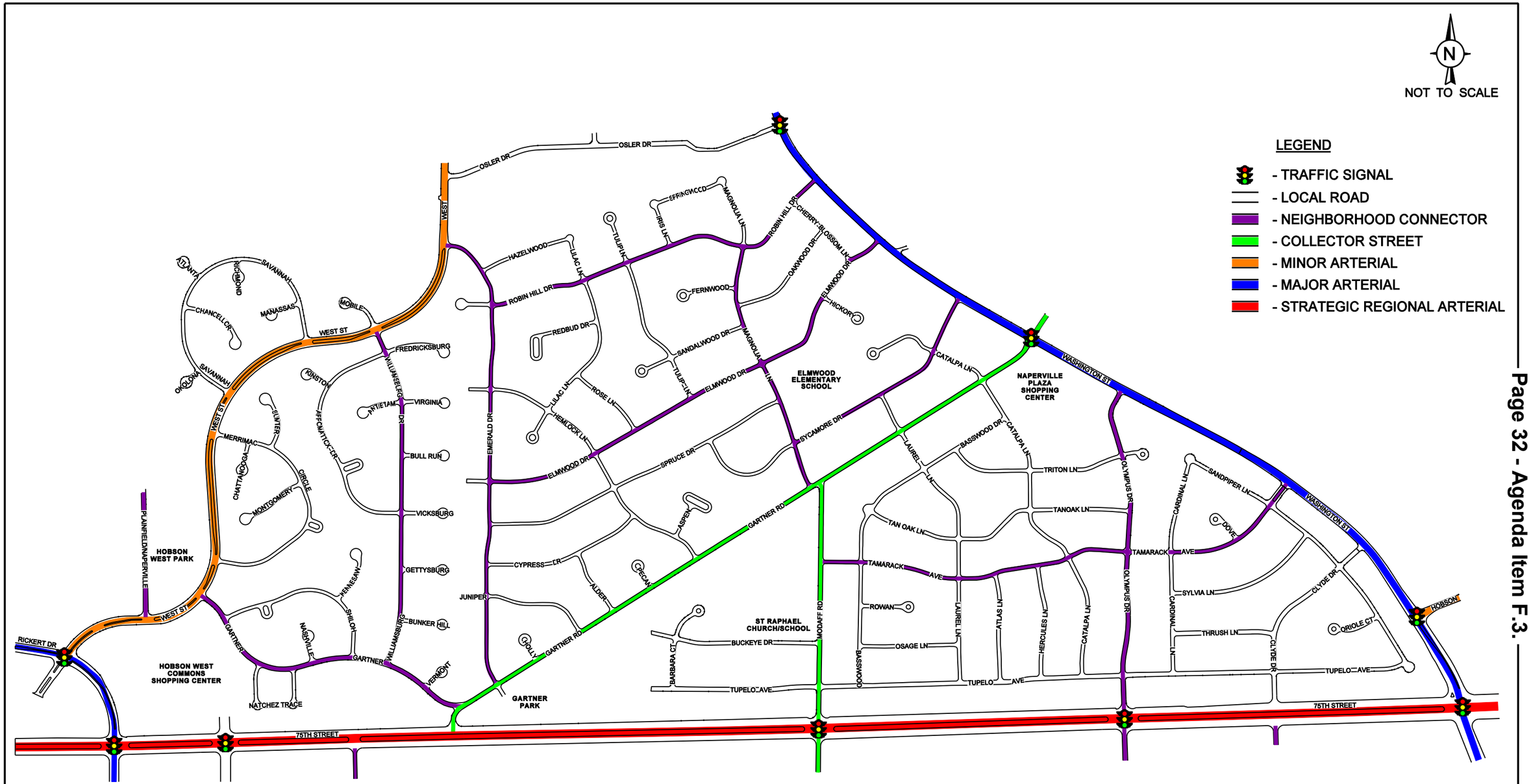
- All of the roadways in the neighborhood provide one lane in each direction, as shown in Figure A1 in the Appendix, with the exception of the one-block segment of Gartner Road between Washington Street and Catalpa Lane which is three lanes wide.

- Figure A1 also shows the intersection lane configurations on roadways with three or more lanes.

- The posted speed limit on all neighborhood streets is 25 mph, with the exception of the school speed zones adjacent to Elmwood Elementary School and St. Raphael School (see Figure A1).

- There are left-turn restrictions posted on the following roadways (see Figure A1):
  - Gartner Road at 75th Street
  - Clyde Drive at 75th Street
  - Clyde Drive at Washington Street
  - Sycamore Drive at Elmwood Elementary School drive (7:45-8:15 AM, 2:15-2:45 PM only)

- Parking is generally permitted on one or both sides of the street, although parking is regulated on several of the streets, as shown in Figure A2 in the Appendix.



PROJECT:	TITLE:	
Neighborhood Traffic Study - Zone 11 Naperville, Illinois	ROADWAY CLASSIFICATION	KLOA Job No: 13-064 Figure: 2

Land Use

Zone 11 primarily consists of residential homes, but also contains two shopping centers (Naperville Plaza and Hobson West Commons), Elmwood Elementary School, St. Raphael Church/School, Knox Presbyterian Church, PNC Bank, Marathon gas station, Celebration! Community Life Center, Our Saviours Lutheran Church, Hobson West Pool & Tennis Club, Maplebrook 1 Swim Club, and Gartner Park.

Why This Zone?

Zone 11 was identified for the pilot study for the following reasons:

- The 75th Street/Washington Street construction project was completed in 2010 and traffic movements in the neighborhood have since stabilized.
- The majority of the streets included in Zone 11 were either recently resurfaced as part of the City's Maintenance Improvement Program or are currently being completed.

Study Purpose

The purpose of this neighborhood traffic study was to (1) thoroughly examine existing traffic conditions with respect to vehicular, pedestrian and bicycle movements within the zone, (2) identify operational issues and safety concerns, (3) analyze potential mitigation alternatives, and (4) develop recommendations to create a consistent traffic control, striping, signing and traffic calming plan, and identify opportunities for targeted education and enforcement.

Study Process

The neighborhood traffic study for Zone 11 was completed in 2013. The study included multiple public input opportunities, data collection and field observations, analysis and development of recommendations. The study findings and recommendations were assembled into a project report in June 2013, vetted by the public and City staff in June and July 2013, and presented to the Transportation Advisory Board for consideration in August 2013.

Public Involvement

The study was initiated on March 7, 2013 with a public open house at Elmwood Elementary School, which was hosted by the TED Business Group to allow the public to provide the City with their questions and concerns related to traffic conditions in Zone 11. Comments received from the meeting were reviewed by City staff and provided to KLOA, Inc. at the onset of the study. The most frequently repeated concerns related to the following:

- Intersection Traffic Control and Compliance
- Traffic Volumes and Speeds
- Pedestrian & Bicycle Safety
- On-Street Parking Regulations
- Gartner Road/Modaff Road/Magnolia Lane Intersection Alignment
- Traffic Congestion around Elmwood Elementary School
- Parking Related to Gartner Park

A second public open house was held at the Naperville Municipal Center on June 19, 2013 to review draft recommendations from the study. These recommendations are discussed in subsequent sections of this report. The most frequently repeated concerns related to the following:

- Emerald Drive Traffic Counts and Recommendations
- Gartner Road/Modaff Road/Magnolia Lane Intersection Improvements
- Improvements to Gartner Road between Modaff Road and Washington Street
- Modaff Road Crosswalk at Tamarack Avenue

Public comments from the two open houses are included in the Appendix of this report.

Data Collection

An extensive data collection effort was conducted between Monday, April 22, 2013 and Friday, May 10, 2013 to collect the appropriate transportation data necessary to evaluate the public's concerns. The effort included an inventory of the key characteristics of the Zone 11 transportation system, field observations, traffic and pedestrian counts, the collection of weekday and Saturday traffic operational data, and the review of information provided by the City of Naperville for reference in the study. Additional field observations were conducted on Wednesday, May 15, 2013 around Elmwood Elementary School and on Thursday, June 6, 2013 to review study recommendations.

Traffic counts were conducted at two locations on Emerald Drive (between Robin Hill Drive and Hemlock Lane and between Spruce Drive and Cypress Court). The traffic counts at the two locations were not conducted at the same time because the counts between Spruce Drive and Cypress Lane had to be performed multiple times as the road tubes either became loose or were dislodged during the initial data collection week. It is common practice in the industry to perform traffic counts along a road on different days provided that counts are conducted under similar traffic conditions (i.e., time of day, day of the week, season, etc.). In larger studies, it is often not possible or practical to perform all of the traffic counts at the same time. Therefore, since the traffic counts at the two Emerald Drive locations were performed during the same time periods (one full week) when school was in session and within weeks of one another, using the traffic counts is acceptable and the evaluation of these counts and subsequent recommendations are valid.

In addition to the data collected by KLOA, Inc. in April and May of 2013, the City of Naperville provided traffic volume data it had previously collected within the neighborhood in 2011 and 2012 for inclusion in the study.

The following information was inventoried, observed, collected and/or reviewed:

- Land uses
- Physical and operating characteristics of the roadways
- Parking regulations
- Intersection traffic control
- Pedestrian and bicycle facilities and warning devices
- Pace bus routes
- Traffic volumes
- Travel speeds
- Crash history
- Historic intersection and road segment traffic volume data
- Roadway speed limits
- Roadway striping plans
- Neighborhood traffic control schedules and ordinances
- School Walk Route maps for Elmwood Elementary School and St. Raphael School

- Naperville Park District Facility Schedule Reports for Gartner Park and Elmwood Elementary School
- City of Naperville Traffic Request Policies and Procedures
- Previous traffic request data
- Approved City Council Ordinances related to Zone 11 neighborhood traffic issues
- City of Naperville Bicycle Implementation Plan map
- City of Naperville Pace Bus and Metra Train Services map
- City of Naperville Development Index
- City of Naperville Existing and Future Land Use maps
- City of Naperville Master Thoroughfare Plan
- City of Naperville Road Improvement Plan – Intersection and Link Project Updates
- City of Naperville 2027 Road Improvement Program

Analysis and Recommendations Development

Many factors were considered when developing the recommendations for the neighborhood traffic improvement plan for Zone 11. Input received from residents and property owners at the public open houses was integral to identifying the transportation issues that needed to be investigated in the study, as was input received from the Park District and schools. Other essential considerations in selecting the appropriate improvements to address each issue included the collection and analysis of traffic data, field observations of the roadway network, engineering standards, and the City's traffic policies and procedures.

2.
Transportation Component Analysis & Recommendations

The development of a neighborhood traffic improvement plan for Zone 11 followed a three-step process for each of the following nine components of the transportation system:

- Traffic Control
- Pedestrian Facilities
- Bicycle Facilities
- Striping and Signage
- Traffic Volumes and Speeds
- Geometrics and Operations
- Parking
- Education
- Enforcement

The first step in the process consisted of a review of existing conditions, policies and design standards, and included field observations, review of public comments, and discussions with City staff. The second step consisted of the analysis and evaluation of the identified transportation issues and concerns, with references made to City traffic policies and procedures, Federal and State standards, and compliance with the 2009 Edition of the Federal Highway Administration's (FHWA) *Manual on Uniform Traffic Control Devices (MUTCD) for Streets and Highways*. The third step consisted of the development of recommendations to mitigate the issues and concerns.

Traffic Control

There are a total of 129 intersections within Zone 11 under the traffic controls noted below. Figure A3 in the Appendix illustrates the existing intersection traffic controls.

- Three (3) intersections under traffic signal control
- Nine (9) intersections under All-Way stop sign control
- Fifty-two (52) intersections under One-Way or Two-Way stop sign control
- Three (3) intersections under Yield sign control
- Sixty-two (62) intersections with no traffic control

The City of Naperville originally established the all-way stop controls, one-way stop controls and two-way stop controls within Zone 11 when the school walk route plans were defined. Since then, intersection traffic controls within the neighborhood have been re-evaluated when concerns have been identified by City staff. As such, while this neighborhood traffic study included a review of all intersection traffic control within Zone 11, the evaluation concentrated on intersections that:

- Potentially warranted all-way stop control
- Were under yield control
- Had no posted regulatory traffic control

The evaluation took the following into consideration:

- Roadway classification
- School walk routes
- Stated community concerns such as traffic volumes, travel speeds and pedestrian safety

In some locations, additional traffic data was collected (e.g. pedestrian volumes, stopping sight distance) to complete the evaluation.

Intersections Potentially Warranting All-Way Stop Sign Control

Existing Conditions

The following two-way stop controlled intersections were identified in this study as potential locations for conversion to all-way stop sign control. These intersections were selected based on resident concerns related to traffic volumes and speeds, the functional classification of the roadways, and the length of uninterrupted flow on the roadways.

- Williamsburg Drive/Appomattox Circle/Vicksburg Court. This intersection is currently under two-way stop control on the Appomattox Circle and Vicksburg Court approaches. Williamsburg Drive is classified as a neighborhood connector street and Appomattox Circle and Vicksburg Court are classified as local streets. There is an advanced warning crosswalk on the north leg of Williamsburg Drive, which is a crossing route on the Elmwood Elementary School Walk Route plan.

- Tamarack Avenue/Laurel Lane. This intersection is currently under two-way stop control on Laurel Lane. Tamarack Avenue is classified as a neighborhood connector street and Laurel Lane is classified as a local street. There are no crosswalks at this intersection but the Elmwood Elementary School and St. Raphael School Walk Route plans include crossings of the Laurel Lane approaches. There is also a posted Pace bus stop on the southeast corner of the intersection.

Appomattox Circle at Williamsburg Drive

Laurel Lane at Tamarack Avenue

Analysis / Evaluation

The City has a policy for the evaluation of residential all-way stop control on local streets and neighborhood connector streets, which follows the guidelines and standards of the FHWA's MUTCD and the Illinois Vehicle Code. The evaluation utilizes a Residential All-Way Stop Warrant Worksheet, which takes the following criteria into consideration:

- Crash experience
- Pedestrians
- Atypical conditions
- Stopping sight distance
- Nearby public facilities
- Speed of traffic
- Traffic volumes
- Adjacent traffic control

The warrant analysis assigns a point value to each of the above criteria and a total of 500 points are required to warrant all-way stop control. The analysis of the two intersections noted above resulted in total point values well under the 500 point threshold, meaning neither intersection warranted all-way stop control.

Recommendation

Maintain the two-way stop control at the Williamsburg Drive/Appomattox Circle/Vicksburg Court and Tamarack Avenue/Laurel Lane intersections.

Intersections under Yield Sign Control

Existing Conditions

There are presently three intersections within Zone 11 under yield sign control, as listed below. All other comparable intersections within Zone 11 are either under two-way stop control or are uncontrolled. As such, the traffic control at these intersections is not consistent with the traffic controls utilized throughout the remainder of the neighborhood.

- Emerald Drive / Juniper Drive
- Emerald Drive / Spruce Drive
- Olympus Drive / Triton Lane

Analysis / Evaluation

The City of Naperville has determined that yield signs within residential areas are ineffective and has a policy to either replace yield signs with stop signs or remove yield signs altogether, as the signs age and need to be replaced.

The policy dictates that existing yield signs should be replaced with a stop sign if any of the following conditions exist:

1. The major street is designated as a collector roadway in the Master Thoroughfare Plan.
2. A restricted view exists that requires road users to stop in order to adequately observe conflicting traffic on the major street.
3. Crash records indicate that three or more crashes over a 12-month period are susceptible to correction by the installation of a stop sign (including right angle and turning collisions between the side street and major street) or five or more crashes over a 2-year period.

If none of the above conditions exist, the policy dictates that the yield sign should be removed without replacement of any traffic control such that the normal rules of the road would dictate right-of-way.

The intersections of Emerald Drive/Juniper Drive and Olympus Drive/Triton Lane both have sight distance limitations from the side street due to landscaping or on-street parking. City policy would dictate that the yield signs at these intersections should be replaced with stop signs. None of the conditions above exist at the Emerald Drive/Spruce Drive intersection. City policy at this intersection would dictate that the yield signs on Spruce Drive should be removed.

Spruce Drive at Emerald Drive

Recommendation

To achieve greater consistency in the neighborhood traffic controls, the following changes should be made to the yield sign controlled intersections in Zone 11:

- Emerald Drive / Juniper Drive – Replace yield signs on Juniper Drive with stop signs
- Olympus Drive / Triton Lane – Replace yield signs on Triton Lane with stop signs
- Emerald Drive / Spruce Drive – Remove yield sign on Spruce Drive

Intersections with No Regulatory Traffic Control Signs

Existing Conditions

There are 62 intersections within Zone 11 that have no posted regulatory traffic control signs. All but two of these intersections are T-type (i.e., 3-leg) intersections and many of the cross streets are short cul-de-sacs. The Sandalwood Drive/Tulip Lane and Williamsburg Drive/Virginia Court/ Antietam Court intersections are four-leg intersections, and are the only four-leg intersections within the neighborhood that are not under some form of stop or yield control.

Analysis / Evaluation

The City follows the guidelines and standards of the FHWA's MUTCD and the Illinois Vehicle Code when evaluating traffic control at residential intersections. These standards establish the "right-of-way rule" at intersections having no regulatory traffic control signs such that (1) when two vehicles approach an intersection from different streets at the same time, the driver of the vehicle on the left must yield the right-of-way to the vehicle on the right, and (2) when approaching a "T" intersection, the driver of a vehicle approaching from the street that terminates at the intersection must yield the right-of-way to the vehicle on the non-terminating street.

The intersections of Sandalwood Drive/Tulip Lane and Williamsburg Drive/Virginia Court/ Antietam Court both have more than three approaches. In addition, both Williamsburg Drive and Tulip Lane have horizontal curves on the north leg that restrict stopping sight distance from the west leg of the intersections.


Williamsburg Drive at Antietam Court


Sandlewood Drive at Tulip Lane

Recommendation

To achieve greater consistency in the neighborhood traffic controls, it is recommended that the following intersections be placed under two-way stop control:

- Williamsburg Drive/Virginia Court/Antietam Court**.** Install stop signs on Virginia Court and Antietam Court. Williamsburg Drive has a higher functional classification (neighborhood connector street) than Virginia Court and Antietam Court (local streets), and Williamsburg Drive carries higher traffic volumes. The horizontal curvature of Williamsburg Drive also restricts stopping sight distance.

- Sandalwood Drive/Tulip Lane**.** Install stop signs on Sandlewood Drive as the horizontal curvature of Tulip Lane restricts stopping sight distance.

Figure 3 shows the recommended intersection traffic control modifications described above.

Pedestrian Facilities

The Zone 11 neighborhood contains two elementary schools, a public park, three churches, two shopping centers, a regional bicycle trail, and is located across 75th Street from a junior high school and across West Street from another public park. To safely accommodate pedestrians, a number of facilities and warning devices are provided within the zone, as highlighted below and illustrated in Figure A4 in the Appendix.

- Sidewalks are located on both sides of all Zone 11 roadways.
- Advanced warning crosswalks or advanced warning crosswalks with in-pavement pedestrian signs are located at several intersections, supported with School Crossing and Advance Crossing assemblies, Pedestrian Crossing and Advance Crossing assemblies, and/or In-Pavement Stop for Pedestrians signs.
- School speed zones are in place adjacent to Elmwood Elementary School and St. Raphael School supported with 20 mph school speed limit signs.
- A school crossing guard is positioned at the Gartner Road/Modaff Road/Magnolia Lane intersection.
- The traffic signal-controlled intersections are outfitted with pedestrian signals.

NOT TO SCALE

LEGEND

- NEW STOP SIGN
- REMOVE YIELD SIGN

PROJECT:	TITLE:	
Neighborhood Traffic Study - Zone 11 Naperville, Illinois	RECOMMENDED INTERSECTION TRAFFIC CONTROL MODIFICATIONS	KLOA Job No: 13-064 Figure: 3

For uncontrolled crosswalk locations, the City has an established policy to determine if a crosswalk is warranted and the crosswalk treatment to be used. The policy does not apply to School Walk Routes which are guided by a separate policy. The crosswalk policy utilizes the following information:

- Crosswalk location (intersection, mid-block, controlled, uncontrolled)
- Crossing related to school, trail or golf cart path
- Street classification
- Number of vehicle travel lanes on roadway
- Average daily traffic volume on roadway
- 85th-percentile speed of vehicles on roadway
- Proximity to other crosswalks
- Proximity to non-school pedestrian generator
- Stopping sight distance
- Pedestrian volume and composition of pedestrians (young, elderly, disabled)
- Frequency and adequacy of vehicle gaps

The City has identified four treatment types for standard crosswalk installations and three treatment types for enhanced crosswalk installations, as summarized below:

CROSSWALK TYPE		CROSSWALK FEATURES
Standard Crosswalk Installations		
Type 1	Standard Crosswalk	Striped crosswalk, crosswalk warning signs
Type 2	Advanced Warning Crosswalk	Striped crosswalk, crosswalk warning signs, crosswalk advance warning signs
Type 3a	Standard Crosswalk with In-Pavement Pedestrian Sign	Striped crosswalk, crosswalk warning signs, In-Pavement Stop for Pedestrians sign
Type 3b	Advanced Warning Crosswalk with In-Pavement Pedestrian Sign	Striped crosswalk, crosswalk warning signs, crosswalk advance warning signs, In-Pavement Stop for Pedestrians sign
Enhanced Crosswalk Installations		
Type 4a	Pedestrian Activated Warning Crosswalk	Striped crosswalk, crosswalk warning signs, crosswalk advance warning signs, pedestrian activated warning beacons/lights
Type 4b	Pedestrian Activated Warning Crosswalk with a Refuge Island	Striped crosswalk, crosswalk warning signs, crosswalk advance warning signs, pedestrian activated warning beacons/lights
Type 5	Conversion to Controlled Crossing	Striped crosswalk, traffic signal or pedestrian hybrid beacon

KLOA, Inc. identified several locations for further evaluation in which pedestrian safety can be enhanced. This would be achieved by altering the design of crosswalks, modifying pedestrian and school warning signage for more consistent application across Zone 11, and insuring compliance with City policies and the MUTCD. KLOA, Inc. also evaluated the suitability of standard crosswalk installations at locations identified as concerns by City staff or neighborhood residents. The recommended modifications to the pedestrian facilities and warning devices are shown in Figure 4 and are described below.

Existing West Street Crosswalk at Gartner Road

Existing Conditions

This uncontrolled advanced warning crosswalk on the north leg of West Street connects the Zone 11 neighborhood with Hobson West Park on the west side of West Street. There are Pedestrian Crossing assemblies (W11-2, W16-7P) at the crosswalk facing both directions of travel on West Street, and there are Pedestrian Advance Crossing assemblies (W11-2, W16-9P) in advance of the crosswalk in both directions of travel. The landscaped median on West Street to the north of the crosswalk terminates 20 feet prior to the crosswalk and does not provide an adequate pedestrian refuge space as currently designed. Pedestrian counts conducted by KLOA, Inc. from 4:00-6:00 PM on Thursday, April 25, 2013 indicated four pedestrians using the crosswalk during the two hour period, two during each hour.

W11-2

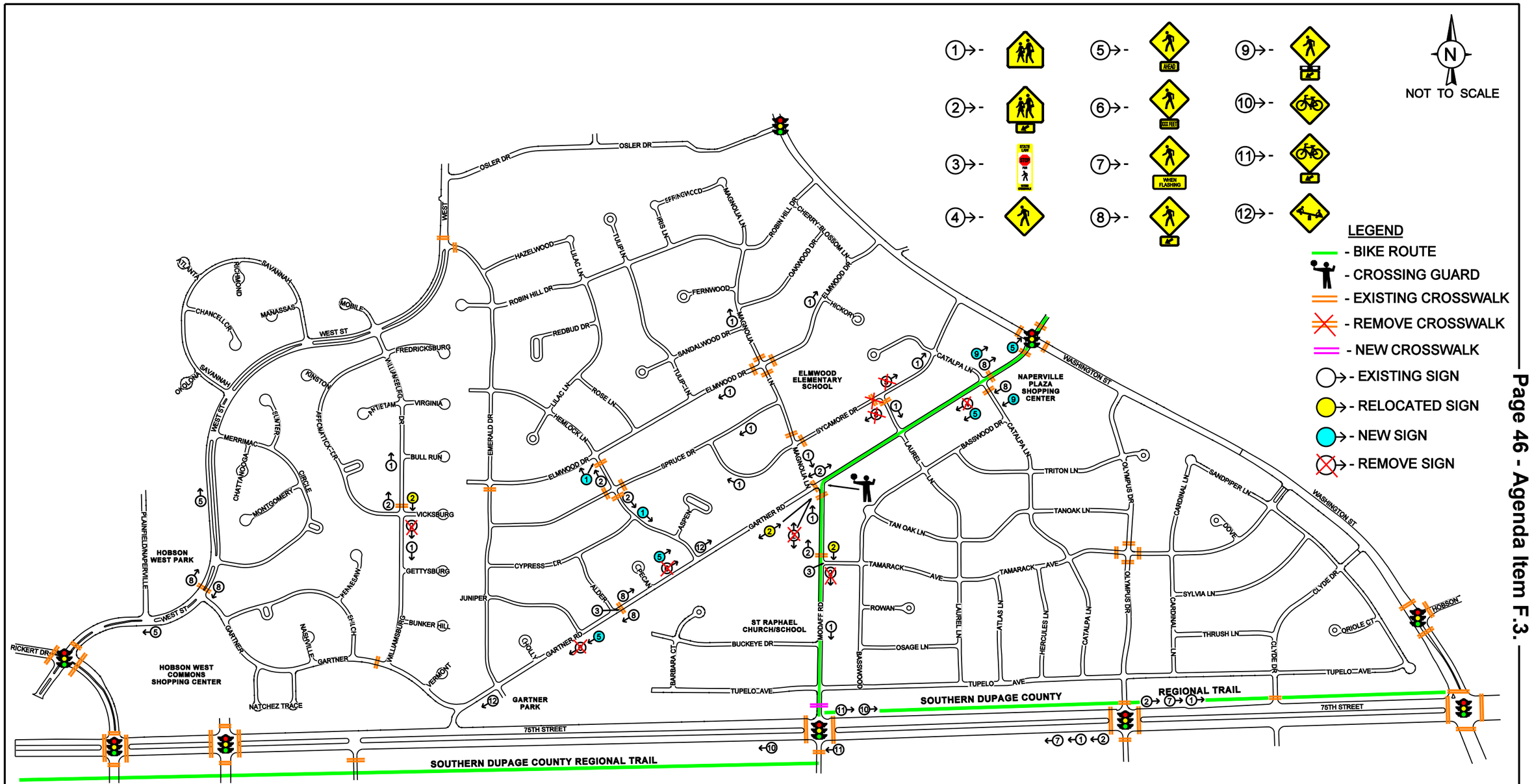
W16-7P

Pedestrian Crossing Assembly

W11-2

W16-9P

Pedestrian Advance Crossing Assembly



PROJECT:	TITLE:	
Neighborhood Traffic Study - Zone 11 Naperville, Illinois	RECOMMENDED MODIFICATIONS TO PEDESTRIAN AND BICYCLE FACILITIES AND WARNING DEVICES	KLOA Job No: 13-064 Figure: 4

Analysis / Evaluation

This crosswalk satisfies the criteria for a Type 2-advanced warning crosswalk. An evaluation was performed to determine if this crosswalk warranted enhancement to a Type 4a, Type 4b or Type 5 installation. The evaluation results indicate that conditions do not currently warrant enhancement of this crosswalk to a higher standard since not enough criteria are met.

Recommendation

A tiered approach is recommended to improve this crosswalk. Initially, the nose of the median is recommended to be extended south through the crosswalk to provide a pedestrian refuge space, as shown in Figure A5 in Appendix A. The median extension can be landscaped or paved with brick or concrete. The median extension would not impact the turning requirements of a 41-foot fire truck. This improvement is a component of a Type 4b crosswalk, but does not include pedestrian activated warning beacons.

Since the traffic and pedestrian volumes fell short of the thresholds warranting enhancement to a full Type 4b crosswalk installation, it is recommended that the City maintain the current advanced warning crosswalk, improved with the median extension noted above, while continuing to monitor traffic conditions at this crossing. If traffic and pedestrians volume increase such that a crosswalk enhancement becomes warranted, upgrade to a Type 4b installation by installing pedestrian activated warning beacons.

Existing Gartner Road Crosswalk at Catalpa Lane

Existing Conditions

This uncontrolled advance warning crosswalk on the east leg of Gartner Road is the only crosswalk on Gartner Road between the controlled pedestrian crossings at Washington Street and Modaff Road/Magnolia Lane, a span of 1,900 feet. It is an appropriate location for an uncontrolled crosswalk given its proximity to the Naperville Plaza shopping center and Knox Presbyterian Church, and the use of the PNC Bank parking lot by the church. Pedestrian counts conducted on Sunday, April 28, 2013 indicated that 53 pedestrians used the crosswalk (east leg of the intersection) from 8:30-10:30 A.M., including 36 during the second hour of the two-hour period. Another 10 pedestrians crossed the west leg of Gartner Road (no crosswalk) during this two-hour period.

There are Pedestrian Crossing assemblies (W11-2, W16-7P) at the crosswalk facing both directions of travel on Gartner Road, and there is a Pedestrian Advance Crossing sign (W11-2) on the eastbound approach of Gartner Road, along the Knox Presbyterian Church frontage, but it is not assembled with a supplemental AHEAD plaque (W16-9P). Further, the sight line to this sign is


Gartner Road at Catalpa Lane

partially obstructed by the speed limit sign. There is no Pedestrian Advance Crossing assembly on the westbound approach of Gartner Road.

Analysis / Evaluation

An evaluation was performed to determine if the Gartner Road crosswalk at Catalpa Lane warranted enhancement to a Type 4a installation (pedestrian activated warning crosswalk) per City guidelines. The evaluation results indicate that conditions currently warrant enhancement of this crosswalk to a Type 4a standard. A Type 4a installation includes a pedestrian activated warning device, which can consist of (1) a flashing yellow beacon, (2) rectangular rapid flashing beacons (RRFB), or (3) flashing perimeter signs.


Flashing Yellow Beacon


RRFB


Flashing Perimeter Sign

As part of the analysis of the Gartner Road crosswalk at Catalpa Lane, an alternate location for an uncontrolled crosswalk on Gartner Road, between Washington Street and Modaff Road/Magnolia Lane, was evaluated at Laurel Lane to determine whether a standard Type 1-3 crosswalk installation was warranted at this location per City guidelines. Field observations made at the Gartner Road/Laurel Lane intersection indicated minimal pedestrian activity crossing Gartner Road at Laurel Lane. Further, the School Walk Route plans for Elmwood Elementary School and St. Raphael School do not include a crossing at this location. The evaluation results indicate that conditions currently do not warrant a standard crosswalk installation at this location since all criteria are not met.

Recommendation

The Gartner Road crosswalk at Catalpa Lane warrants enhancement to a Type 4a installation (pedestrian activated warning crosswalk), as shown in Figure A6 in Appendix A. KLOA, Inc. recommends the use of the RRFB system, which research has shown to produce 80-90 percent driver compliance in yielding to pedestrians at uncontrolled crossings[a]. This is the highest yielding rate of all devices not featuring a red display, and up to four times greater than standard round beacons which research has shown to produce yielding rates of only 20-30 percent. When activated, the LED arrays flash an FHWA-specified, alternating 'wig-wag' pattern that can be timed for the pedestrian crossing width and walking speed. Side-mounted LED arrays flash concurrently to advise pedestrians and motorists on the cross streets that the units are flashing. The system can be hard-wired or solar-powered, but would operate independently from the traffic signal system along Washington Street. The RRFB would need to flash for a minimum of 20 seconds to provide adequate time for pedestrians to cross Gartner Road. KLOA, Inc. analyzed the RRFB operation during the weekday evening peak hour when westbound volumes on Gartner Road are highest and determined that the RRFB system would not cause traffic back-ups that would impact the Gartner Road/Washington Street intersection.

Other recommendations for this pedestrian crossing include the addition of a supplemental AHEAD plaque (W16-9P) to the existing Pedestrian Advance Crossing sign on the eastbound approach of Gartner Road, the relocation of this sign assembly to remove its view obstruction by the speed limit sign, and the installation of a Pedestrian Advance Crossing assembly (W11-2, W16-9P) on westbound Gartner Road in the island between the two Mobil gas station driveways.

Existing Sycamore Drive Crosswalk at Laurel Lane

Existing Conditions

The Principal at Elmwood Elementary School has stated that the School Walk Route plan, school traffic circulation plan, and school parking operations work well and do not require changes at this time. The uncontrolled advanced warning crosswalk on the west leg of Sycamore Drive is not part of the School Walk Route plan for Elmwood Elementary School or St. Raphael School. The car line-up lane for Elmwood Elementary School extends east along Sycamore Drive well beyond the crosswalk. KLOA, Inc. observed 56 pedestrians (both adults and schoolchildren) using the crosswalk during a 45-minute period around the Elmwood Elementary School afternoon dismissal time, many to reach vehicles parked along Laurel Lane. The pedestrians crossed between the cars in the car line-up lane, although the motorists were observed to leave a gap so as not to block the crosswalk. There is a west-facing Pedestrian Crossing assembly (W11-2, W16-7P) posted at the crosswalk but not a similar sign assembly facing east, and there is an east-facing Pedestrian Advance Crossing assembly (W11-2, W16-9P) on Sycamore Drive to the east of the crosswalk but not a similar sign assembly to the west of the crosswalk.

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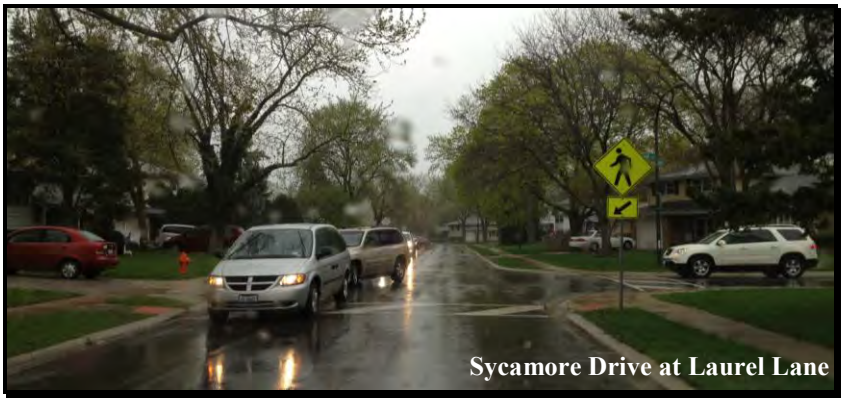
[a] *An Analysis of the Efficacy of Rectangular-shaped Rapid-Flash LED Beacons to Increase Yielding to Pedestrians Using Crosswalks on Multilane Roadways in the City of St. Petersburg, FL*, by Dr. Ron Van Houten and Dr. J. E. Louis Malenfant, Center for Education and Research in Safety



Analysis / Evaluation

This location was evaluated to determine whether the existing crosswalk is appropriate. The evaluation results indicate that conditions do not warrant a standard crosswalk installation such as a Type 2 crosswalk since all criteria are not met. It appears that the crosswalk is intended to serve Elmwood Elementary School. City policy indicates that school-related crosswalks must follow the procedures of the School Walk Route policy. Since this is not a designated crossing on the School Walk Route plans, encouraging schoolchildren to cross at this location would not follow the School Walk Route policy.

Recommendation

The crosswalk markings, Pedestrian Crossing assembly, and Pedestrian Advance Crossing assembly, as shown in Figure A7 in Appendix A, should be removed. This will discourage schoolchildren from crossing Sycamore Drive at this uncontrolled location, and instead cross Sycamore Drive at the controlled location at Magnolia Lane as designed in the School Walk Route plan. Do not remove the School sign (S1-1) on Sycamore Drive to the east of Laurel Lane. The recommended school hour parking regulations on Laurel Lane (Sycamore Drive-Gartner Road) discussed later in this report will further reduce the number of pedestrians crossing Sycamore Drive at this location.

Potential Modaff Road Crosswalk at Tupelo Avenue or 75th Street

Existing Conditions

The Modaff Road/Tupelo Avenue intersection is approximately 250 feet north of the Modaff Road/75th Street intersection. Field observations indicated that southbound vehicle queues on Modaff Road periodically extend beyond Tupelo Avenue (by 2-3 cars max) during the afternoon peak period and on Saturday. Motorists generally observed the Do Not Block Intersection sign and left courtesy gaps for Tupelo Avenue traffic to turn onto or cross Modaff Road. Pedestrian volumes crossing Modaff Road at Tupelo Avenue were observed to be minimal (4 pedestrian crossings on Tuesday, April 30, 2013 from 7:30-9:30 AM) during the morning peak period. The School Walk Route plans for Elmwood Elementary School and St. Raphael School do not include a crossing on Modaff Road at Tupelo Avenue.

Analysis / Evaluation

An evaluation was performed to determine whether a standard crosswalk installation was warranted at this location. The evaluation results indicate that this location would warrant a standard crosswalk if not for the traffic signal-controlled intersection located just 250 feet to the south at Modaff Road and 75th Street. A safer, controlled pedestrian crossing of Modaff Road can be provided at 75th Street instead of an uncontrolled crossing at Tupelo Avenue. There are presently crosswalks at the Modaff Road/75th Street intersection on the east, south and west approaches, but not on the north approach.

Recommendation

Implementing a pedestrian crossing on the north approach of Modaff Road would require repositioning of pedestrian signal heads, installation of push buttons, modifications to the sidewalk/Southern DuPage County Regional Trail, and crosswalk striping, as shown in Figure A8 in the Appendix. It is recommended that the City of Naperville work with DuPage County, which has jurisdiction over 75th Street, to make these improvements to provide a pedestrian crossing on the north approach of Modaff Road.

Gartner Road Crosswalk at Modaff Road/Magnolia Lane

Existing Conditions

There is a standard crosswalk on Gartner Road between the offset streets of Modaff Road and Magnolia Lane. This crossing is part of the School Walk Route plans for Elmwood Elementary School and St. Raphael School and there is a crossing guard posted at this crosswalk at school arrival and dismissal times. There is presently a back-to-back School Crossing assembly (S1-1, W16-7P) on the north side of the crosswalk facing east and west on Gartner Road.

Analysis / Evaluation

MUTCD standards indicate that the School Crossing assembly should be located at the crosswalk but that it shall not be installed on approaches controlled by stop signs or yield signs. In addition, MUTCD guidance with respect to the standardization of sign locations suggest that signs should be located on the right-hand side of the roadway and that signs in other locations should be considered only as supplementary to signs in the normal locations.

Recommendation

The offset alignment of Modaff Road and Magnolia Lane creates a wide intersection and a degree of driver confusion on which vehicle has the right-of-way to proceed through the intersection once completing a stop. Compliance with the stop controls is good. However, the wide intersection and offset alignment causes some motorists to hesitate longer than usual before proceeding through the intersection, which increases average vehicle delay at the intersection. The atypical crosswalk location between the two streets is an added feature that motorists must be alert to. Engineering judgment suggests that it is best to continue to use the Pedestrian Crossing assembly at this crosswalk despite MUTCD guidance on stop controlled approaches.

To comply with the MUTCD standards on sign placement, it is recommended that a back-to-back Pedestrian Crossing assembly be installed on the south side of the crosswalk.

Modaff Road Crosswalk at Gartner Road/Magnolia Lane

Existing Conditions

There is a standard crosswalk on Modaff Road at Gartner Road/Magnolia Lane with a back-to-back School Crossing assembly (S1-1, W16-7P) at the crosswalk on the west side of the street. This crossing is part of the School Walk Route plan for Elmwood Elementary School.

Analysis / Evaluation

MUTCD standards indicate that the School Crossing assembly shall not be installed on approaches controlled by stop signs or yield signs.

Recommendation

To comply with MUTCD standards, it is recommended that the School Crossing assembly on Modaff Road be removed. The crosswalk should remain in place.

Hemlock Lane Crosswalk at Spruce Drive

Existing Conditions

There is a standard crosswalk on the south approach of Hemlock Lane at Spruce Drive. This crossing is part of the School Walk Route plan for St. Raphael School. There are School Crossing assemblies (S1-1, W16-7P) facing both directions of travel on Hemlock Lane. The south-facing sign assembly is located at the crosswalk while the north-facing sign assembly is located on the northwest corner of the intersection in advance of the crosswalk. There are no School Advance Crossing assemblies at this crosswalk.

Analysis / Evaluation

MUTCD standards indicate that the School Crossing assembly should be located at the crosswalk.

Recommendation

To comply with the MUTCD sign placement standards, the north-facing School Crossing assembly on the northwest corner should be relocated adjacent to the crosswalk at the southwest corner of the intersection, unless urban site conditions prohibit installation.


Hemlock Lane at Spruce Drive


Modaff Road at Tamarack Avenue

Modaff Road Crosswalk at Tamarack Avenue

Existing Conditions

There is an uncontrolled standard crosswalk with in-pavement pedestrian sign on the north approach of Modaff Road at Tamarack Avenue. This crossing is part of the School Walk Route plan for St. Raphael School. There are School Crossing assemblies (S1-1, W16-7P) facing both directions of travel on Modaff Road. The north-facing sign assembly is located at the crosswalk while the south-facing sign assembly is located on the southeast corner of the intersection in advance of the crosswalk. There are School signs (S1-1) posted in both directions in advance of the crosswalk.

Analysis / Evaluation

MUTCD standards indicate that School Crossing assemblies should be located at the crosswalk. An evaluation was also performed to determine if this crosswalk met the criteria for an enhanced crosswalk installation, such as a pedestrian activated flashing beacon (Type 4a). The evaluation results indicate that conditions do not currently warrant enhancement of this crosswalk to a higher standard since not enough criteria are met.

Recommendation

To comply with MUTCD standards on sign placement, it is recommended that the south-facing School Crossing assembly on the southeast corner of the intersection be relocated adjacent to the crosswalk at the northeast corner, unless urban site conditions prohibit installation.

Williamsburg Drive Crosswalk at Appomattox Circle/Vicksburg Court

Existing Conditions

There is an advanced warning crosswalk on the north approach of Williamsburg Drive at Appomattox Circle/Vicksburg Court. This crossing is part of the School Walk Route plan for Elmwood Elementary School. There are School Crossing assemblies (S1-1, W16-7P) and School signs (S1-1) facing both directions of travel on Williamsburg Drive. The north-facing sign assembly is located at the crosswalk while the south-facing sign assembly is located on the southeast corner of the intersection in advance of the crosswalk. There are School signs located in advance of the School Crossing assemblies.

Analysis / Evaluation

MUTCD standards indicate that School Crossing assemblies should be located at the crosswalk.

Recommendation

To comply with MUTCD standards on sign placement, it is recommended that the south-facing School Crossing assembly on the southeast corner of the intersection be relocated adjacent to the crosswalk at the northeast corner, unless urban site conditions prohibit installation.

Williamsburg Drive at Appomattox Circle/Vicksburg Court

Gartner Road Crosswalk at Alder Lane

Existing Conditions

There is an advanced warning crosswalk with in-pavement pedestrian sign on the east approach of Gartner Road at Alder Lane. This crossing serves pedestrian movements to and from Gartner Park. There are Pedestrian Crossing assemblies (W11-2, W16-7P) and Pedestrian Advance Crossing assemblies (W11-2, W16-2aP) facing both directions of travel on Gartner Road. The Pedestrian Advance Crossing assemblies are composed of distance plaques (W16-2aP). The west-facing Pedestrian Advance Crossing assembly is obstructed by a newly installed light pole. There also is an In-Street (R1-6a) Pedestrian Crossing sign located at the crosswalk on the centerline of Gartner Road.

Analysis / Evaluation

MUTCD standards indicate that Pedestrian Advance Crossing assembly can be comprised of either a distance plaque (W16-2aP) or an AHEAD plaque (W16-9P).

Recommendation

For purposes of consistency throughout the neighborhood, and per the City's new standard, it is recommended that the distance plaques on the Pedestrian Advance Crossing assemblies be replaced with AHEAD plaques. In addition, the west-facing Pedestrian Advance Crossing assembly should be repositioned so as not to be obstructed from view.


Gartner Road at Alder Lane

Bicycle Facilities

The bicycle facilities within Zone 11 are consistent with the City's biking map, as listed below:

- Gartner Avenue (Washington Street to Modaff Road) and Modaff Road (Gartner Road to 75th Street) are signed as preferred on-street bike routes.
- The Southern DuPage County Regional Trail extends along the north side of 75th Street from Washington Street to Modaff Road, crosses 75th Street at-grade at Modaff Road, and continues west along the south side of 75th Street.

Modaff Road Bike Route

Southern DuPage County Regional Trail at Modaff Road

To safely accommodate bicyclists, several warning devices are provided, as shown in Figure A4 in the Appendix. There is also an advanced warning crosswalk on the east leg of 75th Street at Modaff Road supported with Bicycle Crossing and Bicycle Advance Crossing assemblies.

Existing Conditions

The bike route signage on Gartner Road and Modaff Road is the only visible indication to motorists that the roadways are shared with bicyclists. Enhancing the visibility of the bike route through Zone 11 may increase the comfort level of bicyclists, encourage more people to ride, and more effectively alert motorists to the potential presence of bicyclists.

Analysis / Evaluation

Gartner Road is approximately 33 feet wide and Modaff Road is approximately 36 feet wide. Both streets have parking lanes on both sides of the street. The following options were evaluated for the bicycle accommodations on Gartner Road and Modaff Road:

1. No change
2. Shared lanes with shared lane "sharrow" markings
3. Remove parking on one side of street and install bike lanes on both sides
4. Remove parking on both sides of street and install bike lanes on both sides
5. Install bike lanes in one direction and sharrow markings in the other direction
6. Install bike lanes within the parking lanes while maintaining on-street parking

Dedicated bike lanes typically have a minimum width of 5 feet, per the AASHTO Guide for the Development of Bicycle Facilities, and are provided on both sides of a two-way street to accommodate both directions of travel. Sharrow markings are located within the travel lane on streets with curbside parking and do not require the dedication of exclusive street space for bicycles.

Based on this evaluation, sharrow markings were determined to be the most appropriate measure for enhancing the bicycle facilities on Gartner Road and Modaff Road for the following reasons:

- Parking on Gartner Road and Modaff Road is well utilized at various times, particularly in the vicinity of St. Raphael Church/School and Knox Presbyterian Church. Options that eliminate street parking would adversely impact these facilities.
- In order to provide bike lanes on Gartner Road and Modaff Road while maintaining minimum acceptable travel lane widths, parking would have to be removed from both sides of Gartner Road and one side of Modaff Road. As such, these options are not recommended.
- Mixing bike lanes and sharrow markings on the same street would be confusing to bicyclists and motorists. Furthermore, installing a 5-foot bike lane on only one side of the street would still require the removal of parking from one side of both Gartner Road and Modaff Road. As such, this option is not recommended.
- Installing bike lanes within the parking lanes can create conflicts between bicyclists and vehicles (either parked or moving) as bicyclists must move in and out of the travel lane to bypass parked cars whereas bicyclists remain continually in the travel lanes where sharrow markings are used. As such, installing bike lanes within the parking lanes is not a recommended option.
- Leaving the existing bicycle accommodations unchanged would not enhance safety nor improve conditions for bicyclists, and thus is not a recommended option.
- Sharrow markings reinforce the shared-lane environment of posted bicycle routes where the street width cannot support dedicated bicycle lanes and/or where it is undesirable to eliminate street parking. Additional benefits of sharrow markings include:
    - Alerts road users of the lateral position that bicyclists are likely to occupy within the street to keep them out of the “door zone” of parked cars and in lanes that are too narrow for a motor vehicle and a bicycle to travel side-by-side within the same traffic lane.
    - Reduces the number of bicyclists on the sidewalks.
    - Provides guidance that reduces the number of bicyclists riding on the wrong side of the street.

Recommendation

Implement shared lane markings on the segments of Gartner Road and Modaff Road that are posted as bike routes. On streets with on-street parking such as Gartner Road and Modaff Road, MUTCD guidance suggests that shared lane markings should be placed so that the centers of the markings are at least 11 feet from the face of the curb. Further guidance suggests that the markings be placed immediately after an intersection and spaced at intervals not greater than 250 feet thereafter. Based on this guidance, shared lane markings would be installed on Gartner Road at Washington Street, Catalpa Lane, Laurel Lane, Modaff Road, and at 250 intervals between these streets. Markings would also be installed on Modaff Road at 75th Street, Tupelo Avenue, Buckeye Drive, Tamarack Avenue, Gartner Road, and at 250 intervals between these streets. Figure A9 in the Appendix illustrates the typical intersection layout of the sharrow markings.

Striping and Signage

During the course of the field observations of traffic conditions in Zone 11, several warning and regulatory signs were documented as being obstructed from view, in poor quality, or not in compliance with MUTCD standards. The pavement markings on the neighborhood streets in Zone 11 were also reviewed to identify worn markings in need of refreshment and to identify markings that were not depicted in the striping exhibits in the City's GIS database.

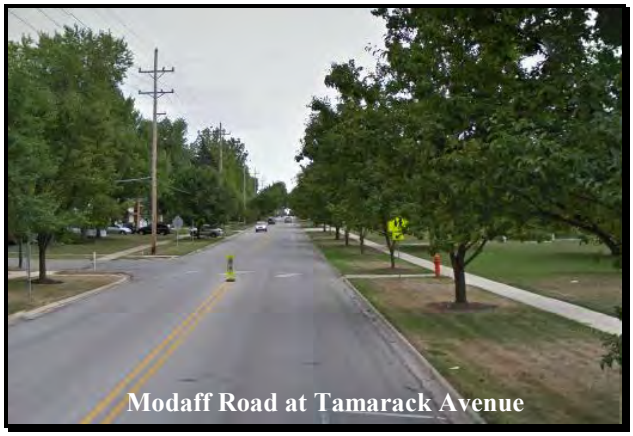
Signs Obstructions

Existing Conditions

A few of the regulatory and warning signs in Zone 11 were partially obstructed from view by overgrown trees, utility poles or other signs, as follows:

- Pedestrian crossing signs on Modaff Road are obstructed by overgrown trees.
- Pedestrian Advance Crossing assembly on southbound West Street at Gartner Road is obstructed by overgrown trees.

- Stop sign on Robin Hill Drive at Washington Street is obstructed by overgrown trees.
- Speed limit sign on eastbound Gartner Road west of Alder Lane crosswalk is obstructed by a new light standard.


Modaff Road at Tamarack Avenue

Recommendation

It is recommended that City staff inspect all sign locations within Zone 11 during late Spring (i.e., May-June) to identify trees located within the right-of-way in need of trimming. Further, as a policy for future installations, it is recommended that City staff evaluate the types of trees allowed within the right-of-way and the spacing of these trees to prevent conflicts in the future.

Poor quality or vandalized signs

Existing Conditions

Several signs were identified as being in poor quality or having been vandalized and are in need of replacement, including many of the older-model neighborhood speed limit signs where the "Neighborhood" wording at the top of the sign has faded, as listed below.

Faded Neighborhood Speed Limit signs
(see list in Appendix C)

Other Worn or Vandalized Signs
- No Parking sign on Modaff Road (75th Street-Tupelo Avenue)
- No Parking sign on Olympus Drive (75th Street-Tupelo Avenue)
- No Parking sign on Olympus Drive (Washington Street-Triton Lane)
- No Parking sign on Robin Hill Drive (Washington Street-Cherry Blossom Lane)
- Pace bus stop sign on Emerald Drive at Robin Hill Drive
- Dead End sign on Lilac Lane at Hemlock Lane

Recommendation

Replace faded older-model neighborhood speed limit signs with the City's new white on black Neighborhood Speed Limit Sign standard. Replace other worn or vandalized signs.

Old Neighborhood
Speed Limit Sign Standard

New Neighborhood
Speed Limit Sign Standard

Non-MUTCD compliant signs

Existing Conditions

Four sign types in Zone 11 were identified as being non-compliant with MUTCD standards:

- Neighborhood speed limit signs
- School hour parking regulation signs around Elmwood Elementary School
- Stop for Children in Crosswalk signs beneath STOP signs in Elmwood Elementary School area
- Children at Play signs

Recommendation

The neighborhood speed limit signs and school hour parking regulation signs are unique to the City of Naperville and serve a specific function. As such, the City desires to continue use of these signs. There are no issues with these signs remaining as the signs are generally of the same shape and color as the standard signs of the same functional type contained in the MUTCD. As further specified in the MUTCD (Section 2A.06), local agencies are permitted to develop special word message signs in situations where roadway conditions make it necessary to provide road users with additional regulatory, warning, or guidance information.

The "Stop for Children in Crosswalk" signs located beneath the STOP signs at the Magnolia Lane intersections with Gartner Road/Modaff Road, Sycamore Drive, and Elmwood Drive are

not MUTCD compliant signs and they violate MUTCD standards as only official traffic control signs and retroreflective strips are permitted to be mounted on stop sign support posts. Furthermore, these signs are duplicative as motorists are required by law to come to a complete stop at stop signs and yield the right-of-way to pedestrians or other motorists. As such, these signs should be removed.

Magnolia Lane at Sycamore Drive

Gartner Road at Pecan Court

The Children at Play signs are also not MUTCD-compliant signs. Moreover, IDOT has issued a circular letter (see Appendix D) to municipal officials advising that these signs should not be used for the following reasons:

- May encourage children to play in the street.
- May encourage parents to be less vigilant.
- Provide parents and children with a false sense of security.
- Provide no guidance to motorists as to a safe speed.
- Have no legal basis for determining what a motorist should do.
- Are unenforceable.
- Act as another roadside obstacle to pedestrians and errant motorists.
- Do not describe where the child might be.
- Are often left in place after the children in the area are grown or moved away.
- Lack established procedures for engineering judgment or study.
- No longer attract attention of motorists after initial installation.
- May imply that the jurisdiction approves of streets as playgrounds, which may result in the jurisdiction being vulnerable to tort liability.
- Motorists should expect children to be at play in all residential areas and the lack of signs on some streets may indicate otherwise.

- Neither the MUTCD nor the Standard Highway Signs and Marking book provide a standard symbol warning sign for this type of sign.
- Have proven ineffective.

It is recommended that City policy be changed on the use of these signs and that the signs be removed from the City's Traffic Request Policies & Procedures. Once the policy is changed, no new signs should be installed and existing signs should not be replaced when they fade. Existing signs could also be removed if preferred by the City.

Pavement Marking Renewals

Existing Conditions

Pavement markings in need of refreshment include:

- Crosswalks at Washington Street/Gartner Road intersection
- Modaff Road parking boxes

The City has implemented a new crosswalk standard for pedestrian/school crossings and bicycle/equestrian trail crossings. Crosswalks serving pedestrians and schoolchildren are to be six feet wide and designed with 12-inch wide longitudinal lines spaced two feet apart. Bicycle and equestrian trail crossings are to be six feet wide and designed with 12-inch wide diagonal lines spaced two feet apart and set at a 45-degree angle. Table 1 summarizes the existing crosswalks within Zone 11 by type. The majority of the crosswalks are in the diagonal line style similar to, but not exactly the same as, the style that the City desires to use for bicycle and equestrian trail crossings. These crosswalks will need to be restriped to comply with the City's new standard for pedestrian and school crossings. The south leg of the 75th Street/Rickert Drive intersection and the east, west and south legs of the 75th Street/Olympus Drive intersection are presently the only intersections in Zone 11 that follows the City's new crosswalk standards.

New Bicycle & Equestrian Trail Crossing Standard

New School & Pedestrian Crossing Standard

Pavement markings and signs that are not depicted in the striping exhibits in the City's GIS database are listed in Appendix E**.**

Recommendation

The City has a pavement marking maintenance policy whereby the pavement markings are refreshed by the Transportation, Engineering and Development (TED) Business Group as part of the Maintenance Improvement Program (MIP) and then by the Department of Public Works (DPW) in the years between the MIP work as the pavement markings begin to fade. It is recommended that the worn pavement markings noted above be refreshed by the DPW, and that all of the old-standard crosswalks be programmed in the MIP for upgrade to the new standard.

Table 1
EXISTING ZONE 11 CROSSWALKS

Intersection	Crosswalk Type		
	Diagonal[1]	Longitudinal[2]	Parallel
75th Street / Rickert Drive	NA, SA[3]		EA, WA
75th Street / Modaff Road	EA, SA		WA
75th Street / Olympus Drive	NA	EA, SA, WA	
75th Street / Clyde Drive	NA		
Washington Street / Gartner Road	NA, EA, SA, WA		
Washington Street / Osler Drive	NA		
Rickert Drive / West Street	NA, EA,WA		
West Street / Gartner Road	NA		
West Street / Emerald Drive	NA		
Gartner Road / Magnolia Lane	SA, WA		
Gartner Road / Alder Lane	EA		
Gartner Road / Catalpa Lane	EA, SA		
Gartner Road / Shiloh Circle	EA		
Modaff Road / Tamarack Avenue	NA		
Elmwood Drive / Emerald Drive	SA		
Elmwood Drive / Hemlock Lane	SA		
Elmwood Drive / Magnolia Lane	NA, EA, SA, WA		
Magnolia Lane / Sycamore Drive	NA, EA		
Sycamore Drive / Laurel Lane	SA, WA		
Olympus Drive / Tamarack Avenue	NA, SA		
Williamsburg Drive / Appomattox Circle / Vicksburg Court	NA		
Hemlock Lane / Spruce Drive	EA, SA, WA		

[1] These crosswalks are designed to the City's old pedestrian crosswalk standard with 60-degree diagonal lines
[2] City's new standard for pedestrian and school crossings
[3] City's new standard for bicycle and equestrian trail crossings
NA – North Approach, EA – East Approach, SA – South Approach, WA- West Approach

Traffic Volumes and Speeds

Traffic volumes and travel speeds on neighborhood streets are influenced by several factors, including:

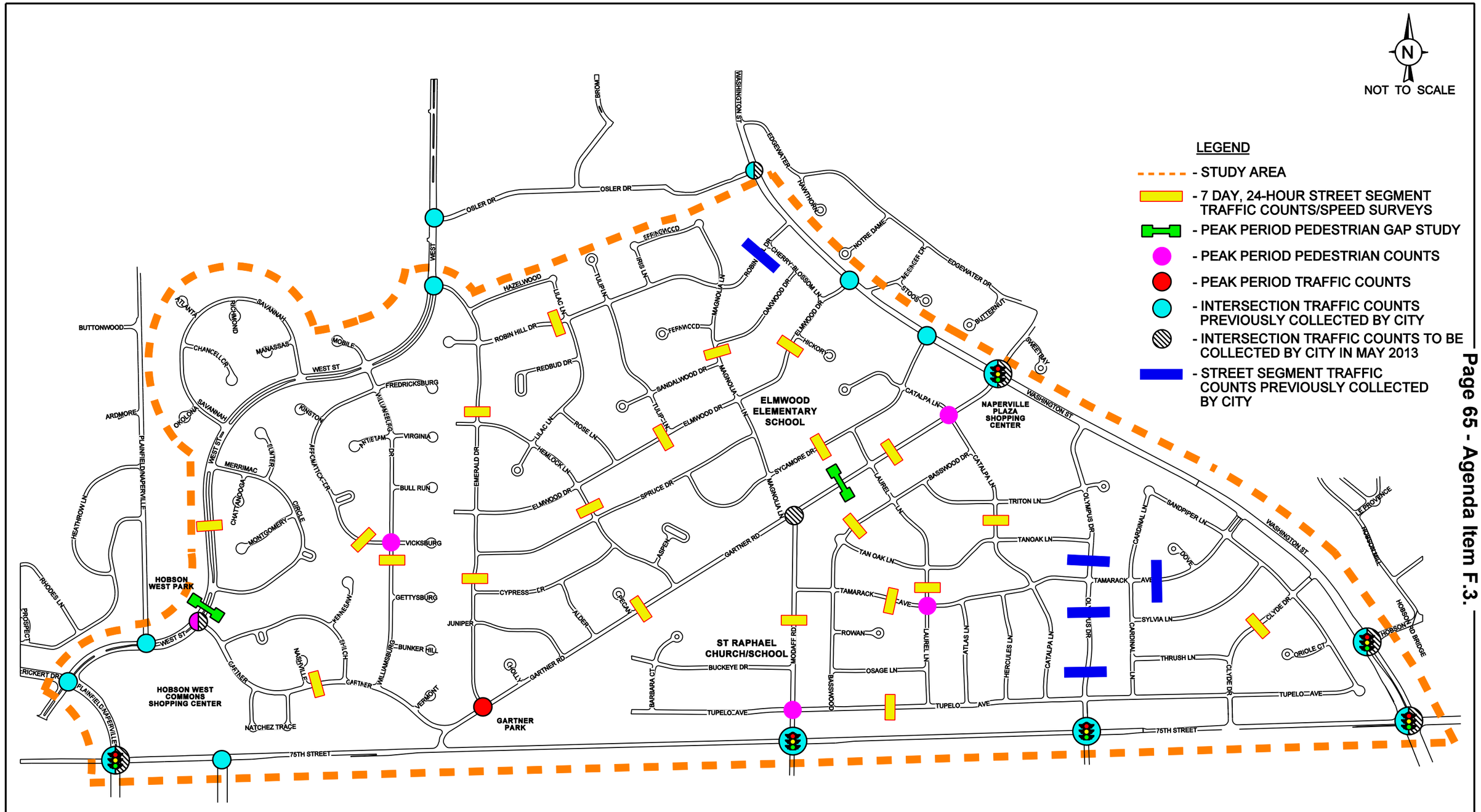
- Roadway functional classification
- Location and directional orientation of street with respect to adjacent arterial roadways
- Roadway width
- Number of travel lanes
- Roadway surface
- Speed limits
- Spacing between traffic control devices
- Vertical grade (i.e., hills)
- Horizontal alignment (i.e., curves)
- Driver behavior

Many of these attributes are fixed within the neighborhood's infrastructure and are generally difficult and/or costly to modify. While communities strive to keep traffic volumes within typical ranges for the respective road classifications, and operating speeds at or below the posted speed limit, it is often difficult to achieve given the above factors.

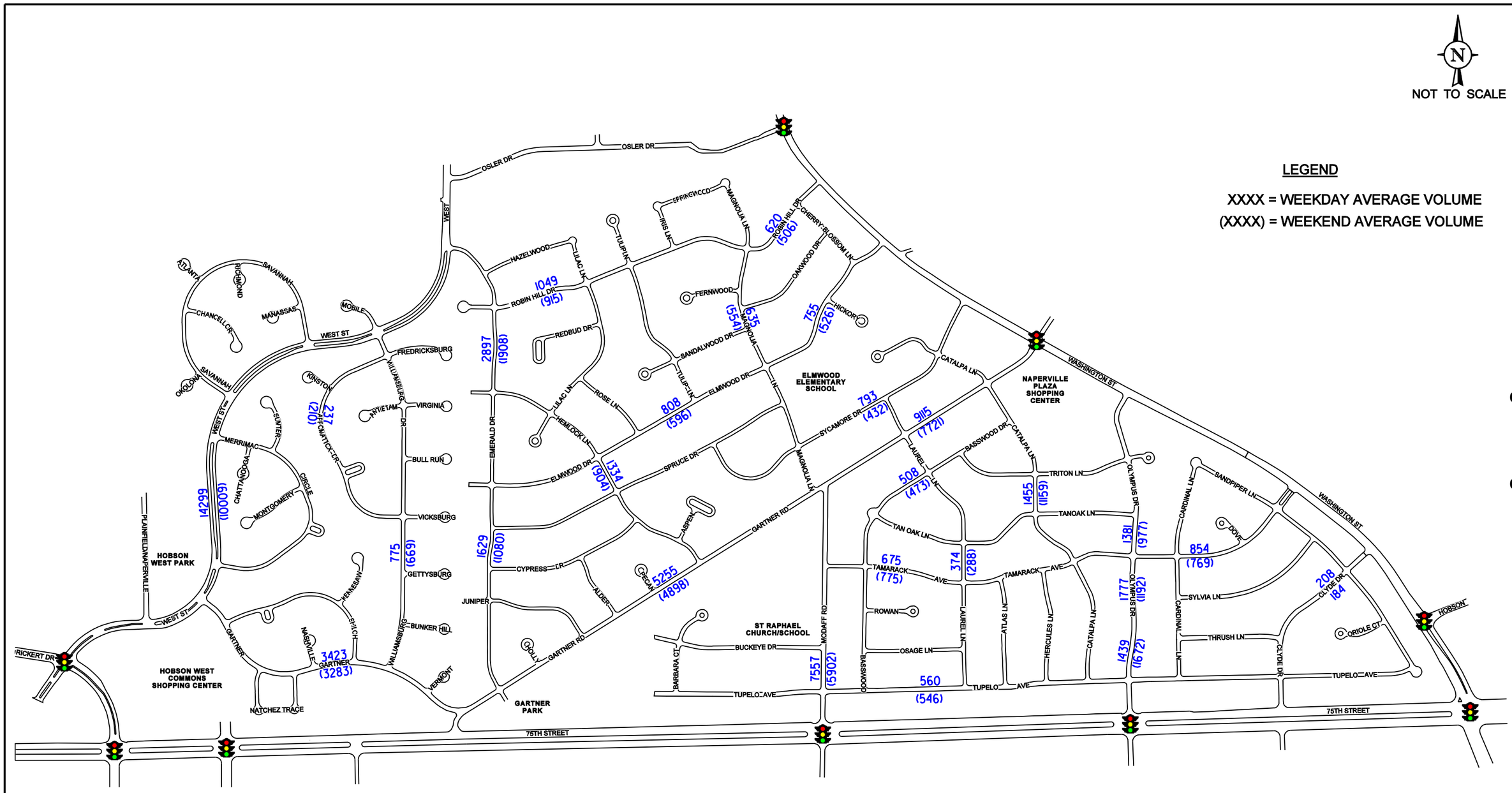
Existing Daily Traffic Volumes

Traffic volume data was collected by KLOA, Inc. over a 7-day period at 21 locations throughout the neighborhood, including all of the collector streets and neighborhood connector streets in Zone 11, as well as a select number of local streets. In addition, the City of Naperville had previously collected traffic volume data at five other locations within the neighborhood and provided the data to KLOA, Inc. for inclusion in the study. Figure 5 shows the locations where traffic volume data was collected.

The daily traffic volume data collected during the weekdays (Monday-Friday) and weekends (Saturday-Sunday) was separated and averaged at each count location. Figure 6 shows the Average Weekday Volumes and Average Weekend Volumes on the neighborhood roadways. The volumes represent the combination of both directions of travel (i.e., two-way) and span a 24-hour period.



PROJECT:	TITLE:	
Neighborhood Traffic Study - Zone 11 Naperville, Illinois	Data Collection Locations	KLOA Job No: 13-064 Figure: 5



PROJECT:	TITLE:	
Neighborhood Traffic Study - Zone 11 Naperville, Illinois	DAILY (24-HOUR) TRAFFIC VOLUMES	KLOA Job No: 13-064 Figure: 6

Table 2 summarizes the existing average weekday (24-hour) two-way traffic volumes on the roadways within Zone 11 and compares these volumes against the typical City-wide volume ranges experienced on similar streets within the City of Naperville. These volume ranges are consistent with national residential street standards, as published in *Residential Streets*[b]. The streets within the table are categorized by roadway classification. The average weekend traffic volumes on these streets are generally lower than the weekday volumes, and thus were not shown in Table 2, but can be found in Figure 6.

As can be seen in Table 2, none of the streets within Zone 11 carry traffic volumes that exceed the typical City-wide volume ranges for the respective road classifications. The collector streets (Gartner Road, Modaff Road) carry the highest volumes, followed by the neighborhood connector streets and the local streets, as would typically be expected within a neighborhood. Two of the local streets, Catalpa Lane and Hemlock Lane, carry volumes towards the upper limit for a local street.

Shiloh Circle

Existing Travel Speeds

All of the neighborhood streets within Zone 11 are regulated by a 25 mph neighborhood speed limit. In addition, there are two 20 mph school speed zones that are in effect on school days when children are present in the vicinity of Elmwood Elementary School and St. Raphael School.

Travel speeds were collected by KLOA, Inc. over the same 7-day period as the traffic counts and at the same 21 locations within Zone 11 (see Figure 5). In addition, the City of Naperville had previously collected travel speed data at the same five locations for which traffic counts were performed and provided the data to KLOA, Inc. for inclusion in the study.

The travel speed data was also summarized in two ways for each location. First the 85th-percentile speed was calculated, which is the speed at which 85 percent of the motorists drive at or below and is a benchmark that traffic engineers use to determine speed limits. Second, the average speed was calculated, which is the arithmetic mean of the speeds of all vehicles recorded. The differential between the 85th-percentile speed and average speed is useful in addressing speeding issues. Figure 7 shows the 85th-percentile speeds and the average speeds on the neighborhood roadways.

Modaff Road at St. Raphael School

Table 3 summarizes the existing 85th-percentile travel speeds on the roadways within Zone 11, categorized by roadway classification, and compares these speeds volumes against the typical City-wide 85th-percentile speed ranges experienced on similar streets within the City of Naperville.

[b] *Residential Streets*, Third Edition, 2001 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)

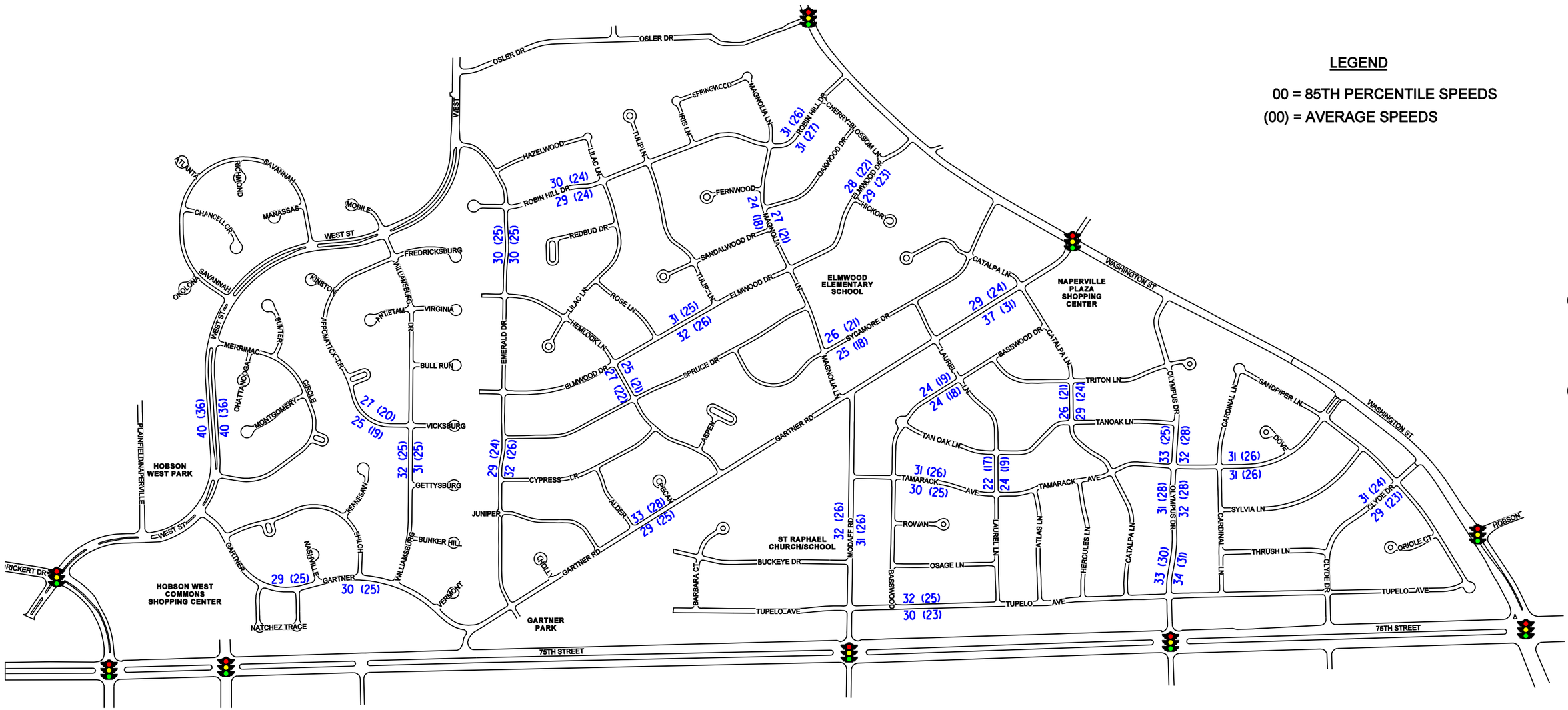
Table 2
EXISTING WEEKDAY (24-HOUR) TRAFFIC VOLUMES BY ROAD CLASSIFICATION

Roadway	Section	Within City-wide Typical Volume	Existing Volume
Collector Streets		**5,000 – 12,000**	
Gartner Road	Washington Street – Modaff Road	Yes	9,115
Modaff Road	75th Street – Gartner Road	Yes	7,557
Gartner Road	75th Street – Modaff Road	Yes	5,255
Neighborhood Connector Streets		**500 – 5,000**	
Gartner Road	West Street – Gartner Road	Yes	3,423
Emerald Drive	West Street – Elmwood Drive	Yes	2,897
Olympus Drive	75th Street – Tamarack Avenue	Yes	1,777
Emerald Drive	Gartner Road – Elmwood Drive	Yes	1,629
Olympus Drive	Washington Street – Tamarack Avenue	Yes	1,381
Robin Hill Drive	Emerald Drive – Magnolia Lane	Yes	1,049
Tamarack Avenue	Washington Street – Olympus Drive	Yes	854
Elmwood Drive	Magnolia Lane – Hemlock Lane	Yes	808
Sycamore Drive	Washington Street – Magnolia Lane	Yes	793
Williamsburg Drive	West Street – Gartner Road	Yes	775
Elmwood Drive	Washington Street – Magnolia Lane	Yes	755
Tamarack Avenue	Modaff Road – Laurel Lane	Yes	675
Magnolia Lane	Elmwood Drive – Robin Hill Drive	Yes	635
Robin Hill Drive	Washington Street – Magnolia Lane	Yes	620
Local Streets		**0 – 1,500**	
Catalpa Lane	Gartner Road – Tamarack Avenue	Yes	1,455
Hemlock Lane	Gartner Road – Emerald Drive	Yes	1,334
Tupelo Avenue	Modaff Road – Laurel Lane	Yes	560
Basswood Drive	Tamarack Avenue – Laurel Lane	Yes	508
Laurel Lane	Gartner Road – Tamarack Avenue	Yes	374
Appomattox Circle	Williamsburg Drive – Kinston Court	Yes	237
Clyde Drive	75th Street – Washington Street	Yes	208

NOT TO SCALE

LEGEND

00 = 85TH PERCENTILE SPEEDS
(00) = AVERAGE SPEEDS



PROJECT:	TITLE:	
Neighborhood Traffic Study - Zone 11 Naperville, Illinois	TRAVEL SPEEDS	KLOA Job No: 13-064 Figure: 7

Table 3
EXISTING 85th-PERCENTILE TRAVEL SPEEDS BY ROAD CLASSIFICATION

Roadway	Section	Within City-wide Average 85th-Percentile Speeds	Existing 85th- Percentile Speeds	
			NB/EB	SB/WB
Collector Streets		**34 mph**		
Gartner Road	Washington Street – Modaff Road	No	37	29
Gartner Road	75th Street – Modaff Road	Yes	29	33
Modaff Road	75th Street – Gartner Road	Yes	31	32
Neighborhood Connector Streets		**33-34 mph**		
Olympus Drive	75th Street – Tamarack Avenue	Yes	34	33
Olympus Drive	Washington Street – Tamarack Ave.	Yes	32	33
Elmwood Drive	Magnolia Lane – Hemlock Lane	Yes	32	31
Williamsburg Drive	West Street – Gartner Road	Yes	31	32
Emerald Drive	Gartner Road – Elmwood Drive	Yes	32	29
Robin Hill Drive	Washington Street – Magnolia Lane	Yes	31	31
Tamarack Avenue	Washington Street – Olympus Drive	Yes	31	31
Tamarack Avenue	Modaff Road – Laurel Lane	Yes	30	31
Emerald Drive	West Street – Elmwood Drive	Yes	30	30
Gartner Road	West Street – Gartner Road	Yes	30	29
Robin Hill Drive	Emerald Drive – Magnolia Lane	Yes	29	30
Elmwood Drive	Washington Street – Magnolia Lane	Yes	29	28
Magnolia Lane	Elmwood Drive – Robin Hill Drive	Yes	27	24
Sycamore Drive	Washington Street – Magnolia Lane	Yes	25	26
Local Streets		**31 – 32 mph**		
Tupelo Avenue	Modaff Road – Laurel Lane	Yes	30	32
Clyde Drive	75th Street – Washington Street	Yes	29	31
Catalpa Lane	Gartner Road – Tamarack Avenue	Yes	26	29
Appomattox Circle	Williamsburg Drive – Kinston Court	Yes	25	27
Hemlock Lane	Gartner Road – Emerald Drive	Yes	25	27
Basswood Drive	Tamarack Avenue – Laurel Lane	Yes	24	24
Laurel Lane	Gartner Road – Tamarack Avenue	Yes	24	22

By policy, the City considers speeding to be a concern and in need of mitigation when the 85th-percentile speed exceeds the City-wide average 85th-percentile speed. As shown in Table 3, there is one street segment within Zone 11 that has an 85th-percentile speed that exceeds the City-wide average 85th-percentile speed for its respective road classification, as summarized below:

- The eastbound segment of Gartner Road between Washington Street and Modaff Road had the highest average 85th-percentile travel speed recorded in the neighborhood at 37 mph and the highest travel speed on a collector street. This travel speed exceeds the City's 34 mph threshold by 3 mph.

There is also one street segment with an average 85th-percentile speed at the upper limit of the City-wide average 85th-percentile speed, as described below:

- The northbound segment of Olympus Drive between 75th Street and Tamarack Avenue had the second highest average 85th-percentile speed recorded in the neighborhood at 34 mph and the highest travel speed on a neighborhood connector street.

In addition to evaluating the average 85th-percentile speeds calculated over the entire 7-day survey period, KLOA, Inc. reviewed the average hourly speed data for each location and determined that there were no specific hours of the day in which the average hourly speeds exceeded the average 85th-percentile speed for the roadway.

Traffic volume and/or speed mitigation measures for the streets noted above follow the traffic crash history below.

Traffic Crash History

Traffic crash reports for the roadways within Zone 11 were provided by the City of Naperville for review and consideration when developing recommended traffic volume and/or speed mitigation measures in this study. Table 4 summarizes the traffic crash history during the three-year period from January 2010 to December 2012.

Table 4
INTERSECTION TRAFFIC CRASH HISTORY (2010-2012)

Intersection	Crash Frequency (Crashes/Year) 2010	2011	2012	3-Year Total	Crash Severity (3-Year Totals) Property Damage	Injury	Fatality
75th Street / Gartner Road	12	18	29	59	49	10	0
Washington Street / Gartner Road	20	11	18	49	41	8	0
West Street / Emerald Drive	5	3	3	11	10	1	0
West Street / Gartner Road	0	3	5	8	6	2	0
West Street/Williamsburg Drive	2	5	1	8	7	1	0
Gartner Rd/Modaff Rd/Magnolia Ln	4	1	2	7	6	1	0
Gartner Road / Catalpa Lane	2	3	1	6	5	1	0
Modaff Road / Tupelo Avenue	2	1	1	4	4	0	0
Washington Street/Tamarack Ave	1	0	2	3	2	1	0
Gartner Road / Emerald Drive	0	1	2	3	3	0	0
Gartner Road / Gartner Road	0	1	1	2	2	0	0
Gartner Road / Hemlock Lane	0	1	1	2	0	2	0
Emerald Drive / Juniper Drive	0	2	0	2	2	0	0
Emerald Drive / Robin Hill Drive	1	0	1	2	2	0	0
Robin Hill Drive / Lilac Lane	0	1	1	2	2	0	0
Washington Street / Robin Hill Dr	0	0	1	1	1	0	0
West Street / Merrimac Circle	0	1	0	1	1	0	0
Gartner Road / Juniper Drive	1	0	0	1	1	0	0
Gartner Road / Laurel Lane	1	0	0	1	1	0	0
Gartner Road / Magnolia Lane	0	0	1	1	1	0	0
Elmwood Drive / Magnolia Lane	1	0	0	1	1	0	0
Elmwood Drive / Rose Lane	1	0	0	1	1	0	0
Magnolia Lane / Robin Hill Drive	1	0	0	1	1	0	0
Olympus Drive / Tupelo Avenue	0	1	0	1	1	0	0
Tamarack Avenue / Cardinal Lane	1	0	0	1	0	1	0
Tamarack Avenue / Laurel Lane	1	0	0	1	1	0	0
Tamarack Avenue / Sandpiper Lane	1	0	0	1	1	0	0
Williamsburg Drive/Appomattox Cr	0	0	1	1	1	0	0
Basswood Drive / Laurel Lane	0	0	1	1	1	0	0
Williamsburg Drive/Appomattox Circle/Fredericksburg Court	1	0	0	1	1	0	0

Table 4 continues on next page

Table 4 (Continued)
INTERSECTION TRAFFIC CRASH HISTORY (2010-2012)

Intersection	Crash Frequency (Crashes/Year) 2010	2011	2012	3-Year Total	Crash Severity (3-Year Totals) Property Damage	Injury	Fatality
Williamsburg Drive/Appomattox Circle/Vicksburg Court	0	0	1	1	1	0	0
Buckeye Drive / Barbara Court	0	1	0	1	1	0	0
Cardinal Lane / Thrush Lane	1	0	0	1	1	0	0
Cypress Drive / Alder Lane	0	1	0	1	1	0	0
Hemlock Lane / Aspen Court	1	0	0	1	1	0	0
Iris Lane / Springwood Drive	0	1	0	1	1	0	0
Tupelo Avenue / Sandpiper Lane	0	1	0	1	1	0	0
Total	**128**	**123**	**133**	**384**	**292**	**92**	**0**

Based on the data shown in Table 4 and a review of the individual crash reports, the following observations were made on the intersections internal to the neighborhood:

- Overall, the intersections within the neighborhood function safely and had a very low incidence of crashes with most intersections experiencing two or fewer crashes in the three-year period, very few of which resulted in injuries.

- The intersection of Gartner Road/Modaff Road/Magnolia Lane experienced the highest number of crashes (7 crashes) over the three-year period, one of which resulted in a personal injury. The prominent crash types were rear-end collisions (86%) and angle collisions (14%). Rear end collisions are typically associated with signalized or all-way stop controlled intersections. Angle collisions can be a result of inadequate intersection sight distance or failure to yield the right-of-way to alternating vehicles at all-way stop controlled intersections. The offset alignment of Modaff Road with Magnolia Lane is a likely cause for some of these collisions, although the offset tends to improve stop sign compliance as motorists tend to hesitate longer at the stop signs attempting to decipher which vehicle has the right-of-way to proceed next through the intersection. The crash data at this intersection was compared with the crash data at other similar intersections within the City, as shown in Table 5. Each of these intersections are located in the middle of residential neighborhoods and are comprised of two collector streets under all-way stop sign control. This comparison yielded the following findings:

  - The 3-year crash total at the Gartner Road/Modaff Road/Magnolia Lane intersection is similar to the other intersections.

  - The crash rate at the Gartner Road/Modaff Road/Magnolia Lane intersection in the middle range of the intersections.

- The prevailing crash type at the Gartner Road/Modaff Road/Magnolia Lane intersection is rear end while the prevailing crash type at the other intersections is angle/turning, which is typically more severe and results in more injuries.
- The geometry at the Gartner Road/Modaff Road/Magnolia Lane intersection does not result in more crashes than the other all-way stop controlled intersections.

Table 5
GARTNER ROAD/MODAFF ROAD/MAGNOLIA LANE CRASH COMPARATIVE ANALYSIS

Intersection	Intersection ADT	3-Year Crash Volume	Crash Rate	Crash Type			
				Rear End	Angle/ Turning	Bike/ Pedestrian	Other
Jefferson/River	18,800	13	0.63	5 (38.5%)	6 (46.1%)	1 (7.7%)	1 (7.7%)
Bailey/Modaff	12,300	8	0.59	1 (12.5%)	7 (87.5%)	0	0
Gartner/Modaff/Magnolia	13,500	7	0.47	5 (71.4%)	1 (14.3%)	0	1 (14.3%)
5th/Columbia/Plank	15,800	7	0.40	3 (42.9%)	4 (57.1%)	0	0
Gartner/Olesen	11,900	4	0.31	1 (25%)	3 (75%)	0	0

Gartner Road

Existing Conditions

The speed data collected on the east segment of Gartner Road (Washington Street-Modaff Road) indicated that the 85th-percentile speed in the eastbound direction exceeded the City-wide average 85th-percentile speed for a collector road (34 mph) by 3 mph. The speed data collected on the west segment of Gartner Road (75th Street-Modaff Road) indicated that the 85th-percentile speed (31-32 mph) in either direction is 2-3 mph under the City-wide average 85th-percentile speed for a collector road. The City has implemented passive measures to control speeds on Gartner Road, including yellow-framed speed limit signs and speed limit pavement markings. The Police Department has also been targeting Gartner Road between 75th Street and Magnolia Lane for speed enforcement.

Gartner Road at Catalpa Lane

Gartner Road at Catalpa Lane

Analysis / Evaluation

There are several factors contributing to the higher speeds experienced on Gartner Road, including the 33-foot width of the travel way, straight alignment of the street, and the single traffic control location at Modaff Road/Magnolia Lane. The east and west segments of Gartner Road have differing characteristics that potentially justify different mitigation treatments. The east segment is a posted bike route and parking is permitted on both sides of the street between Modaff Road and Catalpa Lane. The west segment adjoins Gartner Park and the parking lanes on Gartner Road are in regular use when there are events in the park.

Gartner Road adjacent to Gartner Park

Recommendation

East Segment (Washington Street-Modaff Road) – Recommended speed mitigation measures for the east segment of Gartner Road include:

1. Expand targeted Police Enforcement in the east segment of Gartner Road, particularly during the weekday morning (7:00-9:00 A.M.) and evening (3:00-7:00 P.M.) peak commuting hours.
2. Install 25 mph speed limit pavement marking on eastbound Gartner Road between Modaff Road and Laurel Lane, similar to the speed limit markings currently on westbound Gartner Road at Catalpa Lane. The City's criteria for this improvement is met as the average 85th-percentile speed (37 mph) is greater than or equal to 10 mph over the posted speed limit (25 mph).
3. Install double-yellow centerline from Modaff Road to the existing centerline at Catalpa Lane.

The intent of the mitigation measures are to target the east segment of Gartner Road for enhanced speed enforcement by the Police Department, similar to the targeting efforts on the west segment of Gartner Road, reinforce the posted speed limit, and give motorists the perception of a narrower roadway. A tiered approach can be used to implement these measures incrementally. The first mitigation measure (targeted Police enforcement) would be implemented first. If this measure does not adequately address the speed issues, the second mitigation measure (speed limit pavement marking) would be implemented. If the desired reduction in vehicle speeds is still not achieved, the third mitigation measure (double-yellow centerline) would be implemented.

West Segment (75th Street-Modaff Road) – Recommended speed mitigation measures for the west segment of Gartner Road include:

1. Install double-yellow centerline from Modaff Road to the existing centerline at Gartner Road.

2. Install parking boxes on both sides of Gartner Road from Magnolia Lane to Gartner Road, similar to the parking boxes currently on Modaff Road.

3. Work with the Naperville Park District to develop a "Park Zone Speed Limit" policy. If Gartner Park meets warrants, establish a Park Speed Zone and install *Park Zone Speed Limit 20 MPH When Children Are Present* signs (R2-I108) adjacent to Gartner Park per Section 5/11-605.3 of the Illinois Vehicle Code and the Illinois Supplement to the MUTCD.

The intent of the mitigation measures is to give motorists the perception of a narrower roadway, to increase safety for Gartner Park users, and define the allowable parking zones. A tiered approach can be used to implement these measures incrementally. The first mitigation measure (double-yellow centerline) would be implemented first. If the desired speed reduction effect is not achieved, the second mitigation measure (parking boxes) would be implemented. If the desired reduction in vehicle speeds was still not achieved, the third mitigation measure (Park Speed Zone) would be established. Figure A10 in Appendix A illustrates the typical layout of the double-yellow centerline and parking box pavement markings for the west segment of Gartner Road.

Olympus Drive

Existing Conditions

The speed data collected on Olympus Drive between 75th Street and Tamarack Avenue indicated that the 85th-percentile speed in the northbound direction (34 mph) was at the upper limit of the City-wide average 85th-percentile speed for a neighborhood connector street (33-34 mph). The City has implemented passive measures to control speeds on Olympus Drive such as 25 mph speed limit pavement markings.

Analysis / Evaluation

Factors contributing to the higher speeds experienced on Olympus Drive include the 33-foot width of the travel way and the single traffic control location at Tamarack Avenue.

Recommendation

The recommended speed mitigation measures on Olympus Drive include:

1. Enhance targeted Police Enforcement during the weekday morning (7:00-9:00 A.M.) and evening (4:00-7:00 P.M.) peak commuting hours.

2. Install curb extensions on Olympus Drive at Tamarack Avenue, Tupelo Avenue, and/or Triton Lane. Curb extensions extend the curb line into the parking lane, resulting in a narrowing section of roadway. The restricted street width is a visual cue to motorists to advance with caution. A tighter corner radius is created that reduces turning speeds. Pedestrian safety is also enhanced with parking set-backs, increased visibility to the crosswalks, and shorter crossing distances.

The intent of the mitigation measures is to give motorists the perception of a narrower roadway to reduce travel speeds and increase pedestrian safety. A tiered approach can be used to implement these measures incrementally. The first mitigation measure (targeted Police enforcement) would be implemented first. If the desired reduction in travel speeds is not achieved, the second mitigation measure (curb extensions) would be implemented. Figure A11 in Appendix A illustrates the Olympus Drive/Tamarack Avenue intersection with curb extensions.

Emerald Drive and Williamsburg Drive

Existing Conditions

The traffic volume data collected on Emerald Drive (2,897 vpd) is within normal ranges for a neighborhood connector street (0-5,000 vpd) and the average 85th-percentile speeds (29-32 mph) are below the City-wide average 85th-percentile speed for a neighborhood connector street (33-34 mph). The data indicates a travel pattern during the weekday morning peak period of higher volumes traveling from eastbound Gartner Road to northbound Emerald Drive, likely comprised of motorists oriented to Naperville Central High School. This pattern does not occur in the reverse direction during the afternoon peak hour. The 85th-percentile speed on Emerald Drive is also higher in the northbound direction (32 mph) than the southbound direction (29 mph). Further, Emerald Drive displayed the largest differential between average daily traffic volumes on a weekday compared to average daily traffic volumes on a weekend, with the weekday traffic volumes being approximately 50 percent higher than the weekend volumes. The City has implemented passive measures to control speeds on Emerald Drive, such as 25 mph speed limit pavement markings and distribution of yard signs.

The traffic volume data collected on Williamsburg Drive (775 vpd) is also within normal ranges for a neighborhood connector street and the average 85th-percentile speeds (31-32 mph) are below the City-wide average 85th-percentile speed for a neighborhood connector street.

Emerald Drive at Robin Hill Drive

Analysis / Evaluation

Since the traffic volume and speed data on both roadways are within normal City-wide ranges for a neighborhood connector street, mitigation measures are not warranted.

As part of the City's Capital Improvement Program, a new traffic signal is anticipated to be installed at the intersection of West Street and Osler Drive. The signal will be interconnected to the existing signal at Martin Avenue and West Street, and will help ease congestion at the West Street/Osler Drive intersection, which was an issue raised at the public meetings. The project will also include the construction of a right-turn lane on Emerald Drive at West Street, and the modification of the intersection traffic control at Emerald and West from all-way stop control to one-way stop control on Emerald Drive only. The project is currently programmed for FY 2015-

2016, but the timing of the construction will be dependent upon coordination between Edward Hospital, Naperville Park District and Naperville Community Unit School District 203.

The West Street/Osler Drive signalization project could have a significant impact on reducing traffic volumes on Emerald Drive. The elimination of the all-way stop sign control at the West Street/Emerald Dive intersection will deter motorists from traversing Emerald Drive as there may be longer vehicle delays waiting for an adequate gap in the flow of traffic to turn from Emerald Drive onto West Street.

Recommendation

Monitor traffic volumes and speeds on Emerald Drive and Williamsburg Drive if a traffic signal installation is pursued at the West Street/Osler Drive intersection to assess if traffic volumes and/or speeds have changed due to the signal installation. If travel volumes or speeds on Emerald Drive approach or exceed the City-wide upper limits for a neighborhood connector street, conduct further study to determine appropriate mitigation measures.

Hemlock Lane

Existing Conditions

The traffic volume data collected on Hemlock Lane between Elmwood Drive and Spruce Drive indicated that the street carries an average of 1,334 vehicles on weekdays, which is towards the acceptable upper limit (1,500 vpd) for a local street.

Analysis / Evaluation

Factors contributing to the higher volumes using Hemlock Lane include the travel time savings between Gartner Road and Emerald Drive, and the single traffic control location at Emerald Drive. Reducing traffic volumes on local streets is challenging. Communities utilize various strategies that include horizontal shifts (e.g. chicanes, traffic circles), vertical deflections (e.g. speed tables, textured pavement), conversion to one-way streets, and turn restrictions, diverters and cul-de-sacs. Measures implemented on one neighborhood street can result in diverted traffic onto other neighborhood streets.

Recommendation

To provide a measure of traffic calming on Hemlock Lane without significantly impacting other neighborhood streets, the installation of curb extensions is recommended on Hemlock Lane at Elmwood Drive and/or Spruce Drive. The crosswalks on Hemlock Lane at both Elmwood Drive and Spruce Drive are crossings on the School Walk Route plans for Elmwood Elementary School and/or St. Raphael School. The curb extensions would also increase pedestrian safety at these intersections by creating parking set-backs, increasing visibility to the crosswalks, and providing shorter crossing distances.

Catalpa Lane

Existing Conditions

The traffic volume data collected on Catalpa Lane between Triton Lane and Tanoak Lane indicated that the street carries an average of 1,455 vehicles on weekdays, which is towards the acceptable upper limit (1,500 vpd) for a local street.

Analysis / Evaluation

There are three access driveways to the Naperville Plaza shopping center on Catalpa Lane and a portion of the traffic on Catalpa Lane is oriented to and from the shopping center. The implications of restricting access to the shopping center would result in increased congestion at the Gartner Road entrance to the shopping center and more limited access to the center by neighborhood residents. The intersection of Catalpa Lane and Gartner Road is under stop sign control on Catalpa Lane only. Since Catalpa Lane is a local street that carries considerably lower volumes than Gartner Road, which as a collector road has a higher functional classification, motorists on Catalpa Lane can expect longer delays when turning onto or crossing Gartner Road during various times of the day.

Recommendation

To provide a measure of traffic calming on Catalpa Lane without significantly impacting other neighborhood streets, the installation of curb extensions is recommended on Catalpa Lane at Tanoak Lane or Triton Lane. The Triton Lane intersection is a crossing on the School Walk Route plan for St. Raphael School and is therefore the preferred location if it is determined that the construction is feasible. The curb extensions would also increase pedestrian safety at these intersections by creating parking set-backs, increasing visibility to the crosswalks, and providing shorter crossing distances.

Geometrics and Operations

Based on field observations, discussions with City staff, and comments received at the first open house, four intersections within Zone 11 were identified as having operational issues in need of improvement. The recommended improvements include modifications to the road geometrics, sidewalks, crosswalks, traffic control signs, and/or pavement markings.

Gartner Road / Modaff Road / Magnolia Lane

Existing Conditions

Observations of traffic operations at the Gartner Road/Modaff Road/Magnolia Lane intersection were performed on several occasions during the weekday peak hours, off-peak hours and on weekends, as summarized below.

- The majority of traffic travels between northbound Modaff Road and eastbound Gartner Road in the AM peak period and between westbound Gartner Road and southbound Modaff Road in the PM peak period.
- Northbound Modaff Road experiences extended queuing during the morning peak hour.
- Westbound Gartner Road experiences extended queuing during the afternoon peak hour.
- Vehicle queuing is due in part to the platooning of traffic from the Washington Street/Gartner Road and 75th Street/Modaff Road intersections.
- Most motorists executed a complete stop at the intersection.
- Seven crashes occurred at the intersection between 2010 and 2012 (2-3 per year) with the majority consisting of rear-end collisions. One of the crashes involved an injury.

Analysis / Evaluation

Modaff Road and Magnolia Lane are offset from each by approximately 100 feet and the misalignment of these two streets creates a wide intersection with Gartner Road. In addition, Gartner Road is on a skew, which requires motorists to turn their heads more than 90-degrees to observe approaching traffic at this all-way stop sign controlled intersection, and the crosswalk on Gartner Road is located in an atypical location between Modaff Road and Magnolia Lane. The combination of these conditions can be confusing to motorists in determining which vehicle has the right-of-way to proceed through the intersection.

Gartner Road/Modaff Road/Magnolia Lane

Gartner Road/Modaff Road/Magnolia Lane

As part of the analysis, the City and KLOA, Inc. discussed a signal installation as a potential solution and determined that it was not appropriate for several reasons. First, field observations have shown that the intersection generally operates well under the existing all-way stop sign control. While the intersection experiences some limited delay and queuing, the queuing typically only occurs on specific approaches during the morning and evening peak periods and typically dissipates quickly. Second, the intersection has experienced a low number of crashes over the past three years and does not meet the crash experience warrant for traffic signal control. Third, the City was concerned about adding a traffic signal within the interior of the neighborhood because it might result in more vehicles entering the intersection or dispersing onto other streets throughout the neighborhood. As such, a traffic signal is not required nor recommended at this intersection.

The analysis also evaluated the full realignment of Modaff Road opposite Magnolia Lane, which would require a significant amount of right-of-way from the residential property in the southwest corner of the intersection and would result in the loss of a portion of the property's side yard. Based on the extensiveness of the adverse impacts to this property, the full realignment of the intersection was not presented at the second public open house as a feasible option.

Five other alternatives were developed for evaluation to improve traffic operations at this intersection. Modifications included narrowing of the intersection approaches, realignment of Modaff Road, turn restriction on Magnolia Lane, sidewalk extensions, pavement markings, and/or stop sign and stop line relocations. All of the alternatives were developed either within the existing right-of-way or require a very minor amount of right-of-way to minimize right-of-way acquisition costs and property impacts. All of the alternatives also maintain the all-way stop sign control and include the removal of the school crossing signage on Modaff Road for compliance with the MUTCD, as discussed earlier in this chapter.

A description of each alternative follows.

Alternative 1

The intent of Alternative 1 is to reduce the width of the intersection and the offset between Modaff Road and Magnolia Lane, create a more perpendicular intersection between Gartner and Modaff, and reduce the width of the pedestrian crossing on Modaff Road. The Alternative 1 improvements are illustrated in Figure A12 in Appendix A and summarized below.

- Realign Modaff Road to intersect Gartner Road approximately 50 feet closer to Magnolia Lane and at an approximately 90-degree angle.
- Neckdown the Modaff Road approach from 36 feet to 28 feet with 20-foot corner radii.
- Reposition the stop sign on Modaff Road and install a stop line.
- Realign the Modaff Road sidewalks.
- Reposition the stop sign on the Gartner Road westbound approach closer to Modaff Road and install a stop line.
- Relocate the Gartner Road crosswalk to the east side of the intersection.

Advantages – Reduces width of intersection by 50 feet (50%), removes crosswalk from middle of intersection, creates a 90-degree alignment, reduces Modaff Road crosswalk width by 8 feet.

Disadvantages – May require a minor amount of right-of-way from southwest corner.

Alternative 2

The intent of Alternative 2 is to reduce the width of the intersection and the offset between Modaff Road and Magnolia Lane, and reduce the width of the pedestrian crossing on Modaff Road. The Alternative 2 improvements are illustrated in Figure A13 in Appendix A and summarized below.

- Implement an 8-foot curb extension on the east side of Modaff Road via curbing or striping.
- Reposition the stop sign on Modaff Road and install a stop line.
- Modify the sidewalk on the north side of Gartner Road.
- Reposition the stop sign on the Gartner Road westbound approach closer to Modaff Road and install a stop line.
- Modify the pavement markings on Modaff Road.
- Relocate the Gartner Road crosswalk to the east side of the intersection.

Advantages – Reduces offset and intersection width by 8 feet (8%), removes crosswalk from middle of intersection, reduces Modaff Road crosswalk width by 8 feet.

Disadvantages – Intersection remains fairly wide, intersection skew is unchanged, loss of some street parking.

Alternative 3

The intent of Alternative 3 is to increase pedestrian safety at the Modaff Road crosswalk. The Alternative 3 improvements are illustrated in Figure A14 in Appendix A and summarized below.

- Replace the painted median on Modaff Road with a raised median extended through the crosswalk as a pedestrian refuge. The median can be landscaped or paved.

Advantages – Improves pedestrian safety by reducing crossing distances to 12-foot increments, potentially adds greenery to an unattractive paved area.

Disadvantages – Intersection remains fairly wide, intersection skew unchanged, loss of some street parking.

Alternative 4

The intent of Alternative 4 is to increase pedestrian safety on all approaches of the intersection. The Alternative 4 improvements are illustrated in Figure A15 in Appendix A and summarized below.

- Implement 4-foot curb extensions on both sides of Modaff Road and 2.5-foot curb extensions on both sides of Gartner Road via curbing or striping.

Advantages – Reduces offset and intersection width by 4 feet (4%), reduces Modaff Road crosswalk width by 8 feet and Gartner Road crosswalk width by 5 feet, potentially adds greenery to an unattractive paved area.

Disadvantages – Intersection remains fairly wide, intersection skew unchanged, loss of some street parking.

Alternative 5

The intent of Alternative 5 is to reduce traffic conflicts by restricting Magnolia Lane traffic from entering the intersection, resulting in three-way stop control at the intersection instead of four-way. The Alternative 5 improvements are illustrated in Figure A16 in Appendix A and summarized below.

- Install a triangular island on Magnolia Lane to convert traffic movements on Magnolia to right-in/right-out.
- Reposition the stop sign and stop line on the Gartner Road west approach to just prior to the Gartner Road crosswalk.
- Install No Left Turn signs on Gartner Road and Magnolia Lane.

Advantages – Condenses intersection movements to a single "T" intersection, reduces vehicle delays and improves intersection efficiency, Gartner Road crosswalk is no longer in the center of the intersection.

Disadvantages – Restricts traffic movements to and from Magnolia Lane, which is a major approach and departure route for Elmwood Elementary School buses and automobiles, resulting in lengthy traffic diversions onto other neighborhood streets. Intersection skew and crosswalk widths remain unchanged.

Based on discussions with City staff, Alternatives 1 and 2 were determined to be the most effective at addressing the core operational and safety issues at the intersection (i.e., offset, intersection width, pedestrian crossing distances) without impacting other neighborhood streets. The construction cost of both alternatives would exceed $100,000, although Alternative 2 could be implemented for significantly less cost if pavement markings were used in place of the curb extension on Modaff Road. These two alternatives, along with a No Change alternative, were presented at the second public open house. The comments received from the public were mixed, with some residents supportive of Alternative 1, some supportive of Alternative 2, and others preferring no change. More residents were favorable to Alternative 1 than the other alternatives.

Table 6 provides a comparison between Alternatives 1 and 2, and the No Change alternative. For reference related to costs and impacts, the table also compares these alternatives to the signalization of the intersection and the full realignment of Modaff Road/Magnolia Lane.

Table 6
COMPARISON OF GARTNER ROAD / MODAFF ROAD / MAGNOLIA LANE ALTERNATIVES

	No Change	Full (100% Realignment)	Alternative 1 (50% Realignment)	Alternative 2 (8% Realignment)	Traffic Signal Installation
Right-Of-Way Required	None	2,330 square feet	250 square feet	None	Minimal or None
Cost[1] • **Engineering** • **Construction**	$0	$500,000 - $550,000	$400,000 - $450,000	$125,000 - $150,000	$250,000 - $300,000
Pros	- No cost - No property impacts - No additional ROW required	- Modaff/Magnolia offset eliminated - Maximizes intersection width reduction - Creates a 90-degree alignment with Gartner Rd - Eliminates driver confusion - Removes crosswalk from middle of intersection - Reduces Modaff Rd crosswalk width by 12 feet	- Reduces width of intersection by 50% - Creates a 90-degree alignment with Gartner Rd - Removes crosswalk from middle of intersection - Reduces Modaff Rd crosswalk width by 12 feet - Reduces driver confusion	- Reduces width of intersection by 12% - Removes crosswalk from middle of intersection - Reduces Modaff Rd crosswalk width by 12 feet - Reduces driver confusion - No additional ROW required	- Eliminates driver confusion by controlling traffic movements - Provides signal control for pedestrian movements - Limited or no additional ROW required
Cons	- Intersection remains offset - Traffic operation and pedestrian issues not mitigated	- Significant property impacts - Additional ROW required - High cost	- Intersection remains offset - Minor property impacts - Limited additional ROW required - High cost	- Intersection remains offset - Intersection skew unchanged - Street parking lost - Moderately high cost	- Not required; all-way stop sign control is effective - Adds delay - Few crashes; crash warrant not satisfied for signal control - Moderately high cost - Could increase traffic through neighborhood

Notes and assumptions:
1. Estimate does not include costs for right-of-way acquisition or easements.
2. Estimate does not include costs to vacate (plats and legals) the existing right-of-way.
3. No costs have been included for the relocation of public utilities, sanitary sewer or water main.
4. Proposed pavement section is assumed to be 10" stone, 6" bituminous binder course, 2" bituminous surface course with 2' undercutting (100%).
5. Estimate assumes no special or non-special waste removal.

Recommendation

Based on field observations, the alternatives evaluation, and crash data analysis for this intersection, the "no change" alternative is recommended. While the geometry at this intersection is not standard, the data does not support that it is an unsafe intersection nor does it support the significant investment necessary to implement the improvement alternatives.

Gartner Road / Gartner Road

Existing Conditions

This intersection has a large corner radius (over 100 feet) on the northwest corner of the intersection, which creates a wide paved area that lacks channelization, particularly for westbound motorists traversing the curve on the main section of Gartner Road. The pedestrian crossing and stop sign on the west leg of Gartner Road are set back approximately 35 feet from the intersection. The left-turn movement onto the west leg of Gartner Road is at an acute angle. Observations of traffic movements turning from the west leg of Gartner Road onto the main section of Gartner Road indicated that motorists tended to stop well beyond the stop sign. Observations of traffic movements approaching from the east on Gartner Road and turning right onto the west leg of Gartner Road indicated that vehicles make the turn at higher speeds than desirable due to the size of the corner radius.

Analysis / Evaluation

The setback of the pedestrian crossing and stop sign causes motorists to roll through the stop sign as they approach the intersection. It also increases the potential for rear-end collisions. There were two crashes at this intersection over the past three years, and one was a rear-end collision on the west leg of Gartner Road. The higher turning speeds onto the west leg of Gartner Road, combined with the pedestrian crossing set back from the intersection, increases the potential for vehicle-pedestrian conflicts.

Recommendation

A corner radius reduction is recommended at this intersection, via striping or curb extensions, as illustrated in Figure A17 in Appendix A. The improvement would include the repositioning of the stop sign, installation of a stop line, and relocation of the sidewalks closer to the intersection.

Gartner Road / 75th Street

Existing Conditions

Observations of traffic movements turning onto 75th Street from Gartner Road indicated that motorists tended to stop well beyond the stop sign, which is posted on a light pole approximately 40 feet in advance of the 75th Street travelway. There is no supplemental stop line to guide motorists to the appropriate stopping point.

Analysis / Evaluation

The lack of a defined stopping point at the appropriate location on Gartner Road has created a propensity for rear-end collisions as approximately one-half of the crashes at this intersection were of the rear-end type on Gartner Road. MUTCD guidance suggests that stop signs shall be located as close as practical to the intersection while optimizing its visibility to the road users it regulates, and no farther than 50 feet from the edge of the pavement of the intersecting roadway.

Recommendation

Relocate the stop sign on Gartner Road closer to 75th Street and install a stop line, as illustrated in Figure A17 in Appendix A.

Gartner Road / Washington Street

Existing Conditions

Observations of traffic operations at this intersection focused on the west approach of Gartner Road during the weekday morning and afternoon peak hours and the Saturday midday peak hours, as summarized below.

- Eastbound Gartner Road vehicle queues extended beyond the midblock commercial access drives but not to Catalpa Lane. Motorists tended to leave courtesy gaps for Naperville Plaza and PNC Bank traffic to use to turn to and from Gartner Road.
- Eastbound left-turning vehicles on Gartner Road generally stacked within the two-way left turn lane once the left-turn storage lane was filled.
- All vehicles queued on Gartner Road typically cleared the Washington Street intersection on each green phase.

Analysis / Evaluation

The length of the vehicle queues on eastbound Gartner Road is affected by motorists that do not use the two-way left-turn lane when the left-turn storage lane is filled. Access to/from the commercial drives can be blocked when motorists to do not leave courtesy gaps.

Recommendation

A tiered approach is recommended to improving traffic operations on Gartner Road at Washington Street.

The first mitigation measure, which is summarized below and illustrated in Figure A18 in Appendix A, is intended to create more storage for left-turning vehicles to reduce the overall queue lengths on Gartner Road, and to advise motorists of the need to leave courtesy gaps.

- Install Do Not Block Intersection sign on eastbound Gartner Rd at Naperville Plaza drive.
- Modify the median striping to extend the eastbound left-turn lane storage on Gartner Road by approximately 100 feet (4-5 vehicles).

If additional mitigation is required, a separate traffic study is recommended to be performed to determine the implications of turn restrictions at the commercial access drives on Gartner Road and/or complete closure of the driveways. Both Naperville Plaza and PNC Bank have other access driveways on Washington Street, Catalpa Lane and/or Sycamore Drive. This access modification would require additional study to understand the full implication on traffic circulation within the commercial sites and traffic diversions onto other adjoining streets.

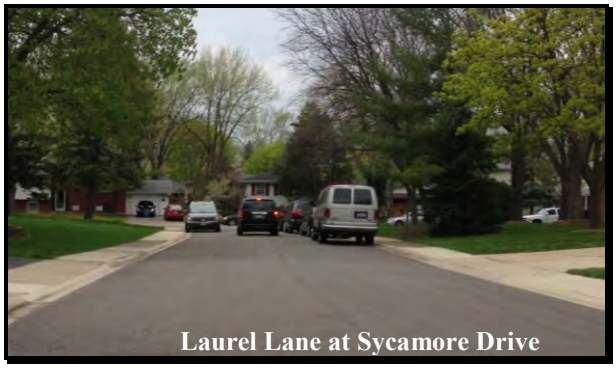
Parking

As noted in Chapter 1, there are several types of parking regulations posted in Zone 11, most of which are located in the vicinity of Elmwood Elementary School, St. Raphael Church/School, Gartner Park, Our Saviours Lutheran Church, and the Naperville Plaza shopping center. KLOA, Inc. identified two locations in which parking conditions should be addressed, one on Laurel Lane near Elmwood Elementary School and the other along Gartner Road adjacent to Gartner Park.

Laurel Lane by Elmwood Elementary School

Existing Conditions

The lack of parking regulations along Laurel Lane, between Gartner Road and Sycamore Drive, results in congested traffic conditions during the school arrival and dismissal periods. The car line-up lane for Elmwood Elementary School extends east along the north side of Sycamore Drive past Laurel Lane. Some parents approach the car line-up lane from Laurel Lane while others park on both sides of the street and either walk to the school to pick-up their children or wait in their cars for the children to walk to them. Laurel Lane is approximately 22 feet wide and two-way traffic flow is hampered when vehicles are parked on both sides of the street. There are currently parking regulations along the south side of Sycamore Drive during school arrival and dismissal hours, which allows for two-way flow on Sycamore, but there are currently no parking regulations on either side of Laurel.


Laurel Lane at Sycamore Drive

Magnolia Lane at Sycamore Drive

Analysis / Evaluation

School hour parking regulations on Laurel Lane would be appropriate to maintain two-way traffic flow on the street. Regulations that restrict parking, stopping and standing from the west side of Laurel Lane would discourage motorists from parking on the street or using waiting on the street to pick-up schoolchildren. Regulations that restrict parking from the east side of Laurel Lane, but do not regulate against stopping or standing, would discourage motorists from parking on the street but would not limit them from using Laurel Lane to enter the car line-up lane on Sycamore Drive.

Recommendation

Install school hour parking regulations on both sides of Laurel Lane as follows:

- East Side - No Parking 7:45-8:15 A.M., 2:15-2:45 P.M.
- West Side - No Parking, Stopping or Standing 7:45-8:15 A.M., 2:15-2:45 P.M.

Gartner Park

Existing Conditions

Observations of traffic, parking and pedestrian movements were made on a Saturday morning (10:00 A.M.-Noon) in May when Naperville Park District activities were scheduled in the park, as summarized below.

- The 39-space parking lot was less than one-half full (12-16 parked cars).
- A maximum of 11 vehicles were legally parked on the south side of Gartner Road.
- No vehicles were parked in the regulated parking areas on the north side of Gartner Road.
- Drop-off/pick-ups occurred along the south side of Gartner Road in the no-parking zones.
- No drop-off/pick-ups occurred adjacent to on-street parking (i.e., double parking).
- No drop-off/pick-ups occurred along the north side of Gartner Road.
- Many pedestrians crossed Gartner Road (14 in hour of observation).

- Approximately 50 percent of pedestrians used the Gartner Road crosswalk at Alder Lane with the remaining 50 percent crossing at other intersection or mid-block locations along the park frontage.

Analysis / Evaluation

Concerns related to safety have been raised about the use of Gartner Road for drop-off/pick-ups and parking to support Gartner Park activities. The parking lot is located at the west end of the park while the parking lane along Gartner Road is closer to the baseball fields, playground and basketball court. The paved pathway leading from the parking lot to the east baseball field is lengthy and circuitous. There is no prominent signage at the parking lot entrance on Gartner Road advising of the off-street parking area. The crash history does not indicate that park operations are causing a safety concern.

Recommendation

A tiered approach is recommended to increase the usage of the parking lot at Gartner Park, which will require close coordination with the Naperville Park District. The following mitigation measures are recommended to be implemented incrementally, with parking and pedestrian conditions monitored after each is implemented to determine if the next mitigation measure should be pursued:

1. Work with the Park District to educate their patrons on the availability of off-street parking in Gartner Park and the preferred use of this parking lot for drop-off/pick-ups.
2. Install "Gartner Park Parking" signage at the entrance drive to the parking lot.
3. Install a paved pedestrian path between the parking lot and east baseball field along the south side of Gartner Park, which will also serve the soccer field.

Education

Based on field observations, comments received at the two public open houses, and discussions with City staff, educational materials are recommended to be developed that explain the following topics:

- City policies regarding vehicular speeds and volumes on neighborhood streets and the State of Illinois "Stop for Pedestrians in the Crosswalk" law.
- The do's and don'ts associated with carriage walks (i.e., parking on the sidewalk, placing trash on the sidewalk, etc.).
- Laws related to cell phone use within school zones.
- Availability of neighborhood transportation data and information (via the City's website).

Enforcement

Police enforcement of the posted traffic regulations within Zone 11 is a critical component of the neighborhood traffic improvement plan. The Police Department currently targets Gartner Road between 75th Street and Magnolia Lane for speed enforcement. Recommendations from this study included expanding the speed enforcement efforts to also target Gartner Road between Washington Street and Modaff Road, and Olympus Drive between Washington Street and 75th Street, during the weekday morning (7:00-9:00 A.M.) and evening (3:00-7:00 P.M.) peak commuting hours. In addition to the recommendations in this report, continued enforcement of current targets should be maintained.

3. Conclusion

This study summarizes the findings and recommendations of the Neighborhood Traffic Study for Zone 11, which is the pilot study for the City of Naperville's Neighborhood Traffic Study program. Zone 11 comprises the Olympic Terrace, West Highlands, Maplebrook I and Hobson West neighborhoods, and is generally bounded by Edward Hospital on the north, Washington Street on the east, 75th Street on the south, and West Street/Rickert Drive on the west. The purpose of the study was to:

1. Thoroughly examine existing traffic conditions with respect to vehicular, pedestrian and bicycle movements within the zone.
2. Identify operational issues and safety concerns.
3. Analyze potential mitigation alternatives.
4. Develop recommendations to create a consistent traffic control, striping, signing and traffic calming plan, and identify opportunities for targeted education and enforcement.

Based on the results of the study and collaboration with City staff, recommendations were developed for the following nine components of the transportation system:

- Traffic Control
- Pedestrian Facilities
- Bicycle Facilities
- Striping and Signage
- Traffic Volumes and Speeds
- Geometrics and Operations
- Parking
- Education
- Enforcement

The enforcement recommendations were included within the recommendations for the Traffic Volumes and Speeds component.

The recommendations were developed based on field observations of existing conditions, community input on neighborhood traffic concerns, discussions with City staff, review of City traffic policies and procedures, review of Federal and State standards, compliance with the 2009 Edition of the Federal Highway Administration's (FHWA) *Manual on Uniform Traffic Control Devices (MUTCD) for Streets and Highways*, and engineering judgment.

The measures recommended in the study are intended to calm traffic, improve vehicular operations, and increase pedestrian and bicycle safety. The study does not recommend physical barriers or turn restrictions that would divert traffic from one street onto another street. The City will conduct spot checks from time to time to insure that the improvements are effective and do not adversely impact other neighborhood streets.

The following matrix summarizes the recommendations of the Zone 11 Neighborhood Traffic Study, and includes the level of difficulty to implement each project and the general cost range of the projects.

ZONE 11 RECOMMENDATION MATRIX

Transportation Component	Location	Recommendation Description	Ease of Implementation	Cost
Traffic Control	Juniper Drive at Emerald Drive	Replace "Yield" signs with "Stop" signs.	Low	Low
Traffic Control	Spruce Drive at Emerald Drive	Remove "Yield" sign.	Low	Low
Traffic Control	Triton Lane at Olympus Drive	Replace "Yield" signs with "Stop" signs.	Low	Low
Traffic Control	Virginia Court/Antietam Court at Williamsburg Drive	Install new "Stop" signs.	Low	Low
Traffic Control	Sandalwood Drive at Tulip Lane	Install new "Stop" signs.	Low	Low
Pedestrian Facilities	West Street at Gartner Road	<u>To be implemented in a tiered approach:</u> 1. Extend median nose on West Street south through the crosswalk as a pedestrian refuge. 2. Continue to monitor traffic conditions and, if warranted, upgrade to a Pedestrian Activated Warning Crosswalk with a Refuge Island.	Medium Medium	Medium High
Pedestrian Facilities	Gartner Road at Catalpa Lane	• Enhance crosswalk to a Pedestrian Activated Warning Crosswalk. • Install Pedestrian Advance Crossing Assembly on westbound Gartner Road east of Catalpa Lane. • Install "AHEAD" plaque on Pedestrian Advance Crossing sign on eastbound Gartner west of Catalpa Lane and relocate the sign for improved visibility.	Medium	High
Pedestrian Facilities	Sycamore Drive at Laurel Lane	Remove crosswalk, Pedestrian Crossing Assembly and Pedestrian Advance Crossing Assembly.	Low	Low

ZONE 11 RECOMMENDATION MATRIX (Continued)

Transportation Component	Location	Recommendation Description	Ease of Implementation	Cost
Pedestrian Facilities	Modaff Road at 75th Street	• Install crosswalk on north leg of Modaff Road. • Reposition pedestrian signal heads and install pedestrian push buttons. • Modify sidewalk/bike trail and install ADA-compliant curb ramps.	Medium	High
Pedestrian Facilities	Gartner Road at Modaff Road/Magnolia Lane	• Install School Crossing Assembly on south side of Gartner between Modaff and Magnolia. • Remove School Crossing Assembly on Modaff Road at Gartner.	Low	Low
Pedestrian Facilities	Hemlock Lane at Spruce Drive	• Relocate School Crossing Assembly from northwest corner to southwest corner.	Low	Low
Pedestrian Facilities	Modaff Road at Tamarack Avenue	Relocate School Crossing Assembly from southeast corner to northeast corner.	Low	Low
Pedestrian Facilities	Williamsburg Drive at Appomattox Circle/ Vicksburg Court	Relocate School Crossing Assembly from southeast corner to northeast corner.	Low	Low
Pedestrian Facilities	Gartner Road at Alder Lane	• Relocate Pedestrian Advance Crossing Assembly on eastbound Gartner west of Alder for improved visibility. • Replace distance plaque with an "AHEAD" plaque on existing Pedestrian Advance Crossing signs on Gartner Road (both directions).	Low	Low
Bicycle Facilities	Gartner Road and Modaff Road	Install shared lane ("sharrow") markings on segments of Gartner Road (Washington Street-Modaff Road) and Modaff Road (Gartner Road-75th Street) that are posted as bike routes.	Low	Low

ZONE 11 RECOMMENDATION MATRIX (Continued)

Transportation Component	Location	Recommendation Description	Ease of Implementation	Cost
Striping and Signage	Neighborhood	Trees located within City right-of-way should be trimmed to improve visibility of the traffic signs.	Low	Low
Striping and Signage	Neighborhood - Parkway Landscaping Policy	Conduct an evaluation of the types of trees and spacing of trees within the public right-of-way to determine if the City's policy should be modified.	Medium	Low
Striping and Signage	Neighborhood (see Appendix E for a complete list of locations)	Replace faded older-model neighborhood speed limit signs with City's new neighborhood speed limit sign standard.	Low	Low
Striping and Signage	Modaff Road - 75th Street to Tupelo Avenue	Replace "No Parking" sign.	Low	Low
Striping and Signage	Olympus Drive - 75th Street to Tupelo Avenue	Replace "No Parking" sign.	Low	Low
Striping and Signage	Olympus Drive - Washington Street to Triton Lane	Replace "No Parking" sign.	Low	Low
Striping and Signage	Robin Hill Drive -Washington Street to Cherry Blossom Lane	Replace "No Parking" sign.	Low	Low
Striping and Signage	Emerald Drive at Robin Hill Drive	Replace Pace bus stop sign.	Low	Low
Striping and Signage	Lilac Lane at Hemlock Lane	Replace "Dead End" sign.	Low	Low
Striping and Signage	Neighborhood	• Remove Stop for Children in Crosswalk signs. • Change City policy to prohibit further use of "Children at Play" signs. Remove all existing "Children at Play" signs.	Low	Low
Striping and Signage	Neighborhood	• Refresh pavement markings. • Upgrade crosswalks to the City's new pedestrian/school standard.	Low	Low

ZONE 11 RECOMMENDATION MATRIX (Continued)

Transportation Component	Location	Recommendation Description	Ease of Implementation	Cost
Traffic Volumes and Speeds	Gartner Road - Washington Street to Modaff Road	<u>To be implemented in a tiered approach:</u> 1. Targeted speed enforcement by Police Department during weekday morning (7:00-9:00 A.M.) and evening (3:00-7:00 P.M.) peak commuting hours.	Low	Low
		2. Install 25 mph speed limit pavement marking on eastbound Gartner Road between Modaff Road and Laurel Lane.	Low	Low
		3. Install double-yellow centerline from Modaff Road to Catalpa Lane.	Low	Low
Traffic Volumes and Speeds	Gartner Road - 75th Street to Modaff Road	<u>To be implemented in a tiered approach:</u> 1. Install double-yellow centerline from Modaff Road to Gartner Road.	Low	Low
		2. Install parking boxes on both sides of the road from Magnolia Lane to Gartner Road.	Low	Low
		3. Work with the Naperville Park District to develop a "Park Zone Speed Limit" policy. If Gartner Park meets warrants, establish Park Speed Zone and install *Park Zone Speed Limit 20 MPH When Children Are Present* signs adjacent to Gartner Park.	Medium	Low
Traffic Volumes and Speeds	Olympus Drive	<u>To be implemented in a tiered approach:</u> 1. Targeted speed enforcement by Police Department during the weekday morning (7:00-9:00 AM) and evening (4:00-7:00 PM) peak commuting hours.	Low	Low
		2. Install curb extensions on Olympus Drive at Tamarack Avenue, Tupelo Avenue, and/or Triton Lane.	Medium	Medium -High

ZONE 11 RECOMMENDATION MATRIX (Continued)

Transportation Component	Location	Recommendation Description	Ease of Implementation	Cost
Traffic Volumes and Speeds	Emerald Drive and Williamsburg Drive	Monitor volumes and speeds if a traffic signal is pursued at the West Street/Osler Drive intersection in order to assess impact of the project on volumes and/or speeds.	Low-Medium	Low-Medium
Traffic Volumes and Speeds	Hemlock Lane	Install curb extensions on Hemlock Lane at Elmwood Drive and/or Spruce Drive.	Medium	Medium-High
Traffic Volumes and Speeds	Catalpa Lane	Install curb extensions on Catalpa Lane at Tanoak Lane or Triton Lane.	Medium	Medium-High
Geometrics and Operations	Gartner Road and Modaff Road/Magnolia Lane	Maintain the existing intersection alignment.	N/A	N/A
Geometrics and Operations	Gartner Road and Gartner Road	Reduce the northwest corner radius through striping or constructing curb extensions.	Medium	Medium-High
Geometrics and Operations	Gartner Road and 75th Street	Relocate stop sign on Gartner Road closer to 75th Street and install stop line.	Low	Low
Geometrics and Operations	Gartner Road and Washington Street	<u>To be implemented in a tiered approach:</u> 1. Install "Do Not Block Intersection" sign on eastbound Gartner Road at Naperville Plaza drive; modify median striping to extend eastbound left-turn lane storage on Gartner Road by approximately 100 feet. 2. If additional mitigation is required, conduct a separate traffic study to determine the implications of turn restrictions or driveway closures.	Low High	Low Medium
Parking	Laurel Lane - Gartner Road to Sycamore Drive	Install school hour parking regulations: • <u>East Side</u>: No Parking 7:45-8:15 A.M., 2:15-2:45 P.M. • <u>West Side</u>: No Parking, Stopping or Standing 7:45-8:15 A.M., 2:15-2:45 P.M.	Low	Low

ZONE 11 RECOMMENDATION MATRIX (Continued)

Transportation Component	Location	Recommendation Description	Ease of Implementation	Cost
Parking	Gartner Park	<u>Tiered approach to increase parking lot usage:</u> 1. Continue to work with the Park District to educate patrons on the availability of off-street parking and the preferred use of the parking lot for drop-off/pick-ups.	Low	Low
		2. Install "Gartner Park Parking" signage at the entrance drive to the parking lot.	Medium	Medium
		3. Install a paved pedestrian path between the parking lot and east baseball field along the south side of Gartner Park.	Medium	Medium-High
Education		• Develop educational materials to explain the City's policies regarding vehicular speeds and volumes on neighborhood streets and the State of Illinois "Stop for Pedestrians in the Crosswalk" law. • Develop educational materials to explain the "do's" and "don'ts" associated with carriage walks (i.e. parking on sidewalk, placing trash on sidewalk, etc.). • Develop educational materials regarding laws related to cell phone use within school zones. • Explore opportunities to enhance the availability of neighborhood transportation data and information via the City's website.	Medium-High	Low-Medium

Note: The enforcement recommendations are included within the recommendations for the Traffic Volumes and Speeds component.

KEY:

Ease of Implementation

High – Recommendation is anticipated to require an extensive level of any or all of the following: outside agency and/or stakeholder involvement, outside engineering assistance and/or construction assistance. The timeframe to implement the recommendation is anticipated to require more than one year.

Medium - Recommendation is anticipated to require a moderate level of any or all of the following: outside agency and/or stakeholder involvement, outside engineering assistance and/or construction assistance. The timeframe to implement the recommendation is anticipated to require less than one year.

Low – Completed by internal City staff.

Cost

High – Greater than $10,000.

Medium – Less than $10,000.

Low – Can be implemented with normal Department operations.

N/A – Not Applicable

APPENDIX A

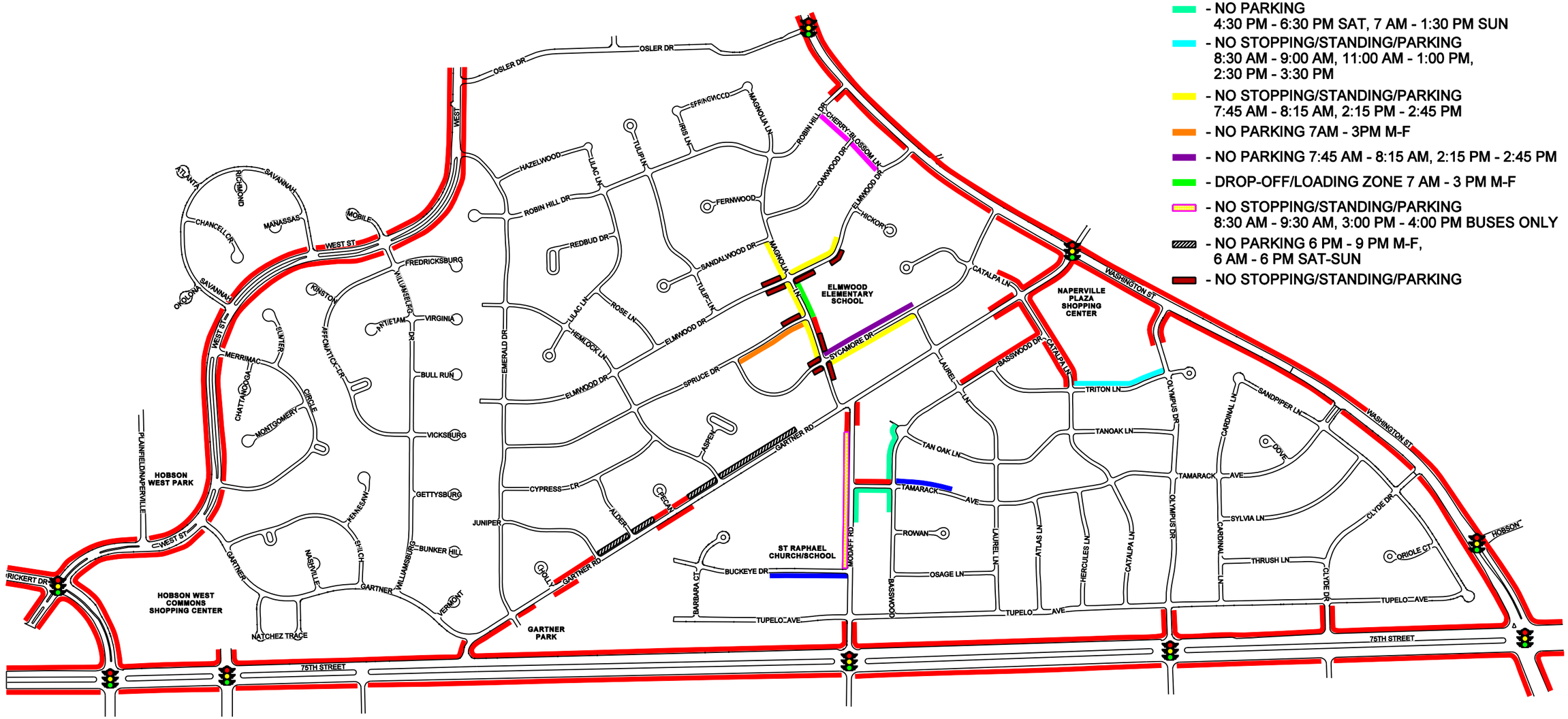
NOT TO SCALE

LEGEND

- 2 LANE ROAD
- 3 LANE ROAD
- 4 LANE ROAD
- 5 LANE ROAD
- 6 LANE ROAD
- ① -
- XX - SPEED LIMIT
- XX - SCHOOL SPEED LIMIT
- * - ALL ROADS HAVE A 25 MPH SPEED LIMIT UNLESS OTHERWISE NOTED

OSLER DR
WEST ST
HAZELWOOD
ROBIN HILL DR
REDBUD DR
TULIP LN
LILAC LN
SPRINGWOOD
IRIS LN
MAGNOLIA LN
FERNWOOD
SANDALWOOD DR
HEMLOCK LN
ROSE LN
ELMWOOD DR
EMERALD DR
SPRUCE DR
CYPRESS LN
ASPEN
ALDER
PECAN
GARTNER RD
JUNIPER
GOLF
ELMWOOD ELEMENTARY SCHOOL
SYCAMORE DR
7:45 - 8:15
2:15 - 2:45
CHERRY BLOSSOM LN
OAKWOOD DR
HICKORY
CATALPA LN
NAPERVILLE PLAZA SHOPPING CENTER
BASSWOOD DR
LAUREL LN
TAN OAK LN
TAMARACK AVE
ROWAN
OSAGE LN
TUPELO AVE
BUCKEYE DR
ST RAPHAEL CHURCH/SCHOOL
MODAFF RD
BARBARA CT
TRITON LN
TANOAK LN
OLYMPUS DR
CARDINAL LN
SANDPIPER LN
DOVE
SYLVIA LN
THRUSH LN
ORIOLE CT
CLYDE DR
WASHINGTON ST
HOBSON
75TH STREET
ATLANTA
SAVANNAH
RICHMOND
MANASSAS
CHANCELLOR
MOBILE
FREDRICKSBURG
WILLIAMSBURG
KINSTON
OKLOMA
ANTIETAM
VIRGINIA
BULL RUN
VICKSBURG
GETTYSBURG
BUNKER HILL
VERMONT
SHILOH
HERNDON
NASHVILLE
NATCHEZ TRACE
GARTNER
GARTNER PARK
HOBSON WEST PARK
HOBSON WEST COMMONS SHOPPING CENTER
RICKERT DR
PLAINFIELD/NAPERVILLE
EUSTER
MERRIMAC
CHATTANOOGA
MONTGOMERY
CIRCLE
APPOMATTOX DR
30
35
40
45
50
20

PROJECT:	TITLE:	KLOA
Neighborhood Traffic Study - Zone 11 Naperville, Illinois	EXISTING ROADWAY CONDITIONS	Job No: 13-064 Figure: A1



PROJECT:	TITLE:	
Neighborhood Traffic Study - Zone 11 Naperville, Illinois	EXISTING ROADWAY PARKING REGULATIONS	KLOA Job No: 13-064 Figure: A2

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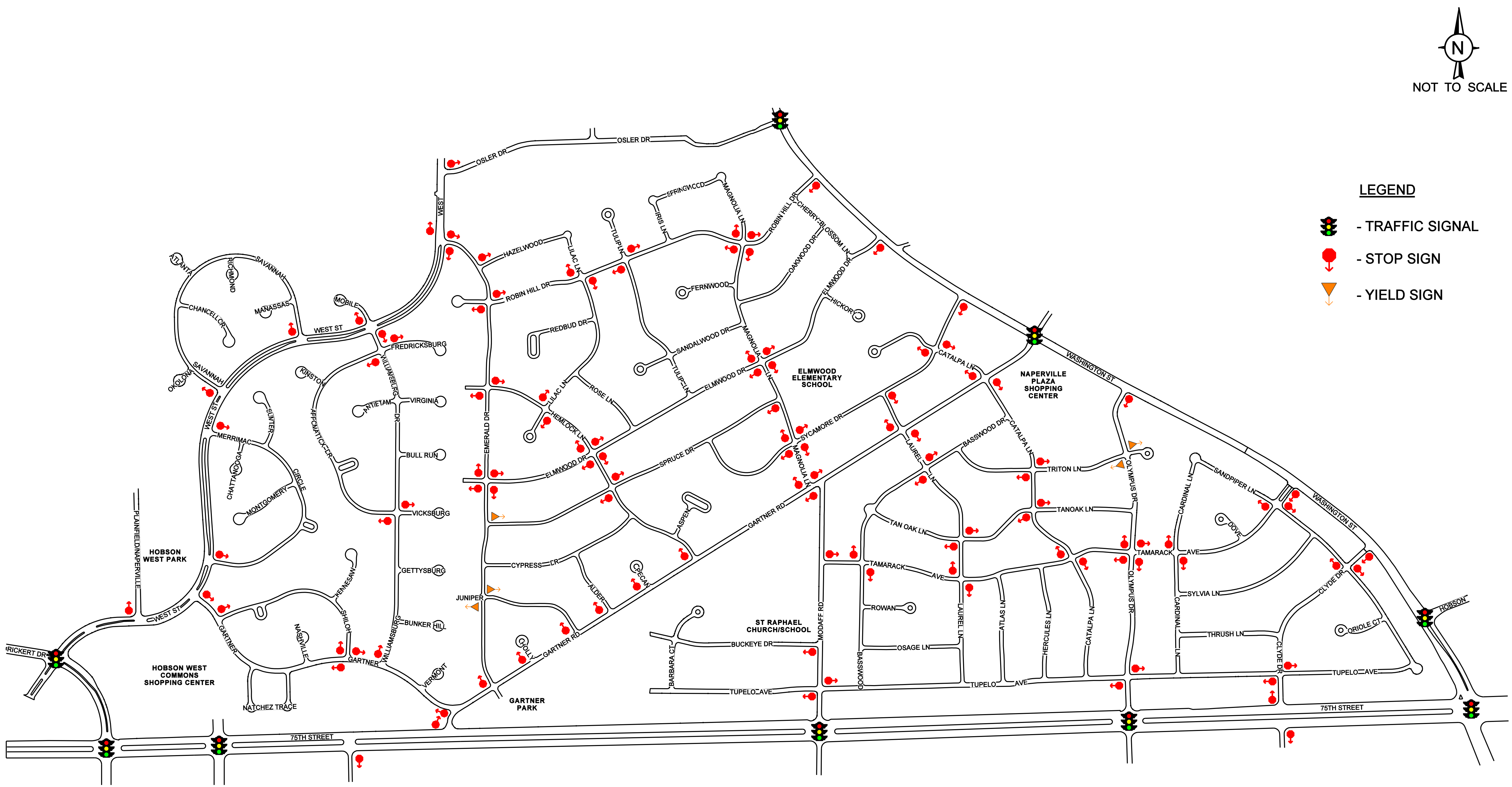


N
NOT TO SCALE
LEGEND
- TRAFFIC SIGNAL
- STOP SIGN
- YIELD SIGN
OSLER DR
WEST ST
HAZELWOOD
LILAC LN
TULIP LN
SPRINGWOOD
IRIS LN
MAGNOLIA LN
ROBIN HILL DR
CHERRY BLOSSOM LN
OAKWOOD DR
ELMWOOD DR
HICKORY
FERNWOOD
REDBUD DR
SANDALWOOD DR
ROSE LN
HEMLOCK LN
EMERALD DR
SPRUCE DR
SYCAMORE DR
ASPEN
CYPRESS CIR
ALDER
PECAN
HOLLY
JUNIPER
GARTNER RD
GARTNER PARK
ELMWOOD ELEMENTARY SCHOOL
NAPERVILLE PLAZA SHOPPING CENTER
WASHINGTON ST
CATALPA LN
BASSWOOD DR
LAUREL LN
TRITON LN
TANOAK LN
OLYMPUS DR
TAN OAK LN
TAMARACK AVE
ROWAN
OSAGE LN
BASSWOOD
ATLAS LN
HERCULES LN
CATALPA LN
TUPELO AVE
SANDPIPER LN
DOVE
CARDINAL LN
SYLVIA LN
THRUSH LN
CLYDE DR
ORIOLE CT
HOBSON
75TH STREET
MODAFF RD
ST RAPHAEL CHURCH/SCHOOL
BUCKEYE DR
BARBARA CT
ATLANTA
RICHMOND
SAVANNAH
CHANCELLOR
MANASSAS
MOBILE
OKOLONA
KINSTON
FREDRICKSBURG
WILLIAMSBURG
ANTIETAM
VIRGINIA
APPOMATTOX CIR
SUMTER
MERRIMAC
CHATTANOOGA
MONTGOMERY
CIRCLE
BULL RUN
VICKSBURG
GETTYSBURG
KENNESAW
SHILOH
BUNKER HILL
NASHVILLE
GARTNER
VERMONT
NATCHEZ TRACE
HOBSON WEST PARK
HOBSON WEST COMMONS SHOPPING CENTER
PLAINFIELD/NAPERVILLE
RICKERT DR

PROJECT:

Neighborhood Traffic Study - Zone 11
Naperville, Illinois

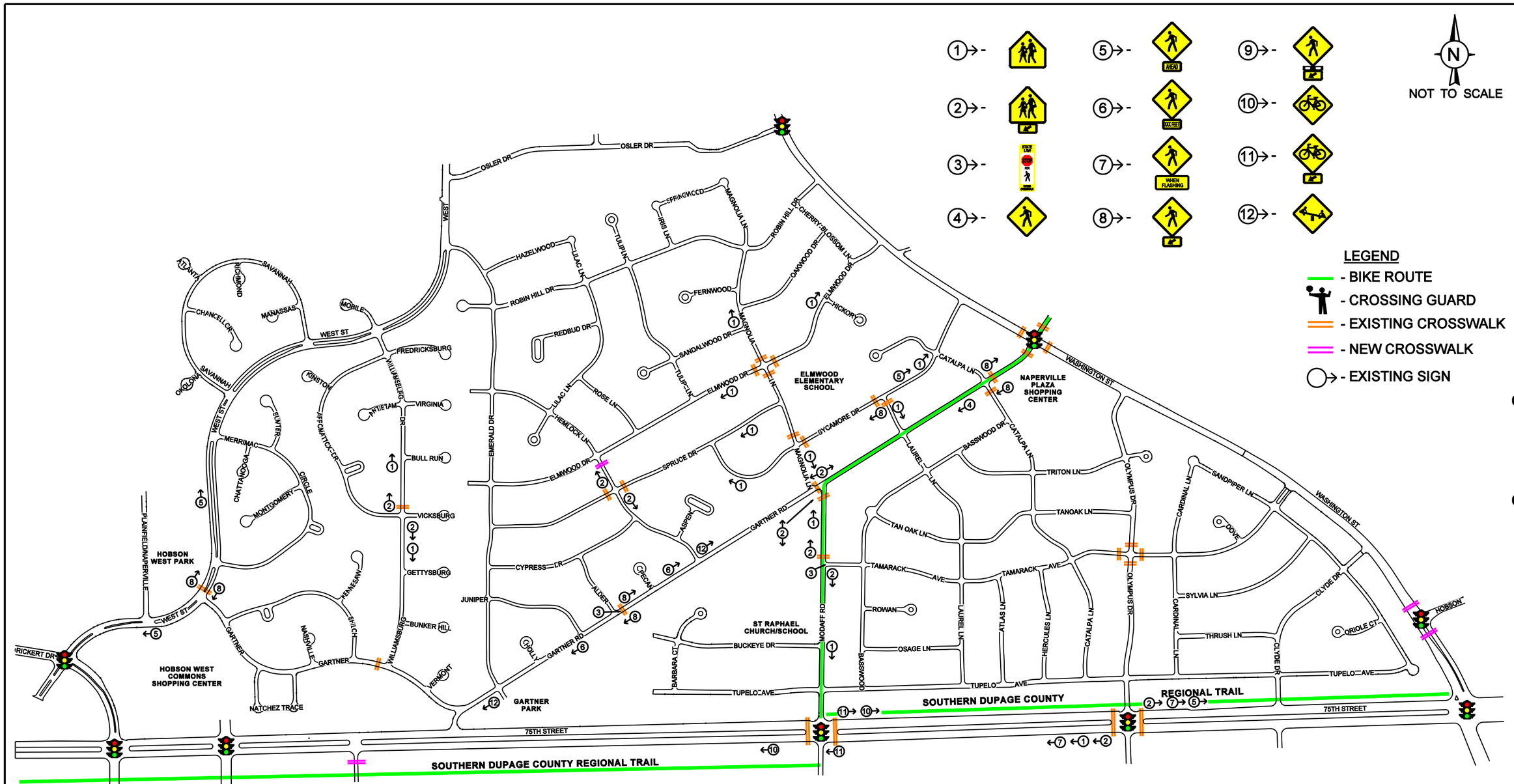
TITLE:

EXISTING INTERSECTION TRAFFIC CONTROL

KLOA

Job No: 13-064

Figure: A3



PROJECT:

Neighborhood Traffic Study - Zone 11
Naperville, Illinois

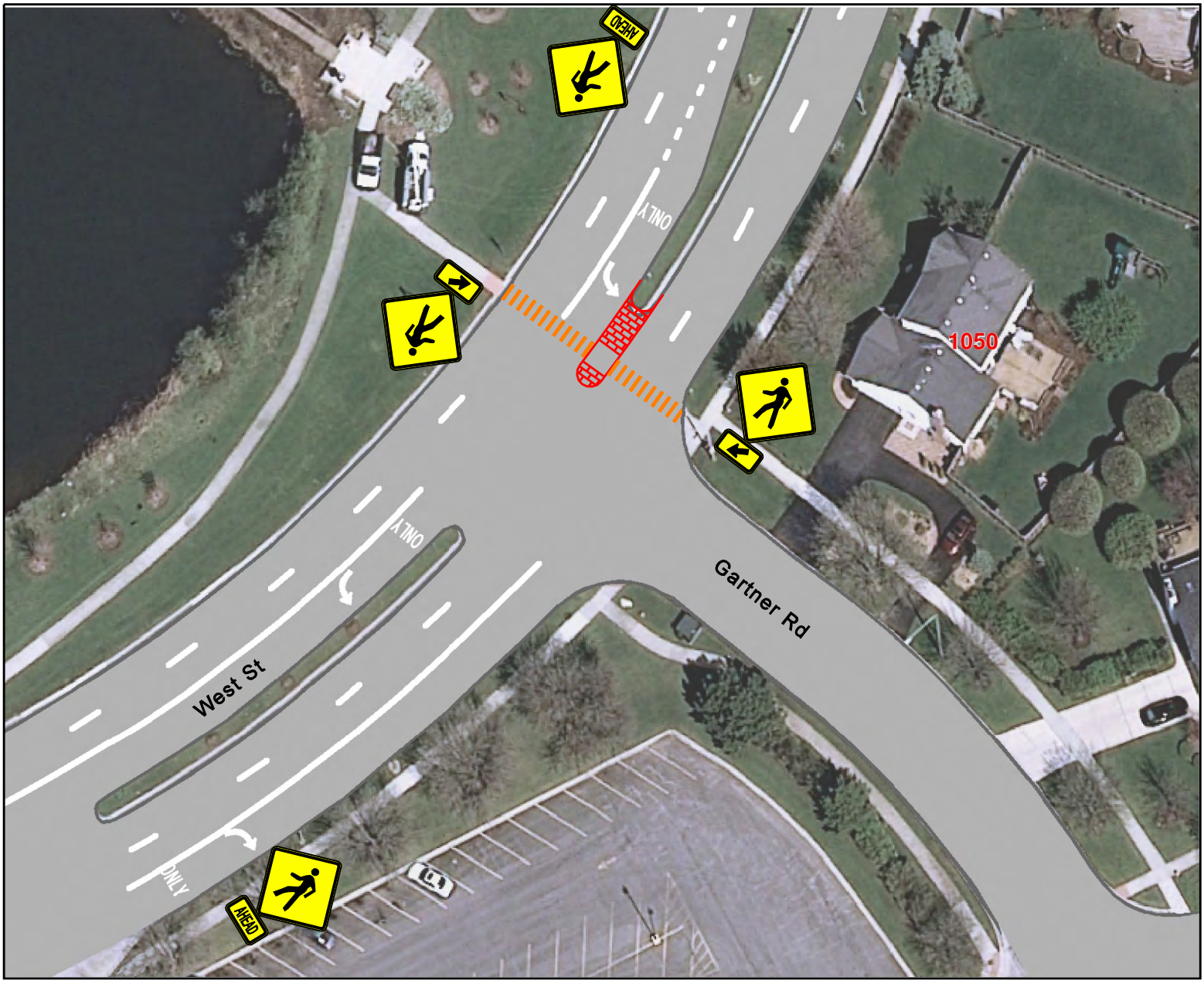
TITLE:

EXISTING PEDESTRIAN AND BICYCLE FACILITIES
AND WARNING DEVICES

KLOA

Job No: 13-064

Figure: A4



RECOMMENDED IMPROVEMENT

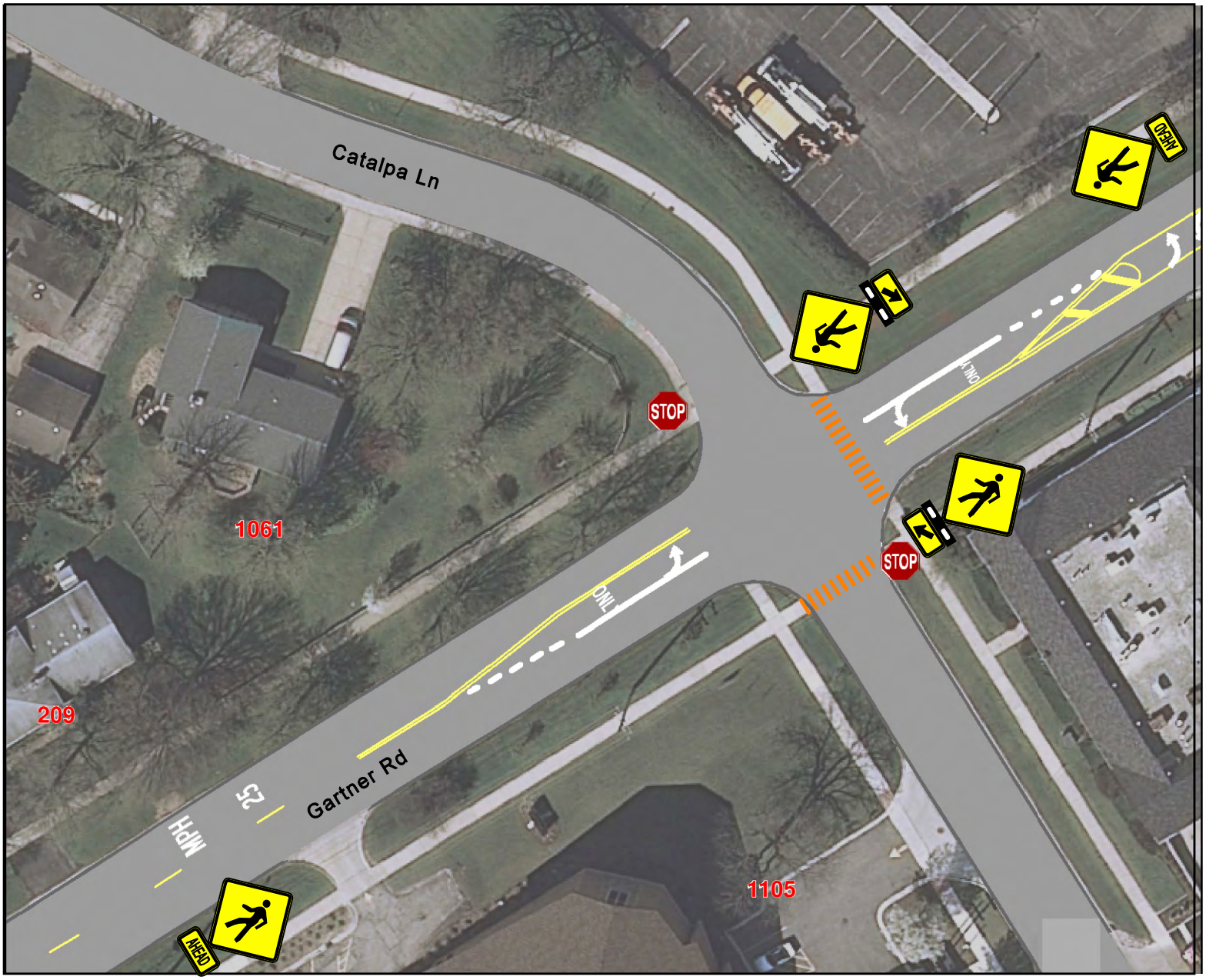
Enhance crosswalk with a tiered approach:

1. Extend median nose on West Street through crosswalk to provide pedestrian refuge

2. If warranted in the future, upgrade to a pedestrian activated warning crosswalk with refuge island.

PEDESTRIAN RECOMMENDATION
GARTNER ROAD AND WEST STREET

KLOA
Job No: 13-064
Figure: A5

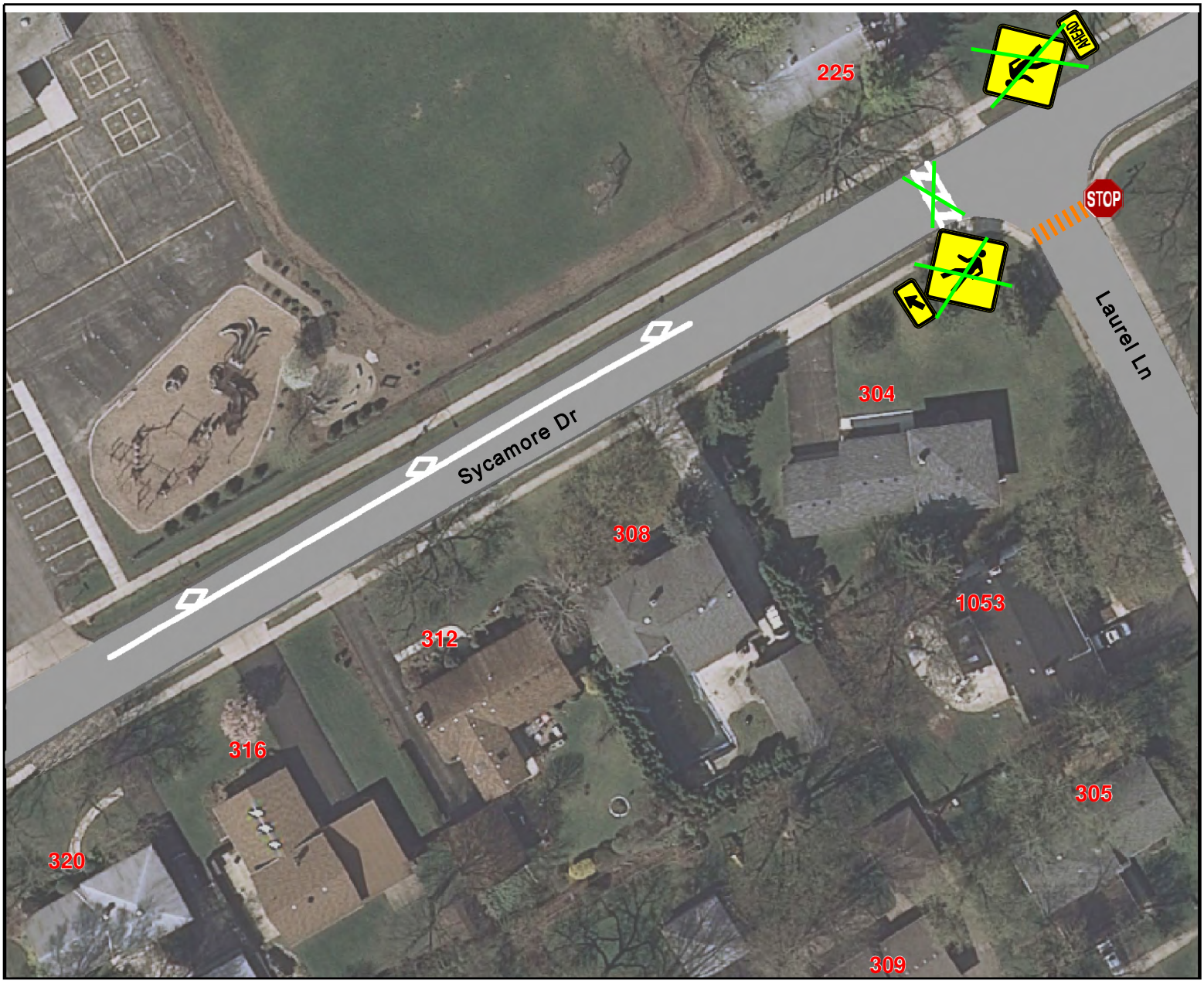


RECOMMENDED IMPROVEMENT

- Install pedestrian activated warning beacon
- Install/enhance pedestrian advance crossing assembly

PEDESTRIAN RECOMMENDATION
GARTNER ROAD AND CATALPA LANE
Transportation Advisory Board - 10/5/2013 - 107

KLOA
Job No: 13-064
Figure: A6

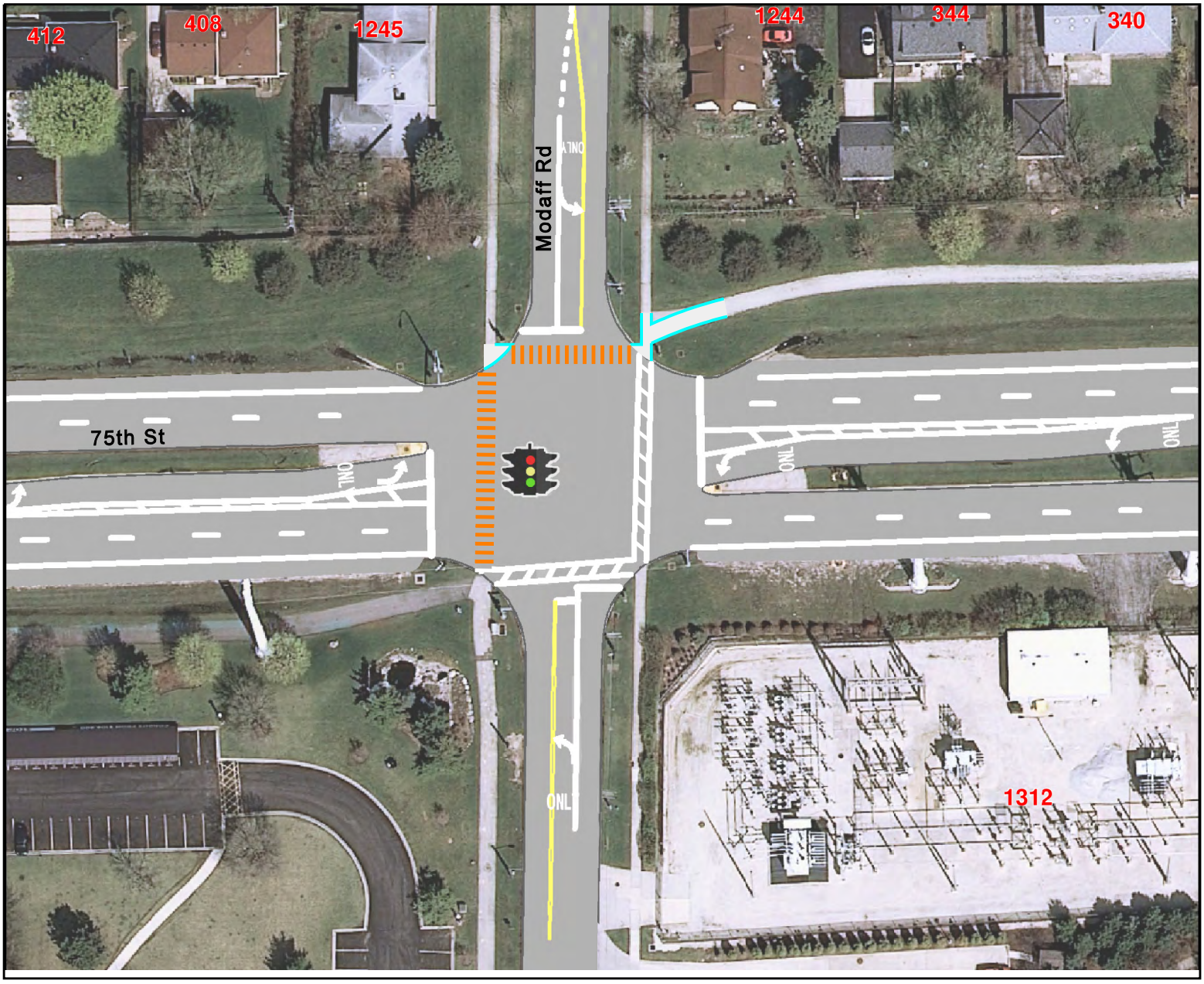


RECOMMENDED IMPROVEMENT

- Remove crosswalk on west leg of Sycamore Drive at Laurel Lane
- Remove pedestrian signage

PEDESTRIAN RECOMMENDATION
SYCAMORE DRIVE AND LAUREL LANE
Transportation Advisory Board - 10/5/2013 - 108

KLOA
Job No: 13-064
Figure: A7



RECOMMENDED IMPROVEMENT

- Install crosswalk on north leg of Modaff Road
- Reposition existing pedestrian signal heads
- Install pedestrian push buttons
- Realign or extend bicycle trail and sidewalk and install ADA-compliant curb ramps

PEDESTRIAN RECOMMENDATION
75TH STREET AND MODAFF ROAD
Transportation Advisory Board - 10/5/2013 - 109

KLOA
Job No: 13-064
Figure: A8

RECOMMENDED IMPROVEMENT

- Install Shared-Lane (Sharrow) Markings

Note: This figure is an example location of the recommended improvement

BICYCLE RECOMMENDATION
GARTNER ROAD - MODAFF ROAD TO WASHINGTON STREET
MODAFF ROAD - 75TH STREET TO GARTNER ROAD

KLOA
Job No: 13-064
Figure: A9

RECOMMENDED IMPROVEMENT

Measures to be implemented in a tiered approach:

1. Install double-yellow centerline

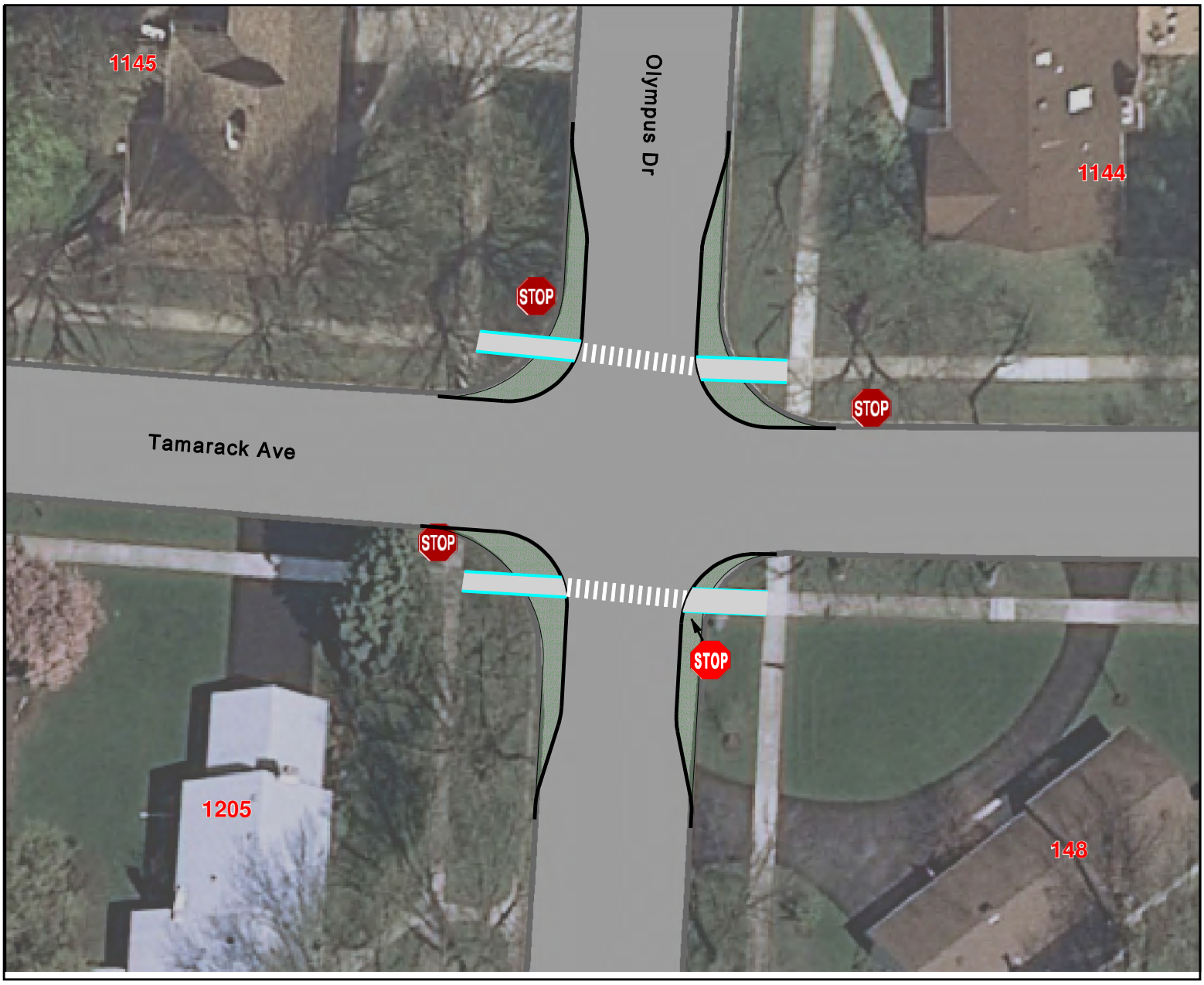
2. Install 7' parking boxes on both sides of street

3. Establish Park Speed Zone and install *Park Zone Speed Limit 20 MPH When Children are Present* signs adjacent to Gartner Park, if warrants are met

Note: This figure is an example location of the first and second recommended improvements

TRAFFIC VOLUMES AND SPEEDS RECOMMENDATION
GARTNER ROAD - 75TH STREET TO MODAFF ROAD

KLOA
Job No: 13-064
Figure: A10



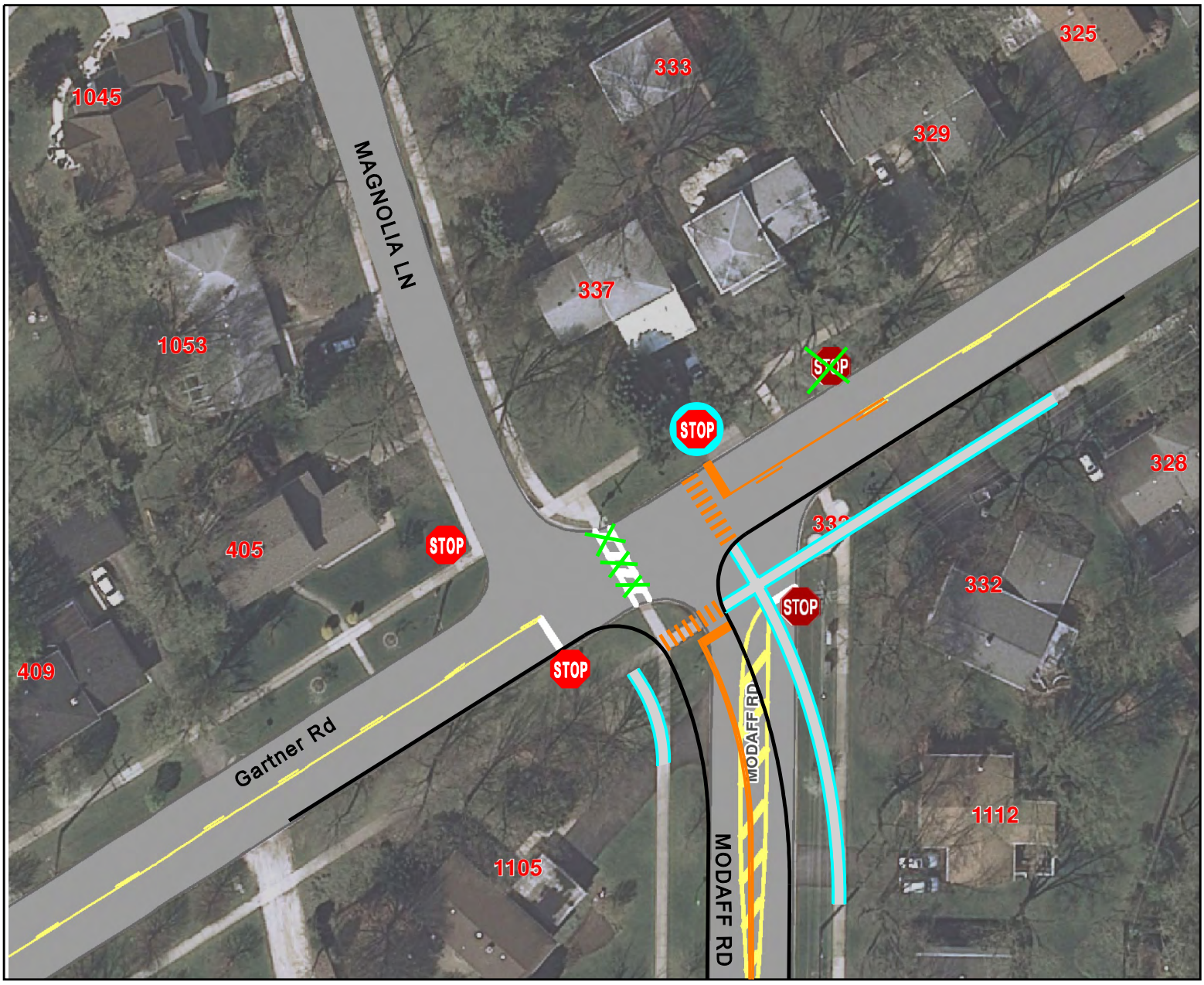
RECOMMENDED IMPROVEMENT

- Install curb extensions on Olympus Drive at Tamarack Avenue, Tupelo Avenue, and/or Triton Lane

Note: This figure is an example location of the recommended improvement

TRAFFIC VOLUMES AND SPEEDS RECOMMENDATION
OLYMPUS DRIVE - WASHINGTON STREET TO 75TH STREET
Transportation Advisory Board - 10/5/2013 - 112

KLOA
Job No: 13-064
Figure: A11

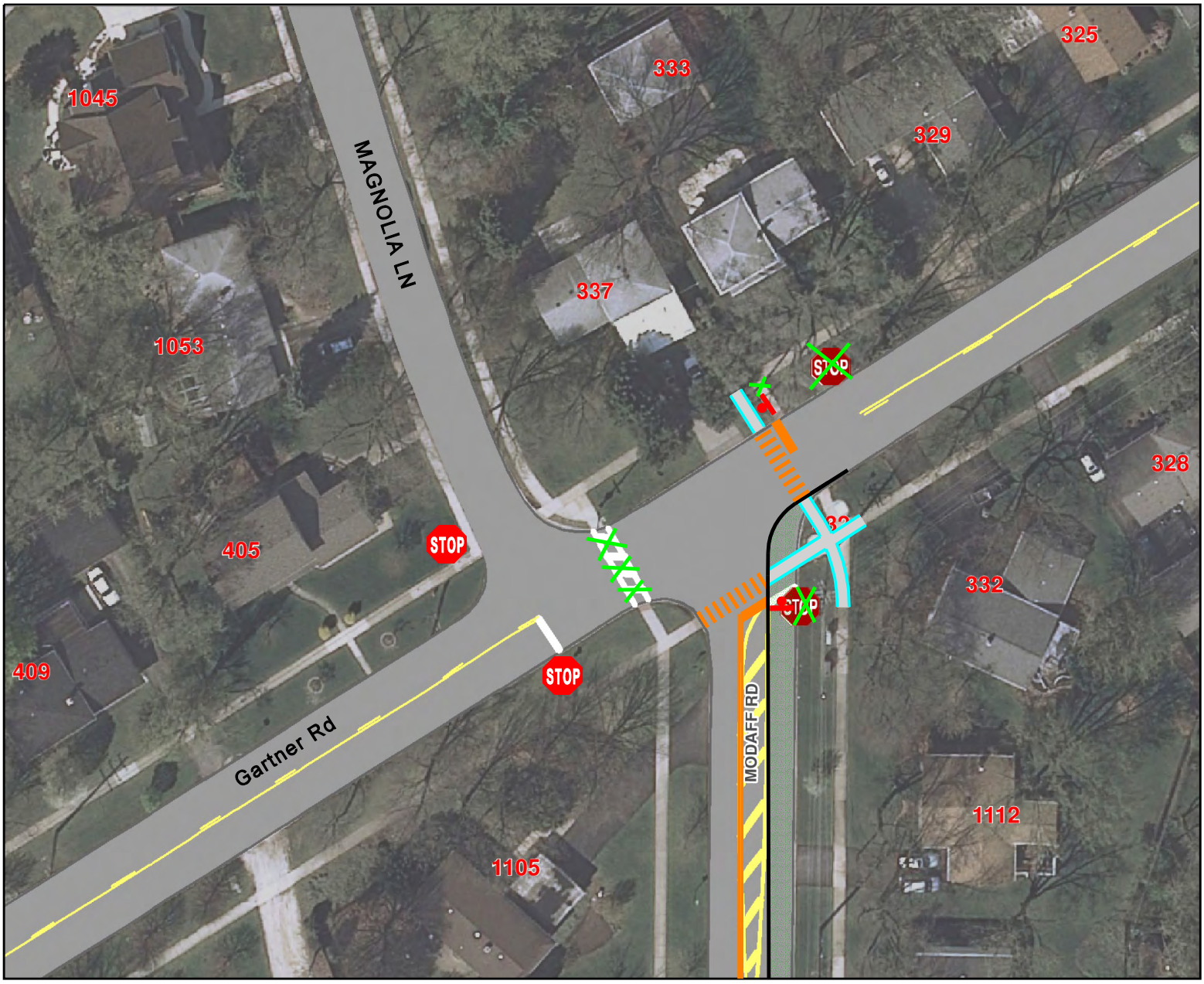


RECOMMENDED IMPROVEMENT (ALTERNATIVE 1)

- Realign Modaff Road
- Neckdown Modaff Road approach to 24' with 20' corner radii
- Modify pavement markings on Modaff Road & install stop line
- Realign sidewalk on east side of Modaff Road
- Relocate Gartner Road crosswalk to east leg & install stop line
- Remove school crossing signage

GEOMETRIC AND OPERATIONS RECOMMENDATION
GARTNER ROAD/MODAFF ROAD/MAGNOLIA LANE

KLOA
Job No: 13-064
Figure: A12

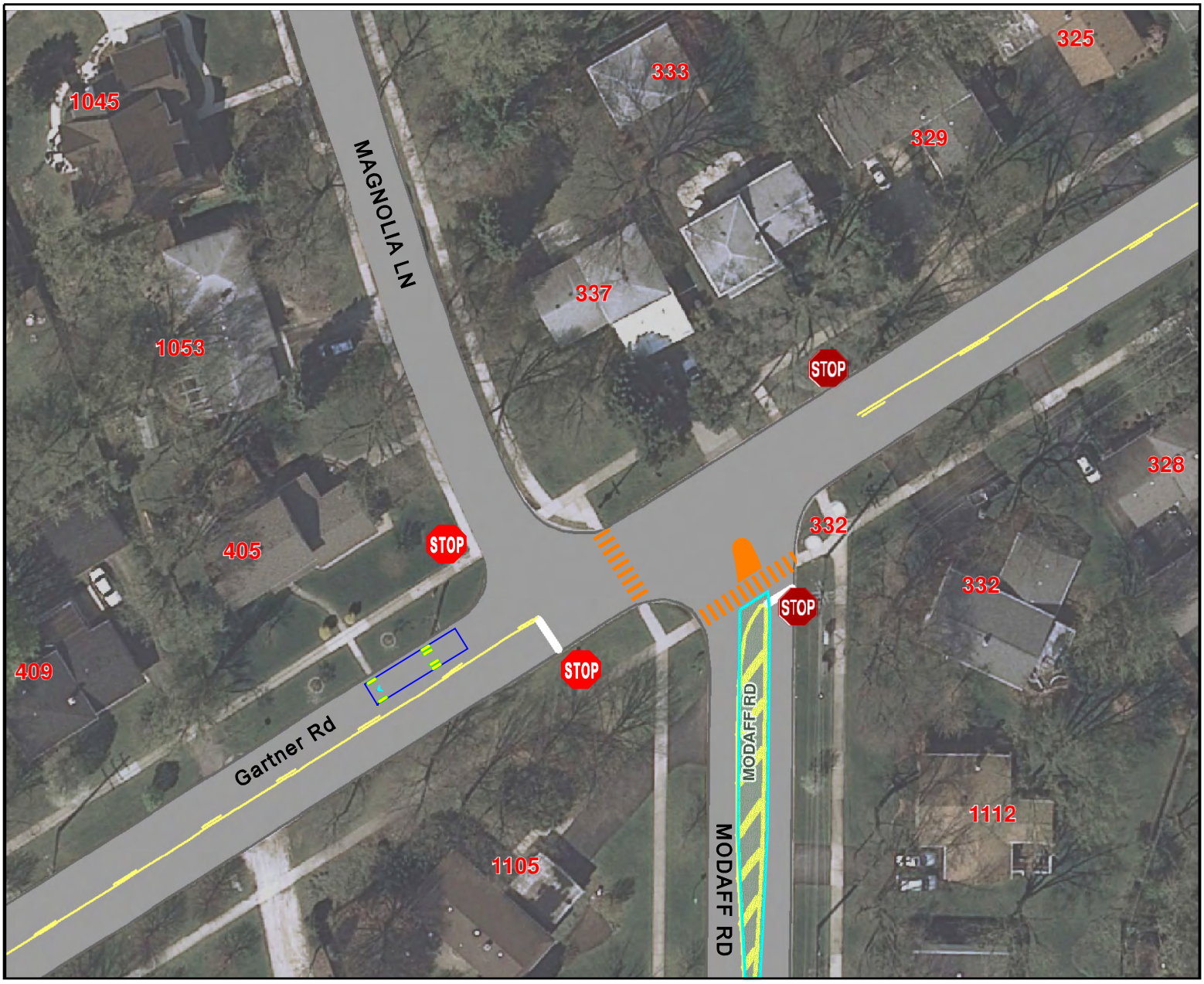


RECOMMENDED IMPROVEMENT (ALTERNATIVE 2)

- Construct 12' curb extension on east side of Modaff Road
- Modify pavement markings on Modaff Road
- Extend and realign sidewalk at southeast corner
- Reposition stop sign on Modaff Road
- Reposition stop sign on Gartner Road east leg and install stop line
- Modify sidewalk on north side of Gartner Road
- Relocate Gartner Road crosswalk to east leg and install stop line

GEOMETRIC AND OPERATIONS RECOMMENDATION
GARTNER ROAD/MODAFF ROAD/MAGNOLIA LANE

KLOA
Job No: 13-064
Figure: A13

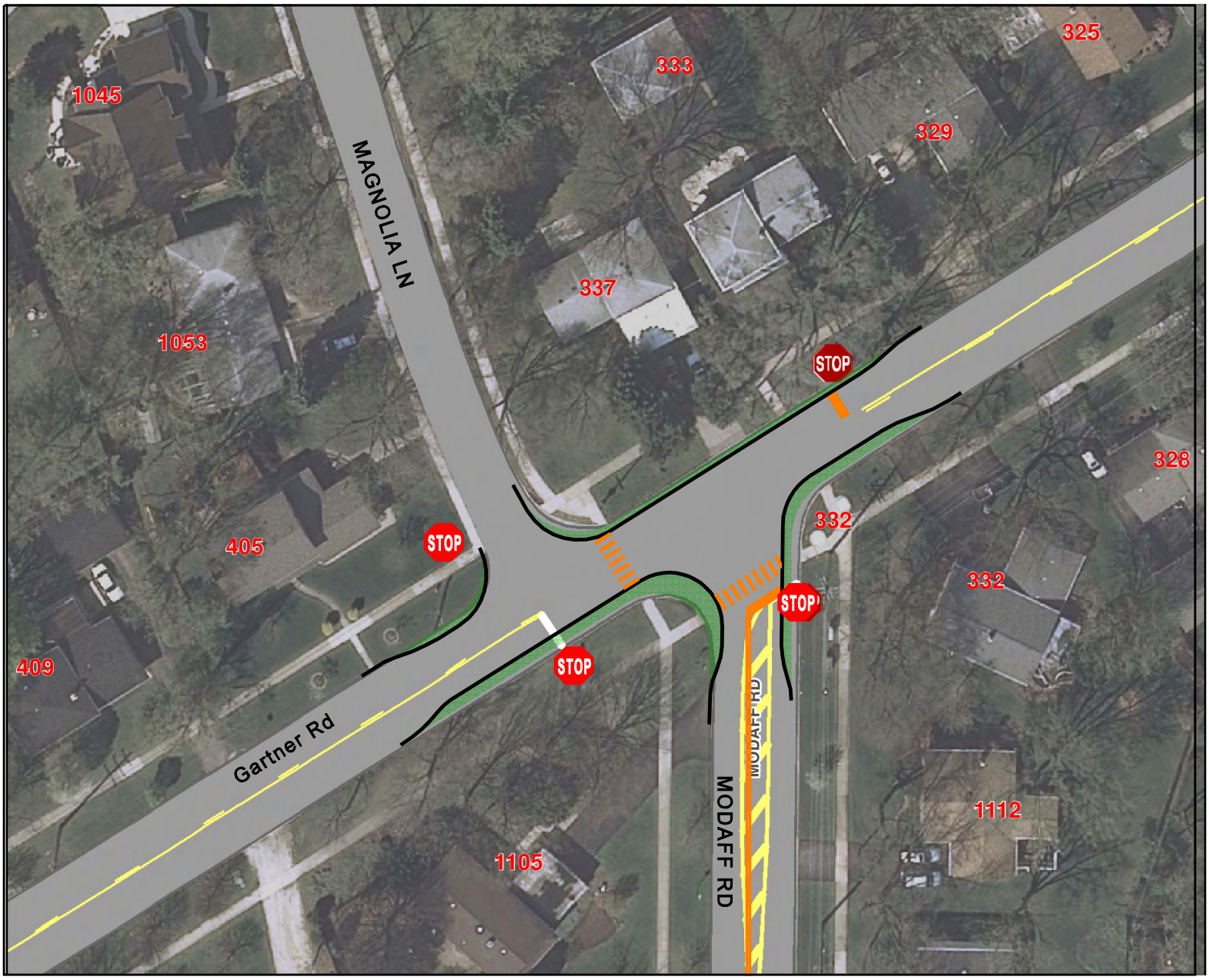


RECOMMENDED IMPROVEMENT (ALTERNATIVE 3)

- Replace painted median on Modaff Road with a raised landscaped median, extended through crosswalk as a pedestrian refuge

GEOMETRIC AND OPERATIONS RECOMMENDATION
GARTNER ROAD/MODAFF ROAD/MAGNOLIA LANE
Transportation Advisory Board - 10/5/2013 - 115

KLOA
Job No: 13-064
Figure: A14

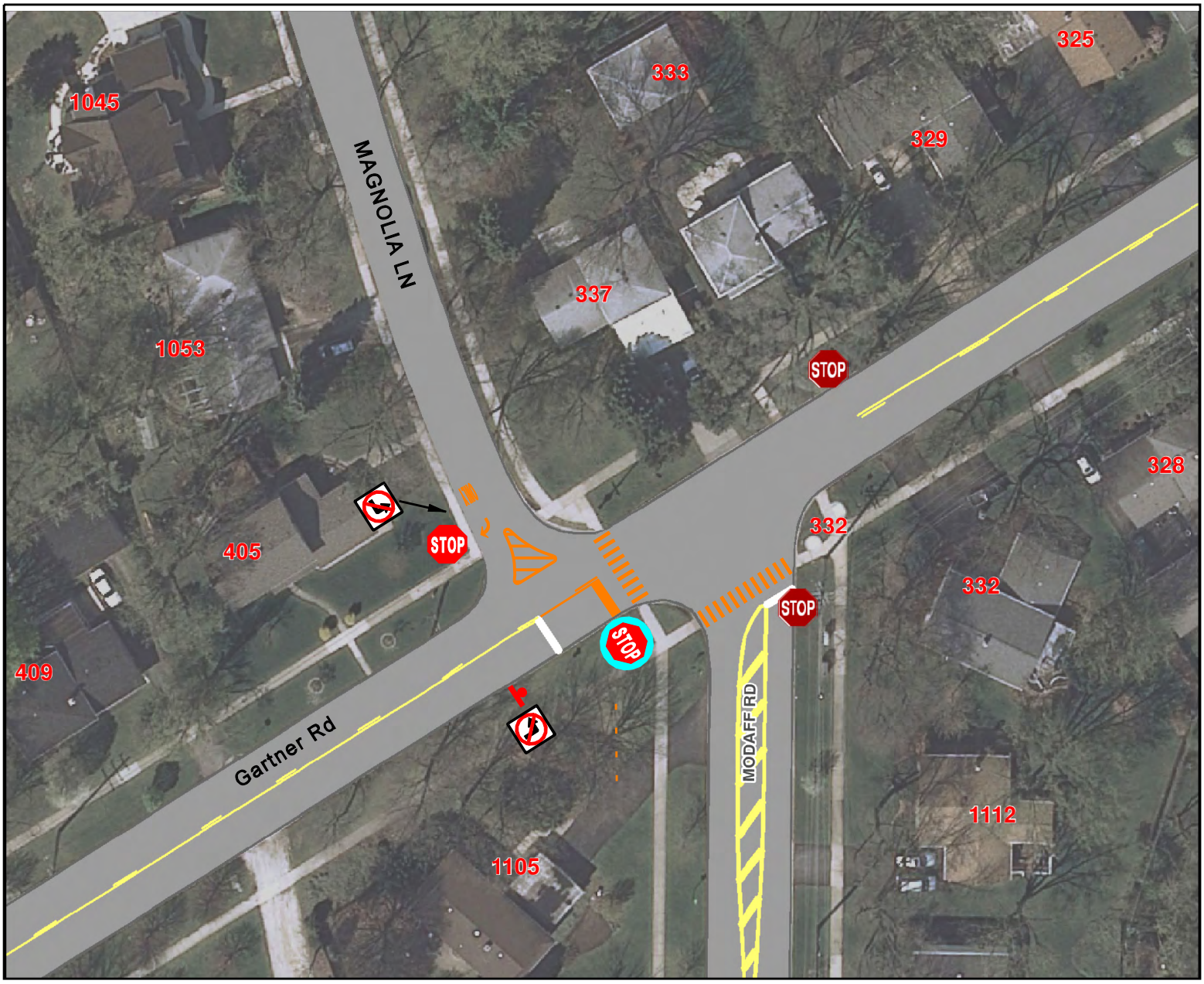


RECOMMENDED IMPROVEMENT (ALTERNATIVE 4)

- Install 4-6' curb extensions on Modaff Road and Gartner Road
- Modify pavement markings on Modaff Road
- Install stop line on east leg of Gartner Road

GEOMETRIC AND OPERATIONS RECOMMENDATION
GARTNER ROAD/MODAFF ROAD/MAGNOLIA LANE

KLOA
Job No: 13-064
Figure: A15

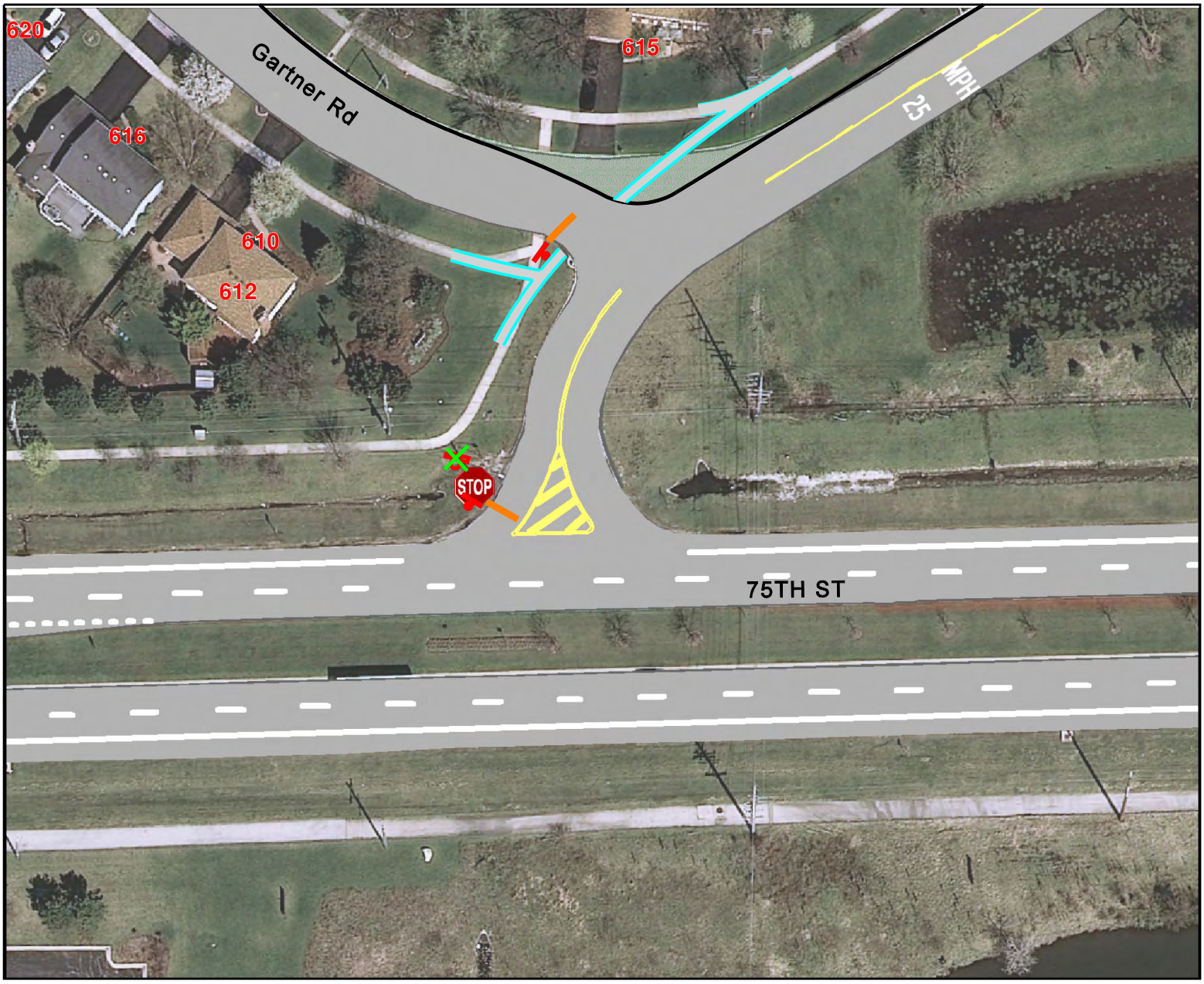


RECOMMENDED IMPROVEMENT (ALTERNATIVE 5)

- Convert Magnolia Lane to Right-In/Right-Out movements only with a triangular island
- Reposition stop line and stop sign on Gartner Road west leg closer to crosswalk
- Install No Left Turn signs on Gartner Road and Magnolia Lane
- Remove school crossing signage

GEOMETRIC AND OPERATIONS RECOMMENDATION
GARTNER ROAD/MODAFF ROAD/MAGNOLIA LANE

KLOA
Job No: 13-064
Figure: A16



RECOMMENDED IMPROVEMENT

Gartner Road/Gartner Road

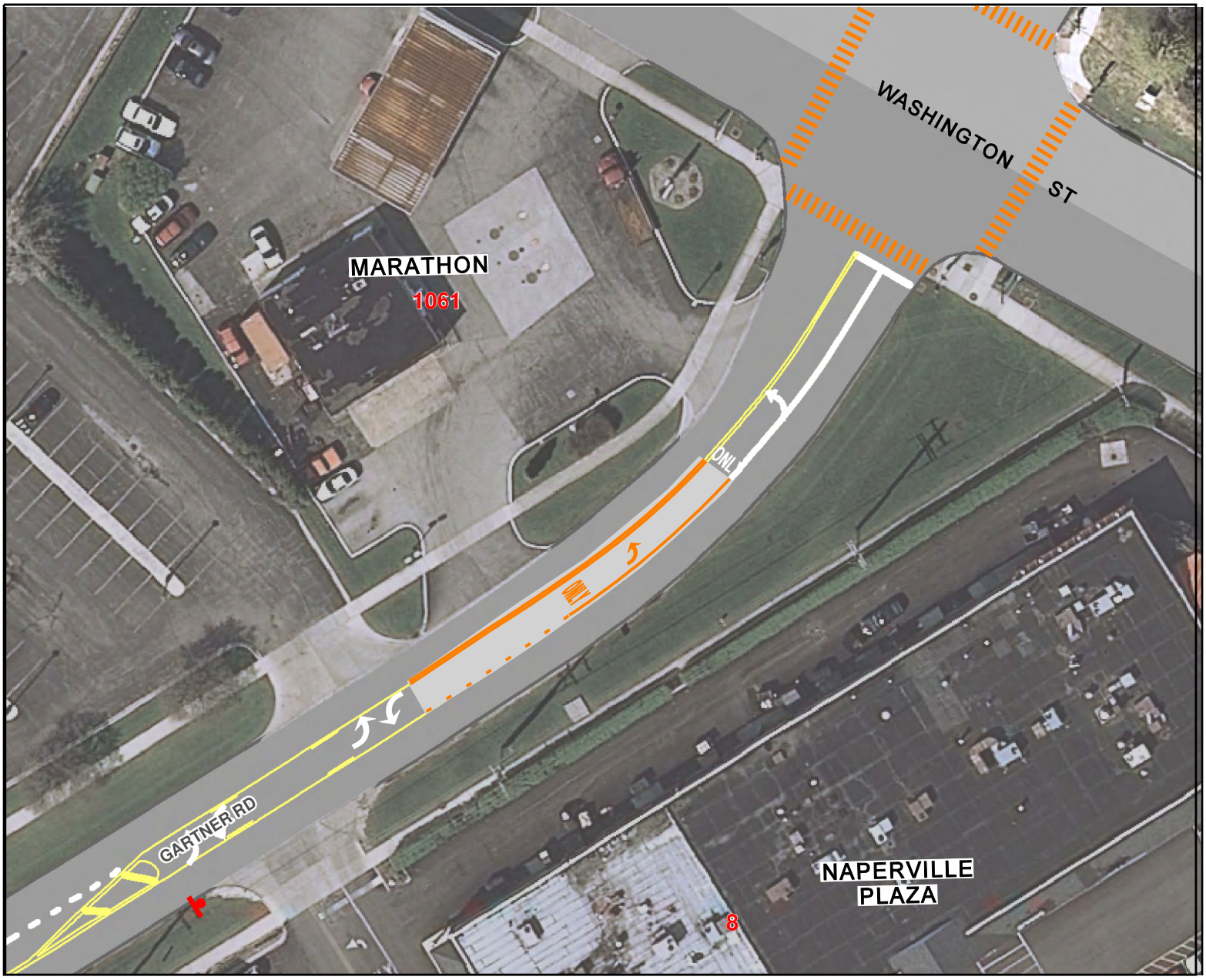
- Reduce northwest corner radius to 20'
- Extend/realign sidewalks
- Install stop line
- Relocate stop sign

Gartner Road/75th Street

- Install stop line
- Relocate stop sign

GEOMETRIC AND OPERATIONS RECOMMENDATION
GARTNER ROAD/GARTNER ROAD AND GARTNER ROAD/75TH STREET

KLOA
Job No: 13-064
Figure: A17



RECOMMENDED IMPROVEMENT (SHOWN ABOVE)

- Install Do Not Block Intersection sign
- Modify median striping to extend left-turn lane on Gartner Road

FUTURE OPTION TO CONSIDER

- Perform a separate traffic study to determine implications of turn restrictions or driveway closures

GEOMETRIC AND OPERATIONS RECOMMENDATION
GARTNER ROAD AND WASHINGTON STREET

KLOA
Job No: 13-064
Figure: A18

APPENDIX B

Public Comments

Open House #1

Elmwood Elementary School

March 7, 2013

ATTACHMENT 4

Zone 11 Neighborhood Traffic Study
March 7, 2013 Public Meeting #1 Comments

Location	Description
75th/Rickert	Timing of the light at West and Rickert and Rickert and 75th. It would be great if the timing on the light turning left from West onto Rickert would coincide with the light at Rickert and 75th. They aren't in sync, and you end up waiting an eternity just to turn left onto Rickert only to have to wait again at the light at 75th.
Appomattox - Williamsburg to Williamsburg	Speeding on Appomattox Cr coming off Williamsburg to West Street.
Basswood - Tupelo to Catalpa	Speeding on Basswood Dr.1. consider table top or speed bump or traffic circle(and I don't care about plows plowing operations should not dictate safety) 2. permanent "Your speed is" sign. 3. Police presence and a ticket once in a while
	People that turn from Modaff onto Tamarack then onto Basswood to race through our neighborhood to get through to Gartner.
	Cut through traffic on Basswood from Tamarack to Laurel and Catalpa, both ways. Drivers avoid the stop sign on Modaff and Gartner especially mornings and evenings (afternoon). Most go from Tamarack to Laurel. During the day and weekend we have a lot of traffic for Knox Church and Naperville Plaza. The traffic is constant and fast. There are approximately 19 children between Tamarack and Catalpa. They deserve better.
Buckeye/Modaff	People constantly block the intersection where Buckeye and Modaff intersect. There is a sign but it seems to be in the wrong place.
Catalpa/Gartner	Crossing Gartner @ Catalpa to shop at plaza. Cars do not stop for pedestrians. This is a daily occurrence.
	Crossing Gartner at Catalpa is a pedestrian crossing, but cars are turning, going around one another, anything but yielding to pedestrians.
	Traffic on Gartner continues to not stop at the marked crosswalk for pedestrians at Gartner and Catalpa.
	As a result of growth at Gartner Plaza east bound traffic backs up from Washington or causes a steady west flow that prevents turning onto or crossing Gartner from Catalpa - north or south.
	Gartner and Catalpa. Difficult to cross Gartner from Catalpa Lane. Also difficult to turn left from Catalpa Lane.
Catalpa/Sycamore	North & South Catalpa have stop signs but east and west Sycamore has turned into a raceway. South on Catalpa or east on Sycamore can not see traffic. East bound Sycamore can not see Catalpa.
Elmwood - Emerald to Washington	Paint! I have seen other towns. The use of paint to good use. The blind curve on Elmwood (@ the school) & Emerald paint a center line and stop line for Hemlock, people left turn off Emerald @ a 45degree cut all the time.
	Speeding on Elmwood - both eastbound and westbound going to Washington. Robin Hill has the same issues. I would like to see speed signs placed in neighborhood periodically.
Elmwood Elementary School area	I am concerned with the parking issues around Elmwood Elementary - parking on both sides of the street doesn't allow for cars to pass easily and certainly no emergency vehicles can get through.
Elmwood/Magnolia	Cars are going through the corner of Elmwood & Magnolia - even with a teacher standing in the intersection cars will not stop. It is very dangerous.
Elmwood/Washington	Drivers turning left onto Washington Street during rush hour really back up traffic. It is easier to turn left onto Washington from Robin Hill, because of the light at the hospital entrance. Maybe a "no left turn " sign during rush hour?
Emerald - Gartner to West	Speeding on Gartner and Emerald. The width of Gartner Rd seems to encourage high speeds.
	Much cut through (Emerald Dr. North & South) plus heavy high school traffic at peaks hours. Heavy congestion at Emerald/ Gartner, Emerald /West. Constant running of stop signs on streets entering Emerald. Drivers "practicing" when DMV is closed (on lawns! & backing into street signs, almost being hit!)
	Traffic cuts through on Williamsburg & Emerald coming off of 75th Street (mostly am) heading north up to West Street. Excessive speed & traffic. Stop signs not always obeyed.
	Williamsburg - excess speed with HS students cutting through to/from school (similar problem on Emerald)
	Traffic flow off of 75th Street onto Gartner Rd have a flood of cars heading to NCHS with inappropriate speed and "racing" to Gartner to Williamsburg to West or Gartner to Emerald to West and the reverse after school (not as bad as they can't go east across the street to Shepard.
	Traffic traveling along Emerald Av between West and hemlock travel too fast. Having a 4 way stop at Robin Hill Dr and Emerald would slow traffic down.
	NCHS traffic from Emerald Dr. Need a stop sign to slow cars down between West Street and Elmwood or make police (traffic) more visible.
	Speeding down Emerald from West to Gartner. Drag Strip! Speeding from Gartner to West! 1 out of 2 cars are driving more than speed posted.

ATTACHMENT 4

Zone 11 Neighborhood Traffic Study
March 7, 2013 Public Meeting #1 Comments

Location	Description
Emerald/West	Install traffic signal at West & Emerald. Sequence signal phasing such that Martin signal and Emerald traffic signal (proposed) allow traffic on Osler to enter West (N.B & S.B.)
	Intersections of West & Emerald and West and Gartner both can be very dangerous. West Street traffic does not always respect stop sign at Emerald especially when Emerald traffic is turning left onto West.
	Some back up at West Street & Emerald during rush hours. Any plans to put a traffic light at that intersection?
	Cars do not stop at the stop sign at West St. and Emerald Dr. I can't even count the number of times that cars just blow right through the stop sign as they are going north or south on West St. I have almost been T-boned numerous times because cars do not stop at the sign OR if they do stop, they start going before I have even fully made the turn from Emerald onto West. I regularly hear screaching tires of people slamming on the brakes to avoid accidents at this intersection. I also hear a ton of people honking horns at other cars, mostly because people are not stopping and taking turns at this stop sign. The amount of road rage I see produced at this stop sign as people try to go before others or speed in front of others is incredible!
	Odd congestion at rush hour times at West and Emerald stop sign. It can sometimes take me several minutes just to get out of my driveway onto Emerald to go to West street. It's not a particular day, just randomly one or two days a week there will be a huge backup on Emerald heading towards West. The only way to get out is to have some nice driver let you in.Difficulty getting out of driveway onto Emerald St. during rush hours. Due to the stop sign at West and Emerald, it is often very difficult to get out of my driveway onto Emerald due to the spacing/timing of cars turning into the neighborhood off of West St. Sometimes it takes several minutes.
Gartner	Speeding on Gartner and Emerald. The width of Gartner Rd seems to encourage high speeds.
Gartner - Washington to 75th	Sharing road with cyclist on Gartner Rd between Washington and 75th Street is tricky, especially with cars parked on the side of the road.
Gartner - Washington to 75th	Gartner is another major through traffic street and with the park being there, there are not nearly enough stop signs. With that being a major street even though it's 25 mph there needs to be more speed controls like stop signs or speed bumps.
	Cut through & Speeding along Modaff & Gartner. Volume of traffic during the morning & evening commutes.
	Speeding on Modaff and Gartner. Congestion on Modaff and Gartner. Almost all vehicles using this route to avoid Washington and 75th mostly during rush hours. The traffic is constant and there is a lot of speeding. I fear anything you can do here will force traffic to use Basswood more often.
Gartner - West to Shiloh	I live on Gartner Rd. near the shopping center @ West. The Department of Motor Vehicle does testing on Gartner and can cause many distractions and problems "back around the corner" testing onto Gartner is NOT a good idea - pull overs on such a busy street is not wise especially when there are other "less" busy streets
Gartner Park	When activities are held at Gartner park I frequently see drivers traveling too fast with many young kids getting into their vehicles.

Zone 11 Neighborhood Traffic Study
March 7, 2013 Public Meeting #1 Comments

Location	Description
Gartner Park	Parking and traffic volume during sports & park activities
Gartner - Alder to Emerald	Small children are getting in and out of parked cars during sports in Gartner park. Between Alder and Emerald on Gartner.
Gartner/75th	Gartner @ 75t Street- difficult turns into Hobson West & no slow down/ exit ramp off 75th Street going west onto Gartner. Difficult pedestrian crossing with no continuation of bike path between Gartner and Modaff at Gartner Park/
	Need a west bound deceleration lane for right turns onto Gartner and a left turn lane to turn left onto Gartner - Lots of almost accidents due to fast turn & short stop to turn left - it backs to and onto 75th street at rush hour
Gartner/Laurel	There is not a street light on the south side of Gartner & Laurel. It is a very dark street and when turning onto the road you can never see if there are any people, cars etc.in your path.
	Traffic calming measures on Gartner . 1. No school signage east/westbound 2. stop sign at Laurel Ln with crossing.3. Flashing caution light during school start / end (similar to Bauer Rd between Washington & Mill)
	Because of Concern A a lot of vehicle, bike & pedestrians traffic often use Laurel to cross Gartner to access Elmwood School. Speeding traffic on Gartner makes this even more dangerous.
	Require a 4 way stop at Laurel & Gartner. Permit residents to cross the street safely. It is a busy place with Elmwood, local stores bank and church nearby.
Gartner/Magnolia/Modaff	Are any improvements to the Modaff - Magnolia - Gartner intersection possible? In rush hour determining who has the right of way must be a challenge.
	The total disregard for the 4-way stop at this intersection as well as the disregard for our children that use the crosswalk before and after school.
	It is difficult to get from Magnolia to either eastbound Gartner or southbound Modaff, time varies.
	The 4-way stop at Gartner, Modaff and Magnolia. People on Gartner heading west do not seem to realize that they have to stop and wait their turn.
	Intersection of Magnolia & Gartner and Modaff. Confusion as to whose turn it is. Need more occasional police presence.
	Gartner 4 way - people do not stop at the 4 way daily.
	The stop signs at Gartner & Modaff/Magnolia are rarely headed. Northgoing traffic on Modaff, taking right onto Gartner is more of a freeway than a residential road. I fear for my kids safety.
	Intersection of Gartner and Modaff. Poor alignment creates issues with turning drivers. Driveway entrance within stop signs creates issues.
	Intersection of Gartner - Modaff - Magnolia. Magnolia is ignored - Modaff traffic seems to feel they have the right - of - way always --- not uncommon to see 2-3 cars race through stop sign before any other direction gets a turn.
	There should be a "4 way stop" sign on the stop signs at the intersection of Modaff, Gartner and Magnolia. Drivers on Modaff & Gartner do not realize that drivers on Magnolia are waiting to turn onto Gartner.
	This intersection seems to be such an awkward stop. Yes there are 4 stop signs but with school being there , there should be something to make us feel safer as parents of children who are "walkers".
	Intersection of Gartner & Modaff is a disaster during morning rush, end of school day & evening rush. It performs even worse than its lousy design.
	Left turn & sign notification at Gartner & Modaff. Patience and improved signage or lane markings may help?
	Intersection of Gartner & Modaff - non perpendicular intersection. Some don't stop. Consider straightening out intersection Danger for school crossing.
	Back up and courtesy of turn rotation during high volume periods (rush hour an & pm) at the intersection Gartner. Modaff/ Magnolia - in morning northbound Modaff turning right on Gartner to Washington seem to believe it's 2 of them right of way to one of. In the evening its west bound on Gartner heavily backed up. Needs left turn lane.
Gartner/Nashville	Would it be possible to put in a crosswalk at the stop sign on Gartner Rd at the Hobson West pool? There is a crosswalk at the stop sign at Gartner but anyone west of the pool would have to pass the pool to use the crosswalk to cross Gartner - which is not done - many cross at Gartner & Nashville Ct. across from the pool which is hard to do with the curve in Gartner - many children go to the pool alone. I would love to see it made safer.
Gartner/Washington	Northbound turn lane from eastbound Gartner. Dangerous when turning traffic backs up way past turn lane.
	Bus & Auto traffic form an illegal left turn lane from west Catalpa up to the beginning of the left turn lane to go north on Washington St from Gartner (Eastbound). The traffic is then in 2 lanes eastbound blocking entrance to gas station and Gartner Plaza.
	Gartner & Washington need a double left turn from Gartner to North bound Washington. Traffic backs up past Catalpa every morning.

ATTACHMENT 4

Zone 11 Neighborhood Traffic Study
March 7, 2013 Public Meeting #1 Comments

Location	Description
Gartner/Washington	Heavy congestion on Gartner for eastbound left turn lane and traffic in/out Gartner Plaza - consider closing plaza entrance at Succulent Seafood and extend turn lane.
	Realign to allow for a better left turn at Washington from Gartner eastbound - this backs up in the morning and straight thru vehicles are "trapped" by left turn vehicles.
Gartner/West	Cross walk on West Street at Gartner to Hobson Ponds is NOT safe NOT respected by cars. I have stood in the middle of West Street with my children and cars ignore us & fly by.
	The crossing on West St. by Gartner really should have a pedestrian crossing light. Pedestrians are supposed to have the right of way, but it's hard to see them when you're coming around the curve. A light would further ensure their crossing safety.
	Gartner & 75th Street a parking lot. Gartner & West dangerous too much traffic.
	Intersections of West & Emerald and West and Gartner both can be very dangerous. West Street traffic does not always respect stop sign at Emerald especially when Emerald traffic is turning left onto West.
Hemlock - Gartner to West	Shortcutting via Hemlock from West to Modaff & Reverse
Laurel/Sycamore	Not safe crossing Laurel at Sycamore. Even with Stop sign. I as an adult was almost hit during drop off and pick up at Elmwood.
	Install a stop sign at Sycamore and Laurel. Let the residents cross the street from the local school where we live.
	Traffic on Sycamore and Laurel is: 1. Not honoring currently posted signage. Pedestrians are walking in painted crosswalk and traffic traveling eastbound is too fast. Install a speed bump, flashing pedestrian light during Elmwood arrival and dismissal.
	Make Sycamore and Laurel a designated school route. Residents living around Maplebrook 1 pool area refuse to utilize the City's designated school route at Modaff.
Laurel/Tamarack	I would like to see the intersection of Tamarack Av. and Laurel Ln. a four way stop from Modaff to Olympus. There is no stop sign between these two streets. Tamarack curves and is a little hilly. The posted speed limit is 25 MPH but when the high school gets out the kids fly down Tamarack, speeding, tailgating, talking on phones.
Magnolia - Elmwood to Sycamore	Parking on Magnolia by Elmwood school. Magnolia is a feeder street. However, during evening or weekend activities at Elmwood School, cars are parked on both sides of the street, making it difficult to pass through. This is an annoyance for motorists, but a real problem should a fire truck need to pass.
Magnolia - Robin Hill to Gartner	Speeding, especially during evening rush hour. Robin Hill, Sycamore and Magnolia are used to avoid the traffic congestion at Gartner & Washington. However, many of those using these shortcuts are driving 40-50 mph. This is a real concern in the warmer months when children are playing outside.
Magnolia/Robin Hill	4 way stop sign at Magnolia and Robin Hill: frequent failure to stop on Robin Hill at intersection of Magnolia & Robin Hill and disregard for speed limit. Need for monitoring signs.
	4-way stop sign at Robin Hill & Magnolia doesn't work. Not many people actually come to a stop at this intersection. I have even seen people speed up thru the intersection (i.e) going 25 then accelerating not stopping.
	Bring in police to watch traffic on Robin Hill Drive. Robin Hill & Magnolia corner is the worst. Traffic runs those stop signs constantly! Robin Hill is being used as a cut through to West Street.
Magnolia/Spruce	Failure to yield to bus stop arms in front of Elmwood Elementary School. More police monitoring.
Mobile/West/Williamsburg	Need of stop signs at intersection of west and Mobile Ct. and Williamsburg and West. Cars coming either way north or south on West make blind curves and it is difficult to exit from Mobile Ct / Williamsburg onto west . This is also a PACE Bus pick up area and so pedestrians are crossing 6 lanes of traffic (including turn lanes) with these blind curves.
Modaff/75th Street	Bikes on Modaff, sure for the most of Modaff there is enough room but when it nears 75th Street it is tight and issues. I would like to see a Bike lane be co located with the walk path at that point.
Modaff - 75th to Gartner	The speed limit on Modaff rd is 25 mph However, cars leaving accelerating away from the light on the corner of Modaff and 75th Street heading north exceed the limit regularly.

ATTACHMENT 4

Zone 11 Neighborhood Traffic Study
March 7, 2013 Public Meeting #1 Comments

Location	Description
Modaff - 75th to Gartner	Modaff Rd traffic too fast at Tupelo & Modaff. Traffic from 75th street turning North bound onto Modaff travels too fast. Pedestrians & people on bikes (children) try to access Gartner Park, St. Raphaels Church and Elmwood School.
	Speeding all Times of Day & Night
	Shortcutting the trip 75th to northbound Washington via Modaff/ Gartner & reverse
	Speeding on Modaff and Gartner. Congestion on Modaff and Gartner. Almost all vehicles using this route to avoid Washington and 75th mostly during rush hours. The traffic is constant and there is a lot of speeding. I fear anything you can do here will force traffic to use Basswood more often.
	Speed on Modaff. Almost any time of the day except when traffic is so backed up (3:30 pm Northbound) maybe additional issue is back up traffic around 3:30 seems very dangerous w/ high school traffic while St Raphael school gets out.
	Trucks & Buses cut through and speeding
	Cut through & Speeding along Modaff & Gartner. Volume of traffic during the morning & evening commutes.
	There needs to be signage visible between 75th Street & Tupelo to alert cars that there are residents with developmental delays (adults & children) that try to cross Tupelo at Modaff. Current signage is posted North side of Tupelo on East side of street. Residents with developmental delays are not able to safely cross the streets due to poor signage.
Modaff /Tamarack	The crosswalk from Tamarack to St. Raphael is not noticed by drivers when we cross to/from school/church. It would be nice to have something flashing activated when you need to cross.
	Traffic passing on the right when autos waiting to turn left (southbound Modaff, turning left onto Tamarack).
	Speeding & Violating sign
	Utilizing "Designated School Route" to Elmwood from Tupelo pedestrians cannot safely cross at the corners due to traffic emptying onto Modaff from Tamarack. Cars not yielding to kids crossing at the corners on Modaff route.
Modaff/Tupelo	Paint a pedestrian crosswalk at Tupelo and Modaff for residents to alert traffic "pedestrians" need to cross without fear of arrogant drivers disregarding pedestrians. Residents with disabilities are not safe as pedestrians in Naperville. Please help
	Install a flashing light for the pedestrians to cross Modaff at Tupelo.
Olympus - Washington to 75th Street	Speeding on Olympus Drive all day & all night. Police are not doing anything.
Osler/West	West and Osler Dr. Could Osler Dr be a one way street leading into the hospital? Students and children trying to cross are at risk. The traffic could leave the hospital on Martin Av where there is a traffic light.
Oswego/West	At Oswego Rd & West Street, traffic making right and especially left onto West Street can be delayed a long time because South bound on West Street that just come off of Aurora Ave. Any possibility of putting a coordinated (between Oswego rd / West/Aurora Ave traffic signal in at Oswego & West.
Robin Hill - Emerald to Washington	Speeding on Elmwood - both eastbound and westbound going to Washington. Robin Hill has the same issues. I would like to see speed signs placed in neighborhood periodically.
	Robin Hill is being used as a cut through to West Street.
	Speeding, especially during evening rush hour. Robin Hill, Sycamore and Magnolia are used to avoid the traffic congestion at Gartner & Washington. However, many of those using these shortcuts are driving 40-50 mph. This is a real concern in the warmer months when children are playing outside.
Robin Hill/Tulip	4-way stop at Tulip and Robin Hill. (emailed resident to find out why a four-way stop…stop compliance on the two-way stop)
	4 way stop needed at Tulip & Robin Hill
	4 way stop sign at the corner of Robin Hill & Tulip. When heading west of Robin Hill the traffic view to the south is blocked by evergreen tree. Traffic should always stop when leaving a dead end street.
Robin Hill/Washington	Need a stop light at Washington and Robin Hill. The hospital lights control our existing time.

ATTACHMENT 4

Zone 11 Neighborhood Traffic Study
March 7, 2013 Public Meeting #1 Comments

Location	Description
School Walk Routes	Current Safe School walk Route does not adequately serve zone 11 residents. Requiring all residents to walk using Modaff as the only designated route is inadequate. Families should not be required to use Modaff rd. We want to walk to Elmwood school using Laurel and have safety precautions in place at Laurel & Gartner Rd
Subdivision	Have lived in the neighborhood for 20 + years and have seen significant decrease in traffic (especially before and after high school) in the last 2 years.
Subdivision	Have lived her for 30 = years and have seen traffic actually lesson in recent years.
Subdivision	No concerns with Zone 11
Subdivison	Paint crosswalks with fresh paint in our neighborhoods.
Subdivision	Excessive traffic cutting through neighborhood for High School & Edward Hospital. Some speeding & no regard for pedestrians & residents trying to exit driveways (cars on the wrong side of the road) Suggest no turns from West St or Gartner during those times except for residents.
Subdivision	On narrow roads in my subdivision cars parked on one side or both cut the street down to one lane creating a head on collision hazard.
Subdivision	At winter walking dogs and running in the area is dangerous. Most sidewalks typically don't get shoveled as snow plowing windrow is rolled onto walks. Streets being narrow makes the problem even worse. These roads are not designed to handle current traffic loads. These properties already have reduced setbacks. Traffic in this area needs to be reduced! Suggest eliminating stop @ West to Emerald & moving it to Williamsburg a road certainly build to handle a heavier traffic volume.
Subdivision	Parking on most side streets is dangerous - of cars are parked on both sides then cars park on the sidewalk and we can't walk to school safely.
Subdivision	Sidewalks!! It's dangerous especially when cars are parked on walks or snow piled in the walks to use sidewalks.
Subdivision	People parking on & across sidewalks - seem to think they are part of the street. Also debris placed on sidewalks, such as tree limbs. Police seem uninterested in enforcing laws - drive by frequently but do nothing unless called.
Subdivision	Neighbors continue to park across the sidewalks in the neighborhood
Subdivision	Also it is very dark on the side streets so cars cannot be seen parked on the sides of the streets.
Sycamore - Washington to Magnolia	Residents are required to walk through school pick up line of standing/idling cars on Sycamore to utilize painted pedestrian walkway to access Laurel. Eastbound Sycamore traffic cannot see adults and children in pedestrian walk until pedestrian are in the middle of the street. We do not want to be a fatality.
	Sycamore between Washington and Magnolia. Traffic goes above posted speed limit.
	Speeding, especially during evening rush hour. Robin Hill, Sycamore and Magnolia are used to avoid the traffic congestion at Gartner & Washington. However, many of those using these shortcuts are driving 40-50 mph. This is a real concern in the warmer months when children are playing outside.
Sycamore and others (surrounding Elmwood School)	During the pick up and drop off of students at Elmwood School Sycamore Dr and surrounding streets become 1 lane due to cars parking . Traffic flows in both directions creating a head on collision risk, blind spots are also due from cars parking on both sides of the street.
Tamarack - Modaff to Washington	People that turn from Modaff onto Tamarack then onto Basswood to race through our neighborhood to get through to Gartner.
	Many of times drivers use Tamarack as a through street and speed to the stop sign at Olympus and Tamarack. With many young children that play on the neighborhood it is unsafe for them. A speed study was done showing average speed is 31 mph. That is still well above the marked speed limit. We need more stop signs or speed bumps.
	Speeding & no concerns for stop signs.
	Amount of traffic cut through
	Many drivers use Tamarack between Washington & Modaff as a cut through to avoid traffic on 75th street. These drivers frequently speed around the curve before Cardinal. This as well is a bus stop for junior high students. We should add speed bumps or a stop sign to slow the flow of traffic.
	After NCHS lets our of school, Tamarack is like a race-track with high school kids speeding through.
Tamarack/Washington	Left turn from Tamarack to Northbound Washington. We were told there would be no left turn once Washington project was completed. Why the change?
Triton/Olympus	Speeding and failure to stop at the posted traffic sign. On Olympus Drive specifically at Triton & Olympus

ATTACHMENT 4

Zone 11 Neighborhood Traffic Study
March 7, 2013 Public Meeting #1 Comments

Location	Description
Tupelo - East of Modaff	I notice a lot of speeding on Tupelo between Modaff and Olympus, especially during rush hours
Tupelo - West Modaff	We live at 508 Tupelo---last house on the left. Over the past 4-5 years, our street as been used as a parking lot, turn-around, and drop off for travelling soccer players. We have expressed our concerns and have received “Great Service All the Time” from employees from the Park District as well as the City----especially Jim Lawlor!!!!! We are retired and have lived in this house almost 35 years. As noted in the layout, there are only 2 ways in and out of our area. Park users have blocked our driveways, jumped our curbs, littered our streets and have even used the evergreens as their personal bathroom. We had expressed our concerns about the parking lot when the Park District re-developed Gartner Park a few years ago and they told us the parking lot was sufficient. Please seriously take our concerns in hand. We often feel over run with rude, destructive and dangerous drivers speeding down Tupelo to drop off or pick up park users. Don’t get us wrong, we love the park and are proud of all the improvements the Park District had done to Gartner Park----but we are a neighborhood park being over run.
West - Emerad to Gartner	Cars go way too fast down West St. On average, cars are NOT going 30 mph but more towards 40. This road is almost like a racecourse with people speeding all over the place.
	Speed on West Street - does not seem to be enforced - very hard to obey speed because you get . "Run Over"
	Speeding on West Street , particularly from Emerald to Gartner. I go the speed limit (30 mph) because I know this area has pedestrians, particularly kids and I am always passed. People seem to average 40 mph on this strip.
	The problem with Osler Dr. into hospital and West & Emerald - A lot of cars on West traveling north roll the stop sign on Emerald/West intersection and go into the hospital on Osler - cars turning South out of Osler onto West - there have been a lot of accidents.
	Due to the massive traffic movement on West Street it is very hard and not safe to try to turn southbound onto West Street.
Williamsburg - Gartner to West	Traffic cuts through on Williamsburg & Emerald coming off of 75th Street (mostly am) heading north up to West Street. Excessive speed & traffic. Stop signs not always obeyed.
	Williamsburg - excess speed with HS students cutting through to/from school (similar problem on Emerald)
	Traffic flow off of 75th Street onto Gartner Rd have a flood of cars heading to NCHS with inappropriate speed and "racing" to Gartner to Williamsburg to West or Gartner to Emerald to West and the reverse after school (not as bad as they can't go east across the street to Shepard.
	Speed on Williamsburg Dr by individuals heading to and from NCHS. I have witnessed 40 mph

Public Comments

Open House #2

Naperville Municipal Center

June 19, 2013

Zone 11 Neighborhood Traffic Study
June 19, 2013 Public Meeting #2 Comments

Location	Description
75th Street	Need further coordination with County: Bikeway between Modaff and Gartner at Gartner Park on north side of 75th St; 75th St. deceleration lane at intersections like Gartner.
Emerald	There is quite a discrepancy in the number of cars using Emerald Drive between Gartner and Elmwood, versus Elmwood to West. This is because the "counter" on Emerald Drive, just south of Spruce, was loose/pulled out (?) on at least three occasions resulting in approximately 4 1/2 - 5 days of no numbers. Though that counter section then remained in place longer, those "extra" days the counts were taken were NOT the same as the days for the counter further up on Emerald, which had already been removed. Thus the numbers are NOT comparable. You are looking at apples and oranges instead of apples to apples. This is a major error on the part of the consultant. Now that school is out numbers will NOT be representative of nine months of the year should a summer count be done. When a consulting firm compromises even one area of a study, credibility of the entire study is compromised. This needs to be redone, with professional accuracy, AT THEIR EXPENSE. I am reminded of the adage "Close enough for government purposes!" What a waste of tax dollars. Sloppy work, unprofessional. Not of the caliber one would expect in Naperville.
Emerald	As to replacing YIELD signs at Spruce and Juniper (where they intersect with Emerald), that may seem logical but the fact of the matter is that existing stop signs at other streets that enter Emerald are completely ignored by drivers. Most barely slow down prior to pulling out/cutting you off. Typically they increase their speed to "beat" any oncoming traffic.
Emerald/West	Roadway configuration at West and Emerald pose significant safety risk for motorists, cyclists and pedestrians. Curved roadway configurations of both West Street and Emerald Drive and a planted median parkway on West Street create significant blind spots for turning vehicles and pedestrian/cyclist traffic. Without the stop signs, traffic will flow at higher speeds along West, causing high potential for accidents. Motorists turning left onto West Street from Emerald will be at great risk, and would be unlikely to be able to turn at all.
Gartner - Modaff to Washington	I love the report and the data provided. Since the volume at Gartner near Modaff is the highest volume (9k) and the 85-ile of speed is faster than normal, the recommended solutions for eastbound Gartner traffic - and Northbound Modaff traffic - appear quite inadequate for safety. Are there any other possible solutions?
Gartner/Magnolia/Modaff	Study recommendations/alternatives for Gartner/Modaff intersection: looks like partial solution, with need for additional ROW to acquire more room; consider further realignment if ROW cane obtained; add 4 way stop light.
Gartner/Magnolia/Modaff	I really like the suggestions you have for Modaff, Gartner & Magnolia.
Gartner/Magnolia/Modaff	Please do Alternative #1; this alternative is the safest for all.
Gartner/Magnolia/Modaff	Alternative #1 please.
Gartner/Washington	The extended turn lane should help at Washington & Gartner.
Gartner/Washington	The pedestrian crossing signals at Washington & Gartner are confusing and could use updating.
Modaff/Tamarack	I was hoping to see a push-button flashing crosswalk sign for people crossing Modaff at Tamarack. My understanding is that the intersection was only evaluated during the day. My comments on this are, the few kids who could walk to St. Raphael School, don't because it is not safe to cross, so you wouldn't see anyone there. Also, the greatest amount of foot traffic is during Sat. eve/ Sun morning masses. I hope this can be reevaluated and an enhancement can be made. If the Sat & Sun traffic can qualify the intersection for a safer crossing, it would help the school kids too.
Osler/West	The study implies that an additional STOP LIGHT at Osler and Emerald will decrease traffic. In reality it will be one more delay as the real problem is a lack of adequate north /south routes through Naperville. A STOP LIGHT at Osler Drive will be one more delay for residents along Emerald who need to use West on a daily basis. Especially bad is the intersection at West and Aurora where traffic backs up on West. As traffic lights have been added to West Street over the last 30 years traffic has continued to increase, NOT DECREASE, as the traffic study reasoning would imply. More traffic lights and delays do not redirect traffic when no adequate alternate routes exist. There has been an explosive increase in Naperville traffic, especially from the South, and the roads to carry this traffic have not been built. That is the real problem.

Zone 11 Neighborhood Traffic Study
June 19, 2013 Public Meeting #2 Comments

Location	Description
Osler/West, Emerald/West	There are significant concerns for motorist, pedestrian and cyclist safety and increased traffic congestion as a result of the Zone 11 Traffic study recommendations, specifically at Emerald/West and Osler. Installation of a traffic signal at West/Osler and the subsequent removal of the three way stop signs at West and Emerald are of particular concern. Why a traffic signal at Osler and West? The study did not include data on traffic from Osler (or the park district garden plots), to West Street justifying another traffic signal. During a traffic study public forum over a year ago, residents provided feedback on the local traffic patterns. It was recognized that left hand turns from Osler onto West Street were difficult and potentially dangerous. A simple, cost-effective solution was proposed: Eliminate Left Hand turns from Osler onto West Street. Edward campus visitors can easily access West Street by using Brom Drive (interior Edward roadway) and exiting onto Martin Avenue. Martin Avenue has traffic signals at both West Street and Washington affording any employee or patient accessing the Edward campus a safe access to the north south routes of Washington or West Streets. Does the West Street roadway between Emerald and Aurora have enough distance for additional traffic signals? There are currently 3 traffic lights serving less than one mile on West Street between Aurora Rd and Emerald: at Aurora Rd., Hillside, Martin Avenue, and a Crosswalk signal at playing fields. The traffic signal proposed at Osler seems to be excessive and will limit access to West from Emerald. The study did not mention traffic patterns by volume and time of day. Traffic volume is high during early morning, after school, and business rush hours. High volume commuters include Naperville Central High School students (who park on lots on West Street, Hillside, Martin and Aurora),and healthcare employees (accessing Osler and Martin). During rush hours, traffic backup will prevent north or south access on West from Emerald. Alternate routes are very limited: Washington Street, Rickert to River to Aurora Rd…….Did the study include how traffic flows during peak use? Currently the stop signs at West and Emerald allow a slight delay permitting cars to enter onto West Street from Emerald. On a typical school day, Emerald is backed up from West Street to Robin Hill, as cars enter southbound West Street. Traffic is usually stopped by Martin Avenue as students are turning onto Martin Ave (to park) and at Hillside to park, as cars are frequently prevented from completing a turn as students are also walking across the roadways. Cars on Martin and Hillside are backed up as students are parking. Traffic is also backed up on Aurora as cars wait to turn east from West Street, again due to high school traffic and pedestrians.
Osler/West, Emerald/West	For the most part I feel your study was presented well. I do however still have major concerns regarding Emerald and West St. and Osler Drive. I understand you were not involved in the original meeting where we were invited to fill out sticky notes and comment on traffic changes in this area; but we were involved and asked to be able to give further input before a decision was made on where an additional stop light on West would be placed. Many of us gave email addresses and phone numbers, myself included. I was never contacted and never informed that a decision had been and passed by the City Council. If resident input is asked for and parties indicate it is important, why was what many of us had to say ignored? It appears that the City cared more about what the hospital wants than the residents in this case. You said this was not part of your study for zone 11. You make reference to the decision regarding the Osler stop light and you list Emerald as a connector street through the West Highlands to get to West. I don't believe you can not include this as part of Zone 11 decisions when it will so negatively impact us. The 24-hour traffic volumes are listed for Emerald. I would appreciate seeing what those volumes are for Osler to warrant putting a stop light there and removing the stop sign for West street at Emerald (which was never noted in the original study). During the school year this will be a disaster waiting to happen. All this so hospital traffic can turn left off Osler. The easier solution would have been not to allow left turns off Osler as they can use Martin Ave. at West to do that, or use Washington.
Subdivision	A question or two about data collection: in addition to speed, did you assess the percentage of cars stopping at stop signs in this zone?

APPENDIX C

Illinois Department of Transportation
2300 South Dirksen Parkway / Springfield, Illinois / 62764

June 22, 2011

CIRCULAR LETTER 2011-08

CHILDREN WARNING SIGNS

COUNTY ENGINEERS/SUPERINTENDENTS OF HIGHWAYS
MUNICIPAL ENGINEERS/DIRECTORS OF PUBLIC WORKS/MAYORS
CONSULTING ENGINEERS

Children warning signs should not be used since they may encourage children to play in the street and may encourage parents to be less vigilant. Such signs also provide no guidance to motorists as to a safe speed, and the sign has no legal basis for determining what a motorist should do. Furthermore, motorists should expect children to be at play in all residential areas, and the lack of signing on some streets may indicate otherwise. The signs are unenforceable and act as another roadside obstacle to pedestrians and errant motorists. Use of these nonstandard signs may also imply that the involved jurisdiction approves of streets as playgrounds, which may result in the jurisdiction being vulnerable to tort liability.

The Manual on Uniform Traffic Control Devices (MUTCD), Section 2A.06 Design of Signs, Paragraph 09, requires "All symbols shall be unmistakably similar to, or mirror images of, the adopted symbol signs, all of which are shown in the Standard Highway Signs and Markings book (see Section 1A.11). Symbols and colors shall not be modified unless otherwise provided in this Manual. All symbols and colors for signs not shown in the Standard Highway Signs and Markings book shall follow the procedures for experimentation and change described in Section 1A.10."

Neither the Manual on Uniform Traffic Control Devices nor the Standard Highway Signs and Marking book provide a standard symbol warning sign for the following Slow Children Playing or Slow Children at Play signs. Therefore, these signs are not in compliance with the MUTCD.

The MUTCD, Section 2A.06 Design of Signs, Paragraph 13, allows “State and local highway agencies may develop special word message signs in situations where roadway conditions make it necessary to provide road users with additional regulatory, warning, or guidance information, such as when road users need to be notified of special regulations or warned about a situation that might not be readily apparent.” However, the MUTCD, Section 2A.04, Paragraph 01, recommends “Regulatory and warning signs should be used conservatively because these signs, if used to excess, tend to lose their effectiveness.”

Other word message warning signs dealing with children such as "Autistic Child," "Blind Child,", "Deaf Child" or "Children at Play" are not recommended. These types of warning signs:

- Do not describe where the child might be;
- No longer attract the attention of motorists after initial installation;
- Have no legal meaning;
- Provide parents and children with a false sense of security;
- Are often left in place after the child is grown or moved away;
- Lack established procedures for engineering judgment or study; and
- Have proven ineffective.

The MUTCD Section 2C.49 Vehicular Traffic Warning Signs and Section 2C.50 Non-Vehicular Warning Signs provide the requirements for Bicycle (W11-1), Pedestrian (W11-2), Handicapped (W11-9), Bicycle/Pedestrians (W11-15), and Playground (W15-1) warning symbol signs. These signs should be considered as an alternative to the word message signs if engineering judgment warrants a warning sign and the location being considered for the sign complies with MUTCD requirements.

Please contact the Local Policy and Technology Unit at DOT.LocalPolicy@illinois.gov with any questions.

Sincerely,

Darrell W. Lewis, P. E.
Acting Engineer of Local Roads and Streets

Attachments

APPENDIX D

RECOMMENDED CITY STRIPING PLAN MODIFICATIONS
TO REFLECT EXISTING CONDITIONS

Intersection Striping Plan	Striping Plan Modifications
75th Street / Rickert Drive / Plainfield-Naperville Road	• Add parallel line crosswalks on east and west legs of 75th Street • Remove stop sign on Southwest corner
75th Street / Olympus Drive	• Adjust lane lines on 75th Street
75th Street / Gartner Road	• Add stop sign on west leg of Gartner Road
75th Street / Modaff Road	• Change crosswalk markings on east leg of 75th Street to diagonal lines
75th Street / Buckeye Drive	• Add parking box on east side of Modaff Road
75th Street / Clyde Drive	• Relocated stop sign adjacent to stop line
Rickert Drive	• Add stop line on Hobson West Commons driveway
Washington Street / Gartner Road	• Add lane lines and lane arrows on Washington Street
Washington Street / Osler Drive	• Relocate stop line on Osler Drive closer to Washington Street
Washington Street / Sycamore Drive	• Remove stop line on Sycamore Drive
Washington Street / Tamarack Avenue	• Add stop sign and stop line on Tamarack Avenue • Remove speed limit marking on Tamarack Avenue • Remove "No Left Turn" sign at intersection
Washington Street / Clyde Drive	• Add stop sign on north leg of Sandpiper Lane • Add stop line on Clyde Drive at Washington Street
West Street / Emerald Drive	• Add stop signs on Emerald Drive and north leg of West Street • Add speed limit marking on Emerald Drive
West Street / Gartner Road	• Add stop sign on Gartner Road
West Street/Plainfield-Naperville Road	• Add stop sign on Plainfield-Naperville Road
West Street / Williamsburg Drive	• Add stop sign on Mobile Court
West Street / Merrimac Circle (South)	• Add stop sign on Merrimac Circle
West Street / Savannah Circle	• Add stop sign on Savannah Circle
Modaff Road / Tamarack Avenue	• Add stop sign on Tamarack Circle
Modaff Road / Tupelo Avenue	• Add stop sign on east leg of Tupelo Avenue
Elmwood Drive / Hemlock Lane	• Add stop sign on east leg of Elmwood Drive
Emerald Drive / Elmwood Drive	• Add stop signs on east and west legs of Elmwood Drive
Gartner Road / Shiloh Circle (East)	• Add stop signs on east and west legs of Gartner Road
Garner Road / Shiloh Circle (West)	• Add stop sign on Hobson West Commons driveway
Magnolia Lane / Gartner Road	• Add stop sign on west leg of Gartner Road
Magnolia Lane / Sycamore Drive	• Add stop signs on south leg of Magnolia Lane and east and west legs of Sycamore Drive
Sycamore Drive / Laurel Lane	• Add diagonal line crosswalk on Laurel Lane
Tupelo Avenue / Olympus Drive	• Add stop sign on east leg of Tupelo Avenue
Hemlock Lane / Spruce Drive	• Add diagonal line crosswalk on south leg of Hemlock Lane

APPENDIX E

RECOMMENDED NEIGHBORHOOD SPEED LIMIT SIGN REPLACEMENT LOCATIONS

Street	Direction of Travel	Location
Catalpa Lane	Northbound	Between Sycamore Drive and Gartner Road
E. Savannah Circle	Northbound	At West Street
Emerald Drive	Southbound	Between West Street and Hazelwood Drive
Hemlock Lane	Westbound	Between Aspen Court and Cypress Drive
Juniper Drive	Westbound	Between Gartner Road and Emerald Drive
Laurel Lane	Northbound	Between Gartner Road and Sycamore Drive
N. Merrimac Circle	Eastbound	At West Street
S. Merrimac Circle	Eastbound	At West Street
Tupelo Avenue	Eastbound	At Basswood Drive
W. Savannah Circle	Westbound	At West Street
W. Shiloh Circle	Eastbound	North of Gartner Road
Williamsburg Drive	Southbound	Between West Street and Appomattox Circle/Vicksburg Court

Naperville

TRANSPORTATION ADVISORY BOARD
AGENDA ITEM

AGENDA DATE: **10/5/2013**

SUBJECT: Recommendation to Establish Neighborhood Speed Limit 25 MPH on Ford Lane and Baker Lane

ACTION REQUESTED: Recommend approval to:
1. Establish a speed limit of 25 MPH for Ford Lane from Washington Street to Baker Lane
2. Establish a speed limit of 25 MPH for Baker Lane in its entirety.

PREPARED BY: Kim Schmidt, Project Engineer

ACTION PREVIOUSLY TAKEN:

Date	Item No.	Action
2/5/2011		TAB voted 7-0 to recommend approval.

BACKGROUND:
A recommendation to establish 25 MPH neighborhood speed limits on Ford Lane and Baker Lane was presented to the Transportation Advisory Board (TAB) on February 5, 2011. There was no public testimony at TAB. A TAB member confirmed the speed limit recommendation was internal to the Ford Lane and Baker Lane loop only and then the board voted 7-0 to recommend approval to the City Council. The recommendation was then presented to the City Council on March 1, 2011 for their consideration. The City Council discussed the effort involved with changing the speed limit and the number of homes impacted. The City Council voted 5-3 to deny the recommendation.

DISCUSSION:
City staff has received another request from residents in the Washington Woods subdivision to establish the 25 MPH neighborhood speed limit for Baker Lane and Ford Lane. The streets currently have a statutory speed limit of 30 mph. Staff has determined that it is appropriate to bring the recommendation back to TAB and City Council for their consideration. The speed limit study conducted by staff in 2010 determined that the appropriate speed limit is 25 mph. Additionally, establishing a 25 MPH speed limit on Ford Lane and Baker Lane, both designated as local, residential streets, is consistent with the City's residential speed limit policy. Additional information regarding the 2010 speed study is provided in the paragraphs below.

2010 Speed Study

The study warrants used to establish the speed limit are located in Section B of the Illinois Department of Transportation (IDOT) Division of Highways, Bureau of Operations "Policy on Establishing and Posting Speed Limits on the State Highway System" and are in accordance with the Illinois Vehicle Code.

Ford Lane was designated as the representative street for the study due to its intersection with Washington Street and the traffic volumes that result from this intersection being the point of ingress and egress from the subdivision. The measured 85th percentile speed for Ford Lane, is 30.5 mph and the top of the pace average is 29 mph for both directions of travel. The prevailing speed is the average of the 85th percentile and the top of the pace, which equates to 29.75 mph.

Section B of the IDOT manual allows for adjustments when altering a speed limit due to road factors. Those factors/conflicts include the presence and/or number of driveways, pedestrians, crashes, and parking. The following are the allowable conflict reductions:

1. 10% for driveways – Ford Lane from Washington Street to Baker Lane has a total of 21 driveway conflicts over a distance of 0.27 miles.

2. 0% for pedestrian – Ford Lane has a separated sidewalk and it is not a designated school walk route.

3. 0% for crashes – The crash rate, determined by comparing the amount of crashes on a given road to the citywide average per year, for Ford Lane from Washington Street to Baker Lane is less than 1% of the Citywide Average at the present statutory speed of 30 MPH. In order to receive a reduction, the crash rate must be greater than 1.5 times the Citywide Average.

4. 10% for parking – Ford Lane allows parking on both side of the roadway throughout the entire length of the road.

Taking all the allowable reductions (20%), the adjusted prevailing speed is calculated to be 23.8 MPH. The adjusted prevailing speed is set to the nearest 5 MPH increment. The lowest possible speed limit in accordance with the Illinois Vehicle Code in a residential district is 25 MPH. Staff's recommendation is to establish both Ford Lane and Baker Lane as 25 MPH, based on our traffic investigation and residential speed limit policy.

RECOMMENDATION:

Recommend approval to:

1. Establish a Speed Limit of 25 MPH for Ford Lane from Washington Street to Baker Lane.
2. Establish a Speed Limit of 25 MPH for Baker Lane in its entirety.

ATTACHMENTS:

1. Altered Speed Limit Worksheet
2. Draft Ordinance
3. Site Map

City of Naperville
Transportation and Traffic Services Team

Street Ford Lane **From** Washington
To Baker Lane **A Distance of** 0.27 **Mile**
In Naperville, DuPage **Township,** Will **County**

I. Spot Speed Studies (Attached)

Check #	85th %	Top of pace
EB	31	30
WB	30	28

II. Test Runs

Run No.	Average Speed (mph)	
	nb or wb	sb or eb
NOT APPLICABLE		

III. Prevailing Speed

85th percentile average	30.5	mph
Top of pace average	29	mph
Test run average	N/A	mph
Prevailing Speed	29.75	mph

IV. Driveway Conflicts

Residential Drives	11	* 1	=	11
Small Business Drives	0	* 5	=	0
Large Business Drives	0	* 10	=	0
Streets (see Appendix A)			=	10
Drive Conflict No. (sum of above)			=	21
21	D.C.N.		=	78
.27	Miles			conflicts

0-40 = 0%
41 - 60 = 5%
>61 = 10%

V. Miscellaneous Factors

School Pedestrian Crossings
Y (5%) N N (0%)

Separated Sidewalks
X Y (0%) N (5%)

Accidents/Mile, past 3 years

Route	=	3.7
Citywide Average		631

1.5 - 2.0 = 5%
>2.0 and <3.0 = 10%
>3.0 = 15%

Parking Permitted
none (0%)
1 lane (5%)
2 lanes X (10%)

VI. Prevailing Speed Adjustment

Driveway adjustments	10	%
Pedestrians adjustments	0	%
Accident adjustments	0	%
Parking adjustments	10	%
Total	20	%

29.75 (prev. speed) mph * .20 (adj.) % 5.95 = 0

Adjusted Prevailing Speed 23.8 (mph)

VII. Revised Speed Limit

Recommended Speed Limit	25	mph
Anticipated Violation Rate		%
Recommended by		
Organization		
Date		
Approved by		
Date		

Draft

ORDINANCE NO. 13 - ___

AN ORDINANCE AMENDING THE NAPERVILLE TRAFFIC SCHEDULE TO ESTABLISH VARIOUS TRAFFIC CONTROLS FOR FORD LANE AND BAKER LANE

BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF NAPERVILLE, ILLINOIS, DuPAGE AND WILL COUNTIES, in exercise of its home rule authority as follows:

SECTION 1: Section IV, Speed Limits, of the Naperville Traffic Schedule Manual is hereby amended by adding the underlined language and deleting the stricken language as follows:

Street	Area of Restriction	Speed Limit	Ord. #
BAKER LN.	In its entirety	25 MPH	
FORD LN.	Washington St to Baker Ln.	25 MPH	

SECTION 2: This Ordinance shall be in full force and effect after its passage and approval.

PASSED this _____ day of _____, 2013.

AYES:

NAYS:

ABSENT:

APPROVED this _____ day of _____, 2011.

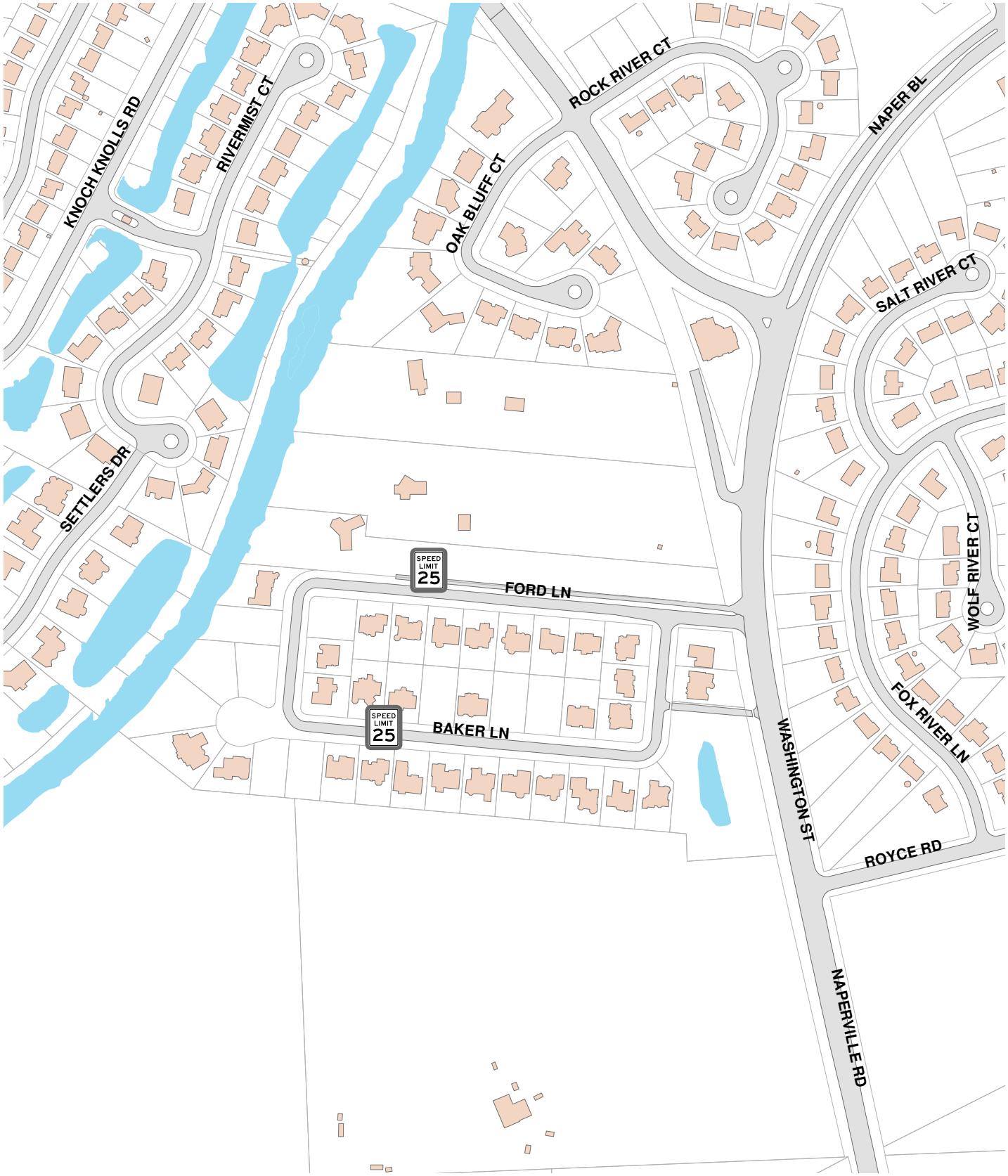
_____
A. George Pradel
Mayor

ATTEST:

_____
Pam LaFeber
City Clerk

City of Naperville

Establish a 25mph Speed Limit on Baker Ln and Ford Ln



Transportation, Engineering and Development Business Group
www.naperville.il.us
December 2010

N

0 395 790 Feet

This map should be used for reference only.
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